

**NIKKEN**

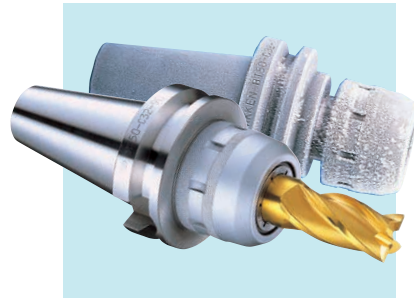
# NC TOTAL TOOLING SYSTEM



**NIKKEN KOSAKUSHO WORKS, LTD.**  
CAT.NO.303M

# NIKKEN's Proposal for Improved Quality and Productivity.

Total management of M/C manufacturing methods & technologies.



## HUMANWARE

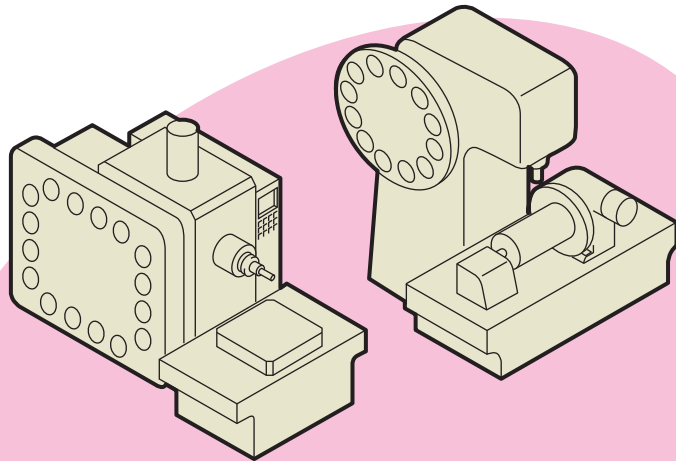
The effective utilization of M/C depends upon the insight and skill of shop floor people. Harmonization in the selection of machine, tooling, fixtures, peripherals, cutting tools under a coordinated shop floor management is the key to success.



**COMBAT Z DRILL**  
P.309



**REAMER SERIES**  
P.305

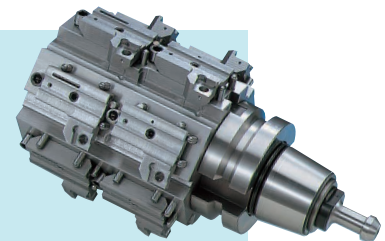
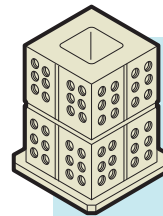


**M/C OFFERS INVALUABLE OPPORTUNITIES FOR AUTOMATED, UNATTENDED MACHINING, when proper tooling, work holding and fixtures technologies are applied all in HARMONY.**

## CUTTING TOOLS

Relatively simple tools like drills and face mills also need careful attention for stable and effective swarf making. For instance, high speed steel tools can be more effective than carbide tools with certain work pieces and materials.

For another instance, why not a reamer for inspection/proof after boring?



## FIXTURES

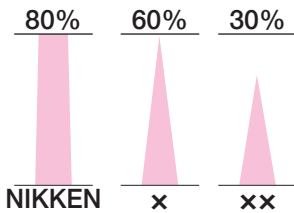
Work holding fixtures and power clamping systems for a variety of large or small batch work pieces.

Well designed fixtures can achieve cost effective parts manufacture. Fixtures (as shown above) effectively reduce ATC operations and drastically reduce cycle time.

# TOOLING

MORE THAN 80% TAPER CONTACT is needed for this vital linkage between machine and workpiece. ;

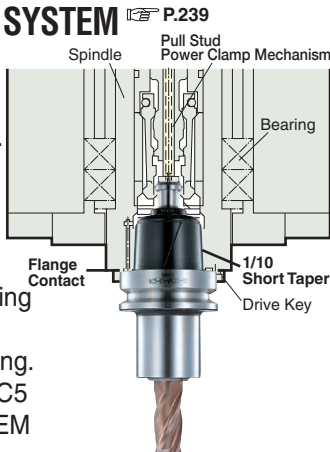
- ① NIKKEN holders protect the spindle. (They eliminate "dance" in the spindle.)



- ② NIKKEN milling chucks are SUB-ZERO TEMPERATURE (-90°C) TREATED for stable particle composition : Heat treated to HRC60.

## The Next Generation Tool Interface NC5 TOOLING SYSTEM

This newly developed Tool Interface featured. A Double Contact 1/10 Short Taper for improved High Speed & High Precision Machining and High Stock Removal Machining. Please refer to NC5 TOOLING SYSTEM catalogue.



# PERIPHERALS

**AUTOMATIC WORK CHANGER**  
Operator-friendly AWC system for vertical machining centres.

**CNC ROTARY TABLES**  
Precision worm screw made of solid tungsten carbide drives hardened and ionnitrided worm wheel made of steel.

THE ONE AND ONLY SOLUTION FOR ELIMINATING SPOT WEAR.



**KOKORO = Human Heart**

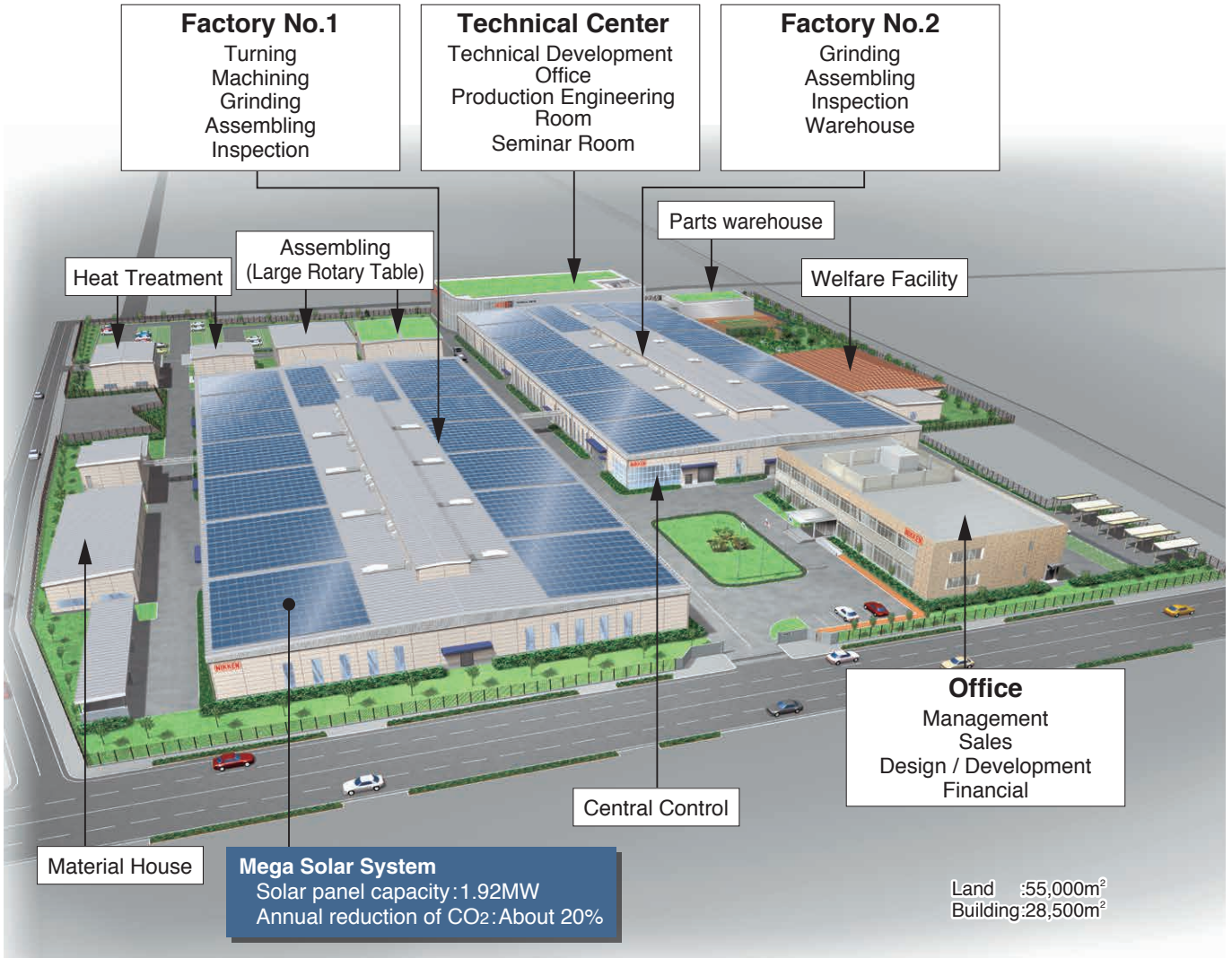
Our company's name, "NIKKEN," is derived from our desire to "always maintain the willingness to study patiently on a daily basis and contribute to future industry with technology and ideas."  
Pursuing the development and production of tools for **50 years**, we have developed peripheral instruments such as NC tooling systems, reamers, CNC rotary tables and controllers (NIKKEN-Ø21 series), etc. conforming to customers' demands.  
Today's effort and study bear tomorrow's fruits. NIKKEN wishes to provide you with original products of the highest quality founded in **everyday study and research.**



The photo shows a completed rendering.

OSAKA-DAITO NEW OFFICE & FACTORY  
LAND:55,000m<sup>2</sup>  
BUILDING:28,500m<sup>2</sup>

# OSAKA·DAITO Office & Factory



## Carbonizing & Sub-Zero Treatment

NIKKEN is the only tooling product manufacturer which performs sub-zero treatment for tooling. This refers to a technique where -90 deg. ultra-low-temperature processing is performed after carbonizing and quenching in order to eliminate the residual austenite and to form 100% martensite compositions to prevent deterioration over time. This technique has been applied for block gauges and for bearings of the highest grade in the past. It is an example of how NIKKEN pays attention to those aspects which are often hidden from view and how we put our hearts and souls into each and every tooling product.



## Ion Nitriding

Ion nitriding refers to a nitriding process where glow discharges are generated in a vacuum of a nitrogen-mixed gas atmosphere to heat the workpieces at a low temperature of 450 deg. while at the same time nitriding them by a sputtering action. This processing improves both the wear resistance and sliding performance. (It reduces the surface friction coefficient.) The experience and know-how of ion nitriding have been utilized in a large number of NIKKEN's products, including worm wheels for CNC Rotary Tables and Tough-Cut Skill Reamers.

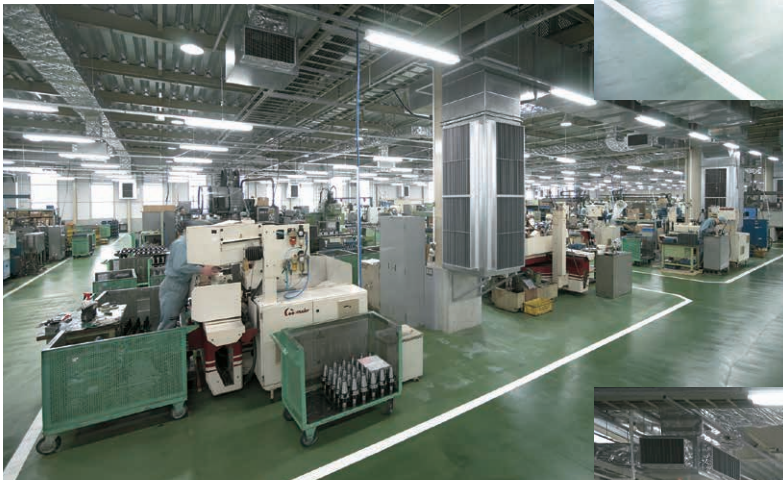


### NC Lathe Line

NIKKEN Oil Jetter System and **Combat Z Drill P.309** resolved the problems from the cooling of the cutting edge and the swarf removal, then, night time un-manned operation could be done.

### M/C Line

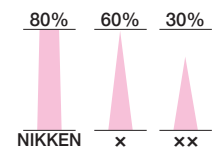
The M/Cs with **3Lock** spindle and **NC5** spindle are working with high accuracy and high productivity through the night.



### Tool Grinding Line

More than 80% Taper Contact is needed for this vital linkage between M/C and workpiece.

NIKKEN holders protect the spindle.  
(They eliminate "dance" in the spindle.)



### Reamer Grinding Line

Reamer grinding line to seek the ultimate unmanned operation with high accuracy and high productivity.



**RADICAL MILL REAMER**



### CNC Rotary Table Assembling Line

NIKKEN builds the most rigid, precise and durable CNC Rotary Table for the worldwide manufacturing market.

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**NIKKEN** is keeping the manufacturing not only the quality, but also the safety in mind.  
Please be careful for the content made  . e.g.  **P.332 CAUTION**

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# NIKKEN NC TOOLING SYSTEM

BT

3Block

2Block

NC5

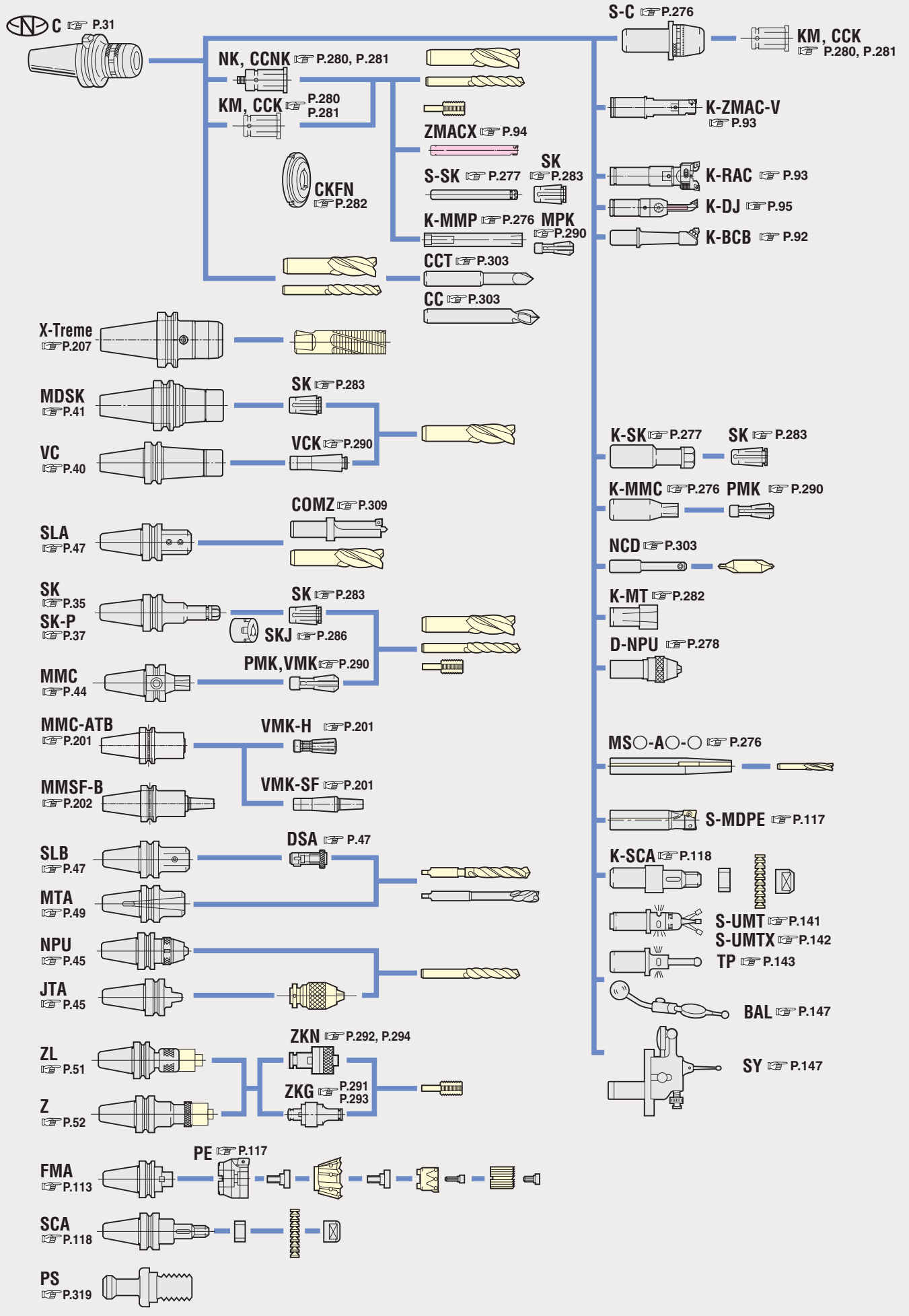
HSK

IT/CAT

REAMER·DRILL

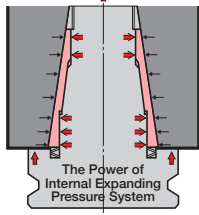
MEASUREMENT

ACCESSORY



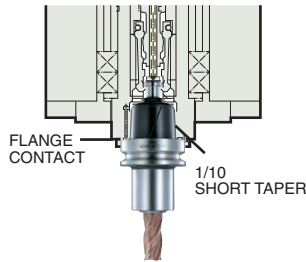


## NEXT GENERATION TOOL INTERFACE



**3 LOCK SYSTEM** P.153

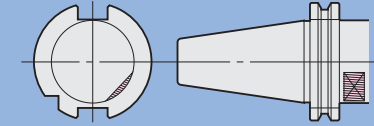
**2 LOCK SYSTEM** P.173



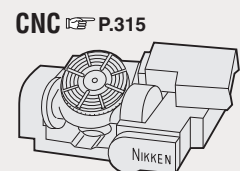
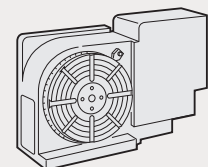
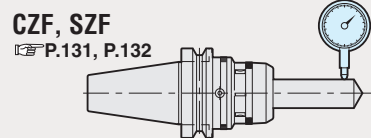
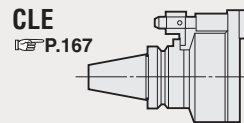
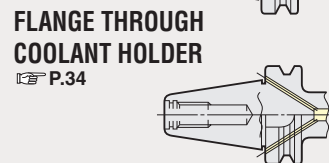
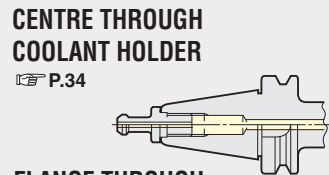
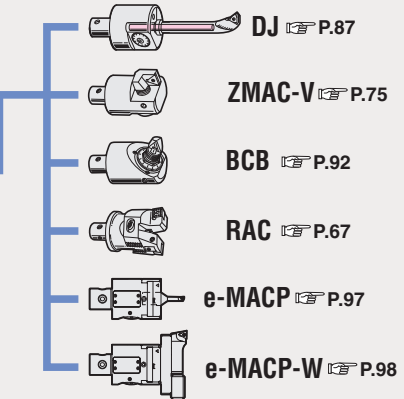
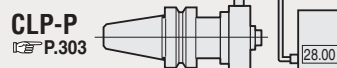
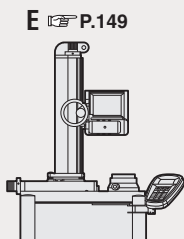
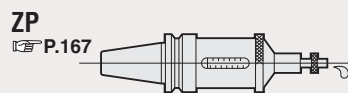
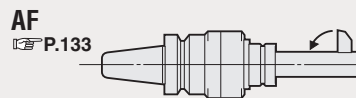
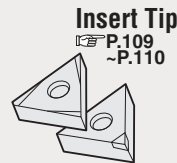
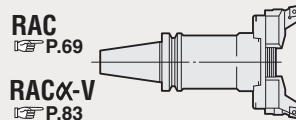
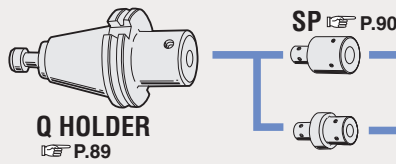
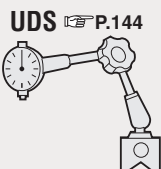
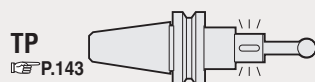
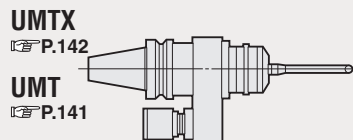
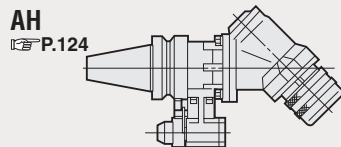
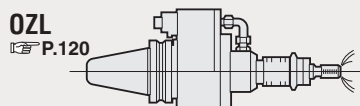
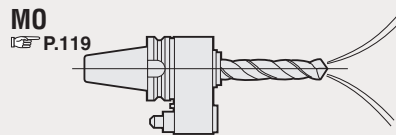
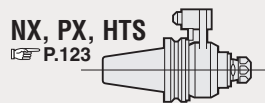
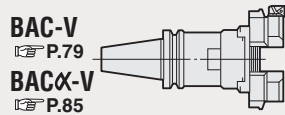
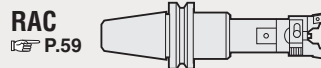
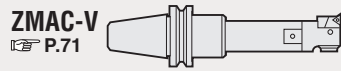
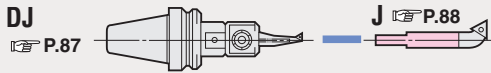
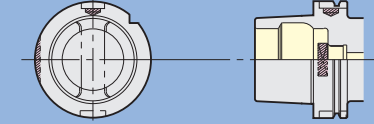
**NC5 TOOLING SYSTEM** P.213

## ISO-DIN/CAT

**IT TOOLING SYSTEM** P.135  
**CAT TOOLING SYSTEM** P.274



**HSK TOOLING SYSTEM** P.227





"ANNIVERSARY"  
type

# MULTI LOCK MILLING CHUCK

It has been 60 years since NIKKEN developed the MULTI-LOCK MILLING CHUCK, NIKKEN's technology has developed the new generation universal chuck.

We call this MULTI -LOCK MILLING CHUCK "ANNIVERSARY" type. 松本 駿一



### Sub-zero Treatment

NIKKEN Toolings are all subjected to ultra-low temperature treatment of -90°C after carburizing, as shown. This treatment removes residual austenite to prevent from deformation for many years. Thus all of our NIKKEN toolings are produced one by one with greatest possible care of NIKKEN spirits.



## 1 Chucking Torque and Durability

All the NIKKEN MULTI-LOCK Milling Chucks incorporate the multi-roller system including **140% more needle rollers** than the other imitations. Besides, the retainer is not made of phosphor bronze but of special steel which will never break.



As seen from the cross sectional view, the needle rollers are arranged in perfect order with a dense production, but they are arranged to be scattered in the imitations.



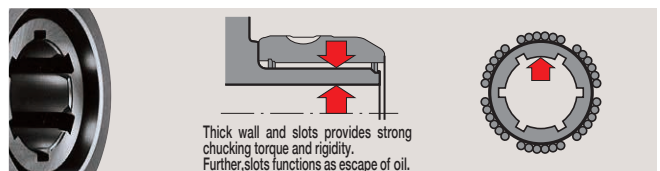
The larger quantity of needle rollers enables the moving of the same load with a small force and less damage on the bearing surface, thus providing a stronger chucking torque without creating even rolling when tightening.

## 2 Rigidity and Chucking Torque

Internal slots together with thickened wall of chuck body ensure no distortion even at heavier milling. Thus, smooth milling work is attained without the vibration or slipping of end mill.

### Effects of Internal Slots

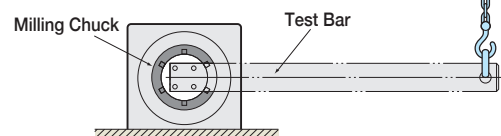
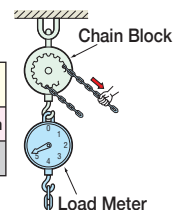
Thanks to internal slots, even if oil remains on the end mill shank, there is no decreasing of chucking torque. In case of imitations without slots, chucking torque is largely reduced by oil, causing the shank to slip down.



### Chucking Torque Test Data(C42)

	When oil is removed completely with thinner	When a little oil is adhered.	%
<b>NIKKEN</b> With Slots	5,000Nm	4,800Nm	Only 5% Down
Others Without Slots	3,500Nm	1,250Nm	67%Down

NIKKEN  
Others →





Same Appearance,  
but a Remarkable Improvement can be found when cutting.



The cutting chips show us the actual machining capability

Quiet,  
high speed heavy-milling



Stable finishing



### 3 New Clamping at Root & Anti-Vibration Mechanism

Cutting Data HSS Endmill-Carbide Endmill

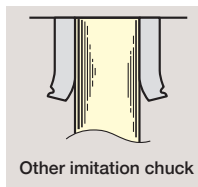
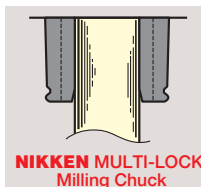
CHUCK	ENDMILL	CUTTING CONDITION	Ad×Rd
BT50-C32-90	HSS Coating 32φ4t	V 38m/min	S55C 60mm OIL 12mm
		S 380r/min	
		F 152mm/min	
BT50-C42-95	HSS Roughing 42φ 45φ6t	V 30m/min	S55C 110mm OIL 20mm
		S 210r/min	
		F 130mm/min	
BT50-C20-135 KM20-16	Carbide Coating 16φ4t	V 176m/min	S55C 35mm 3mm
		S 3,500r/min F 2,000mm/min	
BT40-C25-70	HSS Coating 25φ4t	V 38m/min	S55C 50mm OIL 8mm
		S 480r/min	
		F 192mm/min	
BT40-C16-60	Carbide Coating 16φ4t	V 200m/min	S55C 30mm 3mm
		S 4,000r/min	
		F 2,000mm/min	
BT30-C12-55 KM12-10	Carbide Coating 10φ4t	V 160m/min	S50C 15mm 3mm
		S 5,000r/min	
		F 2,000mm/min	
BT30-C12-55	HSS Non Coating 12φ4t	V 30m/min	S50C 18mm WATER 4mm
		S 800r/min	
		F 250mm/min	ALUMINIUM 20mm WATER 3mm
		V 228m/min	
		S 6,000r/min	
F 3,600mm/min			

The End Mill can perform at 100% of their capability by using the cutting data. If cutting condition is exceeded, they may cause tool failure. For the M/C with ball guide mechanism, MAJOR DREAM HOLDER might perform better than MULTI-LOCK milling chuck.

### 4 Clamping at Nose Mechanism

Clamping at nose - key Condition for Precise Milling.

Surface Finish and Tool Life are decided by Clamping at Nose, Rigidity and Run-Out Accuracy. Only our mechanism performs real clamping at nose, never rivalled by imitations : ideal for heavy milling to fine finishing. Only the NIKKEN MULTI-LOCK Milling Chuck perfectly clamps even at 3mm from chuck nose.

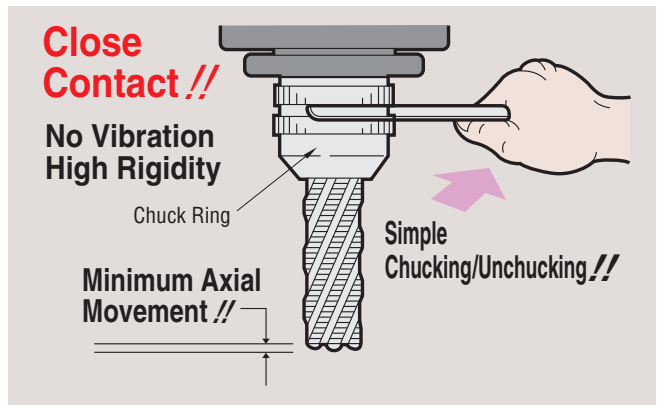


### 5 Stable Milling with Stopper

Easy for "anyone to attain a stable torque."

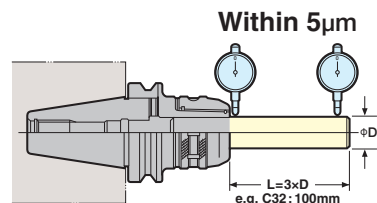
Wear of the bearing surface is only 1~2microns even after practical use of 4~5years owing to the use of 140% more needle rollers than imitations, the use of special material (steel) of NIKKEN own. and the know-how of hardening. The stopper is therefore located to the MULTI-LOCK Milling Chuck where the maximum efficiency of chucking torque is exerted. Tightening the chuck close to the flange face gives a sign of "MILLING OK" to ensure smooth, stable and reliable milling work.

(Important : Good production with Assurance!!)



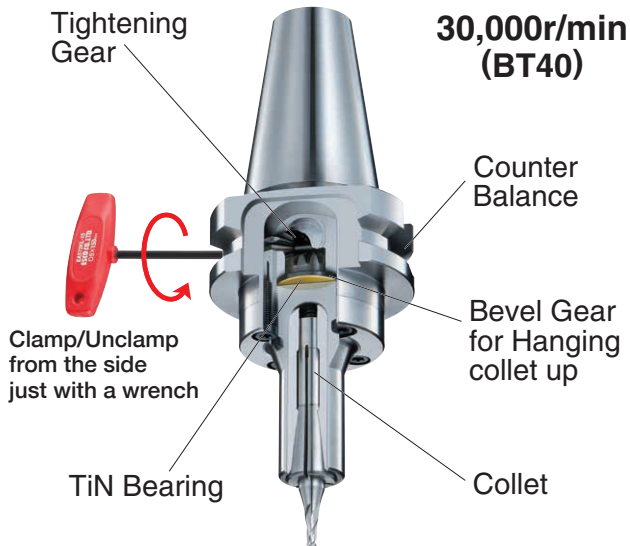
### 6 Fine Run-Out Accuracy

Only NIKKEN MULTI-LOCK Milling Chuck can obtain the run-out accuracy within 5μm(T. I. R) at the position 100mm apart from the nose.(C32 Style)



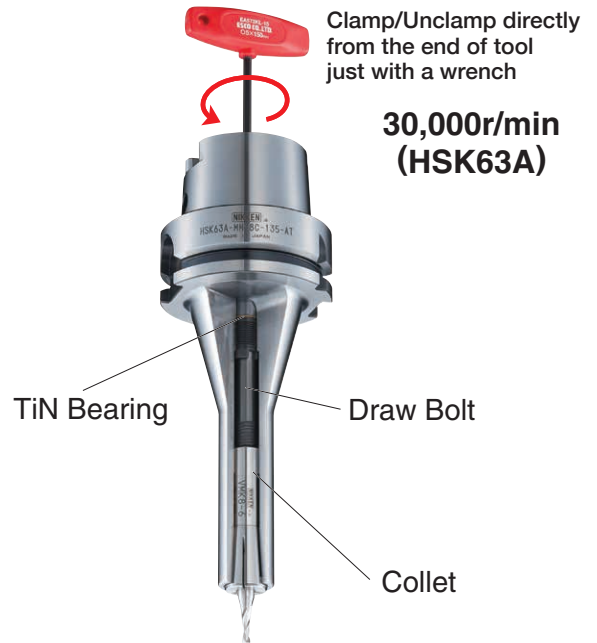
High Speed·High Precision  
**Best Chuck for Small Diameter Cutting Tool**

**Standard Type**



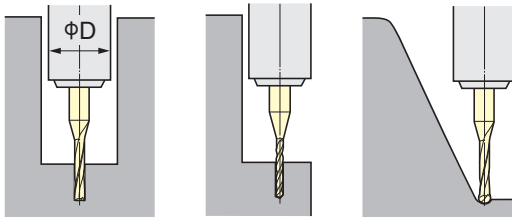
**Direct Screw Type**

Please add "-AT" at the end of Code No. e.g. HSK63A-MMC8C-107-AT



**Slim & Compact**

ΦD : MMC 4 : Φ15mm  
MMC 8 : Φ20mm  
MMC12 : Φ30mm

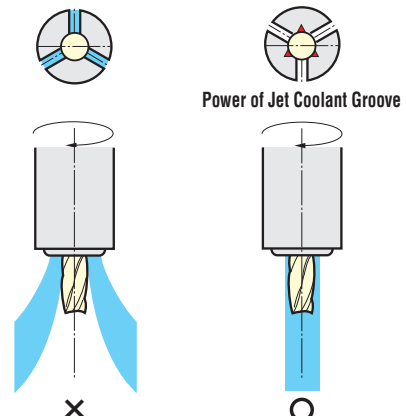


**High Speed**

**MAX. 30,000r/min**

**Coolant Through Tool Capability**

J type Collet + End Mill  
High Pressure Coolant Through Jet Spread Groove



Coolant will be spread out through the Slit at high rpm

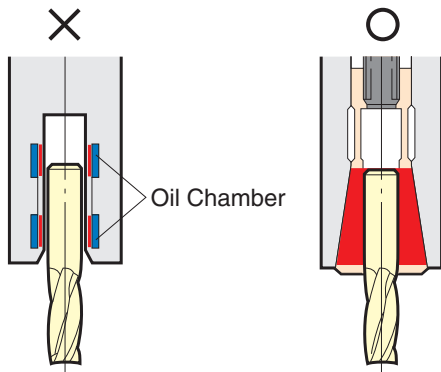
Oil Jet Coolant System No Coolant Spreading out even at high rpm

**Standard Collet**

**J type Collet**



**Gripping from Front Nose**



**HYDRAULIC CHUCK**  
No Gripping at Front Nose  
Gripping Torque?

**MINI-MINI CHUCK**  
Gripping from Front Nose  
Powerful Gripping Torque/3times

**HIGH SPEED ROTATION·HIGH ACCURACY·HIGH PRESSURE COOLANT THROUGH**  
**Power of TiN BEARING NUT**

TiN Bearing Nut is used for Nikken Slim Chuck, MAJOR DREAM Holder and VC Holder with great popularity.

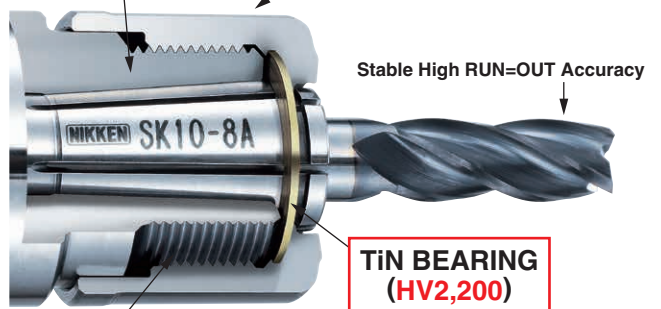


**High Speed Slim Chuck**  
**MAX. 40,000r/min**

**Power of TiN Bearing Nut**

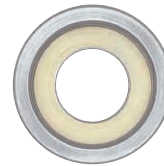
8 degree Taper Collet for Accuracy & Gripping Torque

Simple & Compact Design for High Speed Rotation



Special Coated for High Efficiency

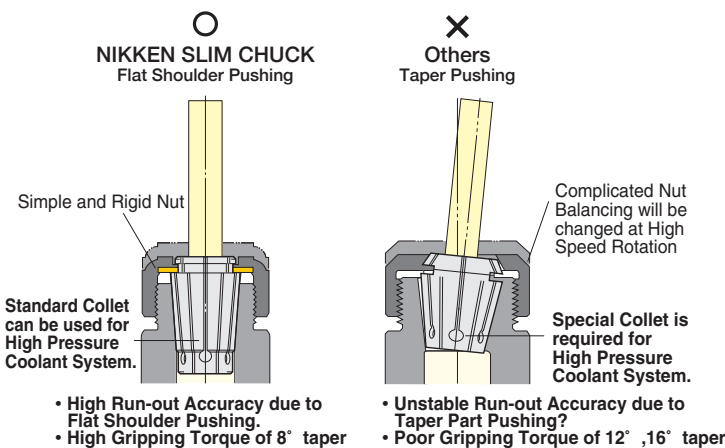
**TiN BEARING (HV2,200)**



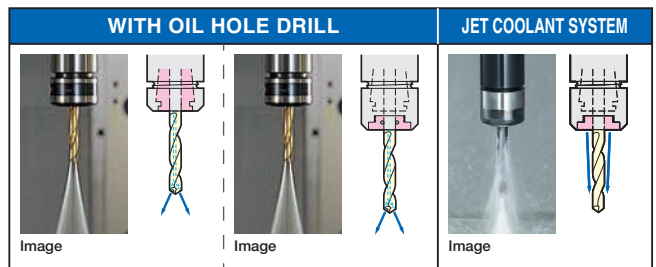
J nut is the best solution for the centre through coolant application, and strongly recommended to use for the high accuracy and the high productivity.

JAPAN, USA, EU, KOREA PAT.

**Flat Shoulder Pushing & Taper Pushing**



**SLIM CHUCK COOLANT SOLUTION**



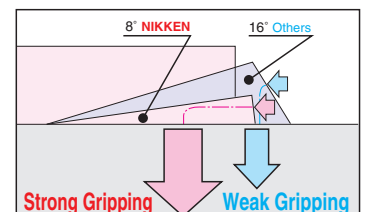
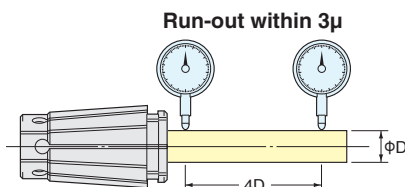
P285~P287

When SK J type nut is used, the total chuck length will be extended by 6mm.

**The Secret of strong gripping power and high rigidity... 8°Taper**

8°Taper and Wedge Principle is the Answer. The smaller the Taper Angle, the better Concentricity is obtained. Besides, thanks to Wedge principle, Strong Gripping Power is generated with small torque.

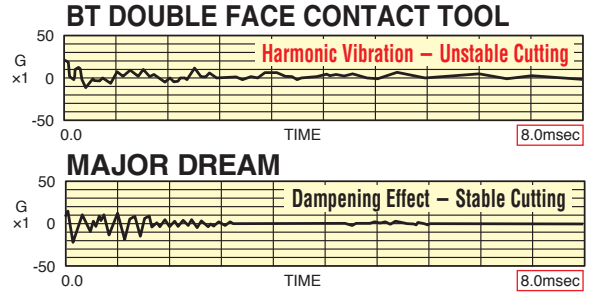
**P Class Concentric Accuracy**



**Revolutionary Dampening Mechanism**



Internal Dampening Mechanism is built-in to the MAJOR DREAM Holder.

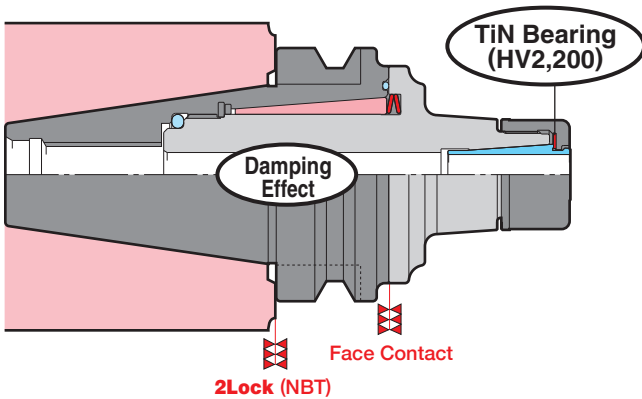


**Difference due to Dampening Technique and Effect**

Excellent Machining on { Linear Guide M/C  
Box Guide M/C

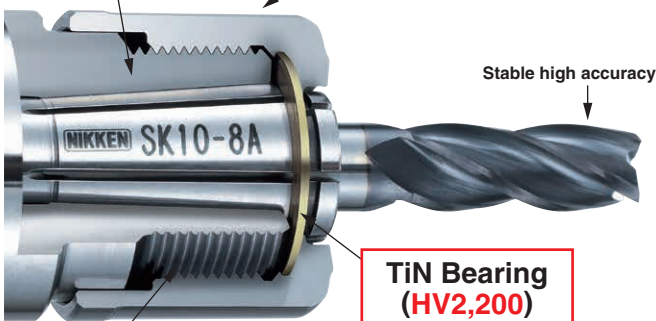


**Dampening Effect & Power of TiN Bearing Nut**



Slim Collet with 8 degree taper to satisfy the accuracy and the high gripping torque.

Simple design without the flats for the hook spanner. The GH handle is used to tighten / loosen precisely. The external diameter is more compact than the external diameter of the ball bearing nut.



Stable high accuracy

The molybdenum is coated to the internal thread of the nut, then the efficiency of the thread is highly improved.



J nut is the best solution for the centre through coolant application, and strongly recommended to use for the high accuracy and the high productivity.

**Great Popularity of MAJOR DREAM 3 Brothers**

- MAJOR DREAM SHRINK FIT HOLDER P.188
- MAJOR DREAM PRO ENDMILL P.187



This is the Mighty End Mill Holder from the series of Tin Bearing Nut type collet chuck to satisfy the gripping torque, run-out accuracy, cutting rigidity, high precision finish and high speed rotation.

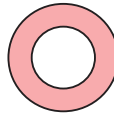
**2LOCK** tooling can be used as the BT double face contact tooling on the machine with the BT double face contact spindle. It can be also used as the BT tooling on the machine with BT standard spindle.

JAPAN, USA, EU, KOREA PAT.

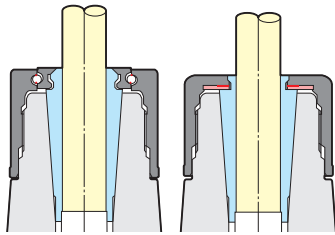
## Power of TiN Bearing Nut

Good sliding effect due to the surface hardness of HV2,200. More efficient than conventional ball bearing built-in nut.

Unstable accuracy caused by tightening torque and the possibility of rust.



The Tin coated bearing plate reduced friction. This is the best for the thrust load.



Competitors

NIKKEN

## Less micron vibration due to the collet flange contact

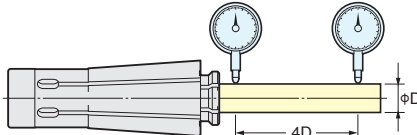
Improves the cutting capability and tool life.

## Run-out accuracy :

Less than 3 microns at 4XD

Better stability on run-out accuracy  
Improves the surface finish  
Suitable for finish on die-mould machining.

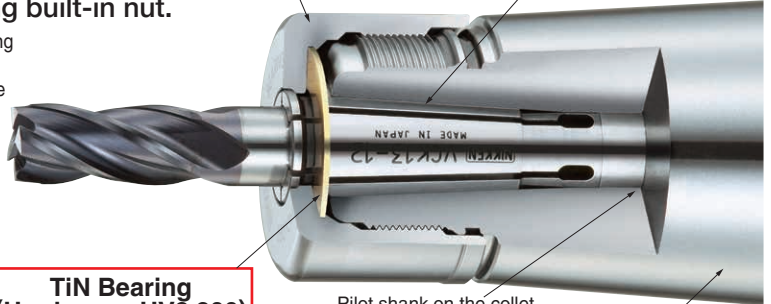
Less than 3 microns



**TiN Bearing (Hardness : HV2,200)**

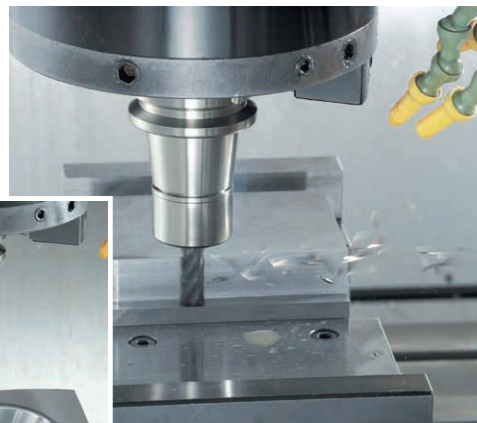
Simple external design without the notches to be tightened with GH handle Ultra high speed rotation

8 deg. internal taper proven with the Slim Chuck for the accuracy and gripping torque.



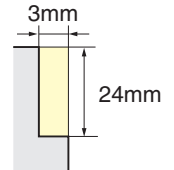
Pilot shank on the collet for further stability of the accuracy.

The thick wall design of the VC Holder body improves its cutting rigidity.



**12mm, 4teeth Carbide Endmill**

Material : Mild Steel  
V=220m/min  
S=6,000r/min  
F=3,000mm/min



Power of TiN Bearing

Cutting Rigidity

High Precision Finish

## Jet coolant splash with J type Nut.

J type Nut



**Cap with triangular grooves**  
The jet coolant pressure creates a tornado effect.



**Cap with O-ring**  
For oil hole cutting tool



## High Speed Rotation MAX.40,000r/min

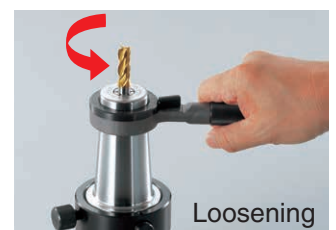
## Easy, safe and reliable handling with GH Handle

JAPAN, USA, KOREA, TAIWAN PAT.

The nut has no notches for high speed rotation and GH Handle can tighten the nut with half of the tightening torque of the conventional C type spanner, thus, substantial improvement for quality of safety, reliability and operational efficiency will be obtained.



Tightening

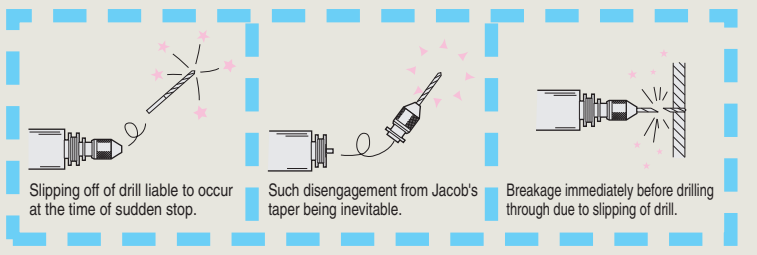


Loosening

## “Solid” means Compact, Precision, Rigidity and Safety.

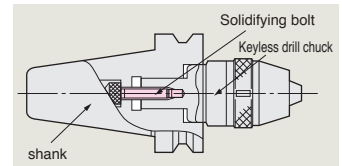


Such troubles will not only hinder an unmanned operation in FMS but cause successive occurrence of defective products to obstruct the rationalization of factory.



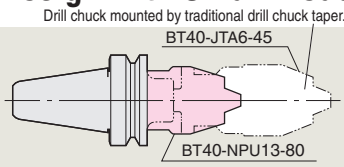
### Solid design eliminates the slipping off.

The keyless drill chuck is tightened by the solidifying bolt to the shank, so that there is no possibility of slipping off during rotation or drilling.



### Compact Design with Small Head

--- line illustrates the ISO or conventional drill chuck.



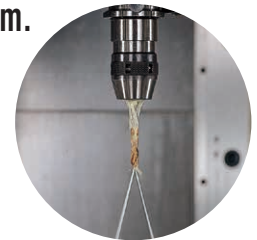
### Run-out Accuracy of MAX. 0.04mm.

### 3 Times Larger Chucking Power

### Even Carbide Drill does not occur Slipping.

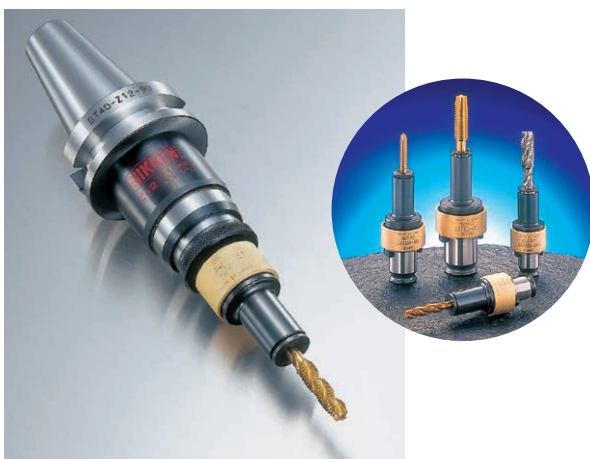
### Centre through tool coolant

NPU13 can be used as centre through tool coolant holder for the shank diameter bigger equal to  $\phi 6\text{mm}$ . (Option)

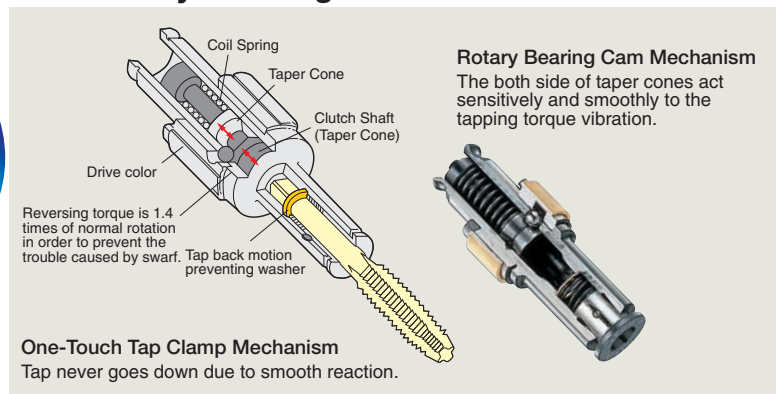


# NIKKEN TAPPER CHUCK

## Rotary Bearing Cam ensuring Precision, Sensitivity & Long Tap Life.



### Rotary Bearing Cam



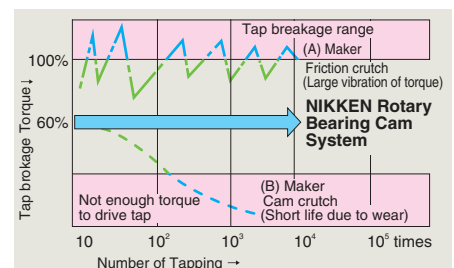
### Slim Body & Fine Floating

External Diameter as small as ever. Only NIKKEN Tapper Chuck performs even big size Tapping with slim body. The floating part is not a simple slide key, but plural preloaded balls are arranged in V-shape. That is why the tap slides smoothly without chattering accompanied.



### Torque Life Curve

The bearing cam with no sliding friction has been developed for the tap collet to protect the tap from breakage. The principle of this collet is fundamentally different from that of the conventional brake system utilizing a rubber reaction or a friction resistance as shown by the following graphs (A) & (B), so that constant torque characteristic as illustrated is obtainable to secure safety of tapping semipermanently.





**φ 3~50 Developed with all of  
NIKKEN Knowhows-Best Help of Fine Boring**



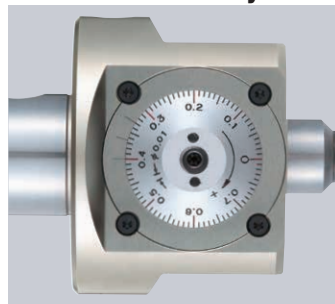
Photo shows new DJ8 series.

**Easy to Set Micron Accuracy**

Easy operation with big dial graduations together with a wide adjusting range for fine boring of dia.3~50mm.

Dial Graduation  
1 Graduation: dia. 0.01mm  
Vernier reading: dia. 0.005mm  
Smooth and High Precision Boring is ensured.

**Micron accuracy can be obtained easily**



**No Vibration and Least Wearing of Carbide Insert.**

4 pcs of DJ Boring Bits are provided as standard accessories. Even 1mm stock removal on diameter can be done with maintaining fine surface finish without vibration.



φ3~8mm

**New Byte Series for DJ8** **P.88**

**Special Carbide Indexable Insert for φ5mm Boring**

Now Special Carbide Indexable Inserts for φ5~15mm are available for DJ Bit. No more regrinding and the **shank is solid Carbide**. Fine boring of φ5mm from 4.5mm drilled hole can be done without vibration and without bending. Fine boring of Safety and Sureness by DJ Boring Head.



**High Pressure Coolant Through Type**



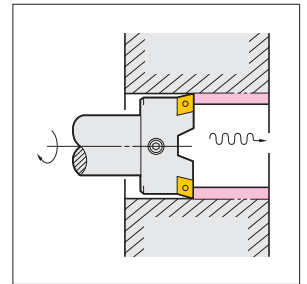
- Cutting Speed..... 100m/min.
- Feed ..... 0.05mm/rev
- Stock Removal ..... 0.5mm(on Dia.)
- Boring dia..... φ30mm
- Material..... SKD11

**φ25~580 Scram Type Cartridge Power & Smooth Boring with 250% Productivity**



**Double Cutting Capability**

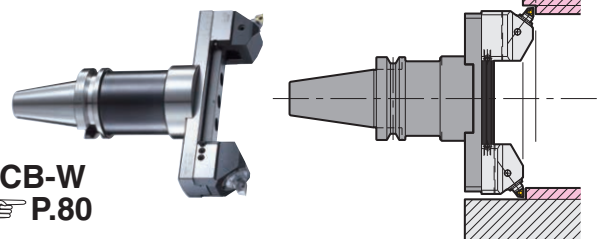
From φ25~580mm, all Balance Cut Boring Bars execute boring in 2 Carbide Inserts. One side cutting will not occur, and vibration is absorbed each other. The faster the feed rate (0.2~0.4mm/rev.), the better swarf ejection. Ideal for Rough and Medium Boring.



**2 Stepped Balance Cut**

Approx. double removal of standard cutting condition is possible by -0.3mm Cartridge.

Stepped Boring



BCB-W P.80

**Various Cartridges & Inserts P.67**

Good Chip Ejection ensures no trouble Heavy Boring. Standard carbide insert is suitable both for Steel and Cast Iron. Besides, optional cartridges for steel, for Aluminium, through hole or multi-sheets are available.

RAC-E

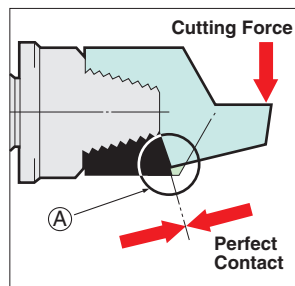
RAC-A

RAC-K



**Power of Scram Type Cartridge**

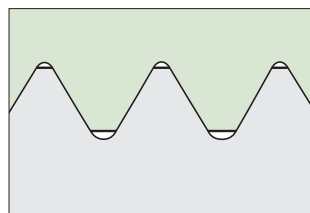
Cutting force is supported by the shoulders of both cartridges. This is the secret of heavy and powerful boring even at the intermittent bore.



**Precision Ground Serration**

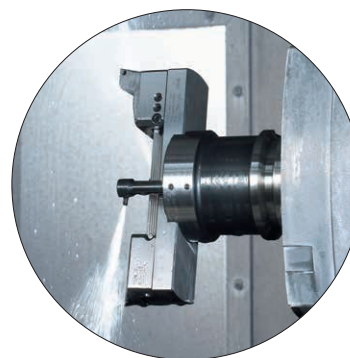
High Precision Serration is the base of high accurate performance of BALANCE CUT Boring Bar.

- Even strong cutting force is accepted by High Precision Serration, resulting in smooth boring without micro vibration.
- All slides are finished by precision grinding. Even micro adjustment can be done smoothly as you desire.

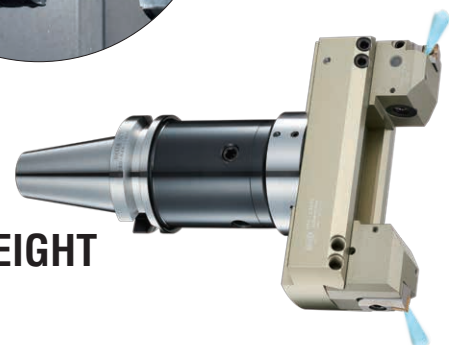


Precision Ground = Basic Serration

**High Pressure Coolant Through Tool**



- Cutting Speed ..... 150m/min
- Feed Rate ..... 0.4~0.6mm/rev
- Stock Removal ..... 6~10mm(on dia.)
- Boring Dia ..... φ60mm
- Material ..... SNCM420 (Ni, Cr, Mo Alloy Steel)

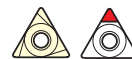
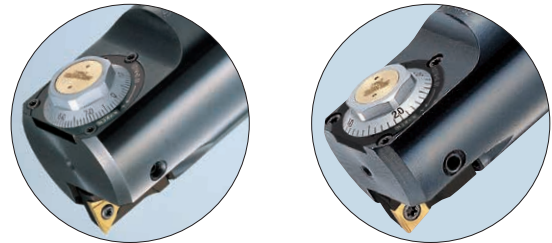


**BALANCE-CUT RAC BORING ARBOR for LARGE DIA P.83, P.265 ULTRA LIGHT WEIGHT**

## φ16~180 The World Leading Boring Head



### Various types of Insert Tips



Steel, cast iron, and stainless steel can be machined by the same coated insert tip. Specifications that support insert tips which are widely circulating on the market are also available. ➔ P.78 ZMAC-V-I

### Application

NIKKEN makes use of its abundant experiences and results to provide special boring bars, which are suited for various work shapes as part of the solutions to streamline production.

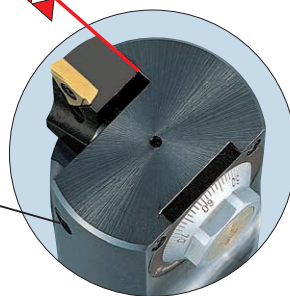
Available for Multi-Stage Boring Bar ➔ P.82, P95



### High rigidity Double-contact support

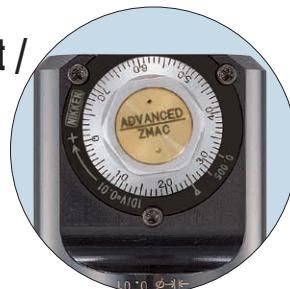
Innovative new feature of Double-Contact Support

New Locking screw closer to Cutting Edge



### High-precision / Easy micro-adjustment / High durability

New lock flanges reduce dial torque and increase visibility. ZMAC25-V and larger also have a sub scale for easier and more accurate diameter adjustments.



### Coolant Specifications for All Sizes

All sizes from φ16 to φ180 have coolant holes positioned so that the coolant is applied directly to the cutting edge. ZMAC70-V and larger use a variable nozzle system.

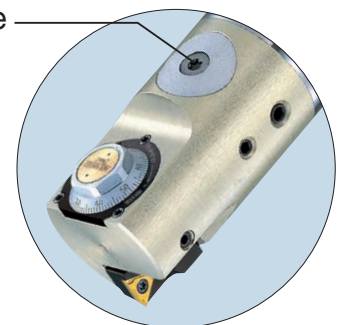


### High Speed Boring 12,000r/min, Deep Hole Boring

Balance Weight

### ZMACα-V

Special Hardened Light Alloy Metal Head with Balancing for Anti-Vibration.



### BALANCE-CUT BACK BORING ARBOR for LARGE DIA ➔ P85, ULTRA LIGHT WEIGHT P266



**φ6~200 Easy-to-See Digital Displays / Supports Small to Large Diameters**



**Digital Displays for Easy Diameter Adjustments**

A digital display enables easily made adjustments, even in increments as small as 2 microns in diameter. Various settings can be changed by operating the single Select Button. Sizes are switchable between metric and imperial units. The minimum set value for imperial size display is 0.0001".



Select button

**Combination Systems Support a Wide Machining Range**

A combination system realizes a wide machining range as it enables the mounting of boring cartridges that use both a cylindrical boring bit and serration.

**eMACP** : φ6~110

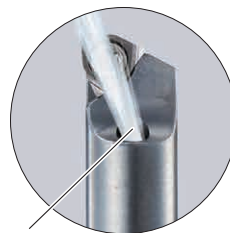
**eMACP-W**: φ6~200

※Set products capable of boring in the range of φ6 to φ110 are also available. P.96



**Coolant through Tool Capability Provided as a Standard**

Coolant through tool capability that supports pressures up to 4 MPa is provided as a standard. Coolant is discharged from the cutting edge of cylindrical boring bits, or from a coolant nozzle located near the cutting edge of cartridges.



Coolant hole



Coolant nozzle

**Waterproof Rating: IP69K**

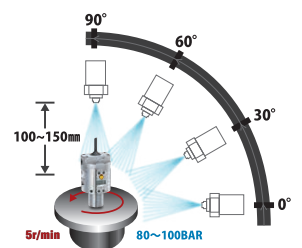
Waterproof Rating: IP69K  
Waterproof specifications at an IP67 rating help keep the internal electronics safe, and the cover for the SR44 batteries (2 pcs) has seal specifications that enable repeated removal and attachment.



Battery cover

**IP69K means:**

IP69K is a protection class against high temperature and high pressure water, as defined by German standard DIN40050-9, which is an extension of IEC60529, the international standard for water and dust proofing. While the specimen under test is placed on the turntable and rotated 5 times per minute, hot water of 80°C is sprayed at a high pressure of 80 to 100 bar from a distance of 100 to 150 mm from the horizontal plane at four angles of 0°, 30°, 60°, and 90° for 30 seconds each, in order to protect the specimen from the harmful effects of water ingress. It is designed to protect against the harmful effects of water ingress.



**Industry Proven to Eliminate Pull-Out**

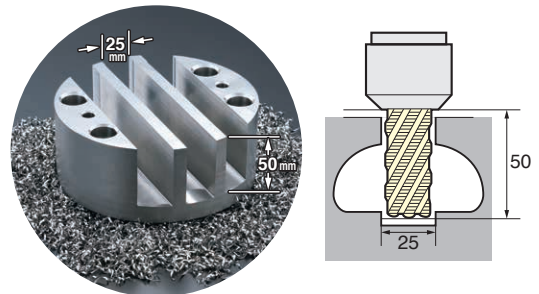


**PATENT**

JAPAN, USA, EU, CHINA PAT.

**Excellent Run-out & Powerful Gripping**

**Exclusively developed for demanding Applications and materials associated With the aircraft and energy industry.**

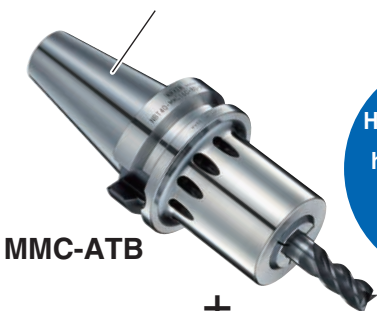


**Material: Ti6Al4V Titanium 25mm, 6teeth Carbide Roughing Endmill 25 X Depth 50mm 1 Path Milling Never Pull-Out**

**NIKKEN 2LOCK MINI-MINI MASTER CHUCK / HYBRID SHRINK-FIT HOLDER**

**High rigidity, high efficiency machining / damping effect for effective machining of moulds**

**MINI-MINI MASTER CHUCK**



Heavy cutting with high rigidity body and high torque  
**VMK-H Collet**

**High torque specification VMK-H Collet**



**MINI-MINI MASTER CHUCK**

**+ VMK-SF shrink Fit Holder HYBRID SHRINK-FIT HOLDER**

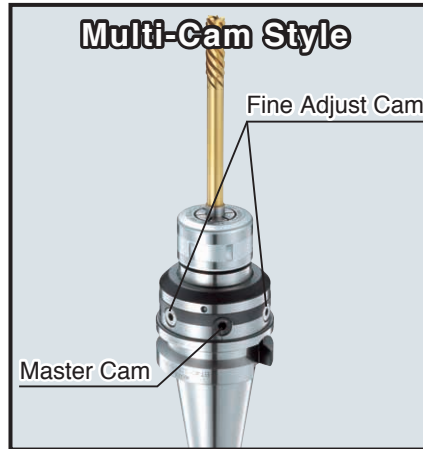


Aspecial structure damps the vibration of the cutting edge

**VMK-SF shrink Fit Holder**



When the machine has been used for 2~3 years, the run-out accuracy of the spindle will be declining with accuracy of 0.01mm~0.04mm at 100mm from the gauge line, the Zero Fit Holder allows correction of this error back to the run-out of 0.001~0.002mm.



**Multi-Cam Style**  
The minute run-out after adjusting by a master cam can be adjusted by fine adjust cams at the same position.  
e.g. BT40-SZF16-90-C3 (3 Cams)  
The multi-cam style can not be made for all zero fit holders.



**CF-CZF**  
P.131

**FLANGE STYLE ZERO FIT TYPE MILLING CHUCK**

- Ideal for adjusting cutter run-out on an NC grinding machine or universal grinding machine
- 3-point cam as a standard feature makes it easy to adjust run-out on a grinding machine!

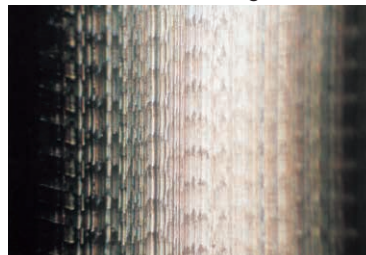
**At Machine Spindle**

With "0" Fitting the Tool Run-out Accuracy;

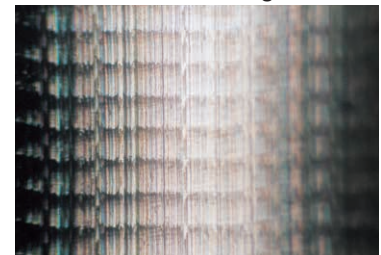
- The milling surface finish and quality can be improved.

Materials : Pre-Hardened Steel NAK55 (HRC39)  
End Mill : 10mm, 2 teeth Carbide Ball End Mill  
Cutting Speed : V=200m/min  
Spindle Rotation : S=6,366r/min  
Feed per tooth : f=0.15mm/min  
Feed : F=1,910mm/min  
Dry Cutting with Air blow

Before Zero Fitting :  
Run-out at cutter front edge = 20 microns



After Zero Fitting :  
Run-out at cutter front edge = 1 micron

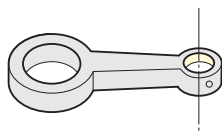


- For better and stable finish tolerance for machining holes

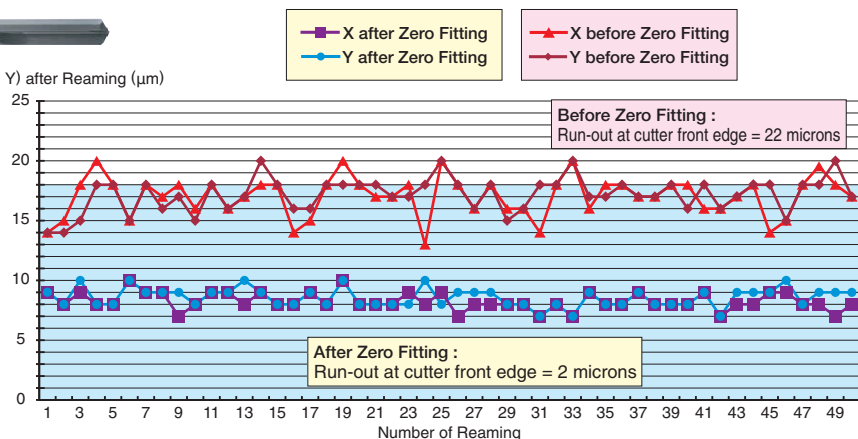
...The variation at finish tolerance can be minimized, thus the finish size tolerance can be reduced.



Materials : Tempered Steel (HRC25~30)  
Tool : φ13mm CBN Reamer  
Cutting Speed : V=80m/min  
Spindle Rotation : S=2,000r/min  
Feed per tooth : f=0.1mm/min  
Feed : F=200mm/min  
External coolant supply : Water soluble



Bore Dia.(X, Y) after Reaming (μm)



TOOL LIFE (Relative Comparison)

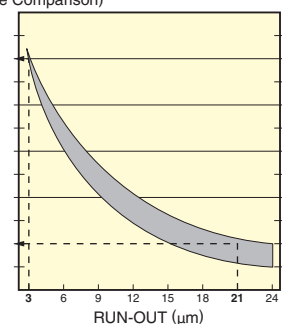


Fig.1

- The tool life can be extended.

Fig.1 shows the relation between run-out accuracy and tool life, and when the run-out accuracy of 21 microns is reduced to 3 microns, the tool life can be improved by approximately 5 times.

- Zero Fit Holder has wide adjustment range compared with competitors equivalent, and its mechanism performs simple, quick and secured operation.

- The choice of the Slim Chuck style "SZF" & the Anniversary type Milling Chuck style "CZF" can be selected depending on your cutter.

# NIKKEN DOUBLE FACE CONTACT TOOLING SYSTEM

Min. Z Displacement  
ATC Repeatability

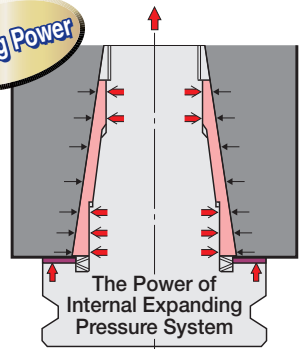
**7/24 Taper** For BT Double Face Contact Spindle **P.154**

## 3LOCK Tooling System JAPAN.PAT P.153

When the tool is clamped, the gentle taper of main body internally expands to create a dead lock of the taper connection, then it results in maximizing the pulling force. The ideal clamping ratio of taper : flange = 90% : 10% is achieved.

Tool Life 3~5 times

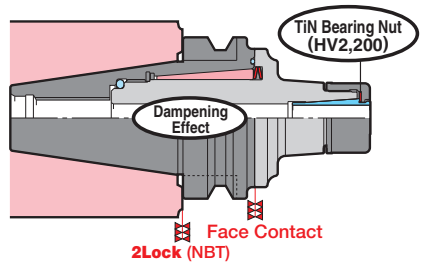
Cutting Power



## 2LOCK Tooling System P.173

2LOCK Tooling System is not the simple double face contact system of taper and flange, but the system with dampening effect and the excellent front chucking system.

## 2LOCK MAJOR DREAM Holder



**1/10 short Taper & Polygonal Taper**

Tool Life 3~5 times

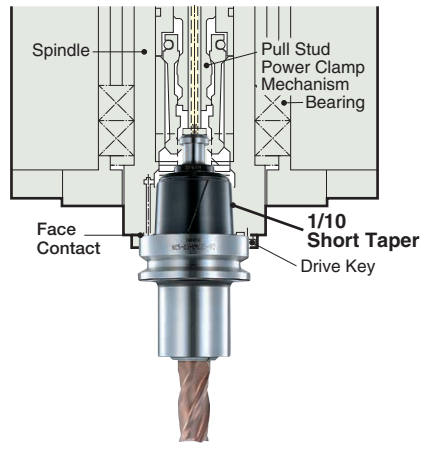
Cutting Power

Rigidity

Dampening Effect

## NC5 Tooling System P.213

Since the launch of the Nikken **NC5 Tooling System** at JIMTOF'94 OSAKA, the system has proven its outstanding capability is a wide cross-sector of Japanese industry, with ever-increasing expectation of its being adapted as the next generation tooling interface. Unique tool construction is built-in NC5 tooling system. The slotted taper cone which is pre-loaded by a disc spring increases its vibration dampening effect, then finally adjusting the minute gauge line error completely. Chattering Stability = Static Stiffness X Dampening Ratio. Thus, the advantage of NC5 tooling system is clearly demonstrated.



## HSK Tooling System P.227

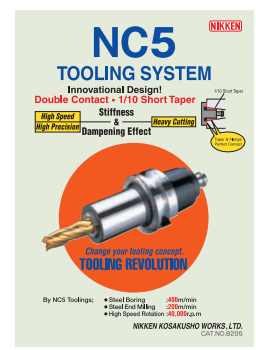
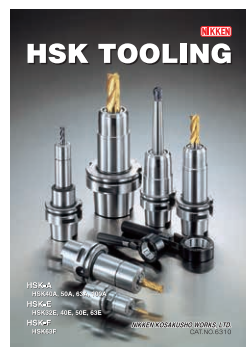
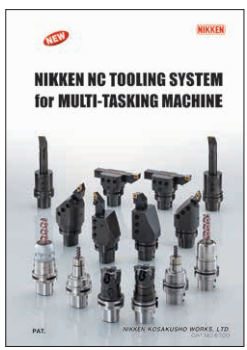
HSK-A shank is the hollow shank with 1/10 taper, and taper & flange contact system. This is based on **ISO 12641-1 (DIN69893-1)**. It's not well balanced due to the unsymmetrical shape, but Nikken HSK-A shank has a hole and a flat for mass balancing as standard. HSK-E & HSK-F shank are the shank without drive key slot and U groove. This is based on DIN69893-5, 6. This is used for high speed application.

HSK40A, 50A, 63A, 100A  
HSK25E, 32E, 40E, 50E, 63E  
HSK63F } are available.

## Polygonal Taper C6 Tooling

C6 tooling system is used for the tooling of the integrated machine.

Please refer  
**NIKKEN NC TOOLING SYSTEM for MULTI-TASKING MACHINE Catalogue**

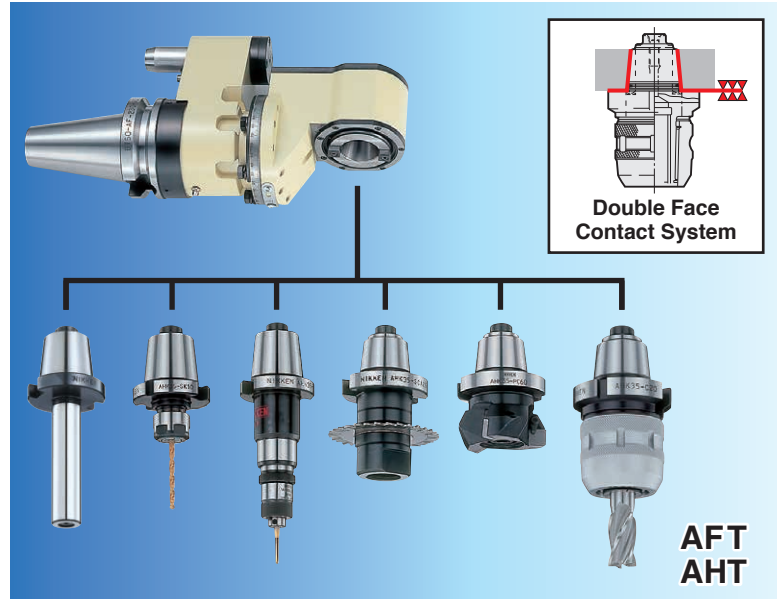


# NIKKEN FACTORY AUTOMATION SERIES

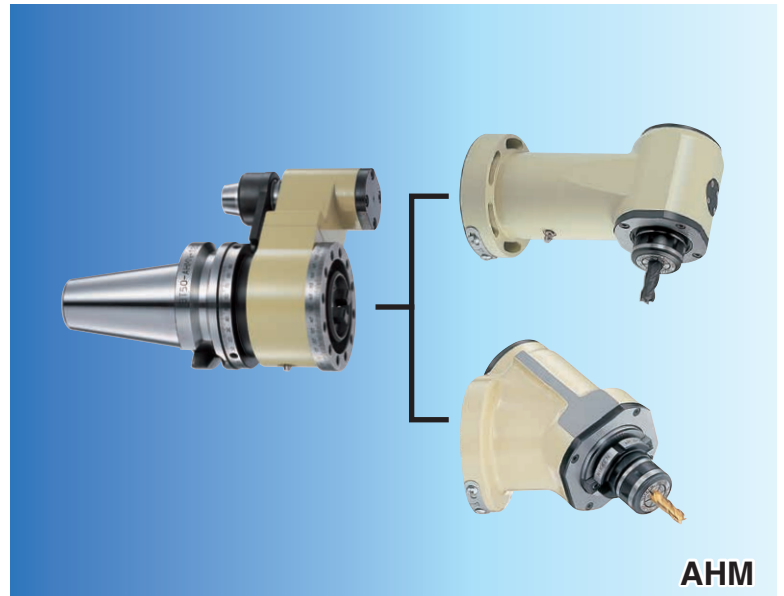
Spindle Speeder  P. 123



Quick Change type Angular Head  P.125



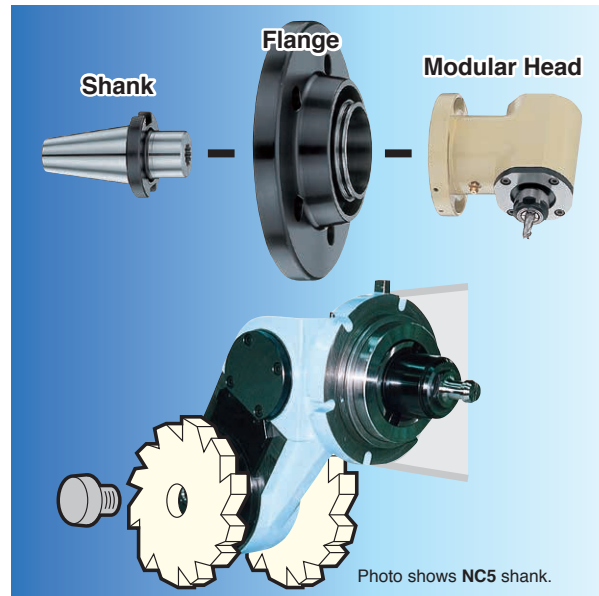
Modular type Angular Head  P.127



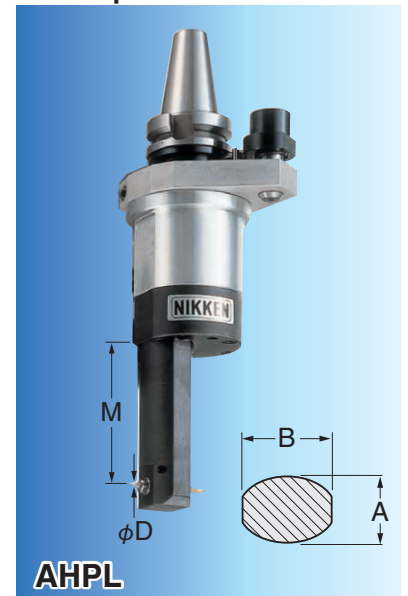
Solid type Angular Head  P.128



Direct Mount Flange type Angular Head  P.129



Compact type Angular Head for Deep Hole  P.127





# NIKKEN FACTORY AUTOMATION SERIES

**TOOL PRESETTER** P. 149

QR Code reader

TOOL holder with QR code

**Centre Through Coolant** P.34, P.39 P.46, P.48

**Flange Through Coolant** P.34, P.39 P.46, P.48

8 Years used

RPT 18 years used

**RP Treatment** P.302

The RP treatment creates a fine film of the contents (Fe<sub>2</sub>O<sub>4</sub>) and (Fe<sub>2</sub>O<sub>3</sub>), and penetrates into the tool holder 1~2 micron deep. This fine film inhibits the rust and corrosion of your tool holder taper and stops it from being transmitted to your machine spindle. The RP treatment will not effect the accuracy and the hardness of your tool holder.

**Multi Spindle Drill Head** P.129

MHD  
MHS  
MHV

**Multi Spindle Tapper Head** P.129

MHT

**Automatic/Manual Back Spot Facing Arbor** P.133

AF  
MF

Automatic

Manual

**Oil Piaster** P.167

ZP

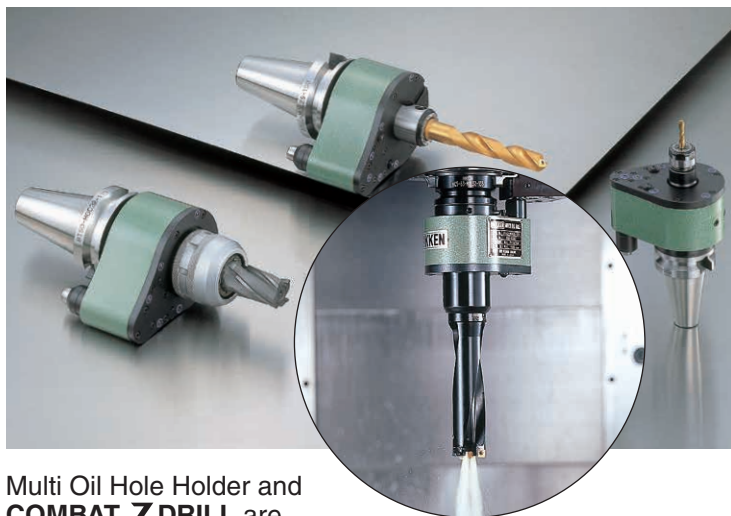
**Spindle Taper Cleaner** P.167

CLE

**Spindle Flange Cleaner** P.167

CLEF

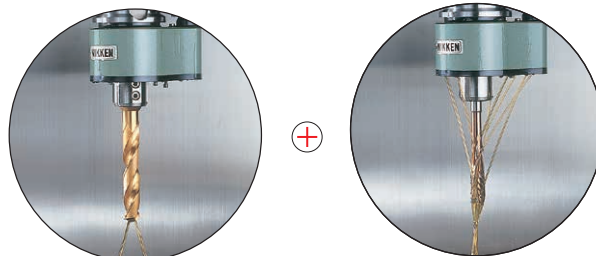
**Conventional Oil Hole Holder + Multi Coolant Nozzles**



Multi Oil Hole Holder and **COMBAT Z DRILL** are recommended for drilling on M/C to increase productivity.

**Combination of Coolant Through Tool Type and Outside Nozzle Type**

Can be used to both oil hole cutter and normal cutter without oil hole. When normal cutter (drill, end mill, tap etc.) is used, coolant is fed as Jet Streams exactly to cutting point.



**Oil Hole Drill**



**Multi-Nozzles**

**Zero Fit Type Oil Hole Holder** P.122  
Zero Fit Holder for Side Through



- Standard MT Drill & Reamer
- Standard Straight Drill & Reamer
- Tap
- End Mill
- Boring Bar

**NIKKEN COMBAT Z DRILL**

**φ16~80mm Power of Pilot Drill & 3 Phases Heat Treatment**



**Power of Pilot Drill**

No Vibration with Pilot Drill

L/D=3 and 4 times as standard



3 Phases Heat Treatment & Suitable Twisted Shape improves Ejecting Cutting Swarf.

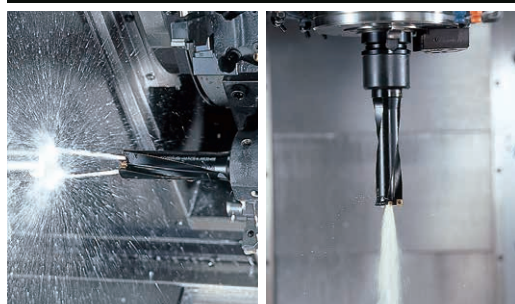
**3 Phases Heat Treatment**

- It significantly improves Rigidity and Ejecting Cutting Swarf by suitable twisted shape and special surface treatment. Tool life of Insert and Drill grows 3 times longer.
- Pilot Drill prevents Inserts from chipping by reducing vibration.
- Powerful drilling speed of 120~150m/min. with small torque.
- Less cutting resistance with Rhomboid Inserts.

PN Treatment (Ejecting Cutting Swarf)

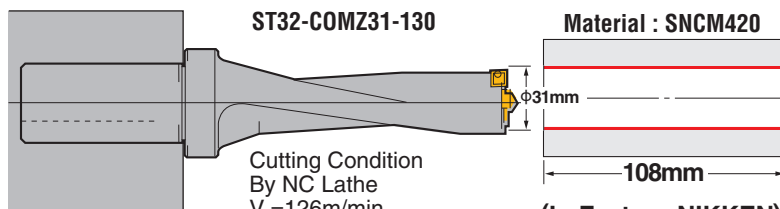


3 Phases Heat Treatment



NC Lathe

M/C



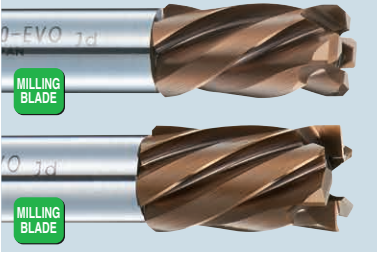

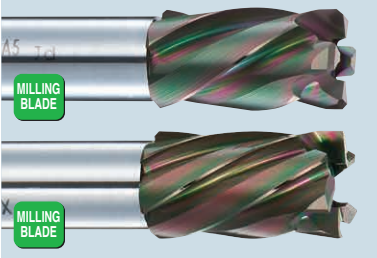
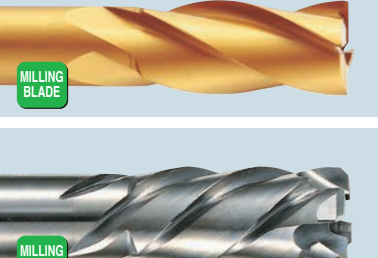

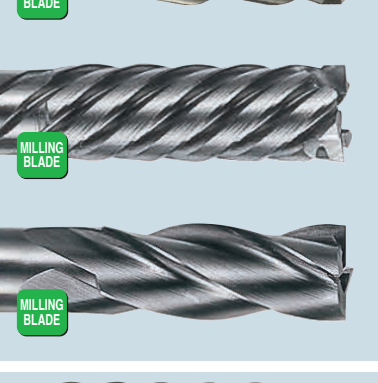

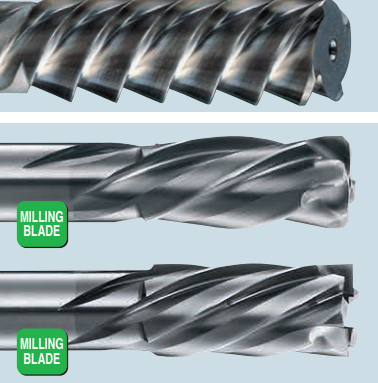
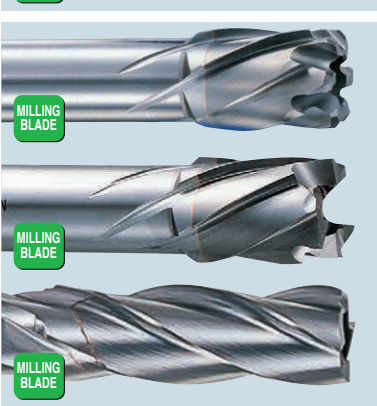
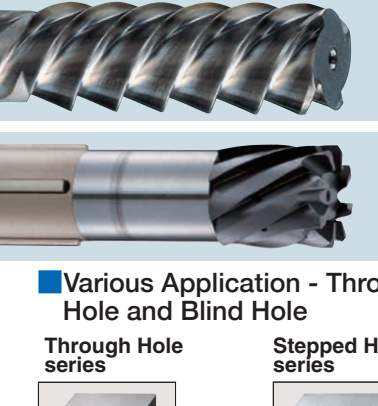
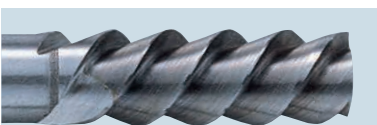

Cutting Condition By NC Lathe  
V = 126m/min  
S = 1,300r/min  
f = 0.15mm/rev.  
F = 195mm/min  
Water Soluble Coolant

(In Factory NIKKEN) Machining Time = 35sec.

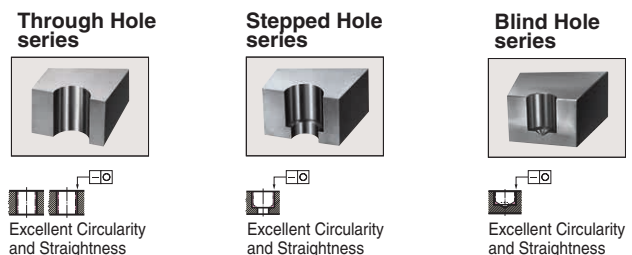
It can be used after total cutting length = 65mm.

## Carbide Reamer Series

## HSS Reamer Series

	<p><b>For difficult-to-cut materials evolution series</b></p> <ul style="list-style-type: none"> <li>•RMSS-EVO, PF-RMSS-EVO</li> <li>•RFSS-EVO, PF-RFSS-EVO</li> </ul>		<p><b>NC Sensor Reamer</b></p> <ul style="list-style-type: none"> <li>•NCS, NCM</li> <li>•NCS-F, NCM-F</li> <li>•RNS-F</li> </ul>
	<p><b>For aluminium, aluminium casting Spectrum Reamer Series</b></p> <ul style="list-style-type: none"> <li>•RMSS-SPX, PF-RMSS-SPX</li> <li>•RFSS-SPX, PF-RFSS-SPX</li> </ul>		<p><b>Tough-Cut Skill Reamer</b></p> <ul style="list-style-type: none"> <li>•SRS, SRM</li> <li>•SRS-F, SRM-F</li> <li>•RSS-F</li> </ul>
	<p><b>PF Radical Reamer Series</b></p> <ul style="list-style-type: none"> <li>•RMSS, PF-RMSS</li> <li>•RFSS, PF-RFSS</li> <li>•RRSS-F</li> </ul>		<p><b>Turning Skill Reamer</b></p> <ul style="list-style-type: none"> <li>•SRST-F, RSST-F</li> </ul>
	<p><b>Carbide Radical Mill Reamer DLC Coating</b></p> <ul style="list-style-type: none"> <li>•HMS-DLC, RMSS-DLC</li> <li>•FMS-DLC, RFSS-DLC</li> <li>•RXS-F-DLC, RRSS-F-DLC</li> </ul>		<p><b>Broach Reamer</b></p> <ul style="list-style-type: none"> <li>•BRS, BRM</li> </ul>
	<p><b>Carbide Mill Reamer</b></p> <ul style="list-style-type: none"> <li>•HMS, HMM</li> <li>•FMS, FMM</li> <li>•RXS-F</li> </ul>		<p><b>Long Type Reamer</b></p> <ul style="list-style-type: none"> <li>•SRS-L</li> <li>•SRS-F-L</li> <li>•BRS-L</li> <li>•BRM-L</li> </ul>
	<p><b>Carbide Broach Reamer</b></p> <ul style="list-style-type: none"> <li>•SX, MX</li> </ul>		<p><b>Recommended Cutting Conditions and Special Made Reamer/ Technical Information</b></p>

**Various Application - Through Hole, Stepped Hole and Blind Hole**



Please refer to **REAMER SERIES** Catalogue.

## Pioneer for Work Preparation



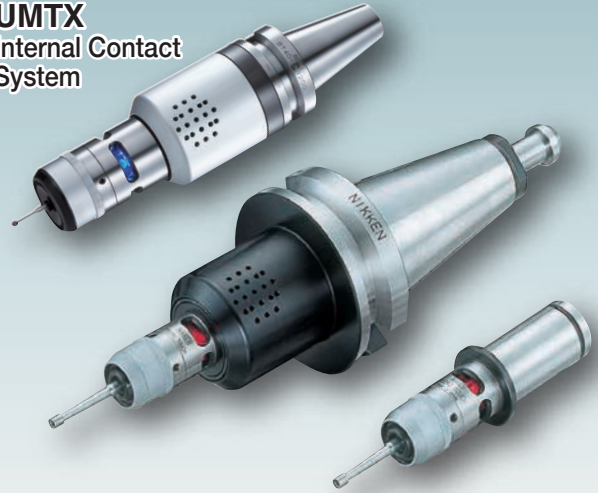
### Height Presetter

No need of test cut! Basic position of workpiece can be measured quickly without damaging tool teeth.

The distance from reference surface to tool end can be measured very quickly and accurately. This is a MUST for M/C, NC Lathe and NC Milling Machine.

## 3D Sensor

### UMTX Internal Contact System



### Micro-Touch

This is 3D sensor enabling instantaneous detection of position, measurement and alignment of center by means of Red Lamp and Electric Beep.

The Red Lamp lights the moment when the stylus touches a measurement part. Owing to the conductive detection system, a time delay caused by a relay etc. is eliminated and a highly sensitive measurement can be made.

## Small Measuring Tool, but Great Time-Saver



### Micro-Stand

Free flexing with single knob, no dead angle and long reach.

Two arms incorporating ball joint mechanism at both ends provide free movement in any direction such as vertical, lateral, longitudinal or rotational etc. If stretched horizontally, a reach as long as 300mm can be attached. Measurements of inside dia., outside dia., end face and back face etc. can be made at will.

## Easy Micron Check



### Touch Point

Highly sensitive electronic edge finder.

Ideal for Milling Machine, Boring Machine, Drilling Machine as well as Machining Center. Instant indication by LED lamp at very light contact of sensor ball with workpiece. Easy location of work face, O.D., I.D.

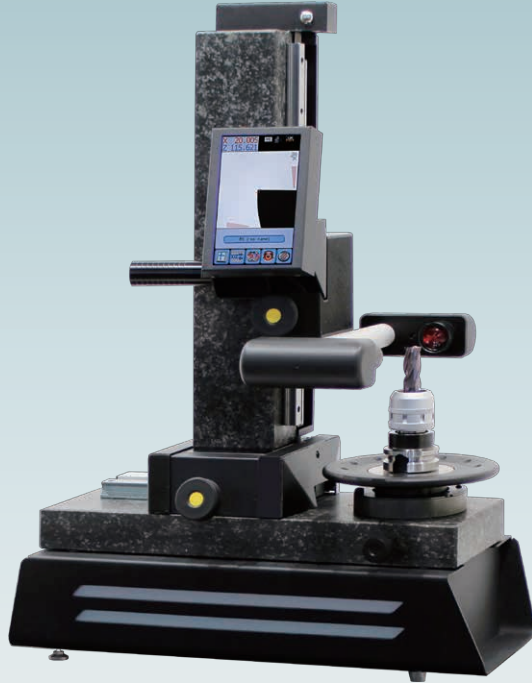
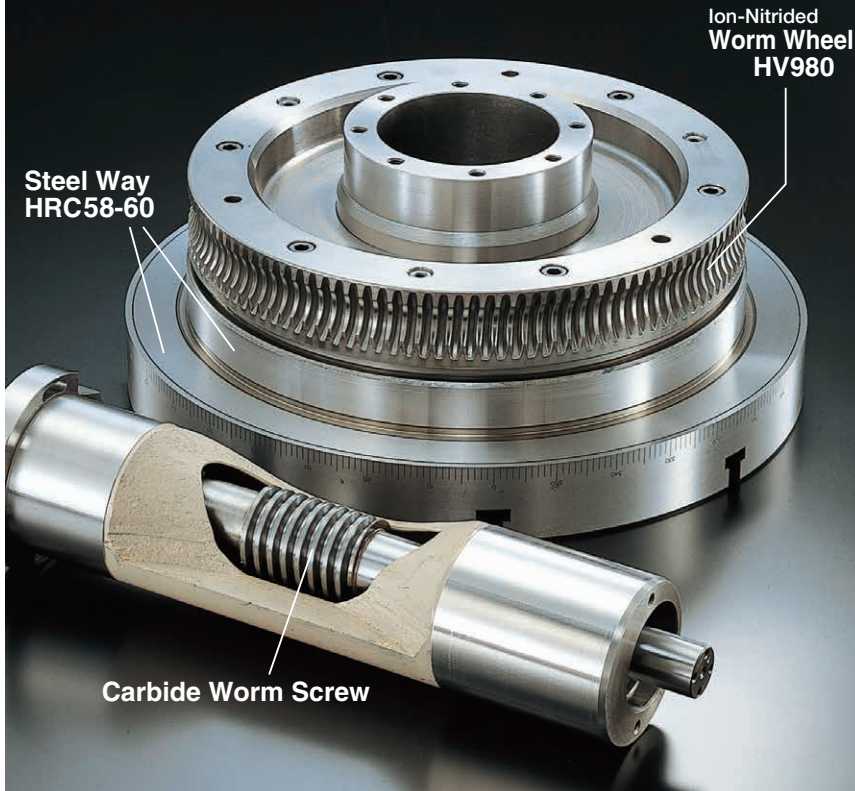
**NIKKEN's Tool Presetter increasing Cost Performance of High Price Machining Centre.****E236+**  P.149**Spindle can be exchanged.  
(BT, HSK, POLYGONAL TAPER)****E346V+**  P.150**Spindle can be exchanged.****E460N**  P.151**Spindle can be exchanged.****E4060L**  P.152

Photo shows E4060L

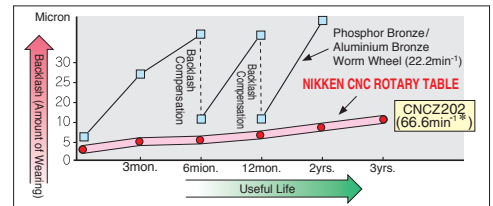
## CNC ROTARY TABLE for Full Automation

Worldwide Field-proven NIKKEN CNC ROTARY TABLE  
Consequently and finally, NIKKEN Carbide Worm Screw System



### Carbide Worm System

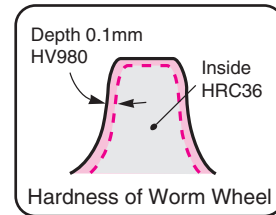
For heavy duty capability and high speed rotation with maintaining the high accuracy, the carbide worm screw is used for the hardened worm wheel. The wearing of the worm wheel is reduced and rotary table is used for more years comparing with the conventional worm system of soft material. For better impact capability, the special alloy steel worm screw is used for the worm screw of the small tooth module.



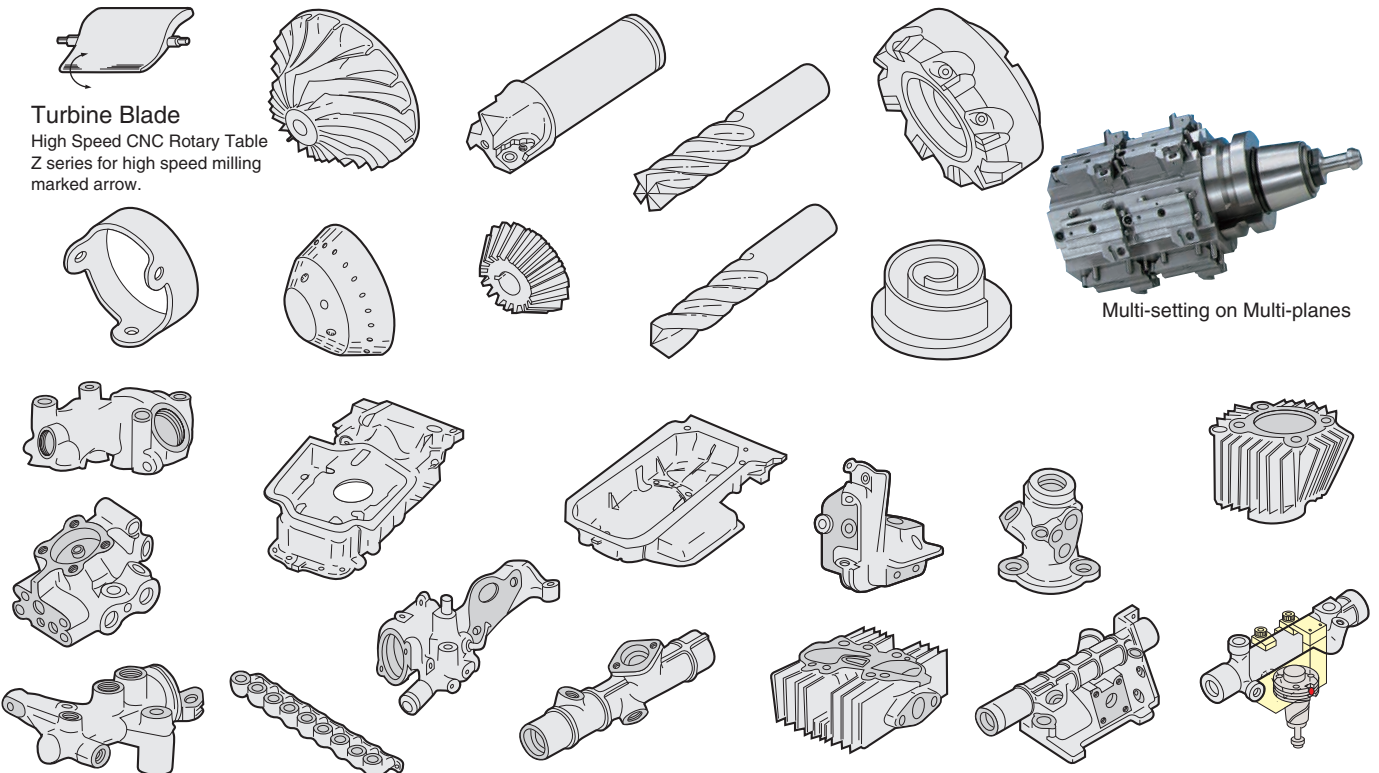
\* Rotation speed of motor = 3,000min<sup>-1</sup>

### Worm Wheel

Material is special NIKKEN order made steel. Specially hardened and furthermore ion-nitro treated on teeth. Thus, the problem of sliding friction is solved.



### Work Sample



**Turbine Blade**  
High Speed CNC Rotary Table Z series for high speed milling marked arrow.

Multi-setting on Multi-planes

➔ Please refer to **CNC ROTARY TABLE** Catalogue.

●CNC 105, CNCZ 105

P.315



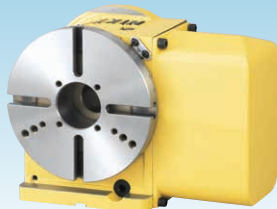
●CNC 180, CNCZ 180

P.315



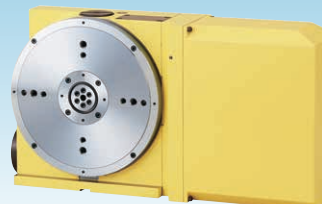
●CNC 202, CNCZ 202

P.315



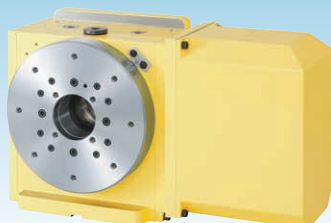
●CNC 205, CNCZ 205

P.315



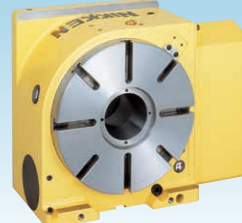
●NCT 200, NCTZ 200

P.315



●CNC 260, 302, CNCZ 260, 302

P.315



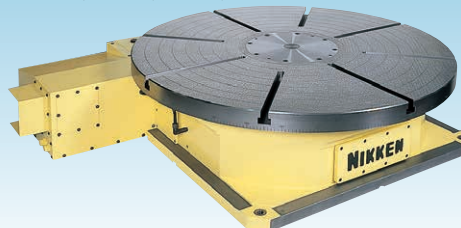
●CNC 321,401,501,601,802  
CNCZ 321,401,501,601,801

P.316

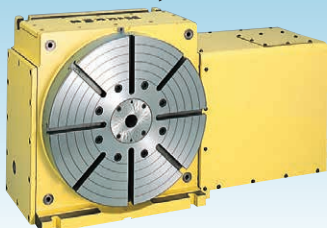


●CNC 1000, 1200, 1201, 1600

P.316



●NSVX400, 500    NSVZ180, 300



●NST 250, 300, 500



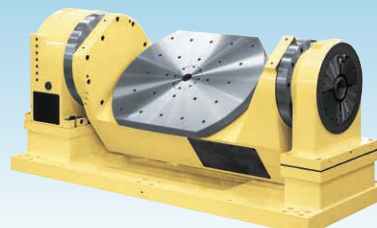
●5AX-130, -201

P.317



●5AX-250, -350, -550, -800, -1200

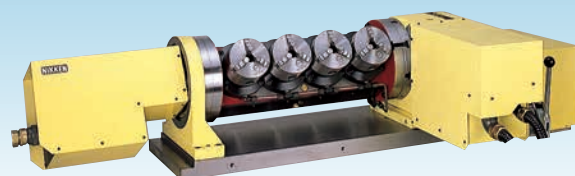
P.317



●CNC100-2W, -3W, -4W, -120



●5AX-2MT-105, -170, -200  
5AX-4MT-120



# MILLING CHUCK

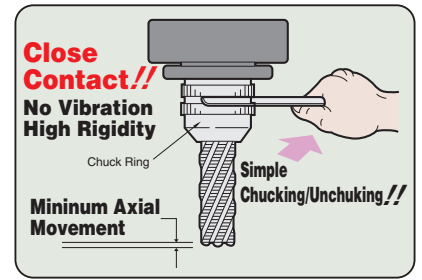
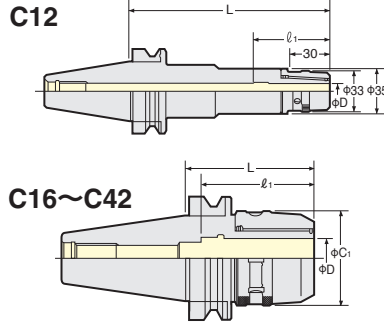
**NIKKEN**



**C**  
Centre Through  
Max.7MPa

**FEATURES:**

- Doubled rigidity & increased cutting ability!
- Run-out Accuracy: 5µm at 3XD










TAPER	Code No.	D	C <sub>1</sub>	L	ℓ <sub>1</sub>	Suitable Collet	Weight(kg)	
No.30	BT30-C12- 55	12	33	58	58	<b>CCK12</b> <b>KM12</b>	0.6	
	-C16- 55	16	44	57	65	<b>CCK16</b> <b>KM16</b>	0.7	
	-C20- 65* <sup>1</sup>	20	52	67	80	<b>CCK20</b> <b>CCNK20</b> <b>KM20</b> <b>NK20</b>	1.0	
	- 75			75			1.1	
	-C25- 75* <sup>2</sup>	25	55* <sup>4</sup>	75	68	<b>CCK25</b> <b>CCNK25</b> <b>KM25</b> <b>NK25</b>	1.2	
	- 80			82			1.3	
	-C32- 90* <sup>3</sup>	32	64* <sup>4</sup>	90	68	<b>CCK32</b> <b>CCNK32</b> * <sup>5</sup> <b>KM32</b> <b>NK32</b> * <sup>5</sup>	1.4	
-100	100			76			1.5	
No.35	BT35-C12- 60	12	33	60	58	<b>CCK12</b> <b>KM12</b>	1.0	
	-C16- 60	16	44		65	<b>CCK16</b> <b>KM16</b>	1.1	
	-C20- 70	20	52	70	80	<b>CCK20</b> <b>CCNK20</b> <b>KM20</b> <b>NK20</b>	1.3	
	-C25- 75	25	60	75	68	<b>CCK25</b> <b>CCNK25</b> <b>KM25</b> <b>NK25</b>	1.5	
	-C32- 85	32	64* <sup>4</sup>	85	77	<b>CCK32</b> <b>CCNK32</b> <b>KM32</b> <b>NK32</b>	1.8	
No.40	BT40-C12- 65	12	33	65	58	<b>CCK12</b> <b>KM12</b>	1.3	
	- 90			90	65		1.6	
	-120			120	65		1.9	
	-C16- 60	16	44	63	65	<b>CCK16</b> <b>KM16</b>	1.4	
	- 90			90			65	1.7
	-120			120			65	2.0
	-C20- 70	20	52	71	80	<b>CCK20</b> <b>CCNK20</b> <b>KM20</b> <b>NK20</b>	1.6	
	- 90			90			80	1.8
	-105			105			80	2.0
	-120			120			80	2.2
	-C25- 70	25	60	70	80	<b>CCK25</b> <b>CCNK25</b> <b>KM25</b> <b>NK25</b>	1.8	
	- 90			90			80	2.1
	-120			120			80	2.5
	-C32- 85	32	69	85	77	<b>CCK32</b> <b>CCNK32</b> <b>KM32</b> <b>NK32</b>	2.1	
-105	105			90			2.5	
-120	120			105			2.8	
No.45	BT45-C12-105	12	33	105	58	<b>CCK12</b> <b>KM12</b>	3.0	
	-C16-105	16	44		65	<b>CCK16</b> <b>KM16</b>	3.2	
	-C20-105	20	52		80	<b>CCK20</b> <b>CCNK20</b> <b>KM20</b> <b>NK20</b>	3.5	
	-C25-105	25	60		80	<b>CCK25</b> <b>CCNK25</b> <b>KM25</b> <b>NK25</b>	3.8	
	-C32- 85	32	69		85	105	<b>CCK32</b> <b>CCNK32</b> <b>KM32</b> <b>NK32</b>	3.3
	-C42-110	42	86		110	125	<b>CCK42</b> <b>CCNK42</b> <b>KM42</b> <b>NK42</b>	4.5











TAPER	Code No.	D	C <sub>1</sub>	L	ℓ <sub>1</sub>	Suitable Collet	Weight(kg)				
No.50	BT50-C12-105	12	33	105	58	CCK12 KM12	4.0				
	-135			135			4.3				
	-165			165			4.6				
	-C16-105	16	44	105	65	CCK16 KM16	4.2				
	-135			135			4.5				
	-165			165			4.8				
	-C20-105	20	52	105	80	CCK20 CCNK20 KM20 NK20	4.5				
	-135			135			4.8				
	-165			165			5.1				
	-180			180			5.4				
	-C25-105	25	60	105	80	CCK25 CCNK25 KM25 NK25	4.8				
	-135			135			5.2				
	-165			165			5.6				
	-C32- 90	32	69	90	105	CCK32 CCNK32 KM32 NK32	4.3				
	-105			105			4.6				
	-120			120			5.1				
	-135			135			5.6				
	-165			165			6.4				
	-200			200			7.8				
	-250			250			9.2				
	-300			300			10.6				
	-400			400			13.4				
	-500			500			16.2				
	-C42- 95			42			86	95	125	CCK42 CCNK42 KM42 NK42	5.5
	-105							105			5.8
	-120	120	6.6								
	-135	135	7.2								
	-165	165	8.6								
	-200	200	9.5								
	-250	250	11.7								
	-300	300	14.0								
	-400	400	18.4								
	-500	500	22.8								

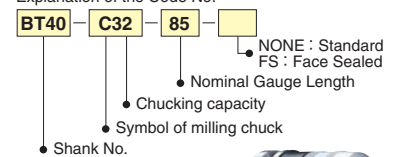
★MULTI LOCK Milling Chuck is a Base Holder for machining centre.

The following straight shank tooling to suit Milling Chucks are available.

[S-C] Milling Chuck (Extension Type)  P.276  
 [K-MMP] MINI-MINI Chuck  P.44  
 [K-MMC] MINI-MINI Chuck  P.44  
 [K-SK] Slim Chuck  P.277  
 [S-SK] Long Size Slim Chuck  P.277  
 [D-NPU] NC Drill Chuck  P.45  
 [NZ] Tapper Chuck  P.276

[K-MT] Morse Taper Socket  P.49  
 [K-ZMAC-V] ZMAC-V Boring Bar  P.93  
 [K-RAC] RAC Boring Bar  P.93  
 [S-ZMACX-V] ZMAC-V Boring Bar for Deep Hole  P.94  
 [K-DJ] DJ Boring Bar  P.95  
 [K-SCA] Stub Arbor  P.118  
 [S-MDPE] PRO-END MILL  P.117  
 [MSO-AO-O] Straight shank shrink fit holder  P.276


Explanation of the Code No.




★Please refer  P.175 for heavy duty type milling chuck with larger arbor diameter.

★Please refer  P.280,  P.281 for KM, NK, CCK, CCNK collet.

★CKFN-D and CKFN-DC (With O-ring) can be used for the direct chucking application, when centre through tool coolant. CCK collet and CKFN nut can be used for collet application.

★For "L" dimension of centre through coolant type milling chuck is same as the above standard, however, refer  P.34 for Code No.

★For "L" dimension of flange through coolant type milling chuck is same as the above standard, however, refer  P.34 for Code No.

★Spanner is available as an option. C12 : 9HC12A, C16 : 9HC16, C20 : 9HC22, C25 (φC<sub>1</sub>=55mm) : 9HC22, C25 (φC<sub>1</sub>=60mm), C32 (φC<sub>1</sub>=64mm) : 9HC25, C32 (φC<sub>1</sub>=69mm) : 9HC32, C42 : 9HC42  
 \*4 C25(φC<sub>1</sub>=55mm): 9HC22, \*4 C32(φC<sub>1</sub>=64mm): 9HC25.

★Please note the acceptable shank tolerance is h7.

★The milling chucks marked \*1, \*2 and \*3 may not be used by the restriction of the diameter under V flange of your M/C.

★FS (Face Seal) types are available for C25~C42 of BT40/BT50. There are 2 types; FSJ: With J groove, FS: Without J groove



**FS type**  
**For machining**  
**of aluminum**  
**JAPAN PAT.**

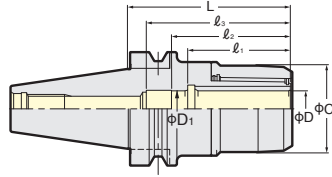


# HIGH SPEED MILLING CHUCK

**NIKKEN**




**C-G**  
High Pressure Centre Through  
(MAX. 7MPa)



**GFS type**  
For machining  
of aluminum  
**JAPAN PAT.**

## High Speed

TAPER	Code No.	D	D <sub>1</sub>	C <sub>1</sub>	L	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	MAX. r/min	Suitable Collet	Weight(kg)
No.30	BT30-C12- 55G	12	12	33	58	48	53	58	40,000	CCK12 KM12	0.5
	-C16- 55G	16	16	40	57	50	58	65		CCK16 KM16	0.6
	-C20- 65G*1	20	20	48	67	57	66	80	30,000	CCK20 CCNK20 KM20 NK20	0.9
	- 75G				75						1.0
	-C25- 75G*2	25	25	55	75	56	65	68	25,000	CCK25 CCNK25 KM25 NK25	1.2
	- 80G				82						1.3
	-C32- 90G*3	32	32	62	90	67	66	68	10,000	CCK32 CCNK32*5 KM32 NK32*5	1.4
-100G	100				73						76
No.40	BT40-C12- 65G	12	12	33	65	48	53	58	30,000	CCK12 KM12	1.1
	- 90G				90						1.3
	-C16- 60G	16	16	40	63	50	58	65	25,000	CCK16 KM16	1.2
	- 90G				90						1.5
	-C20- 70G	20	20	48	71	57	66	80	25,000	CCK20 CCNK20 KM20 NK20	1.4
	- 90G				90						1.7
	-C25- 70G	25	25	55	70	60	72	80	20,000	CCK25 CCNK25 KM25 NK25	1.6
	- 90G				90						2.0
-C32- 85G	32	32	68	85	67	73	77	20,000	CCK32 CCNK32 KM32 NK32	1.9	
-105G				105						70	82
No.50	BT50-C12-105G	12	12	33	105	48	53	58	20,000	CCK12 KM12	3.9
	-135G										4.2
	-C16-105G	16	16	40	105	50	58	65	20,000	CCK16 KM16	4.1
	-135G										4.4
	-C20-105G	20	20	48	135	57	66	80	20,000	CCK20 CCNK20 KM20 NK20	4.4
	-135G										4.8
	-C25-105G	25	25	55	135	60	72	80	20,000	CCK25 CCNK25 KM25 NK25	4.6
	-135G										5.2
	-C32- 90G	32	32	68	90	70	97	105	15,000	CCK32 CCNK32 KM32 NK32	4.3
	-105G				105						4.7
	-120G				120						5.2
	-135G				135						5.7
	-165G				165						6.5
	-C42- 95P*4	42	42	86	95	73	110	125	12,000	CCK42 CCNK42 KM42 NK42	5.5
-105P*4	105				5.8						
-120P*4	120				6.6						

★GH handle is available as an option.  P.299

★All high speed type milling chuck are centre through coolant type. Please use a stopper or CCK, CCNK collet, when endmill shank length is shorter than "l<sub>1</sub>" dimension. The Code No. of stopper for direct chucking

C20: 9MC20H, C25: 9MC25H (BT30-C25-75G: 9MC25HSB), C32: 9MC32HD (BT40-C32-85G: 9MC32HDA, BT40-C32-105G: 9MC32HDB), C42: 9MC42H

★The milling chucks marked \*1, \*2 and \*3 may not be used by the restriction of the diameter under V flange of your M/C.

★\*4 : The Code No. of the wrench for C42 is 9HC42.

★GFS(Face Seal)types are available for C25~C42 of BT40/BT50. There are 2 types;

GFSJ: With J groove, GFS: Without J groove

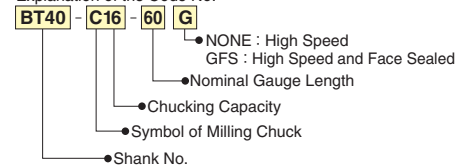
★The milling chucks marked \*1, \*2 and \*3 may not be used by the restriction of the diameter under V flange of your M/C.

★\*5 NK32 and CCNK32 collet can not be used on BT30-C32-90.



**GH Handle**  
 P.299

Explanation of the Code No.



# CENTRE THROUGH COOLANT TYPE HOLDER

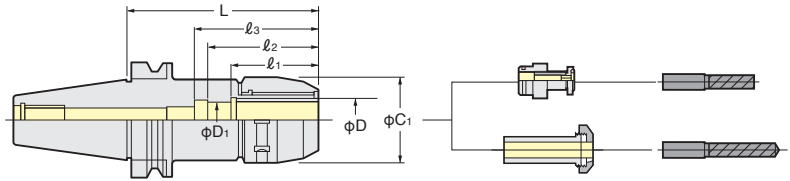
**NIKKEN**

MAX.7MPa

## MILLING CHUCK for Centre Through



Centre Through  
MAX. 7MPa

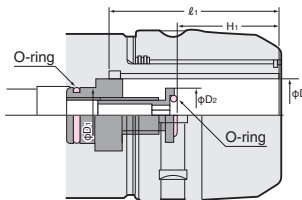


TAPER	Code No.	C <sub>1</sub>	D	D <sub>1</sub>	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	Stopper(Optional)	Collet	Weight (kg)
No.40	BT40 -C20C- 70, 90,105	52	20	20	58	66	80	9MC20H	<b>CCK20</b> <b>CCNK20</b>	1.6, 1.8, 2.0
	(IT40)-C25C- 70, 90	60	25	25	61	72		9MC25H	<b>CCK25</b> <b>CCNK25</b>	1.8, 2.1
	-C32C- 85,105,120	69	32		64,70,70	77,81,81	107	9MC32HS, 9MC32H, 9MC32H	<b>CCK32</b> <b>CCNK32</b>	2.1, 2.5, 2.8
No.50	BT50 -C20C-105,135	52	20	20	58	66	80	9MC20H	<b>CCK20</b> <b>CCNK20</b>	4.5, 4.9
	(IT50)-C25C-105,135	60	25	25	61	72		9MC25H	<b>CCK25</b> <b>CCNK25</b>	4.8, 5.2
	-C32C- 90,105,135,165	69	32		70	81	107	9MC32H	<b>CCK32</b> <b>CCNK32</b>	4.3, 4.6, 5.5, 6.4
	-C42*- 95,105,135	86	42	42	74	115	125	9MC42H	<b>CCK42</b> <b>CCNK42</b>	5.5, 5.8, 7.1

### Stopper for Direct Chucking

Direct Chucking means that chucking  $\phi 32$ mm shank tool by  $\phi 32$ mm ID Holder. If Tool's shank length longer than  $l_1$ , Stopper is not necessary.

Chuck	Stopper	H <sub>1</sub>	C <sub>2</sub>
C20C	9MC20H	42~47	17
C25C	9MC25H	50~55	22
C32C	9MC32H	49~59	24
	9MC32HS	55~60	
C42	9MC42H	57~67	24



★Spanner is available as an option. C20 : 9HC22, C25 : 9HC25  
C32 : 9HC32, C42 : 9HC42

★Shank of High Speed Milling Chuck (G) is **2LOCK**. (Centre through tool coolant is standard.) **P.175** e.g. NBT40-C32-105G GH handle **P.299** is necessary for High Speed Milling Chuck.

★Please note the acceptable shank tolerance is h7.

★Please refer **P.282** for CCK Collet and CCNK Collet.

★Please add "RP" at the end of Code No. for Rust Proof Treatment Milling Chuck. e.g. BT40-C32C-85-RP.

★\*C42 Milling Chuck is Centre Coolant Through type as standard.

★Stopper for Direct Chucking is available as an option.

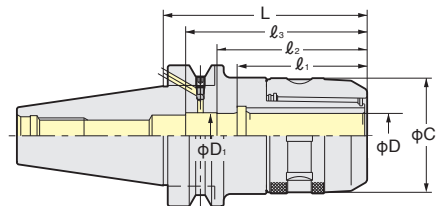
★In case of Heavy End Milling operation, please chuck the End Mill longer than  $l_1$  without using Stopper.

★GH Handle

# FLANGE THROUGH COOLANT TYPE HOLDER

**NIKKEN**

## MILLING CHUCK for Flange Through



TAPER	Code No.	C <sub>1</sub>	D	D <sub>1</sub>	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	Stopper (Option)	Collet	Weight (kg)
No.40	BT40-C20F- 90,105	52	20	20	58	66	80	9MC20H	<b>CCK20</b> <b>CCNK20</b>	1.9, 2.0
	(IT40)-C25F- 90,105	60	25	25	61	70		9MC25H	<b>CCK25</b> <b>CCNK25</b>	2.0, 2.2
	-C32F-105,120	69	32		70	81	107	9MC32H	<b>CCK32</b> <b>CCNK32</b>	2.5, 2.8
No.50	BT50-C20F-105,135,165	52	20	20	58	66	80	9MC20H	<b>CCK20</b> <b>CCNK20</b>	4.2, 4.4, 4.8
	(IT50)-C25F-105,135,165	60	25	25	61	72		9MC25H	<b>CCK25</b> <b>CCNK25</b>	4.5, 5.1, 5.7
	-C32F-105,120,135,165	69	32		70	81	107	9MC32H	<b>CCK32</b> <b>CCNK32</b>	4.6, 5.1, 5.5, 6.4
	-C42F-120,135,165	86	42	42	105, 115, 115	125	9MC42H	<b>CCK42</b> <b>CCNK42</b>	5.8, 6.1, 6.8	

★Spanner is available as an option. C20 : 9HC22, C25 : 9HC25  
C32 : 9HC32, C42 : 9HC42

★Shank of High Speed Milling Chuck (G) is **2LOCK**. e.g. NBT40-C20F-105G  
GH Handle **P.299** is necessary for High Speed Milling Chuck.

★Please refer **P.282** for CCK Collet and CCNK Collet.

★In case of Heavy End Milling operation, please chuck the End Mill longer than  $l_1$  without using stopper. **P.34**

★Please add "RP" at the end of Code No. for Rust Proof Treatment Milling Chuck. e.g. BT40-C20F-75-RP.

★Please note the acceptable shank tolerance is h7.

★GH Handle



- The special pull stud with O-ring is required for the M/C with flange through coolant capability.
- When the stroke of the coolant nozzles at the spindle flange on the M/C with flange through coolant capability is shorter, it may be a collision between flange of **2LOCK** tool and the nozzles. Please check the specification on your M/C.

B1

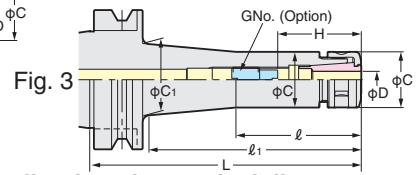
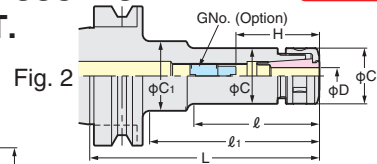
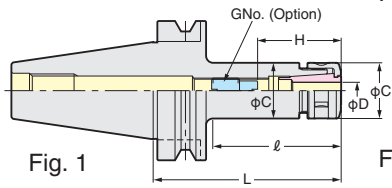
# SLIM CHUCK HIGH SPEED ROTATION • HIGH ACCURACY

JAPAN, USA, EU, KOREA PAT.



**SK**

Photo shows SK10 type.



- When SK J type nut is used, the total chuck length will be extended by 6mm.
- When using SK-A collets or SK-AC collets, or when gripping a cutting tool smaller than the nominal diameter on SK collets, the total length will be shorter by about 3 mm. Please be careful when you check the interference.

TAPER	Code No.	D	L	l	l <sub>1</sub>	C	C <sub>1</sub>	H	G No. (Option)	Weight (kg)	Fig	SK Collet		
No.30	BT30-SK 6- 60	0.7 ~ 6.0	60	33	33	19.5	19.5	21~35	SKG- 8	0.7	1	SK 6		
	- 90		90	56	65		32			0.7	2			
	-120		120	62	95	32	0.8							
	-SK10- 45	1.75~10.0	45	22	22	27.5	27.5	30~50	SKG-12S	0.8	1	SK10		
	- 60		60	35	35					0.9				
	- 75		75	50	50					1.0				
	- 90		90	65	65					1.0				
	-120		120	95	95					1.1				
	-SK13- 60		2.75~13.0	60	35					35			33	33
	- 75	75		50	50	1.1								
	- 90	90		65	65	1.1								
	-120	120	95	95	1.2									
	-SK16- 60	2.75~16.0	60	37	37	40	40	45~60	SKG-12L	1.1	1	SK16		
	- 75		75	52	52			45~65	SKG-12	1.2				
	- 90		90	67	67			40~70	SKG-18L	1.3				
	-120		120	97	97			65~70	SKG-12S	0.7				
	-SK20- 60	3.5~20.0	60	37	37	48.5	48.5	70~75	SKG-12L	0.9	1	SK20		
	- 75		75	52	52			65~75	SKG-12	1.2				
	- 90	90	67	67	55	55	55~75	SKG-12	1.5	1	SK25			
	-120	120	97	97	55	55	55~75	SKG-12	1.5	1	SK25			
No.40	BT40-SK 6- 60	0.7 ~ 6.0	60	30	30	19.5	19.5	21~35	SKG- 8	1.0	1	SK 6		
	- 90		90	51	60		32			1.1	2			
	-120		120	60	90		25			1.4	3			
	-150		150	60	120		25			1.5	3			
	-SK10- 60	1.75~10.0	60	32	32	27.5	27.5	30~50	SKG-12L	1.1	1	SK10		
	- 75		75	45	45					40			1.2	2
	- 90		90	48	60					34.5			1.2	3
	-120		120	90	118								1.4	
	-150		150	118	148								1.6	
	-180		180	73	148					39			1.6	3
	-200		200	168	168								1.8	
	-250		250	218	218					39			2.1	3
	-SK13- 60	2.75~13.0	60	28	28	33	33	31~65	SKG-15	1.2	1	SK13		
	- 75		75	43	43					1.3				
	- 90		90	58	58					1.4				
	-120		120	88	88					1.6				
	-150		150	118	118					1.8				
	-180		180	88	148					40			1.8	3
	-200	200	168	168	2.0									
	-250	250	218	218	40	2.4	3							
	-SK16- 60	2.75~16.0	60	32	32	40	40	50~65	SKG-18S	1.3	1	SK16		
	- 75		75	43	43			40~67	1.4					
	- 90		90	58	58			40~70	1.5					
	-120		120	88	88				SKG-18L	1.7				
	-150		150	118	118				1.9					
	-180		180	148	148			48.5	2.0	3				
	-200		200	168	168				2.2					
	-250		250	218	218			48.5	2.7	3				
	-SK20- 60	3.5~20.0	60	32	32	48.5	48.5	47~60	SKG-22	1.3	1	SK20		
	- 75		75	45	45			47~70		1.4				
- 90	90		60	60	47~80			1.6						
-120	120		90	90	2.0									
-SK25- 75	7.5~25.4	75	47	47	55	55	55~75	SKG-12	1.7	1	SK25			
- 90		90	61	61			55~85	1.8						
-120		120	91	91			2.0							

# SLIM CHUCK HIGH SPEED ROTATION • HIGH ACCURACY

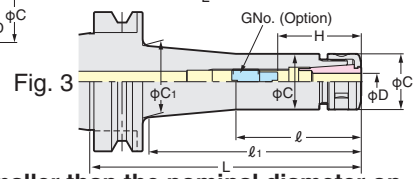
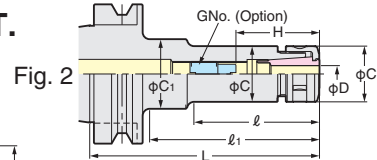
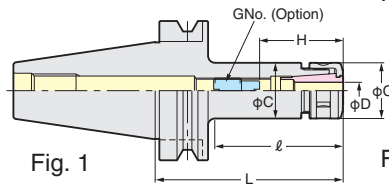
JAPAN, USA, EU, KOREA PAT.



**SK**

Photo shows SK16 type.

- When SK J type nut is used, the total chuck length will be extended by 6mm.
- When using SK-A collets or SK-AC collets, or when gripping a cutting tool smaller than the nominal diameter on SK collets, the total length will be shorter by about 3 mm. Please be careful when you check the interference.



TAPER	Code No.	D	L	l	l <sub>1</sub>	C	C <sub>1</sub>	H	G No. (Option)	Weight (kg)	Fig	SK Collet
No.50	<b>BT50-SK 6-105</b>	0.7 ~ 6.0	105	55	64	19.5	32	21~35	SKG- 8	3.8	2	SK 6
	-135		135	92	3.9							
	-165		165	114	4.0							
	-200		200	151	4.2							
	<b>-SK10-105</b>	1.75~10.0	105	57	57	27.5	36	30~50	SKG-12L	4.2	1	SK10
	-135		135	70	92					4.4		
	-165		165	114	4.6							
	-200		200	151	4.8							
	-225		225	178	5.0							
	-250		250	203	5.2							
	-300		300	253	5.6							
	<b>-SK13-105</b>		2.75~13.0	105	62					62		
	-135	135		92	4.7							
	-165	165		122	4.9							
	-200	200		157	5.2							
	-250	250		207	5.7							
	-300	300		257	6.2							
	<b>-SK16-105</b>	2.75~16.0	105	62	62	40	60	40~70	SKG-18L	4.7	1	SK16
	-135		135	92	4.9							
	-165		165	122	5.1							
	-200		200	157	5.5							
	-250		250	207	6.0							
	-300		300	257	6.5							
	<b>-SK20-105</b>	3.5~20.0	105	62	62	48.5	48.5	47~80	SKG-22	4.3	1	SK20
	-135		135	92	4.6							
	-165		165	122	5.0							
	-200		200	157	5.4							
	-250		250	207	6.1							
	-300		300	257	6.8							
	<b>-SK25-105</b>	7.5~25.4	105	62	62	55	55	50~85	SKG-28	5.2	1	SK25
-135	135		92	5.4								
-165	165		122	5.6								
-200	200		157	6.0								
-250	250		207	6.7								
-300	300		257	7.4								

★Please refer P.54 for use as Tap Holder for Synchronized Tapping.

★Collet, adjust screw (G No.) and spanner are available as an option. Please refer P.283 for SK Collet.

The Code No. of the spanner is SK6 (C=φ18) : SKL-6, SK6 (C=φ19.5) : SKL-6W, SK10: SKL-10, SK13: 9HC12A, SK16: 9HC16, SK20: 9HC22, SK25: 9HC25

★Please refer P.37, P.38 for High Speed Slim Chuck (40,000r/min)

★All Slim Chucks can be used for Centre Through Coolant type. Please refer P.288 for Centre Through Coolant Adjust Screw and P.320 for Centre Through Pull Stud.

★Please refer P.39 for High Pressure (MAX.7MPa) Centre Through Coolant type. ★Please refer P.39 for Flange Through Coolant type.

★BT40-SK10-200, 250 BT50-SK10-250, 300 are also available as semi-standard.

-SK16-200, 250 -SK16-250, 300

★Please add "-RP" at the end of Code No. for Rust Proof Treatment Slim Chuck. e.g. BT40-SK10-90-RP

★Long Straight type (Fig.1) for drilling / plunging use is also available.

BT50-SK10-200ST, 250ST, 300ST BT50-SK13-200ST, 250ST, 300ST BT50-SK16-200ST, 250ST, 300ST

## BT15 Shank

TAPER	Code No.	D	L	l	l <sub>1</sub>	C	C <sub>1</sub>	H	G No. (Option)	Weight (kg)	Fig	SK Collet
No.15	<b>BT15BR-SK 6- 40</b>	0.7 ~ 6.0	40	26	26	19.5	19.5	21~30	SKG- 6	0.10	1	SK 6
	- 55		55	39	39			21~35	SKG- 8	0.14		
	- 65		65	49	49			0.15				
	<b>-SK10- 40</b>	1.75~10.0	40	26	26	27.5	27.5	30~37	SKG- 6L	0.14		SK10
	- 55		55	41	41			35~45	0.20			

★BT15BR is the solid tool integrated with pull stud for BROTHER. ★BT15HW is the solid tool integrated with pull stud for HOWA.

★BT20P and BT25M are the solid tools with integrated with pull stud without drive key groove for MAKINO SEIKI.

e.g. BT20P-SK10-40S, BT25M-SK16-70

★S20T is the short taper tool for SUGINO.

BT15BR



B1

# HIGH SPEED SLIM CHUCK

**NIKKEN**

MAX.40,000r/min



SK-P

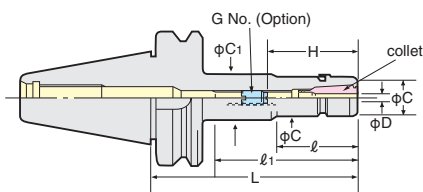


Fig. 1

Explanation of the Code No.

BT40 - SK 10 - 90 P

- Symbol of High Speed
- Nominal Gauge Length mm
- Chucking Capacity
- Symbol of Slim Chuck
- Shank No.

- When SK J type nut is used, the total chuck length will be extended by 6mm. JAPAN, USA, EU, KOREA PAT.
- When using SK-A collets or SK-AC collets, or when gripping a cutting tool smaller than the nominal diameter on SK collets, the total length will be shortened by about 3 mm. Please be careful when you check the interference.

TAPER	Code No.	D	L	ℓ	ℓ <sub>1</sub>	C	C <sub>1</sub>	H	G No. (Option)	MAX. (r/min)	collet	weight (kg)		
No.30	BT30-SK 6- 60P	0.7 ~ 6.0	60	33	33	19.5	19.5	21~35	SKG- 8	40,000	SK 6	0.7		
	- 90P		90	56	65		32					0.7		
	-120P		120	62	95		32					0.8		
	-SK10- 45P	1.75~10.0	45	22	22	27.5	27.5	30~50	SKG-12S		30,000	SK10	0.8	
	- 60P		60	35	35								0.9	
	- 75P		75	50	50								1.0	
	- 90P		90	65	65								1.0	
	-120P	120	95	95	1.1									
	-SK13- 60P	2.75~13.0	60	35	35	33	33	31~50	SKG-15		30,000	SK13	1.0	
	- 75P		75	50	50								1.1	
	- 90P		90	65	65								1.1	
	-120P		120	95	95								1.2	
	-SK16- 60P	2.75~16.0	60	37	37	40	40	45~60	SKG-12L		30,000	SK16	1.1	
	- 75P		75	52	52			45~65					1.2	
	- 90P		90	67	67			40~70					1.2	
	-120P		120	97	97			40~70					1.3	
	-SK20- 60P	3.5~20.0	60	37	37	48.5	48.5	65~70	SKG-12S		30,000	SK20	0.7	
	- 75P		75	52	52			70~75					0.9	
- 90P	90		67	67	65~75			1.2						
-SK25- 90P	7.5~25.4	90	67	67	55	55	55~75	SKG-12	30,000	SK25	1.5			
No.40	BT40-SK 6- 60P	0.7 ~ 6.0	60	30	30	19.5	19.5	21~35	SKG- 8	30,000	SK 6	1.0		
	- 90P		90	51	60		32					1.1		
	-120P		120	60	90		25					1.4		
	-150P		150	60	120		25					1.5		
	-SK10- 60P	1.75~10.0	60	32	32	27.5	27.5	30~50	SKG-12L		30,000	SK10	1.1	
	- 75P		75	45	45								40	1.2
	- 90P		90	48	60								40	1.2
	-120P		120	90	90								34.5	1.4
	-150P		150	73	118								39	1.6
	-180P		180	148	148								39	1.6
	-SK13- 60P	2.75~13.0	60	28	28	33	33	31~65	SKG-15		30,000	SK13	1.2	
	- 75P		75	43	43								40	1.3
	- 90P		90	58	58								40	1.4
	-120P		120	88	88								40	1.6
	-150P		150	88	118								40	1.8
	-180P		180	148	148								40	1.8
	-SK16- 60P	2.75~16.0	60	32	32	40	40	50~65	SKG-18S		25,000	SK16	1.3	
	- 75P		75	43	43			40~67					1.4	
	- 90P		90	58	58			40~70					SKG-18L	1.5
	-120P		120	88	88									1.7
	-150P		150	118	118									1.9
	-180P		180	148	148									2.0
	-SK20- 60P	3.5~20.0	60	32	32	48.5	48.5	47~60	SKG-22		20,000	SK20	1.3	
	- 75P		75	45	45			47~70					1.4	
- 90P	90		60	60	47~80			1.6						
-120P	120		90	90	1.6									
-SK25- 75P	7.5~25.4	75	47	47	55	55	55~75	SKG-12	20,000	SK25	1.7			
- 90P		90	61	61			55~85				1.8			
-120P		120	91	91			55~85				2.0			

# HIGH SPEED SLIM CHUCK

**NIKKEN**

MAX.40,000r/min



SK-P

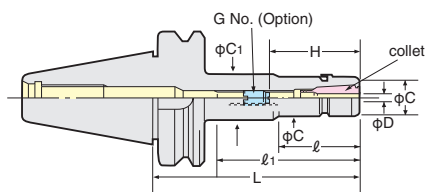


Fig. 1

Explanation of the Code No.

BT40 - SK 10 - 90 P

● Symbol of High Speed  
● Nominal Gauge Length mm

● Chucking Capacity  
● Symbol of Slim Chuck  
● Shank No.

- When SK J type nut is used, the total chuck length will be extended by 6mm. JAPAN, USA, EU, KOREA PAT.
- When using SK-A collets or SK-AC collets, or when gripping a cutting tool smaller than the nominal diameter on SK collets, the total length will be shortened by about 3 mm. Please be careful when you check the interference.

TAPER	Code No.	D	L	ℓ	ℓ <sub>1</sub>	C	C <sub>1</sub>	H	G No. (Option)	MAX. (r/min)	collet	weight (kg)
No.50	BT50-SK 6-105P	0.7 ~ 6.0	105	55	64	19.5	32	21~35	SKG- 8	20,000	SK 6	3.8
	-135P		135	60	92							3.9
	-165P		165	60	114							4.0
	-200P		200	60	151							4.2
	-SK10-105P	1.75~10.0	105	57	57	27.5	32	30~50	SKG-12L		4.2	
	-135P		135	70	92						4.4	
	-165P		165	75	114						4.6	
	-200P		200	75	151						4.8	
	-225P	225	75	178	5.0							
	-SK13-105P	2.75~13.0	105	62	62	33	33	31~65	SKG-15		4.5	
	-135P		135	92	92						4.7	
	-165P		165	92	122						4.9	
	-200P		200	92	157						5.2	
	-SK16-105P	2.75~16.0	105	62	62	40	40	40~70	SKG-18L		4.7	
	-135P		135	92	92						4.9	
	-165P		165	90	122						5.1	
	-200P		200	90	157						5.5	
	-SK20-105P	3.5~20.0	105	62	62	48.5	48.5	47~80	SKG-22		4.3	
	-135P		135	92	92						4.6	
	-165P		165	122	122						5.0	
-200P	200		157	157	5.4							
-SK25-105P	7.5~25.4	105	62	62	55	55	50~85	SKG-28	5.2			
-135P		135	92	92					5.4			
-165P		165	122	122					5.6			
-200P		200	157	157					6.0			

★ Collet, adjust screw (G No.) and GH Handle are available as an option.

The Code No. of the GH Handle is SK6-P: GH6, SK10-P: GH10, SK13-P: GH12, SK16-P: GH16, SK20-P: GH20, SK25-P: GH25

★ Please refer P.285 for TiN Bearing Nut.

★ Please refer P.283 for SK collet.

★ Adjust screw with centre hole P.288 can be used for centre through tool coolant application (MAX. 1MPa).

Please refer P.288 for adjust screw (G No.).



GH Handle P.299

## Code No. for SLIM CHUCK with SPECIAL NUT

**NIKKEN**

### Code No. for Slim Chuck with special nut

Standard nut (for C-spanner) is attached for standard slim chuck.

Nut for high speed (for GH Handle) is attached for high speed slim chuck.

- Standard slim chuck + J type nut : Please add "-J" at the end of Code No. e.g. BT40-SK10-90-J
- Standard slim chuck + Nut for high speed : Please add "-G" at the end of Code No. e.g. BT40-SK10-90-G
- Standard slim chuck + J type nut for high speed : Please add "-GJ" at the end of Code No. e.g. BT40-SK10-90-GJ
- High speed slim chuck + J type nut : Please add "-J" at the end of Code No. e.g. BT40-SK10-90P-J

### Code No. for VC holder with special nut

- With J type nut : Please add "-J" at the end of Code No. e.g. BT40-VC13-90-J

### Code No. for MAJOR DREAM holder with special nut

- With J type nut : Please add "-J" at the end of Code No. e.g. BT40-MDSK13-90-J
- With nut for C-spanner : Please add "-SN" at the end of Code No. e.g. BT40-MDSK13-90-SN
- With J type nut for C-spanner : Please add "-SNJ" at the end of Code No. e.g. BT40-MDSK13-90-SNJ

When RPT treatment is required at same time, please add "-RP" first. e.g. BT40-SK10-90-RP-J

# SLIM CHUCK for Centre Through

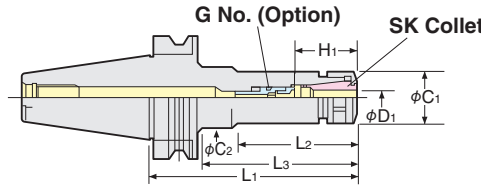
JAPAN, USA, EU, KOREA PAT.



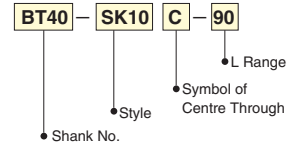
(MAX. 7MPa)



Centre Through  
MAX. 7MPa



Explanation of the Code No.



- When attaching a J nut, add "J" to the end of the Code No. (Cap is not included.) • When SK J type nut is used, the total chuck length will be extended by 6mm.
- When using SK-A collets or SK-AC collets, or when gripping a cutting tool smaller than the nominal diameter on SK collets, the total length will be shortened by about 3 mm. Please be careful when you check the interference.

TAPER	Code No.	D1	H1	L2	L3	C1	C2	G No. (Option)	Weight (kg)	SK Collet
No.40	BT40-SK 6C- 90,120	4~6	26~31	51,60	60,90	19.5	32,32	SKG6-6HG	1.1,1.4	SK 6
	(IT40)-SK10C- 90,120,150,180	5~10	33~41	48,73,73,73	60,90,118,148	27.5	40,40,34.5,39	SKG10-10HG	1.2,1.4,1.6,1.6	SK10
	-SK13C- 90,120,150,180	5~13	39~51	58,88,88,88	-,118,148	33	-,40,40	SKG13-10HG	1.4,1.6,1.8,1.8	SK13
	-SK16C- 90,120,150,180	10~16	45~57	58,88,118,148	-	40	-	SKG16-12HG	1.5,1.7,1.9,2.0	SK16
	-SK20C- 75, 90,120	10~20	47~63	45,60,90	-	48.5	-	SKG20-18HG	1.4,1.6,2.0	SK20
	-SK25C- 90,120	16~25	60~65,60~70	61,91	-	55	-	SKG25-18HGD,SKG25-24HG	1.8,2.0	SK25
No.50	BT50-SK 6C-105,165	4~6	26~31	55,60	64,114	19.5	32,32	SKG6-6HG	3.8,4.0	SK 6
	(IT50)-SK10C-105,135,165,200	5~10	33~41	57,70,75,75	-,92,114,151	27.5	-,32,32,36	SKG10-10HG	4.2,4.4,4.6,4.8	SK10
	-SK13C-105,135,165,200	5~13	39~51	62,92,92,92	-,122,157	33	-,45,45	SKG13-10HG	4.5,4.7,4.9,5.2	SK13
	-SK16C-105,135,165,200	10~16	45~57	62,92,90,90	-,122,157	40	-,50,52	SKG16-12HG	4.7,4.9,5.1,5.5	SK16
	-SK20C-105,135,165	10~20	47~63	62,92,122	-	48.5	-	SKG20-18HG	4.3,4.6,5.0	SK20
	-SK25C-105,165	16~25	60~70	62,122	-	55	-	SKG25-24HG	5.2,5.6	SK25

\*Collet, adjust screw (G No.) and spanner are available as an option.

The Code No. of the spanner is SK6C (C=φ18) : SKL-6, SK6C (C=φ19.5) : SKL-6W, SK10C: SKL-10, SK13C: 9HC12A, SK16C: 9HC16, SK20C: 9HC22, SK25C: 9HC25

\*Shank of High Speed Slim Chuck (P) is 2LOCK. e.g. NBT40-SK10C-90P. GH handle P.299 is necessary for High Speed Slim Chuck.

\*Please add "RP" at the end of Code No. for Rust Proof Treatment Slim Chuck. e.g. BT40-SK10C-90-RP. \*Please refer P.283 for SK Collet.

\*When cutter shank dia. is smaller than MIN. of D1, special adjust screw (G No.) is required. P.288

\*GH Handle

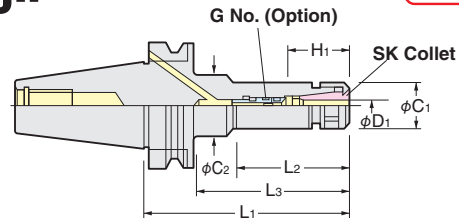


# SLIM CHUCK for Flange Through

JAPAN, USA, EU, KOREA PAT.



Flange Through  
(MAX. 7MPa)



- When attaching a J nut, add "J" to the end of the Code No. (Cap is not included.) • When SK J type nut is used, the total chuck length will be extended by 6mm.
- When using SK-A collets or SK-AC collets, or when gripping a cutting tool smaller than the nominal diameter on SK collets, the total length will be shortened by about 3 mm. Please be careful when you check the interference.

TAPER	Code No.	D1	H1	L2	L3	C1	C2	G No. (Option)	Weight (kg)	Collet
No.40	BT40-SK 6F- 90,120	4~6	26~31	51,60	60,90	19.5	32,32	SKG6-6HG	1.1,1.4	SK 6
	(IT40)-SK10F- 90,120,150,180	5~10	33~41	48,73,73,73	60,90,118,148	27.5	40,40,34.5,39	SKG10-10HG	1.2,1.4,1.6,1.6	SK10
	-SK13F- 90,120,150,180	5~13	39~51	58,88,88,88	-,118,148	33	-,40,40	SKG13-10HG	1.4,1.7,1.8,1.8	SK13
	-SK16F- 90	10~16	45~50	58	-	40	-	SKG16-12HGB	1.5	SK16
	-120,150,180		45~57	88,118,148	-	-	-	SKG16-12HG	1.7,1.9,2.0	SK16
	-SK20F- 90,120	10~20	57~63,47~63	60,90	-	48.5	-	SKG20-18HGB,SKG20-18HG	1.4,2.0	SK20
-SK25F- 90,120	16~25	50~58,55~65	61,91	-	55	-	SKG25-18HGC,SKG25-24HGA	1.8,2.0	SK25	
No.50	BT50-SK 6F-105,165	4~6	26~31	55,60	64,114	19.5	32,32	SKG6-6HG	3.8,4.0	SK 6
	(IT50)-SK10F-105,165,200,225	5~10	33~41	57,75,75,75	-,114,151,178	27.5	-,32,36,40	SKG10-10HG	4.2,4.6,4.8,5.1	SK10
	-SK13F-105,165,200	5~13	39~51	62,92,92	-,122,157	33	-,45,45	SKG13-10HG	4.5,4.9,5.2	SK13
	-SK16F-105,165,200	10~16	45~57	62,90,90	-,122,157	40	-,50,52	SKG16-12HG	4.7,5.1,5.5	SK16
	-SK20F-105,165	10~20	47~63	62,122	-	48.5	-	SKG20-18HG	4.3,5.0	SK20
	-SK25F-105,165	16~25	55~65,55~70	62,122	-	55	-	SKG25-24HGA,SKG25-24HG	5.2,5.6	SK25

\*Collet, adjust screw (G No.) and spanner are available as an option.

The Code No. of the spanner is SK6F (C=φ18) : SKL-6, SK6F (C=φ19.5) : SKL-6W, SK10F: SKL-10, SK13F: 9HC12A, SK16F: 9HC16, SK20F: 9HC22, SK25F: 9HC25

\*Shank of High Speed Slim Chuck (P) is 2LOCK. e.g. NBT40-SK10F-90P GH Handle P.299 is necessary for High Speed Slim Chuck.

\*Please add "RP" at the end of Code No. for Rust Proof Treatment Slim Chuck. e.g. BT40-SK10F-90-RP.

\*Please refer P.283 for SK Collet.

\*When cutter shank dia. is smaller than MIN. of D1, special adjust screw (G No.) is required. P.288

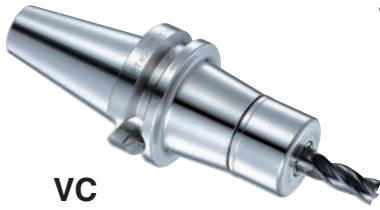
\*GH Handle



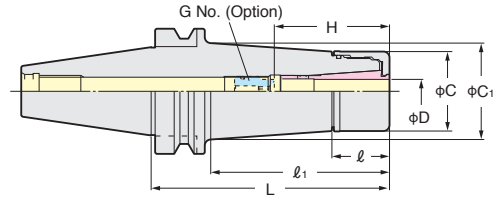
- The special pull stud with Oring is required for the M/C with flange through coolant capability.
- When the stroke of the coolant nozzles at the spindle flange on the M/C with flange through coolant capability is shorter, it may be a collision between flange of 2Lock tool and the nozzles. Please check the specification on your M/C.



# VC HOLDER



With TiN Bearing Nut  
 MAX. 40,000r/min  
 Run-Out Accuracy : Within 3 $\mu$ m at 4D



VC

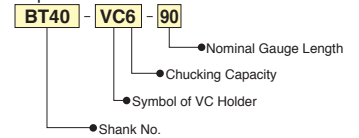
High Speed

JAPAN, USA, EU, KOREA PAT.

TAPER	Code No.	D	L	l	l <sub>1</sub>	C	C <sub>1</sub>	H	G No. (Option)	Weight (kg)	MAX. r/min	Collet
No.30	BT30-VC 6- 45	2.0~ 6.0	45	23	23	27.5	27.5	35~45	VCG 6- 8A	0.5	40,000	VCK 6
	- 60		60		35		31.7			0.6		
	- 90		90		65		33.4			0.8		
	-VC13- 60	3.0~12.0	60	29	37	40	41.1	VCG13-15A	0.7			
	- 90		90		67		41.3		0.9			
	-120		120		97		42.4		1.2			
No.40	BT40-VC 6- 60	2.0~ 6.0	60	23	30	27.5	30.0	35~45	VCG 6- 8A	1.1	30,000	VCK 6
	- 90		90		60		32.7			1.3		
	-120		120		90		36.9			1.5		
	-VC13- 60	3.0~12.0	60	29	31	40	40.3	VCG13-15A	1.2			
	- 90		90		60		44.3		1.5			
	-120		120		90		48.5		1.9			
No.50	BT50-VC 6-105	2.0~ 6.0	105	23	62	27.5	33.0	35~45	VCG 6- 8A	3.9	20,000	VCK 6
	-135		135		92		37.1			4.1		
	-165		165		122		41.3			4.4		
	-VC13-105	3.0~12.0	105	29	62	40	44.6	VCG13-15A	4.1			
	-135		135		92		48.8		4.5			
	-165		165		122		53.0		4.9			

- ★TiN Bearing Nut is supplied as standard.
- ★Collet, adjust screw (G No.) and GH Handle are available as an option. The Code No. of the GH Handle is VC6: GH10, VC13: GH16
- ★Please add "-RP" at the end of Code No. for Rust Proof Treatment VC Holder. e.g : BT40-VC13-60-RP
- ★Please use VC J type Nut & Cap for Centre Through Coolant. When VC J type Nut is used, the total holder length will be extended to 6mm.
- ★BT40-VC 6-150, BT40-VC13-150, BT50-VC13- 90, -120 are available as semi-standard.
- ★When the axial stopper is required, please use Adjust Screw (G No.)
- ★All series are for High Speed Rotation.

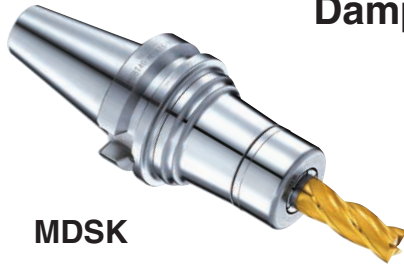
Explanation of the Code No.



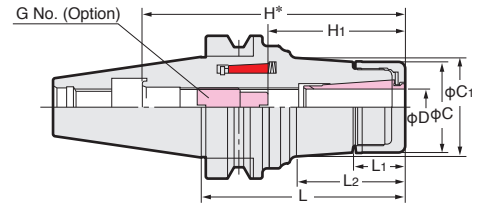
BT

Holder with an adjust screw for axial adjustment is supplied as an option. Please contact us.

**Dampening Effect  
TiN Bearing Effect**



MDSK



H : MAX. Cutter Shank Length to be inserted

**2LOCK** tool can be used on the M/C with BT standard spindle.

**JAPAN PAT.**

TAPER	Code No.	D	L	L1	L2	C	C1	H*	H1	G No. (Option)	Weight (kg)	Collet
No.30	NBT30-MDSK 6- 50	3.0~6.0	50	16.2	19.5	19.5	20.0	73	21~35	SKG- 8	0.5	SK 6 A
	- 60		60		25.5		83	0.6				
	- 75		75		40.5		98	0.7				
	- 90		90		55.5		113	0.8				
	-MDSK10- 50	3.0~10.0	50	18.0	19.0	27.5	27.5	72	30~50	SKG-12L	0.5	SK10 A
	- 60		60		25.7		82	0.6				
	- 75		75		42.9		97	0.8				
	- 90		90		58.7		112	0.8				
	-MDSK13- 60	3.0~13.0	60	22.0	29.0	33.0	34.0	83	31~43	SKG-15	0.8	SK13 A
	- 75		75		45.0		98	0.8				
	- 90		90		60.0		113	0.8				
	-MDSK16- 75	3.0~16.0	75	23.0	47.5	40.0	60	75	45~60	SKG-12L	1.1	SK16 A
- 90	90		62.5		40.0		75	45~70	SKG-12	1.3		
No.40	NBT40-MDSK 6- 60	3.0~6.0	60	16.2	18.0	19.5	19.5	86	21~35	SKG- 8	0.8	SK 6 A
	- 75		75		33.0		101	0.9				
	- 90		90		48.0		116	1.1				
	-105		105		63.0		131	1.2				
	-120	120	78.0	146	1.4							
	-MDSK10- 60	3.0~10.0	60	18.0	19.0	27.5	27.5	86	30~50	SKG-12L	1.1	SK10 A
	- 75		75		33.0		101	1.3				
	- 90		90		48.0		116	1.5				
	-105		105		63.0		131	1.6				
	-120	120	78.0	146	1.8							
	-150	150	110.0	176	2.2							
	-MDSK13- 65	3.0~13.0	65	22.0	24.0	33.0	33.0	91	31~60	SKG-15	1.2	SK13 A
	- 75		75		33.0		101	1.4				
	- 90		90		48.0		116	1.7				
	-105		105		63.0		131	1.8				
	-120	120	78.0	146	2.0							
	-150	150	110.0	176	2.4							
	-180	180	144.0	206	2.6							
	-MDSK16- 65	3.0~16.0	65	23.0	24.0	40.0	40.0	91	45~60	SKG-18L	1.2	SK16 A
	- 75		75		33.0		101	1.5				
	- 90		90		48.0		116	1.9				
	-105		105		64.0		131	2.0				
	-120	120	80.0	146	2.2							
	-150	150	113.0	176	2.5							
-MDSK20- 75	4.0~20.0	75	25.2	41.2	48.0	51.3	80	50~73	SKG-12	1.9	SK20 A	
- 90		90		55.0		95	SKG-12-55L		2.1			
-105		105		70.0		110	SKG-12-70L		2.3			
-120		120		85.0		125	SKG-12-85L		2.6			

★Please refer P.53 for the Jet coolant system, J type nut and cap.

★GH handle is available as an option. P.299 Please order with the Code No. GH6 : MDSK6 &, GH10 : MDSK10, GH12 : MDSK13, GH16 : MDSK16, GH20 : MDSK20, GH25 : MDSK25

★Please add "P" at the end of Code No. for high speed specification, e.g NBT40-MDSK10-60P

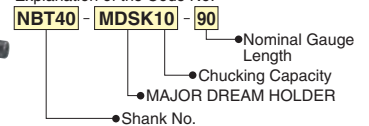
★Holder with an adjust screw for axial adjustment is supplied as an option. Please contact us.

**⚠ Please use A type SK collet for the end milling operation. P.283**



GH Handle

Explanation of the Code No.

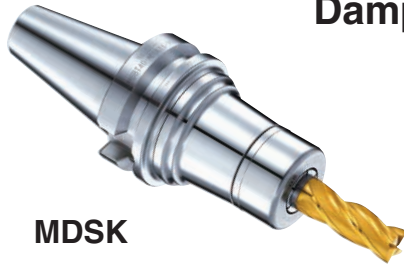


**MAX. r/min**

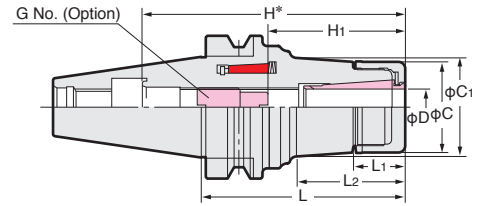
Code No.	MAX. r/min	Code No.	MAX. r/min	Code No.	MAX. r/min
NBT30-MDSK 6-P	30,000	NBT40-MDSK 6-P	25,000	NBT50-MDSK 6-P	20,000
-MDSK10-P		-MDSK10-P		-MDSK10-P	
-MDSK13-P		-MDSK13-P		-MDSK13-P	
-MDSK16-P	25,000	-MDSK16-P	20,000	-MDSK16-P	
		-MDSK20-P		-MDSK20-P	
				-MDSK25-P	

Holder with an adjust screw for axial adjustment is supplied as an option. Please contact us.

**Dampening Effect**  
**TiN Bearing Effect**



MDSK



H : MAX. Cutter Shank Length to be inserted

**2LOCK** tool can be used on the M/C with BT standard spindle.

JAPAN PAT.

TAPER	Code No.	D	L	L1	L2	C	C1	H*	H1	G No. (Option)	Weight (kg)	Collet
No.50	<b>NBT50-MDSK 6-105</b>	3.0~6.0	105	16.2	48.0	19.5	24.0	116	21~35	SKG- 8	3.6	SK 6 A
	<b>-120</b>		120		63.0		26.1	131			3.7	
	<b>-MDSK10-105</b>	3.0~10.0	105	18.2	48.0	27.5	31.7	116	30~50	SKG-12L	4.3	SK10 A
	<b>-120</b>		120		63.2		33.8	131			4.4	
	<b>-135</b>		135		78.2		35.9	146			4.7	
	<b>-165</b>		165		110.2		40.4	176			5.0	
	<b>-195</b>		195		141.2		44.8	206			5.3	
	<b>-MDSK13-105</b>	3.0~13.0	105	22.0	48.0	33.0	36.7	116	31~60	SKG-15	4.2	SK13 A
	<b>-120</b>		120		63.0		38.8	131			4.7	
	<b>-135</b>		135		78.0		40.9	146			5.0	
	<b>-165</b>		165		110.0		45.4	176			5.3	
	<b>-195</b>		195		144.0		50.1	206			5.6	
	<b>-MDSK16-105</b>	3.0~16.0	105	23.0	48.0	40.0	43.5	116	45~70	SKG-18L	4.1	SK16 A
	<b>-120</b>		120		64.0		45.8	131			4.9	
	<b>-135</b>		135		80.1		48.0	146			5.2	
	<b>-165</b>		165		114.7		52.6	176			5.5	
	<b>-195</b>		195		144.6		52.8	206			5.8	
	<b>-MDSK20-105</b>	4.0~20.0	105	25.2	42.3	48.0	51.4	159	47~80	SKG-22	4.9	SK20 A
	<b>-135</b>		135		72.0		55.6	175			5.3	
	<b>-165</b>		165		102.0		59.8	205			5.9	
	<b>-195</b>		195		132.0		64.0	235			6.7	
	<b>-MDSK25-105</b>	8.0~25.4	105	27.0	42.3	55.0	57.2	159	55~85	SKG-28	4.9	SK25 A
	<b>-135</b>		135		74.0		61.6	175			5.7	
	<b>-165</b>		165		105.0		66.0	205			6.5	
<b>-195</b>	195		135.0		70.2		235	7.5				

★Please refer P.285 for the Jet coolant system, J type nut and cap.

★GH handle is available as an option. P.299 Please order with the Code No. GH6 : MDSK6 &, GH10 : MDSK10, GH12 : MDSK13, GH16 : MDSK16, GH20 : MDSK20, GH25 : MDSK25

★Please add "P" at the end of Code No. for high speed specification, e.g NBT40-MDSK10-60P

★Holder with an adjust screw for axial adjustment is supplied as an option. Please contact us.

**⚠ Please use A type SK collet for the end milling operation. P.283**



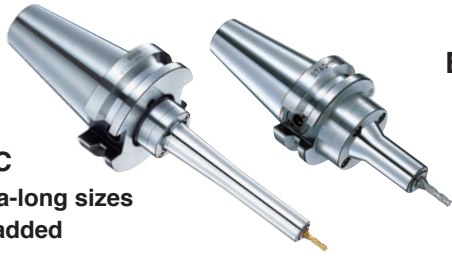
GH Handle

Explanation of the Code No.

NBT40 - MDSK10 - 90

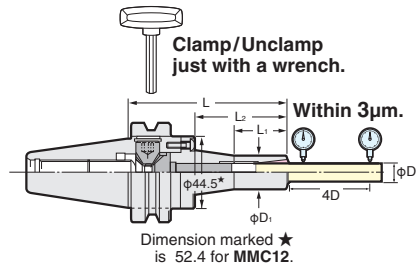
- Nominal Gauge Length
- Chucking Capacity
- MAJOR DREAM HOLDER
- Shank No.

# MINI-MINI CHUCK ADVANCED ALPHA



**EXPERT for SMALL DIA.  
END MILLING**

**30,000r/min  
Gripping from Front Nose  
Run-Out Accuracy :  
3μm at 4D**



**MMC**  
Extra-long sizes  
are added

High Speed

**JAPAN PAT.**

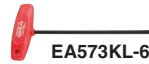
TAPER	Code No.	Chucking range φD	L	φD <sub>1</sub>	L <sub>1</sub>	L <sub>2</sub>	Collet	MAX.r/min	Weight(kg)				
<b>No.30</b>	BT30 - MMC 4 - 105 - AA	1~ 4	105	15	30	43	MPK 4	30,000	0.9				
	MMC 8C - 105 - AA	2~ 8		20	33	42	PMK 8 VMK 8		0.9				
	MMC 12C - 105 - AA	4~12		30	35	44	PMK12 VMK12		1.1				
<b>No.40</b>	BT40 - MMC 4 - 90 - AA	1~ 4	90	15	30	43	MPK 4	30,000	1.2				
	8C - 90 - AA	2~ 8							20	40	72	PMK 8 VMK 8	1.2
	-120 - AA												1.3
	-150 - AA		1.4										
	-180 - AA	1.5											
	12C - 90 - AA	4~12	90	30	35	44	PMK12 VMK12		1.4				
	-120 - AA								1.5				
	-150 - AA								1.6				
	-180 - AA	1.7											
<b>No.50</b>	BT50 - MMC 4 - 105 - AA	1~ 4	105	15	30	43	MPK 4	20,000	3.8				
	8C - 105 - AA	2~ 8							20	40	72	PMK 8 VMK 8	3.8
	-135 - AA												3.9
	-165 - AA		4.0										
	-195 - AA	4.1											
	12C - 105 - AA	4~12	105	30	35	44	PMK12 VMK12		4.0				
	-135 - AA								4.1				
	-165 - AA								4.2				
	-195 - AA	4.3											

★Wrench EA573KL-6 : MMC4, 8 MMCL12-M6W : MMC12(BT30, BT40, HSK50, HSK63)  
MMCL12-M6T62 : MMC12(BT50, HSK100) is attached as standard.

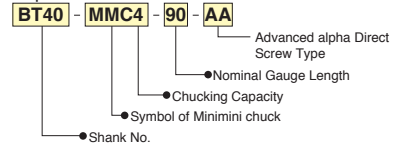
★Extra-long sizes are added \*Extra-long sizes : longer +30~90mm than conventional.

★Collet is available as an option. Please refer to P.290

★Center through tool coolant type MINI-MINI Chuck is available for MMC8 and MMC12 type only. MMC4 will be replaced with centre through typ (MMC4C) as soon as the stock is gone.



Explanation of the Code No.



**Extra-long sizes are added\***

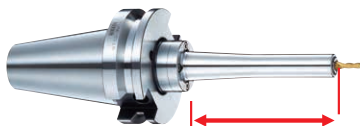


Photo shows BT50 type longer than +30~60mm than conventional.

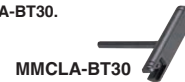
**Easy to approach a complicated work piece  
due to compact and extra-long design**

# DIRECT SCREW TYPE MINI-MINI CHUCK

**NIKKEN**

TAPER	Code No.	$\phi D$	L	$\phi D_1$	L <sub>1</sub>	L <sub>2</sub>	Collet	MAX.r/min	Weight(kg)
No.30	BT30-MMC8C-65-AT	2~8	65	20	30	40	VMK 8	30,000	0.43

★Wrench EA573KL-15 is attached as standard. ★Wrench both for chuck and pull stud is available as an option. Code No. is MMCLA-BT30.  
★Collet is available as an option. Please refer P.290



## Direct Screw Type



Photo shows BT30-MMC8-65-AT

High Accuracy and High Gripping Torque by rigid and smooth shape body

HSK Direct Screw Type : P.240

# Straight Shank MINI-MINI CHUCK

**NIKKEN**



## K-MMC

Style	Code No.	Chucking Range D	L	$\phi D_1$	L <sub>1</sub>	L <sub>2</sub>	Collet	Weight(kg)
16	K16-MMP 4- 70, 150	1~ 4	70, 150	15	50, 130	20	MPK 4	0.1, 0.2
20	K20-MMC 8-100	2~ 8	100	20	80	20	PMK 8 VMK 8	0.2
32	K32-MMC 8-122, 160	2~ 8	122, 160	20	67	40	PMK 8 VMK 8	0.5, 0.7
	K32-MMC12-170S	4~12	170	30	120	50	PMK12 VMK12	1.0

★Wrench is supplied as standard. Collet is available as an option.

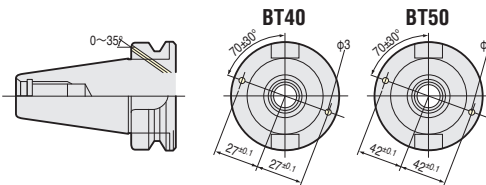
# FLANGE THROUGH COOLANT TYPE HOLDER

**NIKKEN**



## High Pressure Coolant Through Flange

The Flange Through Coolant System is a solution against the spindle rust and the dust problems of Centre Through Coolant System. These Tool Holder are used for Machine has Flange Through Holes and standard as DIN69871/B.



NISHIDA BT40 Machine's Flange Through Hole alignment is unique. Option(T) is available. Specify as BT40-C20T-90

## RPT (Rust Proof Treatment) P.302

Pull Stud (with O-ring) for Flange Through type is also available.

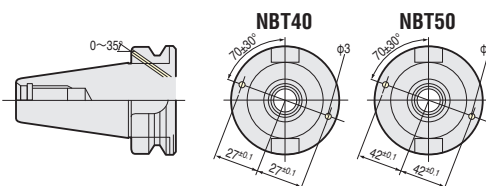
# 2LOCK FLANGE THROUGH COOLANT TYPE HOLDER

**NIKKEN**



## High Pressure Coolant Through Flange

The Flange Through Coolant System is a solution against the spindle rust and the dust problems of Centre Through Coolant System. These Tool Holder are used for Machine has Flange Through Holes and standard as DIN69871/B.



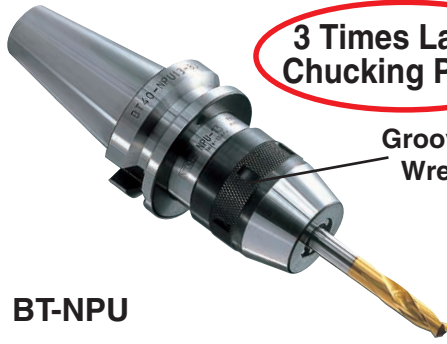
## RPT (Rust Proof Treatment) P.302

Pull Stud (with O-ring) for Flange Through type is also available.

BT

# NPU DRILL CHUCK

**NIKKEN**



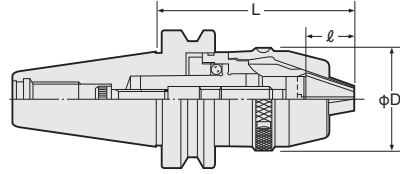
**3 Times Larger  
Chucking Power**

Groove for  
Wrench

BT-NPU

Being given favorable reception for its Compactness, High Precision & High Rigidity.

- The shank body fabricated solidly with the keyless drill chuck eliminates the possibility of slipping-off.
- The attached tightening wrench prevents slipping-off of drill to ensure the safety in unmanned operation.
- Chucking torque three times as large as ever before. There is no possibility of slipping-off of the carbide drill etc.



Chucking Length (  $l$  )  
**NPU 8** : 18.8mm  
**NPU13** : 26.5mm

TAPER	Code No.	Chucking Dia	D	L		Weight (kg)
				MIN.	MAX.	
<b>No.30</b>	<b>BT30-NPU 8- 70</b>	0.3~8	38	76.5	83.5	0.7
	<b>-NPU13- 95</b>	1~13	48.5	102.1	113.1	1.2
<b>No.40</b>	<b>BT40-NPU 8- 70</b>	0.3~8	38	76.5	83.5	1.2
	<b>(IT40) -110</b>			115.5	122.5	1.5
	<b>-155</b>			160.5	167.5	1.7
	<b>-NPU13- 80</b>	1~13	48.5	86.1	97.1	1.5
	<b>-130</b>			137.1	148.1	2.2
	<b>-175</b>			182.1	193.1	2.7
<b>No.50</b>	<b>BT50-NPU 8- 85</b>	0.3~8	38	87.5	94.5	3.8
	<b>(IT50) -110</b>			115.5	122.5	3.9
	<b>-170</b>			175.5	182.5	4.3
	<b>-NPU13- 90</b>	1~13	48.5	97.1	108.1	4.1
	<b>-130</b>			137.1	148.1	4.6
	<b>-190</b>			197.1	208.1	5.2

★Centre Through Type Drill Chuck has different L-length & Code No. ☞ P.46, Pull Stud with Oil Hole ☞ P.320.  
 ★Flange Through Type Drill Chuck has different L-length & Code No. ☞ P.46.

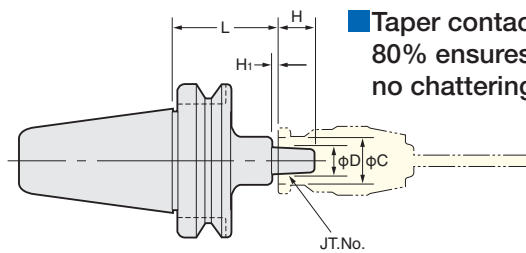
★Wrench is available as an option. **NPU8**: NPUL-8, **NPU13**: NPUL-13.  
 ★In case of IT40, **IT40-NPU8-80** is the shortest length.  
 ★In case of IT50, **IT50-NPU8-80** is the shortest length.

# JACOBS TAPER ADAPTER

**NIKKEN**



JTA



■ Taper contact area of more than 80% ensures reliable drilling with no chattering accompanied.

TAPER	Code No. -L	JT. No.	D	H	H <sub>1</sub>	C	Weight (kg)
<b>No.30</b>	<b>BT30-JTA6-30</b>	6	17.17	24	4	30	1.0
<b>No.40</b>	<b>BT40-JTA6-45, 90</b>						1.1, 1.4
<b>No.50</b>	<b>BT50-JTA6-45, 105</b>						4.0, 4.4

★Each Drill chuck Adapter is supplied without drill chuck.

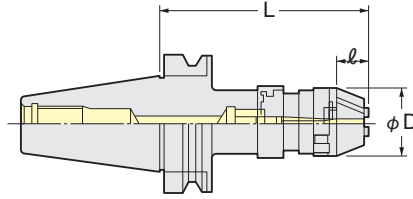
★For high speed and high accurate application, Slim Chuck ☞ P.35 is highly recommended.

# NPU DRILL CHUCK for Centre Through

(MAX. 1MPa)



Centre Through  
(MAX. 1MPa)



TAPER	Code No.	Chucking Dia	φD	l	L	Weight (kg)
No. 40	BT40-NPU13C- 80	6~13	48.5	26.5	92.1~103.1	1.5
	(IT40) 130				137.1~148.1	2.2
	175				182.1~193.1	2.7
No. 50	BT50-NPU13C- 90				97.1~108.1	4.1
	(IT50) 130				137.1~148.1	4.6
	190				197.1~208.1	5.2

★Wrench is available as an option. NPU8: NPUL-8, NPU13: NPUL-13.

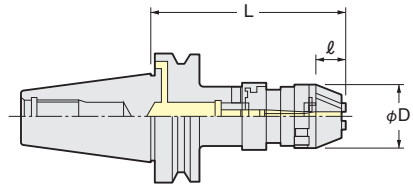
★MIN. Chucking Dia. for center through coolant is φ6mm.

★Please use Slim Chuck for high pressure coolant 7MPa. P.39

# NPU DRILL CHUCK for Flange Through



Flange Through  
(MAX. 1MPa)



TAPER	Code No.	Chucking Dia	φD	l	L	Weight (kg)
No.40	BT40-NPU13F-105	6~13	48.5	26.5	112.1~123.1	1.9
	(IT40) 150				157.1~168.1	2.4
No.50	BT50-NPU13F-110				117.1~128.1	4.4
	(IT50) 150				157.1~168.1	4.8

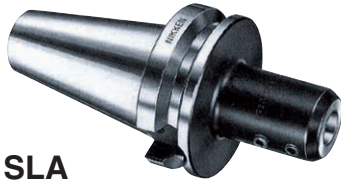
★Wrench is available as an option. NPU8: NPUL-8, NPU13: NPUL-13.

★MIN. Chucking Dia. for center through coolant is φ6mm.

★Please use Slim Chuck P.39 for high pressure coolant (MAX. 7Mpa).

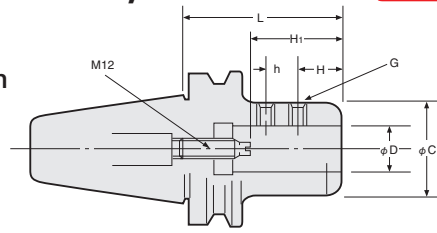
# SIDE LOCK HOLDER A TYPE (for END MILL)

**NIKKEN**



SLA

■ Taper contact area of more than 80% ensures reliable cutting with no chattering.



TAPER	Code No.	D	L	C	h	H	H1	G	Weight(kg)
							MIN.~MAX.		
No.30	BT30-SLA20- 75	20	75	50	21	15	55~ 70	M14 P1.25	1.3
No.40	BT40-SLA20- 90	20	90	50	21	24	55~ 70	M14 P1.25	1.8
	-SLA25- 90	25							1.7
	-SLA32- 90,135*	32	90,135	60	25	25		M16 P1.25	1.9,2.3
No.50	BT50-SLA20-105,135*	20	105,135	50	21	24	55~ 70	M14 P1.25	4.8,5.2
	-SLA25-105,135*,165*	25	105,135,165						4.7,5.2,5.7
	-SLA32-105,135*,165*	32		60	25	25		M16 P1.25	4.0,4.9,5.5
	-SLA42-115*,150*	42	115,150	90	32	30		M20 P1.25	6.6,7.5

★The Code No. of Centre Through Coolant type is "SLOOCN" P.48 For suitable collets, please refer P.123. ★These are semi-standard products.  
For Centre-through coolant pull stud, please refer P.320.

★The Code No. of Flange Through Coolant type is "SLOOFN" P.48 For suitable collets, please refer P.123.

★SLA42 type has larger φC and screw size to improve rigidity.

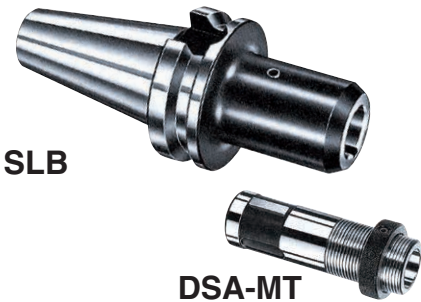
★When using a combat drill, the code No. is SL (for drill only, centre-through). BT50-DM32 -120

★Code No. of Side Lock Holder for Combination Shank is DM. -DM50.8-120



# SIDE LOCK HOLDER B TYPE (for DRILL)

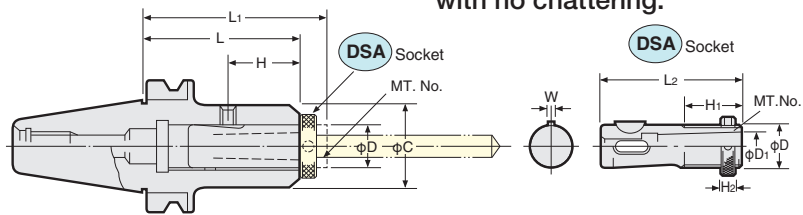
**NIKKEN**



SLB

DSA-MT

■ Taper contact area of more than 80% ensures reliable drilling with no chattering.



TAPER	Code No.	D	L	L1	H	C	W	DSA Socket-MT.No.	Weight(kg)
				MIN.~MAX.					
No.30	BT30-SLB26-105	26	105	117~142	40	50	5	DSA26-MT1,MT2	1.5 1.4
	BT40-SLB26-105	26	105	117~142	40	50	5	DSA26-MT1,MT2	2.1 2.0
No.40	-SLB35-135	35	135	147~182	55	60	6	DSA35-MT2,MT3	3.3 3.2
	BT50-SLB26-105	26	105	117~142	40	50	5	DSA26-MT1,MT2	4.8 4.7
No.50	-SLB35-120	35	120	132~167	55	60	6	DSA35-MT2,MT3	5.4 5.3
	-SLB35-135	35	135	147~182	55	60	6		5.7 5.6
	-SLB48-165	48	165	181~227	65	80	8	DSA48-MT3,MT4	8.4 8.1

## DSA type drill sockets

	Code No.	D	D1	L2	H1	H2	W	MT.No.	Weight(kg)
DSA26	DSA26-MT1	M26 P2	12.065	92	41	12	5	1	0.4
	-MT2		17.780					2	0.3
DSA35	DSA35-MT1	M35 P2	12.065	117	47	12	6	1	0.9
	-MT2		17.780					2	0.8
	-MT3		23.825					3	0.7
DSA48	DSA48-MT1	M48 P2	12.065	143	62	16	8	1	2.2
	-MT2		17.780					2	2.1
	-MT3		23.825					3	1.9
	-MT4		31.267					4	1.6

★It can be inserted into the side lock holder B type(SLB).

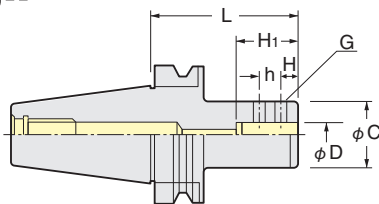


# SIDE LOCK HOLDER (for DRILL) NEW

**NIKKEN**



Centre Through  
MAX. 7MPa



TAPER	Code No.	D	L	C	h	H	H <sub>1</sub>	G	Weight (kg)
<b>No. 30</b>	BT30-SL12CN- 60	12	60	35	—	20	47	M10	0.6
	-SL16CN- 60	16	60	45	13	18	50	M10	0.7
	-SL20CN- 75	20	75	50	16	13	52	M10	1.0
	-SL25CN- 80	25	80	55	17	14	58	M12 P1.25	1.1
<b>No. 40</b>	BT40-SL20CN- 90,120,150	20	90,120	50	16	13	52	M12 P1.25	1.8,2.2,2.7
	(IT40)-SL25CN- 90,120,150	25		150	55	17	14	58	M12 P1.25
	-SL32CN- 90,120,150	32		60	16	15	62	M10	1.9,2.6,3.3
<b>No. 50</b>	BT50-SL20CN-105,150,200	20	105,150	50	16	13	52	M12 P1.25	4.8,5.5,6.3
	(IT50)-SL25CN-105,150,200	25		200	55	17	14	58	M12 P1.25
	-SL32CN-105,150,200	32		60	16	15	62	M12 P1.25	4.9,5.9,7.0
	-SL40CN-105,150,200	40		88	19	18	72	M12 P1.25	5.2,7.3,9.5

\*SLOOOC will be replaced by SLOOCN as soon as it is out of stock.

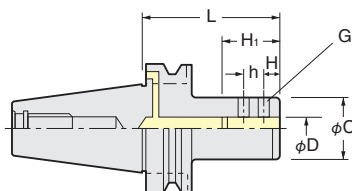
OK25 type, OK32 type, OK40 type collets cannot be used.

# SIDE LOCK HOLDER (for DRILL) for Flange Through

**NIKKEN**



Flange Through  
(MAX. 7MPa)



TAPER	Code No.	D	L	C	h	H	H <sub>1</sub>	G	Weight (kg)
<b>No. 40</b>	BT40-SL20FN- 90	20	90	50	16	12	44.5	M10	1.8
	(IT40)-SL25FN- 90	25	90	55	17	14	54.5	M12 P1.25	1.7
	-SL32FN- 90	32	90	60	16	15	59.5	M12 P1.25	1.9
<b>No. 50</b>	BT50-SL20FN-105	20	105	50	16	12	44.5	M10	4.8
	(IT50)-SL25FN-105	25	105	55	17	14	54.5	M12 P1.25	4.7
	-SL32FN-105	32	105	60	16	15	59.5	M12 P1.25	4.9
	-SL40FN-105	40	105	88	19	18	70	M12 P1.25	5.2

\*SLOOOF will be replaced by SLOOFN as soon as it is out of stock.

OK25 type, OK32 type, OK40 type collets cannot be used.

# MORSE TAPER ADAPTER A TYPE



BT

■ Taper contact area of more than 80% ensures high repeatability run-out accuracy.



MTA

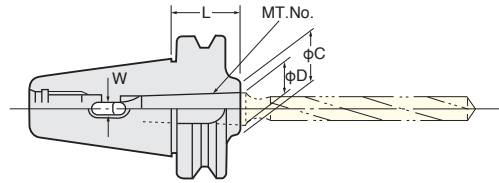


Fig. 1

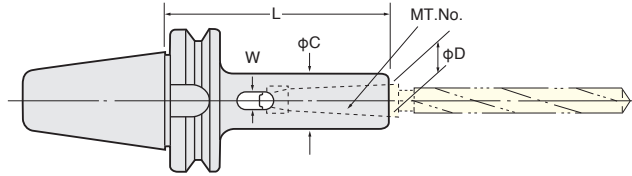


Fig. 2

TAPER	Code No.	MT. No.	D	L	C	W	Fig	Weight (kg)
No.30	BT30-MTA1- 45	1	12.065	45	20	5.6	1	0.8
	-MTA1-105			105			2	0.9
	-MTA2- 60	2	17.780	60	30	6.6	1	0.9
	-MTA2-120			120			2	1.2
	-MTA3- 80	3	23.825	80	40	8.4	1	1.0
No.40	BT40-MTA1- 45	1	12.065	45	25	5.6	1	1.0
	(IT40)-MTA1-120			120			2	1.3
	-MTA2- 60	2	17.780	60	32	6.6	1	1.1
	-MTA2-120			120			2	1.4
	-MTA3- 75	3	23.825	75	40	8.4	1	1.2
	-MTA3-135			135			2	1.8
	-MTA4- 95	4	31.267	95	50	12.4	1	1.4
	-MTA4-165			165			2	2.4
No.50	BT50-MTA1- 45	1	12.065	45	25	5.6	1	4.0
	(IT50)-MTA1-120			120			2	4.3
	-MTA1-180			180			2	4.3
	-MTA2- 45	2	17.780	45	32	6.6	1	4.0
	-MTA2-135			135			2	4.4
	-MTA2-180			180			2	4.6
	-MTA3- 45	3	23.825	45	40	8.4	1	3.9
	-MTA3-150			150			2	4.7
	-MTA3-180			180			2	4.9
	-MTA4- 75	4	31.267	75	50	12.4	1	4.0
	-MTA4-180			180			2	5.4
	-MTA5-105	5	44.399	105	65	16.5	1	4.6

★Centre through type MT Adapter has different dimensions.

★Flange through type MT Adapter has different dimensions.



For high pressure coolant through, please use Milling Chuck P.31, Slim Chuck P.35 or Side Lock Holder P.47 instead of MT Adapter.

# MORSE TAPER ADAPTER B TYPE with DRAW BOLT



MTB

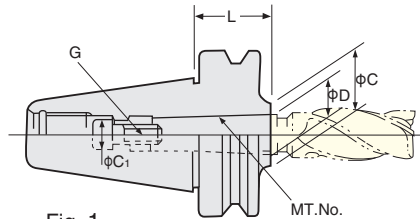


Fig. 1 Draw bolt type

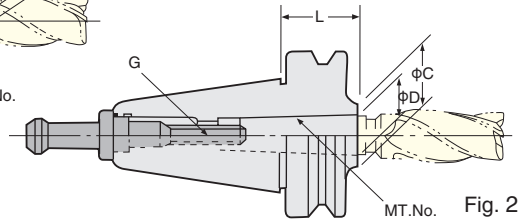


Fig. 2 Pull stud draw bolt type.

■ Taper contact area of more than 80% ensures reliable machining without vibration.

TAPER	Code No.	MT.No.	D	L	C	C <sub>1</sub>	G	Fig	Weight (kg)	
No.30	BT30-MTB1- 45	1	12.065	45	25	10	M 6×1	1	0.8	
	-MTB2- 25	2	17.780	25	32	—	M10×1.5	2	0.8	
	-MTB3- 80	3	23.825	80	40	—	M12×1.75		1.0	
No.40	BT40-MTB1- 45	1	12.065	45	25	10	M 6×1	1	1.0	
	-MTB2- 60	2	17.780	60	32	13.5	M10×1.5		1.1	
	-MTB3- 45	3	23.825	45	40	—	M12×1.75	2	1.1	
	-MTB4- 85	4	31.267	85	50	—	M16×2		1.3	
No.50	BT50-MTB1- 45	1	12.065	45	25	10	M 6×1	1	3.9	
	-MTB2- 45	2	17.780		32	16	M10×1.5		3.9	
	-MTB3- 60	3	23.825	60	40	18	M12×1.75		3.9	
	-MTB4- 75	4	31.267	75	50	20.5	M16×2		3.9	
	-MTB5-105-M16	5	44.399	105	70	—	—		2	4.2
	-MTB5-105									4.0

★Adapter in Fig.1 is supplied with a special draw bolt.

★Morse Taper Adapters B type as illustrated in Fig.2 need the special pull stud. The pull stud is optional accessory. When ordering, please specify the pull stud code number.

## PULL STUD for MORSE TAPER ADAPTER B TYPE



MT No.	DRAW BOLT
MT 2	M10×1.5
MT 3	M12×1.75
MT4 / MT5	M16×2
MT 5	M20×2.5

TAPER	Standard pull stud Code No.	MTB2	MTB3	MTB4	MTB5
No.30	PS- 16	PS-27	PS- 32	—	—
	- 17	-28	- 33	—	—
No.40	PS- 1	—	PS- 7	PS- 8	—
	- 2	—	- 29	- 10	—
	- 08-1	—	- 017	- 018	—
	- P5-1	—	- P51	- P52	—
	- G51	—	- G56	- G57	—
	- 805	—	- 872	- 873	—
No.50	PS- 5	—	—	PS- 57	PS-15*
	- 6	—	—	- 65	-61*
	- 0	—	—	- 016	-06*

★For standard pull stud Code No. Please refer to P.319.

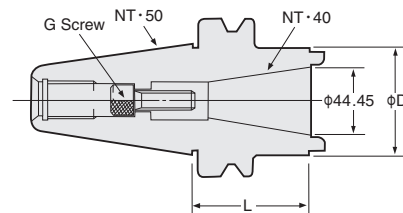
★The screw of the pull stud marked \* is M20.

★The other type of pull stud is available, please specify the pull stud Code No.

# SLEEVE for NT40 TOOL



TSA



Code No.	L	D	G	Weight (kg)
BT50-TSA40M-75	75	70	M16P=2	4.6
(IT50)-TSA40U-75			5/8-11UNC	4.6

★G Screw is standard accessory. When ordering, please specify M (metric) or U (inch).

★Above Code No. is the sleeve which internal taper is for conventional T40U (M). When internal taper is BT40, G screw 9TSA40-M16-70L (option) is necessary.

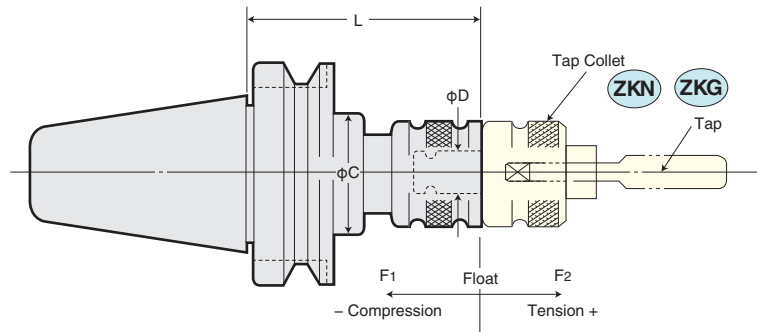
# AUTO. DEPTH CONTROL TAPPER CHUCK

**NIKKEN**

- Most suitable for tapping gas threads, blind-end threads and light alloys.
- When normal rotation of machine is stopped at specified position, the Tapper Chuck runs idle after progressing by its elongation (4mm for ZL12 type). Simply rotate the machine in the reverse direction, and the tap depth will be made uniform within a high-precision.



ZL



TAPER	Code No.	Tapping Capability			D	L	C	Float		Tap Collet	Weight (kg)
		M	U	P				F <sub>1</sub>	F <sub>2</sub>		
No.30	BT30-ZL 8-110*1	M 2~8	1/8~1/4	—	13	110	34	3	3	ZKN 8*1	1.5
	-ZL12-130	M 2~12	1/8~1/2	P1/16~1/4	19	130	58	5	4	ZKG12	1.9
No.40	BT40-ZL 8-120*1	M 2~8	1/8~1/4	—	13	120	34	3	3	ZKN 8*1	1.6
	(IT40)-ZL12-100	M 2~12	1/8~1/2	P1/16~1/4	19	100	58	5	4	ZKG12	1.9
	-ZL12-130					130					2.3
	-ZL16-150	M 3~16	1/8~5/8	P1/8~3/8	25	150	60	6	7	ZKG16	2.9
	-ZL24-160	M 8~24	1/2~1	P1/4~5/8	30	160	73	6	7	ZKG24	3.3
-ZL38-190	M18~38	3/4~13/8	P3/8~1	45	190	92	8	10	ZKN38	6.0	
No.50	BT50-ZL 8-130*1	M 2~8	1/8~1/4	—	13	130	34	3	3	ZKN 8*1	4.2
	(IT50)-ZL12-85	M 2~12	1/8~1/2	P1/16~1/4	19	85	58	5	4	ZKG12	3.4
	-ZL12-130					130					4.3
	-ZL16-135	M 3~16	1/8~5/8	P1/8~3/8	25	135	60	6	7	ZKG16	4.6
	-ZL24-100	M 8~24	1/2~1	P1/4~5/8	30	100	73	6	7	ZKG24	4.5
	-ZL24-142					142					5.8
-ZL38-150	M18~38	3/4~13/8	P3/8~1	45	150	92	8	10	ZKN38	6.9	

★In Case of IT40, IT40-ZL16-160 and IT40-ZL24-175 are standard.

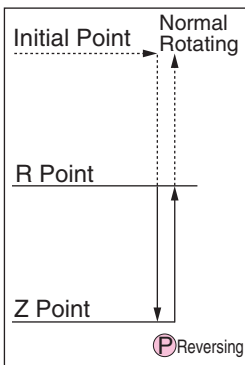
★In Case of IT50, IT50-ZL12-130, IT50-ZL24-142 and IT50-ZL38-180 are standard.

★Marked \*1 ZL8 Tapper Chuck and ZK8 Tap Collet are available as semi-standard.

★Please refer P.293 (ZKG) ~P.66 (ZK) for ISO, IMPERIAL, DIN Tap Collet, P.291 (ZKG) ~P.68 (ZKN) for JIS Tap Collet, and P.295 for Long Size Tap Collet.

★Centre Coolant type Tapper Chuck is also available. Please contact with us.

★Flange through type Tapper Chuck is also available. Please contact with us.



## Program of Auto-Depth Control Tapper Chuck

(ZL)

- NO. 1 M03 S—; Spindle Rotating
- NO. 2 G00 X—Y—; Initial Point
- NO. 3 G00 Z—; R Point
- NO. 4 G01 Z—F—; Z Point
- NO. 5 G04 P—; Dwell
- NO. 6 M05 Spindle Stop
- NO. 7 M04 Spindle Reversing
- NO. 8 G01 Z—; R Point
- NO. 9 M05 Spindle Stop
- NO.10 G00 Z— M03; Initial Point, Spindle Normal Rotating

⚠ When using ZL Tapper Chuck, please make sure of the following program.

**G04 P** —; — Threads are made only by Spindle Rotation during Dwell. Thus, exact depth is controlled.

**M05** ; — Spindle stop.

**M04** ; — First command Spindle Reversing. Then, upward movement of Z. If upward movement of Z is commanded earlier than Spindle Reversing, down movement of tap and up movement of Z may cause breakage of tap.

**G01 Z** —; —

# FLOATING TAPPER CHUCK

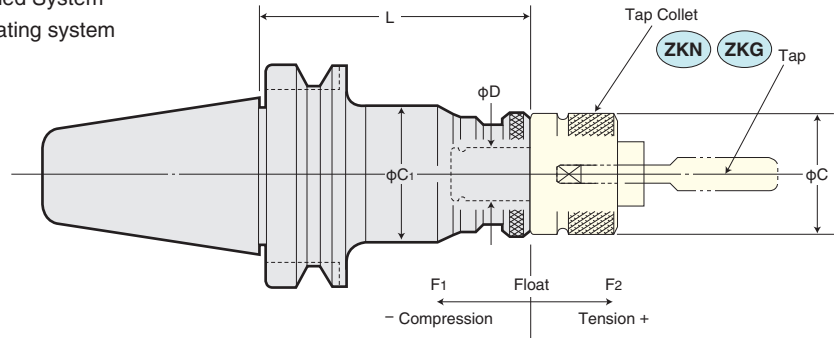


## Suitable Tapper Chuck for Conventional M/C

- More convenient in tapping, thanks to stable torque and slim body
- Good Run-out, No Pull-out and No Tap Breakage with NIKKEN Tapper Chuck  
Ideal for Unmanned System
- With the axial floating system



Z



TAPER	Code No.	Tapping Capability			D	L	C	C <sub>1</sub>	Float		Tap Collet	Weight (kg)
		M	U	P					F <sub>1</sub>	F <sub>2</sub>		
No.30	BT30-Z 8- 90* <sup>1</sup>	M 2~ 8	1/8~1/4	—	13	90	23	33	5	15	ZKN 8* <sup>1</sup>	1.2
	-Z12-105	M 2~ 12	1/8~1/2	P1/16~1/4	19	105	32	45	5	15	ZKG12	1.2
No.40	BT40-Z 8- 90* <sup>1</sup>	M 2~ 8	1/8~1/4	—	13	90	23	33	5	15	ZKN 8* <sup>1</sup>	1.4
	(IT40)-Z12- 90	M 2~ 12	1/8~1/2	P1/16~1/4	19	90	32	45	5	15	ZKG12	1.5
	-Z12-130					130			15			1.6
	-Z16-109	M 3~ 16	1/8~5/8	P1/8~3/8	25	109	39	55	8	20	ZKG16	2.0
	-Z24-100	M 8~ 24	1/2~ 1	P1/4~5/8	30	100	46	68	10	20	ZKG24	2.1
	-Z24-187					187						63
-Z38-140	M18~ 38	3/4~13/8	P3/8~ 1	45	140	78	85	8	22	ZKN38	6.7	
No.50	BT50-Z 8-105* <sup>1</sup>	M 2~ 8	1/8~1/4	—	13	105	23	33	5	15	ZKN 8* <sup>1</sup>	4.2
	(IT50)-Z12-130	M 2~ 12	1/8~1/2	P1/16~1/4	19	130	32	45	15	15	ZKG12	4.3
	-Z12-175					175						4.8
	-Z12-220					220						5.0
	-Z16-135	M 3~ 16	1/8~5/8	P1/8~3/8	25	135	39	55	8	20	ZKG16	5.2
	-Z24-142	M 8~ 24	1/2~ 1	P1/4~5/8	30	142	46	63	20	20	ZKG24	5.8
	-Z24-187					187						6.2
	-Z38-175	M18~ 38	3/4~13/8	P3/8~ 1	45	175	78	98	10	25	ZKN38	8.3
-Z65-160	M36~100	1~33/4	P1~ 3	68	160	110* <sup>2</sup> (125)	110	10	25	ZKN65	9.0	

★In Case of IT40, IT40-Z8-95\*<sup>1</sup> and IT40-Z24-125 are standard.

★In Case of IT50, IT50-Z8-105\*<sup>1</sup>, IT50-Z38-187 and IT50-Z65-165 are standard.

★Marked \*1 Z8 Tapper Chuck and ZK8 Tap Collet are available as semi-standard.

★Please refer to P.293 (ZKG) ~P.66 (ZK) for ISO, IMPERIAL, DIN Tap Collet, P.291 (ZKG) ~P.292 (ZKN) for JIS Tap Collet, and P.295 for Long Size Tap Collet.

★Marked \*2 ( ) dimension is for M65 or more size of ZK Tap Collet.



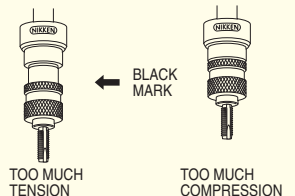
### ① Caution for Floating Mechanism

#### (1). Too Much Tension

When tension movement exceeds the limitation, the black mark will appear. In this case increase machine feed.

#### (2). Too Much Compression

When machine feed is too fast for the tap thread pitch, the compression floating mechanism will work. The machine program should be modified to slow feed rate down.



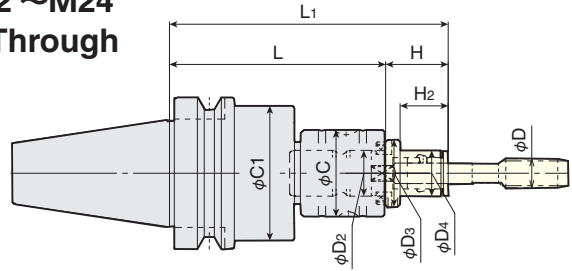
- When the drilled hole diameter is too small (this is often caused by the drilling of the tough materials, extended drilling diameter is not large enough.), the tap will slip before the breakage due to torque limiter mechanism. In this case enlarge the drilled hole and do not adjust the torque setting.
- For a blind hole tapping, the tap might hit the bottom of the hole and the floating shaft will not extend any further, if the Z point is too close to the component. And the point of reversing the floating shaft could compress further than the extension, it may cause damage to the tapped hole. In this case, make the drilled hole deeper or restrict Z point at the higher position.
- When the R point is too close to the component, the spindle will moves upwards with the fully extended float mechanism at reversing operation, and it might cause damage to the tapped hole as the tap may be still in the hole when the spindle try to return to the initial point at the rapid feed. In this case, give further distance between the R point and the component.
- In case of the tapping with Z type tapper chuck, since the Z Axis stroke will move upwards after reversing operation starts at the Z point due to the machine tapping cycle features, it may cause damage to the tapped hole. In this case, input the dwell command at the Z point on the program in order to make the upward movement of Z Axis with the tapper chuck as its extended float mechanism.

# DREAM SYNCHRO TAP HOLDER NEW



JAPAN PAT.

Tapping Capability : M2 ~M24  
High Pressure Centre Through



★ +100L specification is also available.

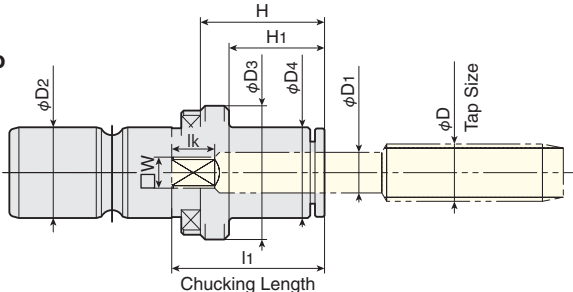
ZDS

TAPER	Code No.	Tapping Capability D	L	C1	C	Tap Collet	H	L1	Weight (kg)	
No.30	BT30-ZDS12-105	M2~M12 1/8~1/2 P1/8	105	phi56	phi36	ZDK12-□	26	131	1.5	
	-ZDS16-115	M4~M16 1/8~5/8 P1/8~P3/8	115			phi45	ZDK12-□-50L	76	181	1.6
							ZDK16-□	28	143	1.8
-ZDS24-120	M12~M24 1/2~1 P3/8~P5/8	120	phi50	ZDK24-□	38	158	2			
No.40	BT40-ZDS12-90	M2~M12 1/8~1/2 P1/8	90	phi56	phi36	ZDK12-□	26	116	1.8	
	-ZDS16-100	M4~M16 1/8~5/8 P1/8~P3/8	100			phi45	ZDK12-□-50L	76	166	1.9
							ZDK16-□	28	128	2.1
							ZDK16-□-50L	78	178	2.3
-ZDS24-105	M12~M24 1/2~1 P3/8~P5/8	105	phi50	ZDK24-□	38	143	2.3			
No.50	BT50-ZDS12-100	M2~M12 1/8~1/2 P1/8	100	phi56	phi36	ZDK12-□	26	126	4.3	
						ZDK12-□-50L	76	176	4.4	
	-ZDS16-110	M4~M16 1/8~5/8 P1/8~P3/8	110		phi45	ZDK16-□	28	138	4.7	
						ZDK16-□-50L	78	188	4.9	
						ZDK24-□	38	153	4.9	
	-ZDS24-115	M12~M24 1/2~1 P3/8~P5/8	115		phi50	ZDK24-□	38	153	4.9	
ZDK24-□-50L				88		203	5.2			

★Wrench is available as an option. ZDS12:NPUL-8, ZDS16:NPUL-13, ZDS24:NPUL-13

NEW

For Dream Synchro Tap Holder  
ZDK Tap Collet



	D2	D3
ZDK12	19	28
ZDK16	25	36
ZDK24	30	42

ZDK

Dimension List of ZDK Tap collet

	ZDK12								ZDK16								ZDK24										
	ZDK12-D	D4	H	H1	l1	D1	W	lk	ZDK16-D	D4	H	H1	l1	D1	W	lk	ZDK24-D	D4	H	H1	l1	D1	W	lk			
Metric (M)	ZDK12-2	13	26	20	22.5	3	2.5	5	ZDK16-4	13	28	22	26.5	5	4	7	ZDK24-12	19	33	25	32	8.5	6.5	9			
	ZDK12-3				25.5	4	3.2	6	ZDK16-5				30	6	4.5	7	ZDK24-14				26	34	26	38	10.5	8	11
	ZDK12-4				26.5	5	4	7	ZDK16-6				31	6.2	5	8	ZDK24-16							40	12.5	10	13
	ZDK12-5	16	26	20	30	6	4.5	7	ZDK16-8	16	28	22	31	7	5.5	8	ZDK24-18	38	30	30	41	14	11	14			
	ZDK12-6				31	6.2	5	8	ZDK16-10				32	7	5.5	8	ZDK24-20				42	15	12	15			
	ZDK12-8	19	26	20	31	7	5.5	8	ZDK16-12	19	28	22	32	8.5	6.5	9	ZDK24-22	32	38	30	47	17	13	16			
	ZDK12-10				32	8.5	6.5	9	ZDK16-14				38	10.5	8	11	ZDK24-24				49	19	15	18			
	ZDK12-12				32	8.5	6.5	9	ZDK16-16				40	12.5	10	13											
Unified (U)	ZDK12-1/8	13	26	20	25.5	4	3.2	6	ZDK16-3/16	13	28	22	26.5	5.5	4.5	7	ZDK24-1/2	19	33	25	33	9	7	10			
	ZDK12-3/16				26.5	5.5	4.5	7	ZDK16-1/4				30	6	4.5	7	ZDK24-9/16				26	34	26	38	10.5	8	11
	ZDK12-1/4				30	6	4.5	7	ZDK16-5/16				31	6.1	5	8	ZDK24-5/8							39	12	9	12
	ZDK12-5/16	16	26	20	31	6.1	5	8	ZDK16-3/8	16	28	22	31	7	5.5	8	ZDK24-3/4	38	30	30	41	14	11	14			
	ZDK12-3/8				32	7	5.5	8	ZDK16-7/16				32	8	6	9	ZDK24-7/8				47	17	13	16			
	ZDK12-7/16	19	26	20	32	8	6	9	ZDK16-1/2	19	28	22	33	9	7	10	ZDK24-1	32	38	30	49	20	15	18			
	ZDK12-1/2				33	9	7	10	ZDK16-9/16				38	10.5	8	11											
									ZDK16-5/8				39	12	9	12											
Pipe (PT) (PS) (PF)	ZDK12-D	D4	H	H1	l1	D1	W	lk	ZDK16-D	D4	H	H1	l1	D1	W	lk	ZDK24-D	D4	H	H1	l1	D1	W	lk			
	ZDK12-1/8P	19	26	20	28	8	6	9	ZDK16-1/8P	19	28	22	28	8	6	9	ZDK24-3/8P	26	34	26	35	14	11	14			
									ZDK16-1/4P	26	28	22	33	11	9	12	ZDK24-1/2P	32	38	30	41	18	14	17			
									ZDK16-3/8P	26	28	22	35	14	11	14	ZDK24-5/8P	32	38	30	42	19	15	18			



# BORING SYSTEM

## ROUGH BORING


RAC-E (Steel, Stainless Steel, Cast Iron)

BT  P.59  
 MBT  P.161  
 NBT  P.193  
 NC5  P.221  
 HSK  P.249



CC  
 Positive type  
 $\phi 25 \sim \phi 130$


RAC (Heavy Duty Boring)

BT  P.61  
 MBT  P.161  
 NBT  P.193  
 NC5  P.221  
 HSK  P.251



CN  
 Negative type  
 $\phi 43 \sim \phi 130$

RAC-A (Aluminium)

BT  P.63  
 MBT  P.161  
 NBT  P.193  
 NC5  P.221  
 HSK  P.253



$\phi 25 \sim \phi 130$

## ROUGH BORING


RAC-K (Through Hole / Multi Sheets)

BT  P.65  
 MBT  P.161  
 NBT  P.193  
 NC5  P.221  
 HSK  P.255



$\phi 25 \sim \phi 130$

RAC (For Large Dia)

BT  P.69  
 MBT  P.163  
 NBT  P.196  
 NC5  P.223  
 HSK  P.257



$\phi 130 \sim \phi 580$

ULTRA LIGHT BORING BAR FOR Large Dia **NEW**

## ROUGH BORING



RAC-AA  
 P.83

BAC-AA  
 P.85



## FINISH BORING

## SEMI-FINISH BORING

ZMAC-VR

BT  P.73  
 MBT  P.162  
 NBT  P.194  
 NC5  P.222  
 HSK  P.261



$\phi 32 \sim \phi 180$

BCB (For Large Dia)

BT  P.80  
 HSK  P.264



$\phi 130 \sim \phi 595$

## FINISH BORING

DJ

BT  P.87  
 MBT  P.160  
 NBT  P.195  
 HSK  P.268



$\phi 3 \sim \phi 50$

## FINISH BORING

ZMAC-V

BT  P.71  
 MBT  P.162  
 NBT  P.194  
 NC5  P.222  
 HSK  P.259



$\phi 16 \sim \phi 180$



ZMAC  $\alpha$ -V

BT  P.72  
 MBT  P.162  
 NBT  P.194  
 NC5  P.222  
 HSK  P.260



$\phi 25 \sim \phi 180$

BAC-V (For Large Dia)






BT  P.79  
 MBT  P.163  
 NBT  P.196  
 NC5  P.223  
 HSK  P.263



$\phi 130 \sim \phi 595$

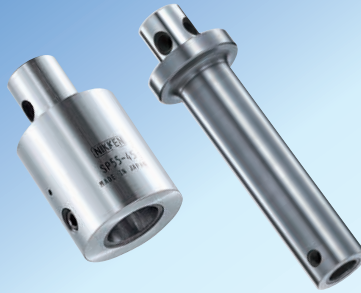


**MODULAR SYSTEM**

- Base Holder Q
- BT  P.89
- MBT  P.160
- NBT  P.195
- NC5  P.224
- HSK  P.267



Spacer SP  P.90



**COOLANT THROUGH**

**RAC-C**



High Pressure Coolant Through Tool

**STRAIGHT SHANK**

- K-RAC K-ZMAC-V  P.93
- S-BCBX S-ZMACX-V  P.94
- K-DJ  P.95



$\phi 25 \sim \phi 100$     $\phi 16 \sim \phi 70$     $\phi 3 \sim \phi 50$



$\phi 12.7 \sim \phi 55$

**ZMAC-V**



High Pressure Coolant Through Tool

**SPECIAL BORING BAR**

Multi-Stage, External  P.71, P.73, P.95



Boring, Overturning  P.95



**DJ**



High Pressure Coolant Through Tool

**FINISH BORING**

**eMACP**  P.97



$\phi 6 \sim \phi 110$

**eMACP-W**  P.98



$\phi 6 \sim \phi 200$

**RAC / BAC-VC for LARGE DIA.**



High Pressure Coolant Through Tool

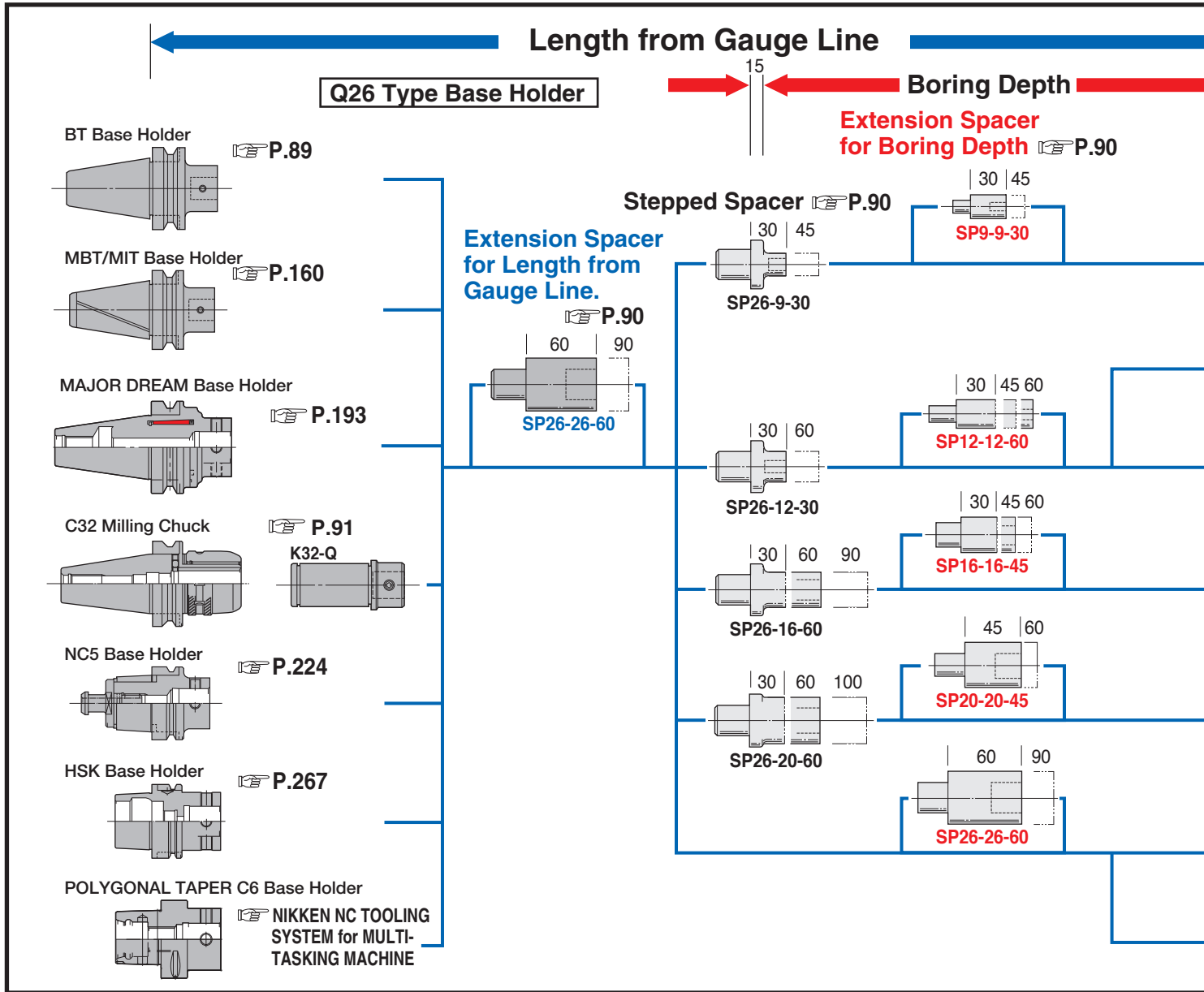
# MODULAR ZMAC ADVANCED BORING BAR

## BASE-HOLDER

Q26 type base holder can be used for various combinations. Ideal for low volume production on manual machine with wide variety of boring sizes. We recommend that you also use the Q42 base holder on #50 M/C. P.89

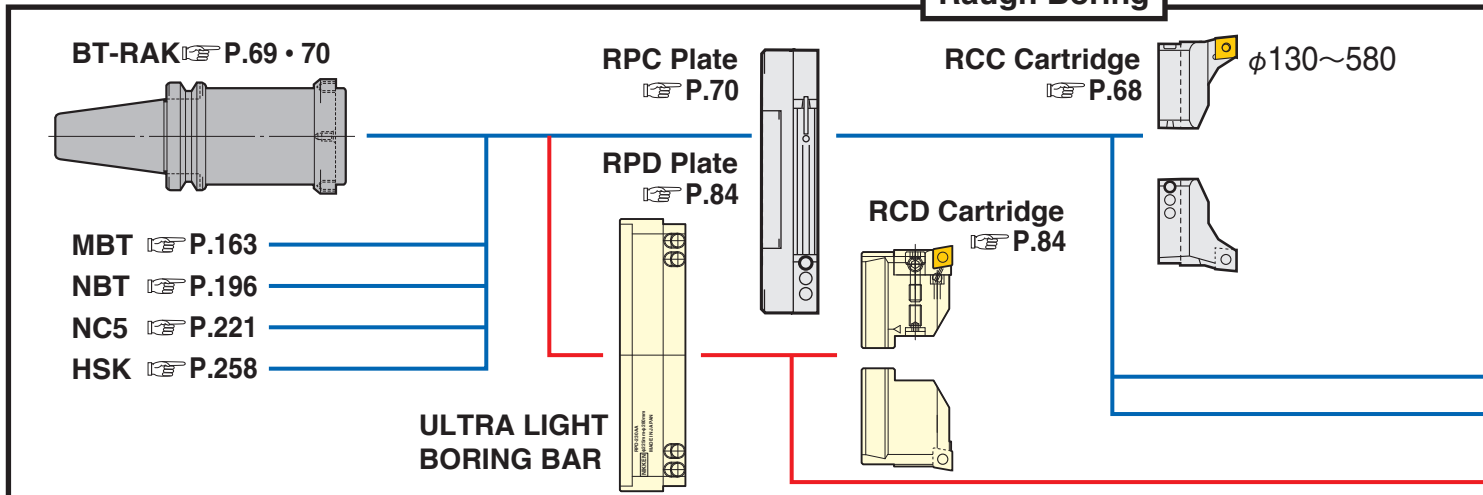
## Spacer & Head

The extensive range of heads & spacers allow the correct selection to suit your boring applications.

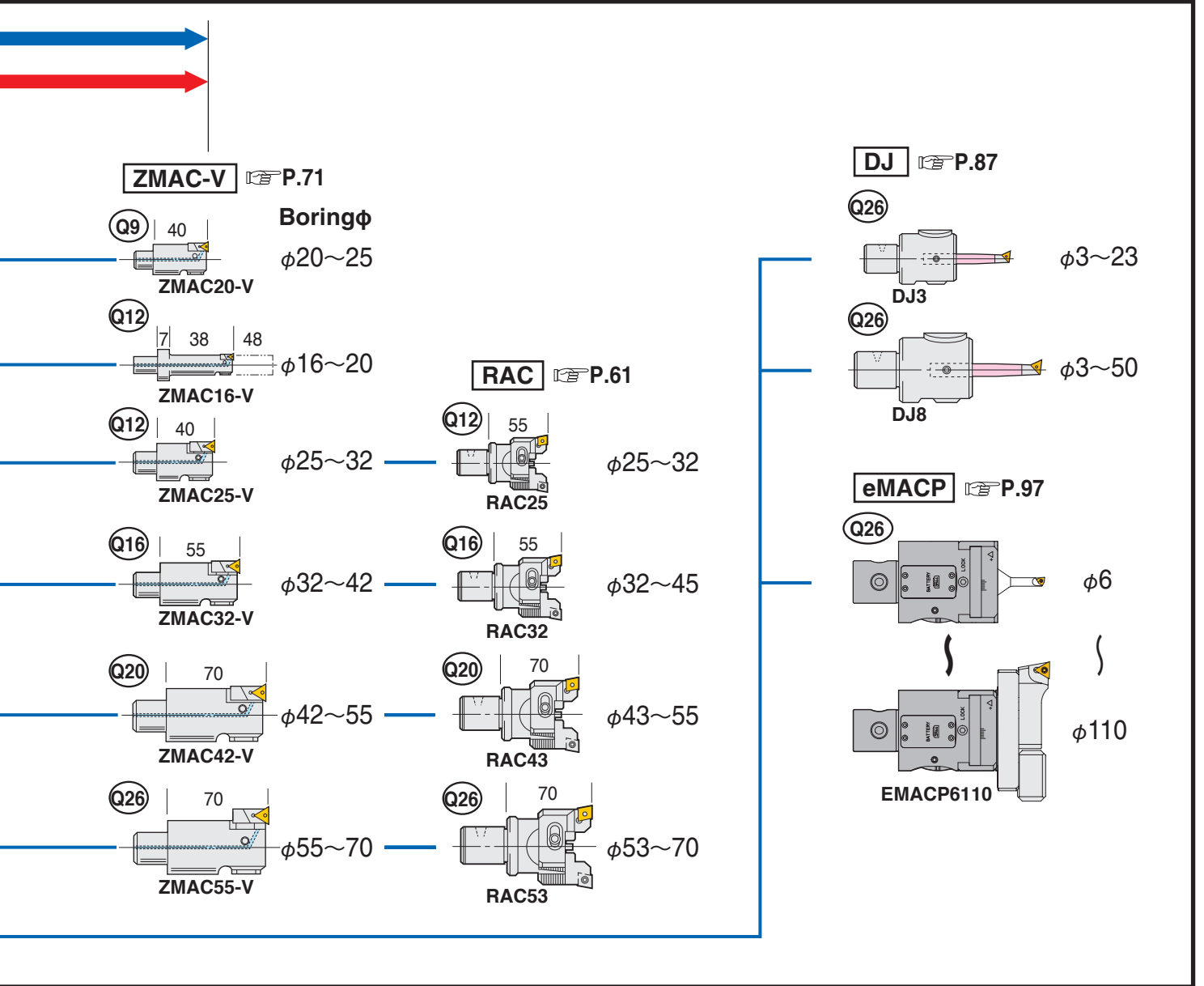


# BORING ARBOR FOR LARGE DIA

## Rough Boring



**Method of Selection for Modular ZMAC-V Boring Arbors**  
 Firstly, select a head, spacer and stepped spacer from boring diameter and depth.  
 Then select base holder and SP26 extension spacer by the length from gauge line.



**Finish Boring**

BAC-V type Cartridge for large dia. P.81  $\phi 130 \sim 595$

BCB type Cartridge for large dia. P.81  $\phi 130 \sim 595$

MCDZ type Cartridge for large dia. P.86



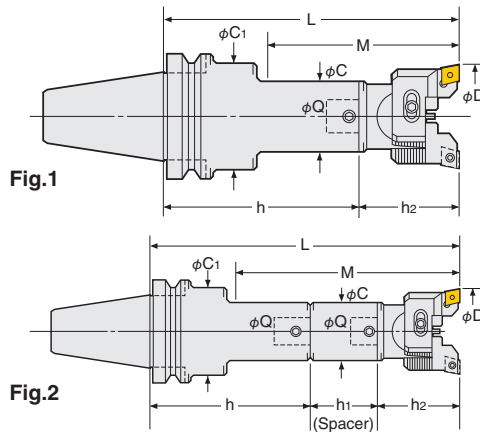
# BALANCE-CUT BORING ARBOR (RAC-E)



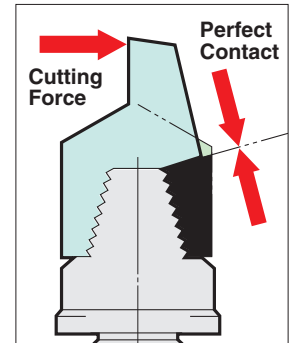
Rough Boring — For Steel, Stainless Steel and Cast Iron  
CC Insert (Positive type)



RAC-E



Power of Shoulder Support



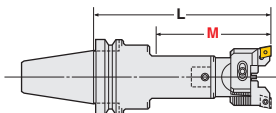
TAPER	Code No.	Boring Range D	Boring Depth M	Coupling Dia Q	C	C <sub>1</sub>	Shank Code No.	Spacer Code No.	P.60		Weight (kg)	Fig
									Head Code No.	Tip No.		
No.40	BT40-RAC 25-135E	25~32	67	12	24	35	BT40-Q12- 80	—	12-RAC 25- 55E	CC07-C	2.0	1
	(IT40) -165E		105				-Q12-110				2.1	
	-180E		112				-Q12- 80				2.1	
	-RAC 32-150E	32~45	77	16	31	42	-Q16- 95	—	16-RAC 32- 55E	CC08-C	2.4	1
	-180E		110				-Q16-125				2.6	
	-195E		122				-Q16- 95				2.6	
	-RAC 43-150E	43~55	97	20	40	50	-Q20- 80	—	20-RAC 43- 70E	—	2.7	1
	-180E		130				-Q20-110				2.9	
	-210E		157				-Q20- 80				3.2	
	-RAC 53-165E	53~70	135	26	50	50	-Q26- 95	—	26-RAC 53- 70E	CC12-C	2.5	1
	-210E		180				-Q26-140				3.3	
	-225E		195				-Q26- 95				3.2	
	-RAC 70-180E	70~100	180	34	64	64	-Q34- 95	—	34-RAC 70- 85E	—	4.8	1
	-195E		195				-Q34-110				5.2	
	-240E		240				-Q34- 95				6.2	
	-RAC100-195E	100~130	195	42	83	62	-Q42- 95	—	42-RAC100-100E	—	6.8	1

★“C” grade (Coated) inserts are supplied as standard with the head. P.60 Please refer P.106 for cutting condition.

★Please refer P.89 for base holder, P.90 for spacer and P.68 for head.

★For centre through coolant type, please add “-C” at the end of Code No. e.g. BT40-RAC53-165-C  
Code No. of RAC25 and RAC32 with CC inserts are changed to RAC25E and RAC32E.

★When L length is required longer than standard, please specify the boring depth M.



★Code No. of RAC25 and RAC32 are changed to RAC25E and RAC32E.  
e.g. BT40-RAC25-135 → BT40-RAC25-135E  
12-RAC25- 55 → 12-RAC25- 55E



High Pressure Coolant Through Tool

# BALANCE-CUT BORING ARBOR (RAC-E)

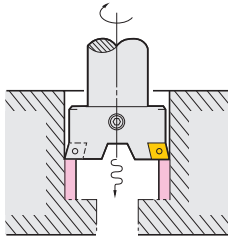


Balance cut boring bar executes boring in 2 cartridge inserts absorbing the vibration each other. The faster the feed rate, the better swarf ejection. This is ideal for rough and medium boring.

## Double Cutting Capability

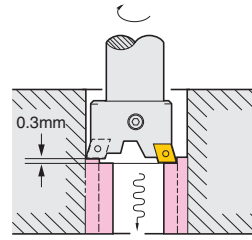
Please use RAC-K for through hole boring.

☞ P.65, P.66



## Example of 2 Stepped Balance Cut

Approx. double removal of below cutting condition is possible by -0.3 Cartridge. ☞ P.68



TAPER	Code No.	Boring Range D	Boring Depth M	Cupling Dia Q	C	C <sub>1</sub>	Shank Code No.	Spacer Code No.	P.60		Weight (kg)	Fig	
									Head Code No.	Tip No.			
No.50	BT50-RAC025-150E	25~ 32	67	12	24	44	BT50-Q12- 95	—	12-RAC 25- 55E	CC07-C	4.7	1	
	(IT50) -180E		105				-Q12-125				4.9		
	-195E		112				-Q12- 95				4.8		2
	-RAC032-180E	32~ 45	77	16	31	50	-Q16-125N	—	16-RAC 32- 55E	CC08-C	5.4	1	
	-210E		110				-Q16-155				5.6		
	-225E		122				-Q16-125N				5.6		2
	-RAC043-180E	43~ 55	97	20	40	60	-Q20-110	—	20-RAC 43- 70E	—	5.7	1	
	-195E		130				-Q20-125				5.8		
	-225E		142				-Q20-110				6.1		2
	-240E		157				SP20-20-45 SP20-20-60				6.2		
	-RAC053-210E	53~ 70	117	26	50	65	-Q26-140	—	26-RAC 53- 70E	—	6.9	1	
	-240E		182				-Q26-170N				7.0		
	-270E		177				-Q26-140				7.6		2
	-RAC070-255E	70~100	205	34	64	80	-Q34-170	—	34-RAC 70- 85E	—	9.5	1	
	-285E		235				-Q34-200				9.9		
	-315E		265				-Q34-170				10.9		2
	-RAC100-225E	100~130	225	42	83	83	-Q42-125	—	42-RAC100-100E	—	12.5	1	
	-290E		290				-Q42-190				15.2		
-325E	325		-Q42-225A				16.5				2		

★“C” grade (Coated) inserts are supplied as standard with the head. ☞ P.60 Please refer ☞ P.106 for cutting condition. ★Code No. of RAC25 and RAC32 with CC inserts are changed to RAC25E and RAC32E.  
 ★Please refer ☞ P.89 for base holder, ☞ P.90 for spacer and ☞ P.67 for head. e.g. BT50-RAC25-150 → BT50-RAC25-150E  
 ★For centre through coolant type, please add “-C” at the end of Code No. e.g. BT50-RAC53-210E-C 12-RAC25- 55 → 12-RAC25- 55E  
 ★BT50-RAC100-375E, 425E and 475E are also available.

## Insert tip for RAC-E

● : best ○ : good

Material	Steel		●	○
	Stainless Steel		●	○
	Cast Iron		○	●
Aluminium		○	●	
		Coated Carbide M	Coated Carbide K	
		Grade	C	
		Material	AC630M	AC410K
Applicable Arbor	Dimension	Code No.	Nose R	
RAC25E		CC07-○4	0.4	● ●
		CC07-○8	0.8	● ●
RAC32E		CC08-○4	0.4	● ●
		CC08-○8	0.8	● ●
RAC43E - RAC530E		CC12-○4	0.4	● ●
		CC12-○8	0.8	● ●

Please add the grade indication into ○, and add the insert tip material indication at the end of the Code No. e.g. CC12-C8 (AC630M)

★Minimum order quantity : 10pcs.

# BALANCE-CUT BORING ARBOR (RAC)

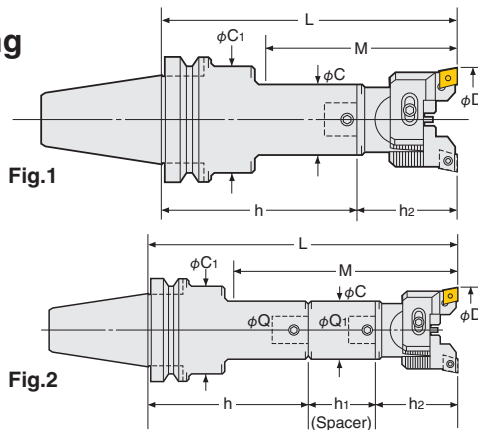


Rough Boring— For Heavy Duty Boring of Iron and Cast Iron  
CN Insert (Negative type)

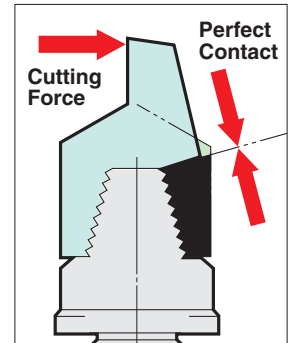


Heavy Duty Boring

RAC

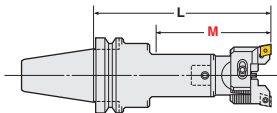


Power of Shoulder Support



TAPER	Code No.	Boring Range D	Boring Depth M	Coupling Dia Q	C	C <sub>1</sub>	Shank Code No.	Spacer Code No.	P.62		Weight (kg)	Fig
									Head Code No.	Tip No.		
No.40	BT40-RAC 43-150	43~55	97	20	40	50	BT40-Q20- 80	—	20-RAC 43- 70	CN08-C	2.7	1
	(IT40) -180		130				-Q20- 110	—			2.9	
	-210		157				-Q20- 80	SP20-20-60			3.2	
	-RAC 53-165	53~70	135	26	50	64	-Q26- 95	—	26-RAC 53- 70	CN08-C	2.5	1
	-210		180				-Q26-140	—			3.3	
	-225		195				-Q26- 95	SP26-26-60			3.2	
	-RAC 70-180		180				-Q34- 95	—			4.8	
	-195	70~100	195	34	64	64	-Q34-110	—	34-RAC 70- 85	CN08-C	5.2	1
	-240		240				-Q34- 95	SP34-34-60			6.2	
	-RAC100-195		100~130				195	42			83	

- ★“C” grade (Coated) inserts are supplied as standard with the head. P.62 Please refer P.106 for cutting condition.
- ★Please refer P.89 for base holder, P.90 for spacer and P.67 for head.
- ★For centre through coolant type, please add “-C” at the end of Code No. e.g. BT40-RAC53-165-C
- ★When L length is required longer than standard, please specify the boring depth M.



★Code No. of RAC25 and RAC32 with CC inserts are changed to RAC25E and RAC32E. Please refer P.59, P.60



High Pressure Coolant Through Tool

# BALANCE-CUT BORING ARBOR (RAC)

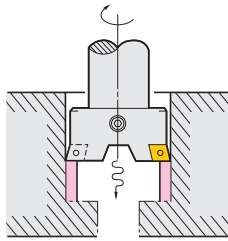


Balance cut boring bar executes boring in 2 cartridge inserts absorbing the vibration each other. The faster the feed rate, the better swarf ejection. This is ideal for rough and medium boring.

## Double Cutting Capability

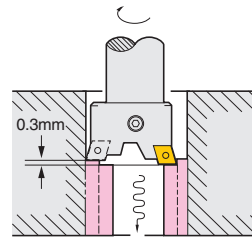
Please use RAC-K for through hole boring.

☞ P.65, P.66



## Example of 2 Stepped Balance Cut

Approx. double removal of below cutting condition is possible by **-0.3 Cartridge**.  
☞ P.68



TAPER	Code No.	Boring Range D	Boring Depth M	Coupling Dia Q	C	C <sub>1</sub>	Shank Code No.	Spacer Code No.	P.62		Weight (kg)	Fig
									Head Code No.	Tip No.		
No.50	<b>BT50-RAC 43-180</b>	43~ 55	97	20	40	60	BT50-Q20-110	—	20-RAC 43- 70	CN08-C	5.7	1
	(IT50) <b>-195</b>		130				-Q20-125				5.8	
	<b>-225</b>		142				-Q20-110				6.1	2
	<b>-240</b>		157				SP20-20-45				6.2	
	<b>-RAC 53-210</b>	53~ 70	117	26	50	65	-Q26-140	—	26-RAC 53- 70	CN08-C	6.9	1
	<b>-240</b>		182				-Q26-170N				7.0	
	<b>-270</b>		177				-Q26-140				7.6	2
	<b>-RAC 70-255</b>	70~100	205	34	64	80	-Q34-170	—	34-RAC 70- 85	CN08-C	9.5	1
	<b>-285</b>		235				-Q34-200				9.9	
	<b>-315</b>		265				-Q34-170				10.9	2
	<b>-RAC100-225</b>	100~130	225	42	83	83	-Q42-125	SP34-34-60	42-RAC100-100	CN08-C	12.5	1
	<b>-290</b>		290				-Q42-190				15.2	
	<b>-325</b>		325				-Q42-225A				16.5	2

★“C” grade (Coated) inserts are supplied as standard with the head. ☞ P.62 Please refer ☞ P.106 for cutting condition. ★Code No. of RAC25 and RAC32 with CC inserts are changed to RAC25E and RAC32E. Please refer ☞ P.59, P.60  
 ★Please refer ☞ P.89 for base holder, ☞ P.90 for spacer and ☞ P.67 for head.  
 ★For centre through coolant type, please add “-C” at the end of Code No. e.g. BT50-RAC53-210-C  
 ★BT50-RAC100-375, 425 and 475 are also available.

## Insert tip for RAC for Heavy Duty Boring

Material	Steel	●	
	Stainless Steel	●	
Material	Cast Iron	●	
	Aluminium	●	
		Coated Carbide M	
		Grade C	
		Material AC630M	
Applicable Arbor	Dimension	Code No.	Nose R
RAC43 - RAC530		CN08-○8	0.8 ●

Please add the grade indication into ○, and add the insert tip material indication at the end off the Code No. e.g. CC08-C8 (AC630M)

★Minimum order quantity : 10pcs.  
 ★When CN08 insert (CN○1204○○) in the market is used, please use the eccentric bolt type cartridge (S.RCC-○○Q) ☞ P.102. Nikken CN08-○8 insert can be used on the eccentric bolt type cartridge.

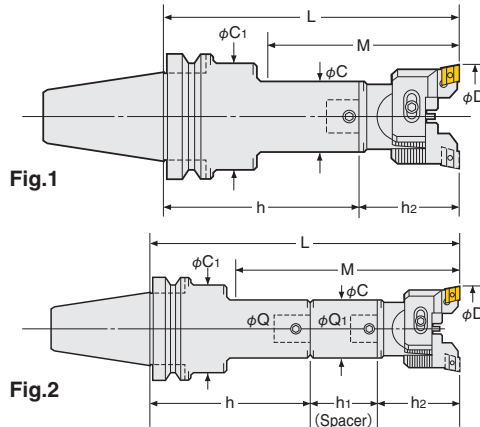
# BALANCE-CUT BORING ARBOR (RAC-A)

**NIKKEN**

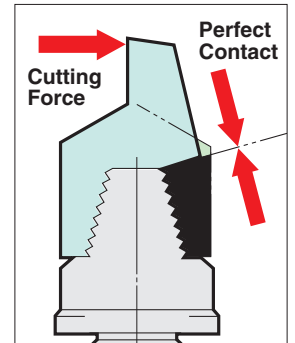
Rough Boring—For Aluminium



RAC-A

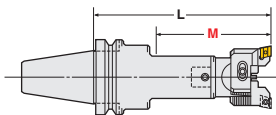


Power of Shoulder Support



TAPER	Code No.	Boring Range D	Boring Depth M	Coupling Dia Q	C	C <sub>1</sub>	Shank Code No.	Spacer Code No.	P.64		Weight (kg)	Fig
									Head Code No.	Tip No.		
No.40	BT40-RAC 25-135A	25~32	67	12	24	35	BT40-Q12- 80	—	12-RAC 25- 55A	AEG12	2.0	1
	(IT40) -165A		105				-Q12-110	—			2.1	
	-180A		112				-Q12- 80	SP12-12-45			2.1	
	-RAC 32-150A	32~45	77	16	31	42	-Q16- 95	—	16-RAC 32- 55A	AEG12	2.4	1
	-180A		110				-Q16-125	—			2.6	
	-195A		122				-Q16- 95	SP16-16-45			2.6	
	-RAC 43-150A	43~55	97	20	40	50	-Q20- 80	—	20-RAC 43- 70A	AEG16	2.7	1
	-180A		130				-Q20-110	—			2.9	
	-210A		157				-Q20- 80	SP20-20-60			3.2	
	-RAC 53-165A	53~70	135	26	50	50	-Q26- 95	—	26-RAC 53- 70A	AEG16	2.5	1
	-210A		180				-Q26-140	—			3.3	
	-225A		195				-Q26- 95	SP26-26-60			3.2	
	-RAC 70-180A	70~100	180	34	64	64	-Q34- 95	—	34-RAC 70- 85A	AEG16	4.8	1
	-195A		195				-Q34-110	—			5.2	
	-240A		240				-Q34- 95	SP34-34-60			6.2	
	-RAC100-195A	100~130	195	42	83	62	-Q42- 95	—	42-RAC100-100A	—	6.8	1

★“F” grade inserts are supplied as standard with the head. P.64 Please refer P.106 for cutting condition.  
 ★Please refer P.89 for base holder, P.90 for spacer and P.67 for head.  
 ★For centre through coolant type, please add “-C” at the end of Code No. e.g. BT40-RAC53-165A-C  
 ★When L length is required longer than standard, please specify the boring depth M.



High Pressure Coolant Through Tool

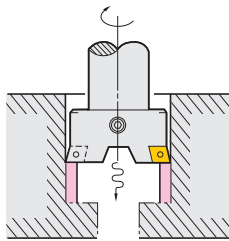


# BALANCE-CUT BORING ARBOR (RAC-A)

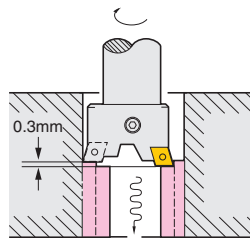


Balance cut boring bar executes boring in 2 cartridge inserts absorbing the vibration each other. The faster the feed rate, the better swarf ejection. This is Ideal for rough and medium boring.

## Double Cutting Capability



## Example of 2 Stepped Balance Cut



Approx. double removal of below cutting condition is possible by **-0.3 Cartridge**.  
 ☞ P.68

TAPER	Code No.	Boring Range D	Boring Depth M	Coupling Dia Q	C	C <sub>1</sub>	Shank Code No.	Spacer Code No.	P.64		Weight (kg)	Fig
									Head Code No.	Tip No.		
No.50	BT50-RAC 25-150A	25~ 32	67	12	24	44	BT50-Q12- 95	—	12-RAC 25- 55A	AEG12	4.7	1
	(IT50) -180A		105				-Q12-125	—			4.9	
	-195A		112				-Q12- 95	SP12-12-45			4.8	
	-RAC 32-180A	32~ 45	77	16	31	50	-Q16-125N	—	16-RAC 32- 55A	AEG12	5.4	1
	-210A		110				-Q16-155	—			5.6	
	-225A		122				-Q16-125N	SP16-16-45			5.6	
	-RAC 43-180A	43~ 55	97	20	40	60	-Q20-110	—	20-RAC 43- 70A	AEG16	5.7	1
	-195A		130				-Q20-125	—			5.8	
	-225A		142				-Q20-110	SP20-20-45			6.1	
	-240A		157				-Q20-110	SP20-20-60			6.2	
	-RAC 53-210A	53~ 70	117	26	50	65	-Q26-140	—	26-RAC 53- 70A	AEG16	6.9	1
	-240A		182				-Q26-170N	—			7.0	
	-270A		177				-Q26-140	SP26-26-60			7.6	
	-RAC 70-255A	70~100	205	34	64	80	-Q34-170	—	34-RAC 70- 85A	AEG16	9.5	1
	-285A		235				-Q34-200	—			9.9	
	-315A		265				-Q34-170	SP34-34-60			10.9	
	-RAC100-225A	100~130	225	42	83	83	-Q42-125	—	42-RAC100-100A	AEG16	12.5	1
	-290A		290				-Q42-190	—			15.2	
	-325A		325				-Q42-225A	—			16.5	

★“F” grade inserts are supplied as standard with the head. ☞ P.64 Please refer ☞ P.106 for cutting condition.  
 ★Please refer ☞ P.89 for base holder, ☞ P.90 for spacer and ☞ P.67 for head.  
 ★For centre through coolant type, please add “-C” at the end of Code No. e.g. BT50-RAC53-210A-C  
 ★BT50-RAC100-375A, 425A and 475A are also available.

## Insert tip for RAC-A

Material	Steel		Grade	Material
	Stainless Steel	Cast Iron		
	Aluminium		F	KW10
			Coated Carbide K	
Applicable Arbor	Dimension		Code No.	Material
RAC25A, RAC32A			AEG12-○1	0.1 ●
			AEG12-○2	0.2 ●
			AEG12-○4	0.4 ●
RAC43A-RAC530A			AEG16-○1	0.1 ●
			AEG16-○2	0.2 ●
			AEG16-○4	0.4 ●

Please add the grade indication into ○, and add the insert tip material indication at the end off the Code No.  
 e.g. AEG16-F2 (KW10)

★Minimum order quantity : 10pcs.

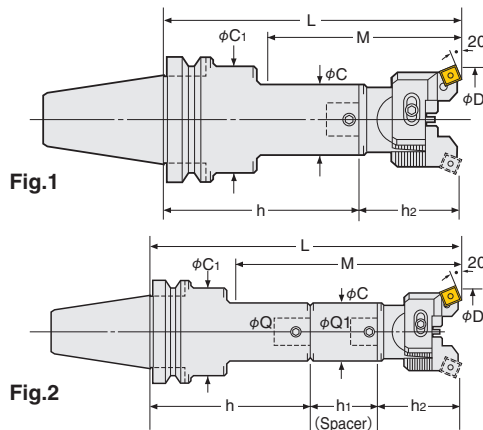
# BALANCE-CUT BORING ARBOR (RAC-K)



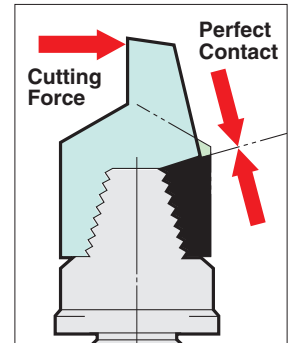
Rough Boring—For Through Hole and Multi Sheets



RAC-K

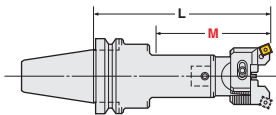


Power of Shoulder Support



TAPER	Code No.	Boring Range D	Boring Depth M	Cupling Dia Q	C	C <sub>1</sub>	Shank Code No.	Spacer Code No.	P.66		Weight (kg)	Fig
									Head Code No.	Tip No.		
No.40	BT40-RAC 25-135K	25~32	67	12	24	35	BT40-Q12- 80	—	12-RAC 25- 55K	SC09	2.0	1
	(IT40) -165K		105				-Q12-110				2.1	
	-180K		112				-Q12- 80				SP12-12-45	
	-RAC 32-150K	32~45	77	16	31	42	-Q16- 95	—	16-RAC 32- 55K	SC12	2.4	1
	-180K		110				-Q16-125				2.6	
	-195K		122				-Q16- 95				SP16-16-45	
	-RAC 43-150K	43~55	97	20	40	50	-Q20- 80	—	20-RAC 43- 70K	SC12	2.7	1
	-180K		130				-Q20-110				2.9	
	-210K		157				-Q20- 80				SP20-20-60	
	-RAC 53-165K	53~70	135	26	50	64	-Q26- 95	—	26-RAC 53- 70K	SC12	2.5	1
	-210K		180				-Q26-140				3.3	
	-225K		195				-Q26- 95				SP26-26-60	
	-RAC 70-180K	70~100	180	34	64	64	-Q34- 95	—	34-RAC 70- 85K	SC12	4.8	1
	-195K		195				-Q34-110				5.2	
	-240K		240				-Q34- 95				SP34-34-60	
	-RAC100-195K	100~130	195	42	83	62	-Q42- 95	—	42-RAC100-100K	SC12	6.8	1

★“C” grade (Coated) inserts are supplied as standard with the head. P.66 Please refer P.106 for cutting condition.  
 ★Please refer P.89 for base holder, P.90 for spacer and P.67 for head.  
 ★For centre through coolant type, please add “-C” at the end of Code No. e.g. BT40-RAC53-165K-C  
 ★When L length is required longer than standard, please specify the boring depth M.



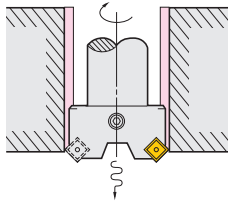
High Pressure Coolant Through Tool

# BALANCE-CUT BORING ARBOR (RAC-K)

**NIKKEN**

Balance cut boring bar executes boring in 2 cartridge inserts absorbing the vibration each other. The faster the feed rate, the better swarf ejection. This is Ideal for rough and medium boring.

## Double Cutting Capability



TAPER	Code No.	Boring Range D	Boring Depth M	Coupling Dia Q	C	C <sub>1</sub>	Shank Code No.	Spacer Code No.	P.66		Weight (kg)	Fig
									Head Code No.	Tip No.		
No.50	BT50-RAC 25-150K	25~ 32	67	12	24	44	BT50-Q12- 95	—	12-RAC 25- 55K	SC09	4.7	1
	(IT50) -180K		105				-Q12-125				4.9	
	-195K		112				-Q12- 95				4.8	2
	-RAC 32-180K	32~ 45	77	16	31	50	-Q16-125N	—	16-RAC 32- 55K	SC09	5.4	1
	-210K		110				-Q16-155				5.6	
	-225K		122				-Q16-125N				5.6	2
	-RAC 43-180K	43~ 55	97	20	40	60	-Q20-110	—	20-RAC 43- 70K	SC12	5.7	1
	-195K		130				-Q20-125				5.8	
	-225K		142				-Q20-110				6.1	2
	-240K		157				SP20-20-45 SP20-20-60				6.2	
	-RAC 53-210K	53~ 70	117	26	50	65	-Q26-140	—	26-RAC 53- 70K	SC12	6.9	1
	-240K		182				-Q26-170N				7.0	
	-270K		177				-Q26-140				7.6	2
	-RAC 70-255K	70~100	205	34	64	80	-Q34-170	—	34-RAC 70- 85K	SC12	9.5	1
	-285K		235				-Q34-200				9.9	
	-315K		265				-Q34-170				10.9	2
	-RAC100-225K	100~130	225	42	83	83	-Q42-125	—	42-RAC100-100K	SC12	12.5	1
	-290K		290				-Q42-190				15.2	
	-325K		325				-Q42-225A				16.5	2

★“C” grade (Coated) inserts are supplied as standard with the head. P.66 Please refer P.106 for cutting condition.

★Please refer P.89 for base holder, P.90 for spacer and P.67 for head.

★For centre through coolant type, please add “-C” at the end of Code No. e.g. BT50-RAC53-210K-C

★BT50-RAC100-375K, 425K and 475K are also available.

## Insert tip for RAC-K

● : best ○ : good

Material	Steel	●	○		
	Stainless Steel	●	○		
Material	Cast Iron	○	●		
	Aluminium	○	○		
Applicable Arbor	Dimension	Code No.	Nose R	Coated Carbide M	Coated Carbide K
				Grade	C
Applicable Arbor	Dimension	Code No.	Nose R	Material	Material
				AC630M	AC410K
RAC25K, RAC32K		SC09-○4	0.4	●	●
RAC43K-RAC100K		SC12-○8	0.8	●	●

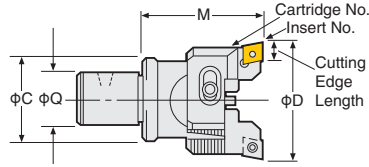
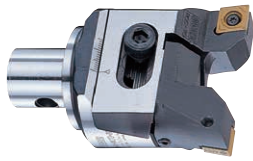
Please add the grade indication into ○, and add the insert tip material indication at the end of the Code No. e.g. SC12-C8 (AC630M)

★Minimum order quantity : 10pcs.

# MODULAR TYPE RAC BORING HEAD

**NIKKEN**

## RAC-E Balance-Cut Boring Head



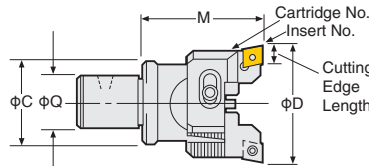
For Steel, Stainless Steel and Cast Iron  
CC Insert (Positive type)

**P.60**

Head Code No.	Boring Range D	Boring Depth M	Coupling Dia Q	C	Cartridge No.	Insert No.	Cutting Edge Length	Weight (kg)
12-RAC 25 - 55E	25 ~ 32	55	12	24	RCC-025E	CC07	8.0	0.4
16-RAC 32 - 55E	32 ~ 45		16	31	RCC-32E	CC08	9.7	0.5
20-RAC 43 - 70E	43 ~ 55	70	20	40	RCC-43E	CC12	12.9	0.7
26-RAC 53 - 70E	53 ~ 70		26	50	RCC-53E			0.8
26-RAC 70 - 70E*	70 ~ 100		26	50	RCC-70E			1.0
34-RAC 70 - 85E	70 ~ 100	85	34	64				1.5
42-RAC100 -100E	100 ~ 130	100	42	83	RCC-100E			2.9

★Code No. of RAC25 and RAC32 with CC inserts are changed to RAC25E and RAC32E. ★Insert tips are supplied as an option. P.60 Please refer P.106 for cutting condition.  
★For centre through coolant type, please add "-C" at the end of Code No. e.g. 26-RAC53-70E-C \*Mark : 26-RAC70-70E is not available with oil hole specification.

## RAC Balance-Cut Boring Head



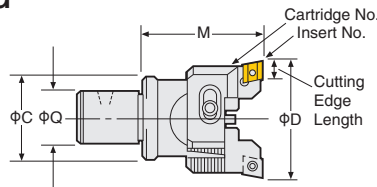
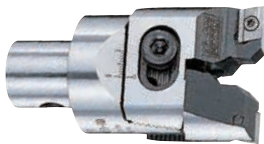
For Heavy Duty Boring of Iron and Cast Iron  
CN Insert (Negative type)

**P.62**

Head Code No.	Boring Range D	Boring Depth M	Coupling Dia Q	C	Cartridge No.	Insert No.	Cutting Edge Length	Weight (kg)
20-RAC 43 - 70	43 ~ 55	70	20	40	RCC-43	CN08	12.9	0.7
26-RAC 53 - 70	53 ~ 70		26	50	RCC-53			0.8
26-RAC 70 - 70*	70 ~ 100	26	50	RCC-70	1.0			
34-RAC 70 - 85	70 ~ 100	85	34	64				1.5
42-RAC100 -100	100 ~ 130	100	42	83	RCC-100			2.9

★Insert tips are supplied as an option. P.62 Please refer P.106 for cutting condition.  
★For centre through coolant type, please add "-C" at the end of Code No. e.g. 26-RAC53-70-C \*Mark : 26-RAC70-70 is not available with oil hole specification.

## RAC-A Balance-Cut Boring Head



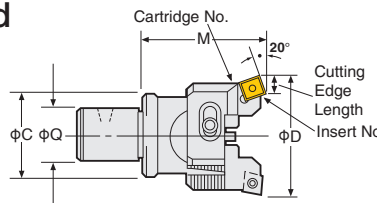
For Aluminum

**P.64**

Head Code No.	Boring Range D	Boring Depth M	Coupling Dia Q	C	Cartridge No.	Insert No.	Cutting Edge Length	Weight (kg)
12-RAC 25 - 55A	25 ~ 32	55	12	24	RAC-25A	AEG12	9.5	0.4
16-RAC 32 - 55A	32 ~ 45		16	31	RAC-32A			0.5
20-RAC 43 - 70A	43 ~ 55	70	20	40	RAC-43A	AEG16	15.875	0.7
26-RAC 53 - 70A	53 ~ 70		26	50	RAC-53A			0.8
26-RAC 70 - 70A*	70 ~ 100		26	50	RAC-70A			1.0
34-RAC 70 - 85A	70 ~ 100	85	34	64				1.5
42-RAC100 -100A	100 ~ 130	100	42	83	RAC-100A			2.9

★Insert tips are supplied as an option. P.64 Please refer P.106 for cutting condition.  
★For centre through coolant type, please add "-C" at the end of Code No. e.g. 26-RAC53-70A-C \*Mark : 26-RAC70-70A is not available with oil hole specification.

## RAC-K Balance-Cut Boring Head



For Through Hole and Multi Sheets

**P.66**

Head Code No.	Boring Range D	Boring Depth M	Coupling Dia Q	C	Cartridge No.	Insert No.	Cutting Edge Length	Weight (kg)
12-RAC 25 - 55K	25 ~ 32	55	12	24	RAC-25K	SC09	7.4	0.4
16-RAC 32 - 55K	32 ~ 45		16	31	RAC-32K			0.5
20-RAC 43 - 70K	43 ~ 55	70	20	40	RAC-43K	SC12	11.9	0.7
26-RAC 53 - 70K	53 ~ 70		26	50	RAC-53K			0.8
26-RAC 70 - 70K*	70 ~ 100		26	50	RAC-70K			1.0
34-RAC 70 - 85K	70 ~ 100	85	34	64				1.5
42-RAC100 -100K	100 ~ 130	100	42	83	RAC-100K			2.9

★Insert tips are supplied as an option. P.66 Please refer P.106 for cutting condition.  
★For centre through coolant type, please add "-C" at the end of Code No. e.g. 26-RAC53-70K-C \*Mark : 26-RAC70-70K is not available with oil hole specification.

BT

# CARTRIDGE for RAC BORING HEAD



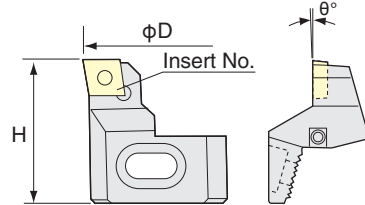
B1

RAC Base ( ) is common for all types of cartridges.  
Please select suitable cartridge and insert tip for your application such as material and machining.

For Steel, Stainless Steel and Cast Iron  
CC Insert (Positive type)



S.RCC-E Cartridge



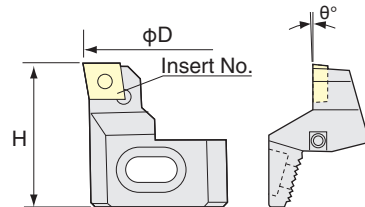
Set Code No.	Boring Range D	H	θ	Insert Code No.	
				Steel, Stainless Steel	Cast Iron
S.RCC- 25E	25 ~ 32	41	0°	CC08-C (AC630M)	CC08-C (AC410K)
				CC07-C (AC630M)	CC07-C (AC410K)
- 32E	32 ~ 45	41	+3°	CC08-C (AC630M)	CC08-C (AC410K)
- 43E	43 ~ 55	46		CC12-C (AC630M)	CC12-C (AC410K)
- 53E	53 ~ 70	50			
- 70E	70 ~ 100	55			
-100E	100 ~ 130	57			

★Code No. of RAC25 and RAC32 with CC inserts are changed to RAC25E and RAC32E.  
★Insert tips are supplied as an option. P.60 Please refer P.106 for cutting condition.  
★Please order set of cartridges. e.g S.RCC-70E  
★2 stepped balance cut with H=0.3 cartridge is also available. e.g. S.RCC-70E (0.3)

For Heavy Duty Boring of Iron and Cast Iron  
CN Insert (Negative type)



S.RCC Cartridge

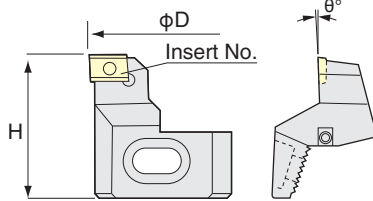


Set Code No.	D	H	θ	Insert Code No.	
				Iron and Cast Iron	
S.RCC- 43	43 ~ 55	46	-3°	CN08	
- 53	53 ~ 70	50			
- 70	70 ~ 100	55			
-100	100 ~ 130	57			

★Insert tips are supplied as an option. P.62 Please refer P.106 for cutting condition.  
★Please order set of cartridges. e.g S.RCC-70  
★When CN08 insert (CN00120400) in the market is used, please use the eccentric bolt type cartridge (S.RCC-00Q) P.102. Nikken CN08-08 insert can be used on the eccentric bolt type cartridge.

For Aluminum

S.RCC-A Cartridge

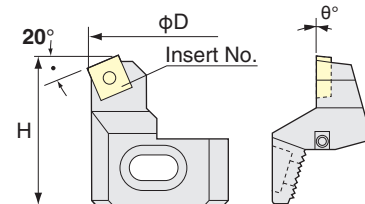


Set Code No.	D	H	θ	Insert Code No.	
				For Aluminum	
S.RCC- 25A	25 ~ 32	38	+6°	AEG12	
- 32A	32 ~ 45	41			
- 43A	43 ~ 55	46		AEG16	
- 53A	53 ~ 70	50			
- 70A	70 ~ 100	55			
-100A	100 ~ 130	57			

★Insert tips are supplied as an option. P.64 Please refer P.106 for cutting condition.  
★Please order set of cartridges. e.g S.RCC-70A  
★2 stepped balance cut with H=0.3 cartridge is also available. e.g. S.RCC-70A (0.3)  
★S.RCC-A cartridge can be used for the bottom face finishing of iron and cast iron.

For Through Hole and Multi Sheets

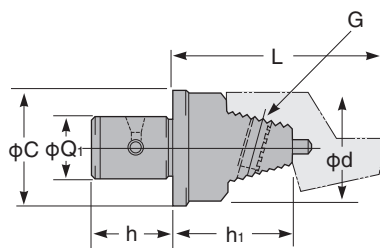
S.RCC-K Cartridge



Set Code No.	D	H	θ	Insert Code No.	
				Steel, Stainless Steel	Cast Iron
S.RCC- 25K	25 ~ 32	41	0°	SC09-C (AC630M)	SC09-C (AC410K)
- 32K	32 ~ 45	41		SC12-C (AC630M)	SC12-C (AC410K)
- 43K	43 ~ 55	46			
- 53K	53 ~ 70	50			
- 70K	70 ~ 100	55			
-100K	100 ~ 130	57			

★Insert tips are supplied as an option. P.66 Please refer P.106 for cutting condition.  
★Please order set of cartridges. e.g S.RCC-70E

## Dimension of RAC Base



Code No.	Boring Range	h	h <sub>1</sub>	C	G	d
	D					
12-RAC 25- 55B	25~33	18	31	24	M5	23
12-RAC025- 55B						
16-RAC 32- 55B	32~45	22	31	31	M6	30
20-RAC 43- 70B	43~55	24	42	40		
26-RAC 53- 70B	53~70	28	40	50	M8	45
26-RAC 70- 70B*						
34-RAC 70- 85B	70~100	36	53	64		60
42-RAC100-100B						42

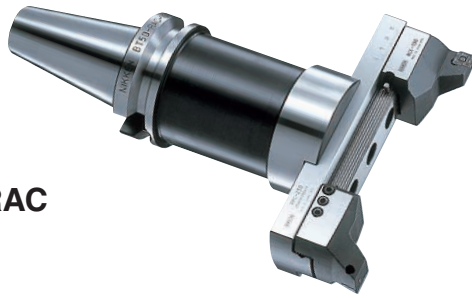
★Dimension "L" is "58mm" in combination of RCC-25K and 12-RAC25-55B.  
\*For centre through coolant type except 26-RAC70-70B,  
please add "-C" at the end of Code No. e.g. 34-RAC70-85B-C

# BALANCE-CUT RAC BORING ARBOR for LARGE DIA.

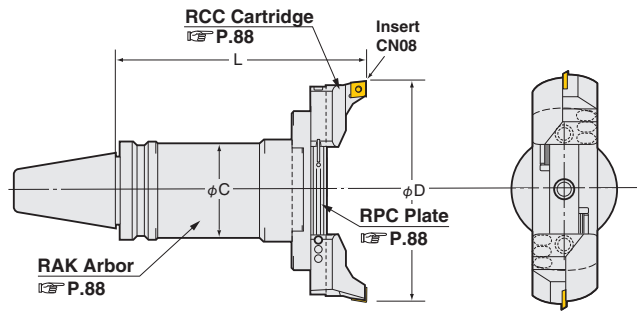
**NIKKEN**

**For Roughing**

- With the screws for slight adjustment
- Boring Dia. :  $\phi 130 \sim \phi 580\text{mm}$



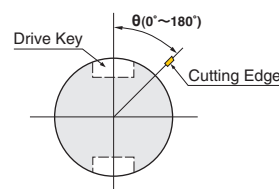
RAC



Boring Dia. :  $\phi 130 \sim 580\text{mm}$

TAPER	Code.No	D		L	C	RAK Arbor Code No.	RPC Plate No.	RCC Cartridge No.	Weight (kg)	
		MIN.	MAX.							
No.40	BT40-RAC130-205	130	180	205	61	BT40-RAK-130A	RPC-130	For Heavy Duty Boring of Iron and Cast Iron RCC-130 x2 Insert Tip CN08	7.0	
	(IT40)-RAC180-205	180	230				-180		8.0	
	No.50	BT50-RAC130-185	130	180	185	90	BT50-RAK-110A		RPC-130	9.8
		(IT50)-235			235		-160A			12.5
		-285			285		-210A			15.2
		-335			335		-260A			17.9
		-385			385		-310A			20.6
		-435			435		-360A			23.3
		-485			485		-410A			26.0
		-RAC180-185			180		230			185
-235		235	-160A	13.1						
-285		285	-210A	15.8						
-335		335	-260A	18.5						
-385		385	-310A	21.2						
-435		435	-360A	23.9						
-485		485	-410A	26.6						
-RAC230-185		230	280	185				-RAK-110A	RPC-230	11.1
-235				235	-160A		13.8			
-285				285	-210A		16.5			
-335				335	-260A		19.2			
-385				385	-310A		21.9			
-435				435	-360A		24.6			
-485	485			-410A	27.3					
-RAC280-185	280			330	185	-RAK-110A	RPC-280	11.7		
-235		235	-160A		14.4					
-285		285	-210A		17.1					
-335		335	-260A		19.8					
-385		385	-310A		22.5					
-435		435	-360A		25.2					
-485		485	-410A		27.9					
-RAC330-210*		330	380		210 (220*)	98		BT50-RAK330-125	RPC-330	16.0
-RAC380-210*	380	430	I T50-RAK330-135	-380			17.0			
-RAC430-210*	430	480	-430	18.0						
-RAC480-210*	480	530	-480	19.0						
-RAC530-210*	530	580	-530	20.0						

- ★The Code No. on above table are the boring arbors with RCC-130 cartridge (Insert tip: CN08) the Heavy Duty Boring of Iron and Cast Iron. Please refer P.106 for cutting condition.
- ★Boring arbor with cartridges & insert for Steel, Stainless Steel and Cast Iron (E), for Aluminum (A) and for Through Hole & Multi Sheets (K) are available. e.g. BT50-RAC130-185E
- ★Please refer P.70 for RAK arbor and RPC plate.
- ★Arbor, plate and cartridges are delivered in separate packages.
- ★Please check the interference of the arbor with your M/C not to occur the interference in the tool magazine.
- ★The location of the cutting edge is same as the drive key for standard. The different location is available, please specify  $\theta$ . e.g. BT50-RAC180-235 (90°)
- ★For centre through coolant type, please add "C" at the end of Code No. e.g. BT50-RAC130-185-C
- ★The boring arbors marked \* with IT50, L (gauge length) is 220. e.g. IT50-RAC330-220



View from Cutting Edge



High Pressure Coolant Through Tool

# MODULAR TYPE ARBOR



## BALANCE CUT RAK BORING ARBOR for LARGE DIA. <RAK Arbor>



RAK

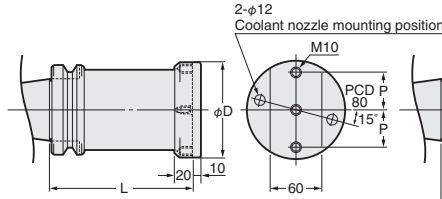


Fig.1

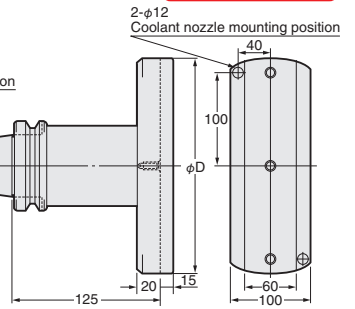


Fig.2

Code No.	Boring Range	L	D	P	Weight (kg)	Applicable RPC Plate	Hex. Socket bolt	Fig.
BT40-RAK-130A (IT40)	130~230	130	102	35	4.9	RPC-130, 180	M1035	1
BT50-RAK-110A	130~330	110			7.2	RPC-130, 180, 230, 280		
(IT50)-RAK-160A		160			9.9			
-RAK-210A		210			12.6			
-RAK-260A		260			15.3			
-RAK-310A		310			18.0			
-RAK-360A		360			20.7			
-RAK-410A	410	23.4						
-RAK330-125*	330~580	125	240	100	12.0	RPC-330, 380, 430, 480, 530	M1045	2

★The location of the cutting edge is same as the drive key for standard. The different location is available, please specify θ. e.g. BT50-RAK-160A (90°)

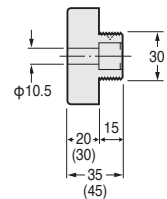
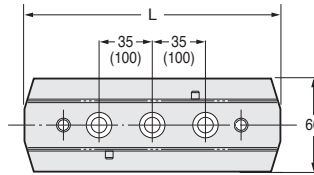
★For centre through coolant type, please add "-C" at the end of Code No. e.g. BT50-RAK-160A-C 2 set of coolant nozzles are standard accessory.

★Code No of coolant nozzle is 9RAK-NZL-L59.

★IT40-RAK-130 is available. ★\* : In case of IT50, IT50-RAK-330-135 is standard gauge length.



## BALANCE CUT PLATE for LARGE DIA. <RPC Plate>



Dimensions in ( ) are for RPC-330, 380, 430, 480 and 530.

Code No.	Boring Range	L	Weight (kg)	Code No.	Boring Range	L	Weight (kg)	Code No.	Boring Range	L	Weight (kg)
RPC-130	φ130~180	118	1.4	RPC-330	φ330~380	316	5.3	RPC-530	φ530~580	516	8.7
-180	φ180~230	166	2.0	-380	φ380~430	366	6.1				
-230	φ230~280	216	2.7	-430	φ430~480	416	7.0				
-280	φ280~330	266	3.3	-480	φ480~530	466	7.9				

## Accessories for Balance-Cut RAC

Steel, Stainless Steel and Cast Iron

RCC-130 (CN08)



Heavy Duty Boring of Iron and Cast Iron

RCC-130E (CC12)



For aluminum

RCC-130A (AEG16)



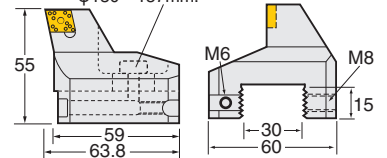
For Through Hole and Multi Sheets

RCC-130K (SC12)



Cartridge Lock Bolt

Please remove the bolt when using RAC-130 type for φ130~157mm.



Weight : 0.6kg

Accessories	Insert Tip	Clamp Bolt	Adjust Screw	Adjust Wrench	Wrench for Insert	Set Screw (M8)	Wrench for M815 Bolt	Hex Socket Bolt	Applicable RPC Plate
Code No.	*	CSM-70	M540	M3	20S	M815	M4	M625	RPC-130, 180, 230, 280, 330, 380, 430, 480, 530

★\* : The insert tip is RCC-130: CN08 (P.62), RCC-130E: CC12 (P.60), RCC-130A: AEG16 (P.64), RCC-130K: SC12 (P.66) Please refer P.106 for cutting condition.

★There are two different types clamping system. One is eccentric system, the other is screw on system. Above parts are for screw on system.

★Code No. RCC-130 indicates a single cartridge. When ordering a pair cartridge, please appoint to us Code No. S.RCC-130.

★The Code No. of the cartridges for 2 stepped balance cut is S.RCC-130-0.3

# ZMAC ADVANCED BORING ARBOR (ZMAC-V)



## Boring for Finishing



ZMAC-V

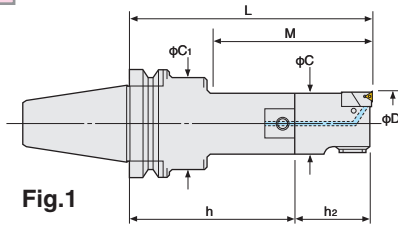


Fig.1

Only for ZMAC16-V

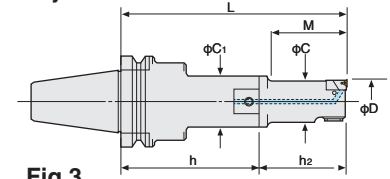


Fig.3

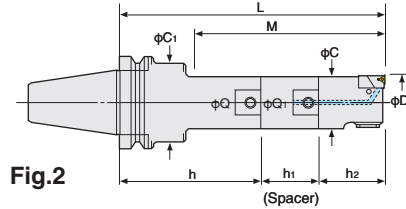


Fig.2

ZMAC100-V, 140-V

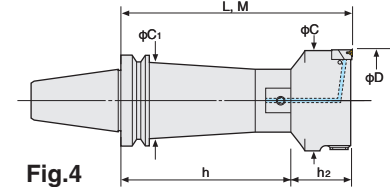


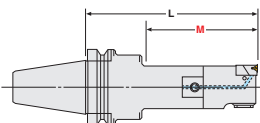
Fig.4

Code No. of the insert tip are shown.

JAPAN PAT.

TAPER	Code No.	Boring Range D	Boring Depth M	C	C1	Shank Code No.	Extension Spacer Code No.	P.109		Weight (kg)	Fig.		
								Head No.	Insert No.				
						BT No.-Q-h	Q-Q1-h1	Q- Min.D -h2					
No.40	BT40-ZMAC16 -125V	15.9~20.2	38	15	24	BT40-Q12- 80	-	-	12-ZMAC16-45V	3MP-C,B	1.9	3	
	(IT40) -135V		48						12-ZMAC16-55V				
	-ZMAC20 -120V	19.8~25.2	45	19	30	-Q 9- 80	-	-	9-ZMAC20-40V	4MP-C,B	1.9	1	
	-135V		67						-Q 9- 95N		1.9		
	-150V		75						-Q 9- 80		2.0		2
	-ZMAC25 -120V	24.8~32.2	52	24	35	-Q12- 80	-	-	12-ZMAC25-40V	6MP-C,B	2.0	1	
	-150V		90						-Q12-110		2.1		
	-165V		97						-Q12- 80		2.1		2
	-ZMAC32 -150V		77						-Q16- 95		16-ZMAC32-55V		4MP-C,B
	-180V	110	-Q16-125	2.7									
	-195V	122	-Q16- 95	2.7	2								
	-ZMAC42 -150V	41.8~55.2	97	40	50	-Q20- 80	-	-	20-ZMAC42-70V	6MP-C,B	3.0	1	
	-180V		130						-Q20-110		3.2		
	-210V		157						-Q20- 80		3.5		2
	-ZMAC55 -165V		135						-Q26- 95		26-ZMAC55-70V		6MP-C,B
	-210V	180	-Q26-140	4.6									
	-225V	195	-Q26- 95	4.6	2								
	-ZMAC70 -165V	165	-Q34- 95	34-ZMAC70-70V	6MP-C,B	5.4	1						
	-180V	180	-Q34-110			5.8							
	-225V	225	-Q34- 95			6.8		2					
-ZMAC85 -195V	84.8~100.2	195	83	62	-Q42- 95	-	-	42-ZMAC85-100V		9.0	1		

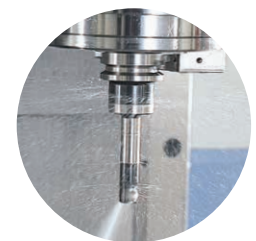
- ★MIN. dial readout : ZMAC25-V & smaller is 0.02mm on diameter. ZMAC32-V and larger are 0.01mm on diameter.
- ★“C” grade (Coated) insert for Steel, Stainless & Cast Iron is supplied as Standard with the head (Smooth boring & Long tool-life). Please refer P.107 for cutting condition. We would recommend “B” grade (CBN) insert for Hardened Steel & High Speed boring of Cast Iron.
- ★Please refer P.89, P.90 for Shank & Spacer, and P.75, P.76 for Head.
- ★Centre Through Coolant function is available as standard.
- ★For BT30, modular connection system is applied. Please refer P.90 for Base Holder.
- ★When L length is required longer than standard, please specify boring depth M.



■ Boring Arbor with Extension Spacer

■ ZMAC-V for Multi-Task Boring Bar

Please contact us for the special boring bar.



High Pressure Coolant Through Tool





# ZMAC ADVANCED BORING ARBOR (ZMAC-V)



■ With ZMAC $\alpha$ -V Boring Head  
Please add "AA" at the end of Code No.  
e.g. BT40-ZMAC42-150AAV



ZMAC $\alpha$ -V

Diameter can be adjusted easily and quickly by new handle with wrench.



Unlock

Adjust diameter

Lock

Code No. of the insert tip are shown.

JAPAN PAT.

TAPER	Code No.	Boring Range D	Boring Depth M	C	C <sub>1</sub>	Shank Code No.	Extension Spacer Code No.	P109		Weight (kg)	Fig.	
								Head No.	Insert No.			
								Q- Min.D -h <sub>2</sub>				
No.50	BT50-ZMAC16 -140V (IT50) -150V	15.9~20.2	38	15	24	BT50-Q12- 95	—	12-ZMAC16-45V	3MP-C,B	4.7	3	
	12-ZMAC16-55V		4.7									
	-ZMAC20 -150V	19.8~25.2	45	19	40	-Q 9-110	9-ZMAC20-40V	3MP-C,B	4.8	1		
	-165V		67			-Q 9-125N					4.8	
	-180V		75			-Q 9-110					SP9-9-30	4.9
	-ZMAC25 -135V	24.8~32.2	52	24	44	-Q12- 95	12-ZMAC25-40V	4.8	1			
	-165V		90			-Q12-125				4.8		
	-180V		97			-Q12- 95				SP12-12-45	4.9	2
	-ZMAC32 -180V	31.8~42.2	77	31	50	-Q16-125N	16-ZMAC32-55V	4MP-C,B	5.5	1		
	-210V		110			-Q16-155					5.6	
	-225V		122			-Q16-125N					SP16-16-45	5.7
	-ZMAC42 -180V	41.8~55.2	97	40	60	-Q20-110	20-ZMAC42-70V	6MP-C,B	6.0	1		
	-195V		130			-Q20-125					6.0	
	-225V		142			-Q20-110					SP20-20-45	6.4
	-240V		157			SP20-20-60					6.5	
	-ZMAC55 -210V		54.8~70.2			117					53	65
	-240V	182		-Q26-170N	7.6							
	-270V	177		-Q26-140	SP26-26-60	8.1	2					
	-ZMAC70 -240V	69.8~85.2	190	67	80	-Q34-170	34-ZMAC70-70V	10.0	1			
	-270V		220			-Q34-200				10.6		
	-300V		250			-Q34-170				SP34-34-60	11.5	2
	-ZMAC85 -225V	84.8~100.2	182	83	83	-Q42-125	42-ZMAC85-100V	12.5	1			
	-290V		247			-Q42-190				15.0		
	-315V		272			-Q42-125				SP42-42-90	16.0	2
	-ZMAC100-225V	99.5~140.5	225	95	98	-Q42-125	42-ZMAC100-100V	12.4	4			
	-290V		290			-Q42-190				15.1		
	-325V		325			-Q42-225A				17.8		
	-375V		375			-Q42-275A				20.5		
	-425V		425			-Q42-325A				23.2		
	-ZMAC140-225V	139.5~180.5	225	135	98	-Q42-125	42-ZMAC140-100V	13.8	4			
-290V	290		-Q42-190			16.5						
-325V	325		-Q42-225A			19.2						
-375V	375		-Q42-275A			21.9						
-425V	425		-Q42-325A			24.6						

★MIN. dial readout : ZMAC25-V & smaller is 0.02mm on diameter. ZMAC32-V and larger are 0.01mm on diameter.  
★When L length is required longer than standard, please specify boring depth M. ★Centre Through Coolant function is available as standard.  
★"C" grade (Coated) insert for Steel, Stainless&Cast Iron is supplied as Standard with the head (Smooth boring & Long tool-life). P.109  
We would recommend "B" grade (CBN) insert for Hardened Steel & High Speed boring of Cast Iron. Please refer P.107 for cutting condition.  
★Please refer P.89, P90 for Shank & Spacer, and P.75, P.76 for Head.

BT

# ZMAC ADVANCED BORING ARBOR (ZMAC-VR)



## Boring for Semi-Finishing—ZMAC-VR



ZMAC-VR

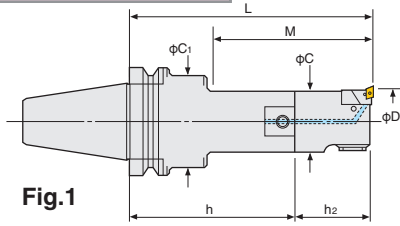


Fig.1

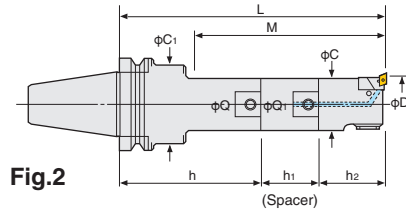


Fig.2

ZMAC100-VR, 140-VR

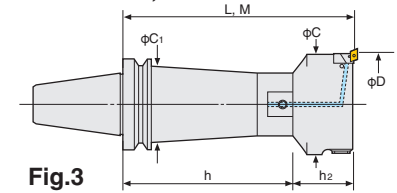








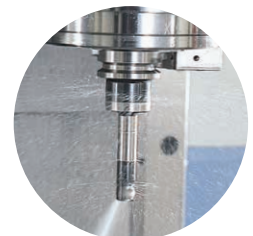
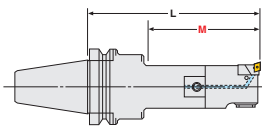
Fig.3

Code No. of the insert tip  are shown.

JAPAN PAT.

TAPER	Code No.	Boring Range D	Boring Depth M	C	C <sub>1</sub>	Shank Code No.	Extension Spacer Code No.	P.74		Weight (kg)	Fig.	
								Head No.	Insert No.			
						BT No.-Q-h	Q-Q <sub>1</sub> -h <sub>1</sub>	Q- Min.D -h <sub>2</sub>				
No.40	BT40-ZMAC32R -150V	31.8~42.2	77	31	42	BT40-Q16- 95	—	16-ZMAC32R-55V	CC06-C	2.5	1	
	(IT40) -180V		110			-Q16-125				2.7		
	-195V		122			-Q16- 95				2.7		
		-ZMAC42R -150V	41.8~55.2	97	40	50	-Q20- 80	—	20-ZMAC42R-70V	CC06-C	3.0	1
	-180V	130		-Q20-110			3.2					
	-210V	157		-Q20- 80			3.5					
		-ZMAC55R -165V	54.8~70.2	135	53	50	-Q26- 95	—	26-ZMAC55R-70V	CC06-C	3.9	1
	-210V	180		-Q26-140			4.6					
	-225V	195		-Q26- 95			4.6					
		-ZMAC70R -165V	69.8~85.2	165	67	64	-Q34- 95	—	34-ZMAC70R-70V	CC08-C	5.4	1
	-180V	180		-Q34-110			5.8					
	-225V	225		-Q34- 95			6.8					
	-ZMAC85R -195V	84.8~100.2	195	83	62	-Q42- 95	—	42-ZMAC85R-100V		9.0	1	

- ★MIN. dial readout : ZMAC25-VR & smaller is 0.02mm on diameter. ZMAC32-VR and larger are 0.01mm on diameter.
- ★“C” grade (Coated) insert for Steel, Stainless & Cast Iron is supplied as Standard with the head (Smooth boring & Long tool-life).  P.74 Please refer  P.107 for cutting condition. We would recommend “B” grade (CBN) insert for Hardened Steel & High Speed boring of Cast Iron.
- ★Please refer  P.90, P.91 for Shank & Spacer, and  P.75, P.76 for Head.
- ★Centre Through Coolant function is available as standard.
- ★For BT30, modular connection system is applied. Please refer  P.90 for Base Holder.
- ★When L length is required longer than standard, please specify boring depth M.



 Boring Arbor with Extension Spacer

 ZMAC-V for Multi-Task Boring Bar

High Pressure Coolant Through Tool

Please contact us for the special boring bar.

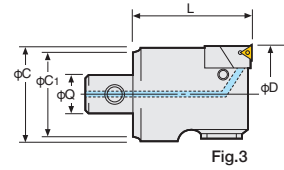
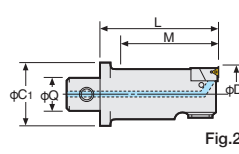
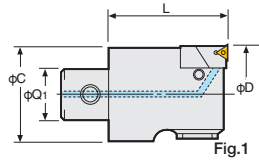




# MODULAR TYPE ZMAC ADVANCED BORING HEAD **NIKKEN**

BT

## ZMAC-V Triangular Insert type head





JAPAN PAT. 

Head No.	Boring Range D	Boring Depth M	Coupling Dia. Q	Remarks					Weight (kg)	
				C	C1	Unit No.	Insert No.	Fig.		
12-ZMAC 16- 45V	15.9~20.2	38	12	15	24	M 2HZ- 16V	3MP-C,B	2	0.4	
12-ZMAC 16- 55V		48							0.4	
9-ZMAC 20- 40V	19.8~25.2	40	9	19	24	M 2HZ- 20V	4MP-C,B	1	0.4	
12-ZMAC 25- 40V	24.8~32.2		12			M 3HZ- 25V			0.5	
16-ZMAC 32- 55V	31.8~42.2	55	16	31	-	M 4HZ- 32V	6MP-C,B	1	0.7	
20-ZMAC 42- 70V	41.8~55.2	20	40	M 5HZ- 42V		1.1				
26-ZMAC 55- 70V	54.8~70.2	70	26	53	-	M 5HZ- 55V	6MP-C,B	1	1.2	
34-ZMAC 70- 70V	69.8~85.2		34	67		M 7HZ- 70V			2.0	
42-ZMAC 85-100V	84.8~100.2	100	42	83	-	M10HZ- 85V	6MP-C,B	1	4.3	
42-ZMAC100-100V	99.5~140.5			95		83			M10HZ-100V	4.9
42-ZMAC140-100V	139.5~180.5			135					M10HZ-140V	6.3

★MIN. dial readout: ZMAC25-V and smaller is 0.02mm on dia.

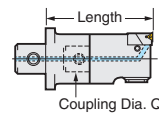
ZMAC32-V and larger is 0.01mm on dia.

★The above boring ranges are based on heads with Nose/R 0.2 insert.

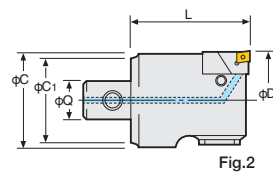
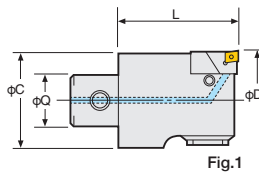
★“C” grade (Coated) insert for Steel, Stainless & Cast Iron is supplied as Standard with the head (Smooth boring & Long tool-life) .  P.109 Please refer  P.107 for cutting condition. We would recommend “B” grade (CBN) insert for Hardened Steel & High Speed boring of Cast Iron.

★Centre Through Coolant function is available as standard.

★Code No. of the set with SP26 stepped spacer is Q26-Coupling Dia.-ZMAC○-LengthV e.g. Q26-20-ZMAC42-100V



## ZMAC-VR Rhomboidal Insert type head



JAPAN PAT. 

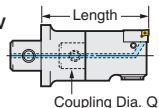
Head No.	Boring Range D	Boring Depth M	Coupling Dia. Q	Remarks					Weight (kg)	
				C	C1	Unit No.	Insert No.	Fig.		
16-ZMAC 32R - 55V	31.8~42.2	55	16	31	40	M 4HZ- 32VR	CC06-C	1	0.7	
20-ZMAC 42R - 70V	41.8~55.2					20			M 5HZ- 42VR	1.1
26-ZMAC 55R - 70V	54.8~70.2	70	26	53	-	M 5HZ- 55VR	CC08-C	1	1.2	
34-ZMAC 70R - 70V	69.8~85.2					34			M 7HZ- 70VR	2.0
42-ZMAC 85R -100V	84.8~100.2	100	42	83	-	M10HZ- 85VR	CC12-C	2	4.3	
42-ZMAC 100R -100V	99.5~140.5			95		83			M10HZ-100VR	4.9
42-ZMAC 140R -100V	139.5~180.5			135					M10HZ-140VR	6.3

★MIN. dial readout: ZMAC32-VR and larger is 0.01mm on dia.

★“C” grade (Coated) insert for Steel, Stainless & Cast Iron is supplied as Standard with the head (Smooth boring & Long tool-life) .  P.74 Please refer  P.107 for cutting condition.

★Centre Through Coolant function is available as standard.

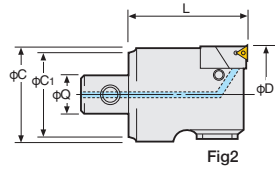
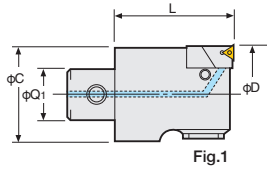
★Code No. of the set with SP26 stepped spacer is Q26-Coupling Dia.-ZMAC○-LengthV e.g. Q26-20-ZMAC42R-100V



# MODULAR TYPE ZMAC& ADVANCED BORING HEAD **NIKKEN**



BT

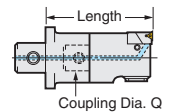
## ZMAC&-V Triangular Insert type head



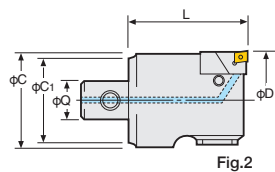
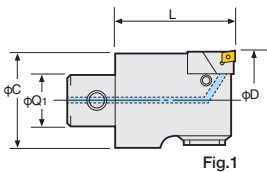
JAPAN PAT. 

Head No.	Boring Range D	Boring Depth M	Coupling Dia. Q	Remarks					Weight (kg)			
				C	C1	Unit No.	Insert No.	Fig.				
12-ZMAC 25- 40AAV	24.8~32.2	40	12	24	-	M 3HZ- 25V	3MP-C,B	1	0.4			
16-ZMAC 32- 55AAV	31.8~42.2	55	16	31		M 4HZ- 32V	4MP-C,B		0.5			
20-ZMAC 42- 70AAV	41.8~55.2	70	20	40		M 5HZ- 42V	6MP-C,B		1	0.8		
26-ZMAC 55- 70AAV	54.8~70.2		26	53		M 5HZ- 55V				0.7		
34-ZMAC 70- 70AAV	69.8~85.2		34	67		M 7HZ- 70V				1.1		
42-ZMAC 85-100AAV	84.8~100.2	100	42	83		M10HZ- 85V				2	2	2.3
42-ZMAC100-100AAV	99.5~140.5			95		83						M10HZ-100V
42-ZMAC140-100AAV	139.5~180.5			135	M10HZ-140V			3.1				

- ★MIN. dial readout: ZMAC25&-V is 0.02mm on dia. ZMAC32 -V and larger is 0.01mm on dia.
- ★The above boring ranges are based on heads with Nose/R 0.2 insert.
- ★“C” grade (Coated) insert for Steel, Stainless & Cast Iron is supplied as Standard with the head (Smooth boring & Long tool-life).  P.109 Please refer  P.107 for cutting condition. We would recommend “B” grade (CBN) insert for Hardened Steel & High Speed boring of Cast Iron.
- ★Centre Through Coolant function is available as standard.
- ★Code No. of the set with SP26 stepped spacer is Q26-Coupling Dia.-ZMAC○-Length AAV e.g. Q26-20-ZMAC42-100AAV





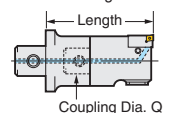
## ZMAC&-VR Rhomboidal Insert type head




JAPAN PAT. 

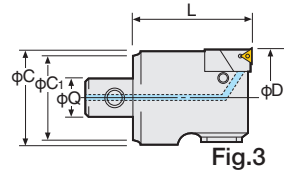
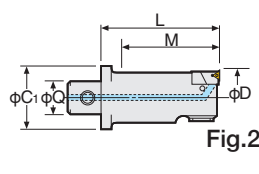
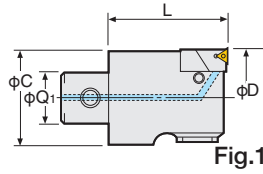
Head No.	Boring Range D	Boring Depth M	Coupling Dia. Q	Remarks					Weight (kg)			
				C	C1	Unit No.	Insert No.	Fig.				
16-ZMAC 32R - 55AAV	31.8~42.2	55	16	31	-	M 4HZ- 32VR	CC06-C	1	0.5			
20-ZMAC 42R - 70AAV	41.8~55.2	70	20	40		M 5HZ- 42VR			0.8			
26-ZMAC 55R - 70AAV	54.8~70.2		26	53		M 5HZ- 55VR			0.7			
34-ZMAC 70R - 70AAV	69.8~85.2		34	67		M 7HZ- 70VR			1.1			
42-ZMAC 85R -100AAV	84.8~100.2	100	42	83		M10HZ- 85VR			CC08-C	2	2.3	
42-ZMAC 100R -100AAV	99.5~140.5			95		83					M10HZ-100VR	2.8
42-ZMAC 140R -100AAV	139.5~180.5			135							M10HZ-140VR	3.1

- ★MIN. dial readout: ZMAC32&-VR and larger is 0.01mm on dia.
- ★“C” grade (Coated) insert for Steel, Stainless & Cast Iron is supplied as Standard with the head (Smooth boring & Long tool-life).  P.74 Please refer  P.107 for cutting condition. We would recommend “B” grade (CBN) insert for Hardened Steel & High Speed boring of Cast Iron.
- ★Centre Through Coolant function is available as standard.
- ★Code No. of the set with SP26 stepped spacer is Q26-Coupling Dia.-ZMAC○-Length AAV e.g. Q26-20-ZMAC42R-100AAV



# MODULAR TYPE ZMAC ADVANCED (ISO) BORING HEAD **NIKKEN**

ZMAC-V-I  Triangular Insert type head

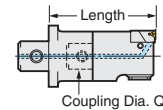


Boring head for ISO insert tip widely available on the market.  
\* Only insert clamp bolts are supplied (Insert tips are not supplied).

JAPAN PAT. 

Head No.	Boring Range D	Boring Depth M	Coupling Dia. Q	Remarks						Weight (kg)		
				C	C1	Unit No.	Insert No.	Thread size of Insert Clamp Screw	Fig.			
16-ZMAC 32- 55V-I	31.8~42.2	55	16	31	-	M 4HZ- 32V-I	TC□□0902□□L	M2.2	1	0.7		
20-ZMAC 42- 70V-I	41.8~55.2	70	20	40		M 5HZ- 42V(M3)				TP□□1103□□L	M3	1.1
26-ZMAC 55- 70V-I	54.8~70.2		26	53		M 5HZ- 55V(M3)						1.2
34-ZMAC 70- 70V-I	69.8~85.2		34	67		M 7HZ- 70V(M3)						2.0
42-ZMAC 85-100V-I	84.8~100.2	100	42	83		M10HZ- 85V(M3)						M3
42-ZMAC100-100V-I	99.5~140.5			95	83	M10HZ-100V(M3)	4.9					
42-ZMAC140-100V-I	139.5~180.5			135		M10HZ-140V(M3)	6.3					

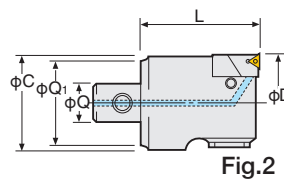
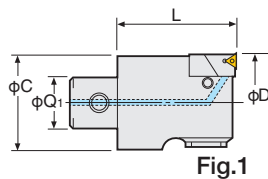
★MIN. dial readout: ZMAC32-V-I and larger is 0.01mm on dia. (Sub scale : 0.005)  
★The above boring ranges are based on heads with Nose/R 0.2 insert.  
★Centre Through Coolant function is available as standard.  
★Code No. of the set with SP26 stepped spacer is Q26-Coupling Dia.-ZMAC○-LengthV-I e.g. Q26-20-ZMAC42-100V-I



# MODULAR TYPE ZMAC & ADVANCED (ISO) BORING HEAD **NIKKEN**

**For High Speed/Deep Hole Boring**

ZMAC&-V-I  Triangular Insert type head

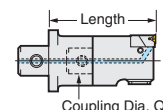


Boring head for ISO insert tip widely available on the market.  
\* Clamp bolt for insert tip is only supplied. (Insert tips are not supplied).

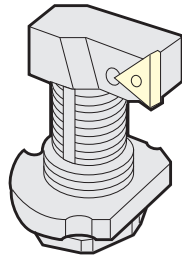
JAPAN PAT. 

Head No.	Boring Range D	Boring Depth M	Coupling Dia. Q	Remarks						Weight (kg)		
				C	C1	Unit No.	Insert No.	Thread size of Insert Clamp Screw	Fig.			
16-ZMAC 32- 55AAV-I	31.8~42.2	55	16	31	-	M 4HZ- 32V-I	TC□□0902□□L	M2.2	1	0.5		
20-ZMAC 42- 70AAV-I	41.8~55.2	70	20	40		M 5HZ- 42(M3)				TP□□1103□□L	M3	0.8
26-ZMAC 55- 70AAV-I	54.8~70.2		26	53		M 5HZ- 55(M3)						0.7
34-ZMAC 70- 70AAV-I	69.8~85.2		34	67		M 7HZ- 70(M3)						1.1
42-ZMAC 85-100AAV-I	84.8~100.2	100	42	83		M10HZ- 85(M3)						M3
42-ZMAC100-100AAV-I	99.5~140.5			95	83	M10HZ-100(M3)	2.8					
42-ZMAC140-100AAV-I	139.5~180.5			135		M10HZ-140(M3)	3.1					

★MIN. dial readout: ZMAC32&-V-I and larger is 0.01mm on dia. (Sub scale : 0.005)  
★The above boring ranges are based on heads with Nose/R 0.2 insert.  
★Centre Through Coolant function is available as standard.  
★Code No. of the set with SP26 stepped spacer is Q26-Coupling Dia.-ZMAC○-Length AAV-I e.g. Q26-20-ZMAC42-100AAV-I



# ZMAC ADVANCED (ISO) BORING UNIT PARTS LIST



**ZMAC-V-I**

NIKKEN ZMAC-V-I Boring Heads come complete with the ZMAC-V-I Boring Unit. Specify the part No. in the table below when ordering spares. Triangular Insert Heads and Rhomboid Insert Heads use different boring units, cartridges, insert tips, insert clamp bolts, and insert clamp handles, but all other parts are common to both.

\* The ZMAC units and new ZMAC-V-I units are interchangeable.

ZMAC-V-I Style	Boring Range	Unit	Triangular Insert	Insert Clamp Screw	Insert Clamp Handle	Lock Screw	Adjustment Handle	Unit Clamp Bolt
ZMAC 32-V-I	31.8~42.2	M 4HZ- 32V-I	TC□□0902□□L	M2255	T-6	M365	M 4HZL	M2577
ZMAC 42-V-I	41.8~55.2	M 5HZ- 42V(M3)	TP□□1103□□L	M3070	T-10	M364	M 5HZL	
ZMAC 55-V-I	54.8~70.2	M 5HZ- 55V(M3)				M366	M3090	
ZMAC 70-V-I	69.8~85.2	M 7HZ- 70V(M3)				M360		
ZMAC 85-V-I	84.8~100.2	M10HZ- 85V(M3)				M367		
ZMAC 100-V-I	99.5~140.5	M10HZ-100V(M3)				M368		M10HZL
ZMAC 140-V-I	139.5~180.5	M10HZ-140V(M3)				M369		

★Each Unit and Cartridge are supplied without Insert Tip.



Special cartridge example for necking is available. Please contact us with the work piece drawing.

ZMAC-VR Style	Boring Range	Unit	Triangular Insert (ISO code)	Insert Clamp Screw	Insert Clamp Handle
ZMAC 32-VR	31.8~42.2	M 4HZ- 32VR	CC06-C (CC□□0602□□)	M2560	T-8
ZMAC 42-VR	41.8~55.2	M 5HZ- 42VR		M2577	
ZMAC 55-VR	54.8~70.2	M 5HZ- 55VR	CC08-C (CC□□09T3□□)	M4090	T-15
ZMAC 70-VR	69.8~85.2	M 7HZ- 70VR		M4012	
ZMAC 85-VR	84.8~100.2	M10HZ- 85VR	CC12-C (CC□□1204□□)	M5012	T-15
ZMAC 100-VR	99.5~140.5	M10HZ-100VR			
ZMAC 140-VR	139.5~180.5	M10HZ-140VR			

The cartridge head can be exchanged itself for the head bigger equal to ZMAC42-V.

Boring Range	Cartridge Head		Head Clamp Bolt
	Triangular	Rhomboid	
41.8~55.2	M 5HZ- 42 CH (M3)	M 5HZ- 42RCH	M512C
54.8~70.2	M 7HZ- 70 CH (M3)	M 7HZ- 70RCH	
69.8~85.2	M 10HZ- 85 CH (M3)	M 10HZ- 85RCH	
84.8~100.2	M 10HZ- 100 CH (M3)	M 10HZ- 100RCH	
99.5~140.5			
139.5~180.5			

★Each Unit and Cartridge are supplied without Insert Tip.  
★Cartridge can not be supplied alone, please order ZMAC-V unit.

- Detach** ●Loosen head clamp bolt after boring diameter is set to little larger than the MIN. boring diameter.
- Attach** ●Insert the head into cartridge, then tighten head clamp bolt temporary.  
●Loosen side lock bolt.  
●Rotate the dial ring 0.2~0.3mm to minus direction.  
●Tighten head clamp bolt by pushing the head to the support portion of the main body.

■ INSERT TIP (please refer to the ISO code below to purchase.)

ZMAC-V-I Style	Dimension	ISO code
ZMAC32-V-I		TC□□0902□□L
ZMAC42-V-I ZMAC140-V-I		TP□□1103□□L

■ Code No. of ISO standard Insert Tip

T P G T 1 1 0 3 0 4 L

T : Insert Shape  
 P : Normal Clearance  
 G : Corner Radius  
 T : Cutting Edge Thickness  
 1 : Cutting Edge Length  
 1 : Corner Radius  
 0 : Cutting Edge Thickness  
 3 : Cutting Edge Length  
 0 : Corner Radius  
 4 : Cutting Edge Thickness  
 L : Cutting Direction (Left)  
 N : Cutting Direction (Either)

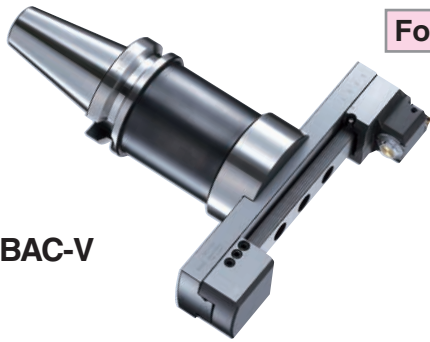
T : Triangle  
 W : Rhomboid  
 C : Square  
 M : Diamond  
 S : Square  
 A : Square

B : 5°  
 C : 7°  
 P : 11°  
 N : 0°  
 E : 20°

Tolerance Class  
 Tip Breaker & Hole Configuration  
 M : Pressed

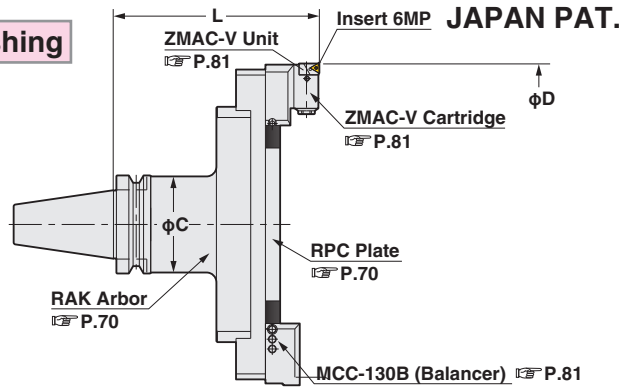
W : W  
 T : T  
 R : R  
 H : H  
 M : M  
 X : Special

# BALANCE-CUT BAC ADVANCED BORING ARBOR for LARGE DIA. **NIKKEN**



BAC-V

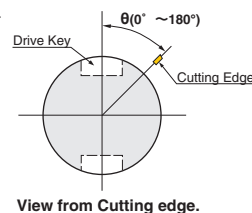
For Finishing



Boring Dia:φ130~595mm

TAPER	Code.No	D		L	C	RAK Arbor Code No.	PPC Plate No	Cartridge (Balancer)	Weight (kg)		
		MIN.~MAX.									
No.40	BT40-BAC130-205V	130~195		205	61	BT40-RAK-130A	RPC-130		7.0		
	(IT40)-BAC180-205V	180~245							8.0		
No.50	BT50-BAC130-185V	130~195		185	90	BT50-RAK-110A	RPC-130	MCCZ-130V (MCC-130B) Insert 6MP	10.0		
	(IT50) -235V		235	-160A		12.7					
	-285V		285	-210A		15.4					
	-335V		335	-260A		18.1					
	-385V		385	-310A		20.8					
	-435V		435	-360A		23.5					
	-485V		485	-410A		26.2					
	-BAC180-185V		185	-RAK-110A		10.6					
	-235V	235	-160A	13.3							
	-285V	285	-210A	16.0							
	-335V	335	-260A	18.7							
	-385V	385	-310A	21.4							
	-435V	435	-360A	24.1							
	-485V	485	-410A	26.8							
	-BAC230-185V	185	-RAK-110A	11.3							
	-235V	235	-160A	14.0							
	-285V	285	-210A	16.7							
	-335V	335	-260A	19.4							
	-385V	385	-310A	22.1							
	-435V	435	-360A	24.8							
	-485V	485	-410A	27.5							
	-BAC280-185V	185	-RAK-110A	11.9							
	-235V	235	-160A	14.6							
	-285V	285	-210A	17.3							
	-335V	335	-260A	20.0							
	-385V	385	-310A	22.7							
	-435V	435	-360A	25.4							
	-485V	485	-410A	28.1							
	-BAC330-210V*	330~395	280~345			210 (220*)	98		BT50-RAK330-125	RPC-330	16.7
	-BAC380-210V*	380~445		-380					17.0		
	-BAC430-210V*	430~495		-430					18.0		
	-BAC480-210V*	480~545		-480					19.0		
-BAC530-210V*	530~595	-530		20.0							

- ★“C” grade (Coated) Inserts are supplied as standard. P.109 Please refer P.107 for cutting condition.
- ★Unit “M5HZ-55V” is provided as standard, please refer P.70 for Arbor (RAK) and Plate (RPC).
- ★Arbor, Plate and Cartridge are delivered in separate packages.
- ★When ordering, please let us know machine maker and model no. to avoid the interference with tool magazine of ATC.
- ★The location of cutting edge is same as drive key in standard.  
The different location is available, please specify θ in Code No. e.g. BT50-BAC180-235V (90°)
- ★The boring arbors marked \* with IT50, L (gauge length) is 220. e.g. IT50-BAC330-220V
- ★For centre through coolant type, please add “-C” at the end of Code No. e.g. BT50-BAC130-185V-C



High Pressure Coolant Through Tool

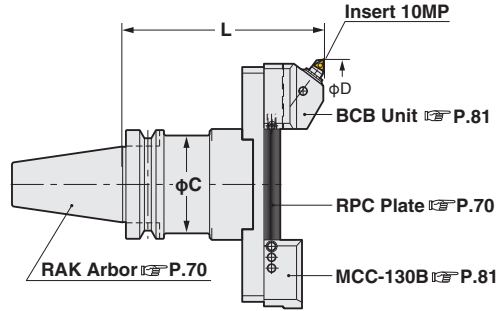


# BALANCE-CUT BCB BORING ARBOR for LARGE DIA.



BCB

For Roughing / Finishing



Boring Dia: φ130~595mm

TAPER	Code.No	D		L	C	RAK Arbor Code No.	RPC Plante No	Cartridge (Balancer)	Weight (kg)						
		MIN.	MAX.												
No.40	BT40-BCB130-215	130	195	215	61	BT40-RAK-130A	RPC-130	BCB-130 (MCC-130B) Insert 10MP	7.5						
	(IT40)-BCB180-215	180	245						8.5						
	BT50-BCB130-195	130~195	195	90	61	BT50-RAK-110A	RPC-130		10.3						
	(IT50)-245								245	13.0					
	-295								295	15.7					
	-345								345	18.4					
	-395								395	21.1					
	-445								445	23.8					
	-495								495	26.5					
	-BCB180-195								180~245	195	90	61	BT50-RAK-110A	RPC-180	10.9
-245	245							13.6							
-295	295							16.3							
-345	345	19.0													
-395	395	21.7													
-445	445	24.4													
-495	495	27.1													
-BCB230-195	230~295	195	90	61	BT50-RAK-110A	RPC-230	11.6								
-245							245	14.3							
-295							295	17.0							
-345							345	19.7							
-395							395	22.4							
-445							445	25.1							
-495							495	27.8							
-BCB280-195							280~345	195	90	61	BT50-RAK-110A	RPC-280	12.2		
-245													245	14.9	
-295													295	17.6	
-345	345	20.3													
-395	395	23.0													
-445	445	25.7													
-495	495	28.4													
No.50	-BCB330-220*	330	395	220 (220*)	98	BT50-RAK330-125 IT50-RAK330-135							RPC-330	16.5	
	-BCB380-220*	380	445											-380	17.5
	-BCB430-220*	430	495											-430	18.5
	-BCB480-220*	480	545				-480	19.5							
	-BCB530-220*	530	595				-530	20.5							

★10MP-T (Cermet) is supplied as standard. P.111 Please refer P.107 for cutting condition.  
 ★MIN. dial readout on dia.: 0.02mm, Sub scale: 0.002mm  
 ★The boring arbor marked \* with IT50, L (gauge length) is 230. e.g. IT50-BCB330-230.

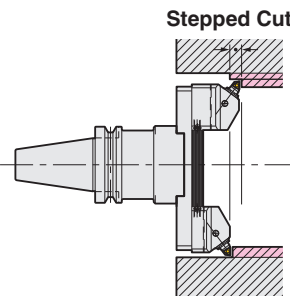
Up to φ800 is also available. Please contact with us.

## Double Cut Style BCB Boring Bar



BCB-W

- ★Double cut style can be done with both side of BCB-130 cartridges. Please add "W" at the end of Code No. e.g. BT50-BCB130W-195
- True balance cut can be done to adjust the height by micro adjustment first and then to adjust the diameter by adjust screw.
- Stepped cut can be done to change the height of the cartridges.



# ACCESSORIES for BALANCE-CUT BORING ARBOR for LARGE DIA.

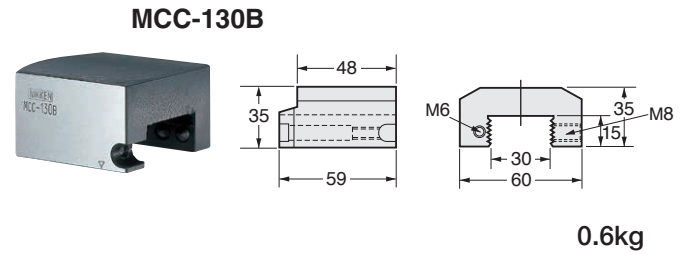
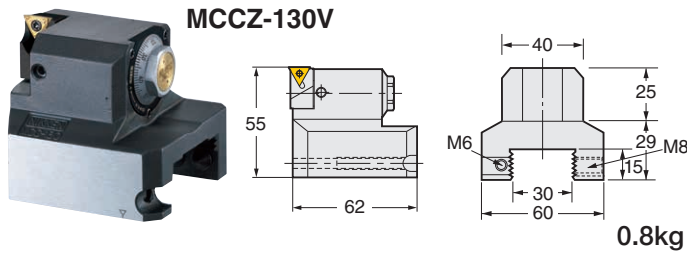


JAPAN PAT.

## Accessories for Balance-Cut BAC-V

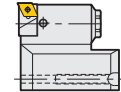
Balance-Cut BAC type cartridge for large dia.

BAC type Balancer for Balance-Cut large dia.



Accessories	ZMAC-V Unit	Insert Tip	Clamp Bolt	Wrench for Insert	Lock Screw	Adjust Screw	Set Screw (M8)	Wrench for M815 Belt	Adjust Wrench	Adjustment Handle	Applicable RPC Plate
Code No.	M5HZ-55V	6MP-C	M2577	T-8	M366	M540	M815	M4	M3	M5HZL	RPC-130,180,230,280,330,380,430,480,530

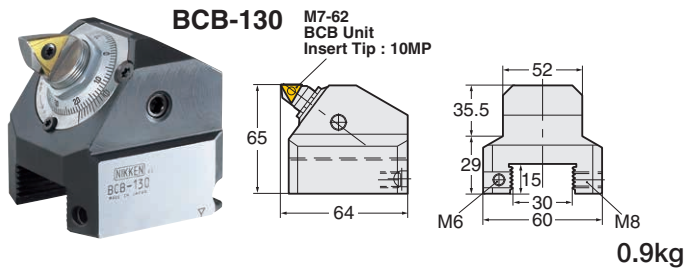
★Please refer P.70 for RPC Plate. ★Set Code No. is S.MCCZ-130V.  
 ★M5HZ-55VR with CC06-C insert tip is available. Please specify code No. S.MCCZ-130VR.  
 ★6MP-C insert tip is supplied as standard. P.109 Please refer P.107 for cutting condition.



## Accessories for Balance-Cut BCB

Balance-Cut BCB type cartridge for large dia.

MAC type Balancer for Balance-Cut large dia.



Accessories	BCB Unit	Insert Tip	Clamp Bolt	Wrench for Insert	Lock Screw	Adjust Screw	Set Screw (M8)	Wrench for M815 Belt	Adjust Wrench	Adjustment Handle	Applicable RPC Plate
Code No.	M7-62	10MP-T	M67	20S	B357, B367	M540	M815	M4	M3	M397	RPC-130,180,230,280,330,380,430,480,530

★Please refer P.70 for RPC Plate. ★Set Code No. is S.BCB-130.  
 ★10MP-T insert tip is supplied as standard. P.111 Please refer P.107 for cutting condition.

# SPECIAL DESIGNED BORING ARBOR

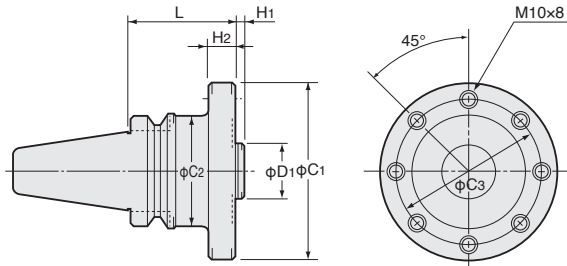


There exist various kinds of boring applications which cannot be managed using standard boring arbors. NIKKEN has great experience of special boring applications, utilizing the double contact shoulder support **ZMAC-V** boring heads. NIKKEN can also design and manufacture special boring arbors to suit your special applications.

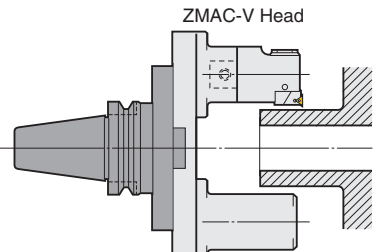


RAA

## Base Arbor for Special Boring Head

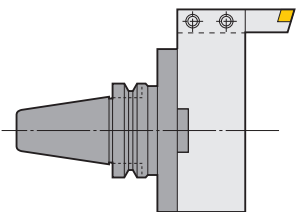


## For Overturning



Counter Balance

## For U Axis Boring Arbor

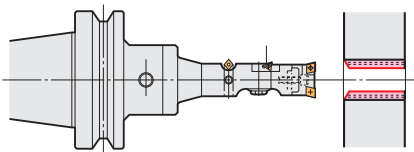


TAPER	Code No.	D <sub>1</sub>	L	H <sub>1</sub>	H <sub>2</sub>	C <sub>1</sub>	C <sub>2</sub>	C <sub>3</sub>	Weight (kg)
No.40	BT40-RAA32- 60 (IT40)	32 h7	60	7	15	102	61	82	2.5
	BT50-RAA32- 60 (IT50)		60		12				5
No.50	-120	32 h7	120	20	102	98	82	9	
	-180		180					15.5	

★The Base Holder with long gauge length is available on demand.  
 ★High Pressure Centre Through Tool Coolant Type is available on demand.  
 ★The dimension with ( ) is for IT40 and IT50.  
 ★For BT40, φD<sub>1</sub>=22mm is also available.

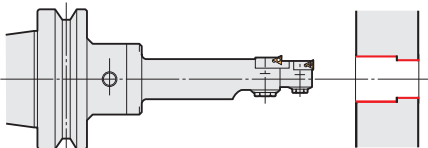
## Multi Stage Boring Arbor

For Simultaneous machining for rough, finish and chamfer.



Please specify the boring dia., depth, and necessary length from the gauge line.

For stepped hole boring with restricted concentricity.



Please specify each boring dia., depth, and necessary length from the gauge line.

For decreasing the number of A.T.C with one arbor for two different size of the bores.

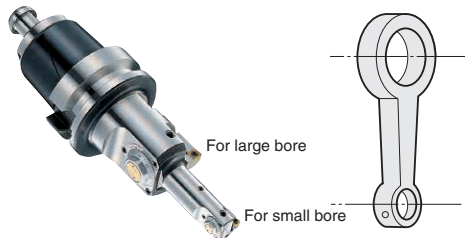


Photo shows Multi Stage Boring Arbor with NC5 Shank.

The above are just samples. Pre-Balanced type Boring Arbor for High Speed Application and Aluminium Body Head are also available. Please contact with us about your special boring applications.

## DRILLING OPERATION by COMBAT Z DRILL



“Rationalization is Study of Drilling.” which is our Slogan for developing NIKKEN **COMBAT Z DRILL**. P.309 Please try it. Pilot Drill and 3-Phases Heat Treatment significantly improves Cutting Condition, Secure Drilling and Tool Life.

## Ultra Long Size Boring Bar

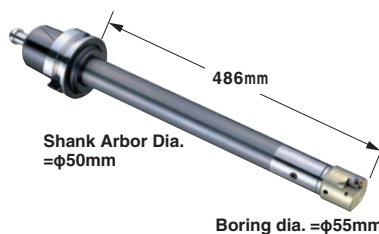
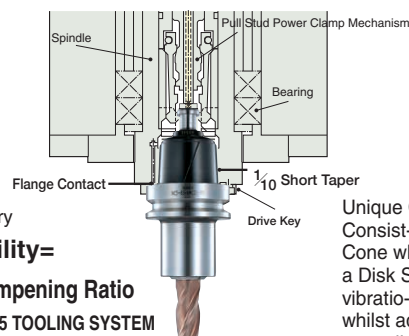


Photo shows Ultra Long size Boring Arbor with NC5 Shank.

For Extreme Deep Hole Boring Operation, please study the Machine with NC5 Spindle P.213 or 3LOCK Spindle P.153. In case of BT/IT spindle, we recommend ZMAC-V type Head for these applications.



E · H · MERRITT's Theory

**Chattering Stability=**  
**Static Stiffness × Dampening Ratio**

Thus, the advantage of NC5 TOOLING SYSTEM is clearly demonstrated.

Unique Construction : Consist-ing of a Slotted Taper Cone which is Pre-Loaded by a Disk Spring to increase its vibratio-nal dampening effect whilst ad-justing minute gaugeline errors, completely.

# BALANCE-CUT RAC $\alpha$ BORING ARBOR for LARGE DIA. **NIKKEN**

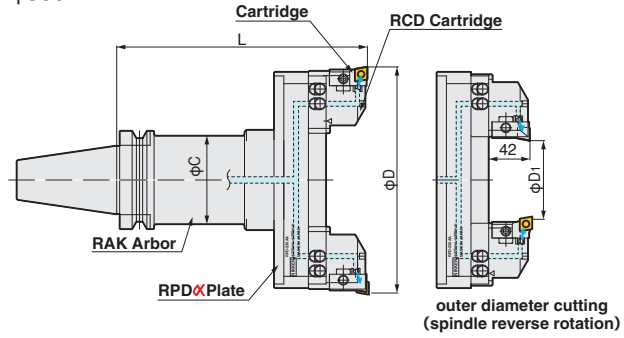
**For Roughing**

- With the screws for slight adjustment
- Boring Dia. :  $\phi 130 \sim \phi 580 \text{mm}$



**RAC $\alpha$**

High Pressure Coolant Through Tool



outer diameter cutting (spindle reverse rotation)



Boring Dia. :  $\phi 130 \sim 580 \text{mm}$  / Over Turning Dia. :  $10 \sim 430 \text{mm}$

TAPE	Code.No	D		L	D <sub>1</sub>		C	RAK Arbor Code No.*1	RPD Plate No.	RCD Cartridge No.	Weight (kg)	
		MIN.~MAX.			MIN.~MAX.							
<b>No.40</b>	<b>BT40-RAC130-225AA</b>	130~180		225	10~30		61	<b>BT40-RAK-130A</b>	<b>RPD-130AA</b>		7.2	
	<b>(IT40)-RAC180-225AA</b>	180~230			30~80						7.7	
<b>No.50</b>	<b>BT50-RAC130-205AA</b>	130~180		205	10~30	90		<b>BT50-RAK-110A</b>	<b>RPD-130AA</b>	For Heavy Duty Boring of Iron and Cast Iron RCD-130 x2 Insert Tip CN08	9.5	
	<b>(IT50)-255AA</b>		255	12.2								
	<b>-305AA</b>		305	14.9								
	<b>-355AA</b>		355	17.6								
	<b>-405AA</b>		405	20.3								
	<b>-455AA</b>		455	23.0								
	<b>-505AA</b>		505	25.7								
	<b>-RAC180-205AA</b>		205	10.0								
	<b>-255AA</b>	255	12.7									
	<b>-305AA</b>	305	15.4									
	<b>-355AA</b>	180~230	355	30~80	<b>RPD-180AA</b>			18.1				
	<b>-405AA</b>	405	20.8									
	<b>-455AA</b>	455	23.5									
	<b>-505AA</b>	505	26.2									
	<b>-RAC230-205AA</b>	205	10.6									
	<b>-255AA</b>	255	13.3									
	<b>-305AA</b>	305	16.0									
	<b>-355AA</b>	230~280	355	80~130				<b>RPD-230AA</b>	18.7			
	<b>-405AA</b>	405	21.4									
	<b>-455AA</b>	455	24.1									
	<b>-505AA</b>	505	26.8									
	<b>-RAC280-205AA</b>	205	11.1									
	<b>-255AA</b>	255	13.8									
	<b>-305AA</b>	305	16.5									
	<b>-355AA</b>	280~330	355	130~180	<b>RPD-280AA</b>				19.2			
	<b>-405AA</b>	405	21.9									
	<b>-455AA</b>	455	24.6									
	<b>-505AA</b>	505	27.3									
	<b>-RAC330-220AA*</b>	330~380	220 (230*)	180~230				98	<b>BT50-RAK330-125</b> <b>IT50-RAK330-135</b>		<b>RPD-330AA</b>	16.4
	<b>-RAC380-220AA*</b>	380~430		230~280								16.9
	<b>-RAC430-220AA*</b>	430~480		280~330								17.4
	<b>-RAC480-220AA*</b>	480~530		330~380								17.9
<b>-RAC530-220AA*</b>	530~580	380~430		18.4								

\*The Code No. on above table are the boring arbors with RCD-130 cartridge (Insert tip: CN08) the Heavy Duty Boring of Iron and Cast Iron.

Please refer P.106 for cutting condition.

\*Boring arbor with cartridges & insert for Steel, Stainless Steel and Cast Iron (E), for Aluminum (A) and for Through Hole & Multi Sheets (K) are available. Please refer P.84 for cartridges. e.g. BT50-RAC130-205AA-E

\*Please refer P.84 for RAK arbor and RPD plate.

\*Arbor, plate and cartridges are delivered in separate packages.

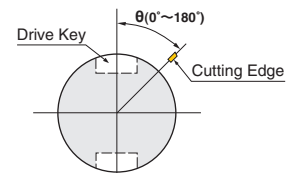
\*Please check the interference of the arbor with your M/C not to occur the interference in the tool magazine.

\*The location of the cutting edge is same as the drive key for standard. The different location is available, please specify  $\theta$ . e.g. BT50-RAC180-255AA (90°)

\*The boring arbors marked \* with IT50, L (gauge length) is 230. e.g. IT50-RAC330-230AA

\*Special sleeves (2 pieces) are required to change the arbor to support center coolant. Code No. RAK-CLS (sold separately)

\*When using it for outer diameter cutting, the spindle will rotate in reverse.

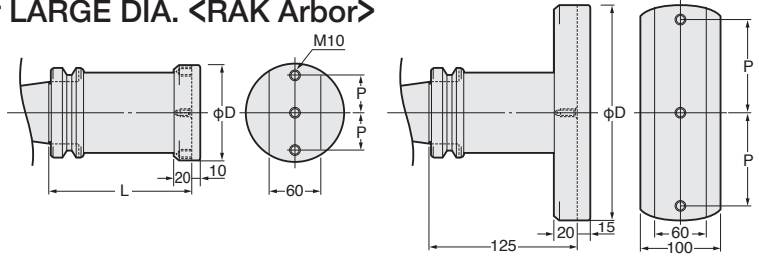


View from Cutting Edge

# MODULAR TYPE ARBOR



## BALANCE CUT RAK BORING ARBOR for LARGE DIA. <RAK Arbor>



RAK

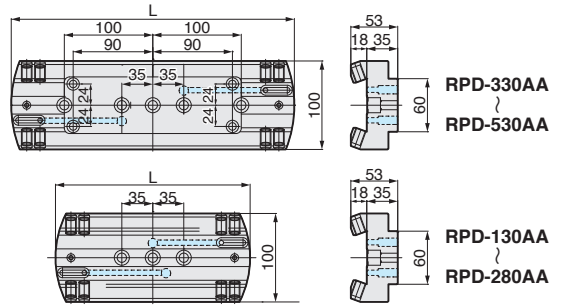
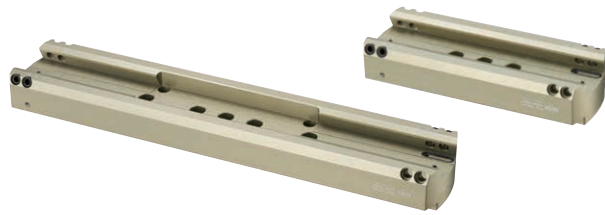
Fig.1

Fig.2

Code No.	Boring Range	L	D	P	Weight (kg)	Applicable RPD Plate	Hex. Socket bolt	Fig.
BT40 (IT40) -RAK-130A	130~330	130	102	35	4.9	RPD-130AA, 180AA, 230AA, 280AA	M1035	1
BT50 -RAK-110A		110			7.2			
(IT50) -RAK-160A		160			9.9			
-RAK-210A		210			12.6			
-RAK-260A		260			15.3			
-RAK-310A		310			18.0			
-RAK-360A		360			20.7			
-RAK-410A		410			23.4			
-RAK330-125*	330~580	125	240	100	12.0	RPD-330AA, 380AA, 430AA, 480AA, 530AA	M1045	2

★The location of the cutting edge is same as the drive key for standard. The different location is available, please specify  $\theta$ . e.g. BT50-RAK-160A-30°  
 ★Special sleeves (2 pieces) are required to change the arbor to support center coolant. Code No. RAK-CLS (option)  
 ★\* : In case of IT50, IT50-RAK-330-135 is standard gauge length.

## BALANCE CUT RPD PLATE for LARGE DIA. <RPD Plate>



Code No.	Boring Range	L	Weight (kg)	Code No.	Boring Range	L	Weight (kg)	Code No.	Boring Range	L	Weight (kg)
RPD-130AA	$\phi 130 \sim 180$	124	1.1	RPD-330AA	$\phi 330 \sim 380$	320	3.2	RPD-530AA	$\phi 530 \sim 580$	520	5.2
-180AA	$\phi 180 \sim 230$	170	1.6	-380AA	$\phi 380 \sim 430$	370	3.7				
-230AA	$\phi 230 \sim 280$	220	2.2	-430AA	$\phi 430 \sim 480$	420	4.2				
-280AA	$\phi 280 \sim 330$	270	2.7	-480AA	$\phi 480 \sim 530$	470	4.7				

★Special sleeves (2 pieces) are required to change the arbor to support center coolant. Code No. RAK-CLS (option)

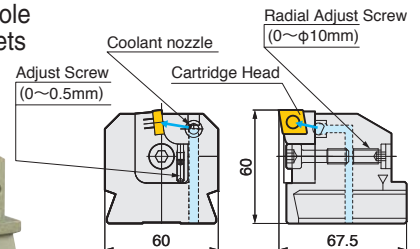
## Accessories for Balance-Cut RAC

Heavy Duty Boring of Iron and Cast Iron  
RCD-130 (CN08)

Steel, Stainless Steel and Cast Iron  
RCD-130E (CC12)

For aluminum  
RCD-130A (AEG16)

For Through Hole and Multi Sheets  
RCD-130K (SC12)



Weight : 0.6kg

Accessories	Insert Tip	Clamp Bolt	Adjust Screw for Axial direction	Adjust Wrench for Axial direction	Wrench for Insert	Lock Screw (M10)	Wrench for M1016	Head Clamp Bolt	Coolant stop Screw	Wrench for M510	Applicable RPD Plate
Code No.	*	CSM-70	M416	M2	20S	M1016	M5	M825-AJ	M510	M2.5	RPD-130AA, 180AA, 230AA, 280AA, 330AA, 380AA, 430AA, 480AA, 530AA

★\* : The insert tip is RCD-130: CN08 (P.62), RCD-130E: CC12 (P.60), RCD-130A: AEG16 (P.64), RCD-130K: SC12 (P.66) Please refer to P.106 for cutting condition.  
 ★There are two different types clamping system. One is eccentric system, the other is screw on system. Above parts are for screw on system.  
 ★Code No. RCD-130 indicates a single cartridge. When ordering a pair of cartridge, please appoint to us Code No. S.RCD-130.  
 ★The cartridge head can be exchanged. M10HZ-85CH-N, -E, -A, -K.



# BALANCE-CUT BAC $\alpha$ ADVANCED BORING ARBOR for LARGE DIA.

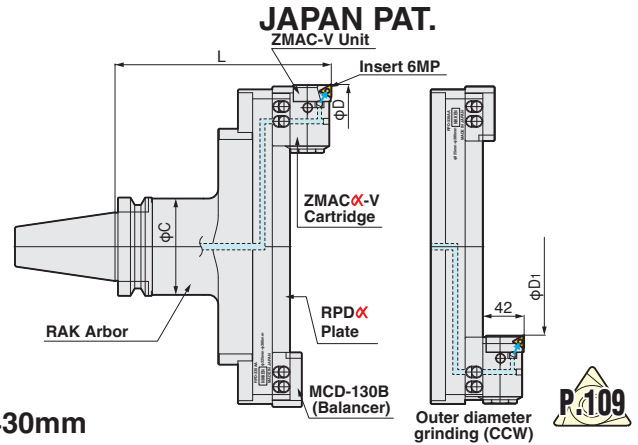
**NIKKEN**

For Finishing



**BAC $\alpha$ -V**

High Pressure Coolant Through Tool



Boring Dia:  $\phi 130 \sim 595\text{mm}$  / Over Turning Dia. :  $10 \sim 430\text{mm}$

TAPE	Code.No	D		L	D <sub>1</sub>		C	RAK Arbor Code No.*1	RPD Plate No.	Cartridge (Balancer)	Weight (kg)
		MIN.~MAX.			MIN.~MAX.						
<b>No.40</b>	BT40-BAC130-225AAV	130~180		225	10~30		61	BT40-RAK-130A	RPD-130AA		7.5
	(IT40)-BAC180-225AAV	180~230			30~80				-180AA		8.0
<b>No.50</b>	BT50-BAC130-205AAV	130~180		205	10~30		90	BT50-RAK-110A	RPD-130AA	MCDZ-130AAV (MCD-130B)	9.8
	(IT50)-255AAV		255	12.5							
	-305AAV		305	15.2							
	-355AAV		355	17.9							
	-405AAV		405	20.6							
	-455AAV		455	23.3							
	-505AAV		505	26.0							
	-BAC180-205AAV		205	10.3							
	-255AAV	255	13.0								
	-305AAV	305	15.7								
	-355AAV	355	18.4								
	-405AAV	405	21.1								
	-455AAV	455	23.8								
	-505AAV	505	26.5								
	-BAC230-205AAV	205	10.9								
	-255AAV	255	13.6								
	-305AAV	305	16.3								
	-355AAV	355	19.0								
	-405AAV	405	21.7								
	-455AAV	455	24.4								
	-505AAV	505	27.2								
	-BAC280-205AAV	205	11.4								
	-255AAV	255	14.1								
	-305AAV	305	16.8								
	-355AAV	355	19.5								
	-405AAV	405	22.2								
	-455AAV	455	24.9								
	-505AAV	505	27.6								
-BAC330-220AAV*	330~380	220 (230*)	180~230	98	BT50-RAK330-125 IT50-RAK330-135	RPD-330AA	16.7				
-BAC380-220AAV*	380~430		230~280			-380AA	17.2				
-BAC430-220AAV*	430~480		280~330			-430AA	17.7				
-BAC480-220AAV*	480~530		330~380			-480AA	18.2				
-BAC530-220AAV*	530~580		380~430			-530AA	18.7				

\*"C" grade (Coated) Inserts are supplied as standard. P.109 Please refer P.106 for cutting condition.

\*Unit "M10HZ-75V" is provided as semi-standard, please refer "M10HZ-85V" P.86 for Arbor (RAK) and Plate (RPD).

\*Arbor, Plate and Cartridge are delivered in separate packages.

\*When ordering, please let us know machine maker and model no. to avoid the interference with tool magazine of ATC.

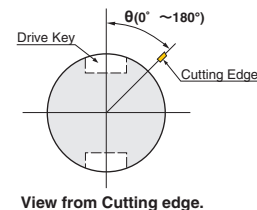
\*The location of cutting edge is same as drive key in standard.

The different location is available, please specify  $\theta$  in Code No. e.g. BT50-BAC180-255AAV (90°)

\*The boring arbors marked \* with IT50, L (gauge length) is 230. e.g. IT50-BAC330-230AAV

\*Special sleeves (2 pieces) are required to change the arbor to support center coolant. Code No. RAK-CLS (sold separately)

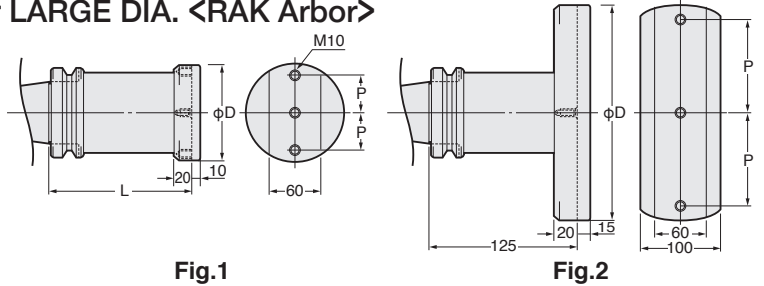
\*When using it for outer diameter cutting, the spindle will rotate in reverse.



# MODULAR TYPE ARBOR



BALANCE CUT RAK $\alpha$  BORING ARBOR for LARGE DIA. <RAK Arbor>



RAK

Fig.1

Fig.2

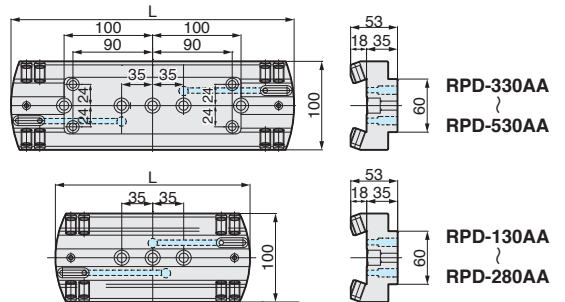
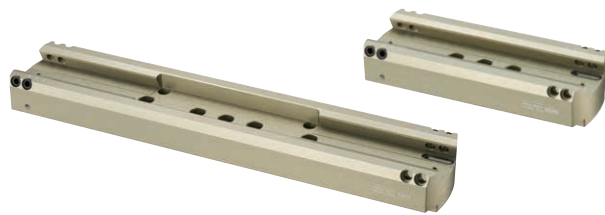
Code No.	Boring Range	L	D	P	Weight (kg)	Applicable RPD $\alpha$ Plate	Hex. Socket bolt	Fig.
<b>BT40</b> (IT40) -RAK-130A	130~230	130	102	35	4.9	RPD-130AA, 180AA, 230AA, 280AA	M1035	1
<b>BT50</b> -RAK-110A		110			7.2			
(IT50) -RAK-160A		160			9.9			
-RAK-210A		210			12.6			
-RAK-260A		260			15.3			
-RAK-310A		310			18.0			
-RAK-360A		360			20.7			
-RAK-410A		410			23.4			
-RAK330-125*	330~580	125	240	100	12.0	RPD-330AA, 380AA, 430AA, 480AA, 530AA	M1045	2

★The location of the cutting edge is same as the drive key for standard. The different location is available, please specify  $\theta$ . e.g. BT50-RAK-160A-30°

★Special sleeves (2 pieces) are required to change the arbor to support center coolant. Code No. RAK-CLS (option)

★★ : In case of IT50, IT50-RAK-330-135 is standard gauge length.

BALANCE CUT  $\alpha$  PLATE for LARGE DIA. <RPD $\alpha$  Plate>



Code No.	Boring Range	L	Weight (kg)	Code No.	Boring Range	L	Weight (kg)	Code No.	Boring Range	L	Weight (kg)
RPD-130AA	$\phi$ 130~180	124	1.1	RPD-330AA	$\phi$ 330~380	320	3.2	RPD-530AA	$\phi$ 530~580	520	5.2
-180AA	$\phi$ 180~230	170	1.6	-380AA	$\phi$ 380~430	370	3.7				
-230AA	$\phi$ 230~280	220	2.2	-430AA	$\phi$ 430~480	420	4.2				
-280AA	$\phi$ 280~330	270	2.7	-480AA	$\phi$ 480~530	470	4.7				

★Special sleeves (2 pieces) are required to change the arbor to support center coolant. Code No. RAK-CLS (option)

# ACCESSORIES for BALANCE-CUT BORING ARBOR for LARGE DIA.

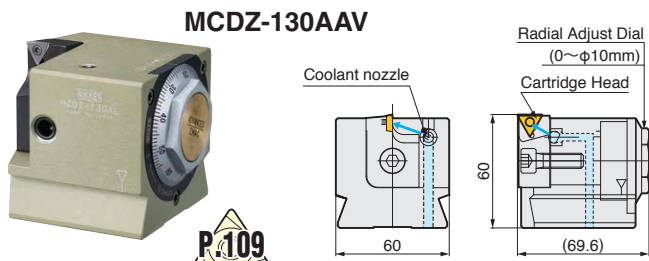


Accessories for Balance-Cut BAC $\alpha$ -V

JAPAN PAT.

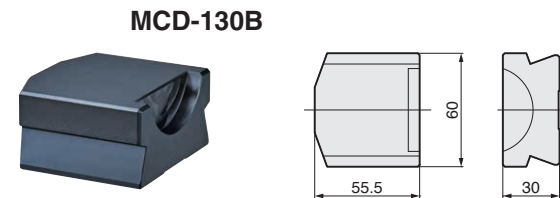
Balance-Cut BAC $\alpha$  type cartridge for large dia.

BAC $\alpha$  type Balancer for Balance-Cut large dia.



P.109

0.8kg



0.7kg

Accessories	ZMAC-V Unit	Insert Tip	Clamp Bolt	Wrench for Insert	Coolant stop Screw	Wrench for M510	Lock Screw (M10)	Wrench for M1016	Adjustment Handle	Applicable RPD $\alpha$ Plate
Code No.	M10HZ-75V	6MP-C	M2577	T-8	M510	M2.5	M1016	M5	M10HZL	RPD-130AA, 180AA, 230AA, 280AA, 330AA, 380AA, 430AA, 480AA, 530AA

★Set Code No. is S.MCDZ-130AAV.

★M10HZ-75VR with CC08-C insert tip is available. Please specify code No. S.MCDZ-130AAVR.

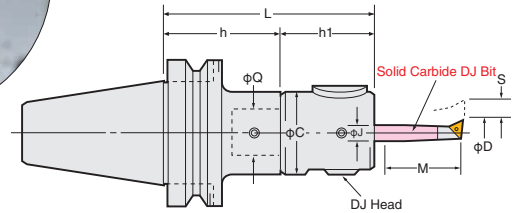
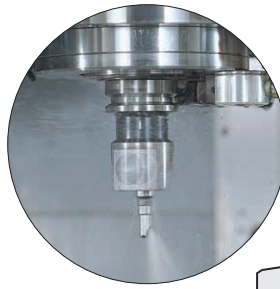
★6MP-C insert tip is supplied as standard. P.109 Please refer P.107 for cutting condition.



# DJ BORING BAR



High Pressure Coolant Through Tool is available. Please contact us.



BT-DJ

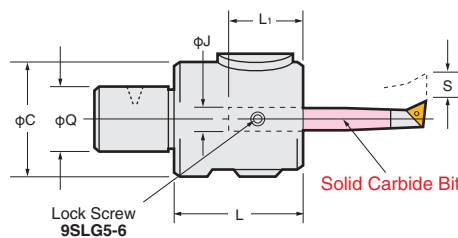
TAPER	Code No.	Boring Range	Boring Depth	L	C	Bit Hole Size	Shank Code No.	Head Code No.	Bit Stroke	DJ Bit Code No.	Weight (kg)
No.30	BT30-DJ3- 80A	3~28	14~ 80	80	50	10	BT30-Q26- 40	Q26-DJ3-40A	5.2	J10	1.0
	-DJ8- 84AN	3~50	14~130	84	59	16		-DJ8-44AN	6.0	J16	1.2
No.40	BT40-DJ3- 90A	3~28	14~ 80	90	50	10	BT40-Q26- 50	Q26-DJ3-40A	5.2	J10	1.6
	(IT40) -135A			135							
	-DJ8- 94AN	3~50	14~130	94	59	16	BT40-Q26- 50	-DJ8-44AN	6.0	J16	1.9
	-139AN			139							
No.50	BT50-DJ3-105A	3~28	14~ 80	105	50	10	BT50-Q26- 65	Q26-DJ3-40A	5.2	J10	4.2
	(IT50) -210A			210							
	-DJ8-109AN	3~50	14~130	109	59	16	BT50-Q26- 65	-DJ8-44AN	6.0	J16	4.5
	-214AN			214							

- ★MIN. dial readout on dia.: 0.01mm, Sub scale: 0.005mm, 0.8mm/rev.
- ★Each boxed set of DJ3 and DJ8 Boring Bars include 4 pcs of DJ Boring Bits as standard.
- ★Bits included for BT40-DJ8-94A : J16-8-40, J16-18-80, J16-28-85, J16-38-85
- ★Bits included for BT40-DJ8-94AN : J16-8-40, J16-18-60, J16-28-65, J16-38-65
- ★DJ Boring Bar without Boring Bits is also available. Please add "-BD" at the end of Code No. e.g. BT40-DJ3-90A-BD
- ★Shank and DJ Head (including Boring Bits) are delivered in separate packages.
- ★Please refer P.106 for Boring Bits. Please refer P.108 for cutting condition.

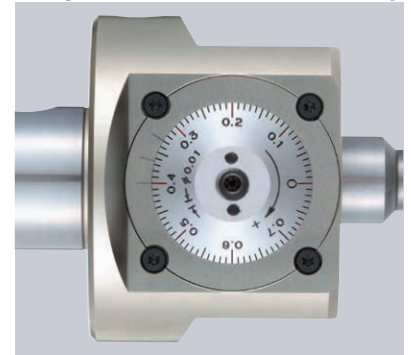
# DJ BORING HEAD with DJ BORING BIT



DJ



Easy to Set Micron Accuracy



▲ 1 Graduation: 0.01mm on dia.

DJ No.	Code No.	Boring Range	Boring Depth	Q	L	C	Bit Hole Size	L <sub>1</sub>	Bit Stroke	Weight (kg)	Bit Code No. (Standard Accessories)	Insert Tip Code No.
DJ3	Q26-DJ3-40A	3~28	14~80	26	40	50	10	27	5.2	0.5	J10- 3-14	—
											J10- 5-35	CC03-C
											J10- 8-40	3MP-C
											J10-18-62A	6MP-C
DJ8	Q26-DJ8-44AN	3~50	14~130	26	44	59	16	32	6.0	0.8	J16- 8-40	3MP-C
											J16-18-60	6MP-C
											J16-28-65	
											J16-38-65	

- ★MIN. dial readout on dia.: 0.01mm, Sub scale: 0.005mm, 0.8mm/rev.
- ★Each boxed set of DJ3 and DJ8 Boring Bars include 4 pcs. of DJ Bits, Insert, Insert Clamp Handle, (T6, T8, (10S for DJ3) Micro Adjusting Handle (M2.5) as standard.
- ★Bits included for Q26-DJ8-44A : J16-8-40, J16-18-80, J16-28-85, J16-38-85
- ★Bits included for Q26-DJ8-44AN : J16-8-40, J16-18-60, J16-28-65, J16-38-65
- ★Please refer P.88 for Boring Bits. Please refer P.108 for cutting condition.
- ★DJ Boring Head without Bits is also available. Please add "-BD" at the end of Code No. e.g. Q26-DJ3-40A-BD, Q26-DJ8-44A-BD
- ★Weight of wooden box of DJ head with Boring Bits: Q26-DJ3-40A : 1.2kg, Q26-DJ8-44AN : 2.2kg, Q26-DJ8-44A : 2.5kg

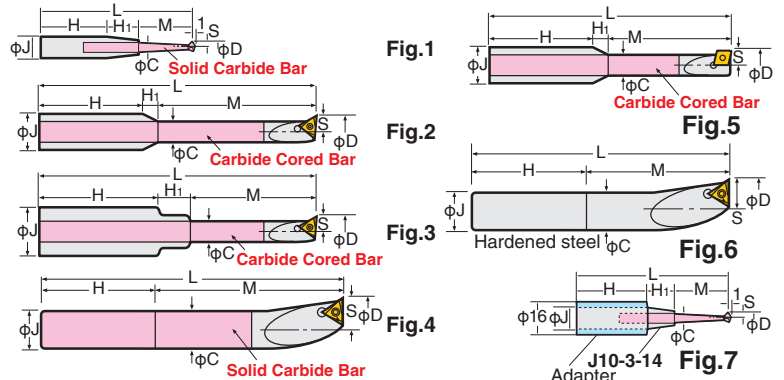


# DJ BORING BIT SOLID CARBIDE

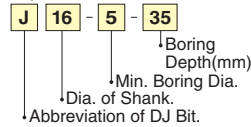
**NIKKEN**



New Bit Series for DJ8



Explanation of the Code No.



## Standard Bit Series

Style	Code No.	Boring Range		J	L	H	H <sub>1</sub>	C	S	Insert No.	Insert Clamping Bolt No.	Insert Clamping Handle No.	Fig.	Weight (g)
		D	M											
DJ3	J10- 3- 14	3~8	14	10	62	30	18	2.2	1.5	-	-	-	1	30
	- 5- 35	5~15	35		70	5.0	4.3	2.5	CC03-C	M611	10S	5	30	
	- 8- 40	8~18	40		75	32.5	2.5	7.2	4.0	3MP-C	M2037	T-6	2	50
	-18- 62A*2	18~28	62		91	29	-	12	9.0	6MP-C	M2577	T-8	4	130
DJ8	J16- 8- 40	8~18	40	16	83	32	10	7.2	4.0	3MP-C	M2037	T-6	3	50
	-18- 60C	18~28	60		93	-	-	-	9.0	6MP-C	M2577	T-8	6	150
	-28- 65C	28~39	65	98	33	-	16	14.0	6MP-C	M2577	T-8	6	150	
	-38- 65C	38~50	65	-	-	-	-	19.0	6MP-C	M2577	T-8	6	200	
	J16- 8- 40	8~18	40	16	83	32	10	7.2	4.0	3MP-C	M2037	T-6	3	50
	-18- 80C	18~28	80		113	-	-	-	9.0	6MP-C	M2577	T-8	4	300
	-28- 85C	28~39	85		118	33	-	16	14.0	6MP-C	M2577	T-8	4	300
	-38- 85C	38~50	85		-	-	-	-	19.0	6MP-C	M2577	T-8	4	350

- ★ There are two bit series for DJ8.      means attached bit with **N** in the set code. (e.g. BT40-DJ8-94AN)      means attached bit without **N** in set code. (e.g. BT40-DJ3-90A, BT40-DJ8-94A)
- ★ DJ boring bit with "C" at the end of code is oil-hole type, and will be switched to oil-hole specifications as soon as there is no stock of oil holeless without "C" at the end of code.
- ★ "C" grade (Coated) insert tip is supplied as standard. P.109, P.110 Please refer P.108 for cutting condition.
- ★ \*2 means the dimension when using the new type DJ3-A head, and the dimension M will be 3mm longer when attached to the old model. Please consult us separately, if the new DJ3-A head requires the same dimension of M as the old DJ3 head. (e.g. J10-18-65A)

## Optional Bit Series

Style	Code No.	Boring Range		J	L	H	H <sub>1</sub>	C	S	Insert No.	Insert Clamping Bolt No.	Insert Clamping Handle No.	Fig.	Weight (g)
		D	M											
DJ3	J10- 5- 30	5~15	30	10	60	30	-	4.3	2.5	CC03-C	M611	10S	5	28
	- 8- 35	8~18	35		65	30	-	7.2	4.0	3MP-C	M2037	T-6	2	43
	- 8- 55	8~18	55		90	32.5	2.5	10	6.0				M2040	80
	-12- 40C*2	12~22	40		70	30	-	-	-	-	100			
	-12- 55C*2	12~22	55	85	26	-	-	-	-	130				
	-18- 65C*1	18~28	65	91	26	-	-	-	-	130				
	-18- 50A*2	18~28	50	79	29	-	12	9.0	6MP-C	M2577	T-8	4	110	
	-18- 80C*1	18~28	80	106	26	-	-	-	-	130				
-18- 77A*2	18~28	77	106	29	-	-	-	-	130					
DJ8	J10- 3- 14*3	3~8	14	10	62	30	18	2.2	1.5	-	-	-	7	30
	J16- 5- 25	5~15	25		60	31.5	3.5	4.3	2.5	CC03-C	M611	10S	5	76
	- 5- 35	5~15	35		78	33	10	-	-	-	-	-	80	
	- 8- 35	8~18	35		70	32.5	2.5	7.2	4.0	3MP-C	M2037	T-6	2	90
	- 8- 55	8~18	55		98	32	10	-	-	-	-		3	110
	-12- 50C	12~22	50		90	35	-	11.2	6.0	3MP-C	M2045	2	140	
	-12- 60C	12~22	60		103	40.5	2.5	-	-	-	-	2	170	
	-18-100C	18~28	100		133	-	-	-	-	-	-	-	350	
	-18-120C	18~28	120		153	-	-	-	-	-	-	-	400	
	-28-100C	28~39	100		133	33	-	14.0	6MP-C	M2577	T-8	4	350	
	-28-130C	28~39	130		163	-	-	-	-	-	-		450	
	-38-100C	38~50	100		133	23	19.0	-	-	-	-		370	
	-38-130C	38~50	130		163	16	-	-	-	-	-	470		

- DJ boring bit with "C" at the end of code is oil-hole type, and will be switched to oil-hole specifications as soon as there is no stock of oil holeless without "C" at the end of code.
- ★\*1 Means only for the old type DJ head.
- ★\*2 Means the dimension when using the new type DJ3-A head, and the dimension M will be 3mm longer when attached to the old model. Please consult us separately, if the new DJ3-A head requires the same dimension of M as the old DJ3 head. (e.g. J10-18-65A)
- ★\*3 J10-3-14 bit is supplied as standard. But when attached to the DJ8 head, the adapter for J10 bit : 9DJ8-J10-ADP is required. Please see Fig.7.

# BASE HOLDER for MODULAR TYPE (BT Shank)

**NIKKEN**



Q

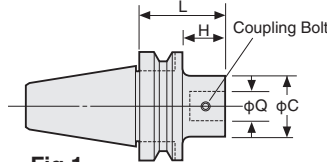


Fig.1

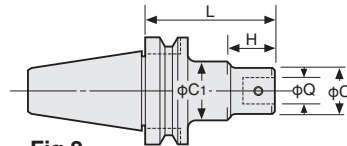


Fig.2

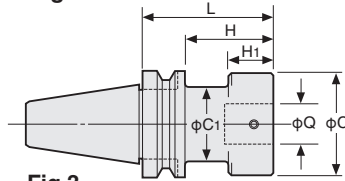


Fig.3

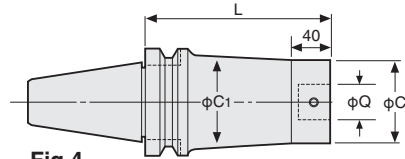


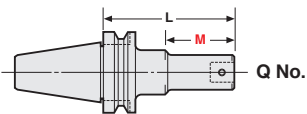
Fig.4

TAPER	Code No.	Coupling Dia Q	L	C	C1	H	H1	Coupling Bolt No.	Fig.	Weight (kg)
No.30	BT30-Q 9- 50	9	50	19	30	20	-	B19	2	0.5
	-Q12- 65	12	65	24	-	40		B12	1	0.5
	-Q16- 50	16	50	31		25		B16		0.5
	-Q20- 50	20	50	40	26	B20		0.5		
	-Q26- 40	26	40	50	45	18		6	B26N	3
No.40	BT40-Q 9- 80	9	80	19	30	5	-	B19	2	1.2
	- 95N		95			27				1.2
	-Q12- 80	12	80	24	35	12		B12		1.2
	- 110		110			50				
	-Q16- 95	16	95	31	42	22		B16		1.5
	- 125		125			55			1.6	
	-Q20- 80	20	80	40	50	27		B20	1.5	
	- 110		110			60				1.7
	-Q26- 50	26	50	50	-	20		B26N	1	1.1
	- 95		95			65				1.8
	- 140		140			110				2.4
	-Q34- 95	34	95	64	62	68		B34	3	2.2
	- 110		110			83				70
	-Q42- 95	42	95	83	-	68		B42	3	2.8
	No.50	BT50-Q 9- 110	9	110	19	40		5	-	B19
- 125N		125		27			4.1			
-Q12- 95		12	95	24	44	12	B12	4.0		
- 125			125			50				4.0
-Q16- 125N		16	125	31	50	22	B16	4.5		
- 155			155			55				4.6
-Q20- 110		20	110	40	60	27	B20	4.6		
- 125			125			60				4.5
-Q26- 65		26	65	50	65	27	B26N	1		3.7
- 140			140			47		2		5.3
- 170N			170			112		5.4		
-Q34- 140		34	140	64	80	102	B34	1		5.6
- 170			170			120		2		6.5
- 200			200			150		7.1		
-Q42- 125		42	125	83	-	87	B42	1		6.5
- 190			190			152				9.1
-Q42- 225A		42	225	83	98	-	B42	4		12.9
- 275A			275							15.6
- 325A	325		18.3							
- 375A	375		21.0							

★All base holders have a centre through tool coolant hole.

★The coupling screw & wrench are supplied as standard.

★When L length is required longer than standard, please specify the boring depth M.

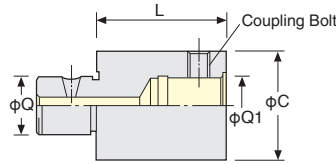


Q No.

# SPACER for MODULAR TYPE

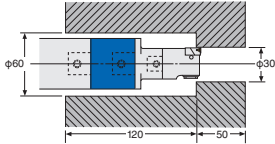


## Extension Spacer



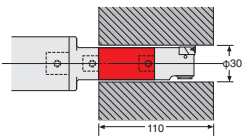
SP

■ Example of small diameter boring in a deep recess using the largest diameter extension spacer in order to maintain rigidity.



BT40-Q26-95  
**SP26-26-60**  
 SP26-12-30  
 12-ZMAC25-40V

■ Example of deep hole boring using the extension spacer with the same diameter as head.

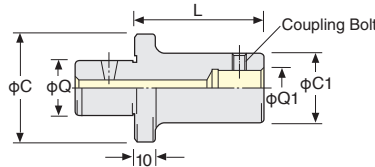


BT40-Q26-95  
 SP26-12-30  
**SP12-12-60**  
 12-ZMAC25-40V

Code No. Q-Q1-L	Coupling Dia		C	Coupling Bolt No.	Weight (kg)
	Q	Q1			
SP 9- 9-30, 45	9	9	19	B19	0.06, 0.1
SP 12-12-30, 45, 60	12	12	24	B12	0.1, 0.15, 0.2
SP 16-16-30, 45, 60	16	16	31	B16	0.15, 0.25, 0.35
SP 20-20-45, 60	20	20	40	B20	0.4, 0.5
SP 26-26-60, 90	26	26	50	B26N	0.8, 1.2
SP 34-34-60, 90	34	34	64	B34	1.4, 2.0
SP 42-42-60, 90	42	42	83	B42	2.4, 3.4

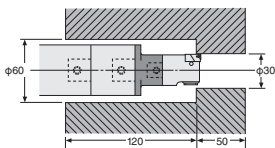
★φC of SP26 Spacer has been increased from 45mm to 50mm due to improvement of its rigidity.  
 ★All spacers have a centre through-tool coolant hole. ★The Coupling screw is included as standard.

## Stepped Spacer



SP

■ Example of small diameter boring in deep recess using stepped spacer with the same diameter as head.



BT40-Q26-95  
 SP26-26-60  
**SP26-12-30**  
 12-ZMAC25-40V

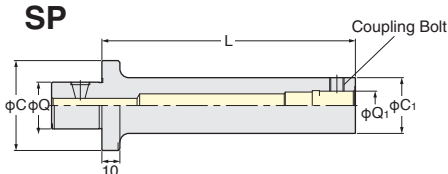
Code No. Q-Q1-L	Coupling Dia		C	C1	Coupling Bolt No.	Weight (kg)
	Q	Q1				
SP 12- 9-45	12	9	24	19	B19	0.1
SP 16- 9-45	16	9	31	19	B19	0.15
-12-60		12		24	B12	0.25
SP 20- 9-45	20	9	40	19	B19	0.2
-12-60		12		24	B12	0.3
-16-60, 90		16		31	B16	0.4, 0.6
SP 26- 9-30, 45	26	9	50	19	B19	0.3, 0.3
-12-30, 60		12		24	B12	0.3, 0.4
-16-30, 60, 90		16		31	B16	0.3, 0.5, 0.6
-20-30, 60, 100		20		40	B20	0.4, 0.6, 1.0
SP 34-16-60, 90	34	16	64	31	B16	0.7, 0.9
-20-60, 100		20		40	B20	1.0, 1.3
-26-60, 100		26		50	B26N	1.1, 1.5
SP 42-20-60, 100	42	20	83	40	B20	1.2, 1.6
-26-60, 100		26		50	B26N	1.4, 1.9
-34-60, 100		34		64	B34	1.8, 2.5

★φC of SP26 Spacer has been increased from 45mm to 50mm due to improvement of its rigidity.  
 ★All spacers have a centre through-tool coolant hole. ★Coupling bolt is supplied as standard.

## A1 Spacer for Deep Hole



L/D:MAX.6 times



SP

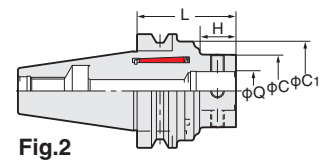
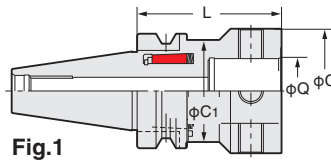
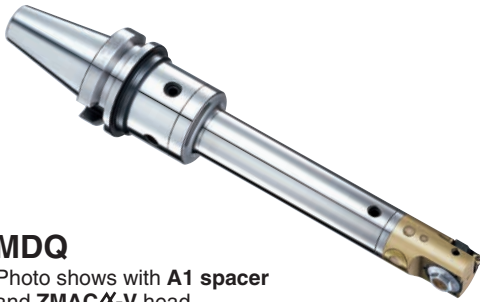
Code No. Q-Q1-L	Coupling Dia		C	C1	MAX. L	Weight (kg)
	Q	Q1				
SP 26- 9- 85-A1	26	9	50	19	85	0.6
-12-115-A1		12		24	115	0.7
-16-140-A1		16		31	140	0.9
-20-180-A1		20		40	180	1.2
-26-190-A1		26		50	190	1.5

Please specify the "L" length when ordering. Code No. is e.g SP26-9-85-A1 (Q1=9 and L=85)



Modular connection system is the face contact system drawing-in by the bolt, which top shape is gentle taper.

1. Insert a head by adjusting the hole positions.
2. Tighten the bolt temporary, then loosen slightly.
3. Tighten the bolt again by moving the head CW and CCW. (Centering each other)
4. Then tighten the bolt completely until face contact.

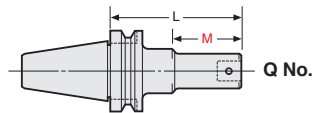


**MDQ**

Photo shows with A1 spacer and ZMAC-V head.

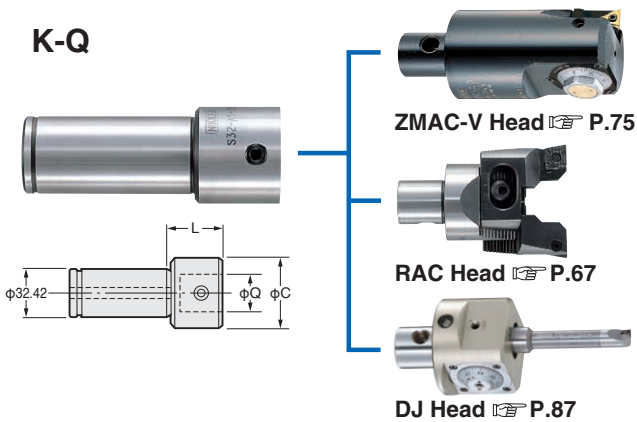
TAPER	Code No.	Q	L	C	C1	H	Weight (kg)	ZMAC-V Boring Range	Fig
No.30	NBT30-MDQ26- 60	26	60	50	50	37.5	-	16~70	1
No.40	NBT40-MDQ26- 65	26	65	50	54	30.0	1.3	16~70	2
No.50	NBT50-MDQ26- 80	26	80	50	87	22.0	4.6	16~70	2
	-MDQ34- 90	34	90	64	87	32.0	4.9	16~85	
	-MDQ42-100	42	100	83	87	45.0	5.7	16~180	

- ★All base holders are used for centre through tool coolant.
- ★Coupling bolt and wrench are supplied as standard.
- ★ZMAC-V head is recommended to use with the MAJOR DREAM base holder for anti-vibration.
- ★When L length is required longer than standard, please specify the boring depth M and Q No.



**MODULAR TYPE STRAIGHT SHANK**

**K-Q**

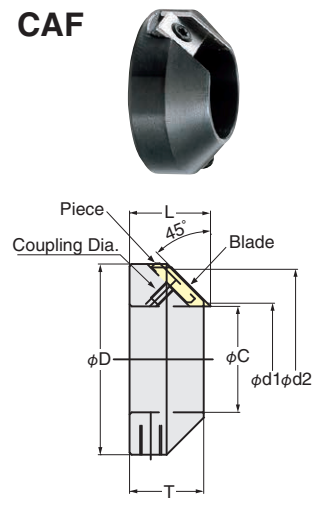


Code No.	Coupling Dia.	C	L	Coupling Bolt.	Weight (kg)
	Q				
K32-Q 9-20	9	19	20	B19	0.4
-40			40		0.5
-Q12-20	12	24	20	B12	0.4
-60			60		0.6
-Q16-20	16	31	20	B16	0.5
-55			55		0.7
-Q20-40	20	40	40	B20	0.7
-Q26-40				B26N	0.8
K42-Q26-40	26	50		B26N	1.2

★All straight shank base holders are used for centre through tool coolant.

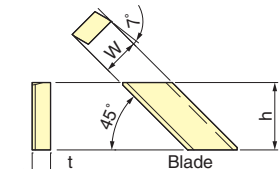
**CHAMFERING CUTTER for Modular System**

**CAF**



Code No.	Coupling Dia. Q	C	D	T	L	Chamfering Dia. (phi d1~phi d2)	Blade No.	Piece No.	Clamp Bolt
CAF 9- 32	9	19	35	20	21.9	20~32	CB-2	CR-2	M375 (M3x6ℓ, T10)
CAF12- 38	12	24	42			25~38			
CAF16- 45	16	31	49			33~45			
CAF20- 60	20	40	64	25	27.2	42~60	CB-5	CR-5	M377 (M4x9ℓ, T20)
CAF26- 85A	26	50	90	35	38.2	56~85	CB-6	CR-6	M370 (M5x14ℓ, T25)
CAF34-110	34	64	115		40.2	70~110			

★Chamfering angle is 45° ★Blade Material : T12A (Cermet)

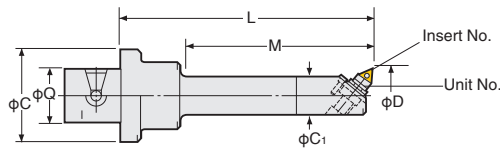


Code No.	h	W	t
CB-2	7.4	5.0	2.5
CB-5	11.0	6.0	3.0
CB-6	18.4	7.0	3.0

# MODULAR TYPE BORING HEAD

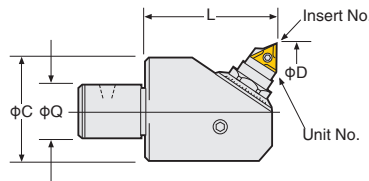
**NIKKEN**

## BCB Micro-Cut Boring Head



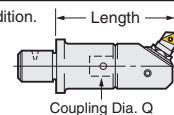
Code No.	Boring Range D	Boring Depth M	Coupling Dia Q	Total Length L	C	C <sub>1</sub>	Unit No.	Insert No.
Q26-BCB12.7S- 95	12.7~14.5	60	26	95	50	12	M1-12.7	1MP-T
Q26-BCB14.5S-100	14.5~19.5	65		100		13	M1-14.5	
Q26-BCB19 S-125	19 ~22.5	90		125		18	M2-19	

★“T” grade (Cermet) insert is supplied as standard. P.111 Please refer P.107 for cutting condition.



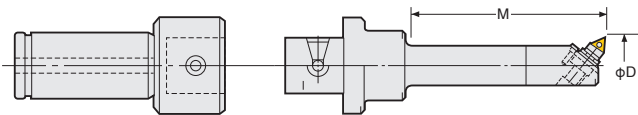
Set/Head Code No	Boring Range D	Boring Depth M	Coupling Dia Q	Remarks		
				C	Unit No.	Insert No.
9-BCB 22 - 40	22 ~29.5	40	9	20	M 2- 22	3MS-T
12-BCB 29 - 40	29 ~ 41		12	25	M 3- 29	
16-BCB 38 - 55	38 ~ 50	55	16	35	M 5- 38	6MP-C
20-BCB 48 - 70	48 ~ 65	70	20	41	M 5- 48	
26-BCB 62 - 70	62 ~ 90		85	26	54	M 7- 62
34-BCB 82 - 85	82 ~ 110	100	34	67	M 10-100	
42-BCB100 -100	100~140		42	85		

★“6MP-C” (Coated) insert or “T” grade (Cermet) insert is supplied as standard. P.111 Please refer P.107 for cutting condition.  
 ★Min. dial readout (on dia) : 0.02mm (Sub scale : 0.002mm)  
 ★Code No. of the set with SP26 stepped spacer is Q26-Coupling Dia.-BCB○-Length e.g. Q26-20-BCB48-100



# Straight Shank MICRO CUT BORING BAR

**NIKKEN**



The sales of micro cut boring bar will be finished, when the stock is sold out.



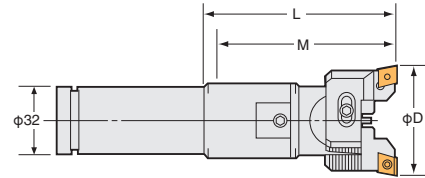
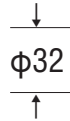
## K-BCB

Style	Code. No.	Q Holder Code. No.	Head No.	Boring Range φD	Boring Depth	Insert No.
<b>K32</b>	K32-BCB12.7S-135	K32-Q26-40	Q26-BCB12.7S- 95	12.7~14.5	60	1MP-T
	-BCB14.5S-140		-BCB14.5S-100	14.5~19.5	65	

★Please refer P.91 for straight shank base holder and P.92 for micro cut head.  
 ★“T” grade (Cermet) Insert is supplied as standard. P.111 Please refer P.107 for cutting condition.  
 ★Please use ZMAC-V Boring Bar for the bore dia. is larger equal to φ16mm. P.93

# Straight Shank BALANCE CUT BORING BAR

**NIKKEN**



## K-RAC

You can use following boring tools with C32 Milling Chuck. It is convenient for Various/Small Volume Productions. Use with Straight Shank ZMAC-V Boring Bar.

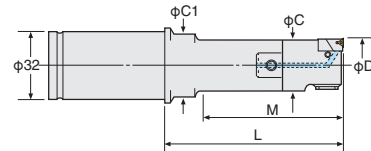
**P.62**

Code No.	Boring Range D	Boring Depth M	Shank Code No.	Head No.	Insert No.	Weight (kg)
K32-RAC25- 75E -115E	25~ 32	70	K32-Q12-20	12-RAC 25- 55E	CC07-C	0.8
		93	-Q12-60			0.9
-RAC32- 75E -110E	32~ 45	70	-Q16-20	16-RAC 32- 55E	CC08-C	1.1
			-Q16-55			1.3
-RAC43-110E	43~ 55	105	-Q20-40	20-RAC 43- 70E	CC12-C	1.7
-RAC53-110E	53~ 70		-Q26-40	26-RAC 53- 70E		1.8
-RAC70-110E *	70~ 100			26-RAC 70- 70E		1.9

- ★Balance cut boring bar on above table is the boring bar with the cartridges (E) for steel, stainless and cast iron. "C" grade (Coated) insert tip is supplied as standard. **P.60**
- ★Boring bar with the cartridges for heavy duty boring of iron and cast iron **P.62**, for aluminium (A) **P.64** and for through hole and multi sheets (K) **P.66**. Please refer **P.106** for cutting condition.
- ★Shank (P.91) and head (P.67) are delivered in separate packages.
- ★For centre through coolant type except K32-RAC70-110E marked \*, please add "-C" at the end of Code No. e.g. K32-RAC53-110E-C

# Straight Shank ZMAC ADVANCED BORING BAR

**NIKKEN**



## K-ZMAC-V

You can use following boring tools with C32 Milling Chuck. It is convenient for Various/Small Volume Productions. **JAPAN PAT.**

Code No.	Boring Range D	Boring Depth M	C	C <sub>1</sub>	Shank Code No.	<b>P.109</b>		<b>P.110</b>		Weight (kg)
						Head No.	Insert No.	Head No.	Insert No.	
K32-ZMAC16- 65V - 75V	15.9~20.2	38	15	-	K32-Q12-20	12-ZMAC16-45V	3MP-C,B	-	-	0.5
		48				12-ZMAC16-55V				0.5
-ZMAC20- 60V - 80V	19.8~25.2	55	19	-	-Q 9-20	9-ZMAC20-40V	3MP-C,B	-	-	0.6
		63								-Q 9-40
-ZMAC25- 60V -100V	24.8~32.2	55	24	-	-Q12-20	12-ZMAC25-40V	3MP-C,B	-	-	0.6
		83								-Q12-60
-ZMAC32- 75V -110V	31.8~42.2	70	31	-	-Q16-20	16-ZMAC32-55V	4MP-C,B	16-ZMAC32R-55V	CC06-C	0.9
										-Q16-55
-ZMAC42-110V	41.8~55.2	105	40	-	-Q20-40	20-ZMAC42-70V	6MP-C,B	20-ZMAC42R-70V		1.5
-ZMAC55-110V	54.8~70.2							53		-

★All Codes shown are for Heads with Triangular Inserts.

For Heads with Rhomboidal Inserts, please add "R" to the Code No. e.g.) K32-ZMAC32 R -75V

- ★MIN. dial read out: ZMAC25-V and smaller is 0.02mm on dia. ZMAC32-V and larger is 0.01mm on dia.
- ★"C" grade (coated) Insert for Steel, Stainless and Cast Iron is supplied as standard with the Head. (Smooth Boring and Long tool-life) Please refer **P.107** for cutting condition. We would recommend "B" grade (CBN) Insert for Hardened Steel and High Speed Boring of Cast Iron.
- ★Centre Through Coolant function is available as standard.

# Straight Shank DEEP HOLE ZMACX ADVANCED BORING BAR **NIKKEN**

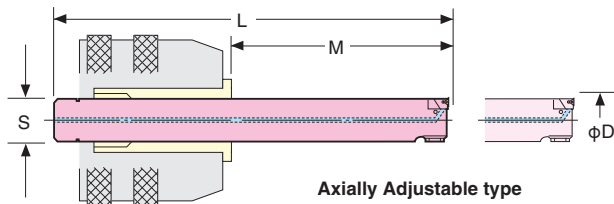
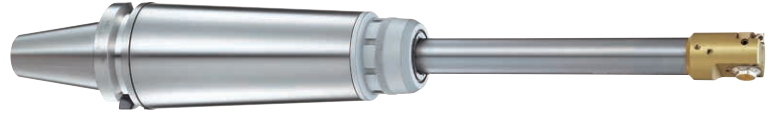
Axially Adjustable and **Solid Carbide**



For Deep Hole Boring



For Deep Hole Boring with Extended Gauge Length



Axially Adjustable type

**JAPAN PAT. P.109**

## S-ZMACX-V

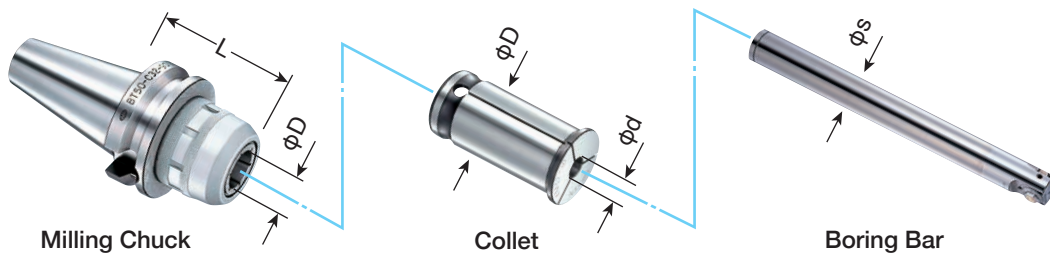
Code. No.	Boring Range D	Boring Depth M	L	S	Unit No.	Insert No.	Weight (kg)	Suitable Holder	
								Chuck	KM Collet
<b>S12-BCBX12.7- 95</b>	12.7~14.5	50~ 95	130	12	M1-12.7	<b>1MP-T</b>	0.2	<b>BT40-C32</b> <b>BT50-C32</b>	<b>KM32-12</b>
<b>S13-BCBX14.5-105</b>	14.5~19.5	50~105	135	13	M1-14.5				<b>-13</b>
<b>S15-ZMACX16-120V</b>	15.9~20.2	65~120	150	15	M2HZ-16V	0.3 0.6 1.3	<b>-15</b>		
<b>S19-ZMACX20-150V</b>	19.8~25.2	100~150	180	19	M2HZ-20V		<b>-19</b>		
<b>S24-ZMACX25-190V</b>	24.8~32.2	140~190	220	24	M3HZ-25V		<b>-24</b>		
<b>S30-ZMACX32-260V</b>	31.8~42.2	190~260	290	30	M4HZ-32V	<b>4MP-C, B</b> <b>6MP-C, B</b>	2.6		<b>-30</b>
<b>S32-ZMACX42-275V</b>	41.8~55.2	205~275	305	32	M5HZ-42V		3.8	<b>-</b>	

★T grade (Cermet) insert tip or "C" grade (Coated) insert tip is supplied as standard for BCBX or S-ZMACX-V respectively. P.109 Please refer P.107 for cutting condition.  
★Centre Through Coolant function of ZMACX-V is available as standard.

## Deep Hole Boring Operation with combination of Milling Chuck, Collet and S-ZMACX-V Boring Bar.

Ultra Deep Hole Boring MAX.L/D=8 times with Carbide Solid Boring Bar

Axially Adjustable with Milling Chuck



TAPER	Milling Chuck Code No.	Collet
<b>No.40</b>	<b>BT40 -C20- 70, 90, 105, 120</b>	<b>KM20</b>
	<b>-C25- 70, 90, 120</b>	<b>KM25</b>
	<b>-C32- 85, 105, 120</b>	<b>KM32</b>
<b>No.50</b>	<b>BT50 -C20-105, 135, 165, 180</b>	<b>KM20</b>
	<b>-C25-105, 135, 165</b>	<b>KM25</b>
	<b>-C32- 90, 105, 120, 135, 165</b>	<b>KM32</b>
	<b>-C42- 95, 105, 120, 135, 165</b>	<b>KM42</b>

KM Collet No.	Deep Hole Boring Bar Code No.
<b>KM20-12</b>	<b>S12-BCBX12.7- 95</b>
<b>-13</b>	<b>S13-BCBX14.5-105</b>
<b>KM25-12</b>	<b>S12-BCBX12.7- 95</b>
<b>-13</b>	<b>S13-BCBX14.5-105</b>
<b>-15</b>	<b>S15-ZMACX16-120V</b>
<b>(KM42) KM32-12</b>	<b>S12-BCBX12.7- 95</b>
<b>-13</b>	<b>S13-BCBX14.5-105</b>
<b>-15</b>	<b>S15-ZMACX16-120V</b>
<b>-19</b>	<b>S19-ZMACX20-150V</b>
<b>-24</b>	<b>S24-ZMACX25-190V</b>
<b>-30</b>	<b>S30-ZMACX32-260V</b>
<b>KM42-32</b>	<b>S32-ZMACX42-275V</b>

★KM42-12, 13, 15, 19, 24, 30, 32 are also available.

# Straight Shank DJ BORING BAR



## K-DJ

You can use following boring tools with C32 Milling Chuck.  
It is convenient for Various/Small Volume Productions.



Code No.	Boring Range D	Boring Depth M	L	C	Bit Hole Size L	Shank Code No.	Head No.	Bit Stroke S	Bit Code No.	Weight (kg)
<b>K32-DJ3-80A</b>	3~28	14~ 80	80	50	10	<b>K32-Q26-40</b>	<b>Q26-DJ3-40A</b>	5.2	<b>J10</b>	1.3
<b>-DJ8-84AN</b>	3~50	14~130	84	59	16		<b>-DJ8-44AN</b>	6.0	<b>J16</b>	1.6

- ★MIN. dial readout on dia.: 0.01mm, Sub scale: 0.005mm, 0.8mm/rev.
- ★Each box set of DJ3 and DJ8 Boring Bar includes 4 pcs of Boring Bits and insert tips.  
Bits included to **K32-DJ8-84A** : **J16-8-40, J16-18-80, J16-28-85, J16-38-85**  
Bits included to **K32-DJ8-84AN** ; **J16-8-40, J16-18-60, J16-28-65, J16-38-65**
- ★Please refer **P.88** for Boring Bit. Please refer **P.108** for cutting condition.
- ★DJ Boring Bar without Boring Bits is available. Please add “-BD” at the end of Code No. e.g. K32-DJ8-84A-BD

# MULTI TASK BORING BAR



Please provide your material drawing, machining drawing and machine information for multi task boring bars.

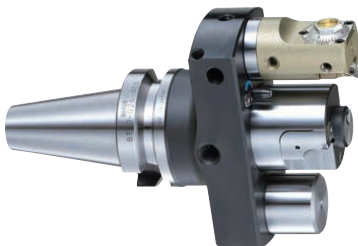
## Multi-Boring



## Rough Boring by ISO Cartridge



## Boring, Over Turning



## Rough Boring by ISO Cartridge



## Multi-Boring



Please supply ISO cartridges basically, even we can provide by ourselves.



# eMACP BORING SET PARTS LIST

**NIKKEN**

## eMACP Boring Set



\* Photo Shows  
S.EMACP6110



\* Photo Shows  
S.EMACP6200-  
W85200

### φ 6 ~ 110 eMACP Boring Set

Code. No.	Part name	Code No.	Q'ty	Weight(kg)	
S.EMACP6110	eMAC Boring Head	Q26-EMACP6110-61	1	0.85	
	Boring Bit	EJ16-6-21	1	0.04	
		EJ16-8-28	1	0.04	
		EJ16-11-40	1	0.06	
		EJ16-16-50	1	0.07	
		EJ16-22-68	1	0.1	
	Extension Bar for Cartridge	ECCB-53	1	0.5	
	Cartridge	S	ECC -28-10	1	0.01
		M	ECC -36-11.5	1	0.02
		L	ECC -54-19	1	0.08
	Bush	ECC -54-BM10	1	0.02	
	Plate for Cartridge	ECCP-14	1	0.2	
	Counter Weight for Large Dia.	ECC-92-CW	1	0.5	
	Insert Tip	EM02-T2(NX)	2	—	
		EM09-T2(NX)	5	—	
		EM11-T2(NX)	1	—	
	Tip Clamping Bolt / Spare	TS21	1	—	
		TS211	1	—	
CS250T		1	—		
CS300890T		1	—		
Wrench Set		1	—		
Case	S.EMACP6110-EB	1	—		

★Base Holder for eMACP Boring Head is available as an option. ★Please refer P.99 for Insert Tip.  
★Gross weight : 2.9kg Case Size : 330x290x120

## eMACP-W Boring Set

### φ 85 ~ 200 eMACP-W Boring Set Parts List

Code. No.	Part name	Code No.	Q'ty	Weight(kg)
S.EMACP6200 -W85200	eMAC-W Boring Head	Q42-EMACP6200W-85	1	3.4
	Cartridge(L)	ECC-54-19	1	0.08
	Plate for Cartridge(L)	ECCP-23	1	0.4
		ECCP-23L	1	0.6
	Counter Weight for Large Dia.	ECC-92-CW	1	0.05
	Insert Tip	EM11-T2(NX)	1	—
	Tip Clamping Bolt / Spare	CS300890T	1	—
	Wrench Set		1	—
Case	S.EMACP6200-EB	1	—	

★Base Holder for eMACP Boring Head is available as an option. ★Please refer P.99 for Insert Tip.  
★Gross weight : 5.7kg Case Size : 330x290x120

## eMACP Boring Head / Combination of Processing Each Dia.



φ 6 ~ 30



φ 54 ~ 86



φ 28 ~ 56



φ 80 ~ 110

BT

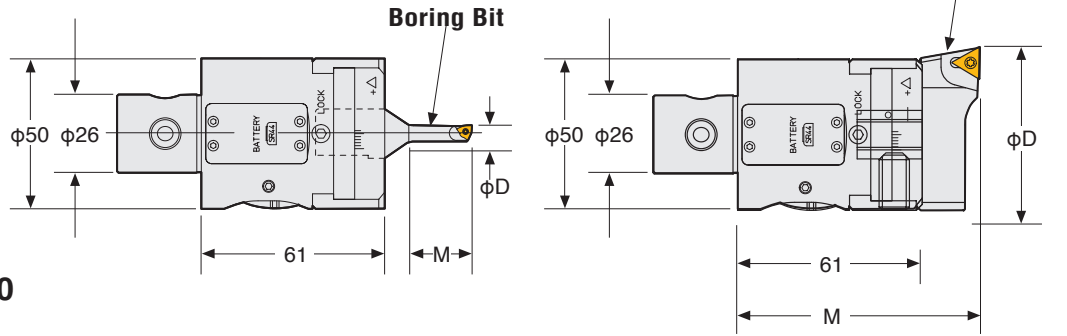
# MODULAR TYPE eMACP BORING HEAD

**NIKKEN**

**NEW**



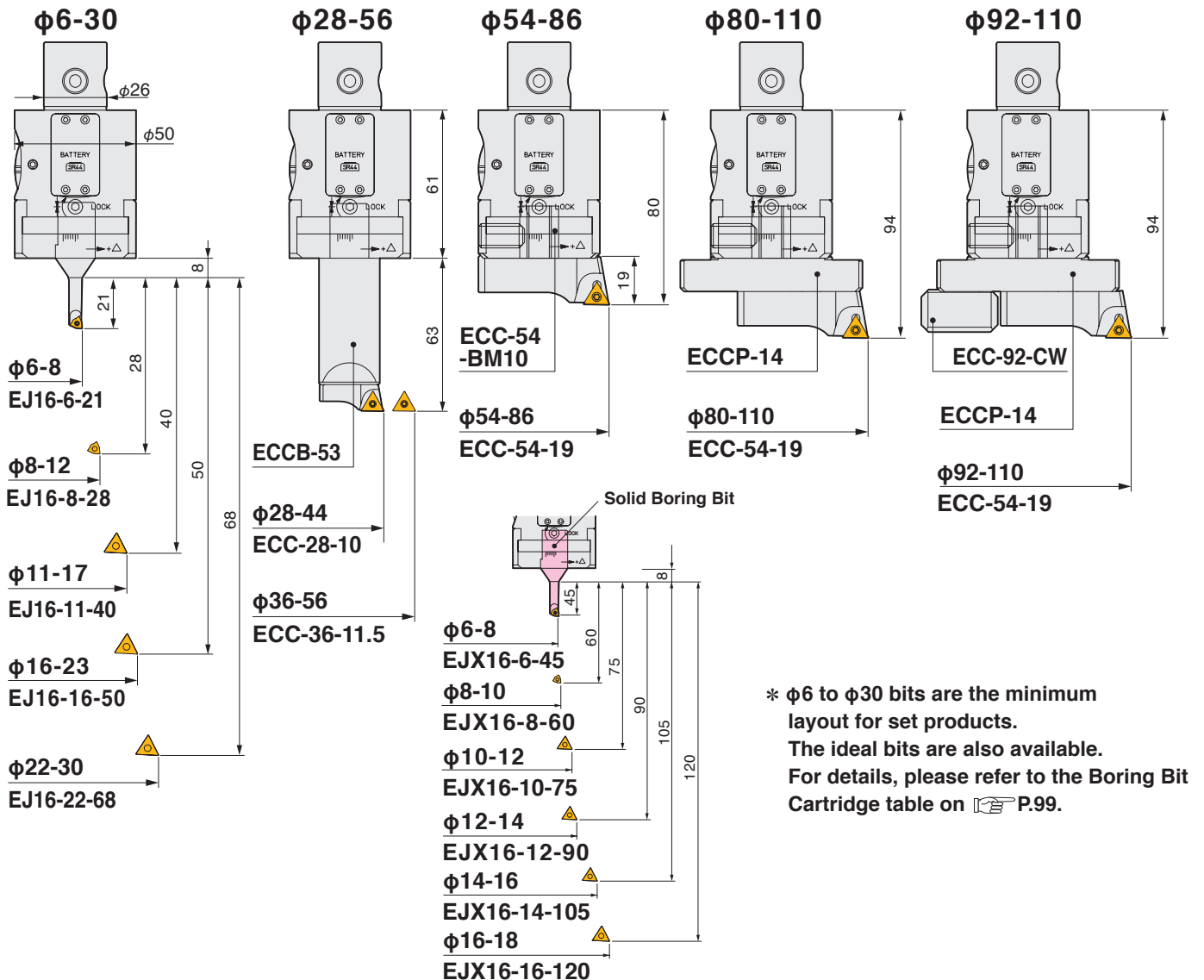
**eMACP**  $\phi 6 \sim \phi 110$



Q No.	Boring Head Code No.	Boring Range	Boring Depth	Boring Bit	Solid Boring Bit	Cartridge
		$\phi D$	M			
Q26	Q26-EMACP6110-61	$\phi 6 \sim \phi 110$	21~(94) * Please refer to the layout below	EJ16- 6-21	EJX16- 6- 45	ECC-28- 10 -36-11.5 -54- 19
				- 8-28	- 8- 60	
				-10-35	-10- 75	
				-11-40	—	
				-12-42	-12- 90	
				-14-50	-14-105	
				-16-50	-16-120	
				-18-63	—	
				-22-68	—	

★Please refer to P.90 for Spacer.  
 ★Centre Through Coolant function is available as standard.(MAX.4MPa)  
 ★Please refer to P.99 for Boring Bit, Cartridge and Insert Tip.

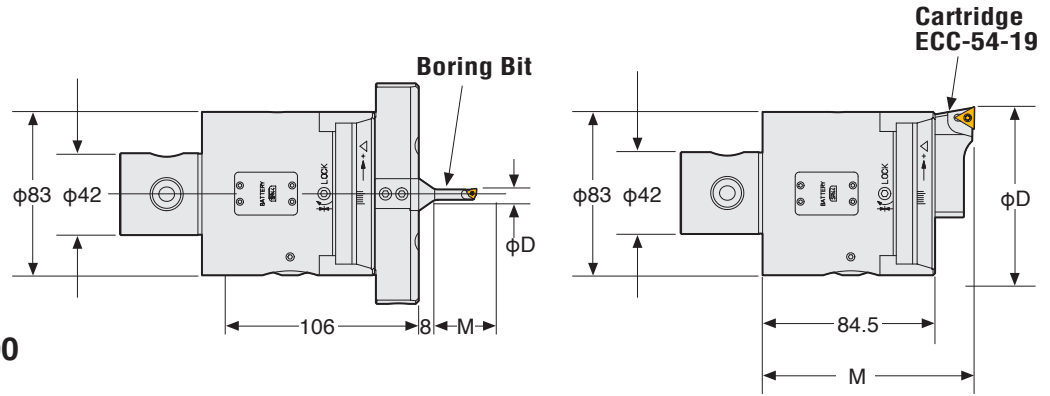
## COMBINATION OF PROCESSING EACH DIAMETER



# MODULAR TYPE eMACP-W BORING HEAD



eMACP-W  $\phi 6 \sim \phi 200$



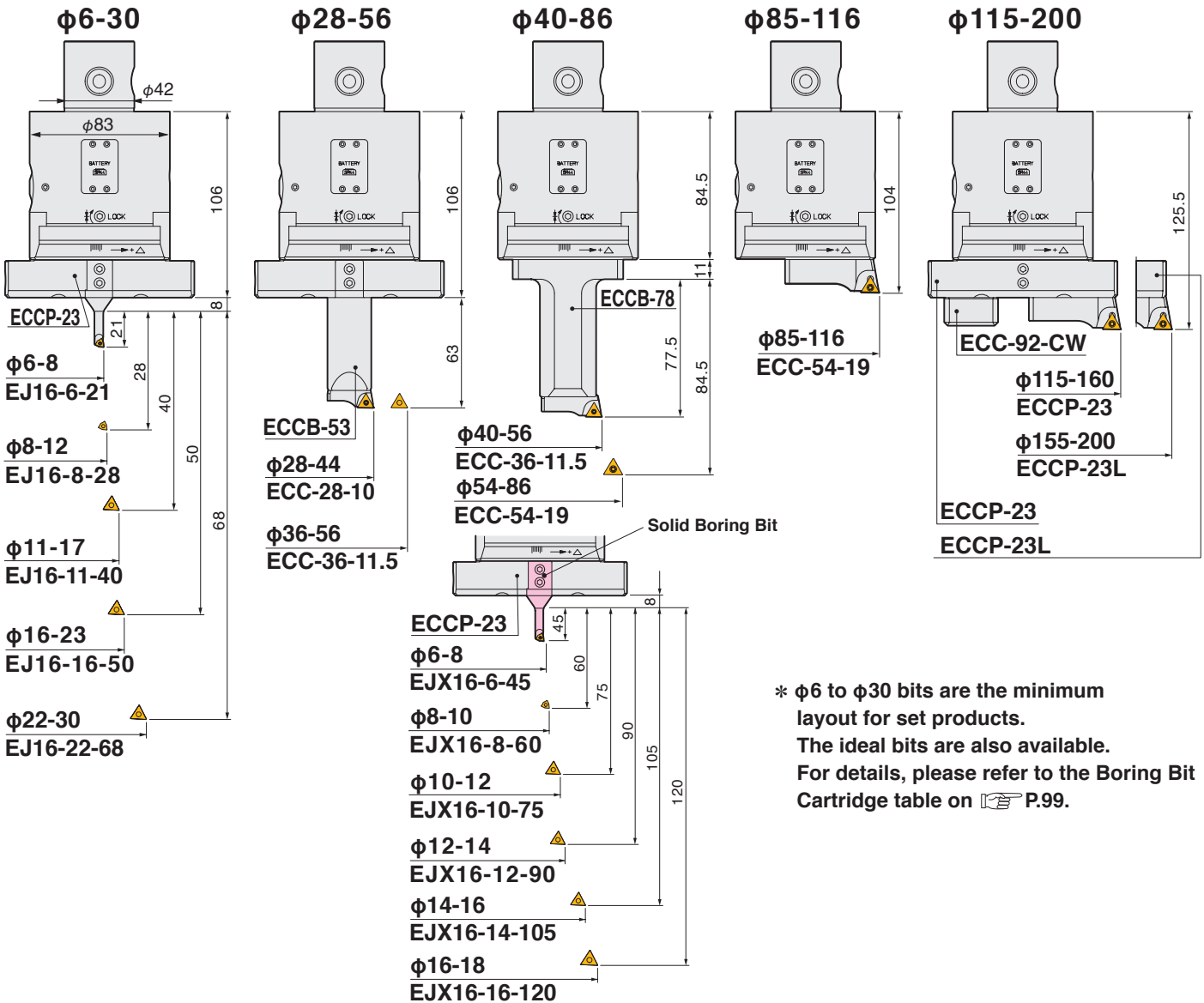
Q No.	Boring Head Code No.	Boring Range	Boring Depth	Boring Bit	Solid Boring Bit	Cartridge
		$\phi D$	M			
Q42	Q42-EMACP6200W-85	$\phi 6 \sim \phi 200$	21~(125.5) * Please refer to the layout below	EJ16- 6-21	EJX16- 6- 45	ECC-28- 10 -36-11.5 -54- 19
				- 8-28	- 8- 60	
				-10-35	-10- 75	
				-11-40	—	
				-12-42	-12- 90	
				-14-50	-14-105	
				-16-50	-16-120	
				-18-63	—	
				-22-68	—	

★Please refer to P.90 for Spacer.

★Centre Through Coolant function is available as standard.(MAX.4MPa)

★Please refer to P.99 for Boring Bit, Cartridge and Insert Tip.

## COMBINATION OF PROCESSING EACH DIAMETER



# BORING BIT & CARTRIDGE for eMACP BORING SYSTEM **NIKKEN**

## eMACP Boring Head & eMACP-W Boring Head



Q26-EMACP6110-61



Q42-EMACP6200W-85

\* Select the ideal bit, cartridge, and insert tip based on the boring head and the equipment conditions

## Boring Bit & Cartridge \*Each Boring bit and Cartridge are supplied without insert tip.

Boring Range Φ	Boring bit	Solid carbide bit	Cartridge	Insert tip		Clamp bolt		Torx Wrench	
							Thread size		
6 - 8	EJ16- 6-21	EJX16- 6- 45	-	EM02	-	TS21	M2	T-6	
8 - 10	EJ16- 8-28	EJX16- 8- 60		TS211					
10 - 12	EJ16-10-35	EJX16-10- 75		-	-	EM09	CS250T	M2.5	T-8
11 - 13	EJ16-11-40	-							
12 - 14	EJ16-12-42	EJX16-12- 90							
14 - 16	EJ16-14-50	EJX16-14-105							
16 - 18	EJ16-16-50	EJX16-16-120							
18 - 22	EJ16-18-63	-							
22 - 30	EJ16-22-68	-							
28 - 44	-	-							
36 - 56	-	-	ECC-36-11.5	-	EM11	CS300890T	M3	T-8	
54 - 200	-	-	ECC-54-19	-	EM11	CS300890T	M3	T-8	

★The EJ16-10-35, EJ16-12-42, EJ16-14-50, EJ16-18-63 bits, and the EJX16 carbide bit series are not included in sets. These products should be purchased separately.

## Inserts

Material	Steel	●	
	Stainless Steel	●	
	Cast Iron	●	●
	Aluminium		●
	Titanium Alloy, Heat Resistant Alloy		●

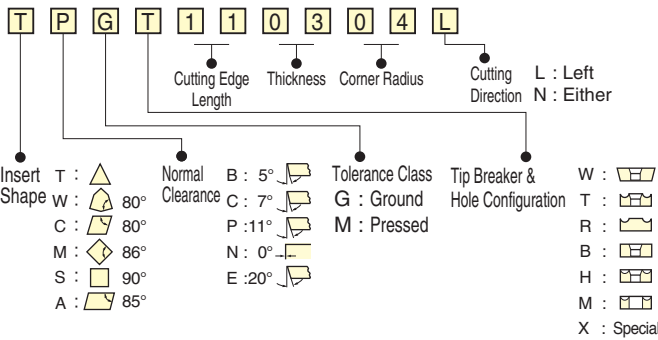
Insert with large nose radius have a stronger cutting edge, and are therefore ideal for large diameter boring of short holes. Small nose radius insert is ideal for smaller diameter boring or finishing.

Boring head type	Dimension	Code No.	Grade	Cermet (w/o coating)	Carbide K
			Material NOSE R	NX	HTI
EJ16-6-21 EJX16-6-45 -8-28 EJX16-8-60		EM02-○2 EM02-○4	0.2	●	●
			0.4	●	●
EJ16-10-35 EJX16-10-75 -11-40 EJX16-10-75 -12-42 EJX16-10-75 -14-50 EJX16-10-75 -16-50 EJX16-10-75 -18-63 EJX16-10-75 -22-68 EJX16-10-75		EM09-○2 EM09-○4	0.2	●	●
			0.4	●	●
ECC -54-19		EM11-○2 EM11-○4	0.2	●	●
			0.4	●	●

★Minimum order quantity : 10pcs

★When you use the other brand insert, use same brand Clamp bolt.

## Code No. of ISO standard Insert Tip



Please add the grade indication into ○, and add the insert tip material indication at the end of the Code No.  
 e.g. EM09-T4(NX)

## Grade & Material

Grade	Grade Indication	Insert Tip Material Indication	Specification
Cermet (w/o coating)	T	NX	The general material for the steel and the cast iron with the heat resistance and the toughness.
Carbide K	F	HTI	Toughness and the excellent wear resistance. Applicable for the cast iron, non-ferrous metal and the non-metal.

## Recommended Cutting Speed

◎...Best ○...Good —...Unsuitable

Insert	Insert		SS41	S55C	SCM	SKD	SC	FC,FCD	SUS	ALC	Ti
	Code No.	Material									
 or 	T	NX	◎	◎	◎	◎	◎	◎	◎	-	-
	F	HTI	-	-	-	-	-	◎	-	○	○

★The cutting speed is recommended to be reduced to 50% for the interrupted cutting. ★Rapid speed : ~6000r/min.  
 ★Please be sure to make a test run and confirm of no deflection, vibration and unusual sound.

## Recommended Cutting Condition (removal, feed)

Boring Range	Boring head type			Best Condition		MAX. Condition	
	Boring bit	Solid carbide bit	Cartridge	Removal mm/φ	Feed mm/rev	Removal mm/φ	Feed mm/rev
φ 6~ 12	EJ16- 6-21 - 8-28	EJX16- 6- 45 - 8- 60		0.1~0.2	0.03~0.07	-	-
φ 10~ 30	EJ16-10-35 -11-40 -12-42 -14-50 -16-50 -18-63 -22-68	EJX16-10- 75  -12- 90 -14-105 -16-120		0.1~0.3	0.05~0.07	-	-
φ 28~ 56			ECC-28-10 -36-11.5	0.2~0.4	0.05~0.08	1.0	0.1
φ 54~200			ECC-54-19	0.2~0.5	0.05~0.08	2.0	0.15

$$\text{Speed } n(\text{r/min}) = \frac{V_c \cdot 1000}{\pi D}$$

Vc: Cutting Speed(m/min)

π : 3.14

$$\text{Feed } V_f(\text{mm/min}) = n \cdot f$$

D : Boring dia(mm)

f : Feed(mm/rev)

$$\text{Logical Surface Finish (min)} = \frac{(\text{Feed per rev.})^2}{8 \times \text{Nose R}}$$

Feed per rev. depends on Nose R and accuracy required.

BT

## Q26BASE HOLDER

TAPER	Code No.	Coupling Dia Q	L	Weight (kg)		
BT	BT30 -Q26- 40	26	40	0.5		
	BT40 -Q26- 50		50	1.1		
	- 95		95	1.8		
	-140		140	2.4		
	BT50 -Q26- 65		65	3.7		
	-140		140	5.3		
	-170N		170	5.4		
	2LOCK NBT		NBT30 -Q26- 40	26	40	0.5
NBT40 -Q26- 50		50	1.1			
- 95		95	1.8			
-140		140	2.4			
NBT50 -Q26- 65		65	3.7			
-140		140	5.3			
-170N		170	5.4			
3LOCK MBT		MBT40 -Q26- 50	26		50	1.1
	- 95	95		1.8		
	-140	140		2.4		
	MBT50 -Q26- 65	65		3.7		
	-140	140		5.3		
	-170N	170		5.4		
	NC5	NC5- 46 -Q26- 40		26	40	0.4
		NC5- 63 -Q26- 50			50	0.9
- 95		95	1.5			
-140		140	2.3			
NC5- 85 -Q26- 65		65	2.5			
-140		140	4.6			
-170		170	4.7			
NC5-100 -Q26- 65		65	3.6			
-140		140	5.7			
-170		170	5.8			
HSK-A	HSK40A -Q26- 75	26	75	0.8		
	HSK50A -Q26- 75		75	1.1		
	HSK63A -Q26- 60		60	1.0		
	- 95		95	1.5		
	-140		140	2.3		
	HSK100A-Q26- 65		65	2.4		
	-140		140	4.5		
	-170N		170	4.6		
	POLYGONAL TAPER		C6 -Q26- 50	26	50	1.1
C8 -Q26- 60		60	2.0			
NT	T30W -Q26- 40	26	40	0.6		
	T40U -Q26- 35		35	1.1		
	T40M -Q26- 35		35	1.1		
	T50U -Q26- 45		45	3.3		
	T50M -Q26- 45		45	3.3		
HA	TT35 -Q26- 35	26	35	0.7		
	TT45 -Q26- 45		45	1.8		
MT	MT3T -Q26- 45	26	45	0.8		
	MT4T -Q26- 45		45	1.1		
	MT5T -Q26- 35		35	1.9		
	MT6T -Q26- 60		60	5.1		
K	K32 -Q26- 40	26	40	0.8		
	K42 -Q26- 40		40	1.3		

## Q42BASE HOLDER

TAPER	Code No.	Coupling Dia Q	L	Weight (kg)
BT	BT40 -Q42- 95	42	95	2.8
	BT50 -Q42- 125		125	6.5
	- 190		190	9.1
	-225A		225	12.9
	-275A		275	15.6
	-325A		325	18.3
	-375A		375	21
	2LOCK NBT		NBT40 -Q42- 95	42
NBT50 -Q42- 125		125	6.5	
- 190		190	9.1	
-225A		225	12.9	
-275A		275	15.6	
-325A		325	18.3	
-375A		375	21	
3LOCK MBT		MBT40 -Q42- 95	42	
	MBT50 -Q42- 125	125		6.5
	- 190	190		9.1
NC5	NC5- 63 -Q42- 95	42	95	3.6
	NC5-100 -Q42- 125		125	6.5
	- 190		190	9.1
HSK-A	HSK63A -Q42- 95	42	95	2.5
	HSK100A-Q42- 125		125	5.3
	- 190		190	7.9
	-225A		225	11.7
	-275A		275	14.4
	-325A		325	17.1
	-375A		375	19.8
	NT		T50U -Q42- 95	42
T50M -Q42- 95		95	5.8	
MT	MT6T -Q42- 60	42	60	6.1

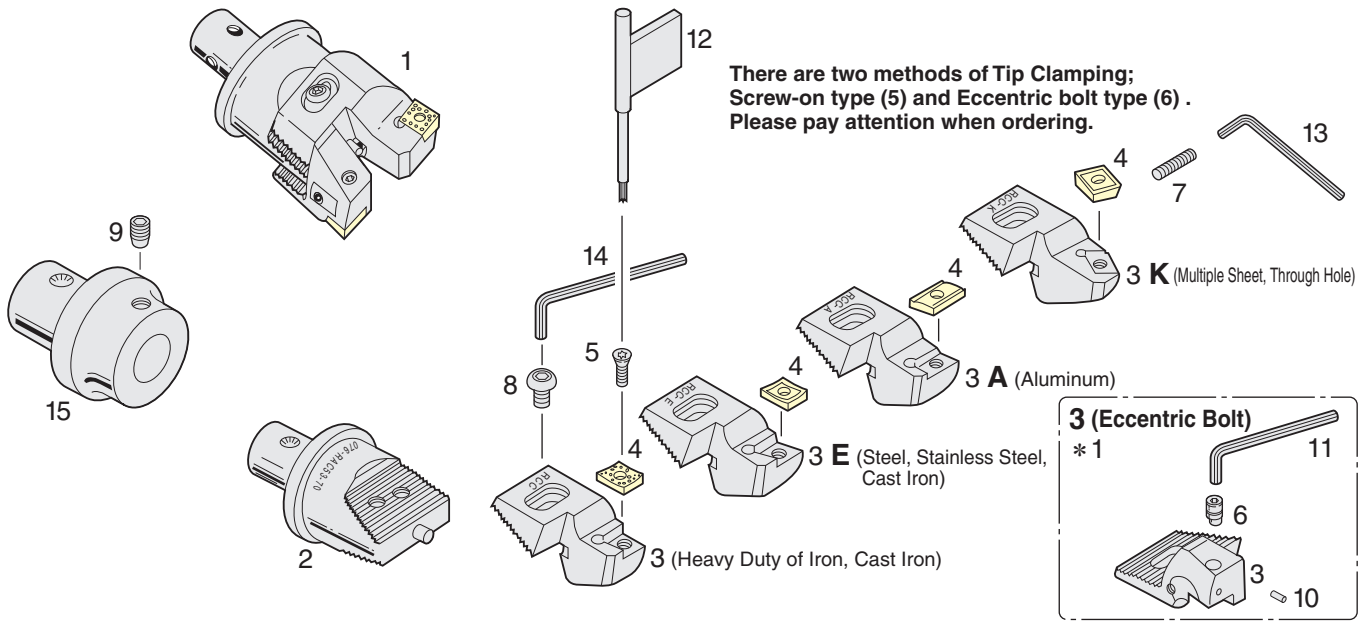
- ★The Coupling screw & wrench are supplied as standard.
- ★All base holders have a centre through coolant hole.
- ★Shanks other than the above are also available. Please contact us.
- ★For POLYGONAL TAPER C6 and C8, please contact us.

Please refer to BORING SYSTEM Catalogue.



- ★The Coupling screw & wrench are supplied as standard.
- ★All base holders have a centre through coolant hole.
- ★Shanks other than the above are also available. Please contact us.

# RAC BALANCE-CUT BORING UNIT PARTS LIST



Boring Range	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
	RAC Head	RAC Base	Cartridge	Tip	Tip Clamping Bolt	Eccentric Bolt	Adjusting Screw	Cartridge Clamping Bolt	Set Screw	Copper Pin	Tip Clamping L-Wrench	Tip Clamping Handle	L-Wrench for Adjustment	L-Wrench for Cartridge	Stepped Spacer	
φ25~32	12-RAC 25- 55E	12-RAC025- 55B	RCC- 25E	CC07	M3070	—	M508	G025	B12	—	—	T-10	—	—	M3	SP26-12-30
	- 55A		- 25A	AEG12												
	- 55K		- 25K	SC09												
φ32~45	16-RAC 32- 55E	16-RAC 32- 55B	RCC- 32E	CC08	M4090	—	M512	G032	B16	—	—	T-15	—	—	M4	SP26-16-30
	- 55A		- 32A	AEG12								M3070				
	- 55K		- 32K	SC09												
φ43~55	20-RAC 43- 70	20-RAC 43- 70B	RCC- 43	CN08	CSM-70	CSM-43	M514	G043	B20	R12	M3	20S	—	—	M5	SP26-20-30
	- 70E		- 43E	CC12	M5012	—				—	—	T-15				
	- 70A		- 43A	AEG16	M4090											
	- 70K		- 43K	SC12	M5012											
φ53~70	26-RAC 53- 70	26-RAC 53- 70B	RCC- 53	CN08	CSM-70	CSM-43	M518	G053	—	R12	M3	20S	M2.5	—	—	—
	- 70E		- 53E	CC12	M5012	—				—	T-15					
	- 70A		- 53A	AEG16	M4090											
	- 70K		- 53K	SC12	M5012											
φ70~100	26-RAC 70- 70	26-RAC 70- 70B	RCC- 70	CN08	CSM-70	CSM-43	M528	G070	—	R12	M3	20S	—	—	M6	—
	- 70E		- 70E	CC12	M5012	—				—	T-15					
	- 70A		- 70A	AEG16	M4090											
	- 70K		- 70K	SC12	M5012											
	34-RAC 70- 85	34-RAC 70- 85B	RCC- 70	CN08	CSM-70	CSM-43	M528	G070	—	R12	M3	20S	—	—	—	—
	- 85E		- 70E	CC12	M5012	—				—	T-15					
	- 85A		- 70A	AEG16	M4090											
	- 85K		- 70K	SC12	M5012											
φ100~130	42-RAC100-100	42-RAC100-100B	RCC-100	CN08	CSM-70	CSM-43	M538	G070	—	R12	M3	20S	—	—	—	—
	-100E		-100E	CC12	M5012	—				—	T-15					
	-100A		-100A	AEG16	M4090											
	-100K		-100K	SC12	M5012											

★You can use only one type RAC Base irrespective of material and work piece. Suitable Cartridge and Carbide Insert must be selected. (P.67, P.68)

★Insert tip is available as an option.

★There are 2 methods of Tip Clamping; Screw-on type (5) and Eccentric Bolt type (6). Please pay attention when ordering for spare parts.

★Code No. of Cartridge means for Cartridge only. When ordering for cartridge set, please use set Code No. e.g. "S.RCC-25".

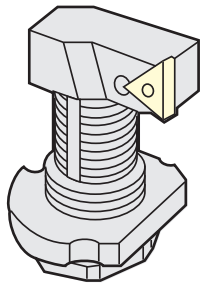
★The Code No. of Tip Clamping Handle is unified to T10, T15 and 20S.

★\* 1 Eccentric Bolt type Cartridge ; Code No. e.g. "RCC-43Q".

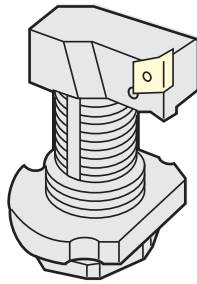
# ZMAC ADVANCED BORING UNIT PARTS LIST



BT



ZMAC-V



ZMAC-VR

NIKKEN ZMAC-V Boring Heads come complete with the ZMAC-V Boring Unit. Specify the part No. in the table below when ordering spares.

Triangular Insert Heads and Rhomboid Insert Heads use different boring units, cartridges, insert tips, insert clamp bolts, and insert clamp handles, but all other parts are common to both.

Other manufacturers' ISO standard insert tips available on the market may have different insert clamp hole diameters, so please contact us regarding use.

\* Boring heads that use ISO standard insert tips available on the market are also available with us.

ZMAC Advanced (ISO) Boring Head

P.77

\* The ZMAC units and new ZMAC-V, ZMAC-VR units are interchangeable.

ZMAC-V Style	Boring Range	Unit	Triangular Insert	Insert Clamp Screw	Insert Clamp Handle	Lock Screw	Adjustment Handle	Unit Clamp Bolt
ZMAC16 -V	15.9~20.2	M 2HZ- 16V	3MP-C,B	M2045	T-6	M361	M 2HZL-A	M2045
ZMAC20 -V	19.8~25.2	M 2HZ- 20V				M362	M 2HZL-B	
ZMAC25 -V	24.8~32.2	M 3HZ- 25V				M363	M 3HZL	
ZMAC32 -V	31.8~42.2	M 4HZ- 32V	4MP-C,B	M2055	T-8	M365	M 4HZL	M2577
ZMAC42 -V	41.8~55.2	M 5HZ- 42V	6MP-C,B	M2577 (M2562D)*		M364	M 5HZL	
ZMAC55 -V	54.8~70.2	M 5HZ- 55V				M366	M 7HZL	
ZMAC70 -V	69.8~85.2	M 7HZ- 70V			M360	M 10HZL	M3090	
ZMAC85 -V	84.8~100.2	M10HZ- 85V	M4012		M367	M10HZL		
ZMAC100-V	99.5~140.5	M10HZ-100V			M368			
ZMAC140-V	139.5~180.5	M10HZ-140V			M369			

- ★Each Unit and Cartridge are supplied without Insert Tip.
- ★Cartridge for base forming of bore is an option.
- Please specify the diameter and width of base forming.
- ★For Diamond Insert Tip (6MP-D), M2562D\* must be used.
- ★Cartridge can not be supplied alone, please order ZMAC-V unit.



Special cartridge example for necking is available. Please contact us with the work piece drawing.

ZMAC-VR Style	Boring Range	Unit	Insert	Insert Clamp Screw	Insert Clamp Handle
ZMAC32 -VR	31.8~42.2	M 4HZ- 32VR	CC06-C	M2560	T-8
ZMAC42 -VR	41.8~55.2	M 5HZ- 42VR		M2577	
ZMAC55 -VR	54.8~70.2	M 5HZ- 55VR	CC08-C	M4090	T-15
ZMAC70 -VR	69.8~85.2	M 7HZ- 70VR		M4012	
ZMAC85 -VR	84.8~100.2	M10HZ- 85VR	CC12-C	M5012	T-15
ZMAC100-VR	99.5~140.5	M10HZ-100VR			
ZMAC140-VR	139.5~180.5	M10HZ-140VR			

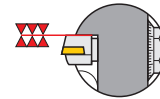
The cartridge head can be exchanged itself for the head bigger equal to ZMAC42-V.

Boring Range	Cartridge Head		Head Clamp Bolt
41.8~55.2	M 5HZ- 42 CH	M 5HZ- 42RCH	M512C
54.8~70.2	M 7HZ- 70 CH	M 7HZ- 70RCH	M625
69.8~85.2	M10HZ- 85 CH	M10HZ- 85RCH	M825
99.5~140.5	M10HZ-100 CH	M10HZ-100RCH	M835
139.5~180.5	M10HZ-100 CH	M10HZ-100RCH	M835

- ★Each Unit and Cartridge are supplied without Insert Tip.
- ★Cartridge can not be supplied alone, please order ZMAC-V unit.
- Detach Attach
  - Loosen head clamp bolt after boring diameter is set to little larger than the MIN. boring diameter.
  - Insert the head into cartridge, then tighten head clamp bolt temporary.
  - Loosen side lock bolt.
  - Rotate the dial ring 0.2~0.3mm to minus direction.
  - Tighten head clamp bolt by pushing the head to the support portion of the main body.

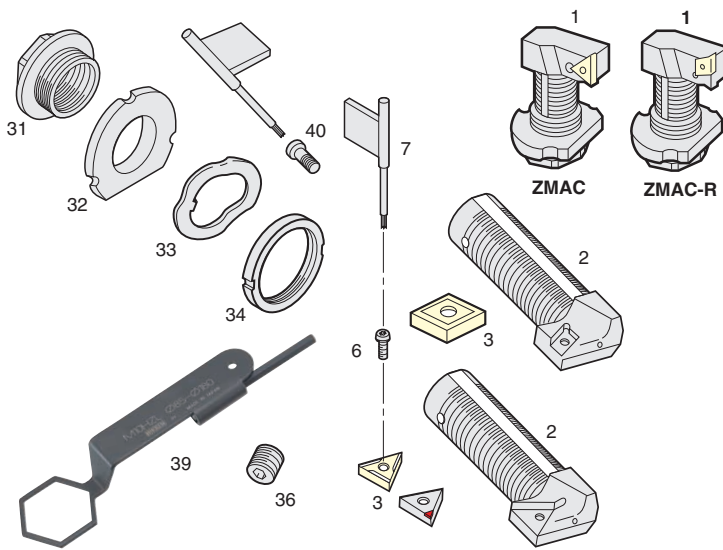


# ZMAC BORING UNIT PARTS LIST



**NIKKEN**

This is for only for conventional ZMAC boring unit.



NIKKEN ZMAC-V Boring Heads come complete with the ZMAC-V Boring Unit. Specify the part No. in the table below when ordering spares.

Triangular Insert Heads and Rhomboid Insert Heads use different boring units, cartridges, insert tips, insert clamp bolts, and insert clamp handles, but all other parts are common to both.

Other manufacturers' ISO standard insert tips available on the market may have different insert clamp hole diameters, so please contact us regarding use.

\*Boring heads that use ISO standard insert tips available on the market are also available with us.

ZMAC Advanced (ISO) Boring Head  
P.77

Boring Range	1	2	3	6	7	31	32	33	34	36	39	40	
	Unit	Cartridge	Triangular Insert	Insert Clamp Screw	Insert Clamp Handle	Dial Ring	Lock Flange	Wave Spring	Pre-Load Nut	Lock Screw	Adjustment Handle	Unit Clamp Bolt	
15.9~20.2	M 2HZ- 16	M 2HZ- 16C	3MP-C,B	M2045	T-6	9M216D	9M216L	9M216W	9M216P	M361	M 2HZL-A	M2045	
19.8~25.2	M 2HZ- 20	M 2HZ- 20C				9M220D	9M220L		M362	M 2HZL-B			
24.8~32.2	M 3HZ- 25	M 3HZ- 25C				9M325D	9M325L	M333	9M325P	M363	M 3HZL		
31.8~42.2	M 4HZ- 32	M 4HZ- 32C	4MP-C,B	M2070	T-8	9M432D	9M432L	M334	M344	M365	M 4HZL	M2577	
41.8~55.2	M 5HZ- 42	M 5HZ- 42C	6MP-C,B	M2577 (M2562D)*		9M542D	9M542L	M335	9M542P	M364	M 5HZL		
54.8~70.2	M 5HZ- 55	M 5HZ- 55C				9M770D	9M770L	M337	9M770P	M360	M 7HZL		M3090
69.8~85.2	M 7HZ- 70	M 7HZ- 70C				9M108D	9M108L	M330	9M108P	M367	M10HZL		M4012
84.8~100.2	M10HZ- 85	M10HZ- 85C				M368							
99.5~140.5	M10HZ-100	M10HZ-100C				M369							
139.5~180.5	M10HZ-140	M10HZ-140C											

- ★Each Unit and Cartridge are supplied without Insert Tip.
- ★Cartridge for base forming of bore is an option. Please specify the diameter and width of base forming.
- ★For Diamond Insert Tip (6MP-D), M2562D\* must be used.
- ★Cartridge can not be supplied alone, please order ZMAC-V unit.



Special cartridge example for necking is available. Please contact us with the work piece drawing.

Boring Range	1	2	3	6	7
	Unit	Cartridge	Insert	Insert Clamp Screw	Insert Clamp Handle
31.8~42.2	M 4HZ- 32R	M 4HZ- 32RC	CC06-C	M2560	T-8
41.8~55.2	M 5HZ- 42R	M 5HZ- 42RC		M2577	
54.8~70.2	M 5HZ- 55R	M 5HZ- 55RC			
69.8~85.2	M 7HZ- 70R	M 7HZ- 70RC	CC08-C	M4090	T-15
84.8~100.2	M10HZ- 85R	M10HZ- 85RC		M4012	
99.5~140.5	M10HZ-100R	M10HZ-100RC	CC12-C	M5012	T-15
139.5~180.5	M10HZ-140R	M10HZ-140RC			

The cartridge head can be exchanged itself for the head bigger equal to ZMAC42-V.

Boring Range	Cartridge Head		Head Clamp Bolt
	Triangular	Rhomboid	
41.8~55.2	M 5HZ- 42CH	M 5HZ- 42RCH	M512C
54.8~70.2	M 5HZ- 42CH	M 5HZ- 42RCH	
69.8~85.2	M 7HZ- 70CH	M 7HZ- 70RCH	
84.8~100.2	M10HZ- 85CH	M10HZ- 85RCH	M825
99.5~140.5	M10HZ-100CH	M10HZ-100RCH	M835
139.5~180.5	M10HZ-100CH	M10HZ-100RCH	M835

- ★Each Unit and Cartridge are supplied without Insert Tip.
- ★Cartridge can not be supplied alone, please order ZMAC-V unit.

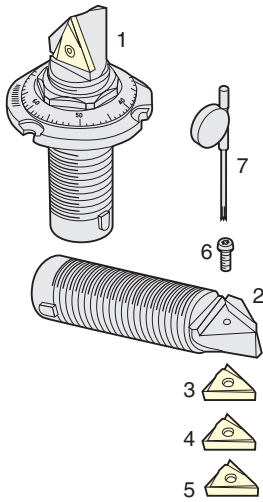
Detach Attach

- Loosen head clamp bolt after boring diameter is set to little larger than the MIN. boring diameter.
- Insert the head into cartridge, then tighten head clamp bolt temporary.
- Loosen side lock bolt.
- Rotate the dial ring 0.2~0.3mm to minus direction.
- Tighten head clamp bolt by pushing the head to the support portion of the main body.

# BCB MICRO-CUT BORING UNIT PARTS LIST

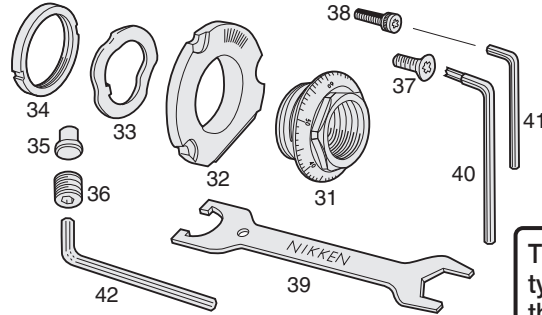


## BCB Screw on type

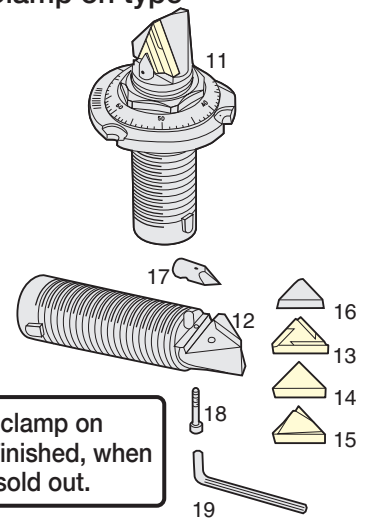


## Relation between Micro-Cut Boring Arbor and Micro-Cut Boring Unit

NIKKEN Micro-Cut Boring Arbor is provided with Micro-Cut Boring Unit. When ordering each parts for spare, please place the order by Code No. of Insert, Cartridge and Unit of the following parts list.



## BCB Clamp on type



The sales of clamp on type will be finished, when the stock is sold out.

Boring Range	Screw on type							Clamp on type										
	1	2	3	4	5	6	7	11	12	13	14	15	16	17	18	19		
	BCB Unit	Cartridge	Insert for Alloy Steel	Insert for Cast Iron	Insert for Steel, Stainless Steel	Insert Clamp Bolt	Insert Clamp Handle	BCB Unit	Cartridge	Insert for Alloy Steel	Insert for Cast Iron	Insert for Steel, Stainless Steel	Insert Breaker	Clamp Piece	Insert Clamp Bolt	Insert Clamp Handle		
12.7~14.5	M 1-12.7	—	1MP-E	1MP-F	1MP-T	M61	10S	M 1S-2	M 1S-2C*	—	—	—	—	—	—	—		
14.5~19.5	M 1-14.5	—						M 1L-2	M 1L-2C*	—	—	—	—	—	—	—	—	—
19 ~ 22.5	M 2-19	M 2-19 C	3MS-E	3MS-F	3MS-T	M68	13S	M 2S-2	M 2S-2C*	—	—	—	—	—	—	—		
22 ~ 29.5	M 2-22	M 2-22 C						M 2L-2	M 2L-2C*	—	—	—	—	—	—	—	—	—
29 ~ 41	M 3-29	M 3-29 C				M 3L-2S	M 3L-2SC	3P-E	3P-F	3P-T	—	CP- 3	B183	M1.5	—	—	—	—
38 ~ 50	M 5-38	M 5-38 C	6MP-E	6MP-F	6MP-C	M2577	T-8	M 5S-2S	M 5S-2SC	5P-E	5P-F	5P-T	5CB	CP- 5	B185	M2		
48 ~ 65	M 5-48	M 5-48 C						M 5L-2S	M 5L-2SC								—	—
62 ~ 90	M 7-62	M 7-62 C	10MP-E	10MP-T	10MP-T	M67	20S	M 7L-2S	M 7L-2SC	7P-E	7P-F	7P-T	7CB	CP- 7	B187	M2.5		
82 ~ 110	M 7-62	M 7-62 C						M 10L-2S	M 10L-2SC								—	—
100 ~ 140	M10-100	M10-100 C	—	—	—	M60	—	M10L-2S	M10L-2SC	10P-E	10P-F	10P-T	10CB	CP-10	B180	M3		

★Each Unit and Cartridge are supplied without Insert Tip.  
★Codes for BCB boring bars that support micro units are indicated by red text.  
e.g. M5-28: **BCB38**

★All brazed types marked \* were stopped production on 2007 JAN.  
★Each unit and cartridge are supplied without insert tip.  
★Brazed type is available for the diameter of φ29~φ200.

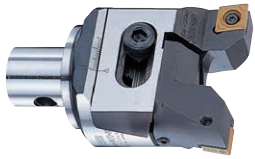
Boring Range	31	32	33	34	35	36	37	38	39	40	41	42
	Dial Ring	Lock Flange	Wave Spring	Pre-Load Nut	Lock Metal	Lock Screw	Unit Mounting Bolt A	Unit Mounting Bolt B	Adjustment Handle	Wrench for Unit Mounting Bolt A	Wrench for Unit Mounting Bolt B	Wrench for Lock Screw
12.7~14.5	—	B321	B331	B341	B351	B361	—	B381	M391	—	M1.27	M1.5
14.5~19.5	—	B321	B331	B341	B351	B361	—	B381	M391	—	M1.27	M1.5
19 ~ 22.5	B312	B322	9M216W	9M216P	B352	B362	—	B382	M392	—	T6	M2
22 ~ 29.5						M363						
29 ~ 41	B313	B323	M333	9M325P	B353	B363	—	B384	M393	—	13S	M2.5
38 ~ 50	B315	B325	M335	9M542P	B355	B365	—	B386	M395	—	20S	M3
48 ~ 65		B326			B356	B366						
62 ~ 90	B317	B327	M337	9M770P	B357	B367	M377	B387	M397	M407	M405	M5
82 ~ 110						B368						
100 ~ 140	B310	B320	M330	9M108P	B350	B360	M370	—	M390	M400	—	M6

★31, 32, 33 and 34 are set for spare parts. When ordering, please add "D." at the beginning of Code No.  
e.g. D.M2-22 for Boring Range: 22~29.5mm

# RAC BALANCE-CUT BORING ARBOR CUTTING DATA



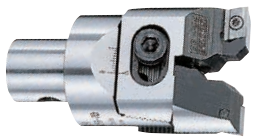
## CC (Positive type) RAC-E



## CN (Negative type) RAC



## RAC-A



## RAC-K



### Material

**Steel** 60~150m/mim. (Dry or Wet cutting)

**Stainless Steel** 40~80m/mim. (Wet cutting)

**Cast Iron** 60~150m/mim. (Dry or Wet cutting)

**Aluminium, Non-ferrous metal** 200~500m/mim. (Wet cutting)

**Multiple Sheets, Through Hole** 40~120m/mim. (Dry or Wet cutting)

## Recommended cutting Speed

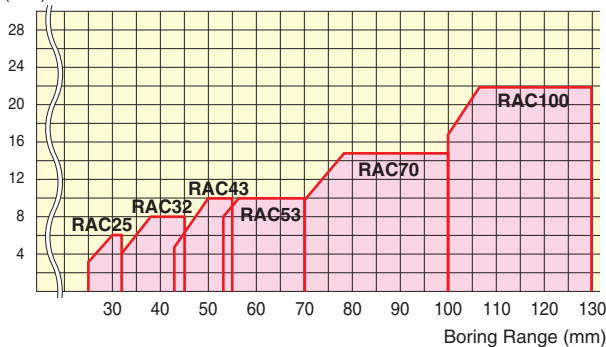
◎...Best ○...Good ---...Unsuitable

Insert	Insert		SS41	S55C	SCM	SKD	SC	FC,FCD	SUS	AL,ALC	Interrupted Cutting
	Code No.	Grade									
CC	CC	Coated Carbide M	◎ 60~120	◎ 60~150	◎ 60~150	◎ 50~80	○ 80~120	○ 60~150	◎ 40~80	—	○
		Coated Carbide K	—	—	—	—	◎ 80~120	◎ 60~150	—	—	—
CN	CN	Coated Carbide M	○ 60~120	○ 60~150	○ 60~150	○ 50~80	○ 50~80	○ 60~150	○ 40~80	—	○
		Coated Carbide K	—	—	—	—	—	—	—	◎ 400~800	—
SC	SC	Coated Carbide M	◎ 60~120	◎ 60~150	◎ 60~150	◎ 50~80	○ 80~120	○ 60~150	◎ 40~80	—	○
		Coated Carbide K	—	—	—	—	◎ 80~120	◎ 60~150	—	—	—

- ★The cutting speed is recommended to be reduced to 50% for the interrupted cutting.
- ★When L/D is longer, the insert tip with small Nose R is recommended.
- ★When L/D is longer, the feed rate at the entrance is recommended to be reduced to 60 to 70%.

## Relation between Boring Dia. & MAX. Removal

MAX. Removal on Dia. (mm)



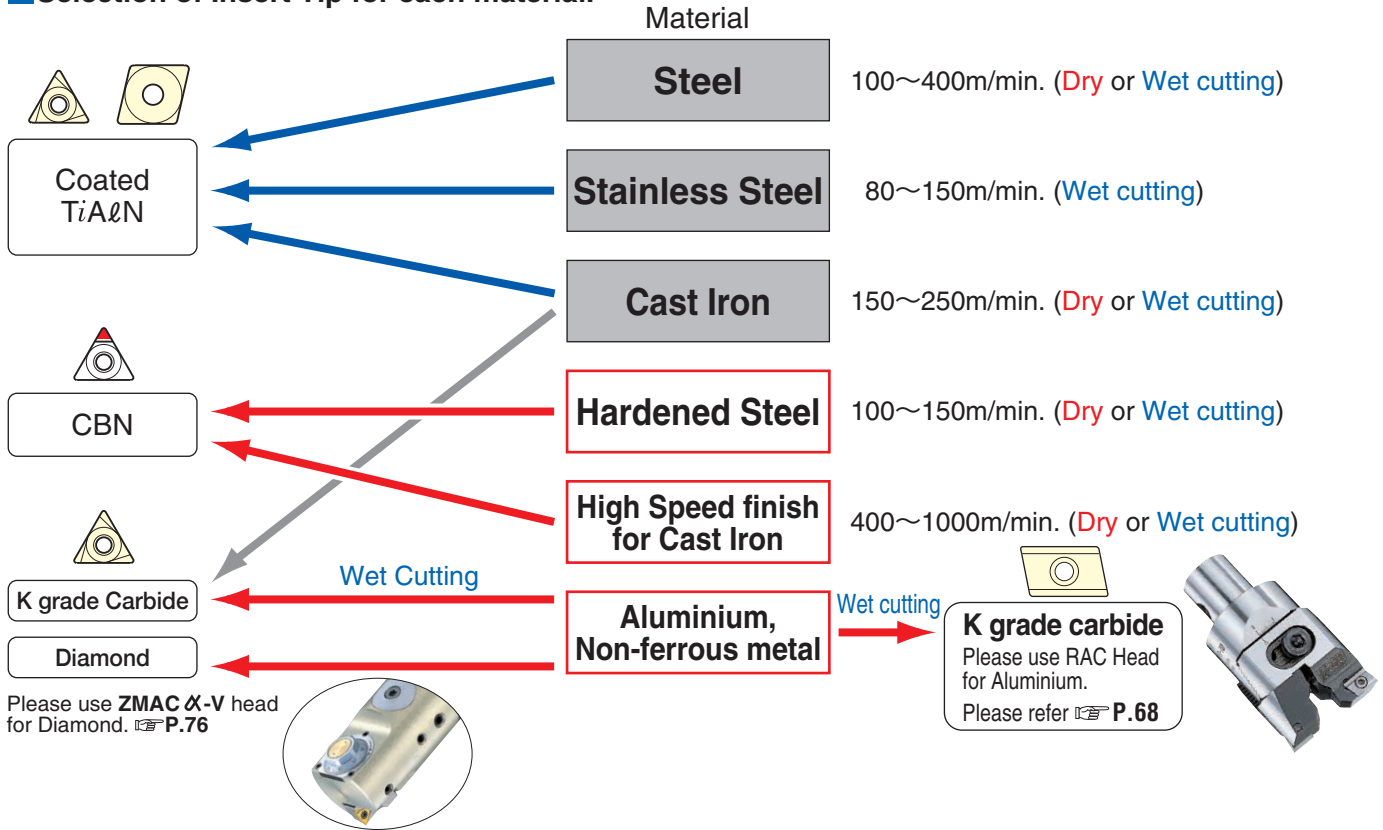
## Recommended Cutting Condition (removal,feed)

These figures are based on the application of L/D=3~3.5 times on cast iron.

Boring Range	Type	Best Condition		MAX. Condition	
		Removal mm/φ	Feed mm/rev.	Removal mm/φ	Feed mm/rev.
φ25~ 32	RAC 25	2.0~ 4.0	0.2~0.3	0.5~ 6.0	0.1~0.4
32~ 43	RAC 32	3.0~ 5.0	0.2~0.3	1.0~ 8.0	0.1~0.4
43~ 53	RAC 43	4.0~ 7.0	0.2~0.3	1.0~10.0	0.1~0.5
53~ 70	RAC 53	4.0~ 7.0	0.2~0.3	1.0~10.0	0.1~0.5
70~100	RAC 70	5.0~10.0	0.3~0.4	1.0~15.0	0.1~0.5
100~130	RAC100	7.0~12.0	0.3~0.4	1.0~22.0	0.1~0.5

# ZMAC ADVANCED BORING SYSTEM CUTTING DATA **NIKKEN**

## Selection of Insert Tip for each material.



## Recommended Cutting Speed ○...Best ○...Good ---...Unsuitable

Insert	Code No.	Grade	SS41	S55C	SCM	SKD	SC	FC,FCD	SUS	AL,ALC	Hardened Steel			Interrupted Cutting
											SCM	SKD	SUJ	
	C	Coated	◎	◎	◎	◎	◎	○	◎	-	-	-	-	◎
	E	P10	○	○	○	○	○	-	○	-	-	-	-	◎
	F	K10	-	-	-	-	-	◎	-	○	-	-	-	◎
	T	Cermet	◎	◎	◎	◎	◎	-	◎	-	-	-	-	○
	B	CBN	-	-	-	-	-	◎	-	-	◎	◎	◎	○
	D	Diamond	-	-	-	-	-	-	-	◎	◎	-	-	-
	C	Coated Carbide M	◎	◎	◎	◎	◎	○	◎	-	-	-	-	◎
		Coated Carbide K	◎	◎	◎	◎	◎	◎	◎	-	-	-	-	○

- ★ Existing Inserts (Cermet, P grade Carbide & K grade Carbide) are available.
- ★ The cutting speed is recommended to be reduced to 50% for the interrupted cutting.
- ★ When L/D is longer, the insert tip with small Nose R is recommended.
- ★ When L/D is longer, the feed rate at the entrance is recommended to be reduced to 60 to 70%.

## Recommended Cutting Condition (removal, feed)

Boring Range	Type								
		Best Condition		MAX. Condition		Best Condition		MAX. Condition	
		Removal mm/φ	Feed mm/rev.	Removal mm/φ	Feed mm/rev.	Removal mm/φ	Feed mm/rev.	Removal mm/φ	Feed mm/rev.
φ16~20	ZMAC16-V	0.2~0.4	0.05~0.07	1.0	0.1				
φ20~25	ZMAC20-V	0.2~0.4	0.05~0.07	1.5	0.1				
φ25~32	ZMAC25-V	0.2~0.4	0.05~0.07	2.0	0.1				
φ32~42	ZMAC32-V	0.2~0.4	0.05~0.08	2.0	0.2	1.0~3.0	0.1~0.15	5.0	0.2
φ42~55	ZMAC42-V	0.2~0.5	0.05~0.08	4.0	0.2	1.0~3.0	0.1~0.15	5.0	0.2
φ55~70	ZMAC55-V	0.2~0.5	0.05~0.08	4.0	0.2	1.0~3.0	0.1~0.15	5.0	0.2
φ70~85	ZMAC70-V	0.2~0.8	0.05~0.1	4.0	0.25	1.0~4.0	0.1~0.2	8.0	0.25
φ85~	ZMAC85-V~	0.2~0.8	0.05~0.1	4.0	0.25	1.0~4.0	0.1~0.2	8.0	0.25

In case of CBN insert, reduce L/D as small as possible : MAX. 3 times.  
Stock removal on diameter.  
D<32mm : less than 0.25mm  
D>32mm : less than 0.3mm

Feed per rev. depends on NoseR and accuracy required.

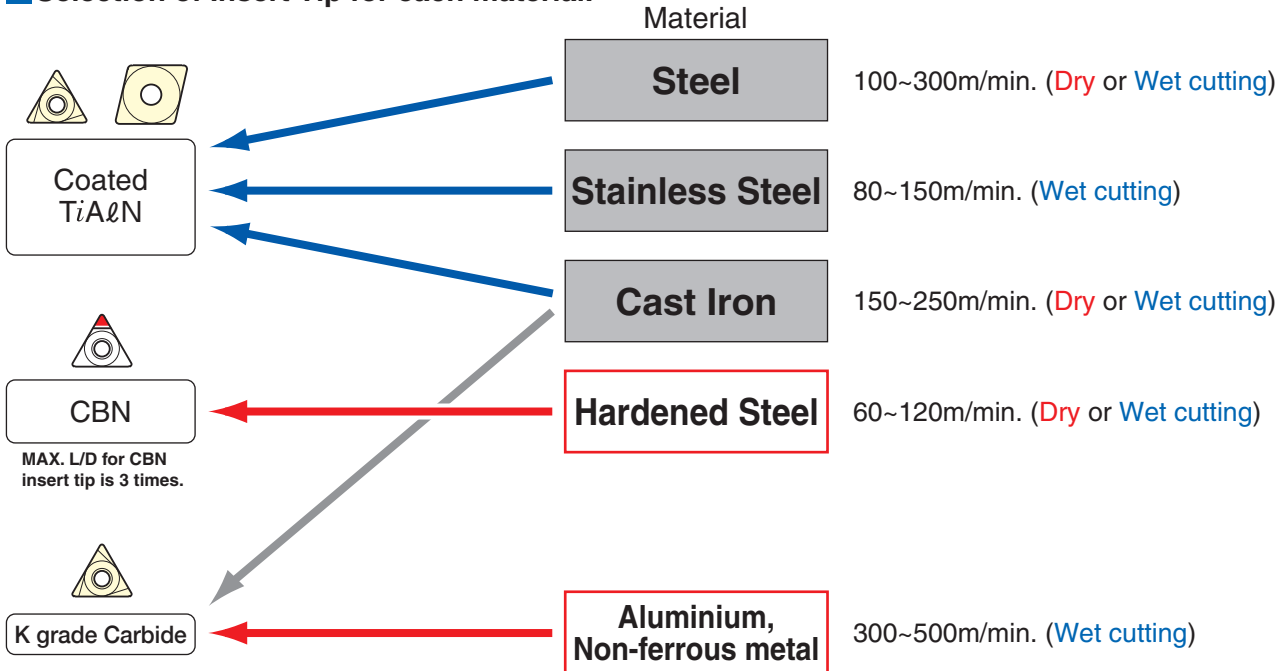
$$\text{Logical Surface Finish} = \frac{(\text{Feed per rev.})^2}{8 \times \text{NoseR}}$$

# DJ BORING ARBOR CUTTING DATA



BT

## Selection of Insert Tip for each material.



## Recommended Cutting Speed ○...Best ○...Good -...Unsuitable

Insert	Code No.	Grade	SS41	S55C	SCM	SKD	SC	FC,FCD	SUS	AL,ALC	Hardened Steel			Inter-rupted Cutting
											SCM	SKD	SUJ	
	C	Coated	◎	◎	◎	◎	◎	○	◎	-	-	-	-	◎
	E	P10	○	○	○	○	○	-	○	-	-	-	-	◎
	F	K10	-	-	-	-	-	◎	-	○	-	-	-	◎
	T	Cermet	◎	◎	◎	◎	◎	-	◎	-	-	-	-	○
	B	CBN	-	-	-	-	-	-	◎	-	-	◎	◎	◎
	C	Coated	◎	◎	◎	◎	◎	◎	◎	-	-	-	-	◎

★Existing Inserts (Cermet,P grade Carbide & K grade Carbide) are available.  
 ★The cutting speed is recommended to be reduced to 50% for the interrupted cutting.

## Recommended Cutting Condition (removal,feed)

Boring Range	Type		Best Condition		MAX. Condition	
	DJ3	DJ8	mm/φ	mm/rev.	mm/φ	mm/rev.
φ 3~ 8	J10- 3		~0.1	0.03~0.07		
φ 5~ 15	J10- 5		0.1~0.2	0.05~0.07		
φ 8~ 18	J10- 8	J16- 8	0.1~0.2	0.05~0.08		
φ18~ 28	J10-18	J16-18	0.2~0.4	0.05~0.08	1.0	0.1
φ28~ 39		J16-28	0.2~0.4	0.05~0.08	1.5	0.15
φ38~ 50		J16-38	0.2~0.5	0.05~0.08	2.0	0.15

**In case of CBN insert, reduce L/D as small as possible : MAX. 3 times.**  
 Stock removal on diameter.  
 D<32mm : less than 0.25mm  
 D>32mm : less than 0.3mm

Feed per rev. depends on NoseR and accuracy required.

Logical Surface Finish :  $\frac{(\text{Feed per rev.})^2}{8 \times \text{NoseR}}$

# NIKKEN INSERT TIP (EXCLUSIVE FOR BORING ARBOR) (1)



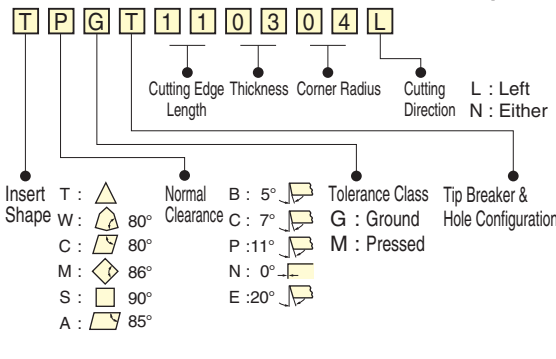
Material	Steel	●	●	●				
	Stainless Steel	●	●					
	Cast Iron	●			●	●		
	Aluminium					●		
	High Speed finish for Cast Iron						●	
	Hardened Steel						●	
	High Speed finish for Aluminium							●

For the Boring of Large Diameter and Short Depth, the use of insert with large nose radius is recommended. The smaller nose radius inserts are ideal for smaller diameter boring or finishing operation.

Applicable Arbor	Dimension	Code No.	Material NOSE R	Coated Cermet		Cermet (w/o coating)		Carbide P	Carbide K	CBN	Diamond	
				Grade		Grade		Grade	Grade	Grade	Grade	
				C	T	E	F-NB*2 w/o breaker	F	B	D		
				PV720	T1500Z	NS9530	TN90	ST10P	H1	KBN510	KPD010	
BCB12.7, BCB14.5		1MP-○2	0.2	●			●	●		●		
BCB19, BCB22, BCB29		3MS-○2	0.2	●			●	●	●*2	●	●	
ZMAC16-V, ZMAC20-V, ZMAC25-V for DJ Bit		3MP-○2	0.2	●	●	●		●	●*2	●	●	
		3MP-○4	0.4	●	●						●	●
ZMAC32-V		4MP-○2	0.2	●	●	●		●	●*2	●	●	
		4MP-○4	0.4	●	●				●*2	●	●	●
ZMAC42-V-ZMAC140-V BCB38, BCB48 DJ Bit, MCCZ130-V BAC130-V - BAC530-V		6MP-○2	0.2	●	●	●		●	●*2	●	●*4	
		6MP-○4	0.4	●	●	●		●	●*2	●	●	●*4
		6MP-○8	0.8	●	●	●		●	●*2	●	●	●*4
BCB62, BCB82, BCB100		10MP-○2	0.2	●				●	●*2	●		
		10MP-○4	0.4	●				●	●*2	●	●	
		10MP-○8	0.8	●				●	●*2	●	●	

- ★Minimum quantity of CBN and Diamond: 1pcs, All other insert tip: 10pcs
- ★\*2 "-NB" (w/o breaker) is recommended for cast iron.
- ★\*3 Hole diameter of 6MP is φ2.8mm. M2562D (Optional tip clamp bolt) is required for the ISO standard insert tip with the hole diameter of φ3.3~φ3.5mm.
- ★\*4 M2562D is necessary for 6MP-D (Diamond), because of the hole diameter is different.
- ★The ISO code No. surrounded with ( ) is the Nikken original insert tip.

## Code No. of ISO standard Insert Tip



Please add the grade indication into ○, and add the insert tip material indication at the end off the Code No.  
e.g. 6MP-C4 (PV720), 6MP-F4-NB (H1)

# NIKKEN INSERT TIP (EXCLUSIVE FOR BORING ARBOR) (2)



Material	Steel	●	●	
	Stainless Steel	●	●	
	Cast Iron	●	●	●

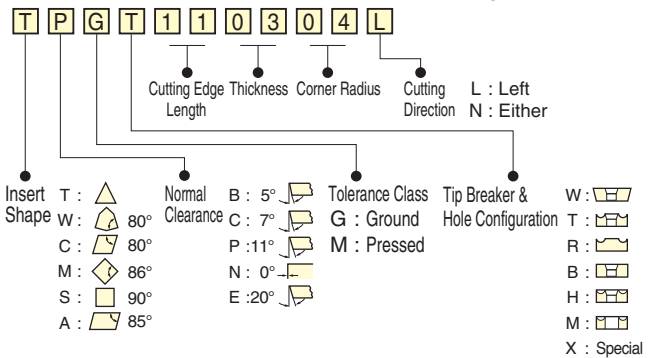
For the Boring of Large Diameter and Short Depth, the use of insert with large nose radius is recommended. The smaller nose radius inserts are ideal for smaller diameter boring or finishing operation.

Applicable Arbor	Dimension	Code No.	NOSE R	Grade		
				PV720	AC630M	AC410K
J10-5, J16-5		CC03-○2	0.2	●		
ZMAC32-VR, ZMAC42-VR ZMAC55-VR		CC06-○4	0.4		●	●
		CC06-○8	0.8		●	●
RAC25E		CC07-○4	0.4		●	●
		CC07-○8	0.8		●	●
ZMAC70-VR, ZMAC85-VR, RAC25E (CC08), RAC32E		CC08-○4	0.4		●	●
		CC08-○8	0.8		●	●
RAC43 - RAC530 (Eccentric Bolt Type)		CN08-○8	0.8		●	
ZMAC100-VR, ZMAC140-VR RAC43E - RAC100E		CC12-○4	0.4		●	●
		CC12-○8	0.8		●	●

★Minimum quantity of CBN and Diamond: 1pcs, All other insert tip: 10pcs  
★The ISO code No. surrounded with ( ) is the Nikken original insert tip.

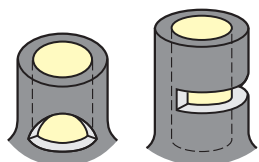
Please add the grade indication into ○, and add the insert tip material indication at the end off the Code No.  
e.g. 6MP-C4 (PV90), 6MP-F4-NB (H1)

### Code No. of ISO standard Insert Tip



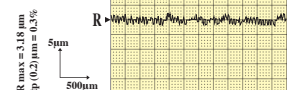
### Example of hardened steel boring with CBN Insert

Reduce L/D as small as possible: MAX. 3times  
For bits of L/D shorter than standard one are also available. Please contact with us.



Example of intermittent boring of hardened steel (HRC60) φ10mm

Results of concentricity on 24 pcs. were all within 3μm.

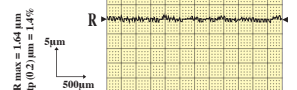


Results of surface finish on 24 pcs. were all within 3.3 microns. (R MAX.)

Results of concentricity on 24 pcs. were all within 3.6μm.



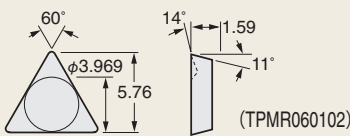
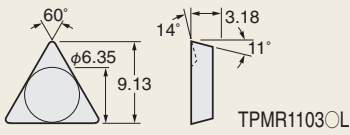
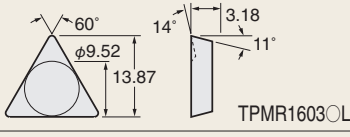
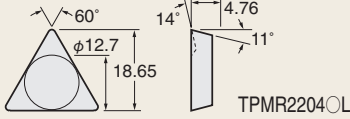
Example of intermittent boring of hardened steel (HRC60) φ20mm



Results of surface finish on 24 pcs. were all within 2.8 microns. (R MAX.)

# NIKKEN INSERT TIP (EXCLUSIVE FOR BORING ARBOR) (3)

**NIKKEN**

Material	Steel	●	●			
	Stainless Steel	●				
	Cast Iron			●		
	Aluminium			●		
High Speed finish for Cast Iron				●		
Hardened Steel				●		
		Cermet (w/o coating)	Carbide P	Carbide K	CBN	
		Grade	T	E	F	B
		Material	T12A	ST10P	HTi10	KBN510
Applicable Arbor	Dimension	Code No.	NOSE R			
BCB29		3P-○2	0.2	●	●	●
BCB38, BCB48		5P-○4	0.4	●	●	●
BCB62, BCB82		7P-○4	0.4	●	●	●
		7P-○8	0.8		●	●
BCB100		10P-○4	0.4	●	●	●
		10P-○8	0.8		●	●

★Minimum quantity of CBN: 1pcs, All other insert tip: 10pcs  
 ★The ISO code No. surrounded with ( ) is the Nikken original insert tip.

Please add the grade indication into ○, and add the insert tip material indication at the end off the Code No. e.g. 10P-T4 (T12A)

## Grade & Material

Grade	Grade Indication	Insert Tip Material Indication	Specification
Coated Cermet	C	PV720	Applicable for the medium roughing and finishing on the steel. Very stable cutting with coolant to be improved the heat resistance and the impact resistance.
		T1500Z	ZX coated suitable for the high speed finishing on the steel with long insert life. Very fine surface finish to be improved the impact resistance and the fracture resistance.
Coated Carbide M		AC630M	Very tough carbide M (base material) with the super FF coated. Excellent for the impact resistance and the fracture resistance for the stainless steel
Coated Carbide K		AC410K	Very tough carbide K (base material) with the super FF coated. Very stable cutting for the ductile cast iron and normal cast iron.
Cermet (w/o coating)	T	NS530	The general material for the steel and the cast iron with the heat resistance and the toughness.
		NS9530	New grade with tough and smooth top layer demonstrates amazing fracture resistance. Stable tool life due to incredible toughness. This is an upgraded version of NS530.
		T12A	Applicable for the roughing and finishing on the steel. Very stable cutting to be improved the heat resistance and the impact resistance.
Carbide P	E	ST10P	Applicable for the middle to high speed cutting on the steel and the steel casting.
Carbide K	F	H1	Excellent wear resistance and applicable for the cast iron, non-ferrous metal and the non-metal.
		HTi10	Toughness and the excellent wear resistance. Applicable for the cast iron, non-ferrous metal and the non-metal.
		KW10	Stable wear resistance and the fracture resistance. Applicable for the cast iron, non-ferrous metal and the non-metal.K10
CBN	B	KBN10B	Excellent for the fracture resistance and wear resistance. Suitable for the high performance and high accuracy cutting on the harden steel
		KBN510	Excellent for the fracture resistance and wear resistance. This is an upgraded version of KBN10B. Suitable for the high performance and high accuracy cutting on the harden steel.
Diamond	D	KPD010	Suitable for the high speed cutting on the aluminium and the non-metal. Applicable for the cutting on the carbide, ceramics, glass fibere and the plastic also.



# BORING BAR for SQUARE & CYLINDRICAL BORING TOOL



BSA BSB BOA

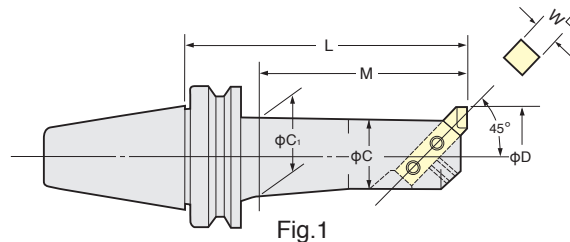


Fig.1  
BSA

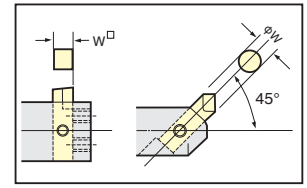


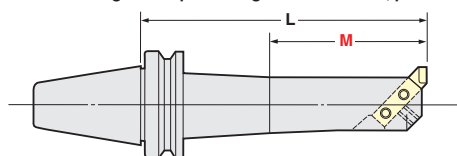
Fig.2  
BSB

Fig.3  
BOA

TAPER	Code No.	Boring Range	Boring Depth	Dimension				
	BTNo.-Min D -L	D	M	W	C	C <sub>1</sub>	Weight (kg)	Fig
No.40	BT40-BSA 25-135	25~ 38	108	8	20	22	1.3	Fig.1
	(IT40)-BSA 30-165	30~ 42	138		24	26	1.5	
	-BSA 38-180	38~ 52	153	10	30	33	1.8	
	-BSA 42-210	42~ 56	183		34	37	2.3	
	-BSA 50-180,225	50~ 65	153, 198	13	40	44	2.4, 2.9	
	-BSA 62-180,240	62~ 90	153, 218	16	50	56	3.2, 4.2	
	-BSA 72-180,240	72~110	153, 213	19	60	63	4.4, 5.7	
-BSA 90-180	90~125	180	75		5.4			
No.50	BT50-BSA 25-135	25~ 38	95	8	20	22	4.4	BSA
	(IT50)-BSA 30-165	30~ 42	125		24	26	4.6	
	-BSA 38-180	38~ 52	140	10	30	33	4.8	
	-BSA 42-210	42~ 56	170		34	37	5.0	
	-BSA 50-180,240	50~ 65	140, 200	13	40	44	5.4, 5.7	
	-BSA 62-195,270	62~ 90	155, 230	16	50	56	6.1, 7.5	
	-BSA 72-195,285	72~110	155, 245	19	60	66	6.9, 9.3	
-BSA 90-210,300	90~125	170, 260	75		80	9.2,12.3		
-BSA105-195,285	105~160	157, 247	25	90	90	10.5,15.0		
No.40	BT40-BSB 25-135	25~ 50	108	8	20	22	1.3	Fig.2
	(IT40)-BSB 38-180	38~ 70	153	10	30	33	1.9	
	-BSB 50-180,225	50~ 90	153, 198	13	40	44	2.6, 3.1	
	-BSB 62-180,225	62~115	153, 198	16	50	56	3.4, 4.1	
	-BSB 72-180,225	72~138	153, 198	19	60	63	4.7, 5.6	
-BSB 90-180,225	90~150	180, 225	75		5.7, 6.6			
No.50	BT50-BSB 25-135	25~ 50	95	8	20	22	4.1	BSB
	(IT50)-BSB 38-180	38~ 70	140	10	30	32	4.8	
	-BSB 50-180,240	50~ 90	140, 200	13	40	44	5.5, 5.7	
	-BSB 62-195,270	62~115	155, 230	16	50	56	6.4, 7.9	
	-BSB 72-195,285	72~138	155, 245	19	60	66	7.3, 9.6	
	-BSB 90-210,300	90~150	170, 260		75	80	9.6,12.6	
-BSB105-195,285	105~190	155, 245	25	90	94	11.0,15.0		
No.40	BT40-BOA 25-135	25~ 31	107	8	20	22	1.3	Fig.3
	(IT40)-BOA 30-165	30~ 35	137		24	26	1.5	
	-BOA 34-165	34~ 42	137	10	28	30	1.7	
	-BOA 40-180	40~ 46	152		32	35	2.3	
	-BOA 44-210	44~ 54	182	12	36	39	2.4	
-BOA 52-180,225	52~ 60	152, 197	42		46	2.5, 3.0		
No.50	BT50-BOA 25-135	25~ 31	97	8	20	22	4.2	BOA
	(IT50)-BOA 30-165	30~ 35	127		24	26	4.4	
	-BOA 34-180	34~ 42	142	10	28	30	4.7	
	-BOA 40-210	40~ 46	172		32	35	5.0	
	-BOA 44-210	44~ 54	172	12	36	39	5.1	
	-BOA 52-180,240	52~ 60	142, 202		42	46	5.1, 6.0	

★Square or Cylindrical Boring Bit is not included.

★When L length is required longer than standard, please specify the boring depth M.



# FACE MILL ARBOR

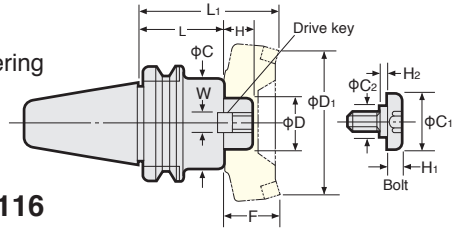


FMA

## For JIS B4113 Face Mill

Taper contact area of more than 80% ensures reliable milling with no chattering accompanied

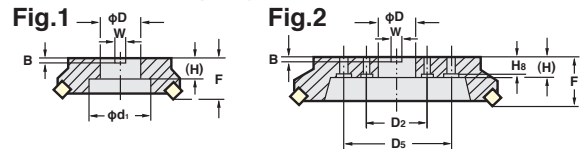
## FMH Arbor for High Feed with Coolant Through P.115, P.116



TAPER	Code No. ( $\phi D$ -L)	Dimensions								Weight (kg)	Dimension of Arbor with cutter			Drive Key	Bolt
		H	C	W	C <sub>1</sub>	C <sub>2</sub>	H <sub>1</sub>	H <sub>2</sub>	L <sub>1</sub>		D <sub>1</sub>	F			
<b>No.30</b>	BT30-FMA25.4 - 45	22	50	9.5	33	23	10	2	0.9	95	80	50	FW 5	FM12	
<b>No.40</b>	BT40-FMA25.4 - 45	22	50	9.5	33	23	10	2	1.4	95	80	50	FW 5	FM12	
	(IT40)-FMA25.4 - 90								2.1	140			FW 5		
	-FMA31.75 - 45	30	60	12.7	40	23	10	6	1.7	105	100	60	FW13*1	FM16	
	-FMA31.75 - 75								2.3	135			FW13		
-FMA38.1 - 60	34	80	15.9	50	27	14	6	2.5	120	125	60	FW18	FM20		
<b>No.50</b>	BT50-FMA25.4 - 45	22	58	9.5	33	23	10	2	3.9	95	80	50	FW 5	FM12	
	(IT50)-FMA25.4 - 90								5.1	140					
	-FMA25.4 -150								6.5	200					
	-FMA31.75 - 45								4.1	105			FW12	FM16	
	-FMA31.75 - 75	30	70	12.7	40	23	10	6	4.9	135	100	60	FW13		
	-FMA31.75 -105								5.8	165					
	-FMA38.1 - 45	34	80	15.9	50	27	14	6	4.3	105	125	60	FW18	FM20	
	-FMA38.1 - 75								5.5	135			FW19		
	-FMA50.8 - 45	36	100	19	65	37	14	10	5.0	105	160	60	FW23	FM24	
	-FMA50.8 - 75								6.7	135			FW24		
-FMA47.625- 75	38	128.57	25.4	—	—	—	—	—	8.0	135	200	60	FW26	*	

- ★ Drive keys, L-Wrench & Bolt are supplied as standard.
- ★ The arbor marked \* requires 4 fixing bolts.
- ★ Above weight is for Arbor only. (Not include Face Mill Cutter)
- ★ FMA25.4 type Arbor is suitable for NIKKEN PRO-END MILL  $\phi 60$  (PE60HC) and  $\phi 80$  (PE80HC).
- ★ FMA31.75 type Arbor is suitable for NIKKEN PRO-END MILL  $\phi 100$  (PE100HC). Please refer. P.117
- ★ Code No. of Centre Through Coolant type FMA Arbor for NIKKEN PRO-END MILL is : e.g. BT40-FMA25.4C-45
- ★ Extended length Face Mill Arbors are available on request.
- BT50-FMA25.4 -200,-250
- FMA31.75-150,-200
- FMA38.1 -150,-200
- ★ Diameter  $\phi C$  of BT50-FMA25.4 and BT50-FMA31.75 are enlarged.
- ★ \*1 In case of IT40, the drive Key of FW12 are supplied.

In case of the special cutter, please specify the dimensions below.

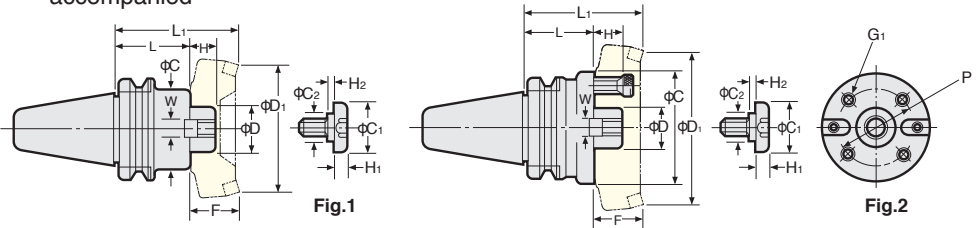


# FACE MILL ARBOR



FMB

Taper contact area of more than 80% ensures reliable milling with no chattering accompanied



Inch Series

(●) figures for Metric Series

Metric Series

TAPER	Code No. ( $\phi D$ -L)	Dimensions										Weight (kg)	Dimension of Arbor with cutter			Fig.	Code No. ( $\phi D$ -L)				
		H	C	W	C <sub>1</sub>	C <sub>2</sub>	H <sub>1</sub>	H <sub>2</sub>	G <sub>1</sub>	P	L <sub>1</sub>		D <sub>1</sub>	F							
<b>No.30</b>	BT30-FMB25.4 - 45	26	80	9.5 (12)	33	23	10	2	—	—	1.2	95	80	50	1	BT30-FMB27 - 45					
<b>No.40</b>	BT40-FMB25.4 - 60	26	80	9.5 (12)	33	23	10	2	—	—	2.2	110	80	50	1	BT40-FMB27 - 60					
	(IT40)-FMB25.4 - 90										2.9	140				(IT40)-FMB27 - 90					
	-FMB38.1 - 60										2.5	123	125	63		-FMB40 - 60					
<b>No.50</b>	BT50-FMB25.4 - 45	26	80	9.5 (12)	33	23	10	2	—	—	4.0	95	80	50	1	BT50-FMB27 - 45					
	(IT50)-FMB25.4 - 90										5.8	140				(IT50)-FMB27 - 90					
	-FMB25.4 -150										8.1	200				-FMB27 -150					
	-FMB38.1 - 45										4.3	108				-FMB40 - 45					
	-FMB38.1 - 75										5.6	138				-FMB40 - 75					
	-FMB38.1 -105										6.9	168				-FMB40 -105					
	-FMB38.1F- 75										110					M12	66.7	6.4			-FMB40F- 75
	-FMB60 - 75										25	140	25.4	—		—	—	—	M16	101.6	8.2

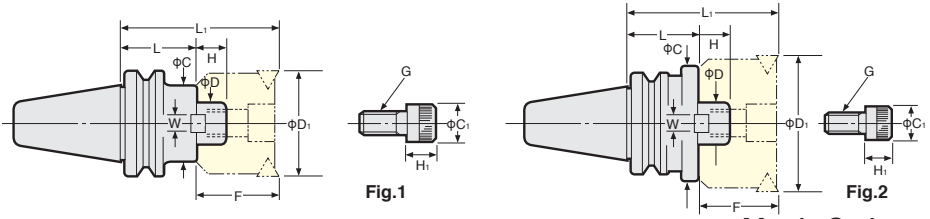
- ★ Drive keys, L-Wrench & Bolt are supplied as standard.
- ★ Above weight is for Arbor only. (Not include Face Mill Cutter)

# SHOULDER CUTTER ARBOR

**NIKKEN**

## FMC

Taper contact area of more than 80% ensures reliable Milling with no chattering accompanied.



Inch Series

(●) figures for Metric Series

Metric Series

TAPER	Dimensions				Weight (kg)	Dimensions of Arbor with cutter				C <sub>1</sub>	H <sub>1</sub>	Fig	Code No. (φD -L)
	Code No. (φD -L)	H	C	W		L <sub>1</sub>	D <sub>1</sub>	F	G CAP bolt				
<b>No.30</b>		18	45	10	0.8	80	50	40	9GM10-30	16	10	1	<b>BT30-FMC22- 40</b>
<b>No.40</b>		18	45	10	1.3	85	50	40	9GM10-30	16	10	1	<b>BT40-FMC22- 45</b>
					1.9	130							<b>(IT40) FMC22- 90</b>
	<b>BT40-FMC25.4- 60</b>	20	60	9.4(12)	1.8	110	80	50	9GM12-35	18	12	2	<b>FMC27- 60</b>
	<b>(IT40)-FMC25.4- 90</b>				2.5	140							<b>FMC27- 90</b>
	<b>-FMC38.1- 60</b>	22	85	15.5(14)	2.4	110	125	50	9GM16-40	30	15(16)		<b>FMC32- 60</b>
<b>-FMC38.1- 75</b>				2.7	125				(24)		<b>FMC32- 75</b>		
<b>No.50</b>		18	45	10	4.0	100	50	40	9GM10-30	16	10	1	<b>BT50-FMC22- 60</b>
					4.5	145							<b>(IT50) FMC22-105</b>
					5.1	190							<b>FMC22-150</b>
	<b>BT50-FMC25.4- 45</b>				4.0	95	80	50	9GM12-35	18	12	<b>FMC27- 45</b>	
	<b>(IT50)-FMC25.4- 90</b>	20	70	9.4(12)	5.4	140						<b>FMC27- 90</b>	
	<b>-FMC25.4-150</b>				7.1	200						<b>FMC27-150</b>	
	<b>-FMC38.1- 45</b>				4.1	95	125	50	9GM16-40	30	15(16)	<b>FMC32- 45</b>	
	<b>-FMC38.1- 75</b>	22	85	15.5(14)	5.4	125			(35)	(24)		<b>FMC32- 75</b>	
	<b>-FMC38.1-105</b>				6.7	155						<b>FMC32-105</b>	

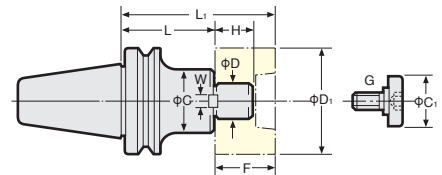
★Drive keys, L-Wrench & Bolt are supplied as standard.  
 ★Above weight is for Arbor only. (Not include Face Mill Cutter)  
 ★FMC22 type Arbor is suitable for NIKKEN PRO-END MILL φ50 (PE50HC). 参考 P.117  
 ★Code No. of Centre Through Coolant type FMC Arbor for NIKKEN PRO-END MILL is e.g. BT40-FMC22C-45.

# SHELL END MILL ARBOR

**NIKKEN**

## SMS

Taper contact area of more than 80% ensures reliable Milling with no chattering accompanied.



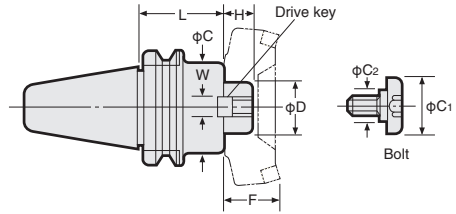
TAPER	Code No.	Dimensions							Weight (kg)
		D	L	H	C	C <sub>1</sub>	W	G	
<b>No.30</b>	<b>BT30-SMS16- 30</b>	16	30	14	34	20	8	M 8	0.9
	<b>-SMS22- 30</b>	22		16	42	28	10	M10	1.0
	<b>-SMS27- 45</b>	27	45	18	50	33	12	M12	1.3
<b>No.40</b>	<b>BT40-SMS16- 60</b>	16	60	14	34	20	8	M 8	1.3
	<b>(IT40)-SMS16-120</b>		120						1.7
	<b>-SMS22- 60</b>	22	60	16	42	28	10	M10	1.4
	<b>-SMS22-120</b>		120						2.1
	<b>-SMS27- 45</b>	27	45	18	50	33	12	M12	1.4
	<b>-SMS27-105</b>		105						2.3
	<b>-SMS32- 45</b>	32	45	20	60	40	14	M16	1.6
<b>-SMS32- 75</b>	75		2.3						
<b>No.50</b>	<b>BT50-SMS16- 75</b>	16	75	14	34	20	8	M 8	4.2
	<b>(IT50)-SMS16-120</b>		120						5.8
	<b>-SMS22- 75</b>	22	75	16	42	28	10	M10	4.3
	<b>-SMS22-120</b>		120						4.8
	<b>-SMS27- 60</b>	27	60	18	50	33	12	M12	4.3
	<b>-SMS27-105</b>		105						5.2
	<b>-SMS32- 45</b>	32	45	20	60	40	14	M16	4.2
	<b>-SMS32- 75</b>		75						5.2
	<b>-SMS40- 45</b>	40	45	23	80	50	16	M20	4.3
	<b>-SMS40- 75</b>		75		70				5.5
<b>-SMS50- 60</b>	50	60	26	90	65	18	M24	6.3	

★Drive keys, L-Wrench & Bolt are supplied as standard.  
 ★Above weight is for Arbor only. (Not include Face Mill Cutter)

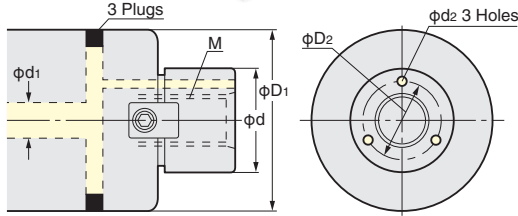
# BT FMH FACE MILL ARBOR



■ For Oil Hole Cutter  
■ For High Feed Cutter



FMH



Code No.	Cutter Dia.	φd	φD1	M	Coolant Hole		
					φD2	φd1	φd2
FMH22.225	φ50, φ52	22.225	47	M10 P1.5	16	6~8	3
	φ63, φ66						
FMH25.4	φ80	25.4	76(70)	M12 P1.75	19.5(18.5)	8~10	3.5
FMH31.75	φ100	31.75	96	M16 P2.0	24	10~13	4
FMH38.1	φ125	38.1	100	M20 P2.5	30(29)	10~15	5
FMH50.8	φ160	50.8	100	M24 P3.0	37.5	15~20	7

★Fixing dimension is basically based on FMA/FMC. ★The combination of the other cutter dia. are also available.

## FMH Inch Series

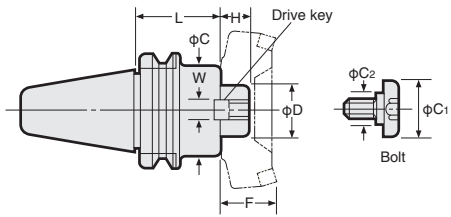
TAPER	Code No.	Arbor						Drive Key	Lock Bolt	G Cap Bolt	Weight (kg)
		D	L	H	C	C1	W				
No.40	BT40-FMH22.225- 47- 45 (IT40)	22.225	45	17	47	28	8	FW 3	FM10	-	1.3
	- 60		60								1.5
	- 90		90								1.9
	-150		150								2.7
	-FMH22.225- 60- 45	22.225	45	17	60	28	8	FW 3	FM10	-	1.5
	- 60		60								1.8
	- 90		90								2.5
	-FMH25.4 - 70- 60	25.4	60	22	70	33	9.5	FW 5	FM12	-	2.0
	- 90		90								2.7
	-105		105								3.1
	-FMH31.75 - 76- 60	31.75	60	30	76	40	12.7	FW13	FM16	-	2.2
	- 90		90								2.9
	- 96- 60		96								2.5
	No.50	BT50-FMH22.225- 47- 60 (IT50)	22.225	60	17	47	28	8	FW 3	FM10	-
-105		105		4.7							
-150		150		5.3							
-200		200		6.0							
-250		250		6.6							
-300		300		7.7							
-350		350	8.9								
-FMH22.225- 60- 60		22.225	60	17	60	28	8	FW 3	FM10	-	4.2
-105			105								5.2
-150			150								6.2
-200			200								7.4
-250			250								8.5
-300			300								9.6
-350		350	10.6								
-FMH25.4 - 70- 45		25.4	45	22	70	33	9.5	FW 5	FM12	-	4.0
- 60			60								4.5
- 90			90								5.4
-150			150								7.2
-200			200								8.7
-250			250								10.3
-300		300	11.8								
-FMH31.75 - 76- 45		31.75	45	30	76	40	12.7	FW12	FM16	-	4.1
- 75			75					5.2			
-105			105					6.3			
-150			150					7.9			
-200			200					9.7			
-250			250					11.6			
-300		300	13.4								
-FMH31.75 - 96- 45		31.75	45	30	96	40	12.7	FW13	FM16	-	4.3
- 75			75								6.0
-105			105								7.7
-150			150								10.3
-200			200								13.1
-250			250								16.4
-300		300	19.2								
-FMH38.1 -100- 45		38.1	45	34	100	50	15.9	FW18	FM20	-	4.4
- 75			75					6.3			
-105			105					8.1			
-150			150					10.9			
-200			200					14.5			
-250			250					17.5			
-300		300	20.5								
-FMH50.8 -100- 45(50)	50.8	45	36	100	65	19	FW23	FM24	-	4.4	

★Drive keys, L-Wrench & Bolt are supplied as standard.  
★Above weight is for Arbor only. (Not include Face Mill Cutter)

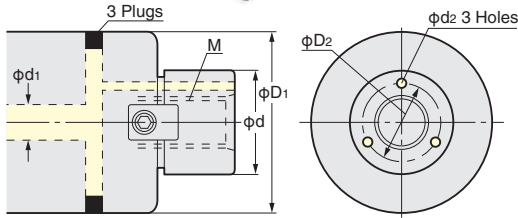
# BT FMH FACE MILL ARBOR



■ For Oil Hole Cutter  
■ For High Feed Cutter



FMH



Code No.	Cutter Dia.	φd	φD1	M	Coolant Hole		
					φD2	φd1	φd2
<b>FMH16</b>	φ40	16	37	M8 P1.25	12	6	2
<b>FMH22</b>	φ50, φ52 φ63, φ66	22	47 60	M10 P1.5	16	6~8	3
<b>FMH27</b>	φ80	27	60,76	M12 P1.75	18.5	8~10	3.5
<b>FMH32</b>	φ100	32	96	M16 P2.0	24	10~13	4
<b>FMH40</b>	φ125	40	100	M20 P2.5	29	10~15	5

★ Fixing dimension is basically based on FMA/FMC. ★ The combination of the other cutter dia. are also available.

## FMH Metric Series

TAPER	Code No.	Arbor						Drive Key	Lock Bolt	G Cap Bolt	Weight (kg)	
		D	L	H	C	C1	W					
No.30	BT30-FMH16- 37 - 35	16	35	17	37	20	8	FW 3	FM 8	—	0.56	
	-FMH22- 47 - 45	22	45	18	47	16	10	FW 8	—	9GM10-30	0.76	
	-FMH27- 60 - 45	27	45	20	60	18	12	FW11	—	9GM12-35	0.91	
No.40	BT40-FMH16- 37 - 40	16	40	17	37	20	8	FW 3	FM 8	—	1.1	
	(IT40)-FMH22- 47 - 45		45								1.3	
	- 60		60	18	47	16	10	FW 8	—	9GM10-30	1.5	
	- 90	22	90								1.9	
	-150		150								2.7	
	-FMH22- 60 - 45*1	22	45	18	60	16	10	FW 8	—	9GM10-30	1.5	
	- 60		60	18	60	16	10	FW 8	—	9GM10-30	1.8	
	- 90		90								2.5	
	-FMH27- 60 - 45	27	45	20	60	18	12	FW11	—	9GM12-35	1.5	
	- 60		60	20	60	18	12	FW11	—	9GM12-35	1.8	
	- 90		90								2.5	
	-FMH27- 76 - 60	27	60	20	76	18	12	FW11	—	9GM12-35	2.1	
- 90		90								2.8		
-FMH32- 96 - 60	32	60	22	96	24	14	FW16	—	9GM16-35	2.4		
No.50	BT50-FMH16- 37 - 60		60								3.8	
	(IT50)-105	16	105	17	37	20	8	FW 3	FM 8	—	4.1	
	-150		150								4.5	
	-200		200								4.9	
	-FMH22- 47 - 60		60								4.1	
	-105		105								4.7	
	-150		150								5.3	
	-200	22	200	18	47	16	10	FW 8	—	9GM10-30	6.0	
	-250		250								6.7	
	-300		300								7.8	
	-350		350								8.9	
	-FMH22- 60 - 60		60								4.2	
	-105		105								5.2	
	-150		150								6.3	
	-200	22	200	18	60	16	10	FW 8	—	9GM10-30	7.4	
	-250		250								8.5	
	-300		300								9.6	
	-350		350								10.7	
	-FMH27- 60 - 45		45						9FWE27			3.9
	- 90		90									5.0
	-150	27	150	20	60	18	12	FW11	—	9GM12-35	6.3	
	-200		200								7.4	
	-250		250								8.5	
	-300		300								9.6	
	-FMH27- 76 - 45		45						FW10			4.0
	- 90		90									5.6
	-150	27	150	20	76	18	12	FW11	—	9GM12-35	7.8	
	-200		200								9.7	
	-250		250								11.4	
	-300		300								13.2	
-FMH32- 96 - 45		45						FW15			4.2	
- 90		90									6.8	
-150	32	150	22	96	24	14	FW16	—	9GM16-35	10.2		
-200		200								13.3		
-250		250								16.1		
-300		300								19.0		
-FMH40-100 - 45		45						FW20			4.4	
- 75	40	75	26	100	50	16	FW22	FM20	—	6.2		
-105		105								8.1		

★ Drive keys, L-Wrench & Bolt are supplied as standard.  
★ Above weight is for Arbor only. (Not include Face Mill Cutter)  
★\*1 IT40-FMH27-60-45 is not available.

# PRO-END MILL for Precision Face Milling, Right Angle Shoulder Mill & High Speed Grooving.

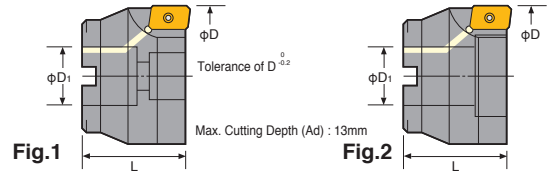


## PRO-END MILL

Suitable for NIKKEN FMA/FMC Arbor.



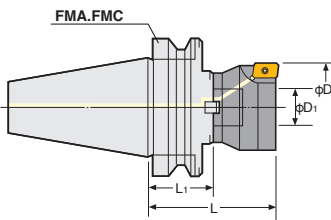
S53C



Code No.	D	D <sub>1</sub>	L	No. of Teeth	Insert Tip	Tip Clamp Bolt	Weight (kg)	Fig.
PE 50HC	50	22	45	5	Steel : 9DKT15	M 4090	0.4	1
PE 60HC	60	25.4	45	5			0.6	
PE 80HC	80	25.4	45	6	Aluminium, Cast Iron : 9DKR15	M 4012	0.8	2
PE100HC	100	31.75	50	6			1.6	

- ★Insert Clamp Bolt & Wrench are supplied as standard. ★Insert Tip is available as an option.
- ★Suitable for Face Mill Arbor FMA & FMC.
- ★Please add "C" after FMA/FMC for Centre Through Tool Coolant type. e.g. BT40-FMC22C-45
- ★The Lock Bolt is not supplied for PE50HC. Please use the bolt (M10×30) attached to FMC22.
- ★The Lock Bolt is supplied for PE60HC~PE100HC as standard.
- PE60HC: M12×35 PE80HC: 9PEM12-50 PE100HC: 9PEM16-55

PE



## BT (IT) Shank Arbor for PRO-END MILL

TAPER	PRO-END MILL	PRO-END MILL Arbor	L	L <sub>1</sub>	D	D <sub>1</sub>		
No.40	PE50HC	BT40-FMC22 -45,-90	90,135	45,90	50	22		
	PE60HC, PE80HC	(IT40)-FMA25.4 -45,-90					60,80	25.4
	PE100HC	-FMA31.75-45,-75			95,125	45,75		
No.50	PE50HC	BT50-FMC22 -60,-105	105,150	60,105	50	22		
	PE60HC, PE80HC	(IT50)-FMA25.4 -45,-90					90,135	45,90
	PE100HC	-FMA31.75-45,-75			95,125	45,75		

- ★Please add "C" after FMA/FMC for Centre Through Coolant type. e.g. BT40-FMC22C-45
- ★Please refer P.113 for FMC Arbor, FMA Arbor.

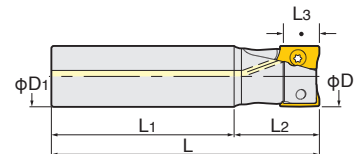
Code No.	Dimension	Grade	Material	Pro-END MILL	ISO Code No.	Tip Clamp Bolt	Tip Clamp Wrench
9DKT12		IC50M	Steel, Cast Iron	S20-PE22	APKT1203	M 3070	T-10
9DKT15			Steel	Except S20-PE22	ADKT1505	M 4090*1	PE-T15
9DKR15		IC28	Aluminum, Cast Iron		ADKR1505	M 4012	

- ★Please ask us if you require any other type of insert grade e.g. Coated, Cermet etc. For Heavy Cutting on Cast Iron, insert grade of IC520M is suitable.
- ★Purchase of Insert : box each (10 pcs.) ★\*1 Please note there are two different kinds of Tip Clamp Bolts.

## Straight Shank PRO-END MILL



S-MDPE



Code No.	φD	D <sub>1</sub>	L	L <sub>1</sub>	L <sub>2</sub>	MAX. Cutting Depth L <sub>3</sub>	No. of Teeth	Insert Code No.	Tip Clamp Bolt	Tip Clamp Wrench	Weight (kg)
S16-MDPE16-90	16	16	90	60	30	10	2	AOMT123608PEER-M	TPS-25	TIP07F	0.2
S20-MDPE20-100	20	20	100	70			3				0.2
S25-MDPE25-110	25	25	110	75	40	15	2	AOMT184808PEER-M	TPS-4	TIP15W	0.4
S32-MDPE32-120	32	32	120	80			3				0.7

- ★2 tip clamp bolts and tip clamp wrench are supplied as standard. ★Please refer P.244 for cutting condition.
- ★Insert tip is available as an option. P.187
- ★Coolant through tool is available as a standard for all series.

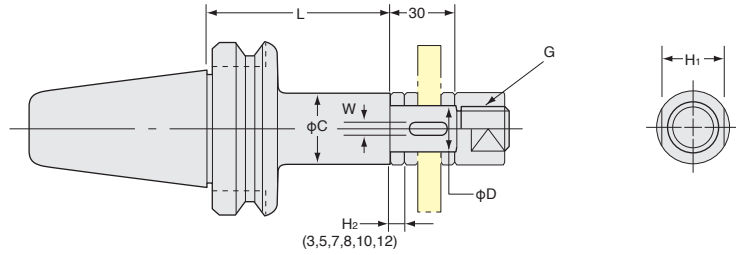
# STUB ARBOR



■ Taper contact area of more than 80% ensures reliable milling with no chattering accompanied.



SCA



## Inch Series

(●) figures for Metric Series

## Metric Series

TAPER	Code No.(ϕD-L)	H <sub>1</sub>	C	W	G	Weight (kg)	Code No.(ϕD-L)
No.30	BT30-SCA12.7 -60	17	20	—	M12	1.0	BT30-SCA13-60
	-SCA15.875-60	23	26	3.18 (4)	M14	1.1	-SCA16-60
	-SCA22.225-60	29	34	3.18 (6)	M20	1.2	-SCA22-60
	-SCA25.4 -60	32	40	6.35 (7)	M24	1.3	-SCA27-60
No.40	BT40-SCA12.7 -75,105	17	20	—	M12	1.2, 1.3	BT40-SCA13-75,105
	(IT40)-SCA15.875-75,105	23	26	3.18 (4)	M14	1.4, 1.5	(IT40)-SCA16-75,105
	-SCA22.225-75,120	29	34	3.18 (6)	M20	1.7, 2.0	-SCA22-75,120
	-SCA25.4 -75,120	32	40	6.35 (7)	M24	2.0, 2.4	-SCA27-75,120
	-SCA31.75 -90	41	46	7.92 (8)	M30	2.6	-SCA32-90
No.50	BT50-SCA12.7 -75,105	17	20	—	M12	4.0, 4.3	BT50-SCA13-75,105
	(IT50)-SCA15.875-90,120	23	26	3.18 (4)	M14	4.2, 4.4	(IT50)-SCA16-90,120
	-SCA22.225-90,135	29	34	3.18 (6)	M20	4.4, 4.7	-SCA22-90,135
	-SCA25.4 -90,135	32	40	6.35 (7)	M24	4.5, 4.9	-SCA27-90,135
	-SCA31.75 -90,135	41	46	7.92 (8)	M30	4.7, 5.2	-SCA32-90,135
	-SCA38.1 -90,135	46	55	9.52 (10)	M36	4.9, 5.9	-SCA40-90,135

★JIS B4206, JIS B4107, JIS B4219, JIS B4109 cutters can be attached.

★Key and Collars (H<sub>2</sub>=3, 5, 7, 8, 10, 12) are supplied as standard.

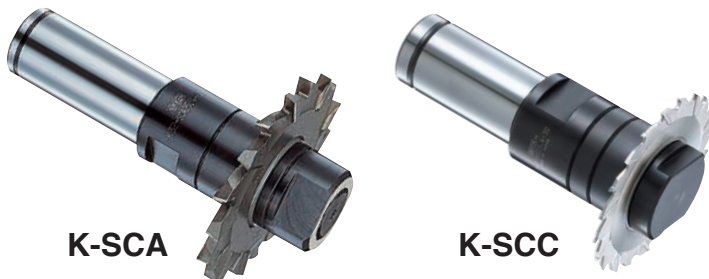
★The Code No. of Nut is unified from "GN" to "GNT".

Inch Series			Metric Series		
Arbor	Collar	Nut	Arbor	Collar	Nut
SCA12.7	G 1/2	GNT 1/2	SCA13	G13	GNT 1/2
15.875	G 5/8	GNT 5/8	16	G16	GNT 5/8
22.225	G 7/8	GNT 7/8	22	G22	GNT 7/8
25.4	G1	GNT1	27	G27	GNT1
31.75	G1 1/4	GNT1 1/4	32	G32	GNT1 1/4
38.1	G1 1/2	GNT1 1/2	40	G40	GNT1 1/2

★Please add the H<sub>2</sub> thickness at the end of Code No. for the collar. e.g. G1-8.

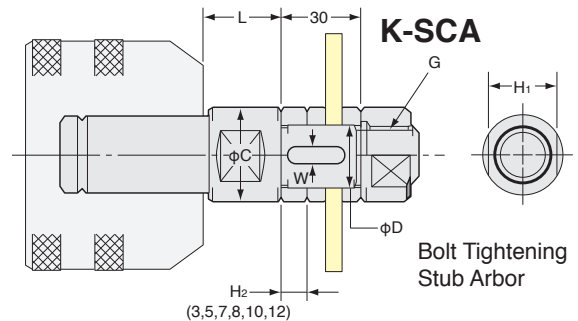
## Straight Shank STUB ARBOR

■ For Multi-Lock Milling Chuck



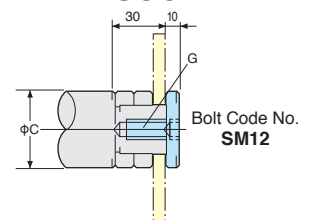
K-SCA

K-SCC



Bolt Tightening Stub Arbor

## K-SCC



Bolt Code No. SM12

Thinner Bolt Head type is also available.

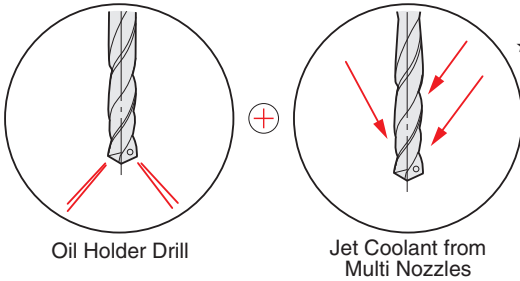
Style	K No. ϕD -L	H <sub>1</sub>	C	W	G	Weight (kg)
32	K32-SCA25.4-30	32	40	6.35	M24	1.2
	-SCC25.4-30				M12	1.2
42	K42-SCA25.4-30				M24	1.3
	-SCC25.4-30				M12	1.3

# MULTI OIL HOLE HOLDER (1)



## Internal and External Coolant Feeding Switchable

Internal Coolant Feeding is done with Oil Holder Drill and External Coolant Feeding from Multi Nozzles exactly hit the cutting point in jet streams, when drill, end mill, tap, and reamer without oil hole are used switching of Internal and External Feeding can be done in one touch.



Oil Holder Drill

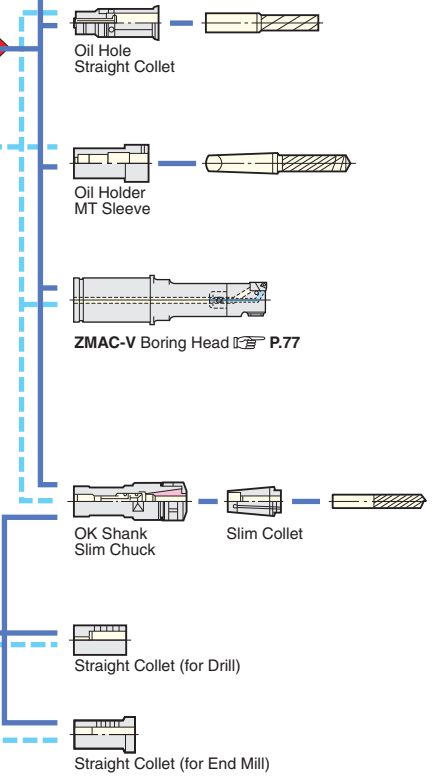
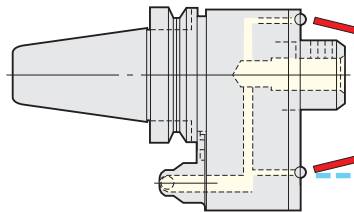
Jet Coolant from Multi Nozzles

Varieties of Attachment P.121



★For High Precision Machining, MOC or MOK is recommended.

JET Coolant direction adjustable

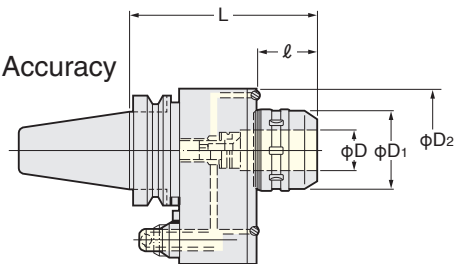
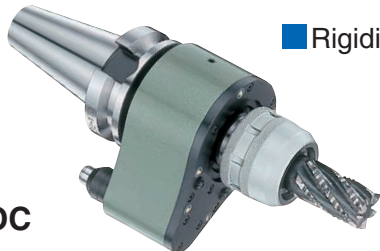


Conventional Oil Hole Holder (Internal Coolant Feeding) SLO, SKO are also available. P.121

## Milling Chuck type Multi Oil Hole Holder

Rigidity · Gripping Power · Accuracy

MOC



D<sub>2</sub> :  
BT40 : 85  
BT50 : 110

MAX. Coolant Pressure: 2.5MPa

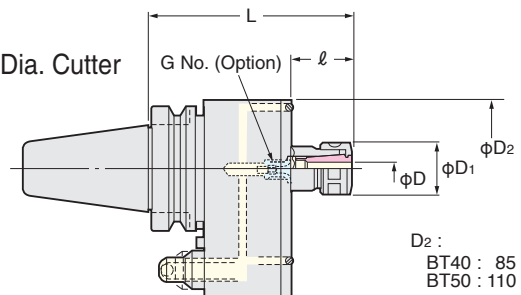
TAPER	Code No. -L	D	ℓ	D <sub>1</sub>	MAX.r/min	Weight (kg)	Applicable Collet
No.40	BT40-MOC20-145	20	49	52	4,000	3.6	CCK20 CCNK20
	(IT40)-MOC32-160	32	69	69	3,500	4.4	CCK32 CCNK32 OK32-MT K32-Q
No.50	BT50-MOC20-160	20	44	52	4,000	7.0	CCK20 CCNK20
	(IT50)-MOC32-170	32	54	69	3,500	7.1	CCK32 CCNK32 OK32-MT K32-Q

★For Collet and Adapter, please refer P.121. ★K32-Q : Straight Shank for Modular type. P.91 ★IT40-MOC20-155 and IT40-MOC32-170 are also available.  
★Stopper block is available as an option. When ordering, please inform your M/C maker and Model as well as your M/C spindle flange dimension. P.324

## Slim Chuck type Multi Oil Hole Holder

For High Speed Rotation of Small Dia. Cutter  
MAX.6,000r/min

MOK



D<sub>2</sub> :  
BT40 : 85  
BT50 : 110

MAX. Coolant Pressure: 2.5MPa

TAPER	Code No. -L	D	ℓ	D <sub>1</sub>	MAX.r/min	Weight (kg)	Collet	G No. (Option)
No.40	BT40-MOK10-135	5~10	39	27.5	6,000	3.2	SK10	SKG10-10HGF
	(IT40)-MOK16-150	10~16	54	40	5,500	3.5	SK16	SKG16-12HGF
No.50	BT50-MOK10-150	5~10	34	27.5	6,000	6.8	SK10	SKG10-10HGF
	(IT50)-MOK16-165	10~16	49	40	5,500	7.1	SK16	SKG16-12HGF

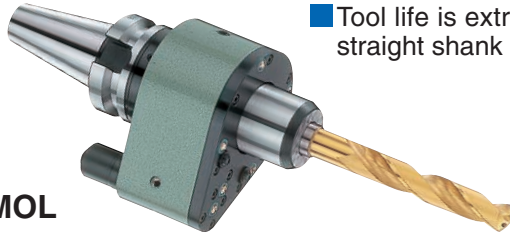
★Nut is supplied as standard. ★Adjust Screw (G No.) P.288 and spanner are available as an option. MOK10: SKL-10, MOK16: 9HC16 P.324  
★For Slim Chuck Collet, please refer P.283. ★Stopper block is available as an option. When ordering, please inform your M/C maker and Model as well as your M/C spindle flange dimension.



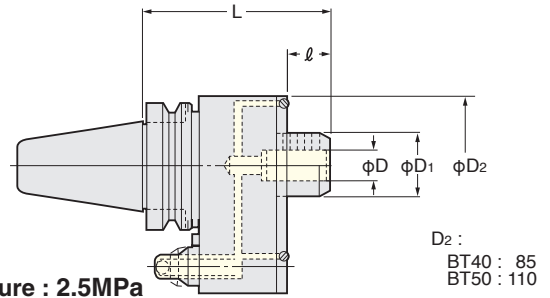
# MULTI OIL HOLE HOLDER (2)



## Side Lock type Multi Oil Hole Holder



■ Tool life is extremely extended in straight shank drill.



MAX. Coolant Pressure : 2.5MPa

TAPER	Code No. -L	D	ℓ	D <sub>1</sub>	MAX.r/min	Weight (kg)	Collet
No.40	BT40-MOL16-130	16	34	34.5	5,500	3.1	—
	(IT40)-MOL20-130	20		44	4,000	3.5	—
	MOL25-130	25	39	49	3,500	3.8	OK25-16, 20
	-MOL32-135	32	49	59	3,000	8.0	OK32-16, 20, 25
No.50	BT50-MOL16-150	16	34	34.5	5,500	7.0	—
	(IT50)-MOL20-150	20		44	4,000	7.5	—
	-MOL25-150	25	49	59	3,000	8.0	OK25-16, 20
	-MOL32-150	32	49	59	3,000	8.0	OK32-16, 20, 25
	-MOL40-160	40	44	59	3,000	8.0	OK40-32

★For Collet, please refer P.121.

★IT40-MOL16-140, IT40-MOL20-140, IT40-MOL25-140 and IT40-MOL32-145 are also available.

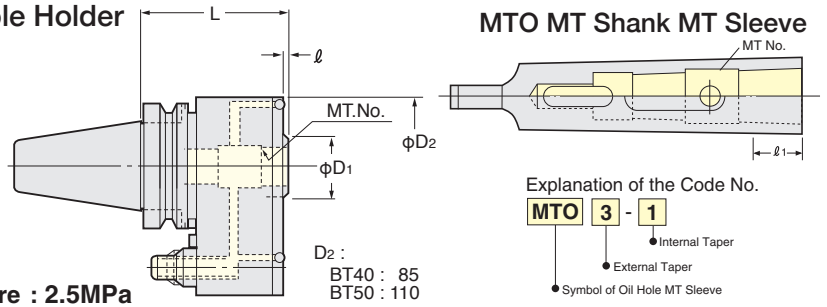
★Stopper block is available as an option. When ordering, please inform your M/C maker and Model as well as your M/C spindle flange dimension. P.324

## Morse Taper type Multi Oil Hole Holder



MOM

MAX. Coolant Pressure : 2.5MPa



TAPER	Code No. -L	MT	ℓ	D <sub>1</sub>	MAX.r/min	Weight (kg)	Sleeve
No.40	BT40-MOM3- 95	3	0	—	5,500	2.6	MTO3-1, 2
	(IT40)-MOM4-105	4	17	44	4,000	2.6	MTO4-1, 2, 3
No.50	BT50-MOM3-113	3	0	—	5,500	6.3	MTO3-1, 2
	(IT50)-MOM4-120	4	4	44	4,000	6.8	MTO4-1, 2, 3
	-MOM5-120	5	4	59	3,000	6.8	—

★IT40-MOM3-105 and IT40-MOM4-115 are also available.

★( ) in sleeve shows ℓ<sub>1</sub>.

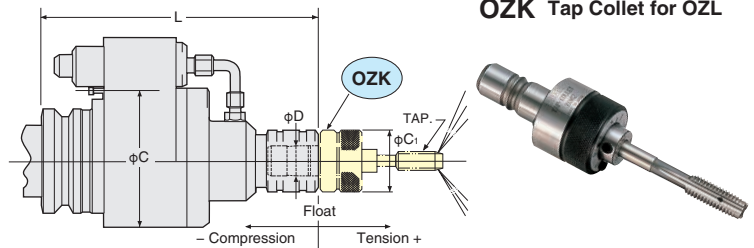
★Stopper block is available as an option. When ordering, please inform your M/C maker and Model as well as your M/C spindle flange dimension. P.324

## Auto Depth Control Tapper Chuck for Oil Hole Tap



OZL

- To be used with Oil Hole Tap.
- Tapping depth is precisely controlled.
- MAX. 2,000r/min, MAX. Coolant Pressure : 1.5MPa



TAPER	Code No. -L	Tapping Capability			D	Float		C	C <sub>1</sub>	Weight (kg)	Tap Collet
		M	U	P		Compression	Tension				
No.40	BT40-OZL12-170	M 2~12	1/8~1/2	P 1/16~1/4	19	5	4	82	38.5	4.8	OZK12
	(IT40)-OZL24-205	M 8~24	1/2~1	P 1/4~5/8	30	6	7	98	56	5.3	OZK24
No.50	BT50-OZL12-185	M 2~12	1/8~1/2	P 1/16~1/4	19	5	4	98	38.5	8.5	OZK12
	(IT50)-OZL24-210	M 8~24	1/2~1	P 1/4~5/8	30	6	7	98	56	9.0	OZK24
	-OZL38-240	M 18~38	3/4~1 3/8	P 3/8~1	45	8	10	115	78	10.0	OZK38

★Stopper block is available as an option. When ordering, please inform your M/C maker and Model as well as your M/C spindle flange dimension. P.324

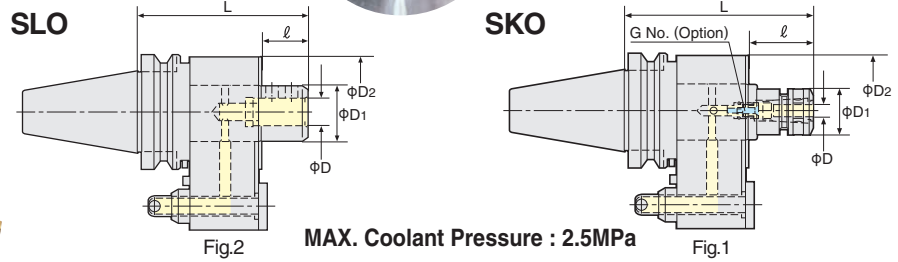
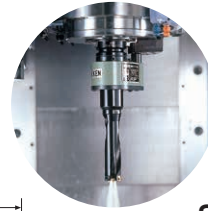
BT

# OIL HOLE HOLDER



**SLO** Side Lock type  
**SKO** Slim Chuck type

Slim Chuck type for BT40/50 is Multi Oil Hole type (**MOK**), please refer **P.119**.

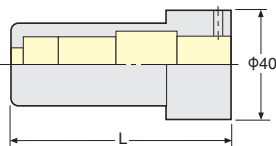


Oil Mist type holder which is not necessary to use coolant is also available for health and safety environment regulation. Please contact with us. e.g. **BT40-SLO25M-130**

TAPER	Code No.	L	D	l	D <sub>1</sub>	D <sub>2</sub>	MAX.r/min	Weight (kg)	Collet	Fig.	
<b>No.30</b>	<b>BT30-SKO10-135B,135,125KA</b>	5~10	18,41,43	27.5	63	63	6,000	1.8	<b>SK10</b>	1	
	<b>-SKO16-140B,145,130KA</b>	10~16	23,51,48	40					5,500		2.1
	<b>-SKO25-145B,145,130KA</b>	16~25	28,48,48	55	80	3,000	2.8	<b>SK25</b>			
<b>No.40</b>	<b>BT40-SLO16-130</b>	16	39.5	49	82	3,000	3.5	-	-	2	
	<b>(IT40)-SLO20-130</b>	20									
	<b>-SLO25-130</b>	25									
	<b>-SLO32-140</b>	32	41.5	54			3.8	<b>OK32</b>			
<b>No.50</b>	<b>BT50-SLO16-150</b>	16	40	49	98	3,000	7.5	-	-	2	
	<b>(IT50)-SLO20-150</b>	20									
	<b>-SLO25-150</b>	25									
	<b>-SLO32-150</b>	32									54
	<b>-SLO40-160</b>	40									64
<b>-SLO50-160</b>	50	79	118	10.0	-						

★BT-30-SKO added "B" (e.g. BT-30-SKO10-135B) is for BROTHER. BT30-SKO added "KA" (e.g. BT30-SKO10-125KA) is for KIRA.  
 ★IT40-SLO16-140, IT40-SLO20-140, IT40-SLO25-140 and IT40-SLO32-140 are also available.  
 ★For SKO Slim Chuck, Adjust Screw (G No.) is available as an option. P.288 SKO10-135B, 135, 125KA : SKG10-10HGG  
 ★For Heavy Duty Model with strong oil seals, please add the letter "HD" to the Code No. e.g. BT40-SLO25-130HD Ideal for ceramic material component. SKO16-140B : SKG16-12HGH, SKO16-145 : SKG16-12HGG SKO16-130KA : SKG16-10HGB  
 SKO25-145B, 145, 130KA : SKG25-16HG  
 ★Please refer P.121 for OK25 and OK32 Collet for SLO type. ★Nut, Adjust Screw and Collet Extractor are included for SKO type as standard. Please refer P.283 for Slim Chuck Collet.  
 ★Stopper block is available as an option. When ordering, please inform your M/C maker and Model as well as your M/C spindle flange dimension. P.324

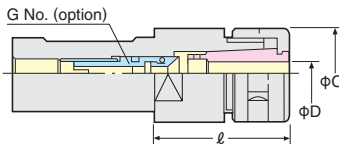
## OK Shank MT Sleeve for MOL and SLO



OK-MT Sleeve Code No.
<b>OK32-MT1-85, MT2-85, MT3-100</b>

Explanation of the Code No.  
**OK 32 - MT1 - L**  
 • OD of Collet  
 • Internal Taper  
 • Length  
 • Symbol of OK Shank

## OK Shank Slim Chuck for MOL and SLO



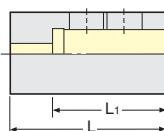
Explanation of the Code No.

**OK 25 - SK 10**  
 • MAX. Chucking Dia.  
 • Slim Chuck  
 • OD of Shank  
 • Symbol of OK Shank

Code No.	D	C	l	G No. (Option)	Collet
<b>OK25-SK10</b>	5~10	27.5	23	SKG10-10HG	<b>SK10</b>
<b>-SK16</b>	10~16	40	65	SKG16-12HG	<b>SK16</b>
<b>OK32-SK10</b>	5~10	27.5	23	SKG10-10HG	<b>SK10</b>
<b>-SK16</b>	10~16	40	65	SKG16-12HG	<b>SK16</b>
<b>OK40-SK10</b>	5~10	27.5	25	SKG10-10HG	<b>SK10</b>
<b>-SK16</b>	10~16	40	51	SKG16-12HG	<b>SK16</b>

★Adjust Screw (G No.) is available as an option. P.288  
 ★Please refer P.283 for Slim Chuck Collet.

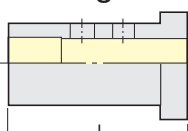
## OK Shank Straight Collet for MOL and SLO (for drill)



Code No.	L	L <sub>1</sub>
<b>OK25-16, 20</b>	56	45
<b>OK32-16, 20, 25</b>	61	45, 45, 55
<b>OK40-32</b>	71	60

Explanation of the Code No.  
**OK 25 - 16**  
 • ID of Collet  
 • OD of Collet  
 • Symbol of OK Shank

## OK Shank Straight Collet for MOL and SLO (for end mill)



Code No.	L
<b>OKE32-16, 20, 25</b>	63
<b>OKE40-20, 25, 32</b>	73

Explanation of the Code No.  
**OK E 32 - 16**  
 • ID of Collet  
 • OD of Collet  
 • for End Mill  
 • Symbol of OK Shank

# ZERO FIT TYPE OIL HOLE HOLDER



When the machine has been used for 2~3 years, the run-out accuracy of the spindle will be declining with accuracy of 0.01mm~0.04mm at 100mm from the gauge line, the Zero Fit Holder allows correction of this error back to the run-out of 0.001~0.002mm.

## ZERO FIT TYPE OIL HOLE HOLDER SLIM CHUCK



SZFO

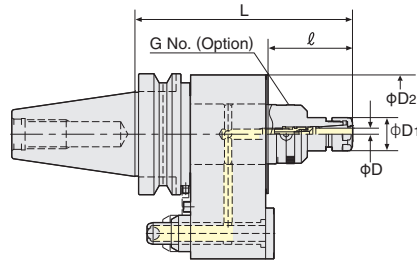


Fig.1

MAX. run-out at 100mm	
SZFO 10	0.050mm/dia.
SZFO 16	0.040mm/dia.
SZFO 25	0.025mm/dia.

## ZERO FIT TYPE OIL HOLE HOLDER MILLING CHUCK



CZFO

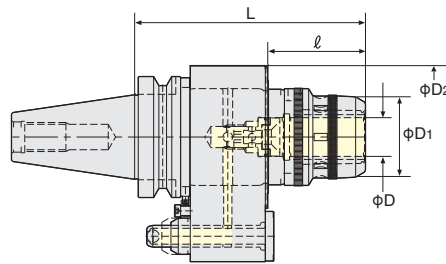


Fig.2

MAX. run-out at 100mm	
CZFO 20	0.050mm/dia.
CZFO 32	0.030mm/dia.

### The milling surface finish and quality can be improved.

- The milling surface finish and quality can be improved.
- For better and stable finish tolerance for machining holes.
- The tool life can be extended.
- **Zero Fit Holder** has wide adjustment range compared with competitors equivalent, and its mechanism performs simple, quick and secured operation.
- The choice of the Slim Chuck style "SZF" & the Anniversary type Milling Chuck style "CZF" can be selected depending on your cutter.
- The side through coolant type does not hurt the machine tool spindle inside.

MAX. Coolant Pressure : 2.5MPa

TAPER	Code No.	L	D	ℓ	D <sub>1</sub>	D <sub>2</sub>	MAX.r/min	Weight(kg)	Collet	G No. (Option)	Fig.
No.40	BT40-SZFO10-160	6~10	69.5	49	82	3,000	4.0	SK10	SKG10-10HG	1	
	-CZFO20-180(65)	20	65	66.5	98			KM20 CCK20	—	2	
No.50	BT50-SZFO10-180	6~10	70	49	98	3,000	8.0	SK10	SKG10-10HG	1	
	-SZFO16-190	2.75~16	80	64				SK16	SKG16-12HG		
	-SZFO25-175	16~25.4	65	66.5				SK25	SKG25-16HG		
	-CZFO20-175	20	80.5	118				9.0	KM20 CCK20	—	2
	-CZFO32-190	32									

★For SZFO Slim Chuck, Nut is available as a standard.

★For SZFO Slim Chuck, Adjust screw (G No.), wrench to adjust run-out (9ZFL) and SKL spanner are available as an option. SZF6: SKL-6W, SZF10: SKL-10, SZF16: 9HC16, SZF25: 9HC25

★For SZFO Slim Chuck, Collet is available as an option. Please refer to P.283 for Slim Chuck Collet.

★For SZFO Slim Chuck, Adjust screw for small cutter shank dia. (φ4) is available. Please contact with us.

★Stopper block is available as an option. When ordering, please inform your M/C maker and Model as well as your M/C spindle flange dimension. P.324



# HIGH SPEED SPINDLE SPEEDER

**NIKKEN**

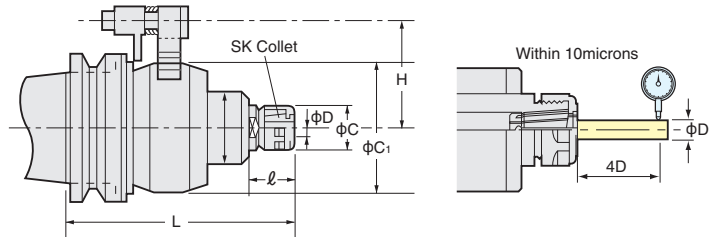
10,000~40,000r/min

- NIKKEN NX increases the spindle speed by 4 or 5 times, so economically convert your standard M/C to high speed M/C.
- Even small endmills can cut smoothly without chatter.
- Run-out accuracy is more stable due to TiN Bearing Nut (standard accessory).



**NX**

Explanation of the Code No.  
**BT40** - Shank  
**NX** - Ratio  
**5** - Length  
**160** - Length  
 ● NX : 4times, 5 times  
 ● PX : 6times, 10 times



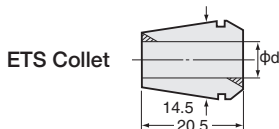
TAPER	Code No.	D	L	C	C <sub>1</sub>	l	H	Ratio	MAX. r/min	Weight (kg)	Collet	
<b>No.30</b>	<b>BT30-NX 5-153</b>	1.75~10	153	27.5	85	32	55	5	20,000	2.9	<b>SK10A</b>	
	<b>BT40-NX 5-153</b>		153									
<b>No.40</b>	<b>(IT40)-PX 6-150GX</b>	0.5~8.0	149	22	76	14.5	60	6	30,000	4.1	<b>ETS14</b>	
	<b>-PX10-160GX</b>		162.5									
<b>No.50</b>	<b>BT50-NX 4-192</b>	1.75~16	192	40	118	46	82	4	10,000	11.0	<b>SK16A</b>	
	<b>(IT50)-NX 5-151</b>	1.75~10	151	27.5	85			5	20,000	7.0	<b>SK10A</b>	
	<b>-PX 6-140GX</b>	0.5~8.0	142	22	76			14.5	6	30,000	6.8	<b>ETS14</b>
	<b>-PX10-155GX</b>		155.5						98	10	40,000	

**NX type**

- ★ For End Mill, please use **SK A type collet**. For Drill, please use **SK-P class collet**. (P.283)
- ★ Wrench, Collet Extractor and **A type SK Collets** are supplied as standard.
- NX5: SK10-6A, 8A, 10A NX4: SK16-8A, 10A, 12A, 16A
- ★ Stopper block is available as an option. When ordering, please inform your M/C maker and Model as well as your M/C spindle flange dimension. (P.324)
- ★ Air Cylinder for Cooling (**NXE-COOL**) is highly recommended to use for the stable milling.

**PX type**

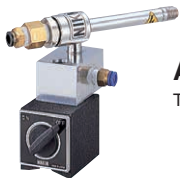
- ★ Grease lubrication is standard.
- ★ Please add "**MX**" instead of "**GX**" at the end of Code No. for the oil mist lubrication. e.g. **BT40-PX6-130MX**
- ★ ETS collet is supplied as an option.



Explanation of the Code No.

**ETS** - Symbol of ETS Collet  
**14** - Style No.  
**0.5** - MAX. Chucking Dia.

- ★ d=0.5~1.0: Each 0.1mm (Gripping range : 0.1mm)  
 e.g. **ETS14-0.5 : 0.4~0.5mm**
- ★ d=1.25~2.5: Each 0.25mm (Gripping range : 0.25mm)
- ★ d=3.0 ~8.0: Each 0.5mm (Gripping range : 0.5mm)



**Air Cylinder for Cooling with ON/OFF Magnet NXE-COOL**

The best cooling is to cool the speeder body directly.



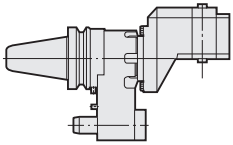
# ANGULAR HEAD SYSTEM (Free Positioning in 360°)

**NIKKEN**

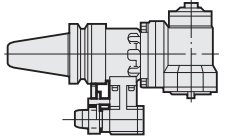
BT

## Quick type Angular Head P.125

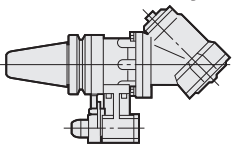
### BT-AFT Off-Set type



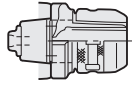
### BT-AHT 90°type



### BT-AHT 45°type



### AHK-C



### AHK-SK



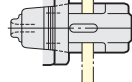
### AHK-PC



### AHK-Z



### AHK-SCA



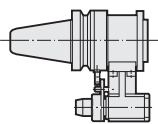
P.126

Various machining such as end milling, drilling, face milling, tapping etc. can be conveniently done by just changing adapter. Very suitable for production of many kinds of small quantity.

BT50-AFT35-90 Cutting Data Material of Work: S55C Carbon Steel				
Adaptor	Tool	Cutting Width×Depth	r/min	Feed (mm/min)
SK10	HSS 2 Flutes End Mill	10×5.0	800	80
PC60	φ60 Face Mill	45×3.0	600	300
SCA	φ100×4 Side Cutter	4.0×6.0	70	70
C20	φ18.5 Drill	18.5×40	400	80

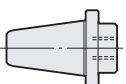
## Modular type Angular Head P.127

### BT-AHM Modular type Main Body

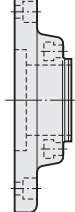


### Direct Mount Flange type Angular Head P.150

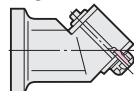
#### NT-F Direct Mount Flange type Shank



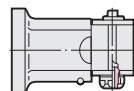
#### F Flange



### AHM-SK 45°type



### AHM-SK 90°type

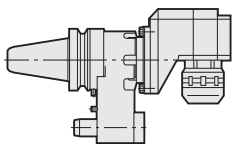


Head can be changed according to the application. Small Dia. Head, 45° or 90° Head, Long Head etc. are available in standard series. For Heavy Cutting, Direct Mount Flange type is recommended.

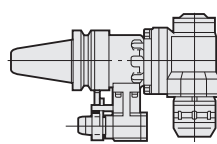


## Solid Type Angular Head P.128

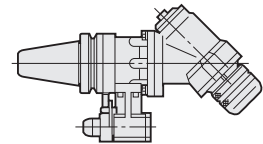
### AFK AFC Off-Set type



### AHK AHC 90°type



### AHK AHC 30°,45°,60°types



- Free Radius Positioning in 360°.
- Taper Connection System is applied to Stopper Block. (Different from the one of another FA tooling)
- Oil Hole type is available. Please contact with us.
- Special Degree Angular Head is available on demand.
- Spindle Speeder type Angular Head (X5 times, MAX. 18,000r/min) is available.

BT40-AHPX10-215, BT50-AHPX10-206  
IT40-AHPX10-215, IT50-AHPX10-206

### Spindle Speeder type Angular Head MAX.18,000r/min



### Angular Head with Oil Hole System



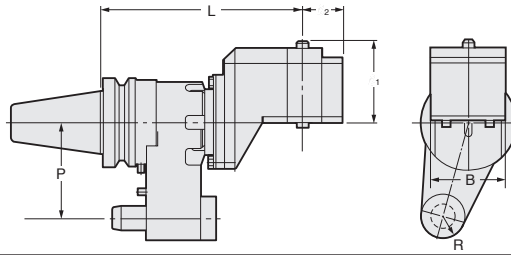
# QUICK TYPE ANGULAR HEAD (Free Positioning in 360°)



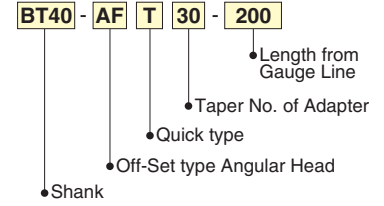
## Quick type Off-Set Angular Head



AFT



Explanation of the Code No.



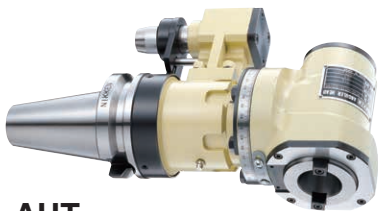
MAX2,000r/min

TAPER	Code No.	Shank	L	P	$l_1$	$l_2$	B	R	Adapter	Weight (kg)
No.40	BT40 (IT40)-AFT30-200	BT40	200	65	85	35	70	17.5	AHK30	7.5
No.50	BT50 (IT50)-AFT35-230	BT50	230	110	85	45	84	25	AHK35	16.0

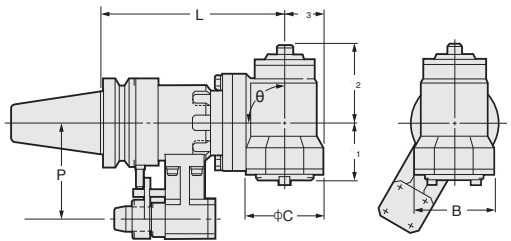
★Taper Connection System is applied to Stopper Block. (Different from the another FA Tooling) ★All types are available with Oil Hole System. ★Test bar is attached as standard.  
 ★Stopper block is available as an option. When ordering, please inform your M/C maker and Model as well as your M/C spindle flange dimension.  
 ★IT40-AFT30-200 and IT50-AFT35-230 are also available. ★When M/C spindle rotates CW, the cutter rotates CW.



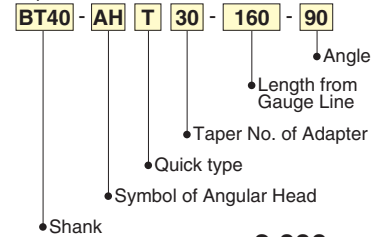
## Quick type 90° Angular Head



AHT



Explanation of the Code No.



MAX2,000r/min

TAPER	Code No. L -θ	Shank	L	P	$l_1$	$l_2$	$l_3$	C	B	θ	Adapter	Weight (kg)
No.40	BT40-AHT30-160 -90	BT40	160	65	58	61	37	86	80	90	AHK30	6.5
	(IT40) -250* -90	BT40	250									10.5
No.50	BT50-AHT35-210 -90	BT50	210	110	65	88	45	100	90	90	AHK35	17.0
	(IT50) -300* -90	BT50	300									22.0

★Taper Connection System is applied to Stopper Block. (Different from the another FA tooling) ★All types are available with Oil Hole System. ★Test bar is attached as standard.  
 ★Stopper block is available as an option. When ordering, please inform your M/C maker and Model as well as your M/C spindle flange dimension.  
 ★Models with \* mark : Detailed discussion is needed. ★When M/C spindle rotates CCW, the cutter rotates CW.

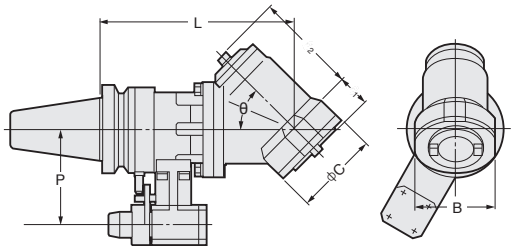


## Quick type 30°, 45°, 60° Angular Head

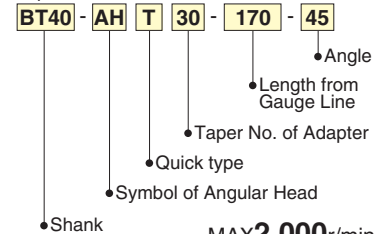


AHT

Photo shows 30° type.



Explanation of the Code No.



MAX2,000r/min

TAPER	Code No. L -θ	Shank	L	P	$l_1$	$l_2$	C	B	θ	Adapter	Weight (kg)
No.40	BT40-AHT30-205 -30	BT40	205	65	35	88	86	80	30	AHK30	6.5
	(IT40) -170 -45		170						45		6.5
	-160 -60		160						60		6.5
	-250* -30	BT40	250	65	35	88	86	80	30	AHK30	10.5
	-45		45						10.5		
	-60		60						10.5		
No.50	BT50-AHT35-258 -30	BT50	258	110	26	110	100	90	30	AHK35	17.0
	(IT50) -225 -45		225						45		17.0
	-210 -60		210						60		17.0
	-300* -30	BT50	300	110	26	110	100	90	30	AHK35	22.0
	-45		45						22.0		
	-60		60						22.0		

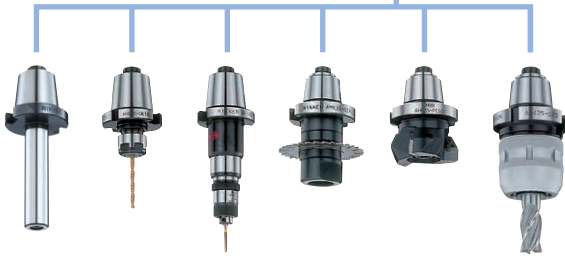
★Taper Connection System is applied to Stopper Block. (Different from the another FA tooling) ★All types are available with Oil Hole System. ★Test bar is attached as standard.  
 ★Stopper block is available as an option. When ordering, please inform your M/C maker and Model as well as your M/C spindle flange dimension.  
 ★Models with \* mark : Detailed discussion is needed. ★When M/C spindle rotates CCW, the cutter rotates CW.



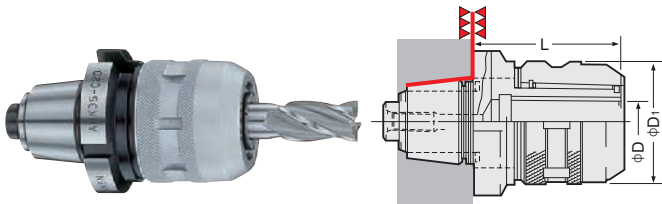
# ADAPTER FOR QUICK TYPE ANGULAR HEAD



Quick type Angular Head  
☞ P.125



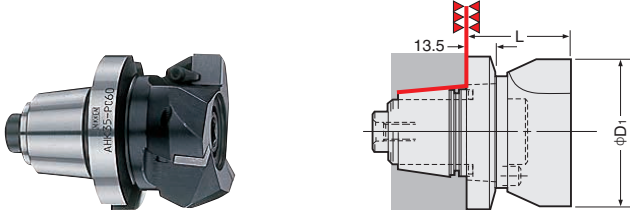
Quick type Milling Chuck (Double Face Contact)



Code No.	D	L	D <sub>1</sub>	Weight(kg)	KM Collet
AHK30-C16		60	44	1.0	<b>KM16</b>
AHK35-C16,C20		60, 65	44, 52	1.1, 1.2	<b>KM16 KM20</b>

★For KM COLLET, please refer ☞ P.280.

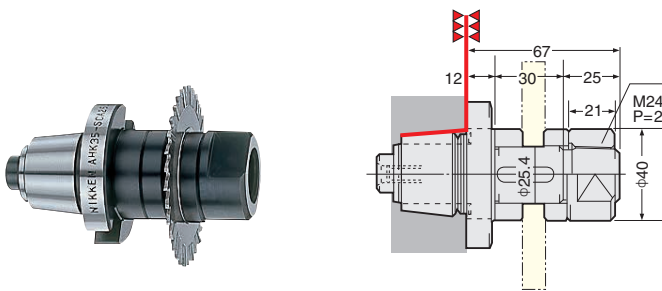
Quick type NIKKEN PRO-CUT (Double Face Contact)



Code No.	PC.No.	L	D <sub>1</sub>	Weight(kg)
AHK30-PC50		45	50	0.7
AHK35-PC60,PC80		45, 57	60, 80	0.9, 1.3

★Inserts are standard accessory.

Quick type Side Cutter Arbor (Double Face Contact)



Code No.	L	D	D <sub>1</sub>	Weight(kg)
AHK35-SCA25.4	12	25.4	40	1.1

★The key and set of distance collars are standard accessory.

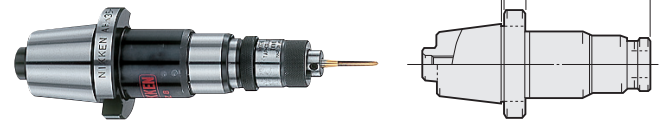
Quick type Slim Chuck



Code No.	SK.No.	D	L	D <sub>1</sub>	Weight(kg)	SK Collet
AHK30-SK10		1.75~10	35	27.5	0.4	<b>SK10</b>
-SK16		2.75~16	50	40	0.6	<b>SK16</b>
AHK35-SK10		1.75~10	35	27.5	0.5	<b>SK10</b>
-SK16		2.75~16	50	40	0.7	<b>SK16</b>

★SK Collet is not included, please refer ☞ P.283.

Quick type Tapper Chuck

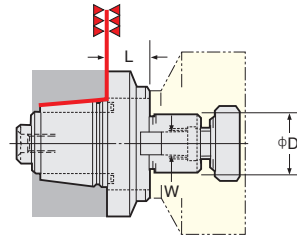


Code No.	Z.No.	L	Weight(kg)	Tap Collet
AHK30-Z8, Z12		85, 100	0.6, 0.9	<b>ZKN 8 ZKG12</b>
AHK35-Z8, Z12, Z16		75, 85, 100	0.7, 1.0, 1.5	<b>ZKN 8 ZKG12 ZKG16</b>

★Tapping Capability Z8 : M2~8 Z12 : M2~12 Z16 : M3~20

★Tap Collet is not included, please refer ☞ P.291.

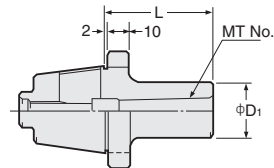
Quick type Face Mill Arbor (Double Face Contact)



Code No.	L	D <sub>1</sub>	W	Weight(kg)
AHK35-FMA25.4	18.5	25.4	9.5	0.7
-FMA31.75		31.75	12.7	0.8

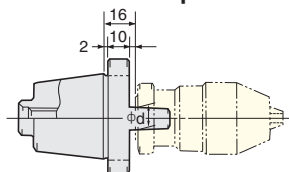
★The Keys and a Bolt are standard accessory.

Quick type Morse Taper Sleeve



Code No.	MT.No.	L	D <sub>1</sub>	Weight(kg)
AHK30-MT1, MT2		50, 65	25, 32	0.4, 0.5
AHK35-MT1, MT2, MT3		50, 60, 85	25, 32, 40	0.5, 0.6, 0.9

Quick type Drill Chuck Adapter



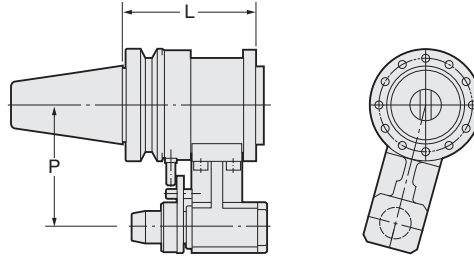
Code No.	J.No.	L	J.No.	Weight(kg)
AHK30-J6	J6	16		0.4
AHK35-J6				0.5

★This adapter is supplied without drill chuck.

# MODULAR TYPE ANGULAR HEAD

**NIKKEN**

## Modular type Angular Head AHM



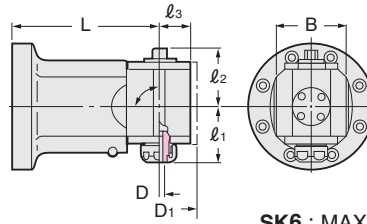
MAX6,000r/min

AHM

TAPER	Code No. -L	L	P	Weight (kg)	Suitable Modular Head
No.40	BT40 (IT40)-AHM-100	100	65	4.5	
No.50	BT50 (IT50)-AHM-120	120	110	11.5	

★Taper Connection System is applied to Stopper Block. (Different from the another FA Tooling) ★All types are available with Oil Hole System.  
 ★Stopper block is available as an option. When ordering, please inform your M/C maker and Model as well as your M/C spindle flange dimension.

## 90°type Modular Head AHM90



Explanation of the Code No.

AHM90 - SK6 - 80

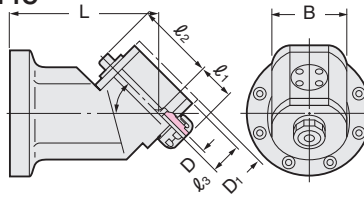
- Length from Gauge Line
- Symbol of Slim Chuck
- Symbol of Modular Head 90°type

SK6 : MAX6,000r/min SK10,16 : MAX4,000r/min

Code No. -L	D	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	D <sub>1</sub>	B	Weight (kg)	SK Collet
AHM90-SK 6-80, 120, 150*	0.7~6	42	35	22	50	48	3.0, 4.0, 4.5	SK 6
-SK10-80, 120, 150*	1.75~10	63	57	32	64	60	3.5, 4.5, 5.0	SK 10
-SK16-80, 120, 150*	2.75~16	66	58	35	74	70	4.2, 5.2, 5.7	SK 16

★\*Mark is for light machining. ★For SK Collet, please refer P.283. ★When M/C spindle rotates CCW, the cutter rotates CW. ★Test bar is attached as standard.

## 30°, 45°, 60°type Modular Head AHM45



Explanation of the Code No.

AHM45 - SK6 - 120

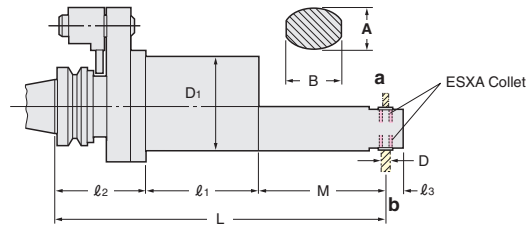
- Length from Gauge Line
- Symbol of Slim Chuck
- Symbol of Modular Head 45°type

SK6 : MAX6,000r/min SK10,16 : MAX4,000r/min

Code No. -L	D	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	D <sub>1</sub>	B	Weight (kg)	SK Collet
AHM45-SK 6-120, 150*	0.7~6	27	67	22	50	52	3.0, 4.0, 4.5	SK 6
-SK10-120, 150*	1.75~10	39	80	30	64	60	3.5, 4.5, 5.0	SK 10
-SK16-120, 150*	2.75~16	38	90	35	74	70	4.2, 5.2, 5.7	SK 16

★\*Mark is for light machining. ★For SK Collet, please refer P.283. ★Angle 30°, 60° are also available as an option. ★When M/C spindle rotates CCW, the cutter rotates CW. ★Test bar is attached as standard.

## Angular head for deep hole AHPL



AHPL

TAPER	Code No. -L	D	D <sub>1</sub>	A	B	L	M	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	min <sup>-1</sup>	Weight (kg)	Applicable Collet
No.40	BT40-AHPL4-199	1.0~4.0	80	25	31	199	32	67.5	99.5	14.5	6,450	5.0	ESXA4
	-223					56	5.5						
	-247					80	6.0						
	-271					104	7.5						
	-AHPL6-208					207.5	46.5					5.0	
No.50	-236	1.0~6.0	80	36	45	235.5	74.5	61.5	99.5	15	8,000	6.0	ESXA6
	-264					263.5	102.5					8.0	
	BT50-AHPL6-221					220.5	46.5					7.0	
	-249					248.5	74.5					8.0	
	-277					276.5	102.5					10.0	
	-AHPL8-248					247.5	73					9.0	
No.50	-280	1.0~8.0	110	43	47.5	279.5	105	78	96.5	20	6,000	10.0	ESXA8
	-300					299.5	125					11.0	

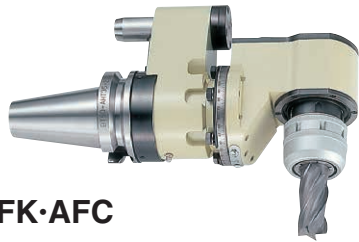
★ESXA Collet is supplied as an option. ★Different shape is possible, please contact with us for more detail.  
 ★When M/C spindle rotates cw, the cutter at a rotates CW and the cutter at b rotates CCW. ★IT40-AHPL6-270 and IT50-AHPL8-288 are also available.



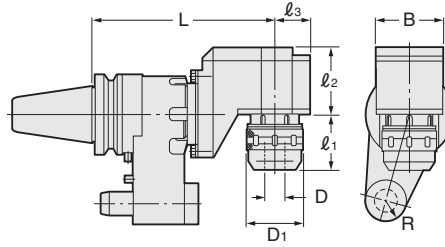
# SOLID TYPE ANGULAR HEAD (Free Positioning in 360°)



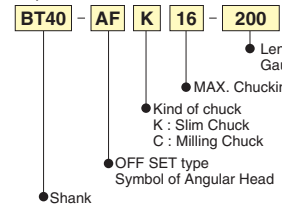
## Solid OFF SET type Angular head



AFK·AFC



Explanation of the Code No.



TAPER	Code No. -L	D	D <sub>1</sub>	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	B	R	r/min	Weight (kg)	Collet
No.40	BT40-AFK16-200	2.75~16	40	50	85	35	70	17.5	2,000	8.5	SK 16
	(IT40)-AFC20-200	2~20	52	56						8.7	KM 20
No.50	BT50-AFC20-230	2~20	52	58	85	45	84	25	2,000	17.0	KM 20
	(IT50)-AFC32-230	3~32	69	65						17.2	KM 32

★Taper Connection System is applied to Stopper Block. (Different from the another FA Tooling) ★Test bar is attached as standard.

★All types are available with Oil Hole System.

★Stopper block is available as an option. When ordering, please inform your M/C maker and Model as well as your M/C spindle flange dimension.

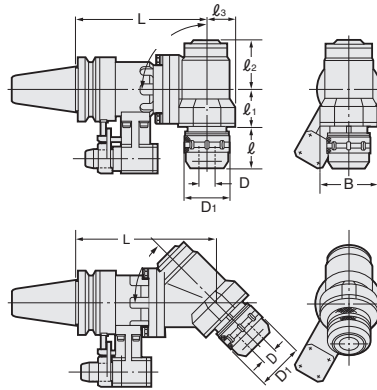
★For (SK16), please refer P.283. For (KM20) and (KM32), please refer P.280.

★Please advise name of M/C builder and model No. etc. ★When M/C spindle rotates CW, the cutter rotates CW.

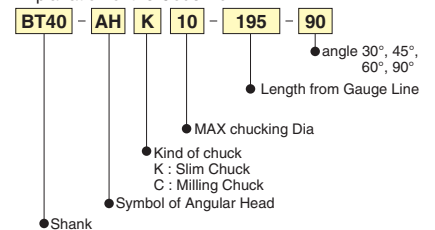
## Solid - 90°, 45° type Angular head



AHK·AHC



Explanation of the Code No.



TAPER	Code No. -L -θ	D	D <sub>1</sub>	l	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	B	r/min	Weight (kg)	Collet
No.30	BT30-AHK10-120 -90	1.75~10	27.5	20	49	50	27.5	55	2,000	3.0	SK 10
	BT40-AHK10-180 -90	1.75~10	27.5	18	45	57	32	60	4,000	8.0	SK 10
-220* -90	9.0										
No.40	(IT40)-AHK16-180 -90	2.75~16	40	25	41	58	35	70	2,000	8.7	SK 16
	-220* -90									9.7	
	-AHC20-160 -90	2~20	52	57	58	61	37	80	7.1	KM20	
-250* -90	11.1										
No.50	BT50-AHK10-200 -90	1.75~10	27.5	18	45	57	32	60	4,000	15.0	SK 10
	-240* -90									16.0	
	(IT50)-AHK16-200 -90	2.75~16	40	25	41	58	35	70	15.7	SK 16	
	-240* -90								16.7		
	-AHK25-210 -90	7.5~25.4	55	57	60	82	45	90	17.2	SK 25	
	-300* -90								22.2		
	-AHC32-210 -90	3~32	69	57	60	82	45	90	17.5	KM32	
-300* -90	22.5										

★Taper Connection System is applied to Stopper Block. (Different from the another FA Tooling) ★Test bar is attached as standard.

★All types are available with Oil Hole System.

★Stopper block is available as an option. When ordering, please inform your M/C maker and Model as well as your M/C spindle flange dimension.

★For (SK10) (SK16) (SK25), please refer P.283. For (KM20) (KM25) and (KM32), please refer P.280.

★Angle 30°, 45°, 60° are also available as an option. ★\* Mark is for light cutting.

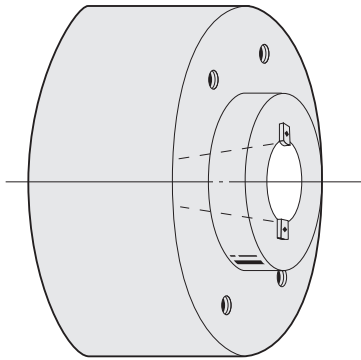
★When M/C spindle rotates CCW, the cutter rotates CW.

★Please contact with us for the dimension of 30°, 45°, 60° type.

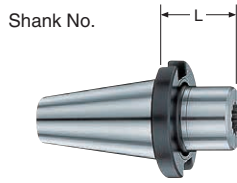
# DIRECT MOUNT FLANGE TYPE ANGULAR HEAD



BT



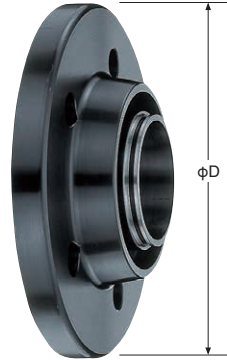
Spindle



Direct Mount Flange type Shank

Code. No.  
NT 50 - F 235 - 14

Shank No. L  
φD



Flange

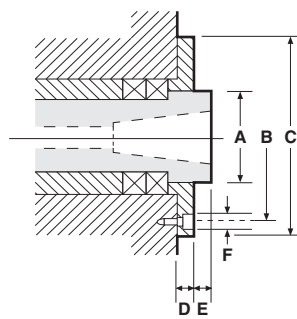
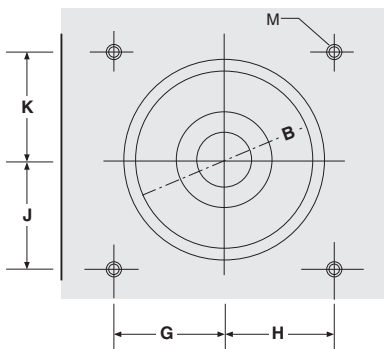
Code. No.  
F 235 - AHM

φD  
Symbol of Flange type  
Symbol of Modular type Angular Head



Modular Head

P.127



We have a lot of experience of Special Angular Heads such as Flange Mount type, Both Sides Spindles type Heads and Angular Head for High Speed Rotation. Please contact with us.

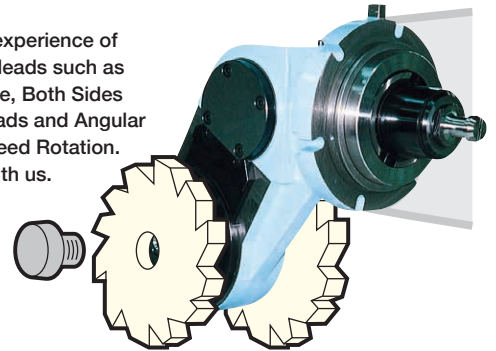
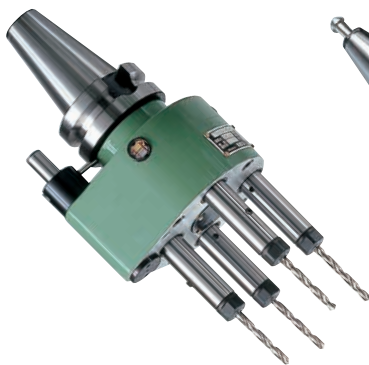


Photo shows NC5 Shank.

★When ordering, please let us know above A, B, C, D, E, F, G, H, J, K, M and Work Drawing.

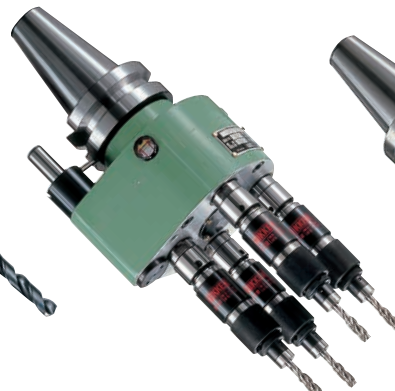
# MULTI SPINDLE HEAD SERIES



MHS ① Multi Drill Head (for Straight Shank Drill)



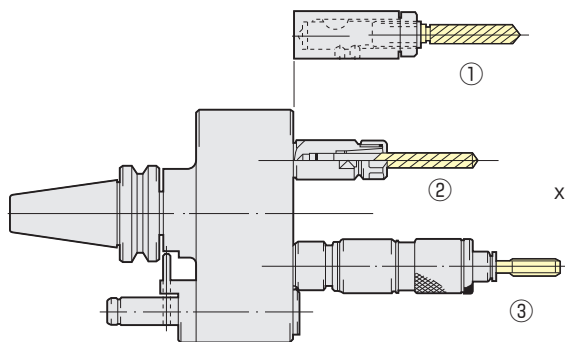
MHD ② Multi Drill Head (for MT Shank Drill)



MHT ③ Multi Drill Head (for Tapper Chuck)



MHV High Speed Multi Drill Head  
MAX.8,000r/min



Please specify the below when ordering.

- M/C Maker, Model No. Drawing of Spindle Flange. Stopper Block is provided or not.
- Coordinates of each hole A(X= -35, Y= 35)  
B(X= 35, Y= 35)  
C(X= -35, Y=-35)  
D(X= 35, Y=-35)  
or pitch and number of holes.
- A diameter of drill or tap
- Material

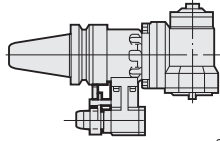
# ANGULAR HEAD Torque - power



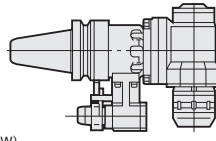
Please decide a cutting condition for the cause in 70% of following torque and power.

## BT-AH

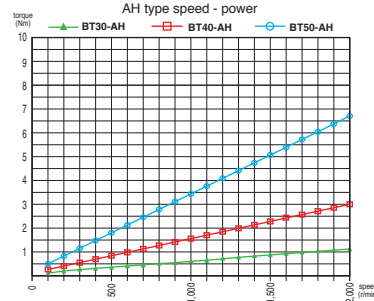
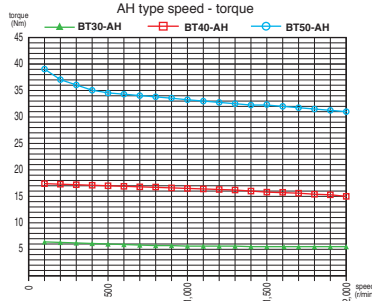
### BT-AHT 90° type



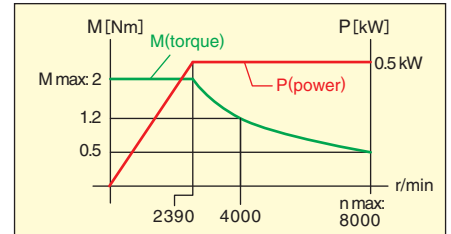
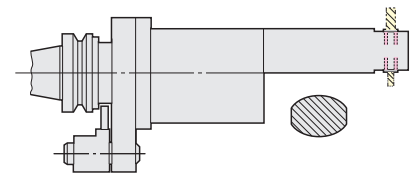
### AHK AHC 90° type



ANGULAR HEAD(AH)  
speed(r/min)-torque(Nm)/power(kW)

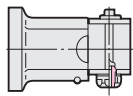


## BT-AHPL4

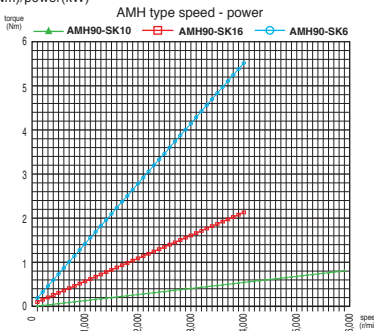
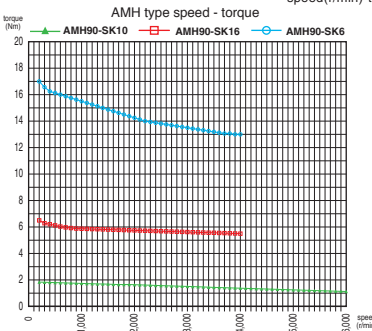


## AHM-SK

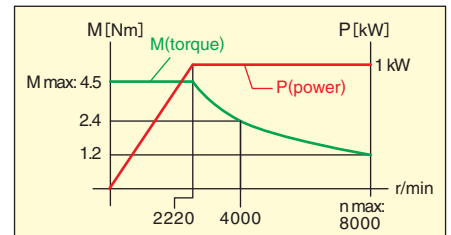
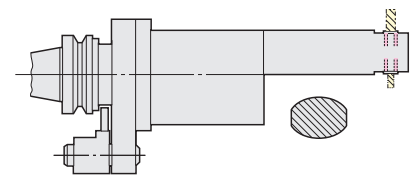
### AHM-SK 90° type



ANGULAR HEAD(AMH)  
speed(r/min)-torque(Nm)/power(kW)

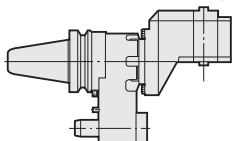


## BT-AHPL6

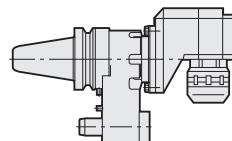


## BT-AF

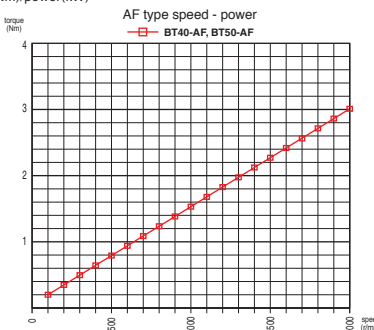
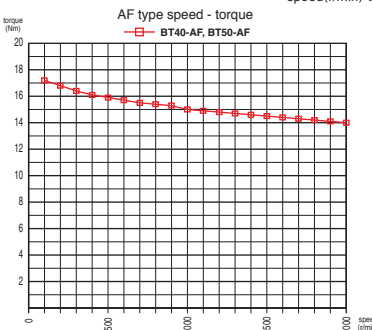
### BT-AFT OFF SET type



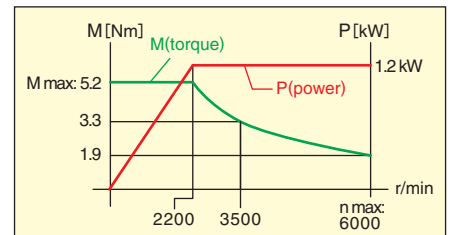
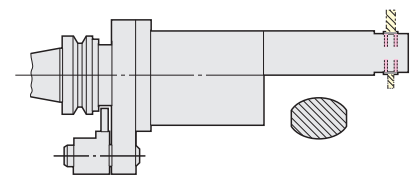
### AFK AFC OFF SET type



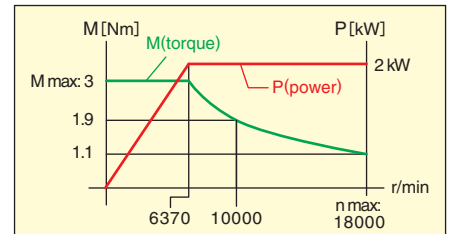
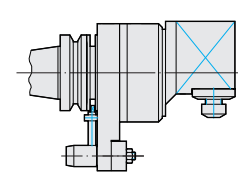
ANGULAR HEAD(AF)  
speed(r/min)-torque(Nm)/power(kW)



## BT-AHPL8



## BT-AHPX10



## Cutting Power : Pc (kW) and Cutting Torque : Mc (Nm) for Milling

$$P_c(kW) = \frac{ap \cdot ae \cdot vf \cdot kc}{60 \times 10^6}$$

$$M_c(Nm) = \frac{9550 \times P_c}{n}$$

ap(mm) : Depth of Cut  
ae(mm) : Cutting Width  
vf(mm/min) : Table Feed per Min  
Kc(MPa) : Specific Cutting Force  
Pc(kW) : Cutting Power

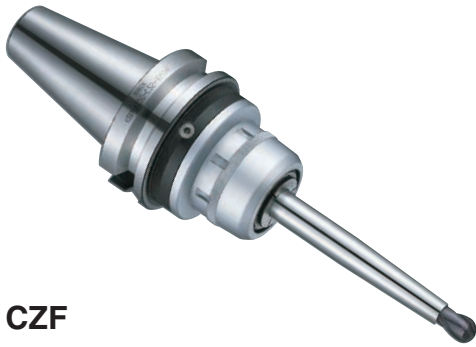
n(r/min) : Spindle Speed  
Mc(Nm) : Cutting Torque  
Kc(MPa) : Reference level of the specific cutting Force.  
It is found by materials and feed per tooth ( fz (mm/t) ).  
Specifically, please refer to a cutting tool maker catalogue.

- S50C(fz=0.1mm/tooth)≒2000MPa
- FC250(fz=0.1mm/tooth)≒1800MPa

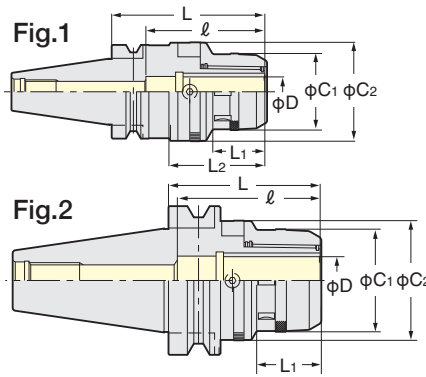
BT

# ZERO FIT TYPE MILLING CHUCK

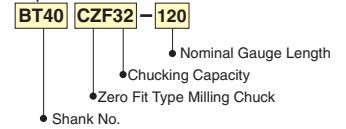
**NIKKEN**



CZF



Explanation of the Code No.



MAX. run-out at 100mm	
CZF20	0.050mm / dia.
CZF25	0.050mm / dia.
CZF32	0.030mm / dia.

JAPAN, USA, UK, GERMANY, KOREA, TAIWAN PAT.

TAPER	Code No.	C1	C2	L	L1	L2	l	Weight (kg)	Fig.	Collet
No.30	BT30-CZF20-100	51.5	66.5	100	35	68	80	1.5	1	KM20 CCK20
	-CZF25-100	59.5	74.5					1.6		KM25 CCK25
No.40	BT40-CZF20-105	51.5	66.5	105	35	64.5	80	2.1	1	KM20 CCK20
	-120			120				2.5		KM25 CCK25
	-CZF25-105	59.5	74.5	105	68	2.4	KM25 CCK25			
	-120			120		2.9	KM32 CCK32			
No.50	BT50-CZF20-105	51.5	66.5	105	35	-	80	4.6	2	KM20 CCK20
	-165			165				6.0		KM25 CCK25
	-CZF25-105	59.5	74.5	105	-	5.0	KM25 CCK25			
	-165			165		6.8	KM32 CCK32			
	-CZF32-105	69	80.5	105	42	78	105	5.3		KM32 CCK32
	-165			165				7.4		

- ★Spanner is available as an option. CZF20 type : 9HC22, CZF25 type : 9HC25, CZF32 type : 9HC32
- ★Wrench to adjust run-out (9ZFL) is available as an option.
- ★Please refer P.280, P.281 for KM, CCK collet.
- ★When direct chucking of centre through tool coolant, please use CKFN-D nut. When using collet, please use CCK collet and CKFN nut. P.282
- ★Please note the acceptable shank tolerance is h7.
- ★Multi-Cam style is available. e.g. BT40-CZF32-120-C3. (3 Cams) Please contact us for more detail.

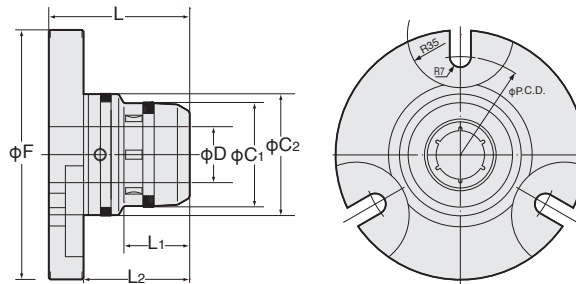


# FLANGE STYLE ZERO FIT TYPE MILLING CHUCK

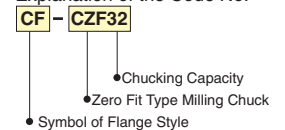
**NIKKEN**



CF-CZF



Explanation of the Code No.



JAPAN, USA, UK, GERMANY, KOREA, TAIWAN PAT.

A holder for gripping the cutter on a tool-grinding machine and adjusting run-out.

Style	Code No.	phi F	phi D	phi C1	phi C2	L	L1	L2	Width of groove for fixing bolts	phi P.C.D
32	CF-CZF32	165	32	69	80.5	93.2	43.5	70.2	14mm	130
42	CF-CZF42	175	42	86	98.2	95	46	72	( three places )	140

- ★Spanner is available as Standard CZF20 type : 9HC22, CZF25 type : 9HC25, CZF32 type : 9HC32
- ★Wrench to adjust run-out (9ZFL) is available as an option.
- ★Please refer P.280, P.281 for KM, CCK collet.
- ★When direct chucking of centre through tool coolant, please use CKFN-D nut. When using collet, please use CCK collet and CKFN nut. P.282
- ★Please note the acceptable shank tolerance is h7.



- Ideal for adjusting cutter run-out on an NC grinding machine or universal grinding machine.
- 3-point cam as a standard feature makes it easy to adjust run-out on a grinding machine.

⚠

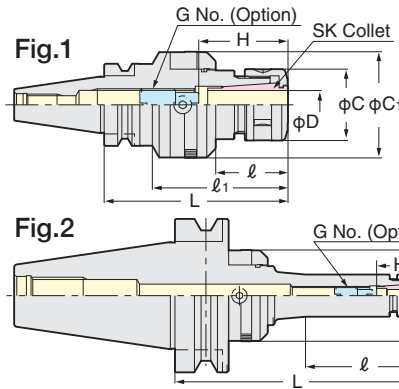
- In case of CZF (Milling Chuck) style, please rotate the Adjust Cam to the free position. Then, tighten the nose ring until face contact.
- If the face contact is not completed, the Adjust Cam can not function. (Free run)
- If the Adjust Cam is not at the free position before tightening, you can not tighten the nose ring until face contact correctly.
- For the safety reason, the Cam Ring Lock Screws can not be loosen to remove to the outside. Please loose the Cam Ring Lock Screws slightly to rotate the Cam Ring.



# ZERO FIT TYPE SLIM CHUCK



SZF



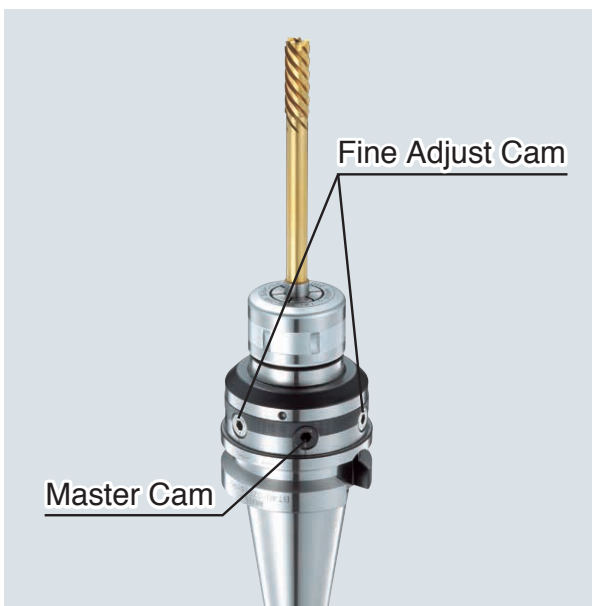
Explanation of the Code No.  
**BT40** | **SZF10** | **-90**  
 • Nominal Gauge Length  
 • Chucking Capacity  
 • Zero Fit Type Slim Chuck  
 • Shank No.

MAX. run-out at 100mm		
SZF 6	L < 150	0.050mm / dia.
	L ≥ 150	0.040mm / dia.
SZF10		0.050mm / dia.
SZF16		0.040mm / dia.
SZF25		0.025mm / dia.

JAPAN, USA, UK, GERMANY, KOREA, TAIWAN PAT.

TAPER	Code No.	D	L	ℓ	ℓ <sub>1</sub>	C	C <sub>1</sub>	H	G No. (Option)	Weight (kg)	Fig.	Collet		
No.30	BT30-SZF 6- 90	0.7~6.0	90	42	-	19.5	40.5	21~35	SKG- 8	0.9	2	SK 6		
	-SZF10- 90	1.75~10.0		35	61	27.5	48.5	30~50	SKG-12L	1.3		SK10		
	-SZF16-105	2.75~16.0		40	76	40	59.5	45~65	SKG-18L	1.6		SK16		
No.40	BT40-SZF 6- 90	0.7~6.0	90	37	-	19.5	40.5	21~35	SKG- 8	1.3	2	SK 6		
	-150		150	60			48.5			1.7				
	BT40-SZF10- 90	1.75~10.0	90	37		27.5	48.5	30~50	SKG-12L	1.5		1.9	SK10	
	-150		150	97		40	59.5	40~70	SKG-18L	2.2				
	BT40-SZF16- 90	2.75~16.0	90	37		55	66.5	55~85	SKG-28	2.4		2.9	1	SK25
	-150		150	97						84				
	No.50	BT50-SZF 6-105	0.7~6.0	105		41	-	19.5	40.5	21~35		SKG- 8	4.0	2
-165		165		63	59.5	4.2								
-SZF10-105		1.75~10.0	105	41	27.5	48.5		30~50	SKG-12L	4.5	4.9	SK10		
-165			165	101	40	59.5		40~70	SKG-18L	5.0				
-SZF16-105		2.75~16.0	105	41	55	66.5		55~85	SKG-28	5.4	6.0	1	SK25	
-165			165	101										
-SZF25-135		7.5~25.4	135	71	55	66.5		55~85	SKG-28	5.8	6.0	1	SK25	
-165	165		101											

- ★Adjust screw (G No.), wrench to adjust run-out (9ZF) and SKL spanner are available as an option. SZF6: SKL-6W, SZF10: SKL-10, SZF16: 9HC16, SZF25: 9HC25
- ★Please use "P" class or "A" type SK collet. P.283
- ★For centre through coolant application please use SK J type nut and cap for your preference. Please note that the length of J type nut is 6mm longer than the standard SK nut. P.285
- ★For High Speed type, Code No. is "SZF-P". e.g. BT40-SZF10-90P GH handle P.299 is necessary for High Speed Milling Chuck.
- ★Multi-Cam style is available. e.g. BT40-SZF16-90-C3. (3 Cams) Please contact us for more detail.
- ★When using SK-A collets or SK-AC collets, or when gripping a cutting tool smaller than the nominal diameter on SK collets, the total length will be shortened by about 3 mm. Please be careful when you check the interference.



## Multi-Cam Style

The minute run-out after adjusting by a master cam can be adjusted by fine adjust cams at the same position.

e.g. BT40-SZF16-90-C3 (3 Cams)

The multi-cam style can not be made for all zero fit holders.

# AUTOMATIC BACK SPOT FACING ARBOR

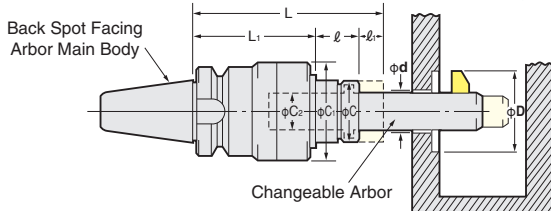
**NIKKEN**

No Swarf Adhesion. Mechanical Automatic Blade In/Out System.  
No Need of Stopper Block.

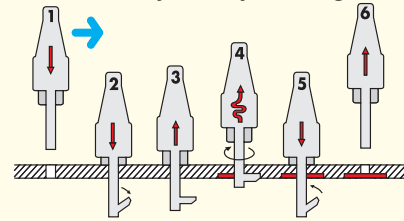


Coolant Through is standard.

AF-OH



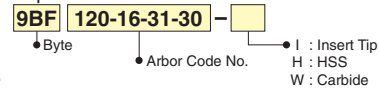
Operational Procedure of Back Spot Facing Arbor (Full Automatic System by NC Programming)



The front end arbor is changeable to suit different facing diameter. Bit can be selected as follows;

- HSS : Powdered HSS + Ion Nitrided + TiAlN Coated (Min. order : 3pcs)
- Carbide : Grade P, K or M can be selected. (Min. order : 5pcs)
- Insert Tip

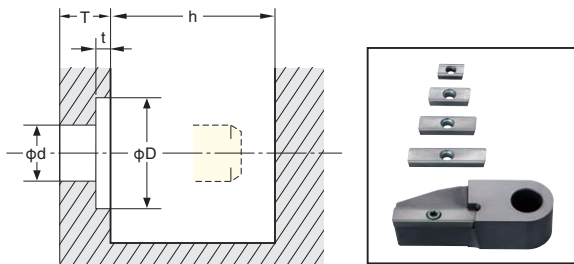
Explanation of the Code No.



d MIN. and D MAX. are the figures only for the selection of the main body.

TAPER	Code No.	d		L	L <sub>1</sub>	l	l <sub>1</sub>	C	C <sub>1</sub>	C <sub>2</sub>	Weight (kg)	Arbor Code No.
		MIN.	MAX.									
No.40	BT40-AF1-20-OH	16	32	185	143	7	35	60	90	32	4.5	BF120-d-D-T
	(IT40) -30-OH	29	58	205	153		45				4.8	BF130-d-D-T
	-40-OH	40	80	225	163		55				5.0	BF140-d-D-T
No.50	BT50-AF1-20-OH	16	32	160	118	7	35	60	90	32	6.0	BF120-d-D-T
	(IT50) -30-OH	29	58	180	128		45				6.5	BF130-d-D-T
	-40-OH	40	80	200	138		55				7.0	BF140-d-D-T
	BT50-AF2-50-OH	50	90	230	158		65				9.0	BF250-d-D-T
	(IT50) -60-OH	60	100	250	168		75				9.5	BF260-d-D-T
	-70-OH	70	130	270	178		85				10.0	BF270-d-D-T
	-80-OH	80	160	290	188		95				10.5	BF280-d-D-T
	-90-OH	90	180	310	198		105				11.0	BF290-d-D-T

Please specify  $\phi d$ ,  $\phi D$ , t, T, h and material, when ordering.

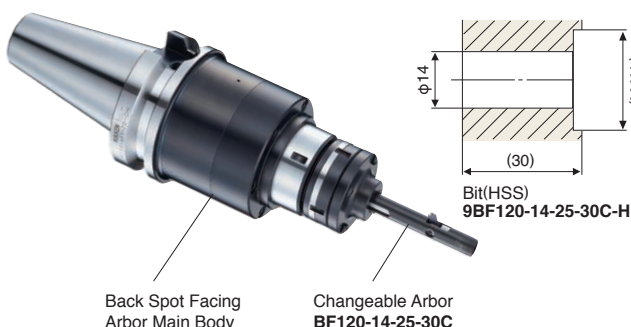


Material	Hole Dia. $\phi d$	Facing Dia. $\phi D$	Facing Depth t	Thickness T	Space h

Grade : Coated Material : Steel, Cast Iron

Code No.	Dimension	A	B	T	$\phi d$	Nose R	Tip Clamp Bolt	Tip Clamp Handle
AFC- 9		9.5	6.4	2.4	2.8	0.4	M2545S	T8
-15		15						
-20		20.5	7	3.2	3.5	0.8	M3065S	8IP
-27		27.4						
-35		35						
-45		45	9.4	5.4	3.5 2 pcs		M3090 2 pcs	T8

## Processing example of minimum hole diameter $\phi 14$

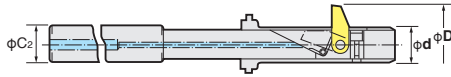


### Specification of hole diameter $\phi 14$ .

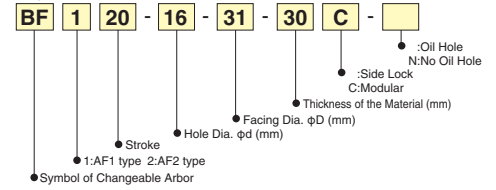
- Maximum facing diameter :  $\phi 25$  (for M12 bolt head)
- Material of bit : Powdered HSS + Ion Nitrided + TiAlN Coated
- With coolant hole.
- Reference Cutting Speed  
Material : S50C(JIS) / Hole dia. "d" :  $\phi 14$   
Facing dia. "D" :  $\phi 25$  / Thickness "T" : 30mm  
V=20~30m/min. f=0.05~0.1mm/rev.

# CHANGEABLE ARBOR for Automatic Back Spot Facing Arbor

**NIKKEN**



Explanation of the Code No.



BF

★ The following list shows the concepts for the changeable arbor. Please order your own arbor to suit your application.

Changeable Arbor Code No.	Facing Dia. D	Facing Depth d	Thick T	h <sub>1</sub>	h <sub>2</sub>	C <sub>2</sub>	Bit W <sub>1</sub> ×W <sub>2</sub>	Main Body Code No.
BF120-d-D-TC	18~ 32	14.0~17.7	30	32	63	32	8× 4	BT40,50-AF1-20-OH
BF120-d-D-TC	20~ 36	17.8~19.9		30	65		10× 6	
BF120-d-D-TC	23~ 40	20.0~22.4					10× 8	
BF120-d-D-TC	26~ 45	22.5~25.9		12× 8				
BF120-d-D-TC	29~ 50	26.0~28.9		35	68	32	15×10	BT40,50-AF1-30-OH
BF120-d-D-TC	32~ 50	29.0~31.9						
BF130-d-D-TC	51~ 58	32.0~35.9		83				
BF120-d-D-TC	36~ 55	36.0~39.9		73				
BF130-d-D-TC	56~ 63	40.0~44.9		83				
BF120-d-D-TC	40~ 55			73				
BF130-d-D-TC	56~ 73	45.0~49.9		73				
BF120-d-D-TC	45~ 60			83				
BF130-d-D-TC	61~ 75	50.0~54.9		79				
BF140-d-D-TC	76~ 80			89				
BF120-d-D-TC	50~ 60	55.0~61.9		99				
BF130-d-D-TC	61~ 75			79				
BF140-d-D-TC	76~ 90	62.0~69.9		89				
BF250-d-D-TC	65~ 75			99				
BF260-d-D-TC	75~ 85	70.0~74.9		65				
BF270-d-D-TC	80~ 90			109				
BF250-d-D-TC	75~ 85	75.0~79.9		70				
BF260-d-D-TC	85~ 95			119				
BF270-d-D-TC	90~100	75.0~79.9		75				
BF250-d-D-TC	85~ 95			129				
BF260-d-D-TC	95~105	75.0~79.9		65				
BF270-d-D-TC	100~110			111				
BF250-d-D-TC	95~105	75.0~79.9		70				
BF260-d-D-TC	105~115			121				
BF270-d-D-TC	110~120	75.0~79.9	75					
BF250-d-D-TC	105~115		131					
BF260-d-D-TC	115~125	75.0~79.9	65					
BF270-d-D-TC	120~130		118					
BF250-d-D-TC	105~115	75.0~79.9	70					
BF260-d-D-TC	115~125		121					
BF270-d-D-TC	120~130	138						
BF250-d-D-TC	105~115	75.0~79.9	65					
BF260-d-D-TC	115~125		118					
BF270-d-D-TC	120~130	138						

# MANUAL BACK SPOT FACING ARBOR

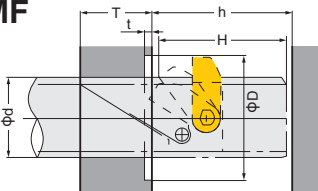
**NIKKEN**

e.g. ST32-MF53-84-300

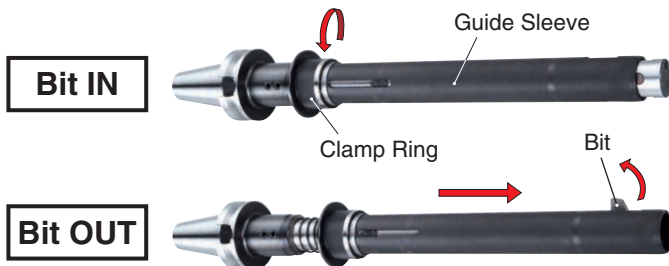
JAPAN, CHINA PAT.

Arbor shank is straight shank. Please use side lock holder (BT50-SL32C-105 P.47).

MF

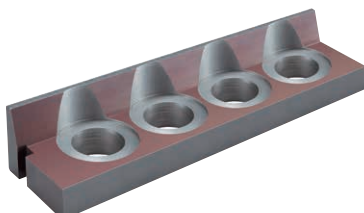


★ Please specify φd, φD, t, T, h and material, when ordering. H (Dimension for bit in/out) is depended on φd and φD.



## Operation

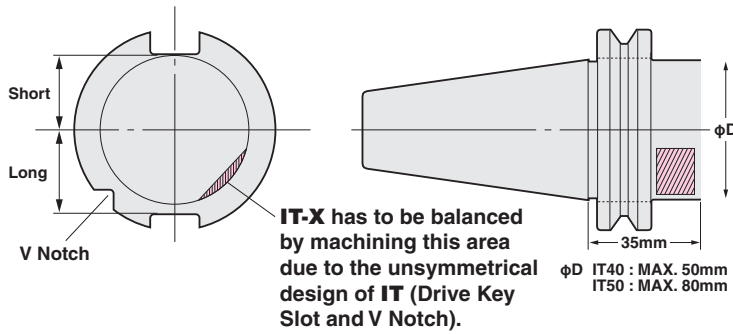
1. X, Y Positioning
2. Z down (Insert the arbor into the hole.)
3. Rotate clamp ring causes guide sleeve forward to push the bit out.
4. Z up (Back spot facing)
5. Z Down
6. Rotate clamping in reverse direction causes guide sleeve backward to store the bit in.
7. X, Y Moving



## Sample

Material : FCD200 V=30m/min.  
 Hole : φ53 f=0.1mm/rev.  
 Facing Dia. : φ84

## What is IT Shank Tooling?



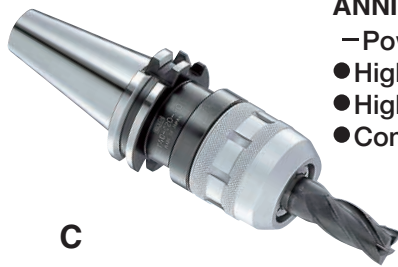
IT shank is based on ISO 7388/1-'83 (DIN69871-'90) and its flange has an unsymmetrical shape.

- Depth of Drive Key Slots are different.
- V Notch on one side.

Therefore, NIKKEN IT\_X shank has a groove at bottom of V groove for mass balancing.

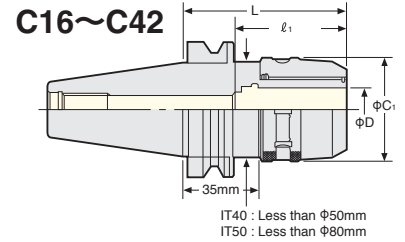
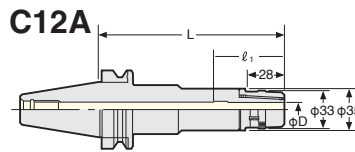
Diameter "D" below the flange is restricted under the above standard. Normally the holder for large diameter cutter has a large body, therefore, large diameter at "D" is expected. However, in case of IT Shank large diameter tool holder, "D" is smaller than the front end part due to the standard, and the length from gauge line is also different from BT Shank tool holders.

## IT MULTI LOCK MILLING CHUCK



### ANNIVERSARY Type

- Powerful gripping torque-
- High rigidity
- High precision
- Compact design



TAPER	Code No.	C <sub>1</sub>	L	l <sub>1</sub>	Collet	Weight (kg)
No.40	IT40-C12- 65, 90, 120* <sup>1</sup>	33	65, 90, 120	58	KM12 CCK12	1.3, 1.6, 1.8
	-C16- 60, 90, 120* <sup>1</sup>	44	60, 90, 120	65	KM16 CCK16	1.4, 1.7, 2.0
	-C20- 80, 90, 105, 120* <sup>2</sup>	52	80, 90, 105, 120	80	KM20 CCK20 CCNK20	1.6, 1.8, 2.0, 2.2
	-C25- 85, 105, 120	60	85, 105, 120	80	KM25 CCK25 CCNK25	2.1, 2.3, 2.5
	-C32- 95, 105, 120	64	95, 105, 120	82, 95, 105	KM32 CCK32 CCNK32	2.1, 2.5, 2.8
No.50	IT50-C12-105, 135, 165* <sup>1</sup>	33	105, 135, 165	58	KM12 CCK12	4.0, 4.3, 4.6
	-C16-105, 135, 165* <sup>1</sup>	44	105, 135, 165	65	KM16 CCK16	4.2, 4.6, 5.1
	-C20-105, 135, 165, 180* <sup>1</sup>	52	105, 135, 165, 180	80	KM20 CCK20 CCNK20	4.5, 5.1, 5.7, 6.0
	-C25-105, 135, 165	60	105, 135, 165	80	KM25 CCK25 CCNK25	4.8, 5.2, 5.6
	-C32- 85, 105, 120, 135, 165	69	85, 105, 120, 135, 165	105	KM32 CCK32 CCNK32	4.1, 4.6, 5.1, 5.6, 6.4
	-C42- 95, 105, 135, 165* <sup>1</sup>	86	95, 105, 135, 165	125	KM42 CCK42 CCNK42	5.2, 5.5, 7.2, 8.6

- ★Spanner is available as an option.
- C12(φ30):9HC12, C12A(φ33):9HC12A, C16:9HC16, C20: 9HC20, C25: 9HC25, C32&φC1=64:9HC25, C32:9HC32, C42:9HC42
- ★Please note the acceptable shank tolerance is h7.
- ★For KM, CCK and CCNK Collet, please refer to P.280, P.281.
- ★For heavy duty milling, please grip the end mill shank longer than l<sub>1</sub>.
- ★For Milling Chucks marked \*2, NK Collet, CCNK Collet, ONK Collet and OJK Collet can not be used.
- ★Milling chucks marked \*1 are available as an option.
- ★IT50-C32-200, 250 and IT50-C42-200,250 are also available as an option.
- ★C22 style is also available.
- ★Please add "C" for the centre through tool coolant type.
- IT40-C20C-80, 90, 105, 120 IT50-C20C-105, 135, 165\*<sup>1</sup>
- C25C-85, 105 -C25C-105, 135, 165\*<sup>1</sup>
- C32C-95, 105, 120 -C32C- 85, 105, 135, 165
- C42C-105
- ★Please add "F" for the flange through tool coolant type.
- IT40-C20F- 90, 120\*<sup>1</sup> IT50-C20F-105, 135, 165\*<sup>1</sup>
- C25F- 90, 120\*<sup>1</sup> -C25F-105, 135, 165\*<sup>1</sup>
- C32F-105 -C32F-105, 135, 165
- C42F-120



### High Speed Milling Chuck



### GH Handle P.299

Code No.	MAX. (r/min)	Code No.	MAX. (r/min)
IT40X-C12- 65G, 90G	30,000	IT50X-C12-105G, 135G* <sup>1</sup>	20,000
-C16- 60G, 90G	25,000	-C16-105G, 135G* <sup>1</sup>	
-C20- 80G, 90G	25,000	-C20-105G, 135G* <sup>1</sup>	
-C25- 85G	20,000	-C25-105G, 135G* <sup>1</sup>	15,000
-C32- 95G, 105G		-C32- 85G, 105G, 120G	
-C42- 95P* <sup>2</sup> , 105P			

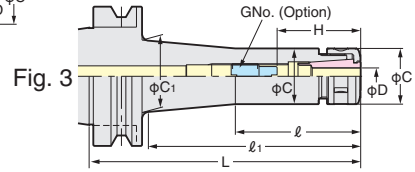
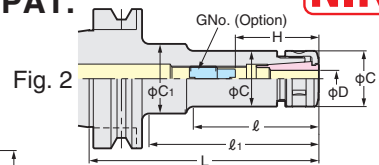
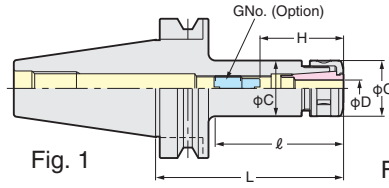
- ★For Milling Chucks except \*2, Stopper for Direct Chucking, ONK Collet and OJK Collet can be used.
- ★The extended gauge length (L) is available. Please contact with us.
- ★The end mill shank tolerance is recommended to be h<sub>7</sub>.





High precision  
High speed  
Powerful gripping

SK



- When SK J type nut is used, the total chuck length will be extended by 6mm.
- When using SK-A collets or SK-AC collets, or when gripping a cutting tool smaller than the nominal diameter on SK collets, the total length will be shortened by about 3 mm. Please be careful when you check the interference.

TAPER	Code No.	D	ℓ	ℓ <sub>1</sub>	C	C <sub>1</sub>	H	G No. (Option)	Weight (kg)	Fig.	SK Collet
No.40	IT40-SK 6- 60	0.7~6.0	38	-	19.5	-	21~35	SKG-8	1.0	1	SK 6
	- 90		48	-		-			1.1	1	
	-120		62	82		32			1.2	2	
	-150		60	112		25			1.4	3	
	-SK10- 60	1.75~10.0	40	-	27.5	-	30~50	SKG-12L	1.1	1	SK10
	- 90		50	-		-			1.2	1	
	-120		60	82		32			1.4	2	
	-150		73	112		33.5			1.6	3	
	-180	73	144	39	1.7	3					
	-SK13- 60	2.75~13.0	40	-	33	-	31~65	SKG-15	1.3	1	SK13
	- 90		50	-		-			1.4	1	
	-120		80	-		-			1.6	1	
	-150		88	114		40			1.8	3	
	-180	88	144	40	1.9	3					
	-SK16- 60	2.75~16.0	40	-	40	-	40~70	SKG-18S	1.4	1	SK16
	- 90		54	-		-			1.5	1	
	-120		84	-		-			1.7	1	
	-150		114	-		-			1.9	1	
	-180	144	-	-	2.0	1					
	-SK20- 90	3.5~20.0	70	-	48.5	-	47~80	SKG-22	1.7	1	SK20
-120	100		-	-		1.9			1		
-SK25- 90	7.5~25.4	70	-	55	-	55~75	SKG-28	1.8	1	SK25	
-120		100	-		-			2.0	1		
No.50	IT50-SK 6-105	0.7~6.0	60	-	19.5	-	21~35	SKG-8	3.7	1	SK 6
	-135		62	93		32			3.9	2	
	-165		62	117		32			4.1	2	
	-200		60	154		30			4.3	3	
	-SK10-105	1.75~10.0	65	-	27.5	-	30~50	SKG-12L	4.2	1	SK10
	-135		70	95		32			4.4	2	
	-165		75	125		32			4.6	2	
	-200		75	154		36			5.0	3	
	-SK13-105	2.75~13.0	65	-	33	-	31~65	SKG-15	4.5	1	SK13
	-135		95	-		-			4.7	1	
	-165		92	125		45			4.8	2	
	-200		92	160		45			5.3	3	
	-SK16-105	2.75~16.0	65	-	40	-	40~70	SKG-18L	4.7	1	SK16
	-135		95	-		-			4.9	1	
	-165		90	125		50			5.1	2	
	-200		90	160		50			5.5	2	
	-SK20-105	3.5~20.0	65	-	48.5	-	47~80	SKG-22	4.8	1	SK20
	-135		95	-		-			5.1	1	
	-165		125	-		-			5.4	1	
	-200		160	-		-			5.8	1	
-SK25-105	7.5~25.4	65	-	55	-	50~85	SKG-28	4.8	1	SK25	
-135		95	-		-			5.2	1		
-165		125	-		-			5.6	1		
-200		160	-		-			6.0	1		

★Collet, adjust screw (G No.) and spanner are available as an option.

The Code No. of the spanner is SK6 (C=φ18) : SKL-6, SK6 (C=φ19.5) : SKL-6W, SK10: SKL-10, SK13: 9HC12A, SK16: 9HC16, SK20: 9HC22, SK25: 9HC25

★Please refer P.283 for SK collet and please refer P.285 for J type nut.

★Please refer P.137 for the center through coolant type and flange through coolant type.



High Speed SLIM CHUCK



GH Handle P.299

Code No.	MAX. (r/min)	Code No.	MAX. (r/min)
IT40X-SK 6- 60P, 90P, 120P	30,000	IT50X-SK 6-105P, 165P	20,000
-SK10- 60P, 90P, 120P		-SK10-105P, 165P	
-SK13- 60P, 90P, 120P		-SK13-105P, 165P	
-SK16- 60P, 90P, 120P	-SK16-105P, 165P		
-SK20- 90P, 120P	25,000	-SK20-105P, 165P	
-SK25- 90P, 120P	20,000	-SK25-105P, 165P	

★The extended gauge length (L) is available. Please contact with us.

# IT SLIM CHUCK CENTRE THROUGH TYPE

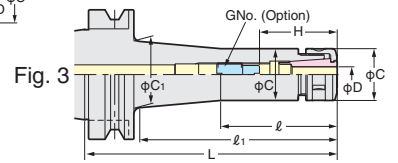
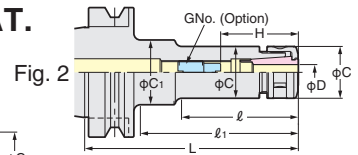
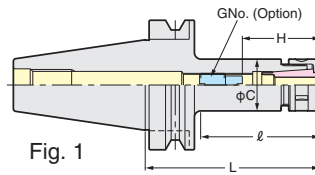


JAPAN, USA, EU, KOREA PAT.



High precision  
High speed  
Powerful gripping

SK-C



- When SK J type nut is used, the total chuck length will be extended by 6mm.
- When using SK-A collets or SK-AC collets, or when gripping a cutting tool smaller than the nominal diameter on SK collets, the total length will be shortened by about 3 mm. Please be careful when you check the interference.

TAPER	Code No.	D <sub>1</sub>	H <sub>1</sub>	L <sub>2</sub>	L <sub>3</sub>	C <sub>1</sub>	C <sub>2</sub>	G No. (Option)	Weight (kg)	SK Collet
No.40	IT40-SK 6C- 90	4~6	26~31	48	-	19.5	-	SKG6-6HG	1.1	SK 6
	-120			62	82		32		1.2	
	-SK10C- 90	5~10	33~41	50	-	27.5	-	SKG10-10HG	1.2	SK10
	-120			60	82		32		1.4	
	-SK13C- 90	5~13	39~51	50	-	33	-	SKG13-10HG	1.4	SK13
	-120			80	-		-		1.6	
	-SK16C- 90	10~16	45~57	54	-	40	-	SKG16-12HG	1.5	SK16
	-120			84	-		-		1.7	
	-SK20C- 90	10~20	47~63	70	-	48.5	-	SKG20-18HG	1.7	SK20
	-120			100	-		-		1.9	
-SK25C- 90	16~25	60~65	70	-	55	-	SKG25-18HGD	1.8	SK25	
-120			100	-		-		2.0		
No.50	IT50-SK 6C-105	4~6	26~31	60	-	19.5	-	SKG6-6HG	3.7	SK 6
	-165			62	117		32		4.1	
	-SK10C-105	5~10	33~41	65	-	27.5	-	SKG10-10HG	4.2	SK10
	-165			75	125		32		4.6	
	-SK13C-105	5~13	39~51	65	-	33	-	SKG13-10HG	4.5	SK13
	-165			92	125		45		4.8	
	-SK16C-105	10~16	45~57	65	-	40	-	SKG16-12HG	4.7	SK16
	-165			90	125		50		5.1	
	-SK20C-105	10~20	47~63	65	-	48.5	-	SKG20-18HG	4.8	SK20
	-165			125	-		-		5.4	
-SK25C-105	16~25	60~70	65	-	55	-	SKG25-24HG	4.8	SK25	
-165			125	-		-		5.6		

## IT SLIM CHUCK FIANGE THROUGH TYPE SK-F

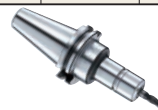
- When using SK-A collets or SK-AC collets, or when gripping a cutting tool smaller than the nominal diameter on SK collets, the total length will be shortened by about 3 mm. Please be careful when you check the interference.

TAPER	Code No.	D	H	l	l <sub>1</sub>	C	C <sub>1</sub>	G No. (Option)	Weight (kg)	SK Collet
No.40	IT40-SK 6F- 90	4~6	26~31	48	-	19.5	-	SKG6-6HG	1.1	SK 6
	-120			62	82		32		1.2	
	-SK10F- 90	5~10	33~41	50	-	27.5	-	SKG10-10HG	1.2	SK10
	-120			60	82		32		1.4	
	-SK13F- 90	5~13	39~51	50	-	33	-	SKG13-10HG	1.4	SK13
	-120			80	-		-		1.6	
	-SK16F- 90	10~16	45~57	54	-	40	-	SKG16-12HGB	1.5	SK16
	-120			84	-		-		1.7	
	-SK20F- 90	10~20	47~63	70	-	48.5	-	SKG20-18HGB	1.7	SK20
	-120			100	-		-		1.9	
-SK25F-120	16~25	55~65	100	-	55	-	SKG25-24HGA	2.0	SK25	
No.50	IT50-SK 6F-105	4~6	26~31	60	-	19.5	-	SKG6-6HG	3.7	SK 6
	-165			62	117		32		4.1	
	-SK10F-105	5~10	33~41	65	-	27.5	-	SKG10-10HG	4.2	SK10
	-165			75	125		32		4.6	
	-SK13F-105	5~13	39~51	65	-	33	-	SKG13-10HG	4.5	SK13
	-165			92	125		45		4.8	
	-SK16F-105	10~16	45~57	65	-	40	-	SKG16-12HG	4.7	SK16
	-165			90	125		50		5.1	
	-SK20F-105	10~20	47~63	65	-	48.5	-	SKG20-18HG	4.8	SK20
	-165			125	-		-		5.4	
-SK25F-105	16~25	55~62	65	-	55	-	SKG25-24HGA	4.8	SK25	
-165			125	-		-		5.6		

\*Collet, adjust screw (G No.) and spanner are available as an option.

The Code No. of the spanner is SK6 (C-φ19.5) : SKL-6W, SK10: SKL-10, SK13: 9HC12A, SK16: 9HC16, SK20: 9HC22, SK25: 9HC25

\*Please refer P.283 for SK collet and please refer P.285 for J type nut.



High Speed SLIM CHUCK



GH Handle P.299

Code No.	MAX. (r/min)	Code No.	MAX. (r/min)
IT40X-SK 6C(F)- 90P, 120P	30,000	IT50X-SK 6C(F)-105P, 165P	20,000
-SK10C(F)- 90P, 120P		-SK10C(F)-105P, 165P	
-SK13C(F)- 90P, 120P		-SK13C(F)-105P, 165P	
-SK16C(F)- 90P, 120P	25,000	-SK16C(F)-105P, 165P	15,000
-SK20C(F)- 90P, 120P		-SK20C(F)-105P, 165P	
-SK25C(F)- 90P, 120P	20,000	-SK25C(F)-105P, 165P	

\*The extended gauge length (L) is available. Please contact with us.

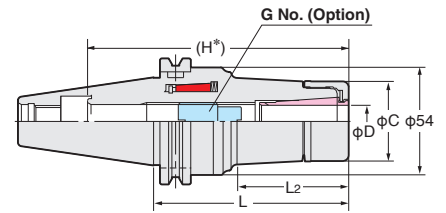
# NIT MAJOR DREAM HOLDER

## JAPAN PAT.

**NIKKEN**



### Difference of the swarfs



(H\*) : MAX. H without adjust screw.

Please use Jet Coolant Splash for better swarf generation. P. 53

## MDSK

TAPER	Code No.	D	L <sub>2</sub>	C	H	H <sub>1</sub>	G No. (Option)	Weight (kg)	SK Collet					
No.40	NIT40N-MDSK 6- 60	3.0~6.0	18	19.5	86	21~35	SKG-8	0.8	SK 6-A					
	- 75		33					101		0.9				
	- 90		48					116		1.1				
	-105		63					131		1.2				
	-120		78					146		1.4				
	-MDSK10- 60	3.0~10.0	19	27.5	86	30~50	SKG-12L	1.1	SK10-A					
	- 75		33		101			1.3						
	- 90		48		116			1.5						
	-105		63		131			1.6						
	-120		78		146			1.8						
	-150	110	176	2.2										
	-180	141.2	206	2.4										
	-MDSK13- 65	3.0~13.0	24	33	86	31~60	SKG-15	1.2	SK13-A					
	- 75		33		101			1.4						
	- 90		48		116			1.7						
	-105		63		131			1.8						
	-120		78		146			2.0						
	-150	110	176	2.4										
	-180	144	206	2.6										
	-MDSK16- 65	3.0~16.0	24	40	86	45~60	SKG-18L	1.2	SK16-A					
	- 75		33		101			1.5						
	- 90		48		116			1.9						
	-105		64		131			2.0						
	-120		80		146			2.2						
-150	113	176	2.5											
-180	144.6	206	2.8											
-MDSK20- 75	4.0~20.0	41.2	48	80	50~73	SKG-12	1.9	SK20-A						
- 90		55		95		2.1								
-105		70		110		2.3								
-120		85		125		2.6								
-150		113		176		2.5								
-180	144.6	206	2.8											
No.50	NIT50N-MDSK 6-105	3.0~6.0	48	19.5	116	21~35	SKG-8	3.6	SK 6-A					
	-120		63		131			3.7						
	-135		78		146			3.9						
	-MDSK10-105		3.0~10.0		48			27.5		116	30~50	SKG-12L	4.3	SK10-A
	-120				63.2					131			4.4	
	-135	78.2		146	4.7									
	-165	110.2		176	5.0									
	-195	141.2		206	5.3									
	-MDSK13-105	3.0~13.0	48	33	116	31~60	SKG-15	4.2	SK13-A					
	-120		63		131			4.7						
	-135		78		146			5.0						
	-165		110		176			5.3						
	-195		144		206			5.6						
	-MDSK16-105	3.0~16.0	48	40	116	45~70	SKG-18L	4.1	SK16-A					
	-120		64		131			4.9						
	-135		80.1		146			5.2						
	-165		114.7		176			5.5						
	-195		144.6		206			5.8						
	-MDSK20-105	4.0~20.0	42	48	159	47~80	SKG-22	4.9	SK20-A					
	-135		72		175			5.3						
	-165		102		205			5.9						
	-195		132		235			6.7						
	-MDSK25-105		8.0~25.4		42			55		159	55~85	SKG-28	4.9	SK25-A
	-135	74		175	5.7									
-165	105	205		6.5										
-195	135	235		7.5										

★Please use A type SK collet that is available as an option for end milling operation. P.283

★Please refer P.285 for Jet coolant J type nut and cap.

★GH Handle is available as an option. P.299 Please order with the Code No. GH10 : MDSK10, GH12 : MDSK13, GH16 : MDSK16, GH20 : MDSK20, GH25 : MDSK25.

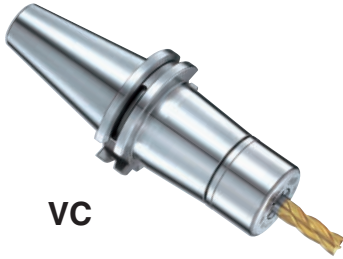
★Please add "P" at the end of Code No. for high speed holder, e.g. NIT40N-MDSK10-60P.

★φC2 of NIT40N is larger than the dimension of the IT40 standard.



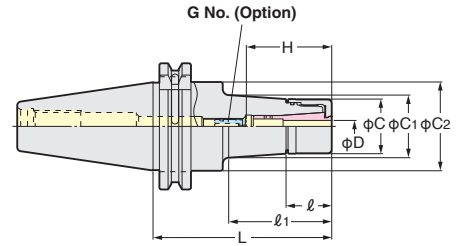
# IT ANNIVERSARY TYPE VC HOLDER

JAPAN, USA, EU, KOREA PAT.



VC

With TiN Bearing Nut  
MAX.30,000r/min  
Run-Out Accuracy : 3µm at 4D



TAPER	Code No.	D	L	ℓ	ℓ <sub>1</sub>	C	C <sub>1</sub>	C <sub>2</sub>	H	G No. (Option)	Weight (kg)	MAX. (r/min)	Collet
No.40	IT40X-VC 6- 60	2.0~6.0	60	23	23	27.5	27.5	44.7	35~45	VCG 6- 8A	1.1	30,000	VCK 6
	- 90		90		51.9		31.5				1.3		
	-120		120		81.9		35.7				1.5		
	-VC13- 60	3.0~12.0	60	29	40.0	50~60	VCG13-15A		1.2	VCK13			
	- 90		90	70	44.7				1.5				
	-120		120	100	1.9								
No.50	IT50X-VC 6-105	2.0~6.0	105	23	64.9	27.5	33.4	70.1	35~45	VCG 6- 8A	3.9	20,000	VCK 6
	-135		135		94.9		37.6				4.1		
	-165		165		124.9		41.8				4.4		
	-VC13-105	3.0~12.0	105	29	45.0	50~60	VCG13-15A		4.1	VCK13			
	-135		135	94.9	49.2				4.5				
	-165		165	124.9	53.4				4.9				

- ★TiN Bearing Nut is supplied as standard.
- ★When the axial stopper is required, please use Adjust Screw (G No.)
- ★Please add "-RP" at the end of Code No. for Rust Proof Treatment VC Holder. e.g. IT40X-VC13-60-RP
- ★Please use VC J type Nut & Cap for Centre Through Coolant. When VC J type Nut is used, the total holder length will be extended to 6mm.
- ★Please refer P.40 for VCK Collet.

- ★IT40X-VC6-150, IT40X-VC13-150, IT50X-VC13-90, -120 are available as semi-standard.
- ★Collet, adjust screw (G No.) and GH Handle are available as an option. P.299
- ★All series are for High Speed Rotation.



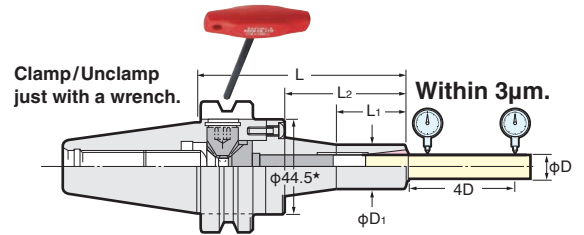
# IT MINI-MINI CHUCK JAPAN PAT.

The best chuck for the small dia. cutting tool



MMC

MAX. 30,000r/min  
Gripping from Front Nose  
Run-Out Accuracy : 3µm at 4D



★ : MMC12 = φ52.4

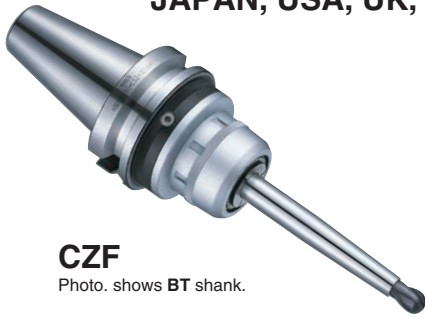
TAPER	Code No.	Chucking Range φD	L	φD <sub>1</sub>	L <sub>1</sub>	Collet	MAX. (r/min)	Weight (kg)	
No.40	IT40X-MMC 4 - 90-AA	1 ~ 4	90	15	30	MPK 4	30,000	1.2	
	-MMC 8C- 90-AA	2 ~ 8	90	20	33	PMK 8	30,000	1.4	
	-120-AA		40		VMK 8	1.5			
	-MMC12C- 90-AA	4 ~ 12	90	30	35	PMK12	30,000	1.7	
	-120-AA		120		60	VMK12		1.8	
No.50	IT50X-MMC 4 -105-AA	1 ~ 4	105	15	30	MPK 4	20,000	3.8	
	-MMC 8C-105-AA	2 ~ 8	105	20	33	PMK 8	20,000	4.4	
	-135-AA		135		40			VMK 8	4.5
	-165-AA		165		4.6				
	-MMC12C-105-AA	4 ~ 12	105	30	35	PMK12	20,000	4.6	
	-135-AA		135		60			VMK12	4.7
	-165-AA		165		70			VMK12	4.8

- ★Wrench EA573KL-6 : MMC4, MMC8C MMCL12-M6W : MMC12C (IT40X) : MMCL12-M6T62 : MMC12C (IT50X) is attached as standard.
- ★MPK, PMK, VMK collet is not included with MINI-MINI Chuck. Please refer P.290
- ★MMC8C, MMC12C : Centre through type.

- ★Please add "F" for the flange through tool coolant type; IT40X-MMC 8F- 90-AA,120-AA IT50X-MMC 8F-105-AA,120-AA -MMC12F- 90-AA,120-AA -MMC12F-105-AA,120-AA

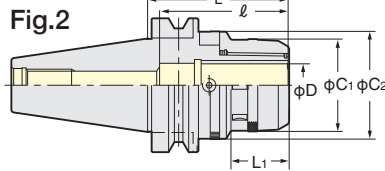
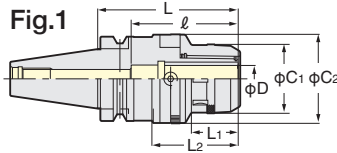
# IT ZERO FIT TYPE MILLING CHUCK

JAPAN, USA, UK, GERMANY, KOREA, TAIWAN PAT.



**CZF**

Photo. shows BT shank.



Explanation of the Code No.

**IT40 CZF 32-120**

- Nominal Gauge Length
- Chucking Capacity
- Zero Fit Type Milling Chuck
- Shank No.

TAPER	Code No.	C1	C2	L	L1	L2	l	Weight (kg)	Fig.	Collet
No.40	IT40-CZF20-105	51.5	66.5	105	35	70	80	2.1	1	KM20 CCK20
	-CZF25-105	59.5	74.5	105	35	70	80	2.4		KM25 CCK25
	-CZF32-120	69	80.5	120	42	85	105	2.8		KM32 CCK32
No.50	IT50-CZF20-105	51.5	66.5	105	35	-	80	4.7	2	KM20 CCK20
	-CZF25-105	59.5	74.5	105	35	-	80	5		KM25 CCK25
	-CZF32-120	69	80.5	120	42	-	105	5.3		KM32 CCK32

★Spanner is available as an option.

CZF20 type : 9HC22, CZF25 type : 9HC25, CZF32 type : 9HC32

★Please note that the acceptable shank tolerance is h6~h7.

★Please add "P" at the end of Code No. for the high speed type. e.g. IT40-CZF25-105P

★Wrench to adjust run-out (9ZF) is available as an option.

★Multi-Cam style is available. e.g. IT40-CZF32-120-C3. (3 Cams) Please contact us for more detail.

★Please refer P.279, P.280 for KM, CCK collet.

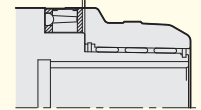
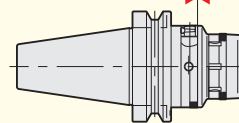
Wrench to adjust  
**9ZF**



- In case of CZF (Milling Chuck) style, please rotate the Adjust Cam to the free position. Then, tighten the nose ring until face contact.
- If the face contact is not completed, the Adjust Cam can not function. (Free run)
- If the Adjust Cam is not at the free position before tightening, you can not tighten the nose ring until face contact correctly.
- For the safety reason, the Cam Ring Lock Screws can not be loosen to remove to the outside. Please loose the Cam Ring Lock Screws slightly to rotate the Cam Ring.

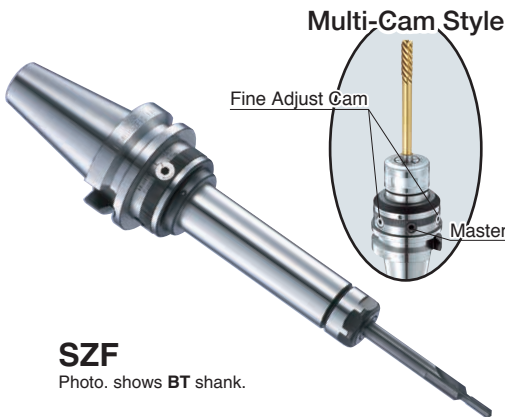
Please make sure the nose ring contacts with the chuck body perfectly

There are clearance between Nose Ring and Cam Ring



# IT ZERO FIT TYPE SLIM CHUCK

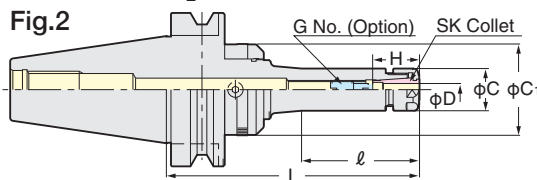
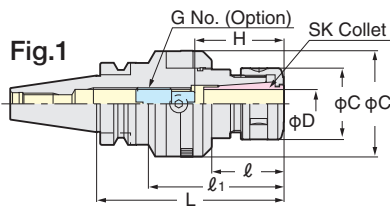
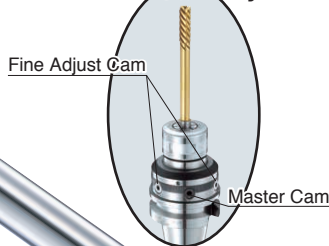
JAPAN, USA, UK, GERMANY, KOREA, TAIWAN PAT.



**SZF**

Photo. shows BT shank.

Multi-Cam Style



Explanation of the Code No.

**IT40 SZF 10-120**

- Nominal Gauge Length
- Chucking Capacity
- Zero Fit Type Slim Chuck
- Shank No.

•When using SK-A collets or SK-AC collets, or when gripping a cutting tool smaller than the nominal diameter on SK collets, the total length will be shortened by about 3 mm. Please be careful when you check the interference.

TAPER	Code No.	D	L	l	l1	C	C1	H	G No. (Option)	Weight (kg)	Fig.	Collet
No.40	IT40-SZF 6- 90, 150	0.7~6.0	90, 150	45, 60	-	19.5	40.5, 48.5	21~35	SKG- 8	1.3, 1.7	2	SK 6
	-SZF10-120, 150	1.75~10.0	120, 150	57, 87	-	27.5	48.5	30~50	SKG-12L	1.6, 1.9	2	SK10
	-SZF16-120, 150	2.75~16.0	120, 150	51, 81	-	40	59.5	40~70	SKG-18L	1.9, 2.2	2	SK16
	-SZF25-120, 150	16.0~25.4	120, 150	49, 79	85, 115	55	66.5	55~85	SKG-28	2.4, 2.9	1	SK25
No.50	IT50-SZF 6-105, 165	0.7~6.0	105, 165	60, 67	-	19.5	40.5, 59.5	21~35	SKG- 8	4.0, 4.2	2	SK 6
	-SZF10-105, 165	1.75~10.0	105, 165	60, 65	-	27.5	48.5, 59.5	30~50	SKG-12L	4.5, 4.9	2	SK10
	-SZF16-105, 165	2.75~16.0	105, 165	60, 120	-	40	59.5	40~70	SKG-18L	5.0, 5.4	2	SK16
	-SZF25-120, 165	7.5~25.4	120, 165	75, 120	-	55	66.5	55~85	SKG-28	5.7, 6.0	2	SK25

★Adjust screw (G No.), wrench to adjust run-out (9ZF) and SKL spanner are available as an option. SZF6: SKL-6W, SZF10: SKL-10, SZF16: 9HC16, SZF25: 9HC25

★Please use "P" class or "A" type SK collet. P.283

★For centre through coolant application please use SK J type nut and cap for your preference. Please note that the length of J type nut is 6mm longer than the standard SK nut.

★For High Speed type, Code No. is "SZF-P". e.g. IT40-SZF10-120P

★Multi-Cam style is available. e.g. IT40-SZF16-120-C3. (3 Cams) Please contact us for more detail.

# UNIVERSAL MICRO TOUCH

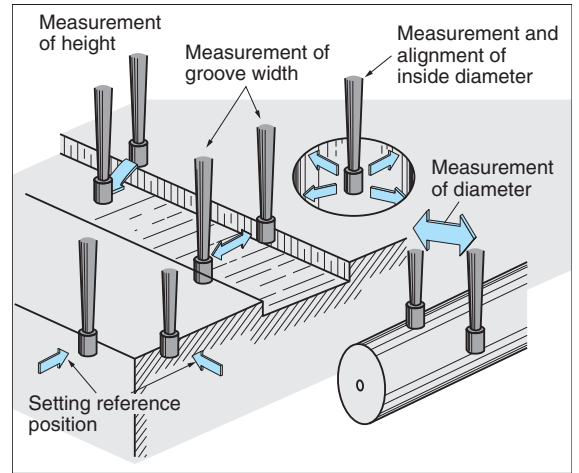


## 3D Electronic Edge Detector of Basic Point

- Precision Touch Sensor  
Repeatability  $\pm 2$  micron.
- Long Safety Over-Travel Distance protects from damage.  $X, Y = \pm 7\text{mm}$   $Z = 3\text{mm}$
- Red lamp and electronic beep sound notice the touching position. When touching to the work piece, red lamp immediately lights up all around. The one with BT shank gives the electronic beep sound also to make double notices.

### How to obtain touching position

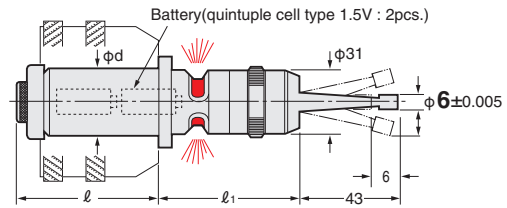
Make the stylus slowly get near to the measuring surface of work piece and the red lamp will light at the moment when the former touches the latter. A position where 3mm is compensated from that position (because of 6mm stylus diameter), is the touching position to be obtained.



## Straight Shank UMT MICRO TOUCH



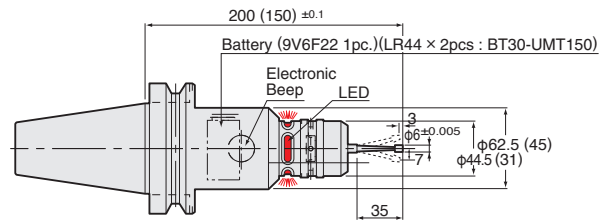
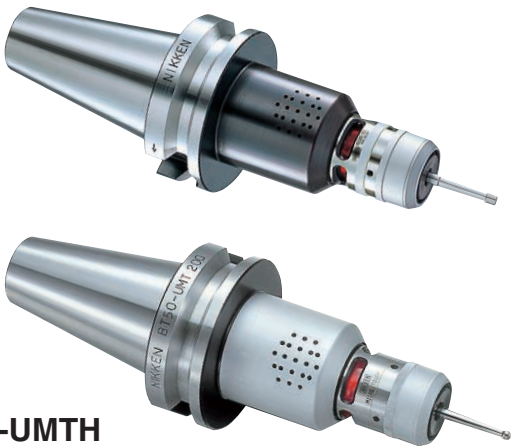
UMT



Code No.	φd	ℓ	ℓ <sub>1</sub>	Weight (kg)
<b>S20-UMT</b>	20	68	61	0.4
<b>S32-UMT</b>	32	65	65	0.7
<b>MT2-UMT</b>	MT2	66.5	75	0.4

★Ball type φ6mm stylus is also available : **S32-UMTB**

## BT-UMT-W MICRO TOUCH



Dimension in parentheses are same as **BT30-UMT150**

TAPER	Code No.	Weight (kg)
<b>No.30</b>	<b>BT30-UMT200W</b>	2.1
	<b>-UMT150</b>	1.0
<b>No.40</b>	<b>BT40-UMT200W</b>	2.7
<b>No.50</b>	<b>BT50-UMT200W</b>	5.0

★Ball type φ6mm stylus is also available : **BT40-UMTB200**

★**IT40-UMT200W** and **IT50-UMT200W** are also available.

BT30-UMT



## BT-UMTH MICRO TOUCH for ring sensor

For Machining Centre with ring sensor, the electric circuits are different from standard, please purchase this through M/C Builder.



# UNIVERSAL MICRO TOUCH with INTERNAL CONTACT SYSTEM **NIKKEN**

**Internal Contact System - can be used for not conductive work piece.**

- Precision Touch Sensor  
Repeatability  $\pm 2$  micron.
- Long Safety Over-Travel Distance protects from damage. X, Y =  $\pm 7$ mm Z = 3mm
- Not conductive work piece can be measured. Internal contact system is built-in.  
Blue lamp and electronic beep sound notice the touching position. After touching to the work piece, blue lamp lights up all around. The one with BT shank gives the electric beep sound also to make double notices.

## How to obtain touching position

Make the stylus slowly get near to the measuring surface of work piece and the blue lamp will light at the moment when the former touches the latter. A position where 2mm is compensated from that position (because of 4mm stylus diameter), is the touching position to be obtained.



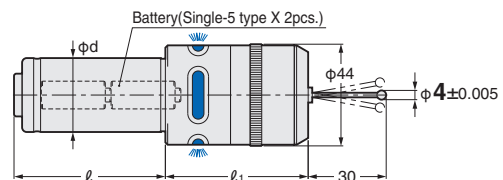
Photo shows with ruby stylus (option).

## Straight Shank UMTX MICRO TOUCH



### UMTX

Ruby stylus is available as an option.



Code No.	φd	l	l <sub>1</sub>	Weight (kg)
<b>S20-UMTX</b>	20	68	64	0.5
<b>S32-UMTX</b>	32	65	64	0.8
<b>MT2-UMTX</b>	MT2	66.5	64	0.5

★Battery is supplied as standard.

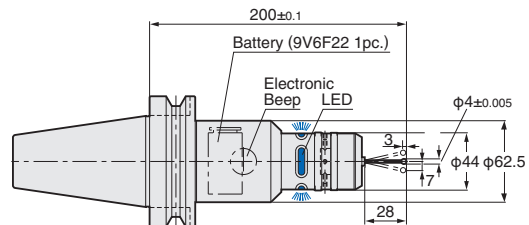
★The delay of the system is within 0.01mm, because of the internal contact system.

## BT-UMTX MICRO TOUCH



### BT-UMTX

Ruby stylus is available as an option.



TAPER	Code No.	Weight (kg)
<b>No. 30</b>	<b>BT30-UMTX200W</b>	2.3
<b>No. 40</b>	<b>BT40-UMTX200W</b>	2.9
<b>No. 50</b>	<b>BT50-UMTX200W</b>	5.2

★Battery is supplied as standard.

★The delay of the system is within 0.01mm, because of the internal contact system.

## Specification

Measuring Pressure	X, Y = 0.35N Z = 0.8N	
Battery	Straight Shank	An alkali dry cell Model 5 1.5V 2pcs
	BT Shank	Manganese dry cell 6F33 X 9V 1pcs
	36 Hours	
Stylus	Standard : φ4mm steel stylus Option : φ4, φ3, φ2 and φ1 mm ruby stylus The ruby stylus can not be ordered alone. Please order the Micro Touch with the ruby stylus. When ordering, please add (RB○) at the end of the Micro Touch Code No.	
	<p><b>e.g. BT30-UMTX200W (RB2)</b> └─ With φ2mm ruby stylus</p> <p><b>S32-UMTX (RB4)</b> └─ With φ4mm ruby stylus</p>	

# TOUCH POINT (ELECTRONIC SENSOR)

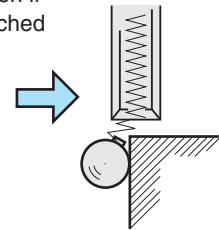


## High Sensitive Position Sensor

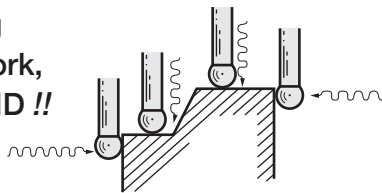


- Instant Indication of red LED Lamp.
- Instant Indication by red LED lamp at very light contact of Sensor Ball with Workpiece.
- Ideal for Centre Detecting with Milling Machine, Boring Mill, Drilling Machine and Machining Centre.
- Repeatability: within 2 micron.
- Safety Mechanism against Overrun !!

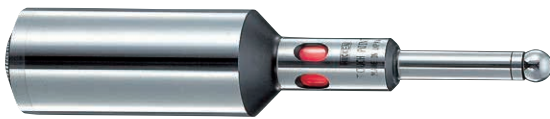
The ball is pulled up by spring. Even if overrun happens, ball will be detached from the ball seat.



- Easy Checking Location of Work, Face, OD and ID !!

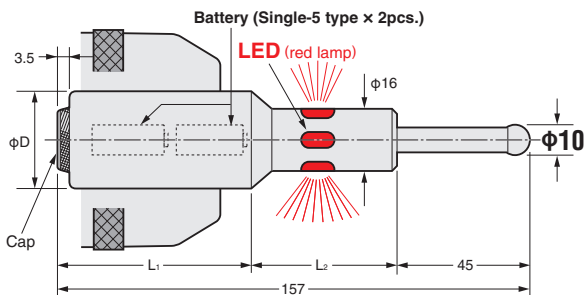


### Straight Shank TOUCH POINT



#### TP

- Can be connected to NIKKEN Milling Chuck C20, C32



Code No.	φD	L <sub>1</sub>	L <sub>2</sub>	Weight (kg)
TP-20	20	77	35	0.2
TP-32	32	71	41	0.5

★No Z-axis float in straight shank type TOUCH POINT.  
If float is needed, please order UMT series (S20,S32-UMT). P.141

### φ10 Shank TOUCH POINT



#### S10-TP8

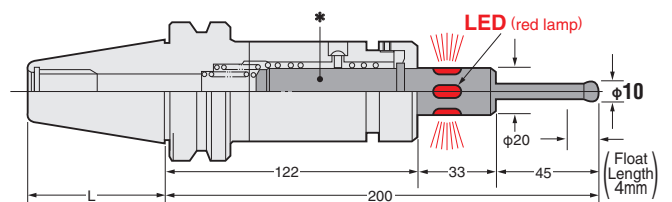
- Compact and slim type.
- It can be used for the narrow space and deep groove.
- It's suitable for HSK25A, 32A, 40A and 50A.
- No Z-axis float.

### TOUCH POINT for machining centre (with Z-axis Float Mechanism)



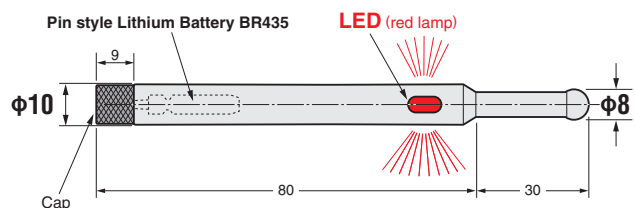
#### BT-TP

- The Ball End is located 200mm distant from Gauge Line, and can be used as Gauge Line Reference of Z-axis. Ultra precision Float Mechanism in the Thrust Direction enables Soft Touch Detection.



TAPER	Code No.	L	Float Length	Weight (kg)
No.40	BT40-TP200	65.4	4	1.9
No.50	BT50-TP200	101.8	4	4.5

★No applicable to Non-conductive work piece (Plastic, Bakelite and so on).  
★Included Battery (Single-5 type x 2pcs.)  
★IT40-TP200 and IT50-TP200 are also available.  
★The Code No. of Touch Point marked \* for the spare part is 9TP200S.



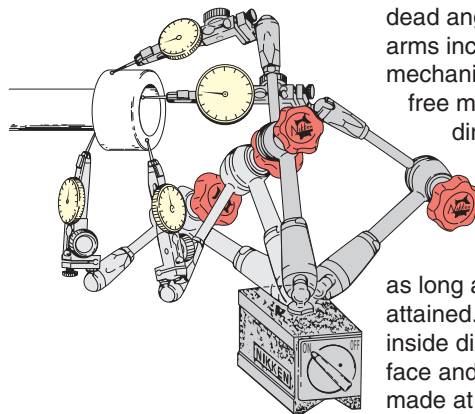


# UNIVERSAL MICRO STAND

**NIKKEN**



## ■ Long Reach 300mm

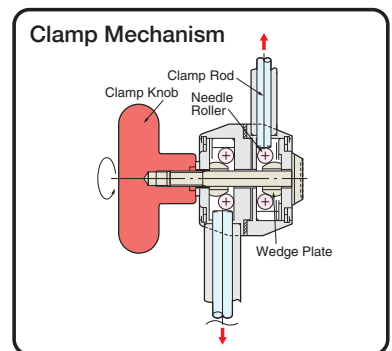


Free flexing with single knob, no dead angle and long reach, two arms incorporating ball joint mechanism at both ends provide free movement in any direction such as vertical, lateral, longitudinal or rotational etc. If stretched horizontally, a reach as long as **300mm** can be attained. Measurements of inside dia., outside dia., end face and back face etc, can be made at will.



## ■ New mechanism permitting no looseness due to vibration

By only tightening the single red clamp knob, all articulated joints are locked firmly and no fine (micron) movement will occur even after being left as they are for 100 hours.



## ■ Remote Fine Adjusting Knob (UDS-2)

The base is made by heavy and precision casting and arms are clamped by a remote knob with fine adjustment. Measurement position of dial gauge can be easily adjusted without losing setup of Universal Micro Stand.



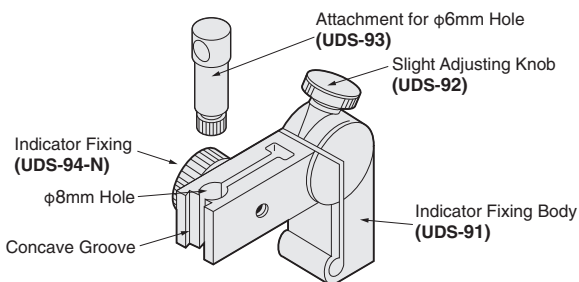
Remote Adjusting Knob

## ■ Strong magnet base makes it possible to adapt to vertical, angular, uneven surface, etc.

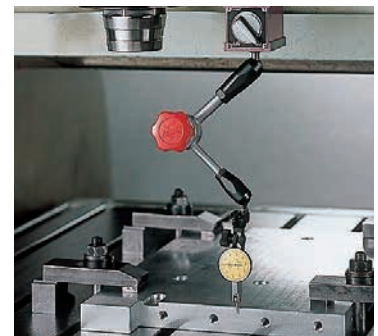
Code No.	Style
<b>UDS-1</b>	With magnet base
<b>UDS-2</b>	With precision casting base

★Dial gauge is supplied as an option.

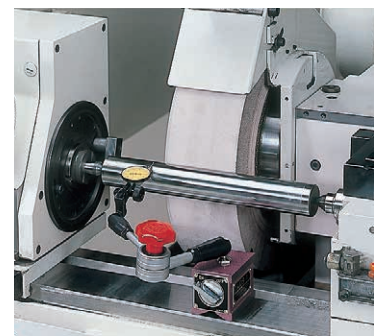
## ■ Any dial gauge, pick tester can be connected with this attachment.



On M/C



On NC Lathe



On Grinding Machine

MEASUREMENT

# HEIGHT PRESETTER WP (Necessities of machining)

**NEW**

**NIKKEN**



**IP43**  
International Protection

Reference point of work piece can be measured very quickly and accurately without damage of tool teeth.

- High Precision Measurement
- Easy to measure tooling off-set values on the machine accurately.
- Hard wearing powerful magnetic Base.
- Powerful magnetic base (700N) makes it suitable for use on manual machine as well as Vertical/Horizontal Machining Centres and NC Lathes.

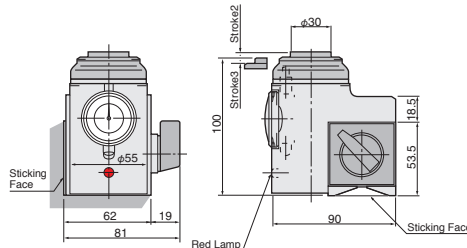
■ **Swarf Removal**  
The Magnetic Base can be switched on and off allowing the reference face to keep clean.

■ **Plunger Head is given a Anti-Rust Rubber Seal.**

■ **Proximity Lamp**  
The red lamp is activated when the plunger comes within the measuring range of the reference height.

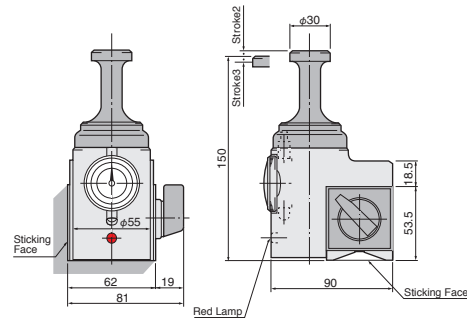
■ **IP43 International protect**  
Protect the precision equipment from dust and water spray.  
\*It does not protect internal equipment from coolant injection or submersion in water.

## HP-100WP



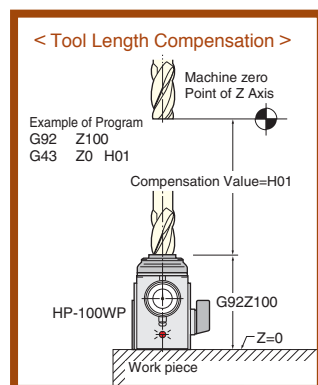
★2 of Batteries LR44(HC) are supplied as standard with both of HP-100 and HP-150.

## HP-150WP

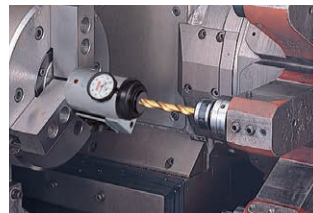


## Adjustment of Reference Point

No setting gauge plate is required to adjust Zero Point. Push Plunger down by hand, and adjust the large hand to the Zero Scale of Dial Gauge. The small hand indicates “-3” at this time.)



Example of usage at Vertical Machining Centre.

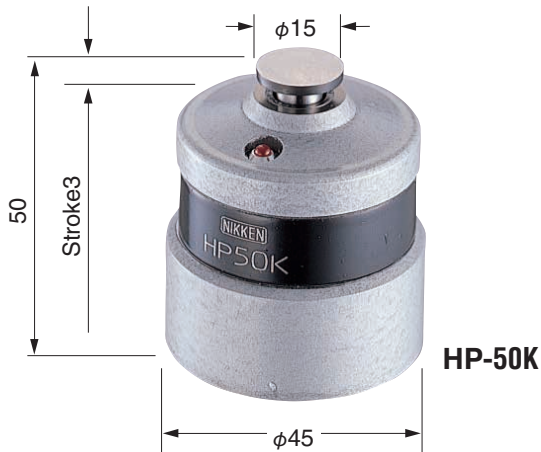


Example of usage at NC Lathe.



Also suitable for use of Micron Adjustment of Boring Arbor.

MEASUREMENT



## HP-50K HEIGHT PRESETTER

### ■ With Proximity Lamp

The red lamp is activated at the moment the cutting edge contacts the slide head, and the position is 50mm from the reference height.

Various types of products are manufactured.

Please consult us separately.



## HP-50X INTERNAL CONTACT TYPE HEIGHT PRESETTER

### ■ With Proximity Lamp

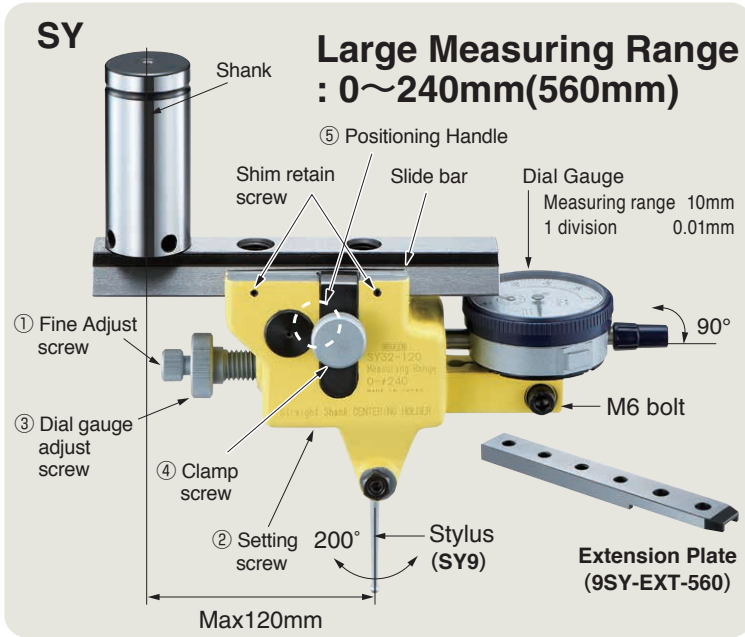
When the cutting edge strokes 1mm after contacts the slide head, the red lamp is activated and the position is 50mm from the reference height.

·Internal contact type. (LED is activated at 1mm stroke.)

· $\phi 0.2$ mm drill can be measured. (Feed rate must be lower than 5mm/min.)

·It can be used for not conductive machine and work piece.

# CENTERING HOLDER



- No need of changing the setting of Dial Gauge. Only by turning Knob, ID, OD and Parallelism can be easily measured.
- Large measuring range. Cross moving distance of stylus is 120mm in radius.
- Up to  $\phi 560\text{mm}$  can be measured by the extension plate. It can be user on your existing centering holder.

Centering Holder Code No.	ID of Milling Chuck	Measuring Range
SY20-120	$\phi 20$	0~ $\phi 240$
SY32-120	$\phi 32$	
SY42-120	$\phi 42$	

★0.01mm Dial Gauge is supplied as standard accessory.  
 ★MT Shank (MT2~6), and IT Shank (#40/#50) are available.

Explanation of the Code No.

- SY 32 - 120
- MAX. Measuring Radius
  - OD of Shank :  $\phi 22, 32, 42$
  - Symbol of Centering Holder

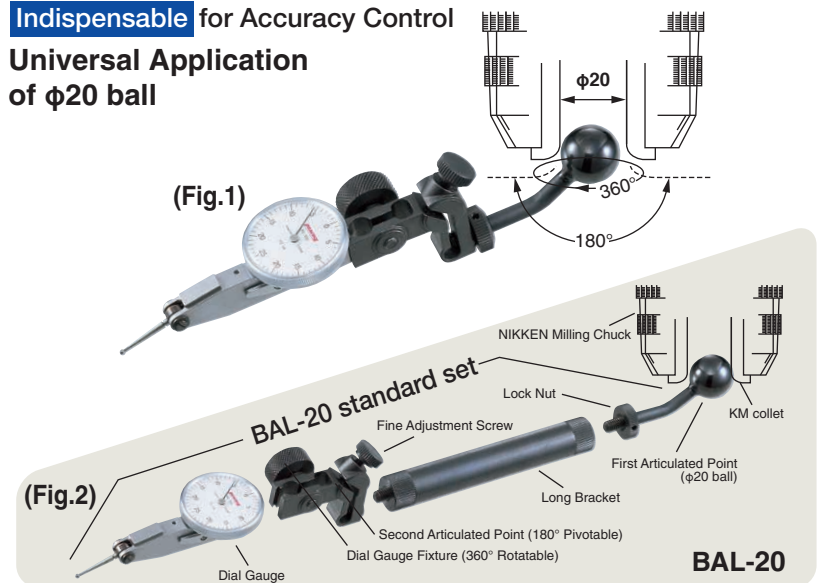
● Wide Range Measuring is possible both for ID and OD.



# BALL CENTRALIZER



Indispensable for Accuracy Control  
 Universal Application  
 of  $\phi 20$  ball



Centering of ID and OD can be done by the Ball Centralizer gripping into Nikken Milling Chuck.

■ 0.01mm Dial Gauge is supplied as standard accessory.

Code No.	Measuring Range	
	Using Fig.1	Using Fig.2
BAL-20	ID : $\phi 3.5 \sim \phi 320$	ID : $\phi 3.5 \sim \phi 520$
	OD : MAX. $\phi 300$	OD : MAX. $\phi 500$

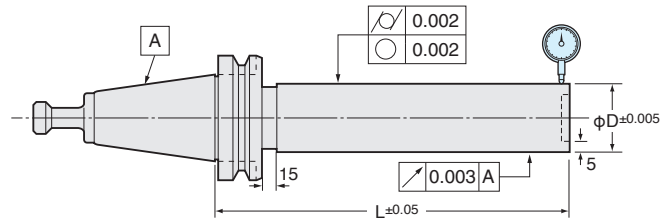
# TEST BAR

**NIKKEN**

Indispensable for checking your machine spindle.  
Sub-zero treatment keeps accuracy to prevent from the deformation.  
Each test bar is provided in a safety wooden box.



TB



Exact size of  $\phi D$  and  $L$  are marked on each test bar.

TAPER	Code No.	$\phi D$	L	Weight(kg)	Run-out at total length	Circularity, Cylindricity
<b>No.15</b>	<b>BT15BR-TB15-110</b>	15	110	0.25	Within 0.003mm	Within 0.002mm
<b>No.30</b>	<b>BT30-TB40-150</b>	40	150	1.7		
<b>No.40</b>	<b>BT40-TB40-200</b>	40	200	2.7		
<b>No.50</b>	<b>BT50-TB50-300</b>	50	300	7.7		

★The code No. for Test Bar without flange is **AST** instead of **BT**. e.g. Test Bar for #40=**AST40-TB40-200**  
★It comes with Pull Stud, please specify Pull Stud Code No. Please refer P.319 for Pull Stud.  
★The different dimension of  $\phi D$  and  $L$  are available. e.g. **BT50-TB50-40**  
But, the accuracy standard will be different. Please contact us.

The inspection certificate traceable to the national standard is available with charge.

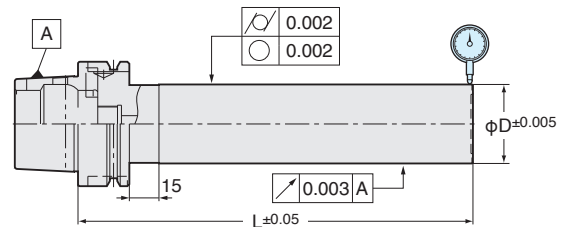
# HSK TEST BAR

**NIKKEN**

Indispensable for checking your machine spindle.  
Sub-zero treatment keeps accuracy to prevent from the deformation.  
Each test bar is provided in a safety wooden box.



TB



Exact size of  $\phi D$  and  $L$  are marked on each test bar.

TAPER	Code No.	$\phi D$	L	Weight(kg)	Run-out at total length	Circularity, Cylindricity
<b>HSK 40A</b>	<b>HSK 40A-TB30-150</b>	30	150	1.0	Within 0.003mm	Within 0.002mm
<b>HSK 50A</b>	<b>HSK 50A-TB40-200</b>	40	200	2.2		
<b>HSK 63A</b>	<b>HSK 63A-TB40-200</b>	40	200	2.4		
<b>HSK100A</b>	<b>HSK100A-TB50-300</b>	50	300	6.3		

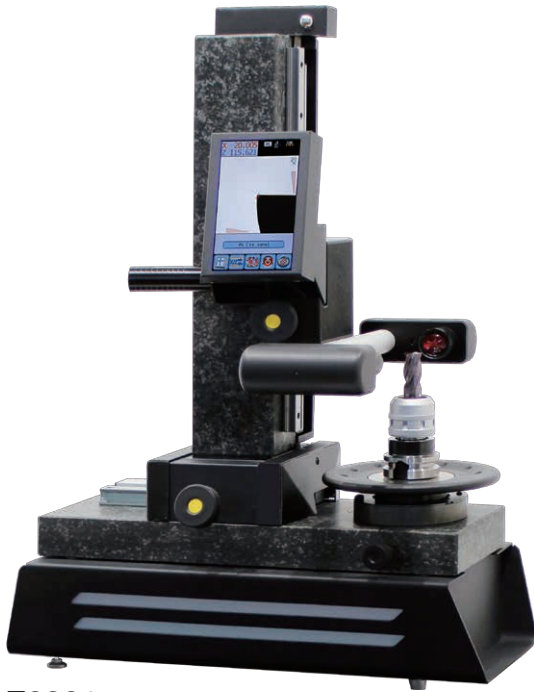
★The different dimension of  $\phi d$  and  $L$  are available. e.g. **HSK100A-TB50-400**  
But, the accuracy standard will be different. Please contact us.

The inspection certificate traceable to the national standard is available with charge.

MEASUREMENT

# TOOL PRESETTER E236+

**NIKKEN**



- Rapid & Accurate Measurement Non-Contact Type**  
C MOS Sensor  
Autocollimation  
(The cutting edge is detected automatically and displayed.)  
Rapid Positioning & Fine Adjustment
- Rapid Positioning & Fine Adjustment**  
Granite Column and Base
- Spindle can be exchanged.**  
(BT, HSK, CAPTO TOOLING)
- Fine and Easy Screen**  
7" TFT LCD Monitor (86 X 150mm)  
Magnification: 20
- Various Functions for Measurement**



Spindle (Option)



Printer WASP-PT



Measuring of the cutting edge



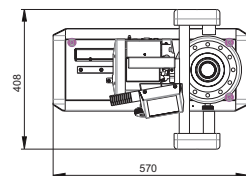
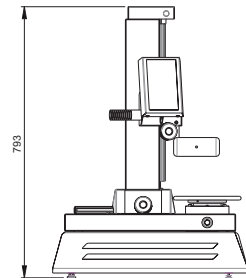
Angle of the cutting edge



Nose R of the cutting edge

## E236+

Item	Contents	E236PLUS-40	E236PLUS-50
Measuring Range	X Axis: Dia. of Tool	0~φ260mm	0~φ260mm
	Z Axis: Length of Tool	30~360mm	30~360mm
MIN. Reading	Reading Method MIN. Reading	X Axis	Scale Counter 0.001mm (Radius)
		Z Axis	Scale Counter 0.001mm
Monitor		Magnification: 20 7" TFT LCD Monitor	
Tool Clamp		Not installed	
Spindle		NT40	NT50
Master Gauge		GN40K(option)	GN50K(option)
Spindle (Option)		The spindle can be exchanged. NT40, 50, HSK32, 40, 50, 63, 80, CAPTO TOOLING C4, 5, 6 Z stroke will be shortened for HSK and CAPTO TOOLING.	
Reduction Sleeve (Option)		TN430 : NT40-NT30	TN540 : NT50-NT40
Power		AC100~230V	



- ★The spindle for HSK100A, CAPTO TOOLING C8, 3LOCK, NC5-100 can not be supplied, please select E346V+ presetter P.150
- ★Box size : W × H × D = 900 × 590 × 680mm, Box weight : 58Kg
- ★Printer (WASP-PT) and 10 pcs of the roll papers with seal (WASP-PTP) are available as an option.
- ★Spindle for HSK32, 40, 50, 80 and CAPTO TOOLING C4, C5, C6 are order made spindles.

## Spindle (Option)

No clamping mechanism for NT spindle of E236+

Manual clamping mechanism for HSK, Polygon taper and NC5 spindles



E236N-SP-30,40,50  
E236N-SP-HSK, C, NC5



E450N-SP-30,40,50  
Vacuum Clamping

Code No.	Shank No.	Presetter	Z Stroke (mm)	Master gauge
E236N -SP -30	NT30	E236+	0~360	GN30K
E450N -SP -30		E346V+, E460N	0~460,600	
E236N -SP -40	NT40	E236+	0~360	GN40K
E450N -SP -40		E346V+, E460N	0~460,600	
E236N -SP -50	NT50	E236+	0~360	GN50K
E450N -SP -50		E346V+, E460N	0~460,600	
E236N -SP -HSK32	HSK32	E236+ E346V+ E460N	0~358,433,573*1	GN-HSK32
- HSK40	HSK40		0~351,425,565	GN-HSK40
- HSK50	HSK50		0~343,418,558	GN-HSK50
- HSK63	HSK63		0~335,410,550	GN-HSK63
- HSK80	HSK80		0~333,408,548	GN-HSK80
E450N -SP -HSK100	HSK100		0~- ,368,508	GN-HSK100
E236N -SP -C4	C4		0~324,399,539	GN-C4
- C5	C5		0~315,390,530	GN-C5
- C6	C6		0~293,368,508	GN-C6
E450N -SP -C8	C8		0~- ,348,488	GN-C8
E236N -SP -NC5-46N	NC5-46	0~320,420,560	GNC5-46-150	
- NC5-63	NC5-63	0~300,400,540	GNC5-63-150	
- NC5-100	NC5-100	0~260,310,410	GNC5-100-150	

- ★Spindles for HSK,C and NC5 can be exchanged only by a wrench.
- ★\*1 The Z measurement ranges E236+, E346V+, E460N from the left. ★Master gauge is available as an option.

# TOOL PRESETTER E346V+

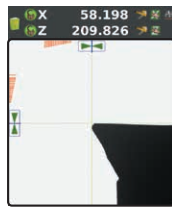


**E346V+**

- **Rapid & Accurate Measurement Non-Contact Type**  
C MOS Sensor  
Autocollimation  
(The cutting edge is detected automatically and displayed.)  
Rapid Positioning & Fine Adjustment
- **Rapid Positioning & Fine Adjustment**  
Granite Column and Base
- **Spindle can be exchanged.**  
(BT, HSK, CAPTO TOOLING)
- **Fine and Easy Screen**  
15" TFT Color 16:9 Vertical Touch Screen Monitor  
Magnification: 25
- **Various Functions for Measurement**



Spindle (Option)



Fixed Feticule Mode



Circular Reticule Mode



Angle and Radius Mode



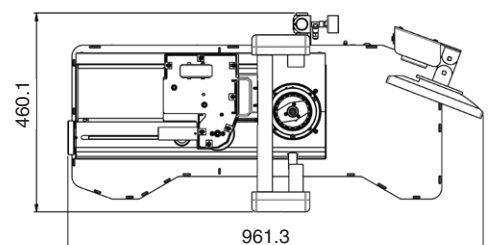
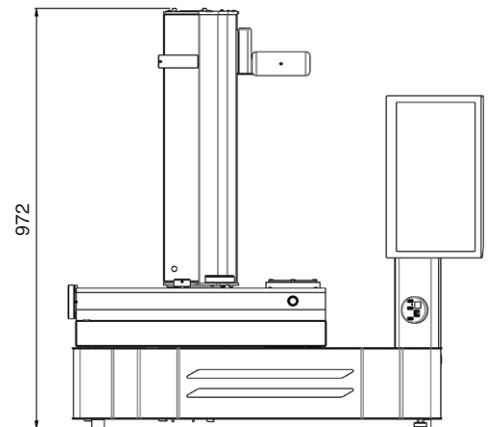
Inspection Tool Mode

Item	Contents	E346VP-40	E346VP-50
Measuring Range	X Axis: Dia. of Tool	0~φ360mm	0~φ360mm
	Z Axis: Length of Tool	30~460mm	30~460mm
MIN. Reading	Reading Method MIN. Reading	X Axis	Scale Counter 0.001mm (Radius)
		Z Axis	Scale Counter 0.001mm
Monitor	Magnification: 25 15" TFT Color 16:9 Vertical Touch Screen Monitor		
Tool Clamp	Vacuum clamping for <b>NT30, 40</b> and <b>50</b> . Manual clamping for <b>HSK, C</b> and <b>NC5</b> 注意 <b>P.149</b>		
Spindle	NT40		NT50
Master Gauge	GN40K(option)		GN50K(option)
Spindle (Option)	The spindle can be exchanged. NT30,40, 50, HSK32,40,50,63,80, CAPTO TOOLING C4, 5,6,8 Z stroke will be shortened for HSK and CAPTO TOOLING.		
Reduction Sleeve (Option)	TN430 : NT40-NT30		TN540 : NT50-NT40
External Output	USB(3 ports) LAN(1 port), TD-SIX(TONE UP)		
Power	AC100~230V		

★Box size : W x H x D = 1090 x 1020 x 670mm, Box weight : 130Kg, Presetter weight : 90Kg.  
★Spindle for HSK32, 40, 50, 80, 100 and CAPTO TOOLING C4, C5, C6, C8 are order made spindles.

## ■ Working Desk E346VP-STD (Option)

Working desk for **E346V+** and **E236+**.  
(No fixing mechanism for E346V+ and E236+.)  
Size : W x H x D = 984 x 754 x 504, Weight : 66Kg.  
The spindle case has 3 pots.



MEASUREMENT

# TOOL PRESETTER E460N



**E460N**

- Super Precision & High Accuracy Granite Column and Base
- Touch Panel Display with Quick & Easy Operation  
Non-Contact Type Fine Screen -15" LCD Monitor  
Magnification: X30  
Changeable of C MOS Sensor/ Micro Scope

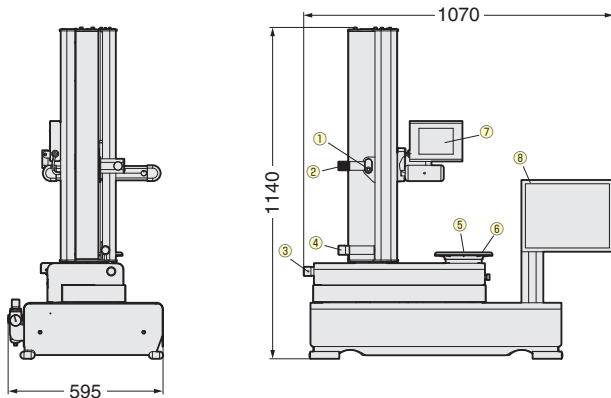
**Micro Scope**



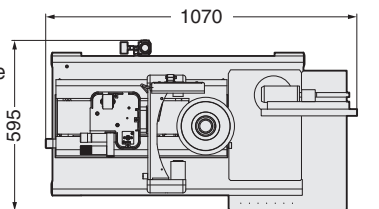
- Rapid & Accurate Measurement  
Changeable Clutch of Rapid/Fine Feed
- Vacuum Clamp System Independent from the pull stud type.  
The mechanical tool clamp system is installed on E236N for the double face contact tool such as 3LOCK tool, NC5 tool or HSK tool.
- Tool Management System "TD-SIX"  
M/C data: MAX.1000  
The management of the difference of the gauge line of M/C can be done.  
Tool Set (Layout) Data: MAX.10000  
Tool Data: MAX.10000

Item	Contents		E460N-40	E460N-50
Measuring range	X Axis : Diameter of Tool		0~φ400mm	0~φ400mm
	Z Axis : Length of Tool		35~600mm	35~600mm
Min. reading increment	Reading Method Min. reading	X Axis	Scale Counter 0.001mm (Radius) Changable of Radius/Diameter	
		Y Axis	Scale Counter 0.001mm	
Monitor			Magnification: X30 Changable of C MOS Sensor/ Micro Scope 10.4" LCD Monitor	
Tool Clamp			Vacuum Clamp (Air: 0.5MPa) The mechanical tool clamp system *1 is available as an option.	
Spindle			NT40	NT50
Master Gauge			GN40K(option)	GN50K(option)
Inter-changeable spindle (Option)			<b>Vacuum clamping for NT30, 40 and 50.</b> <b>Manual clamping for HSK, C and NC5</b> P.116	
Reduction Sleeve (Option)			TN430V : NT40-NT30	TN540V : NT50-NT40
External Output			USB (3 ports) LAN (1 ports),TD-SIX (TONE UP)	
Power			AC100~230V	

★ \*1 Master gauge is available as an option.



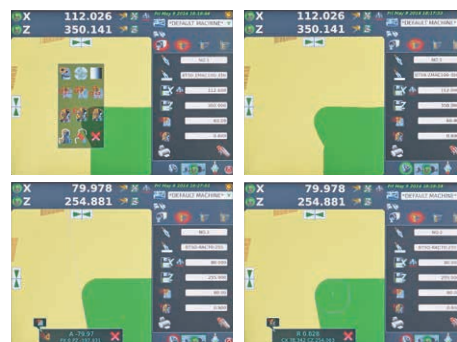
- ① Z/X Axis Rapid Positioning SW
- ② Z/X Axis Rapid Positioning Handle
- ③ X Axis Fine Adjustment Knob
- ④ Z Axis Fine Adjustment Knob
- ⑤ Spindle
- ⑥ Handle for Spindle Rotation
- ⑦ 15" LCD Monitor
- ⑧ Operation Panel



Box size: W X H X D : 1,070 X 1,140 X 595mm  
Presetter Weight: 135Kg, Box Weight: 160Kg

- Exclusively designed for multiple function tool measuring system rather than just measuring the length and diameter.

- Automatic measurement (Automatic scanning of the tool edge)
- Display of angular grid (1 degree incremental) for checking the tool edge.
- Display of reference circle for checking Nose R.
- Multiple calculation functions  
**e.g. calculation for radius from 5 points, angle from 2 lines, or distance of 2 points**





# TOOL PRESETTER E4060L



**E4060L**

- Super Precision & High Accuracy Granite Column and Base
- Touch Panel Display with Quick & Easy Operation  
Non-Contact Type Fine Screen -22" FULL HD  
Monitor Magnification: X26  
Changeable of C MOS Sensor/ Micro Scope

Micro Scope



- Rapid & Accurate Measurement  
Changeable Clutch of Rapid/Fine Feed
- Universal Mechanical Tool Clamping System.  
Servo controlled clamping system provides a strong clamping force of 250-300kg.

### ■ Tool Management System "TD-SIX Pro"

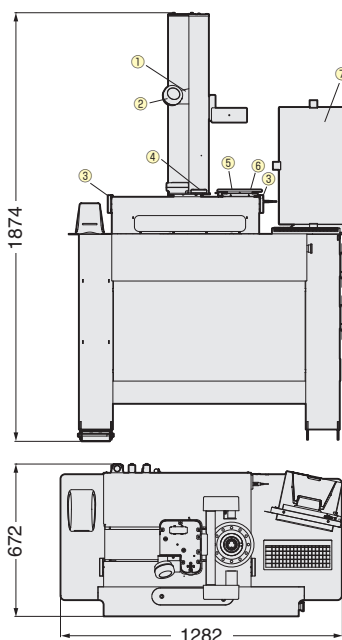
M/C data: MAX.1000

The management of the difference of the gauge line of M/C can be done.

Tool Set (Layout) Data: MAX.10000

Tool Data: MAX.10000

Item	Contents		E4060L-40	E4060L-50
Measuring range	X Axis : Diameter of Tool		0~φ400mm	0~φ400mm
	Z Axis : Length of Tool		35~600mm	35~600mm
Min. reading increment	Reading Method Min. reading	X Axis	Scale Counter 0.001mm (Radius) Changable of Radius/Diameter	
		Y Axis	Scale Counter 0.001mm	
Monitor			Magnification: X26 Changable of C MOS Sensor/ Micro Scope 22" FULL HD Monitor	
Tool Clamp			Universal Mechanical Tool Clamping System.	
Spindle			NT40	NT50
Master Gauge			GN40K(option)	GN50K(option)
Inter-changeable spindle (Option)			<b>E4060L-SP-40</b>	<b>E4060L-SP-50</b>
			<b>Manual clamping for HSK, C and NC5</b>	
External Output Power			USB (4 ports) LAN (1 ports), TD-SIX PRO (TONE UP) AC100~230V	



- ① Z/X Axis Rapid Positioning SW
- ② Z/X Axis Rapid Positioning Handle
- ③ X Axis Fine Adjustment Knob
- ④ Z Axis Fine Adjustment Knob
- ⑤ Spindle
- ⑥ Handle for Spindle Rotation
- ⑦ 22" FULL HD Monitor

### ■ Exclusively designed for multiple function tool measuring system rather than just measuring the length and diameter.

- Automatic measurement (Automatic scanning of the tool edge)
- Display of angular grid (1 degree incremental) for checking the tool edge.
- Display of reference circle for checking Nose R.
- Multiple calculation functions

e.g. calculation for radius from 5 points, angle from 2 lines, or distance of 2 points

**SP-ID(Spindle Identification system)**

**Multi-Edge Report (creating, saving, and printing)**



Box size: W X H X D: 1,282 X 1,874 X 672mm  
Presetter Weight: 255Kg, Box Weight: 280Kg

MEASUREMENT

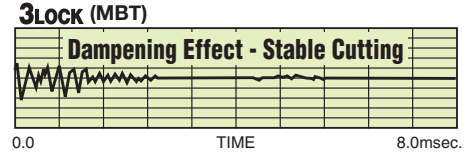
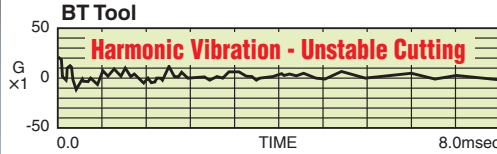
**3LOCK** (triple contact) can be done on the BT double face contact spindle.

High Speed

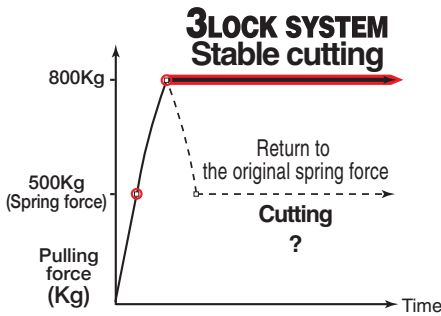
Tool Life  
3 to 5 times

## 1. Power of Dampening Effect.

Performance enhancement due to the dampening effect are already universally recognized when using Nikken's DREAM-CUT Holder.  
- Extended tool life of 3 to 5 times.

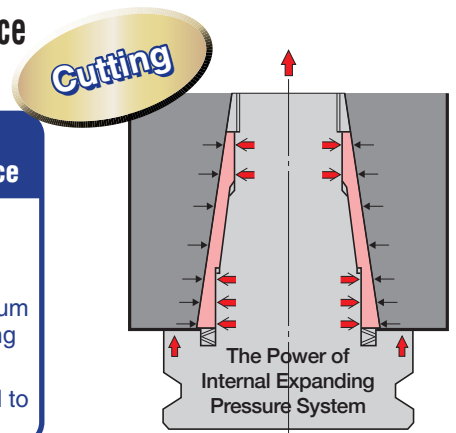


## 2. The mechanism which generates the excellent cutting performance -Internal Expanding Pressure System



### Internal Expanding Mechanism System for instantly locking the maximum pulling force

- Tool clamping mechanism that use a disc springs experience lower clamping force during continuous use.
- **3LOCK** is a system for locking the maximum pulling force that is instantly produced during tool pulling.
- Cutting torque is greatly reduced compared to BT tooling for more comfortable cutting.



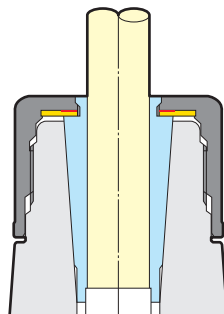
Machine spindle expansion due to the centrifugal force at the high speed rotation or heat expansion

## 3. The taper sleeve follows the expansion and maintains perfect contact with the taper and flange.

**Taper Contact : Flange Contact = 90% : 10%**

## 4. 2LOCK } ⊕ Power of TiN Bearing Nut 3LOCK }

Rigidity



Run-Out Accuracy

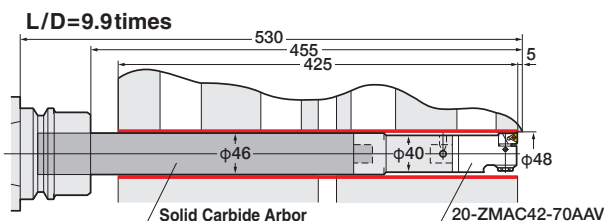
ATC Repeatability



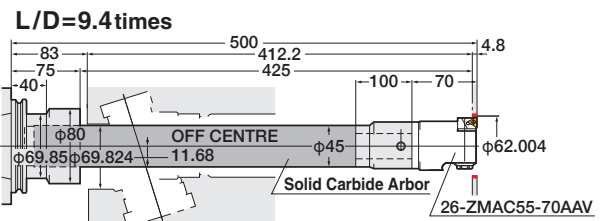
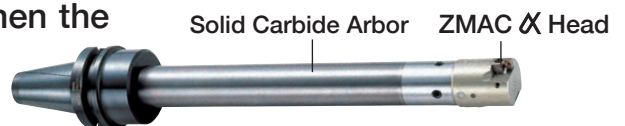
## 5. Excellent Rigidity

**3LOCK** tool performs the excellent rigidity, when the extended tool is used on the horizontal M/C.

### Deep Hole Boring



Material: Aluminum  
Stock Removal: 0.23~0.27mm/dia.  
V : 450m/min.  
S : 3,000r/min  
F : 180mm/min.



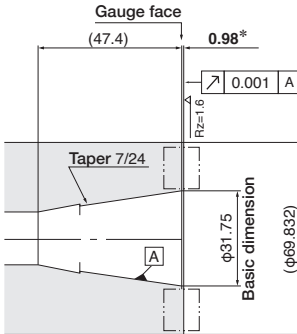
Material: Aluminum  
Stock Removal: 0.5mm/dia.  
V : 545m/min.  
S : 3,000r/min  
F : 210mm/min.

# BT DOUBLE FACE CONTACT SPINDLE

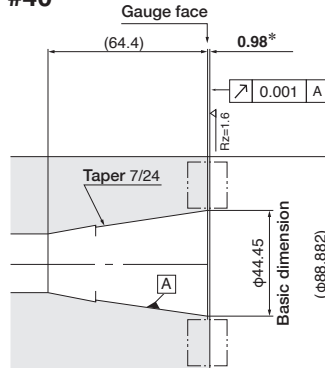


The NIKKEN **3LOCK** tooling can be used as the triple face contact (taper, flange and internal taper expansion) on the M/C with BT double face contact spindle. The NIKKEN **2LOCK** tooling can be used as the double face contact on the M/C with BT double face contact spindle.

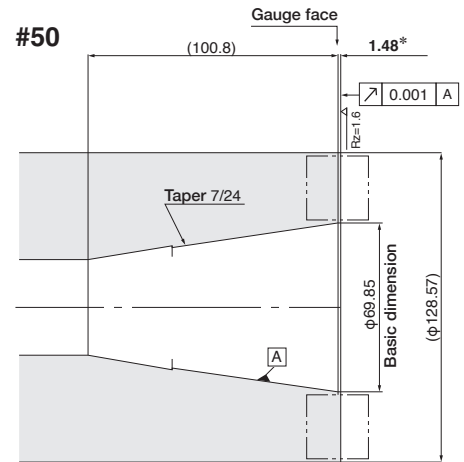
#30



#40

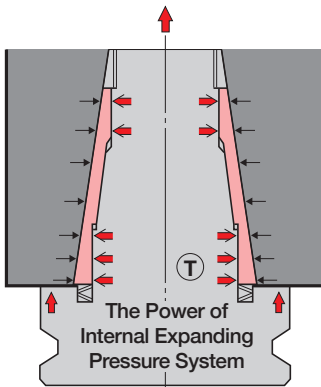


#50



\* mark: The tolerances of the extension of the spindle flange from gauge face depend on the M/C.

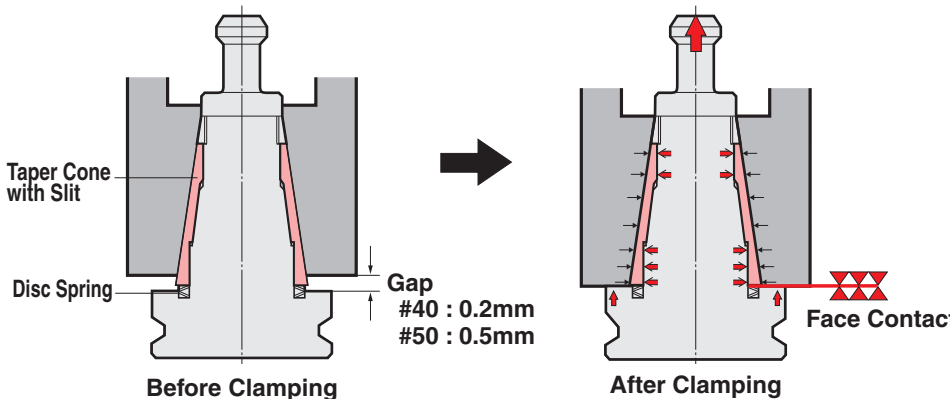
## 3LOCK TECHNICAL INFORMATION



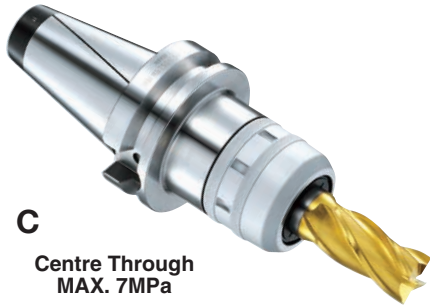
1. When **3LOCK** tool is inserted into **3LOCK** spindle (before clamping), the gap between the spindle flange and the tool flange is ; #40 : 0.2mm, #50 : 0.5mm
2. When the tool is clamped, the taper cone pre-loaded by the disc springs deforms radially and slides to reach the face contact between the spindle flange and the tool flange.

### Deep Profiling Tool for Die Mould

Strong track record even for plunge cutting cutters with a long expanded length



# 3LOCK MBT MULTI LOCK MILLING CHUCK



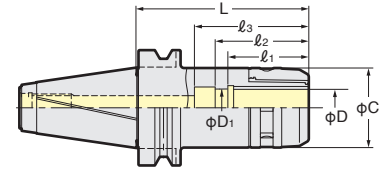
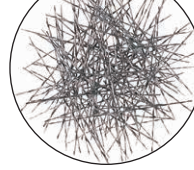
**C**  
Centre Through  
MAX. 7MPa

The cutting chips show us the actual machining capability.

Quiet,  
high speed, heavy milling



Stable finishing



## Standard

TAPER	Code No.	D	C	L	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	Weight (kg)	Collet
No.40	MBT40-C12- 90	12	33	90	48	53	58	1.6	KM12 CCK12
	-120			120				1.9	
	-C16- 60	16	44	63	50	58	65	1.4	KM16 CCK16
	- 90			90				1.7	
	-120			120				2.0	
	-C20- 70	20	52	71	57	66	80	1.6	KM20 CCK20 CCNK20 NK20
	- 90			90				1.8	
	-120			120				2.2	
	-C25- 70	25	60	70	60	72	80	1.8	KM25 CCK25 CCNK25 NK25
	- 90			90				2.1	
	-120			120				2.5	
	-C32- 85*	32	69	85	64	71	75	2.1	KM32 CCK32 CCNK32 NK32
-105	105			2.5					
-120	120			2.8					
No.50	MBT50-C12-105	12	33	105	48	53	53	4.0	KM12 CCK12
	-165			165				4.6	
	-C16-105	16	44	105	50	58	58	4.2	KM16 CCK16
	-165			165				4.8	
	-200			200				5.1	
	-C20-105	20	52	105	57	66	66	4.5	KM20 CCK20 CCNK20 NK20
	-165			165				5.1	
	-200			200				5.7	
	-C25-105	25	60	105	60	72	72	4.8	KM25 CCK25 CCNK25 NK25
	-135			135				5.2	
	-165			165				5.6	
	-C32- 90	32	69	90	70	81	81	4.3	KM32 CCK32 CCNK32 NK32
	-105			105				4.6	
	-120			120				5.1	
	-135			135				5.6	
	-165			165				6.4	
	-200			200				7.8	
	-250	250	9.2						
	-300	300	10.6						
	-C42- 95*	42	86	95	73	81	81	5.5	KM42 CCK42 CCNK42 NK42
	-120			120				6.6	
-135	135			7.2					
-165	165			8.6					
-200	200			9.5					
-250	250			11.7					
-300	300	14.0							

★Spanner is available as an option.

C12 : 9HC12A C16 : 9HC16 C20 : 9HC22

C25 : 9HC25 C32 : 9HC32 C42 : 9HC42

★Please note the acceptable shank tolerance is h6~7.

★For heavy duty milling, please grip the cutter shank longer than l<sub>1</sub>.

★NK and CCNK collet can not be used for the chucks marked \*.

★For C32, l<sub>2</sub> dimension longer than standard is available.

MBT40-C32D- 105 MBT50-C32D- 105

★Centre through tool coolant is available for all models. When the cutter shank length is shorter than l<sub>1</sub>, please use the stopper for direct chucking or CCK/CCNK collet.

The Code No. of the Stopper for direct chucking is : C20 : 9MC20, C25 : 9MC25, C32 : 9MC32, C42 : 9MC42

★GFS type is possible only for C25 to C42, except for BT30.

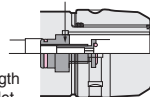
The GFS type is available with or without J grooves, and the code numbers are GFSJ for with J grooves and GFS for without grooves.

★Please refer P.279 for Milling Chuck Coolant Solution.

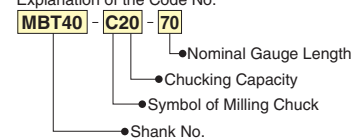
★Please refer P.280, P.281 for KM and CCK collet.

★Please add "F" for the flange through tool coolant type.

Stopper for  
Direct Chucking



Explanation of the Code No.



# 3LOCK MBT HIGH SPEED MILLING CHUCK



**NIKKEN**



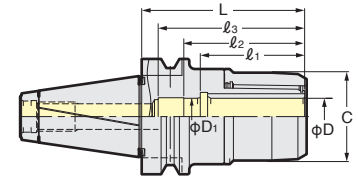
**C-G**

Centre Through  
MAX. 7MPa

## ANNIVERSARY Type

– Powerful gripping torque –

- High rigidity
- High precision
- Compact design



## High Speed

TAPER	Code No.	D	C	L	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	Weight (kg)	MAX. (r/min)	Collet	
No. 40	MBT40-C12- 90G	12	33	90	48	53	58	1.6	25,000	ⓀM12 ⓀCK12	
	-C16- 60G	16	40	63	50	58	65	1.4		ⓀM16 ⓀCK16	
	- 90G			90				1.7		ⓀM20 ⓀCK20 ⓀCNK20 ⓀNK20	
	-C20- 70G	20	48	71	57	66	80	1.6	20,000	ⓀM25 ⓀCK25 ⓀCNK25 ⓀNK25	
	- 90G			90				1.8			
	-C25- 70G	25	55	70	60	72	75	1.8		ⓀM32 ⓀCK32 ⓀCNK32 ⓀNK32	
	- 90G			90				2.1			
	-120G			120				2.5			
	-C32- 85G*	32	68	85	64	71	81	2.1		ⓀM42 ⓀCK42 ⓀCNK42 ⓀNK42	
-105G	105			70	81	2.5					
No. 50	MBT50-C12-105G	12	33	105	48	53	58	4.0		20,000	ⓀM12 ⓀCK12
	-C16-105G	16	40	105	50	58	65	4.2			ⓀM16 ⓀCK16
	-C20-105G	20	48	105	57	66	80	4.5	ⓀM20 ⓀCK20 ⓀCNK20 ⓀNK20		
	-C25-105G	25	55	105	60	72	80	4.8	15,000	ⓀM25 ⓀCK25 ⓀCNK25 ⓀNK25	
	-C32- 90G	32	68	90	70	81	81	4.3		ⓀM32 ⓀCK32 ⓀCNK32 ⓀNK32	
	-105G			105				4.6			
	-120G			120				5.1			
	-C42- 95P*	42	86	95	80	85	110	5.5	ⓀM42 ⓀCK42 ⓀCNK42 ⓀNK42		
	-120P			120	73	105	110	6.6			

★Please note the acceptable shank tolerance is h6.

★Please refer P.280, P.281 for KM and CCK collet.

★GH Handle is available as an option. P.299

C12G : GH12, C16G : GH16, C20G : GH20, C25G : GH25, C32G : GH32

★Spanner for C42P is 9HC42.

★NK and CCNK collet can not be used for the chucks marked \*.

★Centre through tool coolant is available for all models. When the cutter shank length is shorter than l<sub>1</sub>, please use the stopper for direct chucking or CCK/CCNK collet.

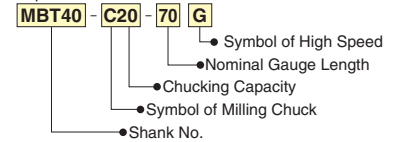
The Code No. of the Stopper for direct chucking is : C20 : 9MC20, C25 : 9MC25, C32 : 9MC32, C42 : 9MC42

★GFS type is possible only for C25 to C42, except for BT30.

The GFS type is available with or without J grooves, and the code numbers are GFSJ for with J grooves and GFS for without grooves.

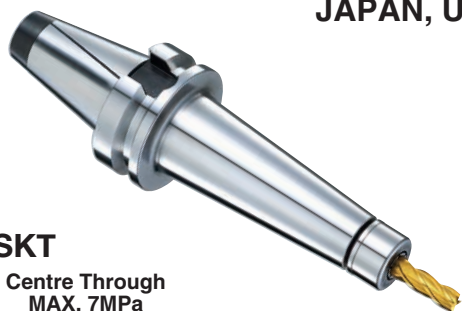
★Please refer P.279 for Milling Chuck Coolant Solution.

### Explanation of the Code No.

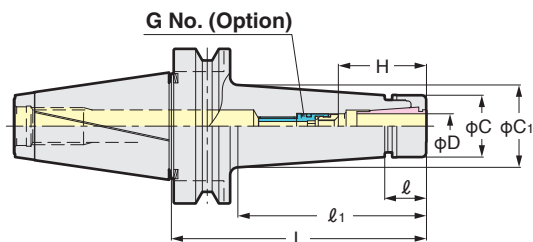


# 3LOCK MBT SLIM CHUCK

JAPAN, USA, EU, KOREA PAT.



**SKT**  
Centre Through  
MAX. 7MPa

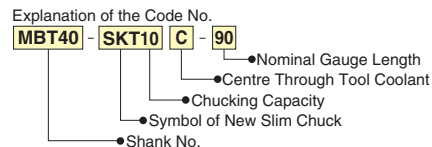


## Standard

- When SK J type nut is used, the total chuck length will be extended by 6mm.
- When using SK-A collets or SK-AC collets, or when gripping a cutting tool smaller than the nominal diameter on SK collets, the total length will be shortened by about 3 mm. Please be careful when you check the interference.

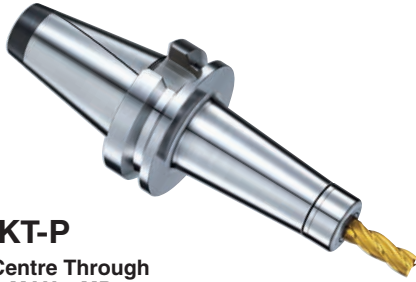
TAPER	Code No.	D	L	ℓ	ℓ <sub>1</sub>	C	C <sub>1</sub>	H	G No. (Option)	Weight (kg)	SK Collet
No.40	MBT40-SKT 6C- 90	0.7~6.0	90	19.8	60	19.5	25.2	26~31	SKG 6- 6HG	1.1	SK 6
	-120		120		90		29.4			1.4	
	-SKT10C- 90	1.75~10.0	90	22	60	27.5	32.9	35~41	SKG10-10HG	1.2	SK10
	-120		120		90		37.1			1.4	
	-150		150		120		41.3			1.6	
	-SKT13C- 90	2.75~13.0	90	26	60	33	37.8	39~51	SKG13-10HG	1.4	SK13
	-120		120		90		42.0			1.6	
	-150		150		120		46.2			1.8	
	-SKT16C- 90	2.75~16.0	90	27	60	40	44.7	45~57	SKG16-12HG	1.5	SK16
	-120		120		90		48.9			1.7	
	-150		150		120		53.1			1.9	
	-SKT20C- 90	3.5~20.0	90	28.5	60	48.5	53.0	47~63	SKG20-18HG	1.6	SK20
-120	120		92		57.4		2.0				
-SKT25C- 90	7.5~25.4	90	31	62.6	55	59.5	60~65	SKG25-18HGD	1.8	SK25	
-120		120		92.2		59.3			2.4		
No.50	MBT50-SKT 6C-105	0.7~6.0	105	19.8	62	19.5	25.5	26~31	SKG 6- 6HG	3.8	SK 6
	-165		165		122		33.8			4.0	
	-SKT10C-105	1.75~10.0	105	22	62	27.5	33.1	35~41	SKG10-10HG	4.2	SK10
	-165		165		122		41.5			4.6	
	-SKT13C-105	2.75~13.0	105	26	62	33	38.1	39~51	SKG13-10HG	4.5	SK13
	-165		165		122		46.5			4.9	
	-SKT16C-105	2.75~16.0	105	27	62	40	44.9	45~57	SKG16-12HG	4.7	SK16
	-165		165		122		53.3			5.1	
	-SKT20C-105	3.5~20.0	105	28.5	62	48.5	53.2	47~63	SKG20-18HG	4.3	SK20
	-165		165		122		61.6			5.0	
	-SKT25C-105	7.5~25.4	105	31	62	55	59.4	60~70	SKG25-24HG	5.2	SK25
	-165		165		122		67.8			5.6	

- ★Collet, adjust screw (G No.) and GH Handle are available as an option.
- ★Please refer P.283, P.284 for SK Collet and SK-AC Collet.  
The Code No. of the GH Handle is SKT6C-P: GH6, SKT10C-P: GH10, SKT13C-P: GH12, SKT16C-P: GH16, SKT20C-P: GH20, SKT25C-P: GH25
- ★Please use P class collet or A type collet. P.283
- ★All models are high pressure centre through tool coolant type.
- ★SKT6: φ4~φ6, SKT10: φ6~φ10, SKT16: φ10~φ16, SKT20: φ6~φ20, SKT25: φ16~φ25
- ★Please add "F" for the flange through tool coolant type;  
e.g. MBT40-SK10F-90
- ★Please refer P.288 for the adjust screw (G No.)
- ★Please refer P.285 for SK, MDSK Coolant Solution.



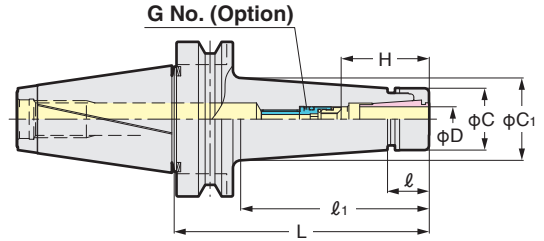
# 3LOCK MBT HIGH SPEED SLIM CHUCK

JAPAN, USA, EU, KOREA PAT.



**SKT-P**

Centre Through  
MAX. 7MPa



## High Speed

- When SK J type nut is used, the total chuck length will be extended by 6mm.
- When using SK-A collets or SK-AC collets, or when gripping a cutting tool smaller than the nominal diameter on SK collets, the total length will be shortened by about 3 mm. Please be careful when you check the interference.

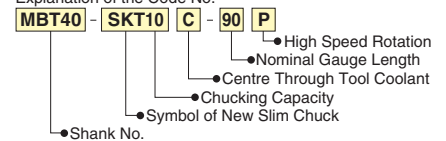
TAPER	Code No.	D	L	l	l <sub>1</sub>	C	C <sub>1</sub>	H	G No. (Option)	Weight (kg)	MAX. (r/min)	SK Collet	
No.40	MBT40-SKT 6C- 90P	0.7~6.0	90	19.8	60	19.5	25.2	26~31	SKG 6- 6HG	1.1	30,000	SK 6	
	-120P		120		90		29.4			1.4			
	-SKT10C- 90P	1.75~10.0	90	22	60	27.5	32.9	35~41	SKG10-10HG	1.2		SK 10	
	-120P		120		90		37.1			1.4			
	-150P		150		120		41.3			1.6			
	-SKT13C- 90P	2.75~13.0	90	26	60	33	37.8	39~51	SKG13-10HG	1.4		SK 13	
	-120P		120		90		42.0			1.6			
	-150P		150		120		46.2			1.8			
	-SKT16C- 90P	2.75~16.0	90	27	60	40	44.7	45~57	SKG16-12HG	1.5		25,000	SK 16
	-120P		120		90		48.9			1.7			
	-150P		150		120		53.1			1.9			
	-SKT20C- 90P	3.5~20.0	90	28.5	60	48.5	53.0	47~63	SKG20-18HG	1.6		SK 20	
	-120P		120		92		57.4			2.0			
	-SKT25C- 90P	7.5~25.4	90	31	62.6	55	59.5	60~65	SKG25-18HGD	1.8		20,000	SK 25
-120P	120		92.2		59.3		2.4						
No.50	MBT50-SKT 6C-105P	0.7~6.0	105	19.8	62	19.5	25.5	26~31	SKG 6- 6HG	3.8	20,000	SK 6	
	-165P		165		122		33.8			4.0			
	-SKT10C-105P	1.75~10.0	105	22	62	27.5	33.1	35~41	SKG10-10HG	4.2		SK 10	
	-165P		165		122		41.5			4.6			
	-SKT13C-105P	2.75~13.0	105	26	62	33	38.1	39~51	SKG13-10HG	4.5		SK 13	
	-165P		165		122		46.5			4.9			
	-SKT16C-105P	2.75~16.0	105	27	62	40	44.9	45~57	SKG16-12HG	4.7		SK 16	
	-165P		165		122		53.3			5.1			
	-SKT20C-105P	3.5~20.0	105	28.5	62	48.5	53.2	47~63	SKG20-18HG	4.3		SK 20	
	-165P		165		122		61.6			5.0			
-SKT25C-105P	7.5~25.4	105	31	62	55	59.4	60~70	SKG25-24HG	5.2	15,000	SK 25		
-165P		165		122		67.8			5.6				

- ★Collet, adjust screw (G No.) and GH Handle are available as an option.
- ★Please refer P.283, P.284 for SK Collet and SK-AC Collet.
- The Code No. of the GH Handle is SKT6C-P: GH6, SKT10C-P: GH10, SKT13C-P: GH12, SKT16C-P: GH16, SKT20C-P: GH20, SKT25C-P: GH25
- ★Please use P class collet or A type collet. P.283
- ★All models are high pressure centre through tool coolant type.
- SKT6: φ4~φ6, SKT10: φ6~φ10, SKT16: φ10~φ16, SKT20: φ6~φ20, SKT25: φ16~φ25
- ★Please refer P.299 for the adjust screw (G No.)
- ★Please refer P.285 for SK, MDSK Coolant Solution.



GH Handle P.299

Explanation of the Code No.



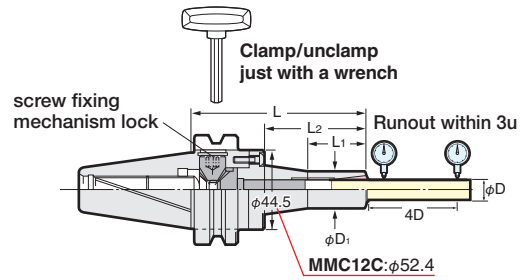
# 3LOCK MBT MINI-MINI CHUCK ADVANCED ALPHA

**NIKKEN**



The best chuck for the small dia. cutting tool

30,000r/min  
Gripping from Front Nose  
Run-Out Accuracy : 3µm at 4D



MMC12C:φ52.4

MMC

High Speed

JAPAN PAT.

TAPER	Code No.	Chucking Range φD	φD <sub>1</sub>	L	L <sub>1</sub>	L <sub>2</sub>	Collet	MAX. (r/min)	Weight (kg)
No.40	MBT40-MMC 4 - 90-AA	1~ 4	15	90	30	43	MPK 4	30,000	1.2
	-MMC 8C- 90-AA	2~ 8	20		36	42	PMK 8 VMK 8		1.4
	-120-AA			120	43	72	PMK12 VMK12		1.5
	-MMC12C- 90-AA	4~12	30	90	35	44			1.7
	-120-AA			120	60	74			1.8
No.50	MBT50-MMC 4 -105-AA	1~ 4	15	105	30	43	MPK 4	20,000	3.8
	-MMC 8C-105-AA	2~ 8	20		36	42	PMK 8 VMK 8		4.4
	-135-AA			135	43	72			4.5
	-165-AA			165	102	4.6			
	-MMC12C-105-AA	4~12	30	105	35	44	PMK12 VMK12		4.6
	-135-AA			135	60	74			4.7
	-165-AA			165	70	104			4.8

Wrench EA573KL-6 : MMCL4, 8 MMCL12-M6W : MMC12(BT30, BT40, HSK50, HSK63)  
MMCL12-M6T62 : MMC12(BT50, HSK100) is attached as standard.

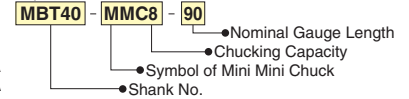
★MPK, PMK, VMK collet is available as an option. Please refer P.290

★Please add "C" for the centre through tool coolant type. e.g. MBT40-MMC8C-90-AA

★Please add "F" for the flange through tool coolant type; MBT40-MMC 8F- 90-AA,120-AA MBT50-MMC 8F-105-AA,135-AA,165-AA  
-MMC12F- 90-AA,120-AA -MMC12F-105-AA,135-AA,165-AA

★Please refer P.289 for MPK, PMK, VMK Coolant Solution.

Explanation of the Code No.



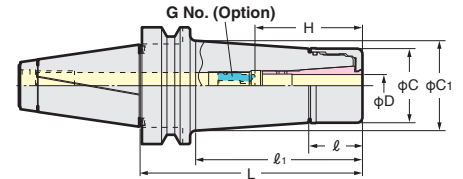
# 3LOCK MBT VC HOLDER

**NIKKEN**



VC

Centre Through  
MAX. 7MPa



High Speed

JAPAN, USA, EU, KOREA PAT.

TAPER	Code No.	D	L	ℓ	ℓ <sub>1</sub>	C	C <sub>1</sub>	H	G No. (Option)	Weight (kg)	MAX. (r/min)	Collet
No.40	MBT40-VC 6- 60	2.0~6.0	60	23	30	27.5	30.0	35~45	VCG 6- 8A	1.1	30,000	VCK 6
	- 90		90		60		32.7			1.3		
	-120		120		90		36.9			1.5		
	-VC13- 60	3.0~12.0	60	31	40.3	50~60	VCG13-15A	1.2				
	- 90		90	29	44.3			1.5				
	-120		120	90	48.5			1.9				
No.50	MBT50-VC 6-105	2.0~6.0	105	23	62	27.5	33.0	35~45	VCG 6- 8A	3.9	20,000	VCK 6
	-135		135		92		37.1			4.1		
	-165		165		122		41.3			4.4		
	-VC13-105	3.0~12.0	105	62	44.6	50~60	VCG13-15A	4.1				
	-135		135	29	48.8			4.5				
	-165		165	122	53.0			4.9				

★Collet, adjust screw (G No.) and GH Handle are available as an option. The Code No. of the GH Handle is VC6: GH10, VC13: GH16

★When the axial stopper is required, please use Adjust Screw (G No.)

★MBT40-VC 6-150, MBT40-VC13-150, MBT50-VC13- 90, -120 are available as semi-standard.

★TiN Bearing Nut is supplied as standard.

★Please add "-RP" at the end of Code No. for Rust Proof Treatment VC Holder. e.g. MBT40-VC13-60-RP

★Please use VC J type Nut & Cap for Centre Through Coolant.

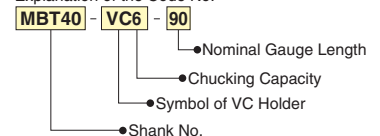
When VC J type Nut is used, the total holder length will be extended to 6mm.

★Please refer P.40 for VCK collet.



Please refer P.299

Explanation of the Code No.





# 3LOCK MODULAR TYPE BORING BASE HOLDER



Q

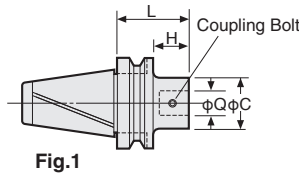


Fig.1

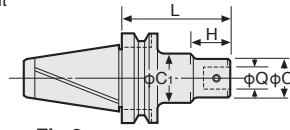


Fig.2

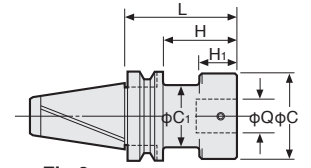
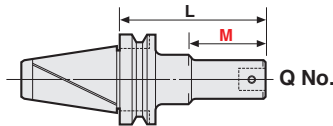


Fig.3

TAPER	Code No.	Coupling $\phi Q$	L	C	C <sub>1</sub>	H	H <sub>1</sub>	Coupling Bolt No.	Fig.	Weight (kg)
No.40	MBT40-Q26- 50,95,140	26	50, 95,140	50	-	20,65,110	-	B26N	1	1.1, 1.7, 2.5
	(MIT40)-Q34- 95,110	34	95,110	64	62	68,83	55,70	B34	3	2.2, 2.6
	-Q42- 95	42	95	83	62	68	55	B42		2.8
No.50	MBT50-Q26- 65,140,170N	26	65,140,170	50	65	27,47,112	-	B26N	1,2,2	3.7, 5.3, 5.4
	(MIT50)-Q34-140,170,200	34	140,170,200	64	80	102,120,150	-	B34		5.6, 6.5, 7.1
	-Q42-125,190	42	125,190	83	-	87,152	-	B42	1	6.5, 9.1

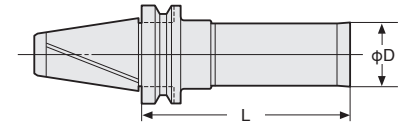
★ $\phi C$  of Q26 base holder has been increased from 45mm to 50mm due to improvement of its rigidity.  
 ★All base holders have a centre through-tool coolant hole.  
 ★The Coupling screw & wrench are supplied as standard.

★MBT50-Q42-225A, 275A, 325A and 375A are the arbor with tapered shape.  
 ★When L length is required longer than standard, please specify the boring depth M.



Q No.

★Blank arbor with 3LOCK shank is available.  
 MIN. order quantity of blank arbor is 5 off.



Please specify ;  
 · Hardness of arbor : Raw or HRC40 $\pm$ 2  
 ·  $\phi D \times L$   
 e.g.  $\phi D=50\text{mm}$ ,  $L=200\text{mm}$  MBT50-BLK50-200

# 3LOCK DJ BORING HEAD with DJ BORING BIT

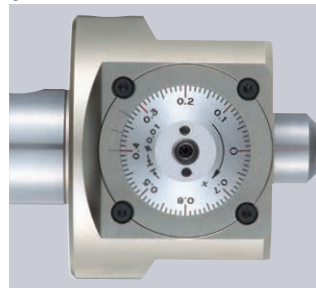


High Pressure Coolant Through type is available Please contact with us.

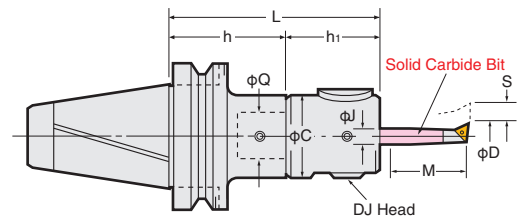
Easy to Set Micron Accuracy



DJ



▲1 Graduation:0.01mm on dia.



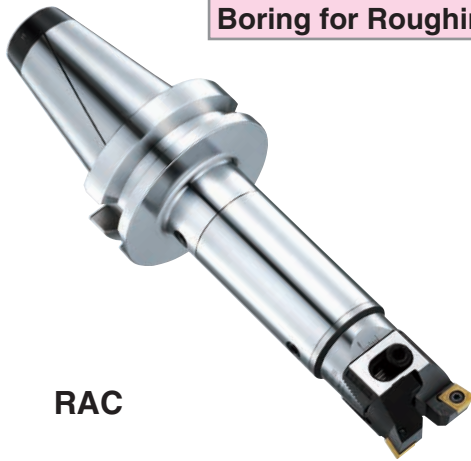
TAPER	Code No.	Boring Range	Boring Depth	L	C	Bit Hole Size	Shank Code No.	Head Code No.	Bit Stroke	Insert Tip Code No.
						J	MBTNo.Q-h	Q-MinD-h <sub>1</sub>		
No.40	MBT40-DJ3- 90A	3~28	14~ 80	90	50	10	MBT40-Q26- 50	Q26-DJ3-40A	5.2	J10
	(MIT40) -135A			135						
	-DJ8- 94AN	3~50	14~130	94	59	16	MBT40-Q26- 50	-DJ8-44AN	6.0	J16
	-139AN			139						
No.50	MBT50-DJ3-105A	3~28	14~ 80	105	50	10	MBT50-Q26- 65	Q26-DJ3-40A	5.2	J10
	(MIT50) -210A			210						
	-DJ8-109AN	3~50	14~130	109	59	16	MBT50-Q26- 65	-DJ8-44AN	6.0	J16
	-214AN			214						

★MIN. dial readout on dia.: 0.01mm, Sub scale: 0.005mm, 0.8mm/rev.  
 ★Each boxed set of DJ3 and DJ8 Boring Bars include 4 pcs of DJ Boring Bits as standard.  
 Bits included for MBT40-DJ8-94A : J16-8-40, J16-18-80, J16-28-85, J16-38-85  
 Bits included for MBT40-DJ8-94AN : J16-8-40, J16-18-60, J16-28-65, J16-38-65  
 ★DJ Boring Bar without Boring Bits is also available. Please add "BD" at the end of Code No. e.g. MBT40-DJ3-90A-BD  
 ★Shank and DJ Head (including Boring Bits) are delivered in separate packages.  
 ★Please refer P.88 for Boring Bits. Please refer P.108 for cutting condition.

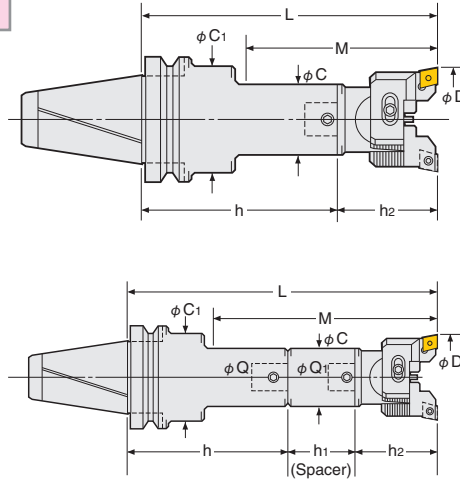
3LOCK

# 3LOCK BALANCE-CUT BORING ARBOR

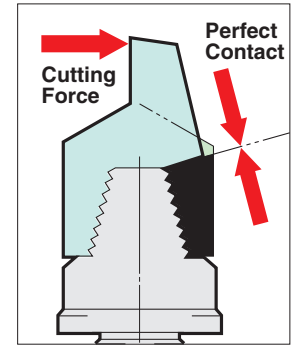
**NIKKEN**



Boring for Roughing



Power of Shoulder Support



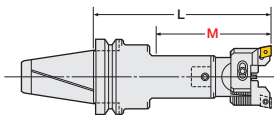
RAC

TAPER	Code No.	Boring Range D	Boring Depth M	Cupling Dia Q	C	C1	P.62		Weight (kg)
							Head No. Q- Min.D -h2	Insert No.	
No.40	MBT40-RAC 25-135E, 165E, 180E	25~32	67, 105, 112	12	24	35	12-RAC 25- 55E	CC07-C	2.0, 2.1, 2.1
	-RAC 32-150E, 180E, 195E	32~45	77, 110, 122	16	31	42	16-RAC 32- 55E	CC08-C	2.4, 2.6, 2.6
	-RAC 43-150E, 180E, 210E	43~55	97, 130, 157	20	40	50	20-RAC 43- 70E	CC12-C	2.7, 2.9, 3.2
	-RAC 53-165E, 210E, 225E	53~70	135, 180, 195	26	50	50	26-RAC 53- 70E		2.5, 3.3, 3.2
	-RAC 70-180E, 195E, 240E	70~100	180, 195, 240	34	64	64	34-RAC 70- 85E		4.8, 5.2, 6.2
	-RAC100-195E	100~130	195	42	83	62	42-RAC100-100E		6.8
No.50	MBT50-RAC 25-150E, 180E, 195E	25~32	67, 105, 112	12	24	44	12-RAC 25- 55E	CC07-C	4.7, 4.9, 4.8
	-RAC 32-180E, 210E, 225E	32~45	77, 110, 122	16	31	50	16-RAC 32- 55E	CC08-C	5.4, 5.6, 5.6
	-RAC 43-180E, 195E, 225E, 240E	43~55	97, 130, 142, 157	20	40	60	20-RAC 43- 70E	CC12-C	5.7, 5.8, 6.1, 6.2
	-RAC 53-210E, 240E, 270E	53~70	117, 182, 177	26	50	65	26-RAC 53- 70E		6.9, 7.0, 7.6
	-RAC 70-255E, 285E, 315E	70~100	205, 235, 265	34	64	80	34-RAC 70- 85E		9.5, 9.9, 10.9
	-RAC100-225E, 290E, 325E *	100~130	225, 290, 325	42	83	83	42-RAC100-100E		12.5, 12.5, 16.5

- ★ "C" grade (Coated) inserts are supplied as standard with the head. P.62 Please refer P.106 for cutting condition.
- ★ Please refer P.160 for base holder, P.90 for spacer and P.67 for head.
- ★ For centre through coolant type, please add "-C" at the end of Code No. e.g. MBT40-RAC53-165E-C
- ★ Cartridges & Insert tips for the Heavy Duty Boring of Iron and Cast Iron (No letter), for Aluminum (A), and for Through Hole & Multiple Sheets (K) are available. Please refer P.68 for cartridges. Please add the letter "No letter", "A" or "K" at the end of Code No. e.g. MBT40-RAC53-165A
- ★ Cartridge & Insert for Alloy Steel (E) is recommended for boring on steel and stainless steel.
- ★ \* : MBT50-RAC100-375E, 425E and 475E are also available.

Code No. of RAC25 and RAC32 with CC inserts are changed to RAC25E and RAC32E.  
Please refer P.59, P.60

★ When L length is required longer than standard, please specify the boring depth M.



High Pressure Coolant Through Tool

# 3BLOCK ZMAC ADVANCED BORING ARBOR (ZMAC-V)

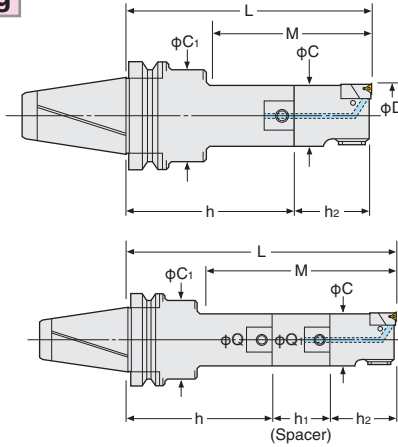
**NIKKEN**

JAPAN PAT.

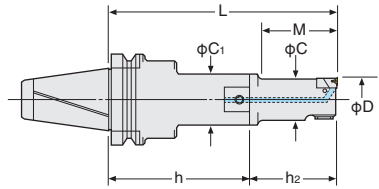
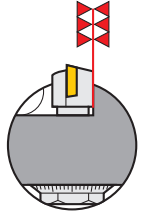
Boring for Finishing



**ZMAC-V**  
Photo shows ZMAC $\alpha$ -V.



No Micro Vibration due to Double-Contact Support of Cartridge. Long Tool-Life & High Accuracy.

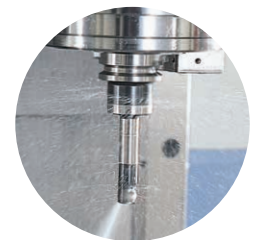
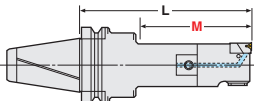


Only for ZMAC16-V

All codes shown are for heads with triangular inserts For heads with rhomboid inserts please add the letter "R" to the code No. e.g. MBT40-ZMAC32 R -150V

TAPER	Code No. MBTNo.- Min.D - L	Boring Range D	Boring Depth M	Cupling Dia M	C	C1	P.109		Weight (kg)
							Head No. Q- Min.D -h2	Insert No.	
No.40	MBT40-ZMAC 16-125V, 135V	15.9~20.2	38, 48	12	15	24	12-ZMAC16-45V, 55V		1.9, 1.9
	-ZMAC 20-120V, 135V, 150V	19.8~25.2	45, 67, 75	9	19	30	9-ZMAC20-40V	3MP-C,B	1.9, 1.9, 2.0
	-ZMAC 25-120V, 150V, 165V	24.8~32.2	52, 90, 97	12	24	35	12-ZMAC25-40V		2.0, 2.1, 2.1
	-ZMAC 32-150V, 180V, 195V	31.8~42.2	77, 110, 122	16	31	42	16-ZMAC32-55V	4MP-C,B	2.5, 2.7, 2.7
	-ZMAC 42-150V, 180V, 210V	41.8~55.2	97, 130, 157	20	40	50	20-ZMAC42-70V	6MP-C,B	3.0, 3.2, 3.5
	-ZMAC 55-165V, 210V, 225V	54.8~70.2	135, 180, 195	26	53	50	26-ZMAC55-70V		3.9, 4.6, 4.6
	-ZMAC 70-165V, 180V, 225V	69.8~85.2	165, 180, 225	34	67	64	34-ZMAC70-70V		5.4, 5.8, 6.8
-ZMAC 85-195V	84.8~100.2	195	42	83	62	42-ZMAC85-100V	9.0		
No.50	MBT50-ZMAC 16-140V, 150V	15.9~20.2	38, 48	12	15	24	12-ZMAC16-45, 55V		4.7, 4.7
	-ZMAC 20-150V, 165V, 180V	19.8~25.2	45, 67, 75	9	19	40	9-ZMAC20-40V	3MP-C,B	4.8, 4.8, 4.9
	-ZMAC 25-135V, 165V, 180V	24.8~32.2	52, 90, 97	12	24	44	12-ZMAC25-40V		4.8, 4.8, 4.9
	-ZMAC 32-180V, 210V, 225V	31.8~42.2	77, 110, 122	16	31	50	16-ZMAC32-55V	4MP-C,B	5.5, 5.6, 5.7
	-ZMAC 42-180V, 195V, 225V, 240V	41.8~55.2	97, 130, 142, 157	20	40	60	20-ZMAC42-70V	6MP-C,B	6.0, 6.0, 6.4, 6.5
	-ZMAC 55-210V, 240V, 270V	54.8~70.2	117, 182, 177	26	53	65	26-ZMAC55-70V		7.5, 7.6, 8.1
	-ZMAC 70-240V, 270V, 300V	69.8~85.2	190, 220, 250	34	67	80	34-ZMAC70-70V		10.0, 10.6, 11.5
	-ZMAC 85-225V, 290V, 315V	84.8~100.2	182, 247, 272				42-ZMAC85-100V		12.5, 15.0, 16.0
	-ZMAC100-225V, 290V*	99.5~140.5	225, 290	42	83	83	42-ZMAC100-100V		13.8, 16.5
-ZMAC140-225V, 290V*	139.5~180.5					42-ZMAC140-100V	14.6, 17.3		

- ★MIN. dial readout : ZMAC25-V & smaller is 0.02mm on diameter. ZMAC32-V and larger are 0.01mm on diameter.
- ★"C" grade (Coated) insert for Steel, Stainless & Cast Iron is supplied as Standard with the head (Smooth boring & Long tool-life). We would recommend "B" grade (CBN) insert for Hardened Steel & High Speed boring of Cast Iron. Please refer P.107 for cutting condition.
- ★Please refer P.160 for Shank, and P.90 for Spacer, and P.75 for Head.
- ★Centre Through Coolant function is available as standard.
- ★\* : MBT50-ZMAC100-325V, 375V, 425V, 475V are also available.  
MBT50-ZMAC140-325V, 375V, 425V, 475V
- ★When L length is required longer than standard, please specify boring depth M.



High Pressure Coolant Through Tool

**High Speed Boring ZMAC $\alpha$ -V**  
Special Hardened Light Alloy Metal Head with Balancing for Anti-Vibration.  
MAX12,000r/min

**ZMAC-V for Multi-Stage Boring Bar**

Please contact us for the special boring bar.



Photo. shows NC5 shank.

Please add "AA" at the end of Code No. for the boring arbor with ZMAC $\alpha$ -V head. P.76 e.g. MBT40-ZMAC42-150AAV

3BLOCK

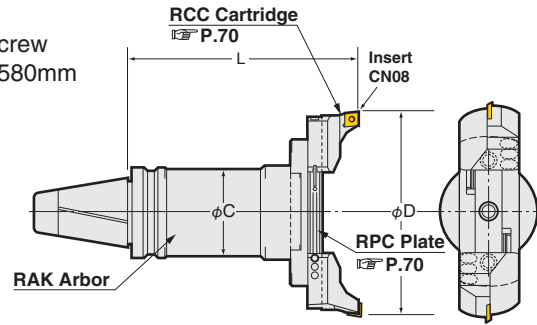
# 3LOCK BALANCE-CUT RAC BORING ARBOR for LARGE DIA. NIKKEN



RAC

## For Roughing

- With slight adjust screw
- Boring Dia:  $\phi 130 \sim 580\text{mm}$



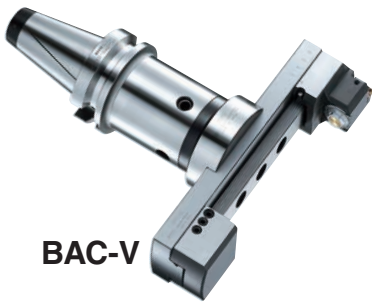
P.62

Boring Dia:  $\phi 130 \sim 580\text{mm}$  for Roughing.

TAPER	Code.No	D		L	C	Arbor No.	RPC Plate No.	Cartridge No. for Large dia.	Weight (kg)
		MIN.	MAX.						
No.40	MBT40 -RAC130-205	130	180	205	61	MBT40-RAK-130A	RPC-130		6.8
	(MIT40)-RAC180-205	180	230				-180		7.8
No.50	MBT50 -RAC130-185, 235, 285	130	180	185, 235, 285	90	MBT50-RAK-110A, -160A, -210A	RPC-130	For Heavy Duty Boring of Iron and Cast Iron	11.3, 12.8, 15.8
	(MIT50)-RAC180-185, 235, 285	180	230				-180		11.8, 13.3, 16.3
	-RAC230-185, 235, 285	230	280				-230		12.3, 13.8, 16.8
	-RAC280-185, 235, 285	280	330				-280		12.8, 14.3, 17.3
	-RAC330-210*	330	380	210 (220*)	98	MBT50-RAK330-125 MIT50-RAK330-135	RPC-330	RCC-130 x2 Insert Tip CN08	15.5
	-RAC380-210*	380	430				-380		16.5
	-RAC430-210*	430	480				-430		17.5
	-RAC480-210*	480	530				-480		18.5
	-RAC530-210*	530	580				-530		19.5

- ★The Code No. on above table are the boring arbors with RCC-130 cartridge (Insert tip: CN08) the Heavy Duty Boring of Iron and Cast Iron. Please refer P.106 for cutting condition.
- ★Boring arbor with cartridges & insert for Steel, Stainless Steel and Cast Iron (E), for Aluminum (A) and for Through Hole & Multi Sheets (K) are available. Please refer P.70 for cartridges. e.g. MBT50-RAC130-185E
- ★Please refer P.70 for Arbor (RAK) and Plate (RPC).
- ★Arbor, Plate and Cartridge are delivered in separate packages.
- ★When ordering, please let us know machine maker and model no. to avoid the interference with tool magazine of ATC.
- ★The location of cutting edge is same as drive key in standard.
- ★The different location is available, please specify  $\theta$  in Code No. e.g. MBT50-RAC180-235 (90°)
- ★The boring arbors marked \* with MIT50, L (gauge length) is 220. e.g. MIT50-RAC330-220

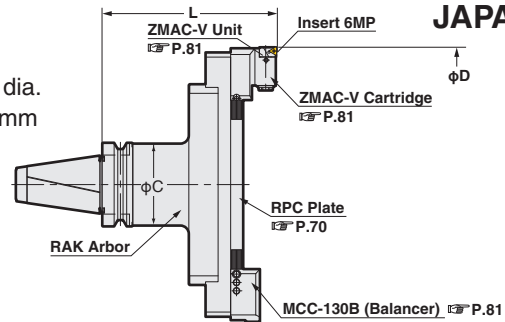
# 3LOCK BALANCE-CUT BAC ADVANCED BORING ARBOR for LARGE DIA. NIKKEN



BAC-V

## For Finishing

- Min. dial read out: main scale dia. 0.02mm, sub scale dia. 0.002mm
- Boring Dia:  $\phi 130 \sim 595\text{mm}$



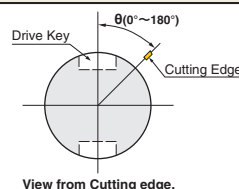
JAPAN PAT.

P.109

Boring Dia:  $\phi 130 \sim 595\text{mm}$  for Finishing.

TAPER	Code.No	D		L	C	Arbor No.	RPC Plate No.	Cartridge (Balancer)	Weight (kg)
		MIN.	MAX.						
No.40	MBT40 -BAC130-205V	130	195	205	61	MBT40-RAK-130A	RPC-130		6.8
	(MIT40)-BAC180-205V	180	245				-180		7.8
No.50	MBT50 -BAC130-185V, 235V, 285V	130	195	185, 235, 285	90	MBT50-RAK-110A, -160A, -210A	RPC-130	MCCZ-130V (MCC-130B)	13.0, 14.5, 17.5
	(MIT50)-BAC180-185V, 235V, 285V	180	245				-180		13.5, 15.0, 18.0
	-BAC230-185V, 235V, 285V	230	295				-230		14.0, 15.5, 18.5
	-BAC280-185V, 235V, 285V	280	345				-280		14.5, 16.0, 19.0
	-BAC330-210V*	330	395	210 (220*)	98	MBT50-RAK330-125 MIT50-RAK330-135	RPC-330	Insert Tip 6MP	16.2
	-BAC380-210V*	380	445				-380		16.5
	-BAC430-210V*	430	495				-430		17.5
	-BAC480-210V*	480	545				-480		18.5
	-BAC530-210V*	530	595				-530		19.5

- ★"C" grade (Coated) Inserts are supplied as standard. Please refer P.107 for cutting condition.
- ★Unit "M5HZ-55V" is provided as standard, please refer P.70 for Arbor (RAK) and Plate (RPC).
- ★Arbor, Plate and Cartridge are delivered in separate packages.
- ★When ordering, please let us know machine maker and model no. to avoid the interference with tool magazine of ATC.
- ★The location of cutting edge is same as drive key in standard.
- ★The different location is available, please specify  $\theta$  in Code No. e.g. MBT50-BAC180-235V (90°)
- ★The boring arbors marked \* with MIT50, L (gauge length) is 220. e.g. MIT50-BAC330-220V



# 3LOCK MBT FACE MILL ARBOR / SHOULDER CUTTER ARBOR



**FMA**  
Photo. shows with face mill cutter.

## JIS B4113 Face Mill Cutter

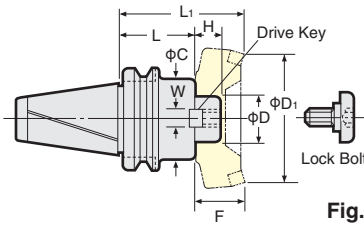


Fig.1

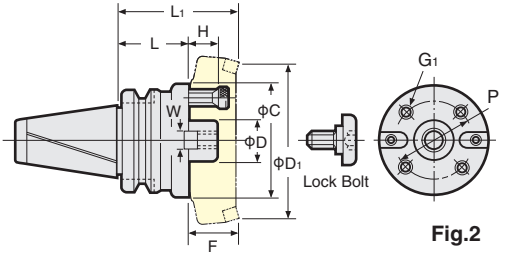


Fig.2

TAPER	Code No. (φD -L)	Arbor			Weight (kg)	With Cutter			Drive Key	Lock Bolt	Fig.
		H	C	W		L1	D1	F			
<b>No.40</b>	<b>MBT40-FMA25.4 -45</b>	22	50	9.5	1.5	80	50	FW 5	FM12	1	
	<b>-FMA25.4 -90</b>				3.1						
	<b>-FMA31.75 -45</b>	30	60	12.7	1.7	100	60	FW13	FM16		
	<b>-FMA31.75 -75</b>				3.1						
	<b>-FMA38.1 -60</b>				2.9						
<b>No.50</b>	<b>MBT50-FMA25.4 -45</b>	22	58	9.5	3.7	80	50	FW 5	FM12		
	<b>-FMA25.4 -90</b>				4.6						
	<b>-FMA25.4 -150</b>				5.5						
	<b>-FMA31.75 -45</b>	30	70	12.7	4.5	100	FW12,13	FM16			
	<b>-FMA31.75 -75</b>				5.3						
	<b>-FMA31.75 -105</b>				6.1						
	<b>-FMA38.1 -45</b>	34	80	15.9	4.3	105	60	FW18,19	FM20		
	<b>-FMA38.1 -75</b>				5.6						
	<b>-FMA50.8 -45</b>	36	100	19	4.9	135	160	FW23,24	FM24		
	<b>-FMA50.8 -75</b>				6.8						
	<b>-FMA47.625-75*</b>	38	128.57	25.4	7.7	200	FW26	*	2		

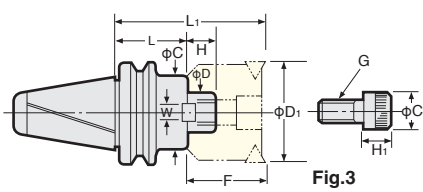


Fig.3

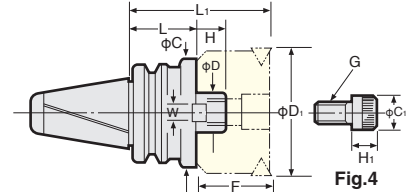


Fig.4

## FMC

TAPER	Code No. (φD -L)	Arbor			Weight (kg)	With Cutter				C1	H1	Fig.
		H	C	W		L1	D1	F	G Cap Bolt			
<b>No.40</b>	<b>MBT40-FMC22-45</b>	18	45	10	1.3	50	40	9GM10-30	16	10	3	
	<b>-FMC22-90</b>				2.0							
	<b>-FMC27-60</b>	20	60	12	1.5	80	50	9GM12-35	18	12		
	<b>-FMC27-90</b>				2.2							
	<b>-FMC32-60</b>				2.3							
<b>-FMC32-75</b>	22	85	14	2.6	125	125	9GM16-35	24	16			
<b>No.50</b>	<b>MBT50-FMC22-60</b>	18	45	10	4.2	50	40	9GM10-30	16	10		
	<b>-FMC22-105</b>				4.7							
	<b>-FMC22-150</b>				5.3							
	<b>-FMC27-45</b>	20	70	12	4.1	80	50	9GM12-35	18	12		
	<b>-FMC27-90</b>				5.5							
	<b>-FMC27-150</b>				7.3							
	<b>-FMC32-45</b>	22	85	14	4.2	125	125	9GM16-35	24	16		
	<b>-FMC32-75</b>				5.5							
	<b>-FMC32-105</b>				7.0							

★Drive keys, L wrench and bolt are supplied as standard.

★The arbor weight is only for the arbor.

★The different type of the cap bolt may be used for the recent cutter. Please check the specification.

★The arbor marked \* requires 4 fixing bolts (FMA47.625 : M16, P=101.6)

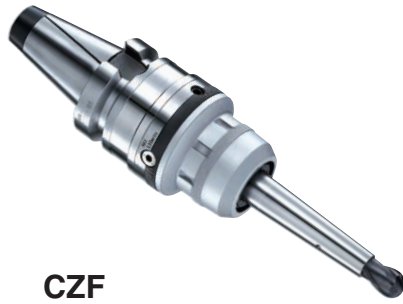
★Extended length is available as an option. MBT50-FMA25.4 -200, 250, ...500

-FMA31.75-150, 200, ...500

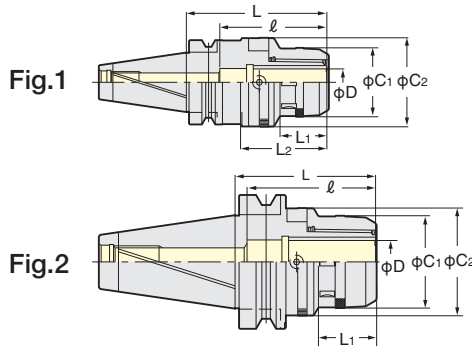
-FMA38.1 -150, 200, ...500



# 3LOCK MBT ZERO FIT TYPE MILLING CHUCK



CZF



Explanation of the Code No.

MBT40 - CZF20 - 105

- Nominal Gauge Length
- Chucking Capacity  $\phi D$
- Zero Fit Type Milling Chuck
- Shank No.

JAPAN, USA, UK,  
GERMANY, KOREA,  
TAIWAN PAT.

TAPER	Code No.	C1	C2	L	L1	L2	l	Weight(kg)	Fig.	Collet
No.40	MBT40-CZF20-105, 120	51.5	66.5	105, 120	35	64.5	80	2.1, 2.5	1	KM20 CCK20
	-CZF25-105, 120	59.5	74.5					2.4, 2.9		KM25 CCK25
	-CZF32-120	69	80.5	120	42	81	105	2.8		KM32 CCK32
No.50	MBT50-CZF20-105, 165	51.5	66.5	105, 165	35	-	80	4.6, 6.0	2	KM20 CCK20
	-CZF25-105, 165	59.5	74.5					5.0, 6.8		KM25 CCK25
	-CZF32-105, 165	69	80.5	42	105	5.3, 7.4	KM32 CCK32			

★Spanner is available as an option.

CZF20 type : 9HC22, CZF25 type : 9HC25, CZF32 type : 9HC32

★Wrench to adjust run-out(9ZF) is available as an option.

Wrench to adjust  
9ZF



★Please note that the acceptable shank tolerance is h6~h7.

★Please add "P" at the end of Code No. for the high speed type. e.g. MBT40-CZF25-105P

★Please refer P.279, P.280 for KM, CCK collet.

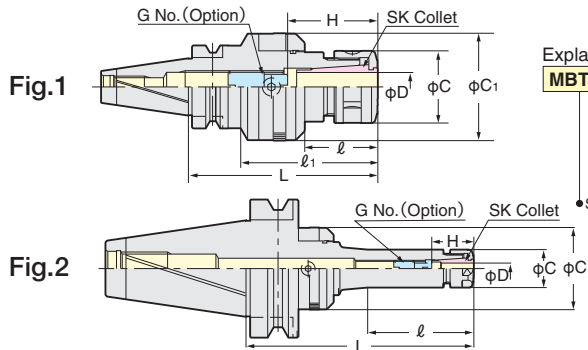
★Please refer P.279 for Milling Chuck Coolant Solution.

★Multi-Cam style is available. e.g. MBT40-CZF32-120-C3. (3 Cams) Please contact us for more detail.

# 3LOCK MBT ZERO FIT TYPE SLIM CHUCK



SZF



Explanation of the Code No.

MBT40 - SZF10 C - 90

- Nominal Gauge Length
- High Pressure Centre Through
- Chucking Capacity
- Zero Fit Type Slim Chuck
- Shank No.

JAPAN, USA, UK,  
GERMANY, KOREA,  
TAIWAN PAT.

•When using SK-A collets or SK-AC collets, or when gripping a cutting tool smaller than the nominal diameter on SK collets, the total length will be shortened by about 3 mm. Please be careful when you check the interference.

TAPER	Code No.	D	L	l	l1	C	C1	H	G No. (Option)	Weight(kg)	Fig.	Collet
No.40	MBT40-SZF 6C- 90,150	0.7~6.0	90, 150	37, 60	-	19.5	40.5, 48.5	26~31	SKG 6- 6HG	1.3, 1.7	2	SK 6
	-SZF10C- 90,150	1.75~10.0		37, 97		27.5	48.5	35~41	SKG10-10HG	1.5, 1.9		SK10
	-SZF16C- 90,150	2.75~16.0	40	59.5	45~57	SKG16-12HG	1.8, 2.2	SK16				
	-SZF25C-120,150	7.5~25.4	120, 150	55, 86	84, 114	55	66.5	60~65	SKG25-18HGD	2.4, 2.9	1	SK25
No.50	MBT50-SZF 6C-105,165	0.7~6.0	105, 165	41, 63	-	19.5	40.5, 59.5	26~31	SKG 6- 6HG	4.0, 4.2	2	SK 6
	-SZF10C-105,165	1.75~10.0		41, 101		27.5	48.5	35~41	SKG10-10HG	4.5, 4.9		SK10
	-SZF16C-105,165	2.75~16.0	40	59.5	45~57	SKG16-12HG	5.0, 5.4	SK16				
	-SZF25C-135,165	7.5~25.4	135, 165	71, 101	55	66.5	60~70	SKG25-24HG	5.8, 6.0	SK25		

★Adjust screw(G No.), wrench to adjust run-out(9ZF) and SKL spanner are available as an option. SZF6C: SKL-6W, SZF10C: SKL-10, SZF16C: 9HC16, SZF25C: 9HC25

★Please use "P" class or "A" type SK collet. P.283

★For centre through coolant application please use SK J type nut and cap for your preference. Please note that the length of J type nut is 6mm longer than the standard SK Nut. P.285

★For High Speed type, Code No. is "SZF-P". e.g. MBT40-SZF10C-90P

In this case, GH Handle is required. P.299

★Multi-Cam style is available. e.g. MBT40-SZF16C-90-C3. (3 Cams) Please contact us for more detail.

★Please refer P.285 for SK, MDSK Coolant Solution.

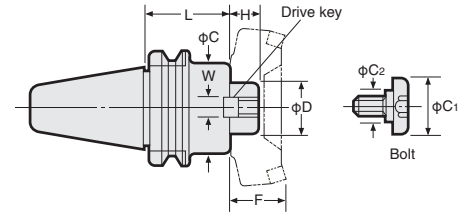
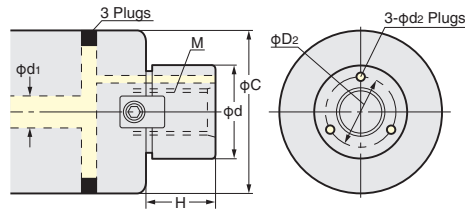


• Drill chuck, side lock holder or morse taper sleeve are not supplied with 3LOCK shank. To prevent the swarf contamination to the gap between spindle flange and tool flange, these kinds of chucks with 2LOCK shank is available.

# 3LOCK MBT FMH FACE MILL ARBOR



■ For Oil Hole Cutter For High Feed Cutter



Code No.	Cutter Dia.	φd	φC	M	H	Coolant Hole		
						φD2	φd1	φd2
<b>FMH22 (22.225)</b>	φ50, φ52	22(22.225)	47	M10 P1.5	18(17)	16	6~8	3
	φ63, φ66		60					
<b>FMH27 (25.4)</b>	φ80	27(25.4)	76(70)	M12 P1.75	20(22)	19.5(18.5)	8~10	3.5
<b>FMH32 (31.75)</b>	φ100	32(31.75)	96	M16 P2.0	22(30)	24	10~13	4
<b>FMH40 (38.1)</b>	φ125	40(38.1)	100	M20 P2.5	26(34)	30(29)	10~15	5
<b>FMH50.8</b>	φ160	50.8		M24 P3.0	36	37.5	15~20	7

★Fixing dimension is basically based on FMA/FMC. ★The combination of the other cutter dia. are also available.

## FMH High Feed Cutter Arbor with Coolant Hole

TAPER	Code No. (φD-φC-L)	Arbor							Weight (kg)	Drive Key	Lock Bolt	G Cap Bolt
		H	C	W	C1	C2	H1	H2				
<b>No.40</b>	<b>MBT40-FMH22 - 47(60)-45</b>	18	47(60)	10	16		10		1.3(1.4)	FW 8		9GM10-30
	<b>-FMH27 - 60(76)-60</b>	20	60(76)	12	18	—	12	—	1.8(2.2)	FW11	—	9GM12-35
	<b>-FMH32 - 96-60</b>	22	96	14	24		16		2.9	FW16		9GM16-35
	<b>-FMH40 -100-60</b>	26	100	16	50	27	14	6	3.1	FW22	FM20	—
<b>No.50</b>	<b>MBT50-FMH22 - 47(60)-60</b>	18	47(60)	10	16		10		4.2(4.5)	FW 8		9GM10-30
	<b>-FMH27 - 60(76)-45</b>	20	60(76)	12	18	—	12	—	3.9(4.1)	FW10	—	9GM12-35
	<b>-FMH32 - 96-45</b>	22	96	14	24		16		4.2	FW15		9GM16-35
	<b>-FMH40 -100-45</b>	26	100	16	50	27	14	6	5.1	FW20	FM20	—
	<b>-FMH50.8-100-45</b>	36		19	65	37			10	4.4	FW23	

★FMH22.225, FMH25.4, FMH31.75, FMH38.1 are also available.

★For FMH22, there are two types of φC, φ47 and φ60.  
For FMH27, there are two types of φC, φ60 and φ76.

# 3LOCK SPINDLE FLANGE CLEANER

**NIKKEN**



CLEF

Spindle Flange Cleaner for **3LOCK** Tooling and NC5 Tooling.

■ Let's clean your spindle flange just before the fine machining to keep ATC repeatability accuracy higher.

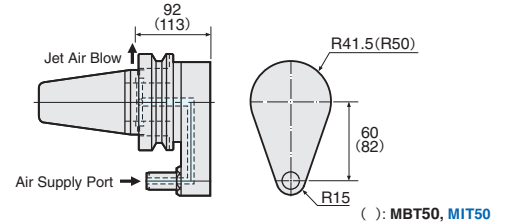
Do not rotate your spindle, just supply the 0.5MPa dry air from the stopper block in approx. 30sec., then the intermittent jet air blow from the spindle flange cleaner will clean your spindle flange surface.

**MBT40-CLEF- 92**

**MBT50-CLEF-113**

**MIT40-CLEF- 92**

**MIT50-CLEF-113**



★Stopper Block is not included. When ordering, please specify the name of M/C builder, model No. and the drawing of the spindle flange. **P.324**

# SPINDLE TAPER CLEANER

**NIKKEN**



CLE

■ Let's clean your spindle taper just before the fine machining.

Rotate your spindle at 50~150r/min, then the spindle cleaner will rotate to clean your spindle taper.

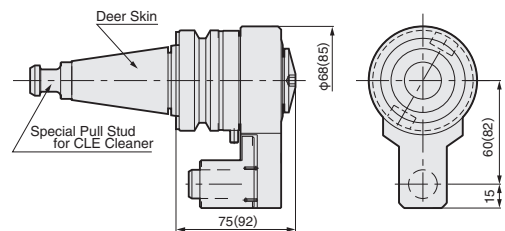
Please be careful, MAX. rotation speed of your spindle is 150r/min.

**BT40-CLE-100**

**BT50-CLE-120**

**IT40-CLE-100**

**IT50-CLE-120**



★Special Pull Stud for CLE Cleaner is supplied as standard. Please specify the Pull Stud Code No.

★Stopper Block is not included. When ordering, please specify the name of M/C builder, model No. and the drawing of the spindle flange. **P.324**

# AUTOMATIC OIL SUPPLY HOLDER

**NIKKEN**



ZP

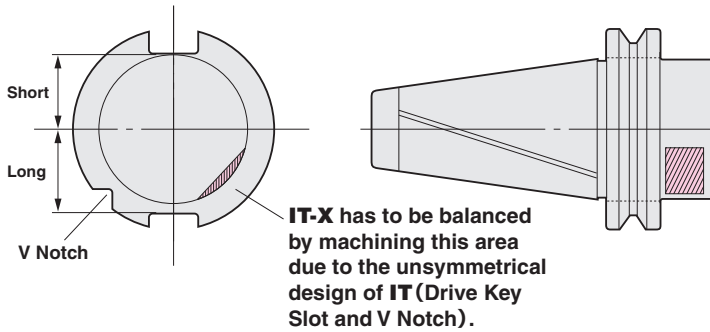
■ For Improvement of Tap run-out accuracy and extended tap life.

Automatic oil or grease supply of a required amount can be done with this holder before your tapping operation.

TAPER	Code No.	φD <sub>1</sub>	φD <sub>2</sub>	L	Capacity of tank	Discharge /Stroke	Weight (kg)	Nozzle (Standard Accessories)
<b>No.30</b>	<b>BT30-ZP60-200</b>	60	64	200	100cm <sup>3</sup>	0~3.0cm <sup>3</sup>	1.2	ZP-10, ZP-10G, ZP-20
<b>No.40</b>	<b>BT40-ZP80-279</b>	80	84	279	300cm <sup>3</sup>	0~3.5cm <sup>3</sup>	3.3	ZP-10, ZP-10G, ZP-20, ZP-30
<b>No.50</b>	<b>BT50-ZP95-312</b>	96	100	312	500cm <sup>3</sup>	0~3.5cm <sup>3</sup>	6.0	



## What is MIT Shank Tooling?



MIT Shank is **3LOCK SYSTEM** for IT shank. IT shank is based on ISO 7388/1-'83 (DIN69871-'90) and its flange has an unsymmetrical shape.

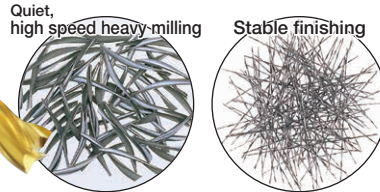
- Depth of Drive Key Slots are different.
- V Notch on one side.

Therefore, MIT shank Multi-Lock Milling Chuck, MINI-MINI Chuck, Slim Chuck and VC Holder have a flat cut just under the V flange for mass balancing as standard.

## 3LOCK MIT MULTI LOCK MILLING CHUCK

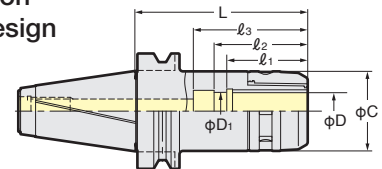


The cutting chips show us the actual machining capability.



### ANNIVERSARY Type

- Powerful gripping torque -
- High rigidity
- High precision
- Compact design



TAPER	Code No.	C <sub>1</sub>	D	D <sub>1</sub>	L	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	Collet	Weight (kg)
No.40	MIT40-C12- 90	33	12	12	90	48	53	58	KM12 CCK12	1.6
	-120* <sup>1</sup>				120					1.9
	-C16- 60	44	16	16	60	51	58	65	KM16 CCK16	1.4
	- 90* <sup>1</sup>				90					1.7
	-120				120					2.0
	-C20- 80	52	20	20	80	59	66	80	KM20 CCK20 CCNK20 NK20	1.6
	- 90				90					1.8
	-120				120					2.2
	-C25- 85	60	25	25	85	61	70	75	KM25 CCK25 CCNK25 NK25	2.1
	-120				120		72	80		2.5
-C32- 95*	64	32	25	95	67	82	-	KM32 CCK32 CCNK32 NK32	2.1	
-105				105		81	95		2.5	
-120				120		77	107		2.8	
No.50	MIT50-C12-105	33	12	12	105	48	53	58	KM12 CCK12	4.0
	-165* <sup>1</sup>				165					4.6
	-C16-105	44	16	16	105	51	58	65	KM16 CCK16	4.2
	-165* <sup>1</sup>				165					4.8
	-200* <sup>1</sup>				200					5.1
	-C20-105	52	20	20	105	59	66	80	KM20 CCK20 CCNK20 NK20	4.5
	-165* <sup>1</sup>				165					5.1
	-200* <sup>1</sup>				200					5.7
	-C25-105	60	25	25	105	61	72	80	KM25 CCK25 CCNK25 NK25	4.8
	-135* <sup>1</sup>				135					5.2
	-165* <sup>1</sup>				165					5.6
	-C32- 90	69	32	25	90	70	81	107	KM32 CCK32 CCNK32 NK32	4.3
	-105				105					4.6
	-120				120					5.1
	-135				135					5.6
	-165				165					6.4
	-C42- 95*	86	42	42	95	74	80	85	KM42 CCK42 CCNK42 NK42	5.5
	-120* <sup>1</sup>				100		110	6.6		
-135* <sup>1</sup>	115				125		7.2			
-165* <sup>1</sup>	135				125		7.2			
	165				115		125	8.6		

★Spanner is available as an option. C12(φ30) : 9HC12, C12A(φ33) : 9HC12A, C16:9HC16, C20:9HC20, C25:9HC25, C32&φC1=64:9HC25, C32:9HC32, C42:9HC42  
 ★Please note the acceptable shank tolerance is h7.  
 ★Please refer P.280, P.281 for KM, CCK and CCNK collets.  
 ★For heavy duty milling, please grip the end mill shank longer than l<sub>1</sub>.  
 ★Stopper for direct chucking can not be used for MIT40-C32-95\* and MIT50-C42-95\* The Code No. of the stopper C20:9MC20, C25:9MC25, C32:9MC32, C42:9MC42  
 ★NK and CCNK Collet can not be used for MIT50-C42-95\*.  
 ★MIT Milling Chucks marked \*1 are available as an option.  
 ★MIT50-C32-200, 250 and MIT50-C42-200, 250 are available as an option.  
 ★C22 style is available.  
 ★Please add 'F' for the flange through tool coolant type; MIT40-C20F- 90, MIT50-C20F-105  
 -C25F- 90, -C25F-105  
 -C32F-105, -C32F-105  
 -C42F-120  
 ★Please refer P.279 for Milling Chuck Coolant Solution.

# 3LOCK MIT HIGH SPEED MILLING CHUCK



**NIKKEN**



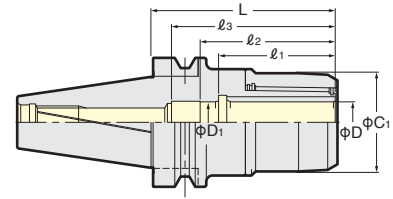
**C-G**

Centre Through  
MAX. 7MPa

**ANNIVERSARY Type**

– Powerful gripping torque –

- High rigidity
- High precision
- Compact design



## High Speed

TAPER	Code No.	C <sub>1</sub>	D	D <sub>1</sub>	L	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	MAX. (r/min)	Collet	Weight (kg)
No.40	MIT40-C12- 90G	33	12	12	90	48	53	58	30,000	KM12 CCK12	1.6
	-C16- 60G	44	16	16	60	50	57	65	25,000	KM16 CCK16	1.4
	-C20- 80G	52	20	20	80	59	66	80	25,000	KM20 CCK20 CCNK20	1.6
	-C25- 85G	60	25	25	85	61	70	75	20,000	KM25 CCK25 CCNK25	2.1
	-C32- 95G*	64	32	25	95	67	82	-	20,000	KM32 CCK32 CCNK32	2.1
	-105G				105						81
No.50	MIT50-C12-105G	33	12	12	105	48	53	58	20,000	KM12 CCK12	4.0
	-C16-105G	44	16	16		51	58	65	20,000	KM16 CCK16	4.2
	-C20-105G	52	20	20		59	66	80	20,000	KM20 CCK20 CCNK20	4.5
	-C25-105G	60	25	25		61	72	80	20,000	KM25 CCK25 CCNK25	4.8
	-C32- 90G*	69	32	25	90	70	81	107	15,000	KM32 CCK32 CCNK32	4.3
	-105G				105						4.6
	-120G				120						5.1
	-C42- 95P*	86	42	42	95	74	80	85	15,000	KM42 CCK42 CCNK42	5.5

- ★Please note the acceptable shank tolerance is h6.
- ★GH Handle is available as an option. P.299
- C12G : GH12, C16G : GH16, C20G : GH20, C25G : GH25, C32G : GH32
- ★Spanner for C42P is 9HC42.
- ★Please note the acceptable shank tolerance is h7.
- ★Please refer P.280, P.281 for KM, CCK and CCNK collets.
- ★For heavy duty milling, please grip the end mill shank longer than l<sub>1</sub>.
- ★Stopper for direct chucking can not be used for MIT40-C32- 95\* and MIT50-C42- 95\*
- The Code No. of the stopper C20:9MC20, C25:9MC25, C32:9MC32, C42:9MC42
- ★NK and CCNK Collet can not be used for MIT50-C42- 95\*.
- ★Please refer P.279 for Milling Chuck Coolant Solution.



Explanation of the Code No.

MIT40

-C20-

70

G

- Symbol of High Speed
- Nominal Gauge Length
- Chucking Capacity
- Symbol of Milling Chuck
- Shank No.

# 3LOCK MIT MINI-MINI CHUCK ADVANCED ALPHA

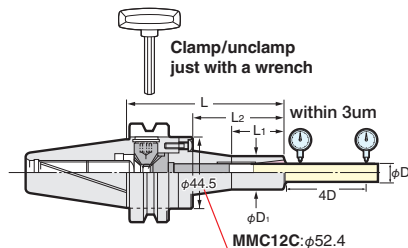
**NIKKEN**



Centre Through  
MAX. 7MPa

The best chuck for  
the small dia. cutting tool

MAX. 30,000r/min  
Gripping from Front Nose  
Run-Out Accuracy: 3µm at 4D



JAPAN PAT. ★ : MMC12=φ52.4

## MMC

TAPER	Code No.	Chucking Range φD	L	φD <sub>1</sub>	L <sub>1</sub>	Collet	MAX. (r/min)	Weight (kg)
No.40	MIT40-MMC 8C- 90-AA	2~ 8	90	20	33	PMK 8	30,000	1.4
	-120-AA		40		PMK 8	1.5		
	-MMC12C- 90-AA	4~12	90	30	35	PMK12	30,000	1.7
	-120-AA		120		60	VMK12		1.8
No.50	MIT50-MMC 8C-105-AA	2~ 8	105	20	33	PMK 8	20,000	4.4
	-135-AA		135		PMK 8	4.5		
	-165-AA		165		4.6			
	-MMC12C-105-AA	4~12	105	30	35	PMK12	20,000	4.6
	-135-AA		135		60	VMK12		4.7
	-165-AA		165		70	4.8		

- ★Wrench EA573KL-6 : MMCL4, 8 MMCL12-M6W : MMC12(MIT40) : MMCL12-M6T62 : MMC12(MIT50) is attached as standard.
- ★MPK, PMK, VMK collet is available as an option. Please refer P.290
- ★Please add "F" for the flange through tool coolant type; MIT40-MMC 8F-90-AA,120-AA -MIT50-MMC 8F-105-AA,120-AA -MMC12F-90-AA,120-AA -MMC12F-105-AA,120-AA
- ★Please refer P.289 for MPK, PMK, VMK Coolant Solution.

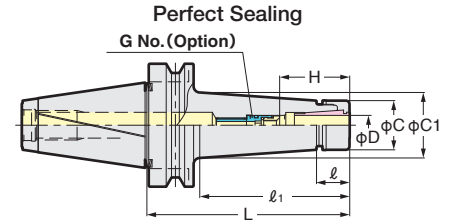
# 3LOCK MIT SLIM CHUCK



High precision  
High speed  
Powerful gripping



Dampening effect  
+  
Jet Spray Coolant Supply  
||  
Over 3 times of extended Tool life  
(for HSS & Carbide Drills)



- When SK J type nut is used, the total chuck length will be extended by 6mm. **JAPAN, USA, EU, KOREA PAT.**
- When using SK-A collets or SK-AC collets, or when gripping a cutting tool smaller than the nominal diameter on SK collets, the total length will be shortened by about 3 mm. Please be careful when you check the interference.

TAPER	Code No.	D	L	ℓ	ℓ <sub>1</sub>	C	C <sub>1</sub>	H	G No. (Option)	Weight (kg)	SK Collet
No.40	MIT40-SKT 6C- 90	0.7~6.0	90	19.8	60	19.5	25.2	26~31	SKG 6- 6HG	1.1	SK 6
	-120		120		90		29.4			1.4	
	-SKT10C- 90	0.9~10.0	90	22	60	27.5	32.9	35~41	SKG10-10HG	1.2	SK10
	-120		120		90		37.1			1.4	
	-SKT13C- 90	2.75~13.0	90	26	52	33.0	36.6	39~51	SKG13-10HG	1.6	SK13
	-120		120		85		41.2			1.6	
	-150	150	110	44.7	1.8						
	-SKT16C- 90	2.75~16.0	90	27	60	40.0	44.7	45~57	SKG16-12HG	1.5	SK16
	-120		120		90		48.9			1.7	
	-150	150	120	53.1	1.9						
	-SKT20C- 90	3.5~20.0	90	28.5	60	48.5	53.0	47~63	SKG20-18HG	1.6	SK20
	-120		120		92		57.4			2.0	
-SKT25C- 90	7.5~25.4	90	31	62.6	55.0	59.5	60~65	SKG25-18HGD	1.8	SK25	
-120		120		92.2		59.3			2.4		
No.50	MIT50-SKT 6C-105	0.7~6.0	105	19.8	62	19.5	25.5	26~31	SKG 6- 6HG	3.8	SK 6
	-165		165		122		33.8			4.0	
	-SKT10C-105	0.9~10.0	105	22	62	27.5	33.1	35~41	SKG10-10HG	4.2	SK10
	-165		165		122		41.5			4.6	
	-SKT13C-105	2.75~13.0	105	26	65	33.0	38.4	39~51	SKG13-10HG	4.0	SK13
	-165		165		125		46.8			4.3	
	-SKT16C-105	2.75~16.0	105	27	62	40.0	44.9	45~57	SKG16-12HG	4.7	SK16
	-165		165		122		53.3			5.1	
	-SKT20C-105	3.5~20.0	105	28.5	62	48.5	53.2	47~63	SKG20-18HG	4.3	SK20
	-165		165		122		61.6			5.0	
	-SKT25C-105	7.5~25.4	105	31	62	55.0	59.4	60~70	SKG25-24HG	5.2	SK25
	-165		165		122		67.8			5.6	

★Collet, adjust screw(G No.)and GH Handle are available as an option.  
The Code No. of the GH Handle is SKT6C-P: GH6, SKT10C-P: GH10, SKT13C-P: GH12, SKT16C-P: GH16, SKT20C-P: GH20, SKT25C-P: GH25

★Please refer P.283 for SK collet and please refer P.41 for J type nut, .

★All chucks are high pressure centre through tool coolant type.

SK6C:φ4~φ6, SK10C:φ6~φ10, SK16C:φ10~φ16, SK25C:φ16~φ25

★Please add "F" for the flange through tool coolant type;

MIT40-SK 6F- 90,120 MIT50-SK 6F-105,165

-SK10F- 90,120 -SK10F-105,165

-SK13F- 90,120 -SK13F-105,165

-SK16F- 90,120 -SK16F-105,165

-SK25F-120 -SK25F-105,165

★Please refer P.285 for SK, MDSK Coolant Solution.



High Speed SLIM CHUCK

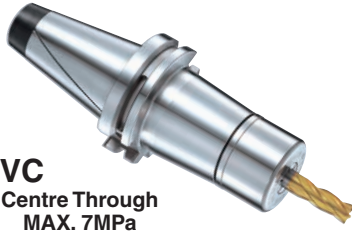


GH Handle P.299

Code No.	MAX. (r/min)	Code No.	MAX. (r/min)
MIT40-SKT 6C- 90P, 120P	30,000	MIT50-SKT 6C-105P, 165P	20,000
-SKT10C- 90P, 120P		-SKT10C-105P, 165P	
-SKT13C- 90P, 120P		-SKT13C-105P, 165P	
-SKT16C- 90P, 120P	25,000	-SKT16C-105P, 165P	15,000
-SKT20C- 90P, 120P		-SKT20C-105P, 165P	
-SKT25C- 90P, 120P	20,000	-SKT25C-105P, 165P	15,000

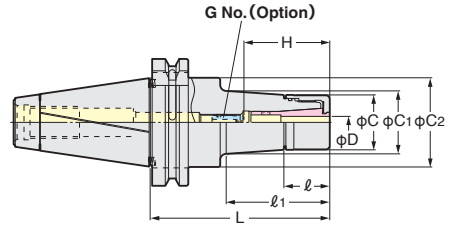
★The extended gauge length(L) is available. Please contact with us.

# 3LOCK MIT VC HOLDER



**VC**  
Centre Through  
MAX. 7MPa

With TiN Bearing Nut  
MAX.40,000r/min  
Run-Out Accuracy:3µm at 4D



JAPAN, USA, EU, KOREA PAT.

TAPER	Code No.	D	L	l	l <sub>1</sub>	C	C <sub>1</sub>	C <sub>2</sub>	H	G No. (Option)	Weight (kg)	MAX. (r/min)	Collet	
No.40	MIT40-VC 6- 60	2.0~6.0	60	23	23	27.5	27.5	44.7	35~45	VCG 6- 8A	1.1	30,000	VCK 6	
	- 90		90		51.9		31.5				1.3			
	-120		120		81.9		35.7				1.5			
	-VC13- 60	3.0~12.0	60	29	70	40	40.0		50~60	VCG13-15A	1.2		1.5	VCK13
	- 90		90	70	44.7	1.9								
	-120		120	100										
No.50	MIT50-VC 6-105	2.0~6.0	105	23	64.9	27.5	33.4	70.1	35~45	VCG 6- 8A	3.9	20,000	VCK 6	
	-135		135		94.9		37.6				4.1			
	-165		165		124.9		41.8				4.4			
	-VC13-105	3.0~12.0	105	29	64.9	40	45.0		50~60	VCG13-15A	4.1		4.5	VCK13
	-135		135	94.9	49.2	4.5								
	-165		165	124.9	53.4	4.9								

- ★TiN Bearing Nut is supplied as standard.
- ★When the axial stopper is required, please use Adjust Screw (G No.).
- ★Please add "-RP" at the end of Code No. for Rust Proof Treatment VC Holder. e.g. MIT40-VC13-60-RP
- ★Please use VC J type Nut & Cap for Centre Through Coolant.
- ★When VC J type Nut is used, the total holder length will be extended to 6mm.
- ★MIT40-VC 6-150, MIT40-VC13-150, MIT50-VC13- 90, -120 are available as semi-standard.
- ★Please refer P.40 for VCK collet.
- ★Collet, Adjust Screw (G No.) and GH Handle are available an option.
- ★All series are for High Speed Rotation.



GH Handle P.299

# 3LOCK MIT FACE MILL ARBOR



Photo. shows with face mill cutter.

JIS B4113 Face Mill Cutter

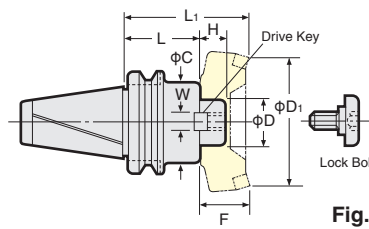


Fig.1

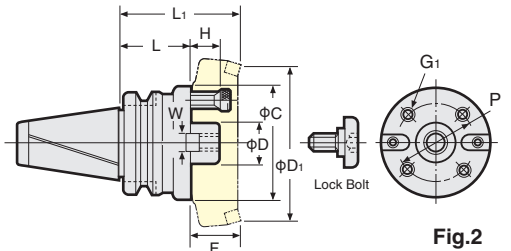
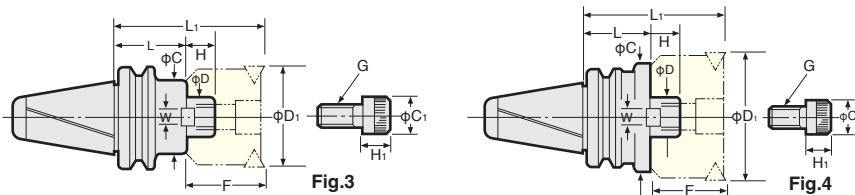


Fig.2

## FMA

TAPER	Code No. (φD-L)	Arbor			Weight (kg)	With Cutter			Drive Key	Lock Bolt	Fig.	
		H	C	W		L <sub>1</sub>	D <sub>1</sub>	F				
No.40	MIT40-FMA25.4 - 45	22	50	9.5	1.5	95	80	50	FW 5	FM12	1	
	- 90				3.1							140
	-FMA31.75 - 45	30	60	12.7	1.7	105	100	60	FW12	FM16		
	- 75				3.1				135			FW13
	-FMA38.1 - 60				34				80			15.9
No.50	MIT50-FMA25.4 - 45	22	58	9.5	3.7	95	80	50	FW 5	FM12	1	
	- 90				4.6							140
	-150				5.5							200
	-FMA31.75 - 45	30	70	12.7	4.5	105	100	60	FW12	FM16		
	- 75				5.3				135			FW13
	-105				6.1				165			
	-FMA38.1 - 45	34	80	15.9	4.3	105	125	60	FW18	FM20		
	- 75				5.6				135			FW19
	-FMA50.8 - 45				36				100			19
	- 75	6.8	135	FW24								
	-FMA47.625- 75	38	128.57	25.4		7.7	135	200		60		



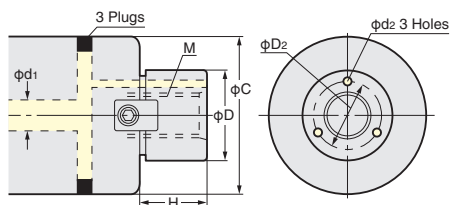
## FMC FMA For SANDVIK T-MAX Shoulder Face Mill/SUMITOMO CHE5,000 Series

TAPER	Code No. (φD-L)	Arbor			Weight (kg)	With Cutter			C <sub>1</sub>	H <sub>1</sub>	Fig.	
		H	C	W		L <sub>1</sub>	D <sub>1</sub>	F				G Cap Bolt
No.40	MIT40-FMC22- 45	18	45	10	1.3	85	50	40	9GM10-30	16	10	3
	- 90				2.0	130						
	-FMC27- 60	20	60	12	1.5	110	80	50	9GM12-35	18	12	4
	- 90				2.2	140						
	-FMC32- 60	22	85	14	2.3	110	125	50	9GM16-35	24	16	4
- 75	2.6				125							
No.50	MIT50-FMC22- 60	18	45	10	4.2	100	50	40	9GM10-30	16	10	3
	-105				4.7	145						
	-150				5.3	190						
	-FMC27- 45	20	70	12	4.1	95	80	50	9GM12-35	18	12	3
	- 90				5.5	140						
	-150				7.3	200						
	-FMC32- 45	22	85	14	4.2	95	125	50	9GM16-35	24	16	3
	- 75				5.5	125						
	-105				7.0	155						

- ★ Drive keys, L wrench and bolt are supplied as standard.
- ★ The arbor weight is only for the arbor.
- ★ The different type of the cap bolt may be used for the recent cutter. Please check the specification.
- ★ The arbor marked \* requires 4 fixing bolts (FMA47.625 : M16, P=101.6)
- ★ Extended length is available as an option. MIT50-FMA25.4 -200, 250, ...500  
-FMA31.75-150, 200, ...500  
-FMA38.1 -150, 200, ...500



## High Feed Cutter Arbor with Coolant Hole



Code No.	Cutter Dia.	φD	φC	M	H	Coolant Hole		
						φD <sub>2</sub>	φd <sub>1</sub>	φd <sub>2</sub>
FMH22 (22.225)	φ50, φ52 φ63, φ66	22(22.225)	47 60	M10 P1.5	18(17)	16	6~8	3
FMH27 (25.4)	φ80	27(25.4)	76(70)	M12 P1.75	20(22)	19.5(18.5)	8~10	3.5
FMH32 (31.75)	φ100	32(31.75)	96	M16 P2.0	22(30)	24	10~13	4
FMH40 (38.1)	φ125	40(38.1)	100	M20 P2.5	26(34)	30(29)	10~15	5
FMH50.8	φ160	50.8	100	M24 P3.0	36	37.5	15~20	7

- ★ Fixing dimension is basically based on FMA/FMC.
- ★ The combination of the other cutter dia. are also available.

## FMH High Feed Cutter Arbor with Coolant Hole

TAPER	Code No. (φD-L)	Arbor							Weight (kg)	Drive Key	Lock Bolt	G Cap Bolt
		H	C	W	C <sub>1</sub>	C <sub>2</sub>	H <sub>1</sub>	H <sub>2</sub>				
No.40	MIT40-FMH22 - 47- 45	18	47	10	16	-	10	-	1.3	FW 8	-	9GM10-30
	- 60- 45		60						1.4			
	-FMH27 - 60- 60	20	60	12	18	-	12	-	1.8	FW11	-	9GM12-35
	- 76- 60		76						2.2			
	-FMH32 - 96- 60	22	96	14	24	-	16	-	2.9	FW16	-	9GM16-35
-FMH40 -100- 60	26	100	16	50	27	14	6	3.1	FW22	FM20	-	
No.50	MIT50-FMH22 - 47- 60	18	47	10	16	-	10	-	4.2	FW 8	-	9GM10-30
	- 60- 60		60						4.5			
	-FMH27 - 60- 45	20	60	12	18	-	12	-	3.9	FW10	-	9GM12-35
	- 76- 45		76						4.1			
	-FMH32 - 96- 45	22	96	14	24	-	16	-	4.2	FW15	-	9GM16-35
	-FMH40 -100- 45	26	100	16	50	27	14	6	5.1	FW20	FM20	-
-FMH50.8 -100- 45	36	100	19	65	37	14	10	4.4	FW23	FM24	-	

- ★ FMH22.225, FMH25.4, FMH31.75, FMH38.1 are also available.

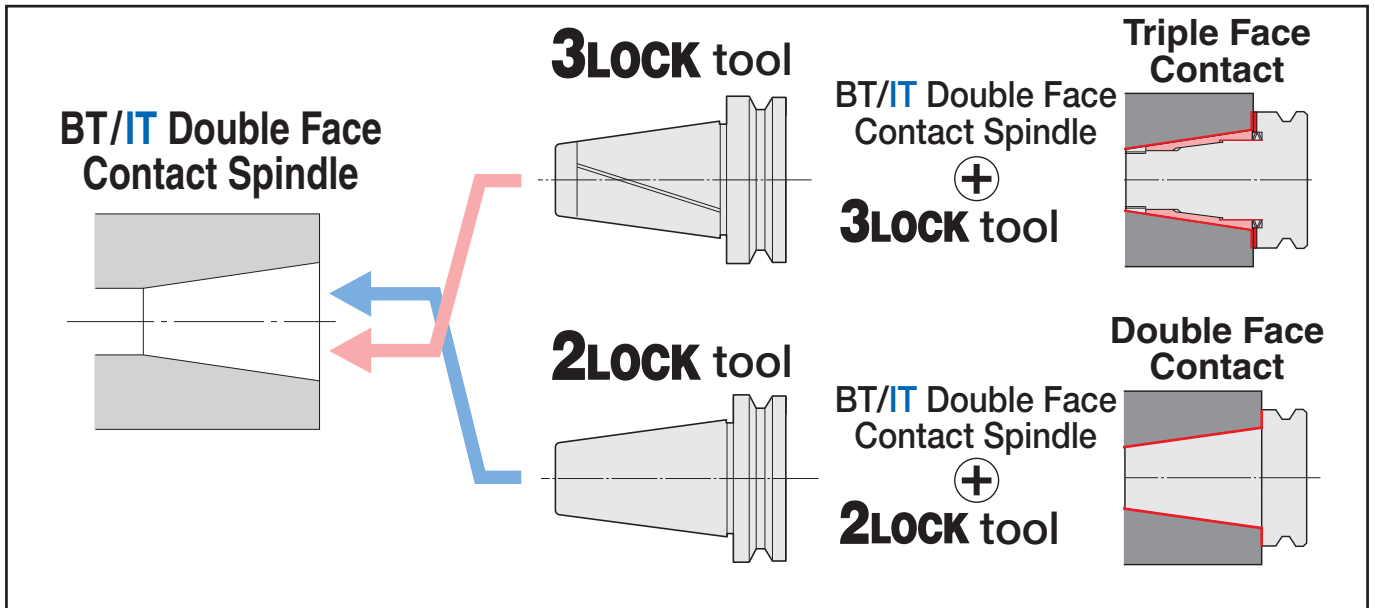
- ★ For FMH22, there are two types of φC, φ47 and φ60.
- For FMH27, there are two types of φC, φ60 and φ76.

# 2LOCK TOOLING SYSTEM

**NIKKEN**

**2LOCK** tool(NBT)is created from the technology of the **3LOCK** tool(MBT)with its acclaimed cutting and safe and reliable triple contact type. A series of MAJOR DREAM Holders and high speed tooling were created using the **2LOCK** tool system.

- MIN. Z-axis displacement at high speed rotation
- Improved run-out accuracy of ATC repeatability

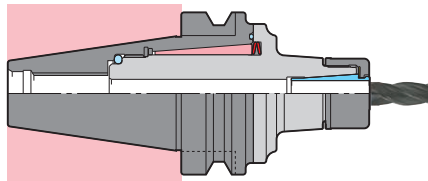


**2LOCK** tool can also be used on the machine with BT/IT standard spindle.

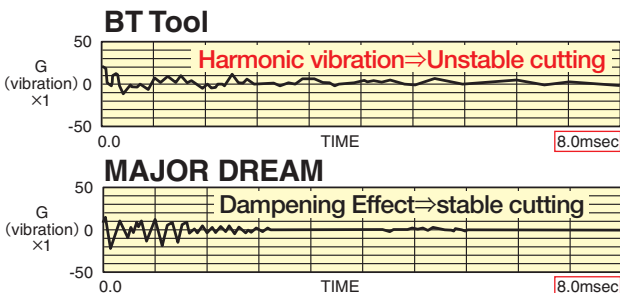
The Nikken **2LOCK** tooling system is not a simple taper/flange double face contact tool. The built-in dampening mechanism and front chucking mechanism have a variety of features.

**MAJOR DREAM Holder** P.183 ····Dampening Mechanism ⊕ TiN Bearing Nut (HV2,200)

The dampening effect generates the excellent cutting.



It has a built-in internal dampening mechanism that is not found in BT double contact tool.



## High Speed Milling Chuck P.177

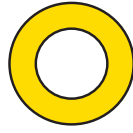
Same Appearance, but a remarkable improvement can be found when cutting.



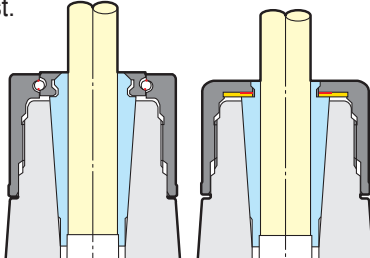
2Lock

## High Speed Slim Chuck P.181, Anniversary type VC Holder P.186

Unstable accuracy caused by tightening torque and the possibility of rust.



The Tin coated bearing plate reduced friction. This is the best for the thrust load.



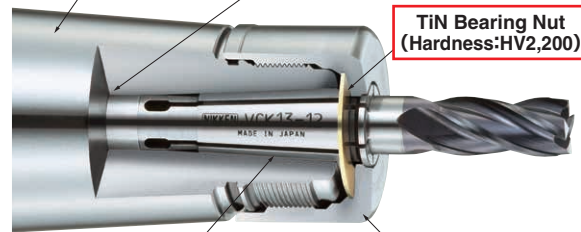
Competitors

NIKKEN

The thick wall design of the VC Holder body improves its cutting rigidity.

Pilot shank on the collet for further stability of the accuracy.

**TIN Bearing Nut (Hardness:HV2,200)**



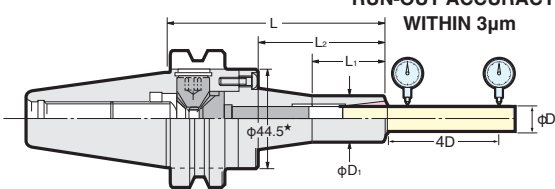
8 deg. internal taper proven with the Slim Chuck for the accuracy and gripping torque.

Simple external design without the notches to be tightened with GH handle Ultra high speed rotation

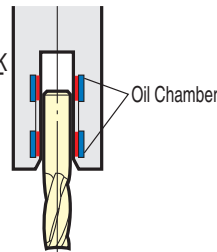
## Mini-Mini Chuck P.185...Expert for Small Dia. End Milling

30,000r/min

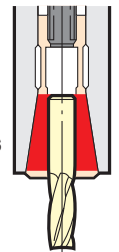
RUN-OUT ACCURACY :  
WITHIN 3µm



✗  
**HYDRAULIC CHUCK**  
No Gripping at Front Nose  
Gripping Torque?



○  
**MINI-MINI CHUCK**  
Gripping from Front Nose  
Powerful Gripping Torque/3times



**Caution Please read.**

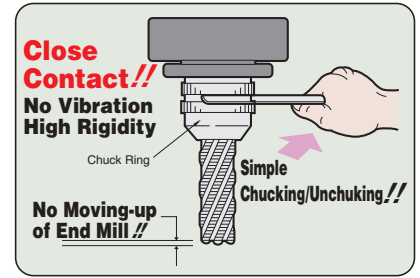
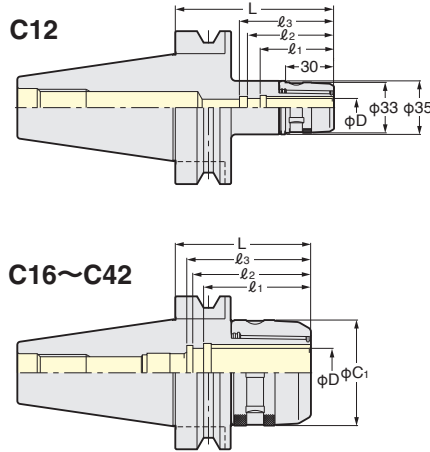
If chattering instability occurs during processing with the BT/IT double face contact tool (eg, if the M/C pulling force is reduced), be sure to select the **3LOCK** tool of the internal expanding mechanism. This enables stable cutting by the taper, flange and the internal expanding mechanism.

MBT40, MIT40: Pulling force of 500 kg or greater

MBT50, MIT50: Pulling force of 1,500 kg or greater

# 2LOCK MILLING CHUCK

**NIKKEN**



**C**  
Centre Through  
MAX. 7MPa

TAPER	Code No.	D	C <sub>1</sub>	L	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	Collet	Weight (kg)			
No.30	NBT30-C12- 55	12	33	58	48	53	58	CCK12 KM12	0.6			
	-C16- 55	16	44	57	50	58	65	CCK16 KM16	0.7			
	- 70			70					0.8			
	-C20- 65*1	20	52	67	57	66	80	GCK20 GCNK20 KM20 NK20	1.0			
	- 75			75					1.1			
	-C25- 75*2	25	55*4	75	56	65	68	CCK25 GCNK25 KM25 NK25	1.2			
	- 80			82					56	65	68	1.3
	- 90			90					60	72	80	1.4
	-C32- 90*3	32	64*4	90	67	66	68	CCK32 GCNK32*5 KM32 NK32*5	1.4			
-100	100			77					76	1.5		
No.40	NBT40-C12- 65	12	33	65	48	53	58	CCK12 KM12	1.3			
	- 90			90					1.6			
	-120			120					1.9			
	-C16- 60	16	44	63	50	58	65	CCK16 KM16	1.4			
	- 75			75					1.6			
	- 90			90					1.7			
	-105			105					1.9			
	-120			120					2.0			
	-C20- 70	20	52	70	57	66	80	GCK20 GCNK20 KM20 NK20	1.6			
	- 90			90					1.8			
	-105			105					2.0			
	-120			120					2.2			
	-C25- 70	25	60	70	60	72	80	GCK25 GCNK25 KM25 NK25	1.8			
	- 90			90					2.1			
	-105			105					2.3			
	-120			120					2.5			
	-C32- 85	32	69	85	64	77	77	CCK32 GCNK32 KM32 NK32	2.1			
	-105			105					70	81	81	2.5
	-120			120					70	81	81	2.8
-135	135			70					81	81	3.1	

- ★Please refer P.176 for heavy duty type milling chuck with larger arbor diameter.
- ★\*5 NK32 and CCNK32 collet can not be used on NBT30-C32-90.
- ★Please refer P.280, P.281 for KM, NK, CCK, CCNK collet.
- ★CKFN-D and CKFN-DC (With O-ring) can be used for the direct chucking application, when centre through tool coolant. CCK collet and CKFN nut can be used for collet application.
- ★For "L" dimension of centre through coolant type milling chuck is same as the above standard, however, refer P.34 for Code No.
- ★For "L" dimension of flange through coolant type milling chuck is same as the above standard, however, refer P.34 for Code No.
- ★Spanner is available as an option. C12 : 9HC12A, C16: 9HC16, C20: 9HC22, C25 (φC<sub>1</sub>=55mm) : 9HC22, C25 (φC<sub>1</sub>=60mm), C32 (φC<sub>1</sub>=64mm) : 9HC25, C32 (φC<sub>1</sub>=69mm) : 9HC32, C42: 9HC42
- \*4 C25(φC<sub>1</sub>=55mm): 9HC22, \*4 C32(φC<sub>1</sub>=64mm): 9HC25.
- ★Please note the acceptable shank tolerance is h7.
- ★The milling chucks marked \*1, \*2 and \*3 may not be used by the restriction of the diameter under V flange of your M/C.
- ★FS(Face Seal)types are available for C25~C42 of NBT40/NBT50. There are 2 types; FSJ: With J groove, FS: Without J groove



**FS type**  
For machining  
of aluminum  
**JAPAN PAT.**



TAPER	Code No.	D	C <sub>1</sub>	L	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	Collet	Weight (kg)
No.50	NBT50-C12-105	12	33	105	48	53	58	CCK12 KM12	4.0
	-135			135					4.3
	-165			165					4.6
	-C16-105	16	44	105	50	58	65	CCK16 KM16	4.2
	-135			135					4.5
	-165			165					4.8
	-200			200					4.8
	-C20-105	20	52	105	57	66	80	CCK20 CCNK20 KM20 NK20	4.5
	-135			135					4.8
	-165			165					5.1
	-180			180					5.4
	-200			200					5.4
	-C25-105	25	60	105	60	72		CCK25 CCNK25 KM25 NK25	4.8
	-135			135					5.2
	-165			165					5.6
	-200			200					5.6
	-C32-90	32	69	90	70	81	81	CCK32 CCNK32 KM32 NK32	4.3
	-105			105					4.6
	-120			120					5.1
	-135			135					5.6
	-165			165					6.4
	-200			200					7.8
	-250			250					9.2
	-300			300					10.6
	-400	400	13.4						
	-500	500	16.2						
	-C42-95	42	86	95	73	115	125	CCK42 CCNK42 KM42 NK42	5.5
	-105			105					5.8
	-120			120					6.6
	-135			135					7.2
	-165			165					8.6
	-200			200					9.5
-250	250			11.7					
-300	300			14.0					
-400	400	18.4							
-500	500	22.8							

2Lock

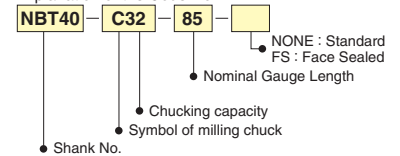
★MULTI LOCK Milling Chuck is a Base Holder for machining centre.

The following straight shank tooling to suit Milling Chucks are available.

- [S-C] Milling Chuck (Extension Type) P.280
- [K-MMP] MINI-MINI Chuck P.276
- [K-MMC] MINI-MINI Chuck P.43
- [K-SK] Slim Chuck P.277
- [S-SK] Long Size Slim Chuck P.277
- [D-NPU] NC Drill Chuck P.45
- [NZ] Tapper Chuck P.276

- [K-MT] Morse Taper Socket P.49
- [K-ZMAC-V] ZMAC-V Boring Bar P.93
- [K-RAC] RAC Boring Bar P.93
- [S-ZMACX-V] ZMAC-V Boring Bar for Deep Hole P.94
- [K-DJ] DJ Boring Bar P.95
- [K-SCA] Stub Arbor P.118
- [S-MDPE] PRO-END MILL P.117
- [MSO-AO-O] Straight shank shrink fit holder P.188

Explanation of the Code No.



- ★Please refer P.175 for heavy duty type milling chuck with larger arbor diameter.
- ★Please refer P.280, P.281 for KM, NK, CCK, CCNK collet.
- ★CKFN-D and CKFN-DC (With O-ring) can be used for the direct chucking application, when centre through tool coolant. CCK collet and CKFN nut can be used for collet application.

★For "L" dimension of centre through coolant type milling chuck is same as the above standard, however, refer P.34 for Code No.

★For "L" dimension of flange through coolant type milling chuck is same as the above standard, however, refer P.34 for Code No.

★Spanner is available as an option. C12 : 9HC12A, C16 : 9HC16, C20 : 9HC22, C25 (φC<sub>1</sub>=55mm) : 9HC22, C25 (φC<sub>1</sub>=60mm), C32 (φC<sub>1</sub>=64mm) : 9HC25, C32 (φC<sub>1</sub>=69mm) : 9HC32, C42 : 9HC42

★Please note the acceptable shank tolerance is h7.

★FS (Face Seal) types are available for C25~C42 of NBT40/NBT50. There are 2 types; FSJ: With J groove, FS: Without J groove

★Heavy duty type milling chucks with larger arbor diameter are available. Please add "R" at the end of Code No.

- NBT50-C32-200R, 250R, 300R
- C42-200R, 250R, 300R



★Please refer P.279 for Milling Chuck Coolant Solution.



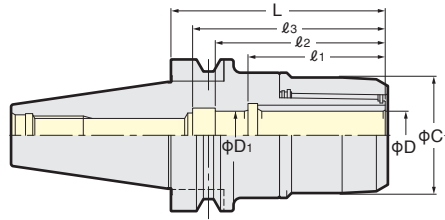
**FS type**  
For machining of aluminum  
**JAPAN PAT.**

Anniversary type & High Speed  
Applicable for High Pressure  
Centre Through Coolant by CCK Collet



**C-G**

Centre Through  
MAX. 7MPa



**GFS type**  
For machining  
of aluminum  
**JAPAN PAT.**

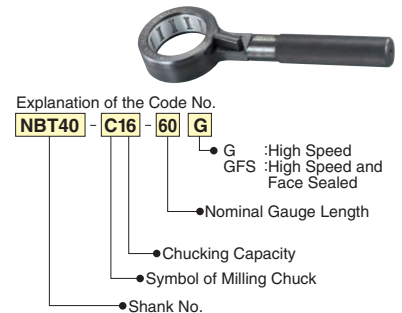
## High Speed

TAPER	Code No.	D	D <sub>1</sub>	C <sub>1</sub>	L	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	MAX. (r/min)	Collet	Weight (kg)		
No.30	NBT30-C12- 55G	12	12	33	58	48	53	58	40,000	CCK12 KM12	0.5		
	-C16- 55G	16	16	40	57	50	58	65		CCK16 KM16	0.6		
	- 70G				70						0.7		
	-C20- 65G*1	20	20	48	67	57	66	80	30,000	CCK20 CCNK20 KM20 NK20	0.8		
	- 75G				75						0.9		
	-C25- 75G*2	25	25	55	75	56	65	68	25,000	CCK25 CCNK25 KM25 NK25	1.0		
	- 80G				82						68	1.2	
	- 90G				90						80	1.3	
	-C32- 90G*3	32	32	62	90	67	66	68	10,000	CCK32 CCNK32*4 KM32*4 NK32	1.4		
	-100G				100						77	76	1.5
No.40	NBT40-C12- 65G	12	12	33	65	48	53	58	30,000	CCK12 KM12	1.1		
	- 90G				90							1.3	
	-C16- 60G	16	16	40	63	50	58	65	25,000	CCK16 KM16	1.2		
	- 75G				75							1.4	
	- 90G				90							1.5	
	-105G				105							1.7	
	-120G				120							1.9	
	-C20- 70G	20	20	48	71	57	66	80	25,000	CCK20 CCNK20 KM20 NK20	1.4		
	- 90G				90							1.7	
	-105G				105							1.9	
	-120G				120							2.1	
	-C25- 70G	25	25	55	70	60	72	80	20,000	CCK25 CCNK25 KM25 NK25	1.6		
	- 90G				90							2.0	
	-105G				105							2.3	
	-120G				120							2.6	
	-C32- 85G	32	32	68	85	64	77	107	20,000	CCK32 CCNK32 KM32 NK32	1.9		
	-105G				105						70	81	2.3
	-120G				120						70	81	2.9
-135G	135				70						81	3.2	

- ★GH Handle is available as an option. Please refer P.299  
C12-G:GH12, C16-G:GH16, C20-G:GH20, C25-G:GH25, C32-G (φC1=68mm):GH32, C32-G (φC1=62mm):GH32S.
- ★Please note the acceptable shank tolerance is h6.
- ★Please add "RP" at the end of Code No. for Rust Proof Treatment Milling Chuck.  
e.g. NBT40-C32-85G-RP
- ★Centre Through Coolant application:  
For direct chucking, CKFN-D nut is recommended.  
With a collet, CCK collet and CKFN nut are recommended.
- ★NBT30-C20-65G marked \*1 may not be used by the M/C restriction. In this case, please use NBT30-C20-75G.
- ★NBT50-C42-110P is also available.
- ★Please refer P.280, P.281 for KM, NK, CCK and CCNK collet.
- ★The milling chucks marked \*1, \*2 and \*3 may not be used by the restriction of the diameter under V flange of your M/C.
- ★\*4 NK32 and CCNK32 collet can not be used on NBT30-C32-90.
- ★Please refer P.279 for Milling Chuck Coolant Solution.



CCK collet & CKFN nut  
The Jet Coolant Pressure  
creates a tornado effect,  
ensuring efficient swarf  
dispersal.



## High Speed

TAPER	Code No.	D	D <sub>1</sub>	C <sub>1</sub>	L	ℓ <sub>1</sub>	ℓ <sub>2</sub>	ℓ <sub>3</sub>	MAX. (r/min)	Collet	Weight (kg)
No.50	NBT50-C12-105G	12	12	33	105	48	53	58	20,000	CCK12 KM12	3.9
	-135G				135						4.2
	-165G				165						4.5
	-C16-105G	16	16	40	105	50	58	65		CCK16 KM16	4.1
	-135G				135						4.4
	-165G				165						4.7
	-200G				200						5.1
	-C20-105G	20	20	48	105	57	66	80		CCK20 CCNK20 KM20 NK20	4.4
	-135G				135						4.8
	-165G				165						5.2
	-180G				180						5.4
	-200G				200						5.7
	-C25-105G	25	25	55	105	60	72	CCK25 CCNK25 KM25 NK25	4.6		
	-135G				135				5.2		
	-165G				165				5.8		
	-200G				200				6.3		
	-C32-90G	32	32	68	90	70	81	107	CCK32 CCNK32 KM32 NK32	4.3	
	-105G				105					4.7	
	-120G				120					5.2	
	-135G				135					5.7	
-165G	165				6.5						
-200G	200	7.6									
-C42-95P*5	42	42	86	95	73	115	125	12,000	CCK42 CCNK42 KM42 NK42	5.5	
-105P*5				105						5.8	
-120P*5				120						6.6	

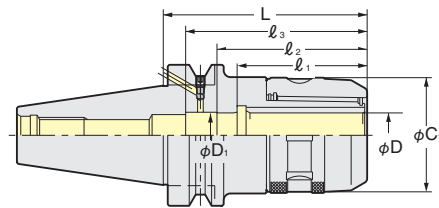
- ★GH Handle is available as an option. Please refer P.299
- C12-G:GH12, C16-G:GH16, C20-G:GH20, C25-G:GH25, C32-G(φC1=68mm):GH32, C32-G(φC1=62mm):GH32S,
- ★Please note the acceptable shank tolerance is h6.
- ★Please add "RP" at the end of Code No. for Rust Proof Treatment Milling Chuck. e.g. NBT40-C32-85G-RP
- ★Centre Through Coolant application: For direct chucking, CKFN-D nut is recommended. With a collet, CCK collet and CKFN nut are recommended.
- ★NBT50-C42-110P is also available.
- ★Please refer P.280, P.281 for KM, NK, CCK and CCNK collet.
- ★\*5 spanner for C42:9HC42
- ★Please refer P.279 for Milling Chuck Coolant Solution.

# 2LOCK FLANGE THROUGH COOLANT TYPE HOLDER

## MILLING CHUCK for Flange Through



Frang Through  
(MAX. 1MPa)



TAPER	Code No.	C <sub>1</sub>	D <sub>1</sub>	ℓ <sub>1</sub>	ℓ <sub>2</sub>	ℓ <sub>3</sub>	Stopper (Option)	Collet	Weight (kg)
No.40	NBT40-C20F- 90,105	52	20	58	66	80	9MC20H	CCK20 CCNK20	1.9, 2.0
	-C25F- 90,105	60	25	61	70		9MC25H	CCK25 CCNK25	2.0, 2.2
	-C32F-105,120	69		70	81	107	9MC32H	CCK32 CCNK32	2.5, 2.8
No.50	NBT50-C20F-105,135,165	52	20	58	66	80	9MC20H	CCK20 CCNK20	4.2, 4.4, 4.8
	-C25F-105,135,165	60	25	61	72		9MC25H	CCK25 CCNK25	4.5, 5.1, 5.7
	-C32F-105,120,135,165	69		70	81	107	9MC32H	CCK32 CCNK32	4.6, 5.1, 5.5, 6.4
	-C42F-120,135,165	86	42				105, 115, 115	125	9MC42H

- ★Spanner is available as an option. C20 : 9HC22, C25 : 9HC25  
C32 : 9HC32, C42 : 9HC42
- ★Shank of High Speed Milling Chuck (G) is 2LOCK. e.g. NBT40-C20F-105G  
GH Handle P.299 is necessary for High Speed Milling Chuck.
- ★Please refer P.281 for CCK and CCNK Collet. ★In case of Heavy End Milling operation, please chuck the End Mill longer than ℓ<sub>1</sub> without using stopper.
- ★Please add "RP" at the end of Code No. for Rust Proof Treatment Milling Chuck. e.g. BT40-C20F-75-RP. ★Please note the acceptable shank tolerance is h7.

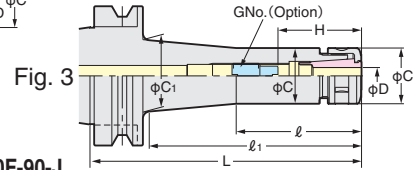
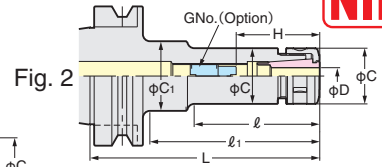
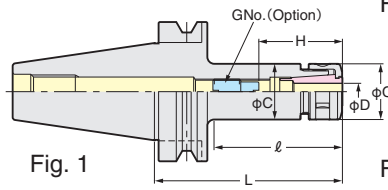


# 2LOCK SLIM CHUCK



**SK**  
Photo shows  
SK10 type.

High Pressure Coolant  
Through Tool



- For the code No. with J nut, add “-J” at the end. (SKJ cap is not included.) EX.) NBT40-SK10F-90-J
- When SK J type nut is used, the total chuck length will be extended by 6mm.
- When using SK-A collets or SK-AC collets, or when gripping a cutting tool smaller than the nominal diameter on SK collets, the total length will be shortened by about 3 mm. Please be careful when you check the interference.

JAPAN, USA, EU, KOREA PAT.

TAPER	Code No.	D	L	l	l <sub>1</sub>	C	C <sub>1</sub>	H	G No. (Option)	Weight (kg)	Fig	Collet			
No.30	NBT30-SK 6C- 60	0.7 ~ 6.0	60	33	33	19.5	19.5	26~31	SKG 6- 6HG	0.7	1	SK 6			
	- 90		90	56	65		32			0.7	2				
	-120		120	62	95		19.5			27.5	0.8		1		
	-150		150	123	123						0.9				
	-SK10C- 45		45	22	22						0.8				
	- 60	1.75~10.0	60	35	35	27.5	27.5	33~41	SKG10-10HG	0.9	1	SK10			
	- 75		75	50	50					1.0					
	- 90		90	65	65					1.0					
	-120		120	95	95					1.1					
	-150		150	125	125					1.2					
	-SK13 - 48	2.75~13.0	48	26	26	33	33	32~50	VCG13-15A	0.9	1	SK13			
	-SK13C- 60		60	35	35					1.0					
	- 75		75	65	65					1.1					
	- 90		90	65	65					1.1					
	-120		120	95	95					1.2					
	-150	150	125	125	1.4										
	-SK16 - 52	2.75~16.0	51	29	29	40	40	45~49	SKG-12 L	1.0	1	SK16			
	-SK16C- 60		60	37	37			47~52	SKG16-12HGE	1.1					
	- 75		75	52	52			45~52	SKG16-10HG	1.2					
	- 90		90	67	67			45~57	SKG16-12HG	1.2					
	-120		120	97	97					1.3					
	-SK20 - 60*	3.5~20.0	60	37	37	48.5	48.5	65~70	SKG-12S	0.7	1	SK20			
	-SK20C- 75		75	52	52			50~55	SKG20-12HGE	0.9					
	- 90		90	67	67			55	55	55~75			SKG-12	1.2	
	-120													1.2	
-150	1.5														
-SK25 - 90*	7.5~25.4										SK25				
No.40	NBT40-SK 6C- 60	0.7~ 6.0	60	30	30	19.5	19.5	26~31	SKG 6- 6HG	1.0	1	SK 6			
	- 90		90	51	60		32			1.1	2				
	-120		120	60	90		25			27.5	33~41		SKG10-10HG	1.4	1
	-150		150	60	120									1.5	
	-SK10C- 60		60	32	32									1.1	
	- 75	75	45	45	27.5	40	33~41	SKG10-10HG	1.2	2					
	- 90	90	48	60					1.2						
	-120	120	90	90					1.4						
	-150	150	118	118					1.6						
	-180	180	73	148					1.6						
	-200	200	168	168	39	39	33~41	SKG10-10HG	2.0	3					
	-250	250	218	218					2.3						
	-SK13C- 60	60	28	28					33		33	39~51	SKG13-10HG	1.2	1
	- 75	75	43	43	1.3										
	- 90	90	58	58	1.4										
	-120	120	88	88	1.6										
	-150	150	118	118	1.8										
	-180	180	88	148	40	40	39~51	SKG13-10HG	1.8	3					
	-200	200	168	168					2.2						
	-250	250	218	218					2.6						
	-SK16C- 60	60	32	32					40		40	45~52	SKG16-10HG	1.3	1
	- 75	75	43	43										1.5	
	- 90	90	58	58	1.5										
	-120	120	88	88	1.7										
	-150	150	118	118	1.9										
	-180	180	148	148	48.5	48.5	45~57	SKG16-12HG	2.0	1					
	-200	200	168	168					2.3						
	-250	250	218	218					2.8						
	-SK20C- 60	60	32	32					48.5		48.5	57~63	SKG20-16HG	1.3	1
	- 75	75	45	45										1.4	
	- 90	90	60	60	47~63	SKG20-18HG	1.6								
	-120	120	90	90			2.0								
	-150	150	118	118			2.2								
	-SK25C- 75	75	47	47	55	55	60~65	SKG25-18HGE	1.7	1					
	- 90	90	61	61					SKG25-18HGD		1.8				
-120	120	91	91	SKG25-24HG							2.0				

\*Mark is not compatible with high pressure center through (Center through support)

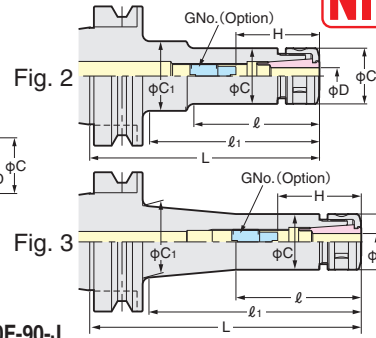
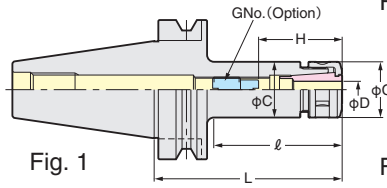
2LOCK

# 2LOCK SLIM CHUCK



SK  
Photo shows  
SK16 type.

High Pressure Coolant  
Through Tool



- For the code No. with J nut, add “-J” at the end. (SKJ cap is not included.) EX.) NBT40-SK10F-90-J
- When SK J type nut is used, the total chuck length will be extended by 6mm.
- When using SK-A collets or SK-AC collets, or when gripping a cutting tool smaller than the nominal diameter on SK collets, the total length will be shortened by about 3 mm. Please be careful when you check the interference.

JAPAN, USA, EU, KOREA PAT.

TAPER	Code No.	D	L	l	l <sub>1</sub>	C	C <sub>1</sub>	H	G No. (Option)	Weight (kg)	Fig	Collet
No.50	NBT50-SK 6C-105, -135	0.7 ~ 6.0	105,135	55,60	64,92	19.5	32	26~31	SKG 6- 6HG	3.8,3.9	2	SK 6
	-165, -200		165,200	60	114,151		32,30			4.0,4.2	2,3	
	-SK10C-105, -135	1.75~10.0	105,135	57,70	57,92	27.5	27.5,32	33~41	SKG10-10HG	4.2,4.4	1,2	SK10
	-165, -200		165,200		114,151		32,36			4.6,4.8	2,3	
	-225, -250		225,250	75	178,207		40			5.0,5.2	3	
	-300		300		257		60			5.5		
	-SK13C-105, -135	2.75~13.0	105,135	62,92	62,92	33	33	39~51	SKG13-10HG	4.5,4.7	1	SK13
	-165, -200		165,200		122,157		45			4.9,5.2	2,3	
	-250, -300		250,300	92	207,257		40			5.7,6.7	3	
	-SK16C-105, -135	2.75~16.0	105,135	62,92	62,92	40	40	45~57	SKG16-12HG	4.7,4.9	1	SK16
	-165, -200		165,200		122,157		50,52			5.1,5.5	2,3	
	-250, -300		250,300	90	207,257		52,60			6.2,6.7	3	
	-SK20C-105, -135	3.5~20.0	105,135	62,92	62,92	48.5	48.5	47~63	SKG20-18HG	4.3,4.6	1	SK20
	-165, -200		165,200	122,157	122,157					5.0,5.4		
	-250, -300		250,300	207,257	207,257					6.2,7.0		
	-SK25C-105, -135	7.5~25.4	105,135	62,92	62,92	55	55	60~70	SKG25-24HG	5.2,5.4	1	SK25
-165, -200	165,200		122,157	122,157			5.6,6.0					
-250, -300	250,300		207,257	207,257			6.8,7.5					

- ★Please refer P.283 for SK collet.
- ★Please refer P.181, P.182 for High Speed Slim Chuck (40,000/min)
- ★All Slim Chucks can be used for Centre Through Coolant type. Please refer P.288 for Centre Through Coolant Adjust Screw and P.320 for Centre Through Pull Stud.
- ★Please add “-RP” at the end of Code No. for Rust Proof Treatment Slim Chuck. e.g. NBT40-SK10-90-RP
- ★Extended gauge length slim chucks with the straight arbor like as Fig.1 are available. NBT50-SK10C-200ST, -250ST, -300ST NBT50-SK13C-200ST, -250ST, -300ST NBT50-SK16C-200ST, -250ST, -300ST
- ★Please refer P.285 for SK, MDSK Coolant Solution.

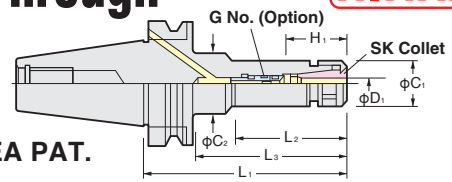
# 2LOCK SLIM CHUCK for Flange Through



Flange Through  
(MAX. 1MPa)

SK-F

JAPAN, USA, EU, KOREA PAT.



- For the code No. with J nut, add “-J” at the end. (SKJ cap is not included.) EX.) BT40-SK10F-90-J
- When SK J type nut is used, the total chuck length will be extended by 6mm.
- When using SK-A collets or SK-AC collets, or when gripping a cutting tool smaller than the nominal diameter on SK collets, the total length will be shortened by about 3 mm. Please be careful when you check the interference.

TAPER	Code No.	D <sub>1</sub>	H <sub>1</sub>	L <sub>2</sub>	L <sub>3</sub>	C <sub>1</sub>	C <sub>2</sub>	G No. (Option)	Weight (kg)	Collet
No.40	NBT40-SK 6F- 90,120	4~6	26~31	51,60	60,90	19.5	32,32	SKG6-6HG	1.1,1.4	SK 6
	-SK10F- 90,120,150,180	5~10	33~41	48,73,73,73	60,90,118,148	27.5	40,40,34.5,39	SKG10-10HG	1.2,1.4,1.6,1.7	SK10
	-SK13F- 90,120,150,180	5~13	39~51	58,88,88,88	-,-,118,148	33	-,-,40,40	SKG13-10HG	1.4,1.7,1.8,1.9	SK13
	-SK16F- 90	10~16	45~50	58		40		SKG16-12HGB	1.5	SK16
	-120,150,180		45~57	88,118,148			SKG16-12HGA	1.7,1.9,2.0		
	-SK20F- 90,120	10~20	57~63,47~63	60,90		48.5		SKG20-18HGB,SKG20-18HG	1.4,2.0	SK20
	-SK25F- 90,120	16~25	50~58,55~65	61,91		55		SKG25-18HG,SKG25-24HGA	1.8,2.0	SK25
No.50	NBT50-SK 6F-105,165	4~6	26~31	55,60	64,114	19.5	32,32	SKG6-6HG	3.8,4.0	SK 6
	-SK10F-105,165,200,225	5~10	33~41	57,75,75,75	-,114,151,178	27.5	-,32,36,40	SKG10-10HG	4.2,4.6,4.8,5.1	SK10
	-SK13F-105,165,200	5~13	39~51	62,92,92	-,122,157	33	-,45,45	SKG13-10HG	4.5,4.9,5.2	SK13
	-SK16F-105,165,200	10~16	45~57	62,90,90	-,122,157	40	-,50,52	SKG16-12HG	4.7,5.1,5.5	SK16
	-SK20F-105,165	10~20	47~63	62,122		48.5		SKG20-18HG	4.3,5.0	SK20
	-SK25F-105,165	16~25	55~65,55~70	62,122		55		SKG25-24HGA,SKG25-24HG	5.2,5.6	SK25

- ★Collet, adjust screw (G No.) and spanner are available as an option.
- ★Please refer P.283 for SK Collet.
- ★Please refer P.285 for SK, MDSK Coolant Solution.
- ★Please add “RP” at the end of Code No. for Rust Proof Treatment Slim Chuck. e.g. BT40-SK10F-90-RP.
- ★When cutter shank dia. is smaller than MIN. of D<sub>1</sub>, special adjust screw (G No.) is required. P.288

2LOCK

# 2LOCK HIGH SPEED SLIM CHUCK (STRAIGHT TYPE)

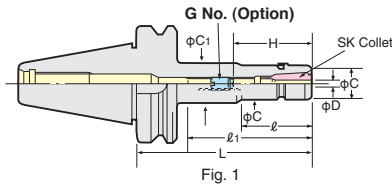


## MAX.40,000r/min



**SK-P**

Centre Through  
MAX. 7MPa



Explanation of the Code No.

**NBT40 - SK 10 C - 90 P**

- Symbol of High Speed
- Nominal Gauge Length mm
- Centre Through Tool Coolant
- Chucking Capacity
- Symbol of New Slim Chuck
- Shank No.

- When SK J type nut is used, the total chuck length will be extended by 6mm. **JAPAN, USA, EU, KOREA PAT.**
- When using SK-A collets or SK-AC collets, or when gripping a cutting tool smaller than the nominal diameter on SK collets, the total length will be shortened by about 3 mm. Please be careful when you check the interference.

TAPER	Code No.	D	L	ℓ	ℓ <sub>1</sub>	C	C <sub>1</sub>	H	G No. (Option)	MAX. r/min	Collet	Weight (kg)
No.30	NBT30-SK 6C- 60P	0.7~6.0	60	33	33	19.5	19.5	26~31	SKG 6- 6HG	40,000	SK 6	0.7
	- 90P		90	56	65		32					0.7
	-SK10C- 45P	0.9~10.0	45	22	22	27.5	27.5	33~41	SKG10-10HG		SK10	0.8
	- 60P		60	35	35							0.9
	- 75P		75	50	50							1.0
	- 90P		90	65	65							1.0
	-SK13C- 60P	2.75~13.0	60	35	35	33	33	39~51	SKG13-10HG		SK13	1.0
	- 75P		75	50	50							1.1
	- 90P		90	65	65							1.1
	-SK16C- 60P	2.75~16.0	60	37	37	40	40	47~52	SKG16-12HGE		SK16	1.1
	- 75P		75	52	52			45~52				1.2
	- 90P		90	67	67			45~57				1.2
-SK20 - 60P*	3.5~20.0	60	37	37	48.5	48.5	65~70	SKG-12S	SK20	0.7		
-SK20C- 75P		75	52	52			50~55			0.9		
- 90P	90	67	67	47~63	1.2							
-SK25 - 90P*	7.5~25.4	90	67	67	55	55	55~75	SKG-12	SK25	1.5		
No.40	NBT40-SK 6C- 60P	0.7~6.0	60	30	30	19.5	19.5	26~31	SKG 6- 6HG	30,000	SK 6	1.0
	- 90P		90	51	60		32					1.1
	-120P	120	60	90	27.5	27.5	33~41	SKG10-10HG	SK10		1.4	
	-SK10C- 60P	60	32	32							1.1	
	- 75P	75	45	45							1.2	
	- 90P	90	48	60							1.2	
	-120P	120	73	90	33	33	39~51	SKG13-10HG	SK13		1.4	
	-150P	150	73	118							1.6	
	-SK13C- 60P	60	28	28							1.2	
	- 75P	75	43	43	40	40	45~52	SKG16-10HG	SK16		1.3	
	- 90P	90	58	58							1.5	
	-120P	120	88	88							1.7	
	-150P	150	118	118							1.9	
	-SK16C- 60P	2.75~16.0	60	32	32	48.5	48.5	57~63	SKG20-16HG		SK20	1.3
	- 75P		75	45	45			1.4				
	- 90P		90	60	60			1.6				
	-120P	120	90	90	55	55	60~65	SKG25-18HGE	SK25		2.0	
	-150P	150	118	118							1.7	
	-SK20C- 60P	3.5~20.0	60	32	32	55	55	60~70	SKG25-18HGD		SK25	1.8
	- 75P		75	45	45			2.0				
	- 90P		90	60	60			1.6				
	-120P		120	90	90			2.0				
	-SK25C- 75P	7.5~25.4	75	47	47	55	55	60~70	SKG25-24HG		SK25	1.7
	- 90P		90	61	61			1.8				
-120P	120		91	91	2.0							
No.50	NBT50-SK 6C-105P	0.7~6.0	105	55	64	19.5	32	26~31	SKG 6- 6HG	20,000	SK 6	3.8
	-135P		135	60	92							3.9
	-165P		165	75	114							4.0
	-SK10C-105P	0.9~10.0	105	57	57	27.5	27.5	33~41	SKG10-10HG		SK10	4.2
	-135P		135	70	92							4.4
	-165P		165	75	114							4.6
	-SK13C-105P		105	62	62							33
	-135P	135	92	92	4.7							
	-165P	165	92	122	4.9							
	-SK16C-105P	2.75~16.0	105	62	62	40	40	45~57	SKG16-12HG		SK16	4.7
	-135P		135	92	92							4.9
	-165P		165	90	122							5.1
	-SK20C-105P	3.5~20.0	105	62	62	48.5	48.5	47~63	SKG20-18HG		SK20	4.3
	-135P		135	92	92							4.6
	-165P		165	122	122							5.0
	-SK25C-105P		105	62	62							55
	-135P	135	92	92	5.4							
	-165P	165	122	122	5.6							

\*Please refer P.285 for TiN Bearing Nut. \*Please add "RP" at the end of the Code No. for Rust Proof Treatment Slim Chuck. e.g. NBT40-SKT10C-90P-RP

\*Collet, adjust screw(G No.)and GH Handle are available as an option. \*Please use MDSK J type nut & cap for the Centre through tool coolant. P.255

The Code No. of the GH Handle is SK6C-P: GH6, SK10C-P: GH10, SK13C-P: GH12, SK16C-P: GH16, SK20C-P: GH20, SK25C-P: GH25

\*P class or A type SK collet is highly recommended to use. P.283 \*Code No. marked \* are not centre coolant tool coolant type.

\*Please refer P.285 for SK Coolant Solution.



GH Handle

P.299

# 2LOCK HIGH SPEED SLIM CHUCK (TAPER TYPE)

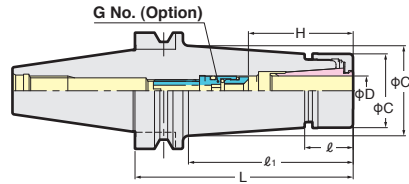


## MAX.40,000r/min

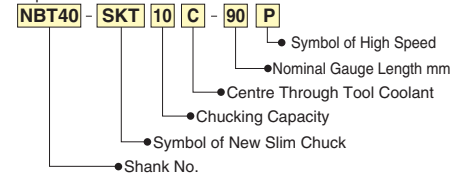


**SKT-P**

Centre Through  
MAX. 7MPa



Explanation of the Code No.



- When SK J type nut is used, the total chuck length will be extended by 6mm. **JAPAN, USA, EU, KOREA PAT.**
- When using SK-A collets or SK-AC collets, or when gripping a cutting tool smaller than the nominal diameter on SK collets, the total length will be shortened by about 3 mm. Please be careful when you check the interference.

TAPER	Code No.	D	L	ℓ	ℓ <sub>1</sub>	C	C <sub>1</sub>	H	G No. (Option)	MAX. r/min	Collet	Weight (kg)						
No.30	NBT30-SKT 6C- 60P	0.7~6.0	60	19.8	35	19.5	21.7	26~31	SKG6-6HG	40,000	SK 6	0.7						
	- 75P		75		50		23.8					0.7						
	- 90P		90		65		25.9					0.7						
	-SKT10C- 60P	0.9~10.0	60	22	35	27.5	29.4	35~41	SKG10-10HG		40,000	SK10	0.9					
	- 75P		75		50		31.5						1.0					
	- 90P		90		65		33.6						1.0					
	-SKT13C- 60P	2.75~13.0	60	26	35	33	34.3	39~51	SKG13-10HG		30,000	SK13	1.0					
	- 75P		75		50		36.4						1.1					
	- 90P		90		65		38.5						1.1					
-SKT16C- 60P	2.75~16.0	60	27	37	40	41.4	47~52	SKG16-12HGE	30,000	SK16	1.1							
- 75P		75		52.6		43.6					1.2							
- 90P		90		62.8		45					1.2							
No.40	NBT40-SKT 6C- 60P	0.7~6.0	60	19.8	30	19.5	21.0	26~31	SKG6-6HG	30,000	SK 6	1.0						
	- 75P		75		45		23.1					1.1						
	- 90P		90		60		25.2					1.1						
	-120P		120		90		29.4					1.4						
	-SKT10C- 60P	0.9~10.0	60	22	30	27.5	28.7	35~41	SKG10-10HG		30,000	SK10	1.1					
	- 75P		75		45		30.8						1.2					
	- 90P		90		60		32.9						1.2					
	-120P		120		90		37.1						1.4					
	-150P	150	120	41.3	1.6													
	-SKT13C- 60P	2.75~13.0	60	26	30	33	33	39~51	SKG13-10HG			30,000	SK13	1.1				
	- 75P		75		45		35.7							1.3				
	- 90P		90		60		37.8							1.3				
	-120P		120		90		42							1.6				
	-150P	150	120	46.2	1.8													
	-SKT16C- 60P	2.75~16.0	60	27	30	40	40	45~52	SKG16-10HG				25,000	SK16	1.3			
	- 75P		75		45		42.6								1.5			
	- 90P		90		60		44.7								1.5			
	-120P		120		90		48.9								1.7			
	-150P	150	120	53.1	1.9													
	-SKT20C- 60P	3.5~20.0	60	28.5	30	48.5	48.5	57~63	SKG20-16HG					25,000	SK20	1.3		
	- 75P		75		45		50.9									1.4		
- 90P	90		60		53.0		1.6											
-120P	120	92	57.4	2.0														
-SKT25C- 75P	7.5~25.4	75	31	47	55	57.3	60~65	SKG25-18HGE	20,000	SK25					1.7			
- 90P		90		62.6		59.5									1.8			
No.50	NBT50-SKT 6C-105P	0.7~6.0	105	19.8	62	19.5	25.5	26~31		SKG6-6HG	20,000				SK 6	3.8		
	-135P		135		92		29.6									3.9		
	-165P		165		122		33.8									4.0		
	-SKT10C-105P	0.9~10.0	105	22	62	27.5	33.1	35~41		SKG10-10HG					20,000	SK10	4.2	
	-135P		135		92		37.3										4.4	
	-165P		165		122		41.5					4.6						
	-SKT13C-105P	2.75~13.0	105	26	62	33	38.1	39~51		SKG13-10HG		20,000				SK13	4.5	
	-135P		135		92		42.3										4.7	
	-165P		165		122		46.5										4.9	
	-SKT16C-105P	2.75~16.0	105	27	62	40	44.9	45~57		SKG16-12HG						15,000	SK16	4.7
	-135P		135		92		49.1						4.9					
	-165P		165		122		53.3						5.1					
	-SKT20C-105P	3.5~20.0	105	28.5	62	48.5	53.2	47~63		SKG20-18HG			15,000				SK20	4.3
	-135P		135		92		57.4											4.6
	-165P		165		122		61.6											5.0
	-SKT25C-105P	7.5~25.4	105	31	62	55	59.4	60~70		SKG25-24HG				15,000			SK25	5.2
	-135P		135		92		63.6											5.4
	-165P		165		122		67.8											5.6

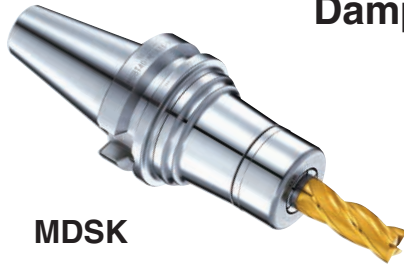
★Please refer P.285 for TiN Bearing Nut. ★Please add "RP" at the end of the Code No. for Rust Proof Treatment Slim Chuck. e.g. NBT40-SKT10C-90P-RP  
 ★Collet, adjust screw(G No.)and GH Handle are available as an option. ★Please use MDSK J type nut & cap for the Centre through tool coolant. P.285  
 The Code No. of the GH Handle is SKT6C-P: GH6, SKT10C-P: GH10, SKT13C-P: GH12, SKT16C-P: GH16, SKT20C-P: GH20, SKT25C-P: GH25  
 ★P class or A type SK collet is highly recommended to use. P.283  
 ★Please refer P.285 for SK Coolant Solution.



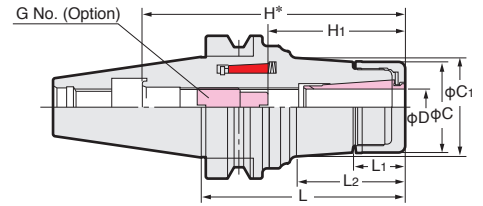
2LOCK

Holder with an adjust screw for axial adjustment is supplied as an option. Please contact us.

Dampening Effect  
TiN Bearing Effect



MDSK



H : MAX. Cutter Shank Length to be inserted

JAPAN PAT.

TAPER	Code No.	D	L	L1	L2	C	C1	H*	H1	G No. (Option)	Weight (kg)	Collet
No.30	NBT30-MDSK 6- 50	3.0~6.0	50	16.2	19.5	19.5	20.0	73	21~35	SKG- 8	0.5	SK 6 A
	- 60		60		25.5		83	0.6				
	- 75		75		40.5		98	0.7				
	- 90		90		55.5		113	0.8				
	-MDSK10- 50	3.0~10.0	50	18.0	19.0	27.5	27.5	72	30~50	SKG-12L	0.5	SK10 A
	- 60		60		25.7		82	0.6				
	- 75		75		42.9		97	0.8				
	- 90		90		58.7		112	0.8				
	-MDSK13- 60	3.0~13.0	60	22.0	29.0	33.0	34.0	83	31~43	SKG-15	0.8	SK13 A
	- 75		75		45.0		98	0.8				
	- 90		90		60.0		113	0.8				
	-MDSK16- 75	3.0~16.0	75	23.0	47.5	40.0	60	75	45~60	SKG-12L	1.1	SK16 A
- 90	90		62.5		40.0		45~70	SKG-12	1.3			
No.40	NBT40-MDSK 6- 60	3.0~6.0	60	16.2	18.0	19.5	19.5	86	21~35	SKG- 8	0.8	SK 6 A
	- 75		75		33.0		101	0.9				
	- 90		90		48.0		116	1.1				
	-105		105		63.0		131	1.2				
	-120		120		78.0		146	1.4				
	-MDSK10- 60	3.0~10.0	60	18.0	19.0	27.5	27.5	86	30~50	SKG-12L	1.1	SK10 A
	- 75		75		33.0		101	1.3				
	- 90		90		48.0		116	1.5				
	-105		105		63.0		131	1.6				
	-120		120		78.0		146	1.8				
	-MDSK13- 65	3.0~13.0	65	22.0	24.0	33.0	33.0	91	31~60	SKG-15	1.2	SK13 A
	- 75		75		33.0		101	1.4				
	- 90		90		48.0		116	1.7				
	-105		105		63.0		131	1.8				
	-120		120		78.0		146	2.0				
	-MDSK16- 65	3.0~16.0	65	23.0	24.0	40.0	40.0	91	45~60	SKG-18L	1.2	SK16 A
	- 75		75		33.0		101	1.5				
	- 90		90		48.0		116	1.9				
	-105		105		64.0		131	2.0				
	-120		120		80.0		146	2.2				
	-MDSK20- 75	4.0~20.0	75	25.2	41.2	48.0	51.3	80	50~73	SKG-12	1.9	SK20 A
	- 90		90		55.0		95	SKG-12-55L		2.1		
	-105		105		70.0		110	SKG-12-70L		2.3		
	-120		120		85.0		125	SKG-12-85L		2.6		

★Please use A type SK collet for the end milling operation. (P.283)

★Please refer (P.285) for the Jet coolant system, J type nut and cap.

★GH handle is available as an option. (P.284) Please order with the Code No. GH6 : MDSK6 &, GH10 : MDSK10, GH12 : MDSK13, GH16 : MDSK16, GH20 : MDSK20, GH25 : MDSK25

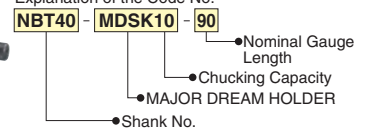
★Please add "P" at the end of Code No. for high speed specification, e.g NBT40-MDSK10-60P

★Holder with an adjust screw for axial adjustment is supplied as an option. Please contact us.

★Please refer (P.285) for SK Coolant Solution.



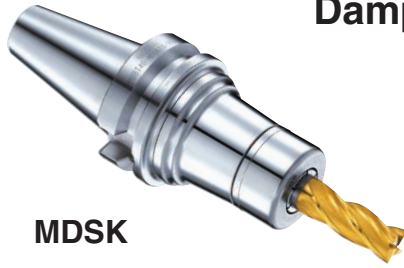
Explanation of the Code No.



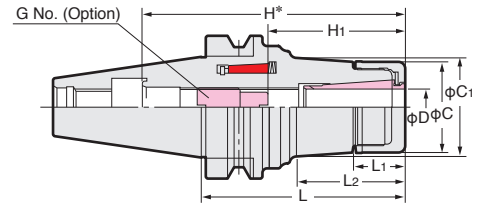


Holder with an adjust screw for axial adjustment is supplied as an option. Please contact us.

Dampening Effect  
TiN Bearing Effect



MDSK



H : MAX. Cutter Shank Length to be inserted

JAPAN PAT.

TAPER	Code No.	D	L	L1	L2	C	C1	H*	H1	G No. (Option)	Weight (kg)	Collet
No.50	NBT50-MDSK 6-105	3.0~6.0	105	16.2	48.0	19.5	24.0	116	21~35	SKG- 8	3.6	SK 6 A
	-120		120		63.0		26.1	131			3.7	
	-MDSK10-105	3.0~10.0	105	18.2	48.0	27.5	31.7	116	30~50	SKG-12L	4.3	SK10 A
	-120		120		63.2		33.8	131			4.4	
	-135		135		78.2		35.9	146			4.7	
	-165		165		110.2		40.4	176			5.0	
	-195		195		141.2		44.8	206			5.3	
	-MDSK13-105		3.0~13.0		105		22.0	48.0			33.0	
	-120	120		63.0	38.8	131		4.7				
	-135	135		78.0	40.9	146		5.0				
	-165	165		110.0	45.4	176		5.3				
	-195	195		144.0	50.1	206		5.6				
	-MDSK16-105	3.0~16.0	105	23.0	48.0	40.0	43.5	116	45~70	SKG-18L	4.1	SK16 A
	-120		120		64.0		45.8	131			4.9	
	-135		135		80.1		48.0	146			5.2	
	-165		165		114.7		52.6	176			5.5	
	-195		195		144.6		52.8	206			5.8	
	-MDSK20-105	4.0~20.0	105	25.2	42.3	48.0	51.4	159	47~80	SKG-22	4.9	SK20 A
	-135		135		72.0		55.6	175			5.3	
	-165		165		102.0		59.8	205			5.9	
	-195		195		132.0		64.0	235			6.7	
	-MDSK25-105	8.0~25.4	105	27.0	42.3	55.0	57.2	159	55~85	SKG-28	4.9	SK25 A
	-135		135		74.0		61.6	175			5.7	
	-165		165		105.0		66.0	205			6.5	
-195	195		135.0		70.2		235	7.5				

★Please use A type SK collet for the end milling operation.

★Please refer P.285 for the Jet coolant system, J type nut and cap.

★GH handle is available as an option. P.299 Please order with the Code No. GH6 : MDSK6 &, GH10 : MDSK10,

GH12 : MDSK13, GH16 : MDSK16, GH20 : MDSK20, GH25 : MDSK25

★Please add "P" at the end of Code No. for high speed specification, e.g NBT40-MDSK10-60P

★Holder with an adjust screw for axial adjustment is supplied as an option. Please contact us.

★Please refer P.285 for SK Coolant Solution.



Explanation of the Code No.

NBT40 - MDSK10 - 90

- Nominal Gauge Length
- Chucking Capacity
- MAJOR DREAM HOLDER
- Shank No.

MAX. r/min

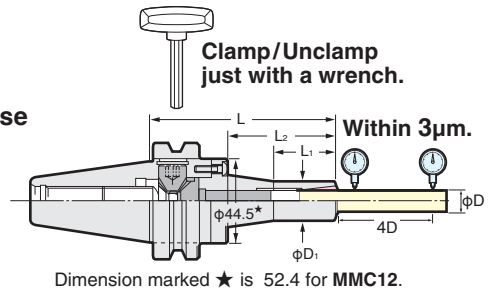
Code No.	MAX. r/min	Code No.	MAX. r/min	Code No.	MAX. r/min
NBT30-MDSK 6-P	30,000	NBT40-MDSK 6-P	25,000	NBT50-MDSK 6-P	20,000
-MDSK10-P		-MDSK10-P		-MDSK13-P	
-MDSK13-P		-MDSK16-P		-MDSK20-P	
-MDSK16-P	25,000				

# 2LOCK MINI-MINI CHUCK ADVANCED ALPHA



EXPERT for SMALL  
DIA. END MILLING

30,000r/min  
Gripping from Front Nose  
Run-Out Accuracy :  
3µm at 4D



MMC  
Extra-long sizes  
are added

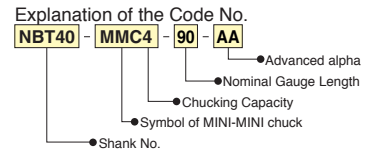
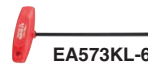
Centre Through

High Speed

JAPAN PAT.

TAPER	Code No.	D	L	D <sub>1</sub>	L <sub>1</sub>	L <sub>2</sub>	Collet	MAX.r/min	Weight(kg)		
No.30	NBT30- MMC 4C- 105 -AA	1~4	105	15	30	43	MPK 4	30,000	0.9		
	-135 -AA		135								
	MMC 8C-105 -AA	2~8	105	20	33	42	PMK 8 VMK 8				
	MMC12C-105 -AA	4~12		30	35	44	PMK12 VMK12	1.1			
No.40	NBT40- MMC 4C- 90 -AA	1~4	90	15	30	43	MPK 4	30,000	1.2		
	8C- 90 -AA									2~8	120
	-120 -AA	150	102								
	-150 -AA	180	132								
	-180 -AA	4~12	90	30	35	44	PMK 8 VMK 8				
	12C- 90 -AA									60	74
	-120 -AA									70	104
	-150 -AA	150	104								
	-180 -AA	180	134								
No.50	NBT50- MMC 4 -105 -AA	1~4	105	15	30	43	MPK 4	20,000	3.8		
	8C-105 -AA									2~8	135
	-135 -AA	165	102								
	-165 -AA	195	132								
	-195 -AA	4~12	105	30	35	44	PMK12 VMK12				
	12C-105 -AA									60	74
	-135 -AA									70	104
	-165 -AA	165	104								
	-195 -AA	195	134								

- ★Wrench EA573KL-6 : MMC4, 8 MMCL12-M6W : MMC12(BT30, BT40, HSK50, HSK63) : MMCL12-M6T62 : MMC12(BT50, HSK100) is attached as standard.
- ★MMC4C, MMC8C and MMC12C with "C" at the end of code are compatible with high pressure centre through.
- ★Extra-long sizes are added \*Extra-long sizes : longer +30~60mm than conventional.
- ★Collet is available as an option. Please refer P.290
- ★Please refer P.289 for MPK, PMK, VMK Coolant Solution.



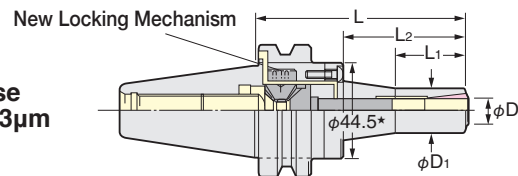
# MINI-MINI CHUCK ADVANCED ALPHA for Flange Through (MAX. 7MPa)



VMK-J



30,000r/min  
Gripping from Front Nose  
Run-out Accuracy: Within 3µm



★ : MMC12 : φ52.4

High Speed

TAPER	Code No.	φD	φD <sub>1</sub>	L <sub>1</sub>	L <sub>2</sub>	Collet	MAX. r/min	Weight (kg)
No.40	BT40-MMC 8F- 90-AA,120-AA,150-AA,180-AA	2~ 8	20	33, 40, 40, 70	42, 72,102,132	VMK 8	30,000	1.2,1.3,1.4, 1.5
	-MMC12F- 90-AA,120-AA,150-AA,180-AA	4~12	30	35, 60, 70,100	44, 74,104,134	VMK12		1.4,1.5,1.6, 1.7
No.50	BT50-MMC 8F-105-AA,135-AA,165-AA,195-AA	2~ 8	20	33, 40, 40, 70	42, 72,102,132	VMK 8	20,000	3.8,3.9,4.0,4.1
	-MMC12F-105-AA,135-AA,165-AA,195-AA	4~12	30	35, 60, 70,100	44, 74,104,134	VMK12		4.0,4.1,4.2,4.3

- ★Wrench is supplied as standard. Collet is available as an option. P.290
- ★Please use VMK Collet for the cutter with oil hole, and use VMK-J Collet for the cutter without oil hole.
- ★Photo shows MINI-MINI Chuck & VMK Collet chucking with φ2.7mm oil hole drill.

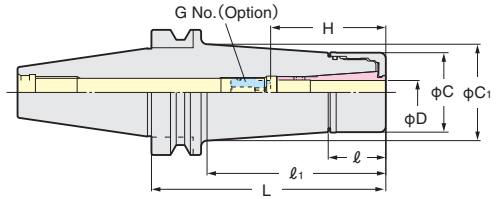
# 2LOCK ANNIVERSARY TYPE VC HOLDER

JAPAN, USA, EU, KOREA PAT.

**NIKKEN**



With TiN Bearing Nut  
 MAX. 40,000r/min  
 Run-Out Accuracy : Within 3 $\mu$ m at 4D



**VC**  
 High Pressure Coolant  
 Through Tool

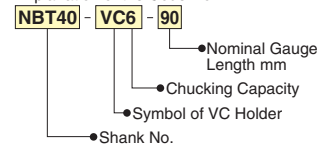
## High Speed

TAPER	Code No.	D	L	l	l <sub>1</sub>	C	C <sub>1</sub>	H	G No. (Option)	Weight (kg)	MAX. r/min	Collet
No.30	NBT30-VC 6- 45	2.0~ 6.0	45	23	23	27.5	27.5	35~45	VCG 6- 8A	0.5	40,000	VCK 6
	- 60		60		35		31.7			0.6		
	- 90		90		65		33.4			0.8		
	-VC13- 60	3.0~12.0	60	29	37	40	41.1	50~60	VCG13-15A	0.7		VCK13
	- 90		90		67		41.3			0.9		
	-120		120		97		42.4			1.2		
No.40	NBT40-VC 6- 60	2.0~ 6.0	60	23	30	27.5	30.0	35~45	VCG 6- 8A	1.1	30,000	VCK 6
	- 90		90		60		32.7			1.3		
	-120		120		90		36.9			1.5		
	-VC13- 60	3.0~12.0	60	29	31	40	40.3	50~60	VCG13-15A	1.2		VCK13
	- 90		90		60		44.3			1.5		
	-120		120		90		48.5			1.9		
No.50	NBT50-VC 6-105	2.0~ 6.0	105	23	62	27.5	33.0	35~45	VCG 6- 8A	3.9	20,000	VCK 6
	-135		135		92		37.1			4.1		
	-165		165		122		41.3			4.4		
	-VC13-105	3.0~12.0	105	29	62	40	44.6	50~60	VCG13-15A	4.1		VCK13
	-135		135		92		48.8			4.5		
	-165		165		122		53.0			4.9		

- ★When the axial stopper is required, please use Adjust Screw (G No.)
- ★Collet, Adjust Screw (G No.) and GH Handle are available as an option.
- ★Please add "-RP" at the end of Code No. for Rust Proof Treatment VC Holder. e.g: NBT40-VC13-60-RP
- ★Please use VC J type Nut & Cap for Centre Through Coolant. When VC J type Nut is used, the total holder length will be extended to 6mm.
- ★NBT40-VC 6-150, NBT40-VC13-150, NBT50-VC13- 90, -120 are available as semi-standard.

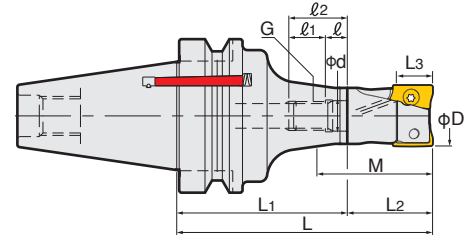
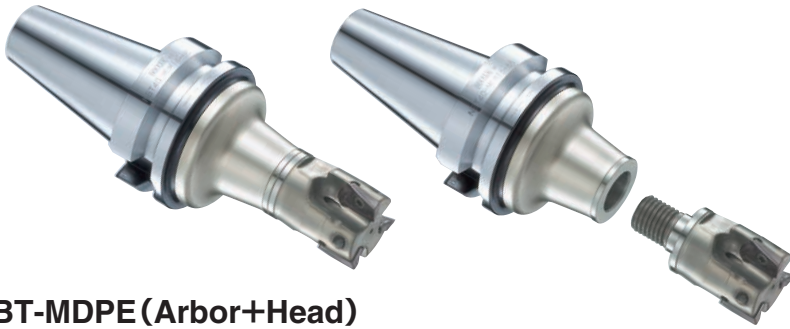
★All series are for High Speed Rotation.

Explanation of the Code No.



GH Handle P.299

2LOCK



NBT-MDPE (Arbor+Head)

TAPER	Code No.	φD	L	L1	L2	MAX. Depth L3	M	Arbor Code No.	Head Code No.
No. 30	NBT30-MDPE16- 75	16	75	45	30	10	37.5	NBT30-MDPE-M 8- 45	M 8-MDPE16-30
	-MDPE20- 75	20						-MDPE-M10- 45	M10-MDPE20-30
	-MDPE25- 80	25	80	35	15	43.4	-MDPE-M12- 45	M12-MDPE25-35	
	-MDPE32- 95	32	95	40	15	52.5	-MDPE-M16- 55	M16-MDPE32-40	
No. 40	NBT40-MDPE16- 85,105,120	16	85,105,120	55, 75, 90	30	10	37.4	NBT40-MDPE-M 8- 55, 75, 90	M 8-MDPE16-30
	(NIT40)-MDPE20- 90,105,120	20	90,105,120	60, 75, 90				40.0	-MDPE-M10- 60, 75, 90
	-MDPE25- 90,105,120	25	90,105,120	55, 70, 85	15	45.3,47.5,47.5	-MDPE-M12- 55, 70, 85	M12-MDPE25-35	
	-MDPE32-105,120,135	32	105,120,135	65, 80, 95			52.5	-MDPE-M16- 65, 80, 95	M16-MDPE32-40
No. 50	NBT50-MDPE16-100,120,135	16	100,120,135	70, 90,105	30	10	37.4	NBT50-MDPE-M 8- 70, 90,105	M 8-MDPE16-30
	(NIT50)-MDPE20-105,120,135	20	105,120,135	75, 90,105				40.0	-MDPE-M10- 75, 90,105
	-MDPE25-105,120,135	25	105,120,135	70, 85,100	15	45.3,47.5,47.5	-MDPE-M12- 70, 85,100	M12-MDPE25-35	
	-MDPE32-120,135,150	32	120,135,150	80, 95,110			52.5	-MDPE-M16- 80, 95,110	M16-MDPE32-40

★2pcs of tip clamp bolt and tip clamp wrench are supplied as standard.  
★Insert tip is available as an option.  
★Centre through tool coolant is available for all series.

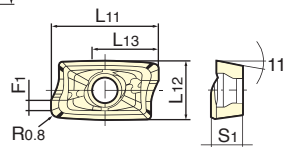
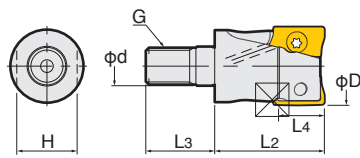
★Please refer to P.244 for cutting condition.

NBT-MDPE-M (Arbor)

TAPER	Code No.	φD	L1	ID φd	Arbor Front Dia.	ℓ	ℓ1	ℓ2	Screw G
No. 30	NBT30-MDPE-M 8- 45	16	45	8.5	14.7	9	11	20	M 8
	-MDPE-M10- 45	20		10.5	18.7		12	21	M10
	-MDPE-M12- 45	25		12.5	23.0		15	24	M12
	-MDPE-M16- 55	32		17.0	30.0		16	25	M16
No. 40	NBT40-MDPE-M 8- 55, 75, 90	16	55, 75, 90	8.5	14.7	9	11	20	M 8
	(NIT40)-MDPE-M10- 60, 75, 90	20	60, 75, 90	10.5	18.7		12	21	M10
	-MDPE-M12- 55, 70, 85	25	55, 70, 85	12.5	23.0		15	24	M12
	-MDPE-M16- 65, 80, 95	32	65, 80, 95	17.0	30.0		16	25	M16
No. 50	NBT50-MDPE-M 8- 70, 90,105	16	70, 90,105	8.5	14.7	9	11	20	M 8
	(NIT50)-MDPE-M10- 75, 90,105	20	75, 90,105	10.5	18.7		12	21	M10
	-MDPE-M12- 70, 85,100	25	70, 85,100	12.5	23.0		15	24	M12
	-MDPE-M16- 80, 95,110	32	80, 95,110	17.0	30.0		16	25	M16

★Head is available as an option. ★Centre through tool coolant is available for all series.  
★This is interchangeable with DEPO. When the connection interface (Screw G and ID φd) is same, the cutter head of other carbide makers can be used.

INTERCHANGABLE PRO-ENDMILL HEAD



AOMT (Insert Tip)

Insert Tip Code No.	L11	L12	L13	S1	F1
AOMT123608PEER-M	12	6.6	10	3.6	1.2
AOMT184808PEER-M	18	9	15	4.8	1.4

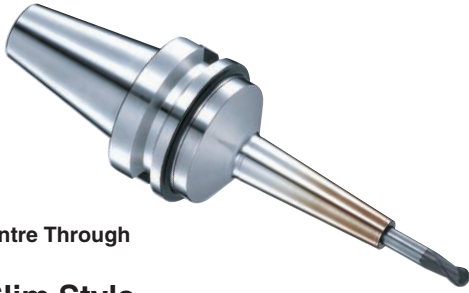
★Only Nose R = 0.8 is available. Please contact Mitsubishi for the rigid type insert tip and the insert tip with other Nose R.  
★Only grade of VP15TF (for steel, cast iron, hardened steel) is available. Please contact Mitsubishi for VP20RT (for stainless steel) and TF15 (for aluminum).  
★Minimum order quantity: 10pcs.

M-MDPE (Head)

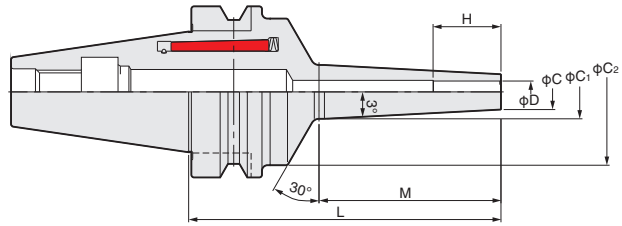
φD	Code No.	L2	L3	MAX. Depth L4	φd	G	No. of Teeth	Insert Tip	Tip Clamp Bolt	Tip Clamp wrench	Spanner Width H
16	M 8-MDPE16-30	30	18	10	8.5	M 8	2	AOMT123608PEER-M	TPS-25	TIP07F	10
20	M10-MDPE20-30		19		10.5	M10	3				14
25	M12-MDPE25-35	35	22	15	12.5	M12	2	AOMT184808PEER-M	TPS-4	TIP15W	19
32	M16-MDPE32-40	40	23		17.0	M16	3				24

★2pcs of tip clamp bolt and tip clamp wrench are supplied as standard.  
★Insert tip is available as an option.  
★Centre through tool coolant is available for all series.

★Please refer to P.244 for cutting condition.



Centre Through



S Slim Style

JAPAN PAT.

TAPER	Code No.	φD	φC	φC <sub>1</sub>	φC <sub>2</sub>	L	M	H
No.30	NBT30-MDMS 3S- 80, -105	3	6	10.2, 12.8	41	80, 105	42, 67	10
	-MDMS 4S- 80, -105	4	7	11.2, 13.8				13
	-MDMS 6S- 80, -105	6	9	13.2, 15.8				19
	-MDMS 8S- 80, -105	8	13	17.2, 19.8				25
	-MDMS10S- 80	10	16	20.2				31
No.40	NBT40-MDMS 3S- 90, -115	3	6	10.2, 12.8	54	90, 115	42, 67	10
	(NIT40)-MDMS 4S- 90, -115	4	7	11.2, 13.8				13
	-MDMS 6S- 90, -115	6	9	13.2, 15.8				19
	-MDMS 8S- 90, -115	8	13	17.2, 19.8				25
	-MDMS10S- 90, -115	10	16	20.2, 22.8				31
	-MDMS12S- 90, -115	12	19	23.2, 25.8				31
No.50	NBT50-MDMS 3S-130	3	6	12.8	54	130	67	10
	(NIT50)-MDMS 4S-105, -130	4	7	11.2, 13.8		105, 130	13	
	-MDMS 6S-105, -130	6	9	13.2, 15.8			19	
	-MDMS 8S-105, -130	8	13	17.2, 19.8			25	
	-MDMS10S-105, -130	10	16	20.2, 22.8			31	
	-MDMS12S-105, -130	12	19	23.2, 25.8			31	

R Standard

TAPER	Code No.	φD	φC	φC <sub>1</sub>	φC <sub>2</sub>	L	M	H
No.30	NBT30-MDMS 4R - 80, -105	4	10	14.2, 16.8	41	80, 105	42, 67	13
	-MDMS 6RN*1- 80, -105	6	15*1	16.2, 18.8				19
	-MDMS 8R - 80, -105	8	18	22.2, 24.8				25
	-MDMS10R - 80, -105	10	22	26.2, 28.8				31
No.40	NBT40-MDMS 4R - 90	4	10	14.2	54	90	42	13
	(NIT40)-MDMS 6RN*1- 90, -115	6	15*1	16.2, 18.8		90, 115	19	
	-MDMS 8R - 90, -115	8	18	22.2, 24.8			25	
	-MDMS10R - 90, -115	10	22	26.2, 28.8			31	
	-MDMS12R - 90, -115	12	26	30.2, 32.8			31	
No.50	NBT50-MDMS 6RN*1-105, -130	6	15*1	16.2, 18.8	54	105, 130	42, 67	19
	(NIT50)-MDMS 8R -105, -130	8	18	22.2, 24.8				25
	-MDMS10R -105, -130	10	22	26.2, 28.8				31
	-MDMS12R -105, -130	12	26	30.2, 32.8				31

★Please note the acceptable shank tolerance is h6.

★Carbide tool can be used and HSS tool can not be used.

★The tool will become very hot during heat shrinking. Please use glove for safety.

★HSK shank masamune shrink fit holder are available. Please contact with us.

\*1 MDMS6R (tip outer diameter φ12) is changed to MDMS6RN (tip outer diameter φ15). Please be careful of interference.

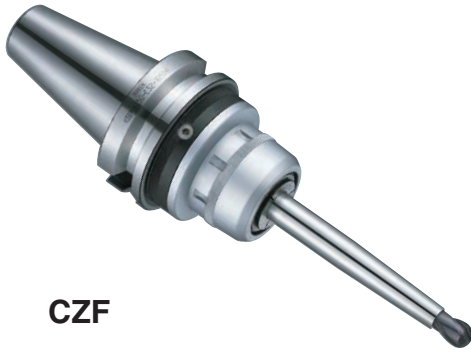
★ID=φ16, φ20 and φ25mm are available.

★The capacity of the drier is approx. 3kW.

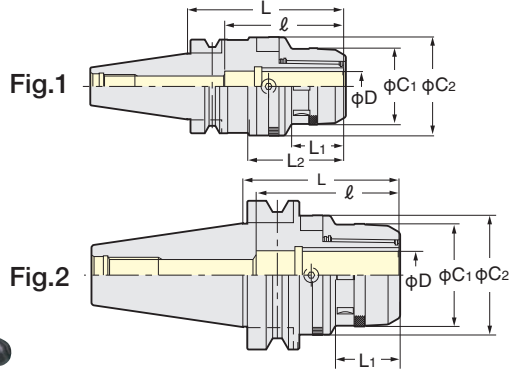
★Inductive style of the heat shrinking unit is recommended.



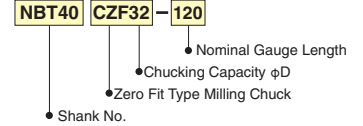
# 2LOCK NBT ZERO FIT TYPE MILLING CHUCK



CZF



Explanation of the Code No.



MAX. run-out at 100mm	
CZF20	0.050mm / dia.
CZF25	0.050mm / dia.
CZF32	0.030mm / dia.

JAPAN, USA, UK, GERMANY, KOREA, TAIWAN PAT.

TAPER	Code No.	C <sub>1</sub>	C <sub>2</sub>	L	L <sub>1</sub>	L <sub>2</sub>	l	Weight(kg)	Fig.	Collet
No.30	NBT30-CZF20-100	51.5	66.5	100	35	68	80	1.5	1	KM20 CCK20
	-CZF25-100	59.5	74.5					1.6		KM25 CCK25
No.40	NBT40-CZF20-105, 120	51.5	66.5	105, 120	35	64.5	80	2.1, 2.5	1	KM20 CCK20
	(NIT40)-CZF25-105, 120	59.5	74.5			68		2.4, 2.9		KM25 CCK25
	-CZF32-120	69	80.5	120	42	78	105	2.8		KM32 CCK32
No.50	NBT50-CZF20-105, 165	51.5	66.5	105, 165	35	-	80	4.6, 6.0	2	KM20 CCK20
	(NIT50)-CZF25-105, 165	59.5	74.5					5.0, 6.8		KM25 CCK25
	-CZF32-105, 165	69	80.5	42	105	5.3, 7.4	KM32 CCK32			

★Please refer P.280, P.281 for KM, CCK collet.

★Spanner is available as an option.

CZF20 type : 9HC22, CZF25 type : 9HC25, CZF32 type : 9HC32

★Wrench to adjust run-out(9ZFL) is available as an option.

★Please note that the acceptable shank tolerance is h6~h7.

★Please add "P" at the end of Code No. for the high speed type. e.g. NBT40-CZF25-105P

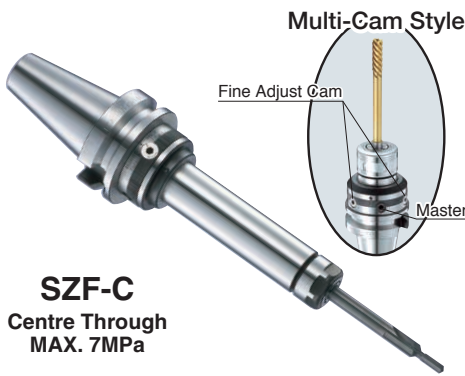
★Please refer P.279 for Milling Chuck Coolant Solution.



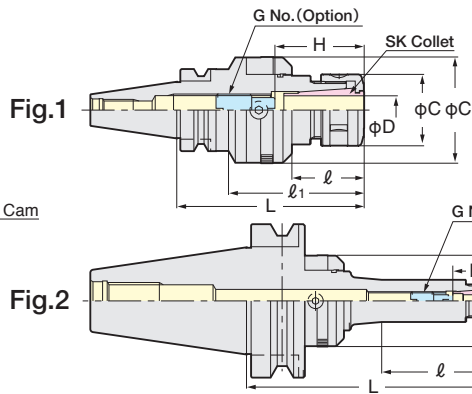
Wrench to adjust  
9ZFL

★Multi-Cam style is available. e.g. NBT40-CZF32-120-C3. (3 Cams) Please contact us for more detail.

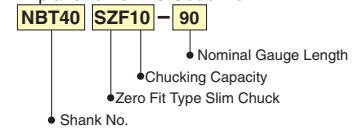
# 2LOCK NBT ZERO FIT TYPE SLIM CHUCK



SZF-C  
Centre Through  
MAX. 7MPa



Explanation of the Code No.



MAX. run-out at 100mm		
SZF 6	L < 150	0.050mm / dia.
	L ≥ 150	0.040mm / dia.
SZF10		0.050mm / dia.
SZF16		0.040mm / dia.
SZF25		0.025mm / dia.

JAPAN, USA, UK, GERMANY, KOREA, TAIWAN PAT.

TAPER	Code No.	D	L	l	l <sub>1</sub>	C	C <sub>1</sub>	H	G No. (Option)	Weight (kg)	Fig.	Collet
No.30	NBT30-SZF 6C- 90	0.7~6.0	90	42	-	19.5	40.5	26~31	SKG 6- 6HG	0.9	2	SK 6
	-SZF10C- 90	1.75~10.0		35	61	27.5	48.5	35~41	SKG10-10HG	1.3		SK10
	-SZF16C-105	2.75~16.0		40	76	40	59.5	45~57	SKG16-12HG	1.6		SK16
No.40	NBT40-SZF 6C- 90,150	0.7~6.0	90, 150	37, 60	-	19.5	40.5, 48.5	26~31	SKG 6- 6HG	1.3, 1.7	2	SK 6
	(NIT40)-SZF10C- 90,150	1.75~10.0		37, 97	-	27.5	48.5	35~41	SKG10-10HG	1.5, 1.9		SK10
	-SZF16C- 90,150	2.75~16.0		40	59.5	45~57	SKG16-12HG	1.8, 2.2	SK16			
No.50	NBT50-SZF 6C-105,165	0.7~6.0	105, 165	55, 86	84, 114	55	66.5	60~65	SKG25-18HGD	2.4, 2.9	1	SK25
	(NIT50)-SZF10C-105,165	1.75~10.0		41, 63	-	19.5	40.5, 59.5	26~31	SKG 6- 6HG	4.0, 4.2		SK 6
	-SZF16C-105,165	2.75~16.0		41, 101	-	27.5	48.5	35~41	SKG10-10HG	4.5, 4.9		SK10
No.50	-SZF16C-105,165	2.75~16.0	105, 165	41, 101	-	40	59.5	45~57	SKG16-12HG	5.0, 5.4	2	SK16
	-SZF25C-135,165	7.5~25.4				135, 165	71, 101	55	66.5	60~70		SKG25-24HG

★Adjust screw(G No.), wrench to adjust run-out(9ZFL) and SKL spanner are available as an option. SZF6C: SKL-6W, SZF10C: SKL-10, SZF16C: 9HC16, SZF25C: 9HC25

★Please use "P" class or "A" type SK collet. P.283

★For centre through coolant application please use SK J type nut and cap for your preference. Please note that the length of J type nut is 6mm longer than the standard SK Nut.

★For High Speed type, Code No. is "SZF-P". e.g. NBT40-SZF10C-90P

In this case, GH Handle is required. P.299

★Multi-Cam style is available. e.g. NBT40-SZF16C-90-C3. (3 Cams) Please contact us for more detail.

★Please refer P.285 for SK Coolant Solution.

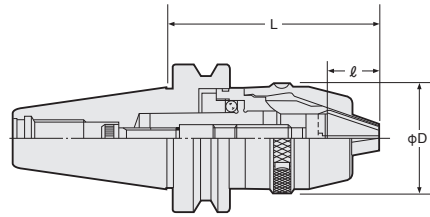
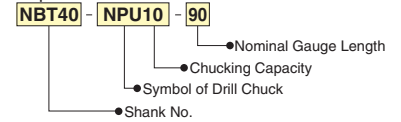


# 2LOCK NPU DRILL CHUCK



Being given favorable reception its Compactness, High Precision & High Rigidity.

Explanation of the Code No.



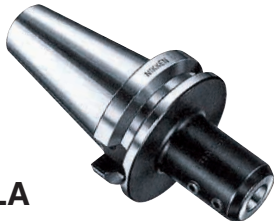
l : Chucking Length  
 NPU 8 : 18.8mm  
 NPU13 : 26.5

NPU

TAPER	Code No.	Chucking Range	D	L		Weight(kg)
				MIN.	MAX.	
No.30	NBT30-NPU 8- 70	0.3~8	38	76.5	83.5	0.7
	-NPU13- 95	1~13	48.5	102.1	113.1	1.2
No.40	NBT40-NPU 8- 70	0.3~8	38	76.5	83.5	1.2
	(NIT40) -110			115.5	122.5	1.5
	-155			160.5	167.5	1.7
	-NPU13- 80	1~13	48.5	86.1	97.1	1.5
	-130			137.1	148.1	2.2
	-175			182.1	193.1	2.7
No.50	NBT50-NPU 8- 85	0.3~8	38	87.5	94.5	3.8
	(NIT50) -110			115.5	122.5	3.9
	-170			175.5	182.5	4.3
	-NPU13- 90	1~13	48.5	97.1	108.1	4.1
	-130			137.1	148.1	4.6
	-190			197.1	208.1	5.2

★Wrench is available as an option. NPU 8: NPUL- 8  
 NPU13: NPUL-13

# 2LOCK SIDE LOCK HOLDER



SLA

A TYPE (for END MILL)

Fig.1

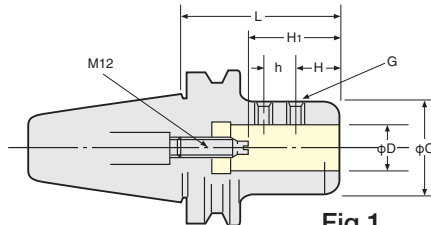


Fig.1

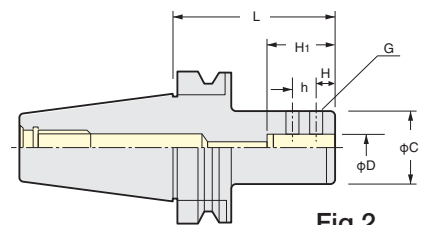


Fig.2

TAPER	Code No.	D	L	C	h	H	H <sub>1</sub>	G	Weight(kg)
							MIN.~MAX.		
No.30	NBT30-SLA20- 75	20	75	50	21	15	55~ 70	M14 P=1.5	1.3
No.40	NBT40-SLA20- 90	20	90	50	21	24	55~ 70	M14 P=1.5	1.8
	(NIT40)-SLA25- 90	25							1.7
No.50	-SLA32- 90,135*	32	90,135	60	25	25		M16 P=1.5	1.9,2.3
	NBT50-SLA20-105,135*	20	105,135	50	21	24	55~ 70	M14 P=1.5	4.8,5.2
	(NIT50)-SLA25-105,135*,165*	25	105,135,165						4.7,5.2,5.7
	-SLA32-105,135*,165*	32		60	25	25	65~ 80	M16 P=1.5	4.0,4.9,5.5
-SLA42-115*,150*	42	115,150	90	32	30	85~100	M20 P=2.0	6.6,7.5	

★Code No. of Side Lock Holder for Combination Shank is DM.  
 ★The Code No. of Centre Through Coolant type is "SLOC". P.48

NBT50-DM32-120  
 -DM50.8-120



★★ marked is available semi-atarand.

B TYPE (for DRILL)

Fig.2

TAPER	Code No.	D	L	L <sub>1</sub>	H	C	W	DSA Socket-MT.No.	Weight(kg)
				MIN.~MAX.					
No.30	NBT30-SLB26-105	26	105	117~142	40	50	5	DSA26-MT1,MT2	1.5 1.4
No.40	NBT40-SLB26-105	26	105	117~142	40	50	5	DSA26-MT1,MT2	2.1 2.0
	-SLB35-135	35	135	147~182	55	60	6	DSA35-MT2,MT3	3.3 3.2
No.50	NBT50-SLB26-105	26	105	117~142	40	50	5	DSA26-MT1,MT2	4.8 4.7
	-SLB35-120	35	120	132~167	55	60	6	DSA35-MT2,MT3	5.4 5.3
	-SLB35-135	35	135	147~182	55	60	6		5.7 5.6
	-SLB48-165	48	165	181~227	65	80	8	DSA48-MT3,MT4	8.4 8.1

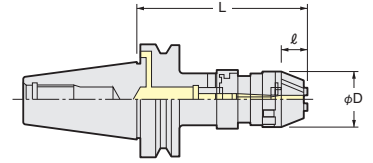
★Please refer P.47 for Collet and Sleeve.

2LOCK

# 2LOCK NPU DRILL CHUCK for Flange Through **NIKKEN**



Flange Through  
(MAX. 1MPa)



TAPER	Code No.	φDmm	φD	ℓ	L	Weight (kg)
No.40	NBT40-NPU13F-105	6~13	48.5	26.5	112.1~123.1	1.9
	150				157.1~168.1	2.4
No.50	NBT50-NPU13F-110				117.1~128.1	4.4
	150				157.1~168.1	4.8

★Wrench is available as an option. NPU8: NPUL-8, NPU13: NPUL-13.  
★MIN. Chucking Dia. for centre through coolant is φ6mm.

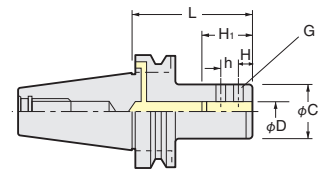


★Please use Slim Chuck P.39 for high pressure coolant (MAX. 7Mpa).

# 2LOCK SIDE LOCK HOLDER (for DRILL) for Flange Through **NIKKEN**



Flange Through  
(MAX. 1MPa)



TAPER	Code No.	D	L	C	h	H	H1	G	Collet	Weight (kg)
No. 40	NBT40-SL20FN- 90	20	90	50	16	12	44.5	M10	—	1.8
	-SL25FN- 90	25		55	17	14	54.5	M12 = P1.25	<b>OK25</b>	1.7
	-SL32FN- 90	32		60	16	15	59.5	M12 = P1.25	<b>OK32</b>	1.9
No. 50	NBT50-SL20FN-105	20	105	50	16	12	44.5	M10	—	4.8
	-SL25FN-105	25		55	17	14	54.5	M12 = P1.25	<b>OK25</b>	4.7
	-SL32FN-105	32		60	16	15	59.5	M12 = P1.25	<b>OK32</b>	4.9
	-SL40FN-105	40		88	19	18	70	M12 = P1.25	<b>OK40</b>	5.2

★For **OK25**, **OK32** and **OK40** Collet, please refer P.121.

# 2LOCK MORSE TAPER ADAPTER A TYPE **NIKKEN**

■ Taper contact area of more than 80% ensures high repeatability run-out accuracy.



MTA

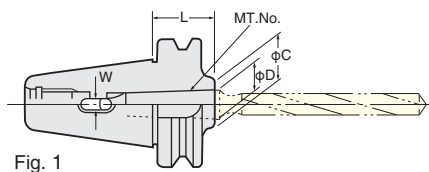


Fig. 1

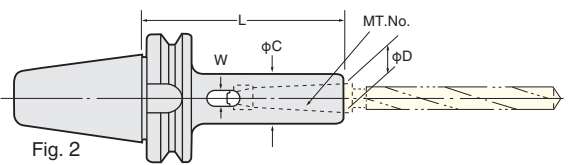


Fig. 2

TAPER	Code No. -L	MT. No.	D	L	C	W	Fig	Weight(kg)	
No.30	NBT30-MTA1- 45, 105	1	12.065	45, 105	20, 25	5.6	1, 2	0.8, 0.9	
	-MTA2- 60, 120	2	17.780	60, 120	30	6.6		0.9, 1.2	
	-MTA3- 80	3	23.825	80	40	8.4	1	1.0	
No.40	NBT40-MTA1- 45, 120	1	12.065	45, 120	25	5.6	1, 2	1.0, 1.3	
	(NIT40)-MTA2- 60, 120	2	17.780	60, 120	32	6.6		1.1, 1.4	
	-MTA3- 75, 135	3	23.825	75, 135	40	8.4		1.2, 1.8	
	-MTA4- 95, 165	4	31.267	95, 165	50	12.4		1.4, 2.4	
No.50	NBT50-MTA1- 45, 120, 180	1	12.065	45, 120, 180	25	5.6	1, 2, 2	4.0, 4.3, 4.3	
	(NIT50)-MTA2- 45, 135, 180	2	17.780	45, 135, 180	32	6.6		4.0, 4.4, 4.6	
	-MTA3- 45, 150, 180	3	23.825	45, 150, 180	40	8.4		3.9, 4.7, 4.9	
	-MTA4- 75, 180	4	31.267	75, 180	50	12.4		1, 2	4.0, 5.4
	-MTA5-105	5	44.399	105	65	16.5		1	4.6

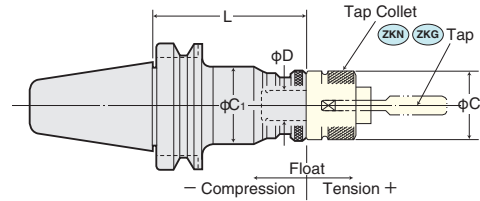


# 2LOCK TAPPER CHUCK

**NIKKEN**



- Most suitable for tapping gas threads, blind-end threads and light alloys.
- When normal rotation of machine is stopped at specified position, the Tapper Chuck runs idle after progressing by its elongation (4mm for ZL12 type). Simply rotate the machine in the reverse direction, and the tap depth will be made uniform within a high-precision.



## ZL AUTO. DEPTH CONTROL

TAPER	Code No.	Tapping Capability			D	L	C	Float		Tap Collet	Weight (kg)
		M	U	P				F <sub>1</sub>	F <sub>2</sub>		
No.40	NBT40-ZL 8-120*1	M 2~ 8	1/8~1/4	—	13	120	34	3	3	ZKN 8*1	1.6
	(NIT40)-ZL12-100	M 2~12	1/8~1/2	P1/16~1/4	19	100	58	5	4	ZKG12	1.9
	-ZL12-130					130					2.3
	-ZL16-150	M 3~16	1/8~5/8	P1/8~3/8	25	150	60			ZKG16	2.9
	-ZL24-160	M 8~24	1/2~ 1	P1/4~5/8	30	160	73	6	7	ZKG24	3.3
	-ZL38-190	M18~38	3/4~13/8	P3/8~ 1	45	190	92	8	10	ZKN38	6.0
No.50	NBT50-ZL 8-130*1	M 2~ 8	1/8~1/4	—	13	130	34	3	3	ZKN 8*1	4.2
	(NIT50)-ZL12- 85	M 2~12	1/8~1/2	P1/16~1/4	19	85	58	5	4	ZKG12	3.4
	-ZL12-130					130					4.3
	-ZL16-135	M 3~16	1/8~5/8	P1/8~3/8	25	135	60			ZKG16	4.6
	-ZL24-100	M 8~24	1/2~ 1	P1/4~5/8	30	100	73	6	7	ZKG24	4.5
	-ZL24-142					142					5.8
-ZL38-150	M18~38	3/4~13/8	P3/8~ 1	45	150	92	8	10	ZKN38	6.9	

★In case of NIT40, NIT40-ZL16-160 and NIT40-ZL24-175 are standard.

★In case of NIT50, NIT50-ZL12-130, NIT50-ZL24-142 and NIT50-ZL38-180 are standard.

★Marked \*1 ZL8 Tapper Chuck and ZK8 Tap Collet are available as semi-standard.

★Please refer to P.293 (ZKG)~P.66 (ZK) for ISO, IMPERIAL, DIN Tap Collet, P.291 (ZKG)~P.292 (ZKN) for JIS Tap Collet, and P.295 for Long Size Tap Collet.

## Z FLOATING

TAPER	Code No.	Tapping Capability			D	L	C	C <sub>1</sub>	Float		Tap Collet	Weight (kg)
		M	U	P					F <sub>1</sub>	F <sub>2</sub>		
No.40	NBT40-Z 8- 90*1	M 2~ 8	1/8~1/4	—	13	90	23	33	5	15	ZKN 8*1	1.4
	(NIT40)-Z12- 90	M 2~ 12	1/8~1/2	P1/16~1/4	19	90	32	45	5	15	ZKG12	1.5
	-Z12-130					130						1.6
	-Z16-109	M 3~ 16	1/8~5/8	P1/8~3/8	25	109	39	55	8	20	ZKG16	2.0
	-Z24-100	M 8~ 24	1/2~ 1	P1/4~5/8	30	100	46	68	10	20	ZKG24	2.1
	-Z24-187					187						3.5
-Z38-140	M18~ 38	3/4~13/8	P3/8~ 1	45	140	78	85	8	22	ZKN38	6.7	
No.50	NBT50-Z 8-105*1	M 2~ 8	1/8~1/4	—	13	105	23	33	5	15	ZKN 8*1	4.2
	(NIT50)-Z12-130	M 2~ 12	1/8~1/2	P1/16~1/4	19	130	32	45	15	15	ZKG12	4.3
	-Z12-175					175						4.8
	-Z12-220					220						5.0
	-Z16-135	M 3~ 16	1/8~5/8	P1/8~3/8	25	135	39	55	8	20	ZKG16	5.2
	-Z24-142	M 8~ 24	1/2~ 1	P1/4~5/8	30	142	46	63	20	20	ZKG24	5.8
	-Z24-187					187						6.2
	-Z38-175	M18~ 38	3/4~13/8	P3/8~ 1	45	175	78	98	10	25	ZKN38	8.3
-Z65-160	M36~100	1~33/4	P1~ 3	68	160	<sup>110*2</sup> <sub>(125)</sub>	110	10	25	ZKN65	9.0	

★In case of NIT40, IT40-ZL8-95\*1 and NIT40-ZL24-1255 are standard.

★In case of NIT50, IT50-ZL8-105\*1, NIT50-ZL38-187 and NIT50-ZL65-165 are standard.

★Marked \*1 Z8 Tapper Chuck and ZK8 Tap Collet are available as semi-standard.

★Please refer to P.293 (ZKG)~P.66 (ZK) for ISO, IMPERIAL, DIN Tap Collet, P.291 (ZKG)~P.292 (ZKN) for JIS Tap Collet, and P.295 for Long Size Tap Collet.

★Marked \*2 ( ) dimension is for M65 or more size of ZK Tap Collet.

2Lock

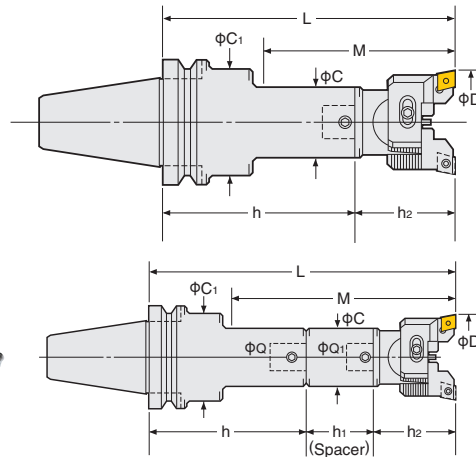
# 2LOCK BALANCE-CUT BORING ARBOR

**NIKKEN**

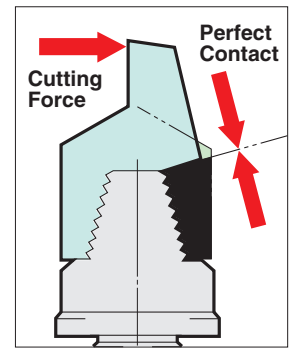
Boring for Roughing



RAC

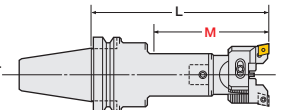


Power of Shoulder Support



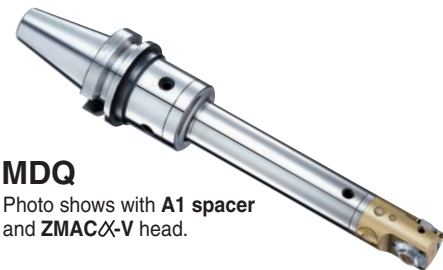
TAPER	Code No.	Boring Range D	Boring Depth M	Coupling Dia Q	C	C1	P.62		Weight (kg)
							Head No.	Tip No.	
	NBNo.- Min.D -L						Q- Min.D -h2		
No.40	NBT40-RAC 25-135E, 165E, 180E	25~32	67, 105, 112	12	24	35	12-RAC 25- 55E	CC07-C	2.0, 2.1, 2.1
	(NIT40)-RAC 32-150E, 180E, 195E	32~45	77, 110, 122	16	31	42	16-RAC 32- 55E	CC08-C	2.4, 2.6, 2.6
	-RAC 43-150E, 180E, 210E	43~55	97, 130, 157	20	40	50	20-RAC 43- 70E	CC12-C	2.7, 2.9, 3.2
	-RAC 53-165E, 210E, 225E	53~70	135, 180, 195	26	50	64	26-RAC 53- 70E		2.5, 3.3, 3.2
	-RAC 70-180E, 195E, 240E	70~100	180, 195, 240	34	64	83	34-RAC 70- 85E		4.8, 5.2, 6.2
	-RAC100-195E	100~130	195	42	83	83	42-RAC100-100E		6.8
No.50	NBT50-RAC 25-150E, 180E, 195E	25~32	67, 105, 112	12	24	44	12-RAC 25- 55E	CC07-C	4.7, 4.9, 4.8
	(NIT50)-RAC 32-180E, 210E, 225E	32~45	77, 110, 122	16	31	50	16-RAC 32- 55E	CC08-C	5.4, 5.6, 5.6
	-RAC 43-180E, 195E, 225E, 240E	43~55	97, 130, 142, 157	20	40	60	20-RAC 43- 70E	CC12-C	5.7, 5.8, 6.1, 6.2
	-RAC 53-210E, 240E, 270E	53~70	117, 182, 177	26	50	65	26-RAC 53- 70E		6.9, 7.0, 7.6
	-RAC 70-255E, 285E, 315E	70~100	205, 235, 265	34	64	80	34-RAC 70- 85E		9.5, 9.9, 10.9
	-RAC100-225E, 290E, 325E*	100~130	225, 290, 325	42	83	83	42-RAC100-100E		12.5, 15.2, 16.5

★"C" grade (Coated) inserts are supplied as standard with the head. P.62 Please refer P.106 for cutting condition.  
 ★Please refer P.195 for base holder, P.90 for spacer and P.67 for head.  
 ★For centre through coolant type, please add "C" at the end of Code No. e.g. NBT40-RAC53-165-C  
 ★Cartridges & Insert tips for the Heavy Duty Boring of Iron and Cast Iron (No letter), for Aluminum (A), and for Through Hole & Multiple Sheets (K) are available. Please refer P.68 for cartridges. Please add the letter "No letter", "A" or "K" at the end of Code No. e.g. NBT40-RAC53-165A  
 ★\* : NBT50-RAC100-375E, 425E and 475E are also available.  
 Code No. of RAC25 and RAC32 with CC inserts are changed to RAC25E and RAC32E. Please refer P.59, P.60  
 ★When L length is required longer than standard, please specify the boring depth M and Q No.



# 2LOCK MAJOR DREAM HOLDER BASE HOLDER for MODULAR TYPE JAPAN PAT.

**NIKKEN**



MDQ

Photo shows with A1 spacer and ZMACX-V head.

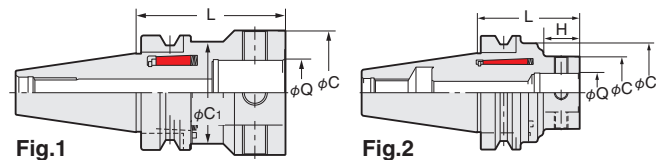
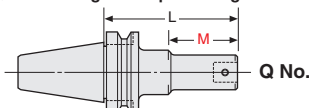


Fig.1

Fig.2

TAPER	Code No.	Q	L	C	C1	H	Weight (kg)	ZMAC-V Boring Range	Fig
No.30	NBT30-MDQ26- 60	26	60	50	50	37.5	-	16~70	1
No.40	NBT40 (NIT40)-MDQ26- 65	26	65	50	54	30.0	1.3	16~70	2
No.50	NBT50-MDQ26- 80	26	80	50	87	22.0	4.6	16~70	
	(NIT50)-MDQ34- 90	34	90	64	87	32.0	4.9	16~85	
	-MDQ42-100	42	100	83	87	45.0	5.7	16~180	

★All base holders are used for centre through coolant. ★Coupling bolt and wrench are supplied as standard.  
 ★ZMACX-V head is recommended to use with the MAJOR DREAM base holder for anti-vibration.  
 ★When L length is required longer than standard, please specify the boring depth M and Q No.



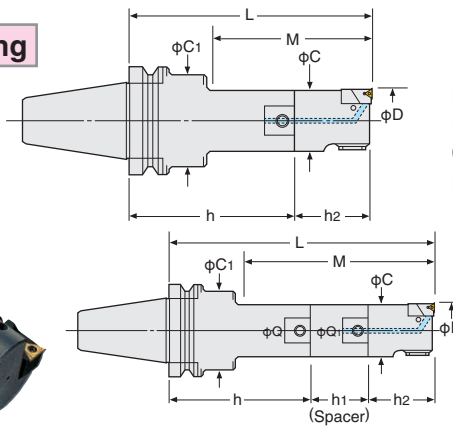
# 2LOCK ZMAC ADVANCED BORING ARBOR (ZMAC-V)

**NIKKEN**

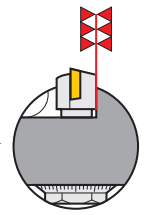
JAPAN PAT.



Boring for Finishing



No Micro Vibration due to Double-Contact Support of Cartridge. Long Tool-Life & High Accuracy.



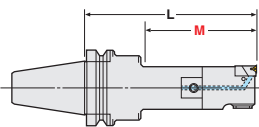
ZMAC-V

Only ZMAC16-V

All codes shown are for heads with triangular inserts For heads with rhomboid inserts please add the letter "R" to the code No. e.g. NBT40-ZMAC32 R -150V

TAPER	Code No.	Boring Range D	Boring Depth M	Coupling Dia Q	C	C1	P.109		Weight (kg)
							Head No.	Insert No.	
	NBTNo.- Min.D - L						Q- Min.D -h2		
No.40	NBT40-ZMAC 16-125V, 135V	15.9~20.2	38, 48	12	15	24	12-ZMAC16-45V, 55V	3MP-C,B	1.9, 1.9
	(NIT40)-ZMAC 20-120V, 135V, 150V	19.8~25.2	45, 67, 75	9	19	30	9-ZMAC20-40V		1.9, 1.9, 2.0
	-ZMAC 25-120V, 150V, 165V	24.8~32.2	52, 90, 97	12	24	35	12-ZMAC25-40V		2.0, 2.1, 2.1
	-ZMAC 32-150V, 180V, 195V	31.8~42.2	77, 110, 122	16	31	42	16-ZMAC32-55V	4MP-C,B	2.5, 2.7, 2.7
	-ZMAC 42-150V, 180V, 210V	41.8~55.2	97, 130, 157	20	40	50	20-ZMAC42-70V		3.0, 3.2, 3.5
	-ZMAC 55-165V, 210V, 225V	54.8~70.2	135, 180, 195	26	53		26-ZMAC55-70V		3.9, 4.6, 4.6
	-ZMAC 70-165V, 180V, 225V	69.8~85.2	165, 180, 225	34	67	64	34-ZMAC70-70V		5.4, 5.8, 6.8
	-ZMAC 85-195V	84.8~100.2	195	42	83	62	42-ZMAC85-100V	6MP-C,B	9.0
No.50	NBT50-ZMAC 16-140V, 150V	15.9~20.2	38, 48	12	15	24	12-ZMAC16-45V, 55V		3MP-C,B
	(NIT50)-ZMAC 20-150V, 165V, 180V	19.8~25.2	45, 67, 75	9	19	40	9-ZMAC20-40V	4.8, 4.8, 4.9	
	-ZMAC 25-135V, 165V, 180V	24.8~32.2	52, 90, 97	12	24	44	12-ZMAC25-40V	4.8, 4.8, 4.9	
	-ZMAC 32-180V, 210V, 225V	31.8~42.2	77, 110, 122	16	31	50	16-ZMAC32-55V	4MP-C,B	5.5, 5.6, 5.7
	-ZMAC 42-180V, 195V, 225V, 240V	41.8~55.2	97, 130, 142, 157	20	40	60	20-ZMAC42-70V		6.0, 6.0, 6.4, 6.5
	-ZMAC 55-210V, 240V, 270V	54.8~70.2	117, 182, 177	26	53	65	26-ZMAC55-70V		7.5, 7.6, 8.1
	-ZMAC 70-240V, 270V, 300V	69.8~85.2	190, 220, 250	34	67	80	34-ZMAC70-70V	6MP-C,B	10.0, 10.6, 11.5
	-ZMAC 85-225V, 290V, 315V	84.8~100.2	182, 247, 272	42	83	83	42-ZMAC85-100V		12.5, 15.0, 16.0
	-ZMAC100-225V, 290V*	99.5~140.5	225, 290				42-ZMAC100-100V		13.8, 16.5
-ZMAC140-225V, 290V*	139.5~180.5	42-ZMAC140-100V		14.6, 17.3					

- ★MIN. dial readout : ZMAC25-V & smaller is 0.02mm on diameter. ZMAC32-V and larger are 0.01mm on diameter.
- ★"C" grade (Coated) insert for Steel, Stainless & Cast Iron is supplied as Standard with the head (Smooth boring & Long tool-life). P.109 Please refer P.107 for cutting condition. We would recommend "B" grade (CBN) insert for Hardened Steel & High Speed boring of Cast Iron.
- ★Please refer P.195, P.90 for Shank&Spacer, and P.75, P.76 for Head.
- ★Centre Through Coolant function is available as standard.
- ★For NBT30, modular connection system is applied. Please refer P.195 for Base Holder.
- ★\* : NBT50-ZMAC100-325V, 375V, 425V, 475V are also available. NBT50-ZMAC140-325V, 375V, 425V, 475V
- ★When L length is required longer than standard, please specify boring depth M.



## High Speed Boring ZMAC X-V

Special Hardened light alloy metal head with balancing for preventing from high frequency vibration.  
Ultra high speed boring:MAX.12,000r/min



## ZMAC-V for Multi-Stage Boring Bar

Please contact us for the special boring bar.



Photo. shows NC5 shank.

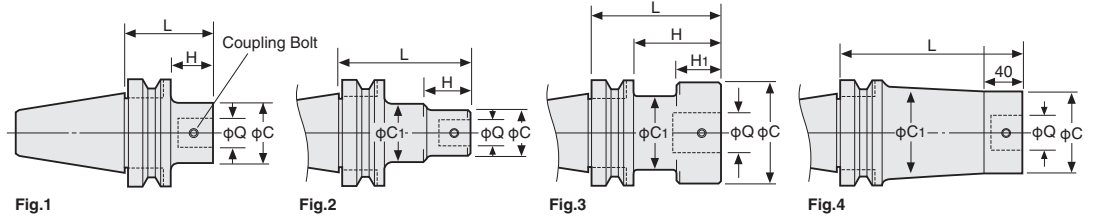
Please contact us for your application with the boring diameter. P.76  
e.g. NBT40-ZMAC42-150AAV  
Boring dia.:φ43.5mm

High Pressure Coolant Through Tool

2Lock

# 2LOCK BASE HOLDER for MODULAR TYPE

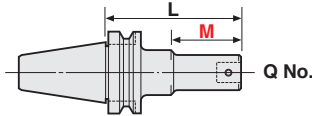
**NIKKEN**



TAPER	Code No.	Coupling Dia Q	L	C	C <sub>1</sub>	H	H <sub>1</sub>	Coupling Bolt No.	Fig.	Weight(kg)	
No.30	NBT30-Q 9- 50	9	50	19	30	20	-	B19	2	0.5	
	-Q12- 65	12	65	24	-	40		B12	1		
	-Q16- 50	16	50	31	-	25		B16			
	-Q20- 50	20		40	26	B20					
	-Q26- 40	26	40	50	45	18		6	B26N		3
No.40	NBT40-Q 9- 80, 95N	9	80,95	19	30	5,27	-	B19	2	1.2, 1.2	
	(NIT40)-Q12- 80,110	12	80,110	24	35	12,50		B12		1.2, 1.3	
	-Q16- 95,125	16	95,125	31	42	22,55		B16		1.5, 1.6	
	-Q20- 80,110	20	80,110	40	50	27,60		B20	1.5, 1.7		
	-Q26- 50, 95,140	26	50,95,140	50	-	20,65,110		B26N	1	1.1, 1.8, 2.4	
	-Q34- 95,110	34	95,110	64	62	68,83		55,70	B34	3	2.2, 2.6
	-Q42- 95	42	95	83	62	68		55	B42	3	2.8
No.50	NBT50-Q 9-110,125N	9	110,125	19	40	5,27	-	B19	2	4.1, 4.1	
	(NIT50)-Q12- 95,125	12	95,125	24	44	12,50		B12		4.0, 4.0	
	-Q16-125N,155	16	125,155	31	50	22,55		B16		4.5, 4.6	
	-Q20-110,125	20	110,125	40	60	27,60		B20	4.6, 4.5		
	-Q26- 65,140,170N	26	65,140,170	50	65	27,47,112		B26N	1,2,2	3.7, 5.3, 5.4	
	-Q34-140,170,200	34	140,170,200	64	80	102,120,150		B34	1,2,2	5.6, 6.5, 7.1	
	-Q42-125,190	42	125,190	83	-	87,152		B42	1	6.5, 9.1	
-Q42-225A,275A 325A,375A	42	225,275 325,375	83	98	-	B42	4	12.9, 15.6 18.3, 21.0			

★φC of Q26 base holder has been increased from 45mm to 50mm due to improvement of its rigidity.  
 ★All base holders have a centre through-tool coolant hole.  
 ★The Coupling screw & wrench are supplied as standard.

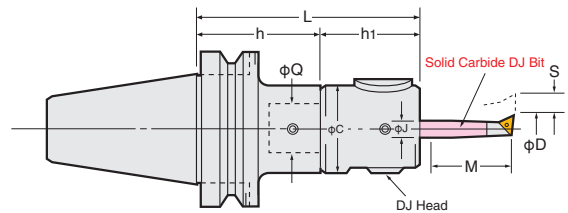
★When L length is required longer than standard, please specify the boring depth M.



# 2LOCK DJ BORING BAR

**NIKKEN**

For both wide range small quantity production and mass production  
 Boring Head with **Power of Solid Carbide DJ Bit**



TAPER	Code No.	Boring Range	Boring Depth	L	C	Bit Hole	Shank Code No.	Head Code No.	Bit Stroke	DJ Bit Code No.
						Size				
No.30	NBT30-DJ3- 80A	3~28	14~ 80	80	50	10	NBT30-Q26- 40	Q26-DJ3-40A	5.2	J10
	-DJ8- 84AN	3~50	14~130	84	59	16		-DJ8-44AN	6.0	J16
No.40	NBT40-DJ3- 90A	3~28	14~ 80	90	50	10	NBT40-Q26- 50	Q26-DJ3-40A	5.2	J10
	(NIT40) -135A			135						
	-DJ8- 94AN	3~50	14~130	94	59	16	NBT40-Q26- 50	-DJ8-44AN	6.0	J16
	-139AN			139						
No.50	NBT50-DJ3-105A	3~28	14~ 80	105	50	10	NBT50-Q26- 65	Q26-DJ3-40A	5.2	J10
	(NIT50) -210A			210						
	-DJ8-109AN	3~50	14~130	109	59	16	NBT50-Q26- 65	-DJ8-44AN	6.0	J16
	-214AN			214						

★MIN. dial readout on dia.: 0.01mm, Sub scale: 0.005mm, 0.8mm/rev.

★Each boxed set of DJ3 and DJ8 Boring Bars include 4 pcs of DJ Boring Bits as standard.

★Bits included for NBT40-DJ8-94A : J16-8-40, J16-18-80, J16-28-85, J16-38-85  
 Bits included for NBT40-DJ8-94AN : J16-8-40, J16-18-60, J16-28-65, J16-38-65

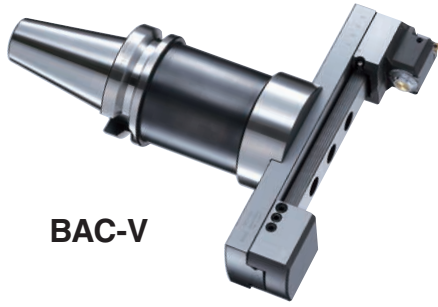
★Shank and DJ Head(including Boring Bits) are delivered in separate packages.

★Please refer P.88 for Boring Bits. Please refer P.108 for cutting condition.

★DJ Boring Bar without Boring Bits is also available. Please add“-BD”at the end of Code No. e.g. NBT40-DJ3-90A-BD

# 2LOCK BALANCE-CUT BAC ADVANCED BORING ARBOR for LARGE DIA. JAPAN PAT.

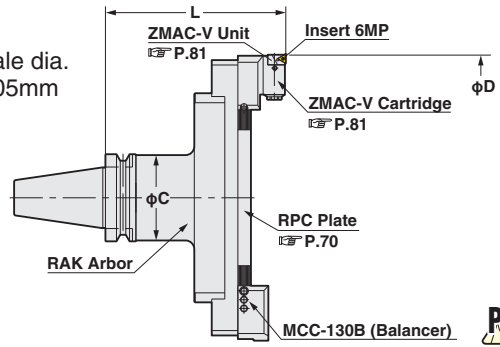
**NIKKEN**



**BAC-V**

## For Finishing

- Min. dial read out: main scale dia. 0.01mm, sub scale dia. 0.005mm
- Boring Dia:  $\phi 130 \sim 595\text{mm}$

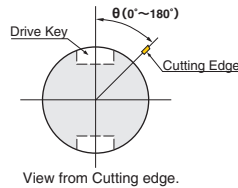


**P.109**

Boring Dia:  $\phi 130 \sim 595\text{mm}$  for Finishing.

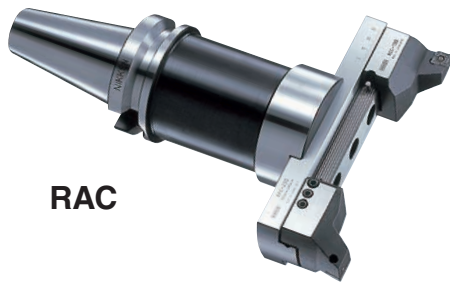
TAPER	Code.No	D		L	C	RAK Arbor Code No.	PPC Plante No	Cartridge (Balancer)	Weight (kg)
		MIN.	MAX.						
No.40	NBT40 -BAC130-205V	130	195	205	61	NBT40-RAK-130A	RPC-130		6.8
	(NIT40) -BAC180-205V	180	245						7.8
No.50	NBT50 -BAC130-185V, 235V, 285V	130	195	185, 235, 285	90	NBT50-RAK-110A, 160A, 210A	RPC-130	MCCZ-130V (MCC-130B) Insert Tip 6MP	13.0, 14.5, 17.5
	(NIT50) -BAC180-185V, 235V, 285V	180	245						13.5, 15.0, 18.0
	-BAC230-185V, 235V, 285V	230	295						14.0, 15.5, 18.5
	-BAC280-185V, 235V, 285V	280	345	14.5, 16.0, 19.0					
	-BAC330-210V*	330	395	210 (220*)	98	NBT50-RAK330-125 NIT50-RAK330-135*	RPC-330		16.2
	-BAC380-210V*	380	445						16.5
	-BAC430-210V*	430	495						17.5
	-BAC480-210V*	480	545						18.5
-BAC530-210V*	530	595	19.5						

- ★"C" grade (Coated) Inserts are supplied as standard. ★Please refer P.107 for cutting condition.
- ★Unit "M5HZ-55V" is provided as standard, please refer P.70 for Arbor (RAK) and Plate (RPC).
- ★Arbor, Plate and Cartridge are delivered in separate packages.
- ★When ordering, please let us know machine maker and model no. to avoid the interference with tool magazine of ATC.
- ★The location of cutting edge is same as drive key in standard.
- The different location is available, please specify  $\theta$  in Code No. e.g. NBT50-BAC180-235V (90°)
- ★The boring arbors marked\*with NIT50, L (gauge length) is 220. e.g. NIT50-BAC330-220V



# 2LOCK BALANCE-CUT RAC BORING ARBOR for LARGE DIA. JAPAN PAT.

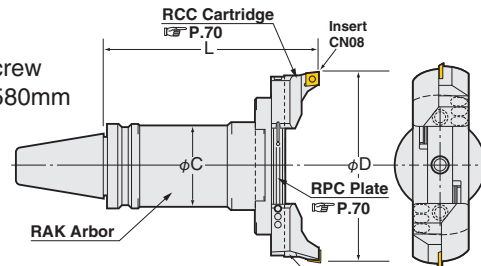
**NIKKEN**



**RAC**

## For Roughing

- With slight adjust screw
- Boring Dia:  $\phi 130 \sim 580\text{mm}$



**P.62**

Boring Dia:  $\phi 130 \sim 580\text{mm}$  for Roughing.

TAPER	Code.No	D		L	C	RAK Arbor Code No.	PPC Plante No	Cartridge No. for Large dia.	Weight (kg)
		MIN.	MAX.						
No.40	NBT40 -RAC130-205	130	180	205	61	NBT40-RAK-130A	RPC-130		6.8
	(NIT40) -RAC180-205	180	230						7.8
No.50	NBT50 -RAC130-185, 235, 285	130	180	185, 235, 285	90	NBT50-RAK-110A, 160A, 210A	RPC-130	For Heavy Duty Boring of Iron and Cast Iron RCC-130 x2 Insert Tip CN08	11.3, 12.8, 15.8
	(NIT50) -RAC180-185, 235, 285	180	230						11.8, 13.3, 16.3
	-RAC230-185, 235, 285	230	280						12.3, 13.8, 16.8
	-RAC280-185, 235, 285	280	330	12.8, 14.3, 17.3					
	-RAC330-210*	330	380	210 (220*)	98	NBT50-RAK330-125 NIT50-RAK330-135*	RPC-330		15.5
	-RAC380-210*	380	430						16.5
	-RAC430-210*	430	480						17.5
	-RAC480-210*	480	530						18.5
-RAC530-210*	530	580	19.5						

- ★The Code No. on above table are the boring arbors with RCC-130 cartridge (Insert tip: CN08) the Heavy Duty Boring of Iron and Cast Iron. Please refer P.106 for cutting condition.
- ★Boring arbor with cartridges & insert for Steel, Stainless Steel and Cast Iron (E), for Aluminum (A) and for Through Hole & Multi Sheets (K) are available.
- Please refer P.70 for cartridges. e.g. NBT50-RAC130-185E
- ★Arbor, Plate and Cartridge are delivered in separate packages. ★When ordering, please let us know machine maker and model no. to avoid the interference with tool magazine of ATC.
- The location of cutting edge is same as drive key in standard. The different location is available, please specify  $\theta$  in Code No. e.g. NBT50-RAC180-235 (90°)
- ★The boring arbors marked\*with NIT50, L (gauge length) is 220. e.g. NIT50-RAC330-220

2Lock

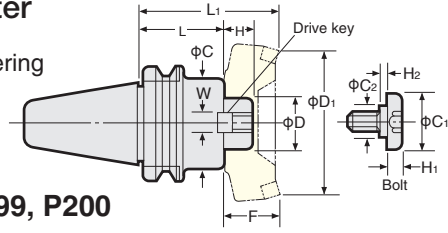
# 2LOCK FACE MILL ARBOR



FMA

For JIS B4113 Face Mill Cutter

Taper contact area of more than 80% ensures reliable milling with no chattering accompanied

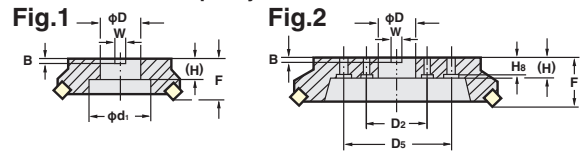


FMH Arbor for High Feed with Coolant Through P.199, P200

TAPER	Code No. ( $\phi D$ -L)	Dimensions								Weight (kg)	Dimension of Arbor with cutter			Drive Key	Bolt
		H	C	W	C <sub>1</sub>	C <sub>2</sub>	H <sub>1</sub>	H <sub>2</sub>	L <sub>1</sub>		D <sub>1</sub>	F			
No.30	NBT30-FMA25.4 - 45	22	50	9.5	33	23	10	2	1.3	95	80	50	FW 5	FM12	
	NBT40-FMA25.4 - 45	22	50	9.5	33	23	10	2	1.5	95	80	50	FW 5	FM12	
	-FMA25.4 - 90								3.1	140			FW 5		
No.40	-FMA31.75 - 45	30	60	12.7	40	23	10	6	1.7	105	100	60	FW13	FM16	
	-FMA31.75 - 75								3.1	135					
	-FMA38.1 - 60	34	80	15.9	50	27	14	6	2.9	120	125	60	FW18	FM20	
No.50	NBT50-FMA25.4 - 45								3.7	95					
	-FMA25.4 - 90	22	58	9.5	33	23	10	2	4.6	140	80	50	FW 5	FM12	
	-FMA25.4 -150								5.5	200					
	-FMA31.75 - 45								4.5	105			FW12		
	-FMA31.75 - 75	30	70	12.7	40	23	10	6	5.3	135	100	60	FW13	FM16	
	-FMA31.75 -105								6.1	165					
	-FMA38.1 - 45								4.3	105			FW18		
	-FMA38.1 - 75	34	80	15.9	50	27	14	6	5.6	135	125	60	FW19	FM20	
	-FMA50.8 - 45								4.9	105			FW23		
-FMA50.8 - 75	36	100	19	65	37	14	10	6.8	135	160	60	FW24	FM24		
	-FMA47.625- 75	38	128.57	25.4	—	—	—	—	7.7	135	200	60	FW26	*	

- ★ Drive keys, L-Wrench & Bolt are supplied as standard.
- ★ The arbor marked \*requires 4 fixing bolts.
- ★ Above weight is for Arbor only. (Not include Face Mill Cutter)
- ★ FMA25.4 type Arbor is suitable for NIKKEN PRO-END MILL  $\phi 60$  (PE60HC) and  $\phi 80$  (PE80HC).
- ★ FMA31.75 type Arbor is suitable for NIKKEN PRO-END MILL  $\phi 100$  (PE100HC). Please refer to P.117.
- ★ Code No. of Centre Through Coolant type FMA Arbor for NIKKEN PRO-END MILL is : e.g. NBT40-FMA25.4C-45
- ★ Extended length Face Mill Arbors are available on request.
- NBT50-FMA25.4 -200,-250
- FMA31.75-150,-200
- FMA38.1 -150,-200
- ★ Diameter  $\phi C$  of NBT50-FMA25.4 and NBT50-FMA31.75 are enlarged.

In case of the special cutter, please specify the dimensions below.



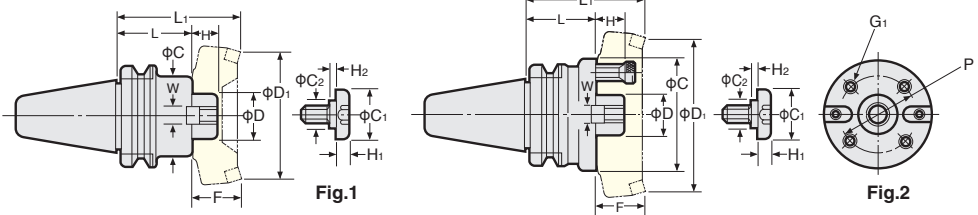
# 2LOCK FACE MILL ARBOR



FMB

Inch Series

Taper contact area of more than 80% ensures reliable milling with no chattering accompanied



(●)figures for Metric Series

Metric Series

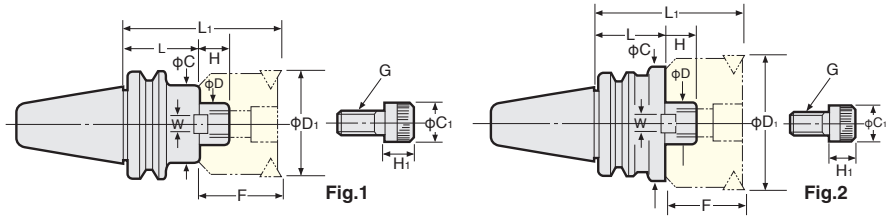
TAPER	Code No. ( $\phi D$ -L)	Dimensions										Weight (kg)	Dimension of Arbor with cutter			Fig.	Code No. ( $\phi D$ -L)
		H	C	W	C <sub>1</sub>	C <sub>2</sub>	H <sub>1</sub>	H <sub>2</sub>	G <sub>1</sub>	P	L <sub>1</sub>		D <sub>1</sub>	F			
No.30	NBT30-FMB25.4 - 45	26	80	9.5(12)	33	23	10	2	—	—	1.7	95	80	50	1	NBT30-FMB27 - 45	
	NBT40-FMB25.4 - 60										2.5	110	80	50	1	NBT40-FMB27 - 60	
	-FMB25.4 - 90	26	80	9.5(12)	33	23	10	2	—	—	4.7	140				-FMB27 - 90	
No.40	-FMB38.1 - 60										7.4	123	125	63		-FMB40 - 60	
	NBT50-FMB25.4 - 45										4.0	95			1	NBT50-FMB27 - 45	
	-FMB25.4 - 90										5.8	140	80	50		-FMB27 - 90	
No.50	-FMB25.4 -150										8.2	200				-FMB27 -150	
	-FMB38.1 - 45										4.7	108				-FMB40 - 45	
	-FMB38.1 - 75	26									6.1	138			1	-FMB40 - 75	
	-FMB38.1 -105										8.7	168	125	63		-FMB40 -105	
	-FMB38.1F- 75										6.6	138				-FMB40F- 75	
		-FMB60 - 75	25	140	25.4	—	—	—	—	—	M12	66.7	6.6			2	-FMB60 - 75
											M16	101.6	7.9	200	63		

- ★ Drive keys, L-Wrench & Bolt are supplied as standard.
- ★ Above weight is for Arbor only. (Not include Face Mill Cutter)

# 2LOCK SHOULDER CUTTER ARBOR



Taper contact area of more than 80% ensures reliable Milling with no chattering accompanied.



## FMC

### Inch Series

(●) figures for Metric Series

### Metric Series

TAPER	Dimensions				Weight (kg)	Dimensions of Arbor with cutter				C <sub>1</sub>	H <sub>1</sub>	Fig	Code No. (φD -L)
	Code No. (φD -L)	H	C	W		L <sub>1</sub>	D <sub>1</sub>	F	G CAP bolt				
No.30		18	45	10	1.4	80	50	40	9GM 10-30	16	10	1	NBT30-FMC22- 40
		18	45	10	1.3	85	50	40	9GM 10-30	16	10	1	NBT40-FMC22- 45
No.40	NBT40-FMC25.4- 60	20	60	9.4(12)	2.0	130	80	50	9GM 12-35	18	12	2	FMC22- 90
	-FMC25.4- 90				1.5	110							FMC27- 60
	-FMC38.1- 60	22	85	15.5(14)	2.2	140	125	50	9GM 16-35	30 (24)	15(16)	FMC27- 90	
	-FMC38.1- 75				2.3	110						FMC32- 60	
					2.6	125						FMC32- 75	
No.50		18	45	10	4.2	100	50	40	9GM 10-30	16	10	1	NBT50-FMC22- 60
					4.7	145							FMC22-105
					5.3	190							FMC22-150
	NBT50-FMC25.4- 45				4.1	95	80	50	9GM 12-35	18	12	1	FMC27- 45
	-FMC25.4- 90	20	70	9.4(12)	5.5	140							FMC27- 90
	-FMC25.4-150				7.3	200							FMC27-150
	-FMC38.1- 45				4.2	95	125	50	9GM 16-40	30 (24)	15(16)		FMC32- 45
	-FMC38.1- 75	22	85	15.5(14)	5.5	125							FMC32- 75
	-FMC38.1-105				7.0	155							FMC32-105

★Drive keys, L-Wrench & Bolt are supplied as standard.  
 ★Above weight is for Arbor only. (Not include Face Mill Cutter)  
 ★FMC22 type Arbor is suitable for NIKKEN PRO-END MILL φ50 (PE50HC). 参考 P.117  
 ★Code No. of Centre Through Coolant type FMC Arbor for NIKKEN PRO-END MILL is e.g. NBT40-FMC22C-45.

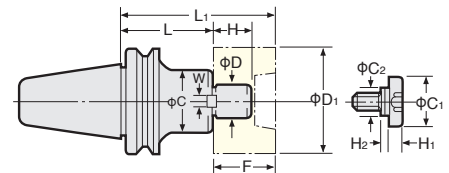
# 2LOCK SHELL END MILL ARBOR



SMA

## JIS B4214 for SHELL END MILL

Taper contact area of more than 80% ensures reliable Milling with no chattering accompanied.



### Inch Series

(●) figures for Metric Series

### Metric Series

TAPER	Dimensions								Weight (kg)	Dimensions of Arbor with cutter			Code No. (φD -L)
	Code No. (φD -L)	H	C	W	C <sub>1</sub>	C <sub>2</sub>	H <sub>1</sub>	H <sub>2</sub>		L <sub>1</sub>	D <sub>1</sub>	F	
No.30	NBT30-SMA15.875-30	17	34	8	20	15	7	2	0.9	60	35	30	NBT30-SMA16-30
	-SMA22.225-30	27	42		28	18	9		1.0	75	45(50)	45	-SMA22-30
No.40	NBT40-SMA15.875-60,120	17	34	8	20	15	7	2	1.3-1.7	90-150	35(40)	30	NBT40-SMA16-60,120
	-SMA22.225-60,120	27	42		28	18	9		1.4-2.1	105-165	45(50)	45	-SMA22-60,120
	-SMA25.4 -45,105	36	50	10	33	23	10	6	1.4-2.3	105-165	60(75)	60	-SMA27-45,105
	-SMA31.75 -45,75	38	60		40				1.6-2.3	106-135	100	60	-SMA32-45,75
	-SMA38.1 -60	80	12	50	27	14			3.0	120	125		-SMA40-60
No.50	NBT50-SMA15.875-75,120	17	34	8	20	15	7	2	4.2-5.8	105-150	35(40)	30	NBT50-SMA16-75,120
	-SMA22.225-75,120,180	27	42		28	18	9		4.3-4.8-5.5	120-165-225	45(50)	45	-SMA22-75,120,180
	-SMA25.4 -60,105,150	36	50	10	33	23	10	6	4.3-5.2-5.8	120-165-210	60(75)	60	-SMA27-60,105,150
	-SMA31.75 -45,75,105	38	60		40				4.2-5.2-6.2	105-135-165	100	60	-SMA32-45,75,105
	-SMA38.1 -45,75	80	12	50	27	14			4.3-5.5	105-135	125		-SMA40-45,75

## SMB

### Inch Series

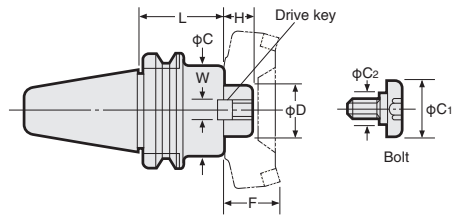
TAPER	Dimensions								Weight (kg)	Dimensions of Arbor with cutter		
	Code No. (φD -L)	H	C	W	C <sub>1</sub>	C <sub>2</sub>	H <sub>1</sub>	H <sub>2</sub>		L <sub>1</sub>	D <sub>1</sub>	F
No.30	NBT30-SMB22.225-50	17	40	8	28	18	9	2	1.0	65	50	35
No.40	NBT40-SMB22.225-45,120	17	45	8	28	18	9	2	1.3-2.2	80-155	50	35
	-SMB31.75 -45,75	30	60	12.7	40	23	10	6	1.6-2.3	95-125	75	50
	-SMB38.1 -60	36	80	15.9	50	27	14		2.8	120	100	60
No.50	NBT50-SMB22.225-60,120,180	17	45	8	28	18	9	2	4.3-5.0-5.7	95-155-215	50	35
	-SMB31.75 -45,75,105	30	60	12.7	40	23	10	6	4.2-5.2-6.2	95-125-155	75	50
	-SMB38.1 -45,75,	36	80	15.9	50	27	14		4.3-5.5	105-135	100	60

★Above weight is for Arbor only. (Not include Face Mill Cutter)

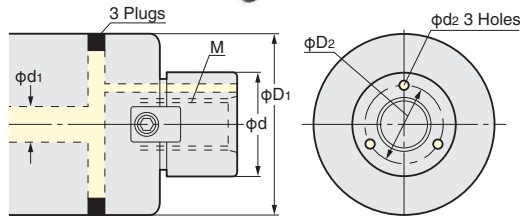
# 2LOCK FMH FACE MILL ARBOR



■ For Oil Hole Cutter  
■ For High Feed Cutter



FMH



Code No.	Cutter Dia.	φd	φD1	M	Coolant Hole		
					φD2	φd1	φd2
FMH22.225	φ50, φ52	22.225	47	M10 P1.5	16	6~8	3
	φ63, φ66		60				
FMH25.4	φ80	25.4	76(70)	M12 P1.75	19.5(18.5)	8~10	3.5
FMH31.75	φ100	31.75	96	M16 P2.0	24	10~13	4
FMH38.1	φ125	38.1	100	M20 P2.5	30(29)	10~15	5
FMH50.8	φ160	50.8	100	M24 P3.0	37.5	15~20	7

★ Fixing dimension is basically based on FMA/FMC. ★ The combination of the other cutter dia. are also available.

## FMH Inch Series

TAPER	Code No.	Arbor						Drive Key	Lock Bolt	G Cap Bolt	Weight (kg)
		D	L	H	C	C1	W				
No.40	NBT40-FMH22.225- 47 - 45	22.225	45	17	47	28	8	FW 3	FM10	—	1.3
	(NIT40) - 60		60								1.5
	- 90		90								1.9
	-150		150								2.7
	-FMH22.225- 60 - 45	22.225	45	17	60	28	8	FW 3	FM10	—	1.5
	- 60		60								1.8
	- 90		90								2.5
	-FMH25.4 - 70 - 60	25.4	60	22	70	33	9.5	FW 5	FM12	—	2.0
	- 90		90								2.7
	-105		105								3.1
	-FMH31.75 - 76 - 60	31.75	60	30	76	40	12.7	FW13	FM16	—	2.2
	- 90		90								2.9
	-FMH31.75 - 96 - 60	31.75	60	30	96	40	12.7	FW13	FM16	—	2.5
	No.50	NBT50-FMH22.225- 47 - 60	22.225	60	17	47	28	8	FW 3	FM10	—
(NIT50) -105		105		4.7							
-150		150		5.3							
-200		200		6.0							
-250		250		6.6							
-300		300		7.7							
-350		350		8.9							
-FMH22.225- 60 - 60		22.225	60	17	60	28	8	FW 3	FM10	—	4.2
-105			105								5.2
-150			150								6.2
-200			200								7.4
-250			250								8.5
-300			300								9.6
-350		350	10.6								
-FMH25.4 - 70 - 45		25.4	45	22	70	33	9.5	FW 5	FM12	—	4.0
- 60			60								4.5
- 90			90								5.4
-150			150								7.2
-200			200								8.7
-250			250								10.3
-300			300								11.8
-FMH31.75 - 76 - 45		31.75	45	30	76	40	12.7	FW12	FM16	—	4.1
- 75			75					5.2			
-105			105					6.3			
-150			150					7.9			
-200			200					9.7			
-250			250					11.6			
-300			300					13.4			
-FMH31.75 - 96 - 45		31.75	45	30	96	40	12.7	FW13	FM16	—	4.3
- 75			75								6.0
-105			105								7.7
-150			150								10.3
-200			200								13.1
-250			250								16.4
-300	300		19.2								
-FMH38.1 -100 - 45	38.1	45	34	100	50	15.9	FW18	FM20	—	4.4	
- 75		75					6.3				
-105		105					8.1				
-150		150					10.9				
-200		200					14.5				
-250		250					17.5				
-300		300					20.5				
-FMH50.8 -100 - 45	50.8	45	36	100	65	19	FW23	FM24	—	4.4	

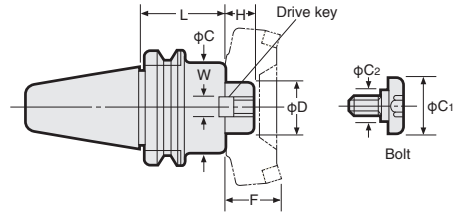
★ Drive keys, L-Wrench & Bolt are supplied as standard.  
★ Above weight is for Arbor only. (Not include Face Mill Cutter)



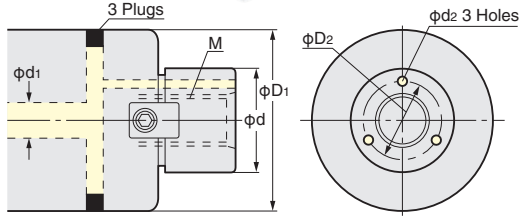
# 2LOCK FMH FACE MILL ARBOR



■ For Oil Hole Cutter  
■ For High Feed Cutter



FMH



Code No.	Cutter Dia.	φd	φD1	M	Coolant Hole		
					φD2	φd1	φd2
FMH16	φ40	16	37	M8 P1.25	12	6	2
FMH22	φ50, φ52	22	47	M10 P1.5	16	6~8	3
	φ63, φ66		60				
FMH27	φ80	27	60,76	M12 P1.75	18.5	8~10	3.5
FMH32	φ100	32	96	M16 P2.0	24	10~13	4
FMH40	φ125	40	100	M20 P2.5	29	10~15	5

★Fixing dimension is basically based on FMA/FMC. ★The combination of the other cutter dia. are also available.

## FMH Metric Series

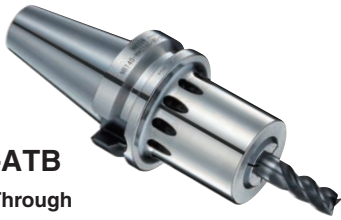
TAPER	Code No.	Arbor						Drive Key	Lock Bolt	G Cap Bolt	Weight (kg)	
		D	L	H	C	C1	W					
No.30	NBT30-FMH16- 37 - 35	16	35	17	37	20	8	FW 3	FM 8	—	0.6	
	-FMH22- 47 - 45	22	45	18	47	16	10	FW 8	—	9GM10-30	0.8	
	-FMH27- 60 - 45	27	45	20	60	18	12	FW11	—	9M12-35	1.0	
No.40	NBT40-FMH16- 37 - 40	16	40	17	37	20	8	FW 3	FM 8	—	1.1	
	(NIT40)-FMH22- 47 - 45		45								1.3	
	- 60		60	18	47	16	10	FW 8	—	9M10-30	1.5	
	- 90		90								1.9	
	-150		150								2.7	
	-FMH22- 60 - 45		45								1.5	
	- 60	22	60	18	60	16	10	FW 8	—	9M10-30	1.8	
	- 90		90								2.5	
	-FMH27- 60 - 45		45								1.5	
	- 60	27	60	20	60	18	12	FW11	—	9M12-35	1.8	
	- 90		90								2.5	
	-FMH27- 76 - 60		60	20	76	18	12	FW11	—	9M12-35	2.1	
- 90		90								2.8		
-FMH32- 96 - 60		60	22	96	24	14	FW16	—	9M16-35	2.4		
No.50	NBT50-FMH16- 37 - 60		60								3.8	
	(NIT50) -105	16	105	17	37	20	8	FW 3	FM 8	—	4.1	
	-150		150								4.5	
	-200		200								4.9	
	-FMH22- 47 - 60		60								4.1	
	-105		105								4.7	
	-150		150								5.3	
	-200	22	200	18	47	16	10	FW 8	—	9M10-30	6.0	
	-250		250								6.7	
	-300		300								7.8	
	-350		350								8.9	
	-FMH22- 60 - 60		60								4.2	
	-105		105								5.2	
	-150		150								6.3	
	-200	22	200	18	60	16	10	FW 8	—	9M10-30	7.4	
	-250		250								8.5	
	-300		300								9.6	
	-350		350								10.7	
	-FMH27- 60 - 45		45						9FWE27			3.9
	- 90		90									5.0
	-150		150									6.3
	-200	27	200	20	60	18	12	FW11	—	9M12-35	7.4	
	-250		250									8.5
	-300		300									9.6
-FMH27- 76 - 45		45						FW10			4.0	
- 90		90									5.6	
-150		150									7.8	
-200	27	200	20	76	18	12	FW11	—	9M12-35	9.7		
-250		250									11.4	
-300		300									13.2	
-FMH32- 96 - 45		60						FW15			4.2	
- 90		90									6.8	
-150		150									10.2	
-200	32	200	22	96	24	14	FW16	—	9GM16-35	13.3		
-250		250									16.1	
-300		300									19.0	
-FMH40-100 - 45		45						FW20			4.4	
- 75	40	75	26	100	50	16	FW22	FM20	—		6.2	
-105		105									8.1	

★Drive keys, L-Wrench & Bolt are supplied as standard.  
★Above weight is for Arbor only. (Not include Face Mill Cutter)

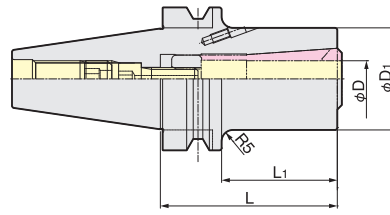
# 2LOCK MINI-MINI MASTER CHUCK



## MINI-MINI MASTER CHUCK



**MMC-ATB**  
Centre Through



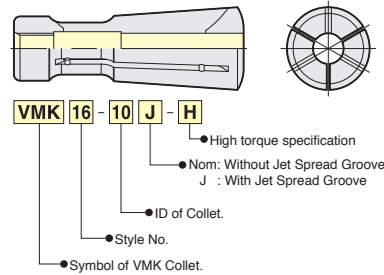
TAPER	Code No.	φD	L	φD1	L1	Collet	Weight (kg)
<b>NBT40</b>	<b>NBT40-MMC16C-80-ATB</b>	10~16	78	45	51	<b>VMK16-SF</b> <b>VMK16-H</b>	1.4
	<b>-MMC20C-85-ATB</b>	12~20	83	50	56	<b>VMK20-SF</b> <b>VMK20-H</b>	1.5
<b>NBT50</b>	<b>NBT50-MMC16C-80-ATB</b>	10~16	78	45	40	<b>VMK16-SF</b> <b>VMK16-H</b>	3.9
	<b>-MMC20C-85-ATB</b>	12~20	83	50	45	<b>VMK20-SF</b> <b>VMK20-H</b>	4.0

- ★VMK-H collet for high torque is recommended.
- ★Wrench is attached as standard.
- ★Balance adjustment screw is available as an option. The Code No. of the screw is 9SFB-ASC-M4-3, 4, 6
- ★Mounting handle is available as an option. The Code No. of the handle is 9SFB-AL-M2
- ★Set Code for handle and all screws are S.9SFB-ASC-M4
- ★The included wrench is for temporary fixing.

## High torque specification VMK-H Collet



**VMK-H**



### Standard VMK-H collet

VMK-H Collet Code No.	Min.Gripping Length
<b>VMK16-10, 12, 16-H</b>	40, 42, 42
<b>VMK20-12, 16, 20-H</b>	47, 47, 47

### VMK-H collet with Jet coolant groove

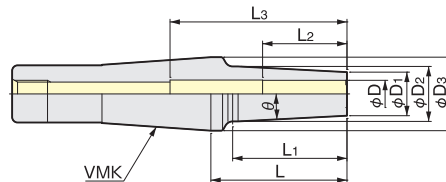
VMK-H Collet Code No.	Min.Gripping Length
<b>VMK16-10J, 12J, 16J-H</b>	40, 42, 42
<b>VMK20-12J, 16J, 20J-H</b>	47, 47, 47

★Please note the acceptable shank tolerance is h6~h8.

## VMK-SF Shrink Fit Holder



**VMK-SF**



### Standard Type

TAPER	Code No.	φD	φD1	φD2	φD3	θ	L	L1	L2	L3	Weight (kg)
<b>VMK16</b>	<b>VMK16-SF 3S- 50</b>	3	7.5	11.7	27	3°	50	42	10	-	0.3
	<b>-SF 4S- 50</b>	4	10	14.2					13		
	<b>-SF 6S- 50</b>	6	15	19.2					19		
	<b>-SF 8S- 50</b>	8	18	22.2					25		
	<b>-SF10S- 50,80,110</b>	10	16	20.2, 23.4, 27			31	65	0.3, 0.4, 0.5		
	<b>-SF12S- 50,80,110</b>	12	19	23.2, 27, 27			31	50	0.3, 0.4, 0.5		
	<b>-SF16S- 50,80,110</b>	16	24	27			33	50	0.4, 0.5, 0.6		

### High Rigidity Type

TAPER	Code No.	φD	φD1	φD2	φD3	θ	L	L1	L2	L3	Weight (kg)
<b>VMK20</b>	<b>VMK20-SF10R- 50,80,110</b>	10	22	26.2, 29.4, 32	32	3°	50, 80, 110	42, 72, 95.4	31	65	0.5, 0.6, 0.8
	<b>-SF12R- 50,80,110</b>	12	26	30.2, 32, 32						80	0.5, 0.7, 0.9
	<b>-SF16R- 50,80,110</b>	16	32	32			-	50, 80, 110	50, 80, 110	33	50

★Hybrid Shrink Fit Holder can be built by Mini-Mini Chuck Master and VMK-SF Shrink Fit Holder.

# 2LOCK HYBRID SHRINK-FIT HOLDER

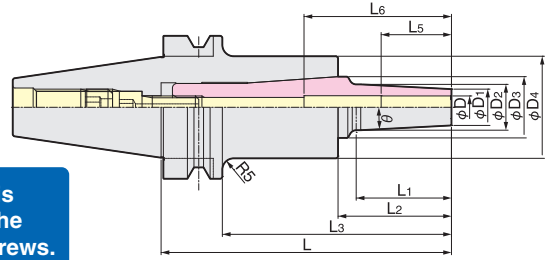
NEW

NIKKEN



MMSF-B  
Centre Through

MMSF-B holder is pre-balanced by the balance adjusting screws. 30,000r/min



(Cutting tools not fitted)

## Standard Type

TAPER	Code No.	φD	φD1	φD2	φD3	φD4	φD5	θ	L	L1	L2	L3	L4	L5	L6	Weight (kg)					
NBT40	NBT40-MMSF 3S-128B	3	7.5	11.7	27	45	-	3°	128	42	50	101	-	10	-	1.7					
	-MMSF 4S-128B	4	10	14.2										13							
	-MMSF 6S-128B	6	15	19.2										19							
	-MMSF 8S-128B	8	18	22.2										25							
	-MMSF10S-128B			20.2										65							
	-158B	10	16	23.4																	
	-188B			27										31							
	-MMSF12S-128B			23.2																	
	-158B	12	19	27										50							
	-188B																158	76.4	80	131	
	-MMSF16S-128B													128			42	50	101		
	-158B	16	24											158			28.7	80	131		
	-188B			188													110	161	33	50	1.8
	NBT50	NBT50-MMSF 3S-128B	3	7.5										11.7			27	45	-	3°	128
-MMSF 4S-128B		4	10	14.2	13																
-MMSF 6S-128B		6	18	19.2	19																
-MMSF 8S-128B		8	18	22.2	25																
-MMSF10S-128B				20.2	65																
-158B		10	16	23.4																	
-188B				27	31																
-MMSF12S-128B				23.2																	
-158B		12	19	27	50																
-188B						158	76.4	80	120												
-MMSF16S-128B					128	42	50	90													
-158B		16	24		158	28.7	80	120	33	50	1.8										
-188B				188		110	150	33	50	1.9											

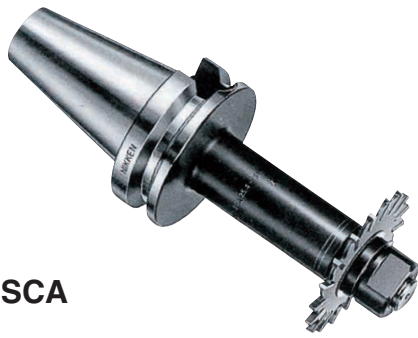
★In the case of products sold as a set, the pre-balance is taken, but once the shrink-fitting holder is removed, the balance cannot be guaranteed.  
★The combination of VMK-SF Shrink Fit Holder and MINI-MINI MASTER CHUCK constitutes P.201, HYBRID SHRINK-FIT HOLDER.

## High Rigidity Type

TAPER	Code No.	φD	φD1	φD2	φD3	φD4	φD5	θ	L	L1	L2	L3	L4	L5	L6	Weight (kg)												
NBT40	NBT40-MMSF10R-133B	10	22	26.2	32	50	-	3°	133	42	50	106	-	31	65	2.0												
	-163B			29.4					163							72	80	136	2.1									
	-193B			32					193							95.4	110	166	2.3									
	-MMSF12R-133B	12	26	30.2					32							50	-	3°	133	42	50	106	-	31	80	2.0		
	-163B			163															57.3							80	136	2.2
	-193B			193															110							166	2.4	
	-MMSF16R-133B	16	32	32					32							50	-	-	133	50	50	106	-	33	50	2.1		
	-163B			163															80							80	136	2.2
	-193B			193															110							166	2.4	
NBT50	NBT50-MMSF10R-133B	10	22	26.2	32	50	-	3°	133	42	50	95	-	31	65	4.5												
	-163B			29.4					163							72	80	125	4.6									
	-193B			32					193							95.4	110	155	4.8									
	-MMSF12R-133B	12	26	30.2					32							50	-	3°	133	42	50	95	-	31	80	4.5		
	-163B			163															57.3							80	125	4.7
	-193B			193															110							155	4.9	
	-MMSF16R-133B	16	32	32					32							50	-	-	133	50	50	95	-	33	50	4.6		
	-163B			163															80							80	125	4.7
	-193B			193															110							155	4.9	

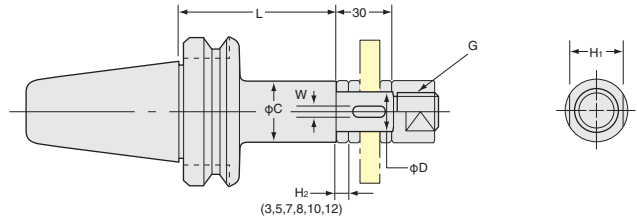
★Hybrid Shrink Fit Holder can be built by Mini-Mini Chuck Master and VMK-SF Shrink Fit Holder. P.201

2LOCK



SCA

■ Taper contact area of more than 80% ensures reliable milling with no chattering accompanied.



2LOCK

Inch Series

(●)figures for Metric Series

Metric Series

TAPER	Code No.(φD-L)	H <sub>1</sub>	C	W	G	Weight(kg)	Code No.(φD-L)
<b>No.30</b>	<b>NBT30-SCA12.7 -60</b>	17	20	—	M12	1.0	<b>NBT30-SCA13-60</b>
	<b>-SCA15.875-60</b>	23	26	3.18 (4)	M14	1.1	<b>-SCA16-60</b>
	<b>-SCA22.225-60</b>	29	34	3.18 (6)	M20	1.2	<b>-SCA22-60</b>
	<b>-SCA25.4 -60</b>	32	40	6.35 (7)	M24	1.3	<b>-SCA27-60</b>
<b>No.40</b>	<b>NBT40-SCA12.7 -75</b>	17	20	—	M12	1.2	<b>NBT40-SCA13-75</b>
	<b>(NIT40) -105</b>					1.3	<b>-105</b>
	<b>-SCA15.875-75</b>	23	26	3.18 (4)	M14	1.4	<b>-SCA16-75</b>
	<b>-105</b>					1.5	<b>-105</b>
	<b>-SCA22.225-75</b>	29	34	3.18 (6)	M20	1.7	<b>-SCA22-75</b>
	<b>-120</b>					2.0	<b>-120</b>
	<b>-SCA25.4 -75</b>	32	40	6.35 (7)	M24	2.0	<b>-SCA27-75</b>
	<b>-120</b>					2.4	<b>-120</b>
<b>-SCA31.75 -90</b>	41	46	7.92 (8)	M30	2.6	<b>-SCA32-90</b>	
<b>No.50</b>	<b>NBT50-SCA12.7 -75</b>	17	20	—	M12	4.0	<b>NBT50-SCA13-75</b>
	<b>(NIT50) -105</b>					4.3	<b>-105</b>
	<b>-SCA15.875-90</b>	23	26	3.18 (4)	M14	4.2	<b>-SCA16-90</b>
	<b>-120</b>					4.4	<b>-120</b>
	<b>-SCA22.225-90</b>	29	34	3.18 (6)	M20	4.4	<b>-SCA22-90</b>
	<b>-135</b>					4.7	<b>-135</b>
	<b>-SCA25.4 -90</b>	32	40	6.35 (7)	M24	4.5	<b>-SCA27-90</b>
	<b>-135</b>					4.9	<b>-135</b>
	<b>-SCA31.75 -90</b>	41	46	7.92 (8)	M30	4.7	<b>-SCA32-90</b>
	<b>-135</b>					5.2	<b>-135</b>
	<b>-SCA38.1 -90</b>	46	55	9.52 (10)	M36	4.9	<b>-SCA40-90</b>
<b>-135</b>	5.9					<b>-135</b>	

★JIS B4206, JIS B4107, JIS B4219, JIS B4109 cutters can be attached.  
 ★Key and Collars (H<sub>2</sub>=3, 5, 7, 8, 10, 12) are supplied as standard. P.118  
 ★The Code No. of Nut is unified from "GN" to "GNT".

# 2LOCK HIGH SPEED SPINDLE SPEEDER

**NIKKEN**

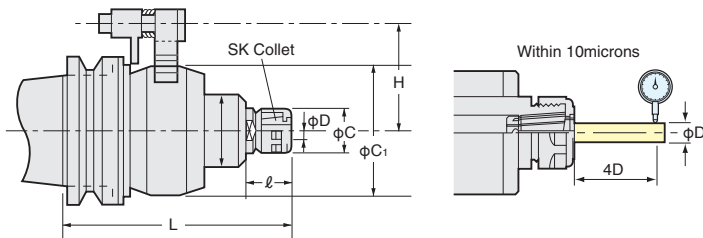
**10,000~40,000r/min**

- NIKKEN NX increases the spindle speed by 4 or 5 times, so economically convert your standard M/C to high speed M/C.
- Inside gears are mirror-finish ground by NIKKEN original Fluid-Dynamic Grinding Process.
- Run-out accuracy is more stable due to TiN Bearing Nut (standard accessory).



**NX, PX**

Explanation of the Code No.  
**NBT40-NX 5 160**  
 • Shank  
 • Ratio  
 • Length  
 • NX:4times, 5 times  
 • PX:6times, 10 times



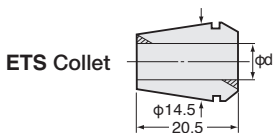
TAPER	Code No.	D	L	C	C <sub>1</sub>	l	H	Ratio	MAX. r/min	Weight(kg)	Collet	
<b>No.30</b>	<b>NBT30-NX 5-153</b>	1.75~10	153	27.5	85	32	55	5	20,000	2.9	<b>SK 10A</b>	
	<b>NBT40-NX 5-153</b>		153									
<b>No.40</b>	<b>(NIT40)-PX 6-150GX</b>	0.5~8.0	149	22	76	14.5	60	6	30,000	4.1	<b>ETS14</b>	
	<b>-PX10-160GX</b>		162.5									
<b>No.50</b>	<b>NBT50-NX 4-192</b>	2.75~16	192	40	118	46	82	4	10,000	11.0	<b>SK 16A</b>	
	<b>(NIT50)-NX 5-151</b>	1.75~10	151	27.5	85			5	20,000	7.0	<b>SK 10A</b>	
	<b>-PX 6-140GX</b>	0.5~8.0	142	22	76			14.5	6	30,000	6.8	<b>ETS14</b>
	<b>-PX10-155GX</b>		155.5						98	10	40,000	

**NX type**

- ★For End Mill, please use **SK A type collet**. For Drill, please use **SK-P** class collet. (P.283)
- ★Wrench, Collet Extractor and **A type SK Collets** are supplied as standard.  
 NX5: SK10-6A, 8A, 10A NX4: SK16-8A, 10A, 12A, 16A
- ★Stopper block is available as an option. When ordering, please inform your M/C maker and Model as well as your M/C spindle flange dimension.
- ★Air Cylinder for Cooling (NXE-COOL) is highly recommended to use for the stable milling.

**PX type**

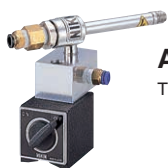
- ★Grease lubrication is standard.
- ★Please add "**MX**" instead of "**GX**" at the end of Code No. for the oil mist lubrication. e.g. **NBT40-PX6-130MX**
- ★ETS collet is supplied as an option.



Explanation of the Code No.

**ETS 14 - 0.5**  
 • MAX. Chucking Dia.  
 • Style No.  
 • Symbol of ETS Collet

- ★φd=0.5~1.0: Each 0.1mm (Gripping range:0.1mm)  
 e.g. **ETS14-0.5:0.4~0.5mm**
- ★φd=1.25~2.5: Each 0.25mm (Gripping range:0.25mm)
- ★φd=3.0~8.0: Each 0.5mm (Gripping range:0.5mm)



**Air Cylinder for Cooling with ON/OFF Magnet NXE-COOL**

The best cooling is to cool the speeder body directly.

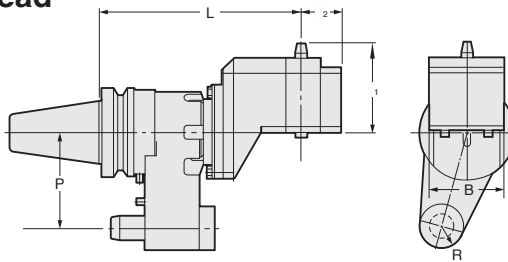


2LOCK

# 2LOCK QUICK TYPE ANGULAR HEAD (Free Positioning in 360°)



## Quick type Off-Set Angular Head



Explanation of the Code No.

**NBT40 - AF T 30 - 200**

- Length from Gauge Line
- Taper No. of Adapter
- Quick type
- Off-Set type Angular Head
- Shank

MAX2,000r/min

AFT

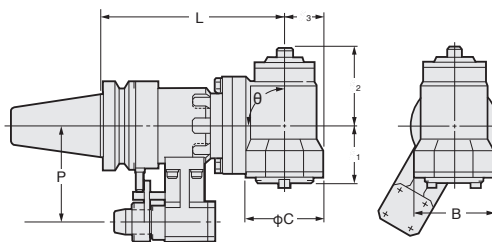
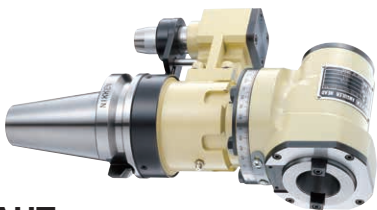
TAPER	Code No.	Shank	L	P	l <sub>1</sub>	l <sub>2</sub>	B	R	Adapter	Weight(kg)
No.40	<b>NBT40</b> <b>(NIT40)</b> -AFT30-200	NBT40	200	65	85	35	70	17.5	<b>AHK30</b>	7.5
No.50	<b>NBT50</b> <b>(NIT50)</b> -AFT35-230	NBT50	230	110	85	45	84	25	<b>AHK35</b>	16.0

- ★Taper Connection System is applied to Stopper Block. (Different from the another FA Tooling)
- ★All types are available with Oil Hole System. ★Stopper block is available as an option. When ordering, please inform your M/C maker and Model as well as your M/C spindle flange dimension.
- ★NIT40-AFT30-200 and NIT50-AFT35-230 are also available. ★When M/C spindle rotates CW, the cutter rotates CW.

- ★For adapter, please refer P.126.
- ★Test bar is attached as standard.



## Quick type 90° Angular Head



Explanation of the Code No.

**NBT40 - AH T 30 - 160 - 90**

- Angle
- Length from Gauge Line
- Taper No. of Adapter
- Quick type
- Symbol of Angular Head
- Shank

MAX2,000r/min

AHT

TAPER	Code No. L -θ	Shank	L	P	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	C	B	θ	Adapter	Weight(kg)
No.40	<b>NBT40-AHT30-160 - 90</b>	NBT40	160	65	58	61	37	86	80	90	<b>AHK30</b>	6.5
	<b>(NIT40) -250* -90</b>	NBT40	250									10.5
No.50	<b>NBT50-AHT35-210 - 90</b>	NBT50	210	110	65	88	45	100	90	90	<b>AHK35</b>	17.0
	<b>(NIT50) -300* -90</b>	NBT50	300									22.0

- ★Taper Connection System is applied to Stopper Block. (Different from the another FA tooling)
- ★All types are available with Oil Hole System.
- ★Stopper block is available as an option. When ordering, please inform your M/C maker and Model as well as your M/C spindle flange dimension.
- ★Models with\* mark : Detailed discussion is needed. ★When M/C spindle rotates CCW, the cutter rotates CW.

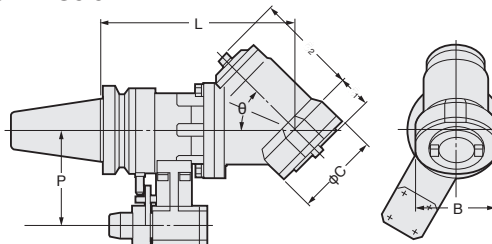
- ★For adapter, please refer P.126.
- ★Test bar is attached as standard.



## Quick type 30°, 45°, 60° Angular Head



Photo shows 30° type.



Explanation of the Code No.

**NBT40 - AH T 30 - 170 - 45**

- Angle
- Length from Gauge Line
- Taper No. of Adapter
- Quick type
- Symbol of Angular Head
- Shank

MAX2,000r/min

AHT

TAPER	Code No. L -θ	Shank	L	P	l <sub>1</sub>	l <sub>2</sub>	C	B	θ	Adapter	Weight(kg)
No.40	<b>NBT40-AHT30-205 - 30</b>	NBT40	205	65	35	88	86	80	30	<b>AHK30</b>	6.5
	<b>(NIT40) -170 - 45</b>		170						45		6.5
	<b>-160 - 60</b>		160						60		6.5
	<b>-250* - 30</b>	NBT40	250	65	35	88	86	80	30	<b>AHK30</b>	10.5
	<b>-45</b>		45						10.5		
	<b>-60</b>		60						10.5		
No.50	<b>NBT50-AHT35-258 - 30</b>	NBT50	258	110	26	110	100	90	30	<b>AHK35</b>	17.0
	<b>(NIT50) -225 - 45</b>		225						45		17.0
	<b>-210 - 60</b>		210						60		17.0
	<b>-300* - 30</b>	NBT50	300	110	26	110	100	90	30	<b>AHK35</b>	22.0
	<b>-45</b>		45						22.0		
	<b>-60</b>		60						22.0		

- ★Taper Connection System is applied to Stopper Block. (Different from the another FA tooling)
- ★All types are available with Oil Hole System.
- ★Stopper block is available as an option. When ordering, please inform your M/C maker and Model as well as your M/C spindle flange dimension.
- ★Models with\* mark : Detailed discussion is needed. ★When M/C spindle rotates CCW, the cutter rotates CW.

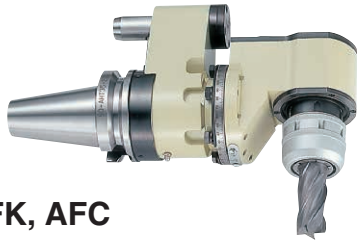
- ★For adapter, please refer P.126.
- ★Test bar is attached as standard.



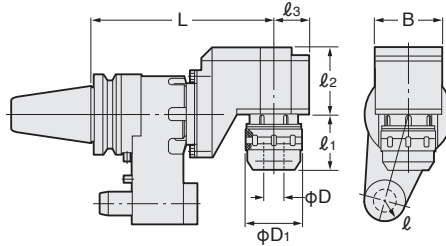
# 2LOCK SOLID TYPE ANGULAR HEAD (Free Positioning in 360°)



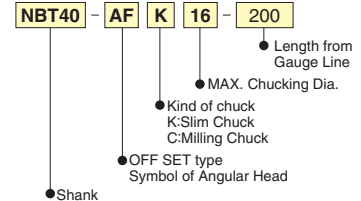
## Solid OFF SET type Angular head



AFK, AFC



Explanation of the Code No.



TAPER	Code No. -L	D	D <sub>1</sub>	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	B	R	r/min	Weight(kg)	Collet
No.40	NBT40-AFK16-200	2.75~16	40	50	85	35	70	17.5	2,000	8.5	SK 16
	(NIT40)-AFC20-200	2~20	52	56						8.7	KM 20
No.50	NBT50-AFC20-230	2~20	52	58	85	45	84	25	2,000	17.0	KM 20
	(NIT50)-AFC32-230	3~32	69	65						17.2	KM 32

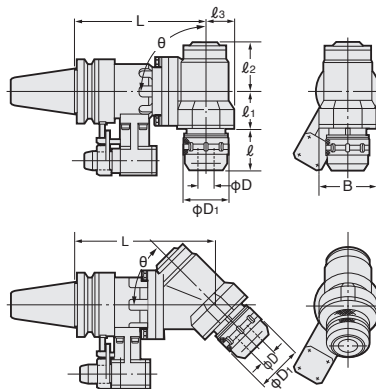
★When M/C spindle rotates CW, the cutter rotates CW.

★Test bar is attached as standard.

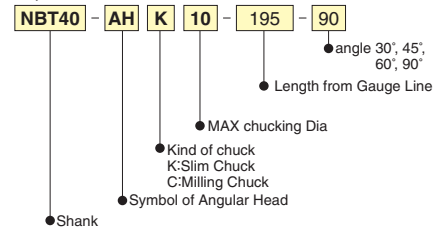
## Solid - 90°, 45° type Angular head



AHK, AHC



Explanation of the Code No.



TAPER	Code No. -L	D	D <sub>1</sub>	l	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	B	r/min	Weight(kg)	Collet
No.30	NBT30-AHK10-120-90	1.75~10	27.5	20	49	50	27.5	55	2,000	3.0	SK 10
No.40	NBT40-AHK10-180,220*-90	1.75~10	27.5	18	45	57	32	60	4,000	8.0, 9.0	SK 10
	(NIT40)-AHK16-180,220*-90	2.75~16	40	25	41	58	35	70		8.7, 9.7	SK 16
No.40	-AHC20-160,250*-90	2~20	52	57	58	61	37	80	2,000	7.1, 11.1	KM 20
	NBT50-AHK10-200,240*-90	1.75~10	27.5	18	45	57	32	60		4,000	15.0, 16.0
No.50	(NIT50)-AHK16-200,240*-90	2.75~16	40	25	41	58	35	70	2,000		15.7, 16.7
	-AHK25-210,300*-90	7.5~25.4	55	57	60	82	45	90		17.2, 22.2	SK 25
-AHC32-210,300*-90	3~32	69	17.5, 22.5						KM 32		

★Taper Connection System is applied to Stopper Block. (Different from the another FA Tooling)

★All types are available with Oil Hole System.

★Test bar is attached as standard.

★Stopper block is available as an option. When ordering, please inform your M/C maker and Model as well as your M/C spindle flange dimension.

★For (SK10) (SK16) (SK25), please refer P.283. For (KM20) (KM25) and (KM32), please refer P.281.

★Angle 30°, 45°, 60° are also available as an option. ★\*Mark is for light cutting.

★When M/C spindle rotates CCW, the cutter rotates CW.

★Please contact with us for the dimension of 30°, 45°, 60° type.

# 2LOCK MODULAR TYPE ANGULAR HEAD

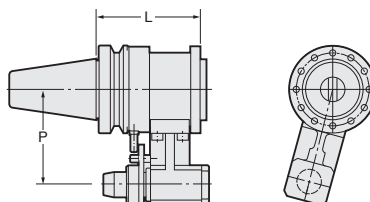


## Modular type Angular Head

AHM



AHM



MAX 6,000r/min

TAPER	Code No. -L	L	P	Weight(kg)	Suitable Modular Head
No.40	NBT40-AHM-100	100	65	4.5	
No.50	NBT50-AHM-120	120	110	11.5	

★Taper Connection System is applied to Stopper Block.(Different from the another FA Tooling)

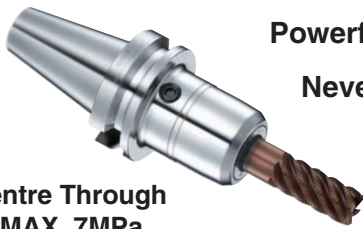
★All types are available with Oil Hole System.

★Stopper block is available as an option. When ordering, please inform your M/C maker and Model as well as your M/C spindle flange dimension.

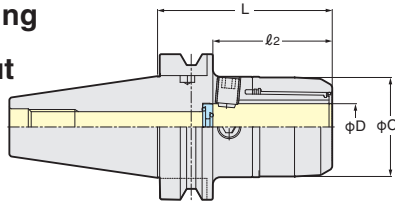
2LOCK

# X-Treme Shank 2LOCK NBT X-Treme Chuck

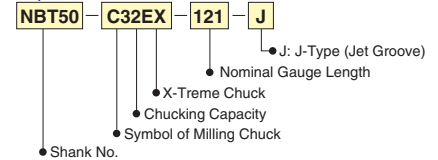
**NIKKEN**



Powerful Gripping  
&  
Never Pull-out



Explanation of the Code No.



Centre Through  
MAX. 7MPa

JAPAN, USA, EU, CHINA PAT.

TAPER	Code No. ( $\phi D$ - L)	C <sub>1</sub>	L	l <sub>2</sub>	End mill with oil hole		Handle (Option)	Weight (kg)
					Stopper*	Face cap*		
No.40	NBT40-C12EX- 86	40	86	58	9MC12HEX- 6L	9C12SL-FS-EX-A1	GH16	1.6
	-C16EX- 96	48	96	68	9MC16HEX-6.5L	9C16SL-FS-EX-A1	GH20	1.7
	-C20EX- 96	55	96	71	9MC20HEX- 7L	9C20 -FS-EX-A1	GH25	1.8
No.50	NBT50-C12EX- 96	40	96	58	9MC12HEX- 6L	9C12SL-FS-EX-A1	GH16	4.0
	-C16EX-106	48	106	68	9MC16HEX-6.5L	9C16SL-FS-EX-A1	GH20	4.4
	-C20EX-116	55	116	71	9MC20HEX- 12L	9C20 -FS-EX-A1	GH25	5.0
	-C25EX-116	55	116.3	77.3	9MC25HEX-6.2L	9C25SL-FS-EX-A1	GH25	4.8
	-C32EX-121	68	121.3	83.3	9MC32HEX- 7L	9C32SL-FS-EX-A1	GH32	5.3
	-C42EX-126	86	126	86	9MC42HEX- 9L	9C42SL-FS-EX-A1	9HC42	6.3

Please use direct chucking without KM collet.

- ★MAX. 7MPa of centre through coolant is available with the stopper.
- ★Please use J-type X-Treme chuck, when end mill without oil hole is used. eg) NBT50-C32EX-121-J  
In case of J-type X-Treme chuck, J-type stopper and J-type face cap (with Jet grooves) are attached. 9MC32HEX-7L-J, 9C32L-FS-EX-J  
J-type X-Treme chuck is used for the pocket milling and side milling.
- ★Extended length X-Treme chuck is also available. NBT50-C20EX-135, NBT50-C25EX-135, NBT50-C32EX-135



GH Handle P.299

2LOCK tooling (NBT) can be used as the double face contact tooling on the M/C where spindle is BT double face contact system.  
2LOCK tooling can also be used on the M/C with BT standard spindle.

# X-Treme Shank 2LOCK NIT/NCAT X-Treme Chuck

**NEW**

**NIKKEN**

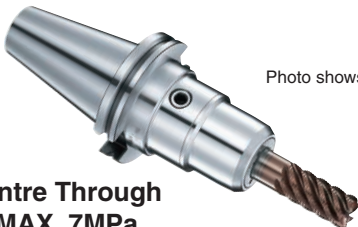
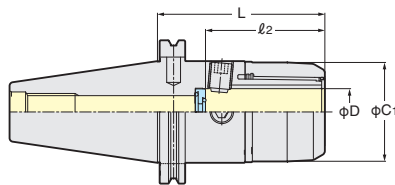
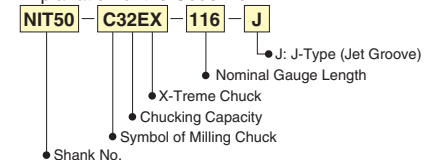


Photo shows NIT Shank.



Explanation of the Code No.



Centre Through  
MAX. 7MPa

JAPAN, USA, EU, CHINA PAT.

TAPER	Code No. ( $\phi D$ - L)	C <sub>1</sub>	L	l <sub>2</sub>	End mill with oil hole		Handle (Option)	Weight (kg)
					Stopper*	Face cap*		
NIT50	NIT50 -C12EX- 96	40	96	58	9MC12HEX- 6L	9C12SL-FS-EX-A1	GH16	3.4
	-C16EX-106	48	106	68	9MC16HEX-6.5L	9C16SL-FS-EX-A1	GH20	3.8
	-C20EX-106	55	106	71	9MC20HEX- 12L	9C20 -FS-EX-A1	GH25	4.3
	-C25EX-111	55	111.3	77.3	9MC25HEX-6.2L	9C25SL-FS-EX-A1	GH25	4.2
	-C32EX-116	68	116.3	83.3	9MC32HEX- 7L	9C32SL-FS-EX-A1	GH32	4.7
	-C42EX-126	86	136	86	9MC42HEX- 9L	9C42SL-FS-EX-A1	9HC42	6.0
NCAT50	NCAT50-C12EX- 96U	40	96	58	9MC12HEX- 6L	9C12SL-FS-EX-A1	GH16	3.4
	-C16EX-106U	48	106	68	9MC16HEX-6.5L	9C16SL-FS-EX-A1	GH20	3.8
	-C20EX-106U	55	106	71	9MC20HEX- 12L	9C20 -FS-EX-A1	GH25	4.3
	-C25EX-111U	55	111.3	77.3	9MC25HEX-6.2L	9C25SL-FS-EX-A1	GH25	4.2
	-C32EX-116U	68	116.3	83.3	9MC32HEX- 7L	9C32SL-FS-EX-A1	GH32	4.7
	-C42EX-126U	86	126	86	9MC42HEX- 9L	9C42SL-FS-EX-A1	9HC42	6.0

Please use direct chucking without KM collet.

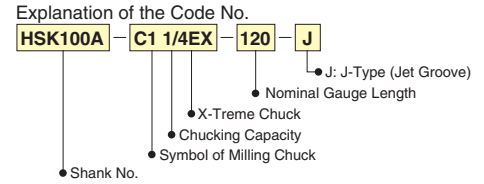
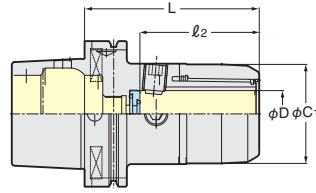
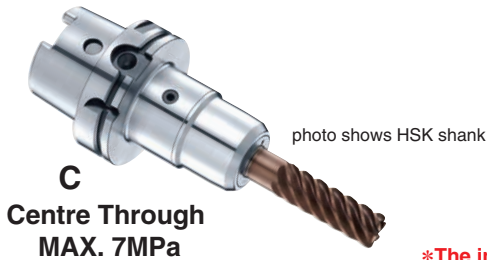
- ★MAX. 7MPa of centre through coolant is available with the stopper.
- ★Please use J-type X-Treme chuck, when end mill without oil hole is used. eg) NCAT50-C32EX-116U-J  
In case of J-type X-Treme chuck, J-type stopper and J-type face cap (with Jet grooves) are attached. 9MC32HEX-7L-J, 9C32L-FS-EX-J  
J-type X-Treme chuck is used for the pocket milling and side milling.



GH Handle P.299



# X-Treme shank 2LOCK NCAT/HSK X-Treme Chuck(INCH) NIKKEN



\*The inch series is a USA specification and is a semi-standard product.

PAT.

TAPER	Code No. (φD - L)	C <sub>1</sub>	L	l <sub>2</sub>	End mill with oil hole		Handle (Option)	Weight (kg)
					Stopper*	Face cap*		
NCAT50	NCAT50-C 1/2EX- 96U	40	96	58	9MC 1/2HEX- 6L	9C 1/2SL-FS-EX-A1	GH16	4.0
	-C 5/8EX-106U	48	106	68	9MC 5/8HEX-6.5L	9C 16SL-FS-EX-A1	GH20	4.4
	-C 3/4EX-106U	55	106	71	9MC 3/4HEX- 7L	9C 3/4-FS-EX-A1	GH25	5.0
	-C1 EX-111U	55	111.3	77.3	9MC 25HEX-6.2L	9C 1SL-FS-EX-A1	GH25	4.8
	-C1 1/4EX-116U	68	116.3	83.3	9MC1 1/4HEX- 7L	9C1 1/4SL-FS-EX-A1	GH32	5.3
	-C1 1/2EX-126U	86	126	86	9MC1 1/2HEX- 9L	9C1 1/2SL-FS-EX-A1	9HC42	6.6
HSK100A	HSK100A-C 1/2EX- 96	40	96	58	9MC 1/2HEX- 6L	9C 1/2SL-FS-EX-A1	GH16	2.7
	-C 5/8EX-106	48	106	68	9MC 5/8HEX-6.5L	9C 16SL-FS-EX-A1	GH20	3.0
	-C 3/4EX-116	55	116	71	9MC 3/4HEX- 7L	9C 3/4-FS-EX-A1	GH25	3.6
	-C1 EX-116	55	116.3	77.3	9MC 25HEX-6.2L	9C 1SL-FS-EX-A1	GH25	3.5
	-C1 1/4EX-121	68	121.3	83.3	9MC1 1/4HEX- 7L	9C1 1/4SL-FS-EX-A1	GH32	4.0
	-C1 1/2EX-136	86	136	86	9MC1 1/2HEX- 9L	9C1 1/2SL-FS-EX-A1	9HC42	5.7

Please use direct chucking without KM collet.

- ★MAX. 7MPa of centre through coolant is available with the stopper.
- ★Please use J-type X-Treme chuck, when end mill without oil hole is used. eg) NBT50-C32EX-121-J
- In case of J-type X-Treme chuck, J-type stopper and J-type face cap (with Jet grooves) are attached. 9MC32HEX-7L-J, 9C32L-FS-EX-J
- J-type X-Treme chuck is used for the pocket milling and side milling.
- ★Extended length X-Treme chuck is also available. NBT50-C20EX-135, NBT50-C25EX-135, NBT50-C32EX-135



GH Handle P.299

## Selection of the accessories

NIKKEN

Please select the proper stopper and the face cap according to your application. (end mill with/without coolant hole) The stopper and the face cap for the end mill with oil hole are attached as standard accessory.  
 Caution : No matter whether using internal coolant through or not, the stopper must be needed when gripping the end mill (If the stopper is not used it is not possible to demonstrate the maximum capacity of X-Treme CHUCK)

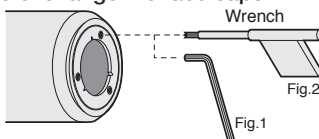
Code No.

	End mill with oil hole		End mill without oil hole		Support bolt	Drive bolt
	Stopper	Face cap	Stopper	Face cap		
C12EX	9MC12HEX- 6L(8.5L)*1	9C12SL-FS-EX-A	9MC12HEX-6L(8.5L)*1-J	9C12SL-FS-EX-J	—	M10 × 16L-EX
C16EX	9MC16HEX-6.5L(9.5L)*1	9C16SL-FS-EX-A	9MC16HEX-6.5L(9.5L)*1-J	9C16SL-FS-EX-J		M12 × 16L-EX
*C20EX	9MC20HEX-12L(13.5L)*1	9C20 -FS-EX-A	9MC20HEX-12L(13.5L)*1-J	9C20 -FS-EX-J	FSMB12-20	M12 × 20L-EX
C25EX	9MC25HEX-6.2L(8.7L)*1	9C25SL-FS-EX-A	9MC25HEX-6.2L(8.7L)*1-J	9C25SL-FS-EX-J	FSMB16-20-H8	M16 × 20L-EX
C32EX	9MC32HEX-7L(10L)*1	9C32SL-FS-EX-A	9MC32HEX-7L(10L)*1-J	9C32SL-FS-EX-J		
C42EX	9MC42HEX-9L(11.5L)*1	9C42SL-FS-EX-A	9MC42HEX-9L(11.5L)*1-J	9C42SL-FS-EX-J		



- ★★ Stopper for NBT40-C20EX, C8-C20EX, HSK63A-C20EX is 9MC20HEX-7L (with O-ring) or 9MC20HEX-7L-J.
- ★★\*1 The length in ( ) is used for Code No. of extended stopper. eg. 9MC32HEX-10L If can be used, when the cutting length of end mill become shorter after re-grinding.

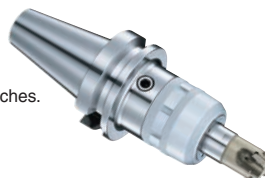
How to exchange the face caps



The face cap is fixed with 3 pieces of M2.5 screws. (C42EX: M3) The face cap must be centerized, when exchanged. The special centering jig fixture and wrench are provided as an option.

	wrench	screw
C12EX, C16EX, C20EX	CME-1.3 Fig.1	CBSS2.5-6
C25EX, C32EX	T-8 Fig.2	M2577
C42EX		SHIM-M3

- ★As a special specification, there is also an X-treme chuck that supports nuts with notches.
- ★For nut with notches, add "-A" at the end EX.)NBT50-C25EX-116-J-A



With notched nut X-Treme Chuck

Code No. Handle for Notched nut

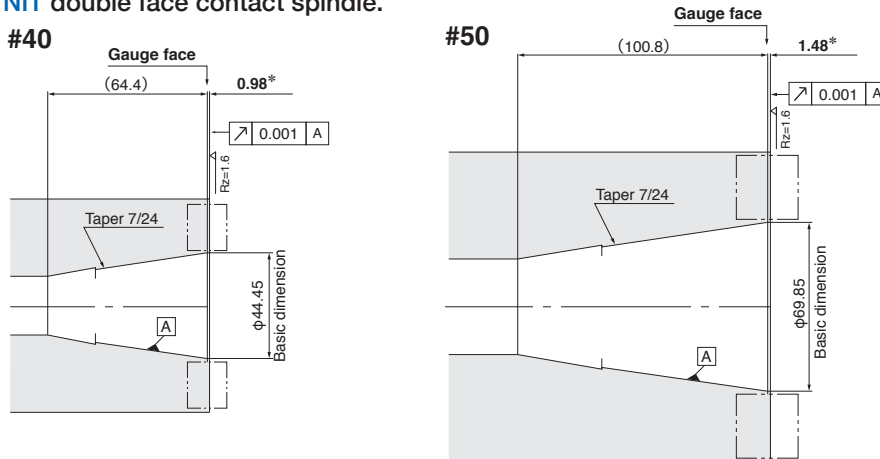
Chuck with notched nut	Handle
12EX-○○○-A	9HC16
16EX-○○○-A	9HC22
20EX-○○○-A	9HC25
25EX-○○○-A	9HC25
32EX-○○○-A	9HC32
42EX-○○○	9HC42

2LOCK

# 2LOCK NIT DOUBLE FACE CONTACT SPINDLE



The NIKKEN 3LOCK tooling can be used as the triple face contact (taper, flange and internal taper expansion) on the M/C with NIT double face contact spindle. The NIKKEN 2LOCK tooling can be used as the double face contact on the M/C with NIT double face contact spindle.



\* mark: The tolerances of the extension of the spindle flange from gauge face depend on the M/C.



Please be careful to check your M/C specification especially for ATC arm and magazine, when NIT tooling is going to use on the M/C with IT standard spindle. Because, the flange thickness of NIT tooling is 1.7mm (NIT50) or 2.2mm (NIT40) larger than the thickness of the IT standard tooling.

# 2LOCK NIT MULTI LOCK MILLING CHUCK



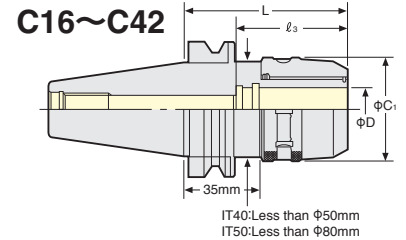
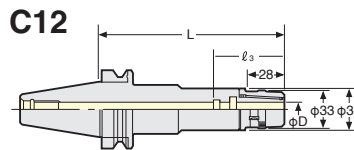
## ANNIVERSARY Type

— Powerful gripping torque —

- High rigidity
- High precision
- Compact design



C  
Centre Through  
MAX. 7MPa



IT40: Less than φ50mm  
IT50: Less than φ80mm

TAPER	ITNo. -D -L	Code No.	C <sub>1</sub>	L	l <sub>3</sub>	Collet	Weight (kg)
No.40	NIT40-C12- 65, 90 <sup>*1</sup> , 120 <sup>*1</sup>		33	65, 90, 120	58	KM12 CCK12	1.3, 1.6, 1.8
	-C16- 60, 90 <sup>*1</sup> , 120 <sup>*1</sup>		44	60, 90, 120	65	KM16 CCK16	1.4, 1.7, 2.0
	-C20- 80, 90, 105, 120 <sup>*2</sup>		52	80, 90, 105, 120	80	KM20 CCK20 CCNK20	1.6, 1.8, 2.0, 2.2
	-C25- 85, 105, 120		60	85, 105, 120	80	KM25 CCK25 CCNK25	2.1, 2.3, 2.5
	-C32- 95, 105, 120		64	95, 105, 120	77, 81, 81	KM32 CCK32 CCNK32	2.1, 2.5, 2.8
No.50	NIT50-C12-105, 135, 165 <sup>*1</sup>		33	105, 135, 165	58	KM12 CCK12	4.0, 4.3, 4.6
	-C16-105, 135, 165 <sup>*1</sup>		44	105, 135, 165	65	KM16 CCK16	4.2, 4.6, 5.1
	-C20-105, 135, 165, 180 <sup>*1</sup>		52	105, 135, 165, 180	80	KM20 CCK20 CCNK20	4.5, 5.1, 5.7, 6.0
	-C25-105, 135, 165		60	105, 135, 165	80	KM25 CCK25 CCNK25	4.8, 5.2, 5.6
	-C32- 85, 105, 120, 135, 165		69	85, 105, 120, 135, 165	81	KM32 CCK32 CCNK32	4.1, 4.6, 5.1, 5.6, 6.4
	-C42- 95 <sup>*2</sup> , 105, 135 <sup>*1</sup> , 165 <sup>*1</sup>		86	95, 105, 135, 165	125	KM42 CCK42 CCNK42	5.2, 5.5, 7.2, 8.6

★Spanner is available as an option.

C12 : 9HC12A, C16:9HC16, C20: 9HC20, C25: 9HC25, C32&φC1=64:9HC25, C32:9HC32, C42:9HC42

★Please note the acceptable shank tolerance is h7.

★Please refer to P.280, P.281 for KM, CCK, CCNK Collet.

★For heavy duty milling, please grip the end mill shank longer than l<sub>3</sub>.

★For Milling Chucks marked \*2, NK Collet, CCNK Collet, ONK Collet and OJK Collet can not be used.

★Milling chucks marked \*1 are available as an option.

★NIT50-C32-200, 250 and NIT50-C42-200, 250 are also available as an option.

★Please add "F" for the flange through tool coolant type.

NIT40-C20F- 90, 120<sup>\*1</sup>      NIT50-C20F-105, 135, 165<sup>\*1</sup>  
 -C25F- 90, 120<sup>\*1</sup>      -C25F-105, 135, 165<sup>\*1</sup>  
 -C32F-105

★Please refer to P.279 for Milling Chuck Coolant Solution.



## High Speed Milling Chuck



## GH Handle P.299

Code No.	MAX. (r/min)	Code No.	MAX. (r/min)
NIT40-C12- 65G, 90G	30,000	NIT50-C12-105G, 135G <sup>*1</sup>	20,000
-C16- 60G, 90G	25,000	-C16-105G, 135G <sup>*1</sup>	
-C20- 80G, 90G		-C20-105G, 135G <sup>*1</sup>	
-C25- 85G	20,000	-C25-105G, 135G <sup>*1</sup>	
-C32- 95G, 105G		-C32- 85G, 105G, 120G	15,000
		-C42- 95P <sup>*2</sup> , 105P	

★For Milling Chucks except \*2, Stopper for Direct Chucking, ONK Collet and OJK Collet can be used.

★The extended gauge length (L) is available. Please contact with us.

★The end mill shank tolerance is recommended to be h6.

# 2LOCK NIT MINI-MINI CHUCK ADVANCED ALPHA

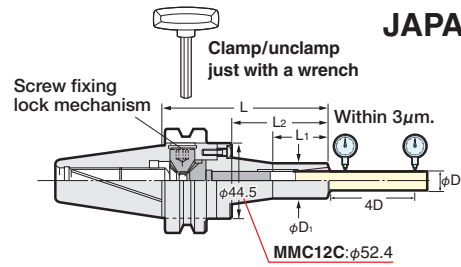
**NIKKEN**

JAPAN PAT.



The best chuck for the small dia. cutting tool

MAX. 30,000r/min  
Gripping from Front Nose  
Run-Out Accuracy: 3μm at 4D



## MMC

TAPER	Code No.	Chucking Range φD	L	φD <sub>1</sub>	L <sub>1</sub>	Collet	MAX.(r/min)	Weight(kg)
No.40	NIT40-MMC 4 - 90-AA	1~ 4	90	15	30	MPK 4	30,000	1.2
	-MMC 8C- 90-AA,120-AA	2~ 8	90,120	20	33,40	PMK 8 VMK 8	30,000	1.4, 1.5
	-MMC12C- 90-AA,120-AA	4~12	90,120	30	35,60	PMK12 VMK12	30,000	1.7, 1.8
No.50	NIT50-MMC 4 -105-AA	1~ 4	105	15	30	MPK 4	20,000	3.8
	-MMC 8C-105-AA,135-AA,165-AA	2~ 8	105,135,165	20	33,40,40	PMK 8 VMK 8	20,000	4.4,4.5,4.6
	-MMC12C-105-AA,135-AA,165-AA	4~12	105,135,165	30	35,60,70	PMK12 VMK12	20,000	4.6,4.7,4.8

★Wrench EA573KL-6 : MMC4, MMC8C MMCL12-M6W : MMC12C(NIT40) : MMCL12-M6T62 : MMC12C(NIT50) is attached as standard.

★MPK, PMK, VMK collet is available as an option. Please refer P.290

★Please add "F" for the flange through tool coolant type; NIT40-MMC 8F- 90-AA,120-AA NIT50-MMC 8F-105-AA,120-AA  
-MMC12F- 90-AA,120-AA -MMC12F-105-AA,120-AA

★Please refer P.285 for MMC Coolant Solution.

# 2LOCK NIT SLIM CHUCK

**NIKKEN**



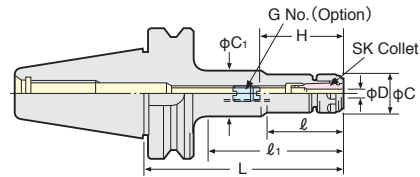
SK  
Centre Through  
MAX. 7MPa

High precision  
High speed  
Powerful gripping



10,000r/min

Dampening effect  
+  
Jet Spray Coolant Supply  
||  
Over 3 times of extended Tool life  
(for HSS & Carbide Drills)



•When SK J type nut is used, the total chuck length will be extended by 6mm. JAPAN, USA, EU, KOREA PAT.  
•When using SK-A collets or SK-AC collets, or when gripping a cutting tool smaller than the nominal diameter on SK collets, the total length will be shortened by about 3 mm. Please be careful when you check the interference.

TAPER	Code No.	D	H	ℓ	ℓ <sub>1</sub>	C	C <sub>1</sub>	G No. (Option)	Weight (kg)	SK Collet
No.40	NIT40-SK 6C- 60, 90,120,150	0.7~6.0	26~31	38,48,62,60	-, ,82,112	19.5	-, ,32,25	SKG 6- 6HG	1.0, 1.1, 1.2, 1.4	SK 6
	-SK10C- 60, 90,120,150,180	0.9~10.0	33~41	40,50,60,73,73	-, ,82,112,144	27.5	-, ,32,33.5,39	SKG10-10HG	1.1, 1.2, 1.4, 1.6, 1.6	SK10
	-SK13C- 60, 90,120,150,180	2.75~13.0	39~51	40,50,80,88,88	-, ,-, ,114,144	33	-, ,-, ,40,40	SKG13-10HG	1.3, 1.4, 1.6, 1.8, 1.8	SK13
	-SK16C- 60 <sup>#1</sup> , 90,120,150,180	2.75~16.0	45~57 <sup>#1</sup>	40,54,84,114,144	-	40	-	SKG16-12HG <sup>#1</sup>	1.4, 1.5, 1.7, 2.0, 2.0	SK16
	-SK20C- 90, 120	3.5~20.0	47~63	70,100	-	48.5	-	SKG20-18HG	1.7, 1.9	SK20
	-SK25C- 90, 120	7.5~25.4	60~70 <sup>#2</sup>	70,100	-	55	-	SKG25-24HG <sup>#2</sup>	1.8, 2.0	SK25
No.50	NIT50-SK 6C-105,135,165,200	0.7~6.0	26~31	60,62,62,60	-, ,93,117,154	19.5	-, ,32,32,30	SKG 6- 6HG	3.7,3.9,4.1,4.3	SK 6
	-SK10C-105,135,165,200	0.9~10.0	33~41	65,70,75,75	-, ,95,125,154	27.5	-, ,32,32,36	SKG10-10HG	4.2, 4.4,4.6, 5.0	SK10
	-SK13C-105,135,165,200	2.75~13.0	39~51	60,100,92,102	-, ,125,160	33	-, ,-, ,45,45	SKG13-10HG	4.5, 4.7,4.8, 5.3	SK13
	-SK16C-105,135,165,200	2.75~16.0	45~57	65,95,90,90	-, ,125,160	40	-, ,-, ,50,50	SKG16-12HG	4.7,4.9, 5.1, 5.5	SK16
	-SK20C-105,135,165	3.5~20.0	47~63	65,95,125	86,116,146	48.5	70.9	SKG20-18HG	4.8,5.1, 5.4	SK20
	-SK25C-105,135,165,200	7.5~25.4	60~70	65,95,125,160	-	55	-	SKG25-24HG	4.8,5.2, 5.6, 6.0	SK25

★Dimension for NIT40-SK16C-60 marked#1, H=45~52 SKG16-10HG NIT40-SK25C-90 marked#2, H=60~65 SKG25-18HG

★Collet, adjust screw(G No.) and SKL spanner are available as an option. SK6(C=φ18):SKL-6, SK6(C=φ19.5):SKL-6W, SK10:SKL-10, SK13:9HC12A, SK16:9HC16, SK20:9HC22, SK25:9HC22.

★Please refer P.283 for SK collet and please refer P.285 for J type nut.

★Please add "F" for the flange through tool coolant type.

NIT40-SK 6F- 90,120	NIT50-SK 6F-105,165
-SK10F- 90,120	-SK10F-105,165
-SK13F- 90,120	-SK13F-105,165
-SK16F- 90,120	-SK16F-105,165
-SK20F- 90,120	-SK20F-105,165
-SK25F-120	-SK25F-105,165

★Please refer P.285 for SK Coolant Solution.



High Speed SLIM CHUCK



GH Handle P.299

Code No.	MAX. (r/min)	Code No.	MAX. (r/min)
NIT40-SK 6C- 60P, 90P, 120P	30,000	NIT50-SK 6C-105P, 165P	20,000
-SK10C- 60P, 90P, 120P		-SK10C-105P, 165P	
-SK13C- 60P, 90P, 120P		-SK13C-105P, 165P	
-SK16C- 60P, 90P, 120P	25,000	-SK16C-105P, 165P	20,000
-SK20C- 90P, 120P		-SK20C-105P, 165P	
-SK25C- 90P, 120P	20,000	-SK25C-105P, 165P	15,000

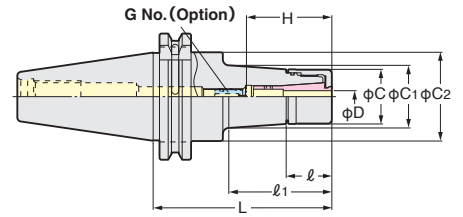
★The extended gauge length (L) is available. Please contact with us.

# 2LOCK NIT ANNIVERSARY TYPE VC HOLDER

**NIKKEN**



With TiN Bearing Nut  
MAX.30,000r/min  
Run-Out Accuracy:3μm at 4D



VC

JAPAN, USA, EU, KOREA PAT.

TAPER	Code No.	D	L	ℓ	ℓ <sub>1</sub>	C	C <sub>1</sub>	C <sub>2</sub>	H	G No. (Option)	Weight (kg)	MAX. (r/min)	Collet
No.40	NIT40X-VC 6- 60	2.0~6.0	60	23	23	27.5	27.5	44.7	35~45	VCG 6- 8A	1.1	30,000	VCK 6
	- 90		90		51.9		31.5				1.3		
	-120		120		81.9		35.7				1.5		
	-VC13- 60	3.0~12.0	60	29	29	40	40.0	50~60	VCG13-15A	1.2	1.5	VCK13	
	- 90		90		70		44.7			1.5			
	-120		120		100					1.9			
No.50	NIT50X-VC 6-105	2.0~6.0	105	23	64.9	27.5	33.4	70.1	35~45	VCG 6- 8A	3.9	20,000	VCK 6
	-135		135		94.9		37.6				4.1		
	-165		165		124.9		41.8				4.4		
	-VC13-105	3.0~12.0	105	29	64.9	40	45.0	50~60	VCG13-15A	4.1	4.5	VCK13	
	-135		135		94.9		49.2			4.5			
	-165		165		124.9		53.4			4.9			

- ★TiN Bearing Nut is supplied as standard.
- ★When the axial stopper is required, please use Adjust Screw(G No.)
- ★Please add “-RP” at the end of Code No. for Rust Proof Treatment VC Holder. e.g. NIT40X-VC13-60-RP
- ★Please use VC J type Nut & Cap for Centre Through Coolant. When VC J type Nut is used, the total holder length will be extended to 6mm.
- ★Please refer P.185 for VCK Collet.

- ★NIT40X-VC6-150, NIT40X-VC13-150, NIT50X-VC13-90, -120 are available as semi-standard.
- ★Collet, adjust screw (G No.) and GH Handle are available as an option. P.299 The Code No. of the GH Handle is VC6: GH10, VC13: GH16
- ★All series are for High Speed Rotation.



# 2LOCK NIT MAJOR DREAM HOLDER

**NIKKEN**



Difference of the swarfs

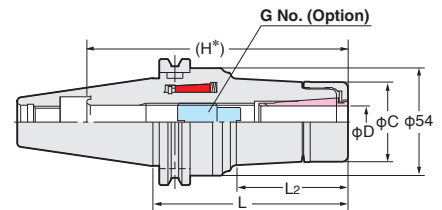


With Jet Coolant Splash



With Air Blow

Please use Jet Coolant Splash for better swarf generation. P.285



(H\*) : MAX. H without adjust screw.

MDSK

JAPAN PAT.

TAPER	Code No.	D	L <sub>2</sub>	C	H*	H <sub>1</sub>	G No. (Option)	Weight (kg)	Collet
No.40	NIT40N-MDSK 6- 60, 75, 90	3.0~ 6.0	18,33,48	19.5	86,101,116	21~35	SKG- 8	0.8,0.9,1.1	SK 6-A
	-105,120		63,78		131,146			1.2,1.4	
	-MDSK10- 60, 75, 90,105	3.0~10.0	19,33,48,63	27.5	86,101,116,131	30~50	SKG-12L	1.1,1.3,1.5,1.6	SK10-A
	-120,150,180		78,110,141.2		146,176,206			1.8,2.2,2.4	
	-MDSK13- 65, 75, 90,105	3.0~13.0	24,33,48,63	33	86,101,116,131	31~60	SKG-15	1.2,1.4,1.7,1.8	SK13-A
	-120,150,180		78,110,144		146,176,206			2.0,2.4,2.6	
	-MDSK16- 65	3.0~16.0	24	40	86	45~60	SKG-18L	1.2	SK16-A
	- 75, 90,105		33,48,64		101,116,131			1.5,1.9,2.0	
	-120,150,180		80,113,144.6		146,176,206			2.2,2.5,2.8	
	-MDSK20- 75, 90	4.0~20.0	41.2,55	48	80,95	50~73	SKG-12,SKG-12-55L	1.9,2.1	SK20-A
-105,120	70,85		110,125		2.3,2.6				
No.50	NIT50 -MDSK 6-105,120,135	3.0~ 6.0	48,63,78	19.5	116,131,146	21~35	SKG- 8	3.6,3.7,3.9	SK 6-A
	-MDSK10-105,120,135		3.0~10.0		48,63.2,78.2			27.5	
	-165,195	110.2,141.2		176,206	5.0,5.3	SK10-A			
	-MDSK13-105,120,135	3.0~13.0	48,63,78	33	116,131,146		31~60	SKG-15	4.2,4.7,5.0
	-165,195		110,144		176,206	5.3,5.6			
	-MDSK16-105,120,135	3.0~16.0	48,64,80.1	40	116,131,146	45~70	SKG-18L	4.1,4.9,5.2	SK16-A
	-165,195		114.7,144.6		176,206			5.5,5.8	
	-MDSK20-105,135	4.0~20.0	42,72	48	159,175	47~80	SKG-22	4.9,5.3	SK20-A
	-165,195		102,132		205,235			5.9,6.7	
	-MDSK25-105,135	8.0~25.4	42,74	55	159,175	55~85	SKG-28	4.9,5.7	SK25-A
-165,195	105,135		205,235		6.5,7.5				

- ★Please use A type SK collet that is available as an option for end milling operation. P.283
- ★Please refer P.285 for Jet coolant J type nut and cap.
- ★GH Handle is available as an option. P.299 Please order with the Code No. GH10:MDSK10, GH12:MDSK13, GH16:MDSK16, GH20:MDSK20, GH25:MDSK25.
- ★Please add “P” at the end of Code No. for high speed holder, e.g. NIT40N-MDSK10-60P.
- ★φC<sub>2</sub> of NIT40N is larger than the dimension of the IT40 standard. ★Please refer P.285 for SK Coolant Solution.



# 2LOCK NIT FACE MILL ARBOR TYPE A/SHOULDER CUTTER ARBOR



Photo. shows with face mill cutter.

## JIS B4113 Face Mill Cutter

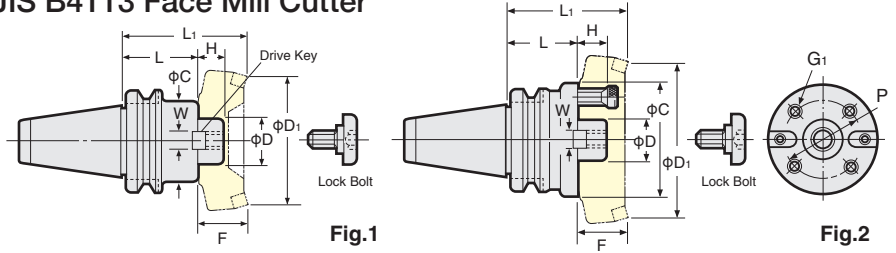


Fig.1

Fig.2

## FMA

TAPER	Code No. (φD-L)	Arbor			Weight (kg)	With Cutter			Drive Key	Lock Bolt	Fig.
		H	C	W		L <sub>1</sub>	D <sub>1</sub>	F			
No.40	NIT40-FMA25.4 - 45, 90	22	50	9.5	1.5, 3.1	95,140	80	50	FW 5	FM12	1
	-FMA31.75 - 45, 75	30	60	12.7	1.7, 3.1	105,135	100	60	FW13	FM16	
	-FMA38.1 - 60	34	80	15.9	2.9	120	125	60	FW18	FM20	
No.50	NIT50-FMA25.4 - 45, 90,150	22	58	9.5	3.7, 4.6, 5.5	95,140,200	80	50	FW 5	FM12	1
	-FMA31.75 - 45, 75,105	30	70	12.7	4.5, 5.3, 6.1	105,135,165	100	60	FW12,13	FM16	
	-FMA38.1 - 45, 75	34	80	15.9	4.3, 5.6	105,135	125	60	FW18,19	FM20	
	-FMA50.8 - 45, 75	36	100	19	4.9, 6.8	105,135	160	60	FW23,24	FM24	
	-FMA47.625- 75*	38	128.57	25.4	7.7	135	200	60	FW26	*	

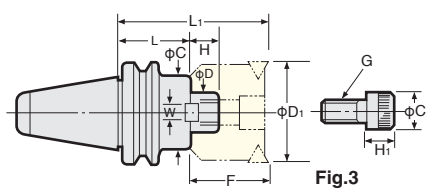


Fig.3

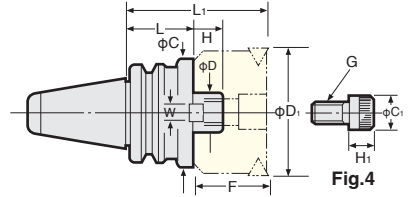


Fig.4

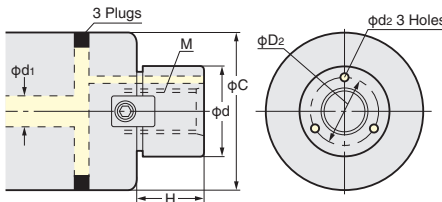
## FMC FMA For SANDVIK T-MAX Shoulder Face Mill/SUMITOMO CHE5000 Series

TAPER	Code No. (φD-L)	Arbor			Weight (kg)	With Cutter			C <sub>1</sub>	H <sub>1</sub>	Fig.	
		H	C	W		L <sub>1</sub>	D <sub>1</sub>	F				
No.40	NIT40-FMC22-45, 90	18	45	10	1.3, 2.0	85, 130	50	40	9GM 10-30	16	10	3
	-FMC27-60, 90	20	60	12	1.5, 2.2	110, 140	80	50	9GM 12-35	18	12	4
	-FMC32-60, 75	22	85	14	2.3, 2.6	110, 125	125	50	9GM 16-35	24	16	
No.50	NIT50-FMC22-60,105,150	18	45	10	4.2, 4.7, 5.3	100,145,190	50	40	9GM 10-30	16	10	3
	-FMC27-45, 90,150	20	70	12	4.1, 5.5, 7.3	95,140,200	80	50	9GM 12-35	18	12	
	-FMC32-45, 75,105	22	85	14	4.2, 5.5, 7.0	95,125,155	125	50	9GM 16-35	24	16	

- ★Drive keys, L wrench and bolt are supplied as standard.
- ★The arbor weight is only for the arbor.
- ★The different type of the cap bolt may be used for the recent cutter. Please check the specification.
- ★The arbor marked \* requires 4 fixing bolts (FMA47.625 : M16, P=101.6)
- ★Extended length is available as an option. NIT50-FMA25.4 -200, 250, ...500  
-FMA31.75-150, 200, ...500  
-FMA38.1 -150, 200, ...500



## FMH High Feed Cutter Arbor with Coolant Hole



Code No.	Cutter Dia.	φd	φC	M	H	Coolant Hole		
						φD <sub>2</sub>	φd <sub>1</sub>	φd <sub>2</sub>
FMH22 (22.225)	φ50, φ52 φ63, φ66	22(22.225)	47 60	M10 P1.5	18(17)	16	6~8	3
FMH27 (25.4)	φ80	27(25.4)	76(70)	M12 P1.75	20(22)	19.5(18.5)	8~10	3.5
FMH32 (31.75)	φ100	32(31.75)	96	M16 P2.0	22(30)	24	10~13	4
FMH40 (38.1)	φ125	40(38.1)	100	M20 P2.5	26(34)	30(29)	10~15	5
FMH50.8	φ160	50.8	100	M24 P3.0	36	37.5	15~20	7

- ★Fixing dimension is basically based on FMA/FMC.
- ★The combination of the other cutter dia. are also available.

## FMH

TAPER	Code No. (φD-L)	Arbor						Weight (kg)	Drive Key	Lock Bolt	G Cap Bolt	
		H	C	W	C <sub>1</sub>	C <sub>2</sub>	H <sub>1</sub>					H <sub>2</sub>
No.40	NIT40-FMH22 - 47(60)-45	18	47(60)	10	16	—	10	1.3(1.4)	FW 8	—	9GM 10-30	
	-FMH27 - 60(76)-60	20	60(76)	12	18	—	12	1.8(2.2)	FW11	—	9GM 12-35	
	-FMH32 - 96-60	22	96	14	24	—	16	2.9	FW16	—	9GM 16-35	
	-FMH40 -100-60	26	100	16	50	27	14	6	3.1	FW22	FM20	—
No.50	NIT50-FMH22 - 47(60)-60	18	47(60)	10	16	—	10	4.2(4.5)	FW 8	—	9GM 10-30	
	-FMH27 - 60(76)-45	20	60(76)	12	18	—	12	3.9(4.1)	FW10	—	9GM 12-35	
	-FMH32 - 96-45	22	96	14	24	—	16	4.2	FW15	—	9GM 16-35	
	-FMH40 -100-45	26	100	16	50	27	14	6	5.1	FW20	FM20	—
	-FMH50.8 -100-45	36	100	19	65	37	14	10	4.4	FW23	FM24	—

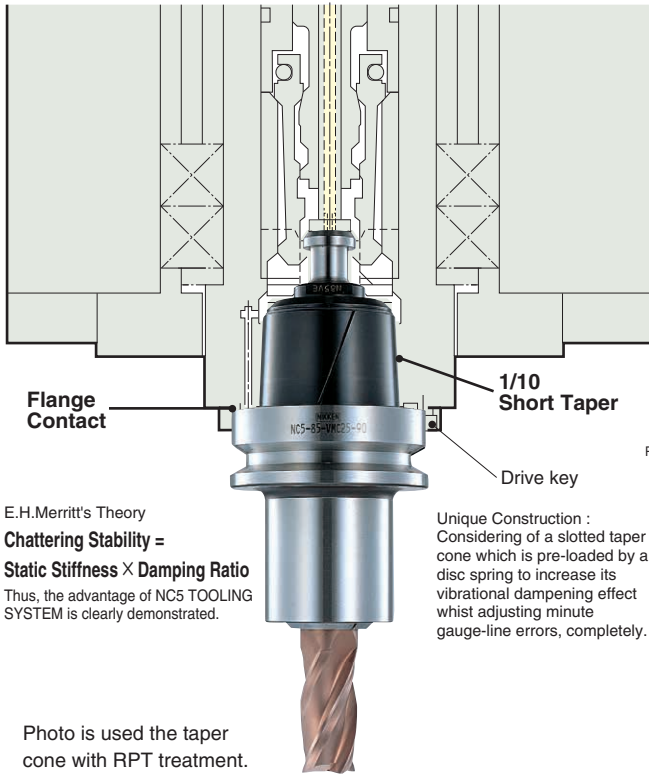
- ★FMH22.225, FMH25.4, FMH31.75, FMH38.1 are also available.

- ★For FMH22, there are two types of φC, φ47 and φ60.  
For FMH27, there are two types of φC, φ60 and φ76.

## Innovational Design! Double Contact · 1/10 Short Taper

Since the launch of the NC5 TOOLING SYSTEM at JIMTOF'94, OSAKA the system has proven its outstanding ability is a wide cross-sector of Japanese Industry, with ever-increasing expectation of its being adapted as the Next Generation Tooling Interface.

Please take a moment to look at the NC5 TOOLING SYSTEM before you purchase your next machine. P.213~226



E.H.Merritt's Theory  
**Chattering Stability =**  
**Static Stiffness × Damping Ratio**  
Thus, the advantage of NC5 TOOLING SYSTEM is clearly demonstrated.

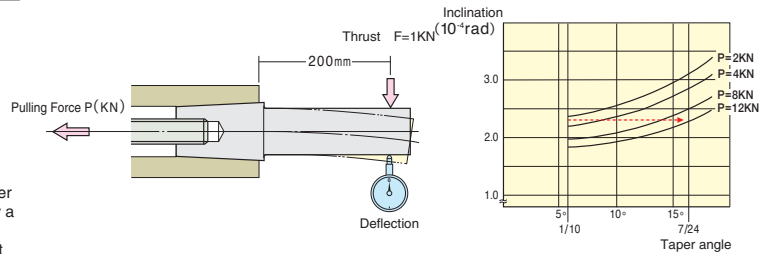
Unique Construction :  
Considering of a slotted taper cone which is pre-loaded by a disc spring to increase its vibrational dampening effect whilst adjusting minute gauge-line errors, completely.

Photo is used the taper cone with RPT treatment.

NC5 is an abbreviation of New Century arbor with 1/10 taper (5°43' 29").

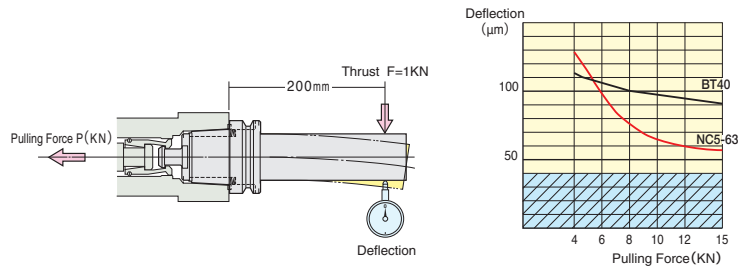
### 1/10 and 7/24 Taper

The following diagrams show the correlation between Pulling Force/ Taper Angle and their Static Stiffness. As can be seen, using the same Pulling Force, the smaller the Taper Angle, the greater the Static Stiffness. Therefore, the larger the Taper Angle, the greater the Pulling Force is required. For example, 12KN of Pulling Force is required for a 7/24 taper to obtain the same value of Static Stiffness as a 1/10 taper using a 4KN Pulling Force.



### Pulling Force and Static Stiffness

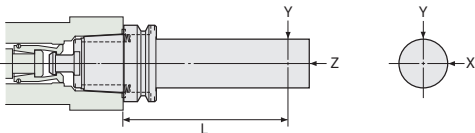
The NC5-63 takes advantage of the taper/Pulling Force to increase its Static Stiffness such that under a force of 5.5 KN the Static Stiffness of an NC5-63 and BT40 are almost the same. But at 12KN the Static Stiffness of an NC5-63 is three times that of a BT40.



means Deflection of Test Bar itself.

### Repeatability

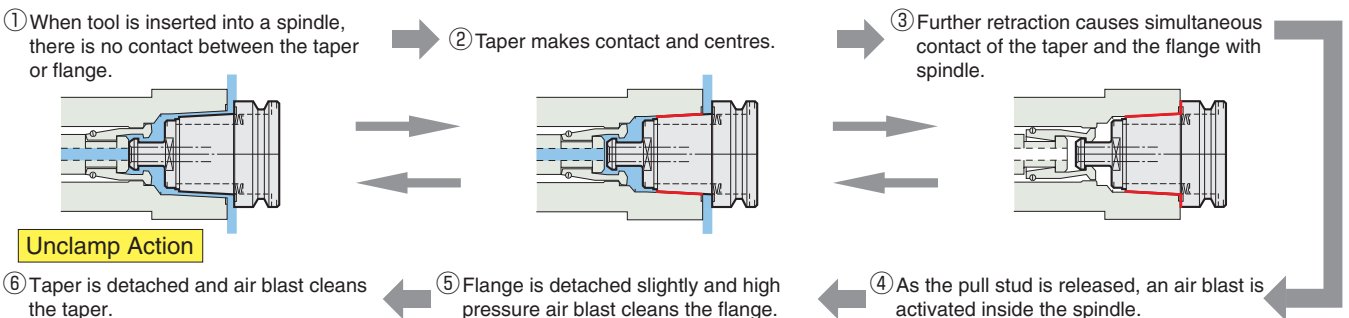
Higher Repeatability is accomplished due to run-out accuracy of contact flange for taper is within 0.002mm.



TAPER	Equivalent	L	Repeatability		
			X	Y	Z
NC5- 46	BT30	70	0.003	0.003	0.002
- 63	BT40	120	0.003	0.003	0.002
- 85	BT45	150	0.003	0.003	0.002
-100	BT50	180	0.003	0.003	0.002

### ATC

**Clamp Action** ... Cleaning Air is same as Unclamp Action.



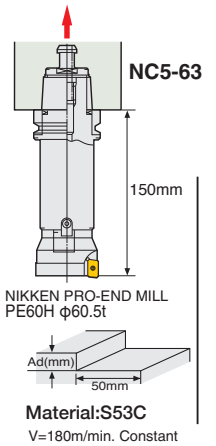
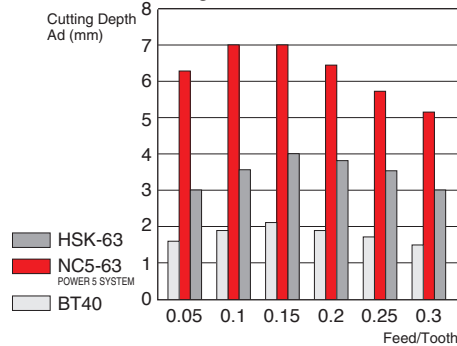
## Innovational Design! Double Contact · 1/10 Short Taper

### Face Milling



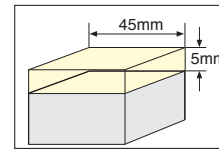
S53C

Comparison of Milling Capability using extended cutter

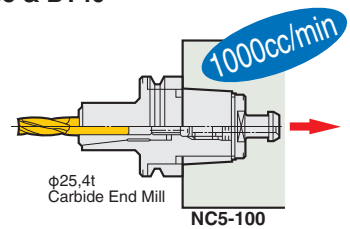


Comparison between HSK-63, NC5-63 & BT40

### End Milling



Material: SCM415  
V=300m/min. f=0.3mm/tooth  
S=3800r/min F=4560mm/min.



1 to 1 Scale Swarf of SCM415

## Stiffness & Dampening Effect

### Drilling



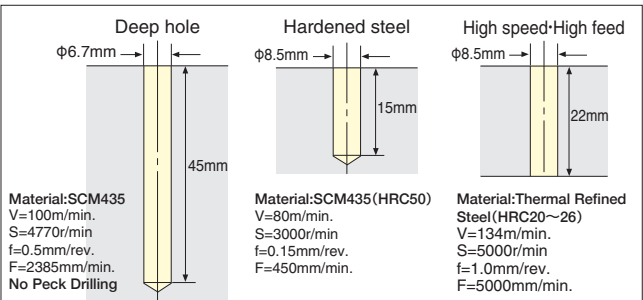
SCM435



NC5-63  
Material: S53C  
V=500m/min. f=0.25mm/tooth  
S=10000r/min F=10000mm/min.



NC5-63  
Material: TITAN  
V=75m/min. f=0.18mm/tooth  
S=1500r/min F=1700mm/min.



### Boring



Current developments in inserts (coated TiAlN & CBN) and their improved capability for high speed cutting is remarkable. However, the results are based on using these inserts with high-speed cutting conditions (their performance is reduced when used for medium or low cutting speeds). The ZMAC Boring Head has been designed to optimise this new high-speed cutting technology.

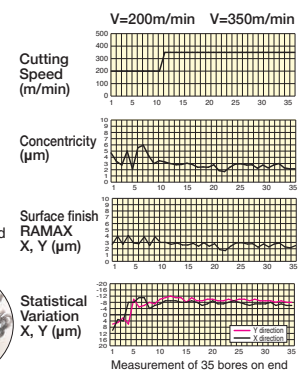
■ Cutting data  
M/C : VC8  
Holder : NC5-63-Q26-50  
SP26-12-30  
12-ZMAC16-45  
External coolant  
Insert : 3MP-C Nose/R=0.2  
Coating (Coated TiAlN)

Cutting Speed: V=200m/min., 350m/min.  
f=0.05mm/rev. for both  
Feed : 0.5mm dia.

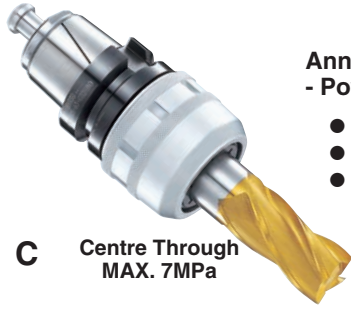
V=350m/min. gave better finish & accuracy

Material: S53C Thermal refined carbon steel.

Material: S53C Thermal refined carbon steel

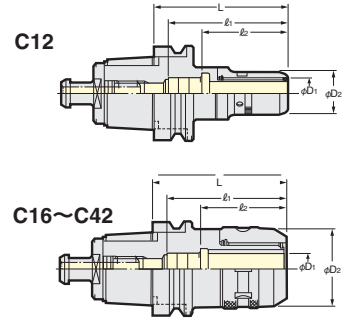


# NC5 MILLING CHUCK



Anniversary Type  
- Powerful Gripping Torque -

- High Rigidity
- High Precision
- Compact Design



C Centre Through  
MAX. 7MPa

TAPER	Code No.	D <sub>1</sub>	D <sub>2</sub>	ℓ <sub>1</sub>	ℓ <sub>2</sub>	L	Collet	Stopper	Weight(kg)	
NC5- 46	NC5- 46-C12- 55	12	33	56	46	58	<b>KM12 CCK12</b>	—	0.6	
	-C16- 70	16	44	63	49	70	<b>KM16 CCK16</b>		—	0.8
	-120			65		120				1.2
	-C20- 80	20	52	72	57	80	<b>KM20 CCK20 CCNK20 NK20</b>	9MC20HS		1.0
	-C25- 90	25	55	80	60	90	<b>KM25 CCK25 CCNK25 NK25</b>	9MC25H	1.3	
	-C32-100*	32	64	75	66	100	<b>KM32 NK32</b>	—	1.6	
NC5- 63	NC5- 63-C12- 65	12	33	56	46	65	<b>KM12 CCK12</b>	—	1.2	
	-C16- 60	16	44	65	49	63	<b>KM16 CCK16</b>		—	1.4
	- 70					70				1.5
	-120					120				2.0
	-150					150				2.3
	-C20- 70	20	52	79	57	71	<b>KM20 CCK20 CCNK20 NK20</b>	9MC20H		1.6
	- 80					80			1.7	
	-120					120			2.3	
	-150					150			2.6	
	-C25- 70	25	60	80	60	71	<b>KM25 CCK25 CCNK25 NK25</b>		9MC25H	1.9
	- 90					80		2.1		
	-120					120		2.7		
	-150					150		3.0		
	-C32- 80*	32	69	71	65	82	<b>KM32 CCK32 CCNK32 NK32</b>	—		2.1
	- 90			77	67	90		9MC32HS	2.3	
	-120			81	70	120		9MC32H	2.9	
-150	81			70	150	9MC32H		3.2		
NC5- 85	NC5- 85-C12- 80	12	33	56	46	80	<b>KM12 CCK12</b>	—	2.2	
	-C16- 80	16	44	65	49	80	<b>KM16 CCK16</b>		—	2.6
	-120					120				3.0
	-160					160		3.3		
	-C20- 80					20		52	80	57
	-120	120	9MC20H	3.3						
	-160	160	9MC20H	3.6						
	-C25- 80	25	60	80	60		80			
	-120					120	9MC25H	3.7		
	-160					160	9MC25H	4.0		
	-C32- 85					32	69	81	70	87
	-100	100	9MC32H	3.6						
	-160	160	9MC32H	5.3						
	-200	200	9MC32H	5.8						
	-C42-105*	42	86	93	73	105	<b>KM42 CCK42 CCNK42 NK42</b>	—	4.8	
	-125			113		125		9MC42H	5.3	
-160	125			160		9MC42H		6.6		
-200	125			200		9MC42H		7.0		

▶ NEXT PAGE ▶▶▶▶



# NC5 MILLING CHUCK



TAPER	Code No.	D <sub>1</sub>	D <sub>2</sub>	ℓ <sub>1</sub>	ℓ <sub>2</sub>	L	Collet	Stopper	Weight(kg)				
NC5-100	NC5-100-C12-105	12	33	56	46	105	KM12 CCK12	—	4.1				
	-C16-105	16	44	65	49	105	KM16 CCK16		4.4				
	-135					135			4.7				
	-165					165			5.0				
	-200					200			5.3				
	-C20-105					20		52	80	57	105	KM20 CCK20 CCNK20 NK20	9MC20H
	-165	25	60	60	60	165	KM25 CCK25 CCNK25 NK25	9MC25H	5.5				
	-200					200			5.8				
	-C25-105					25			60	80	60	165	5.0
	-165					200			6.1				
	-200					200			6.4				
	-C32- 90	32	69	81	70	90	KM32 CCK32 CCNK32 NK32	9MC32HS	4.8				
	-105					105		9MC32H	5.4				
	-165					165		9MC32H	7.1				
	-200					200		9MC32H	7.5				
	-C42- 95*					42		86	105	73	95	KM42 CCK42 CCNK42 NK42	—
	-115	125	9MC42HS	6.1									
	-165	125	9MC42H	8.6									
	-200	125	9MC42H	9.0									
	-200	200	9MC42H	9.0									

★For High Speed type, please add "G" at the end of Code No. e.g. NC5-63-C16-60G

★Spanner is available as an option. C12 : 9HC12A, C16:9HC16, C20:9HC20, C25:9HC25, C32(φ64):9HC25, C32(φ69):9HC32, C42:9HC42

★NC5-63-C32-80 may not be used by the M/C restriction. ★Milling Chuck for Oil Mist is also available. Please contact with us.

★CCNK collet and the stopper can not be used for the chucks marked \*. The cutter shank length must be longer than ℓ<sub>2</sub> in case of the direct chucking and centre through coolant application.

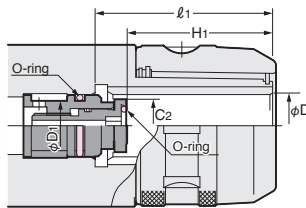
★CCNK collet can be used for the all chucks except marked \*. The stopper (optional accessory) is required, if the cutter shank length is shorter than ℓ<sub>2</sub> and direct chucking,

★The "D<sub>1</sub>" in the Code No. shows ID of the chuck. ★Please note the acceptable shank tolerance is h7. ★Please refer P.281 for KM, CCK, CCNK Collet.

## Stopper for Direct Chucking

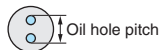
Direct chucking means that chucking φ32mm shank tool into φ32mm ID chuck. If tool shank length is longer than ℓ<sub>1</sub>, the stopper is not required.

Chuck	Stopper	H <sub>1</sub>	C <sub>2</sub>
C20C	9MC20H	42~47	17
	9MC20HS		
C25C	9MC25H	50~55	22
	9MC25HS		
C32C	9MC32H	49~59	24
	9MC32HS		
C42	9MC42H	57~67	24
	9MC42HS		



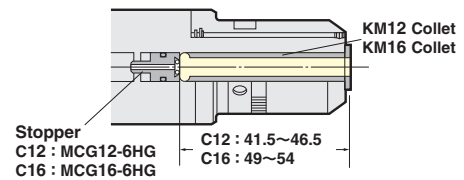
★For heavy milling, please insert the cutter shank longer than ℓ<sub>1</sub> into the chuck body. Do not use the stopper.

★When the oil hole pitch of the back end is larger than the dia. of O-ring, please contact with us.



## C12 and C16 Milling Chuck with Special Stopper

C12 and C16 Milling Chucks with the stopper to use with KM Collets are available as special option. e.g. NC5-63-C12-65S, NC5-63-C16-70S



For the types with O-ring on the end flange add the O-ring type at end of the Code No. e.g. MCG16-6HG-S6  
For the steel type, add "-FE" at the end of Code No. e.g. MCG16-6HG-FE

## High Speed Milling Chuck

Please add "G" at the end of Code No. for High Speed Milling Chuck.



★The extended tool length is available as an option. Please contact with us.

★The stopper can not be used for the chucks marked \*. The cutter shank length must be longer than ℓ<sub>2</sub> in case of the direct chucking and centre through coolant application.

★All chucks except marked \* can be used for high pressure centre through coolant application. The stopper (optional accessory) is required, if the cutter shank length is shorter than ℓ<sub>2</sub> and direct chucking.

TAPER	Code No.	MAX. (r/min)	TAPER	Code No.	MAX. (r/min)
NC5-46	NC5- 46-C12- 55G	40,000	NC5-85	NC5- 85-C12- 80G	15,000
	-C16- 70G			-C16- 80G	
	-C20- 80G	-C20- 80G			
	-C25- 90G	-C25- 80G			
	-C32-100G*	10,000		-C32- 85G	12,000
		-C42-105P*			
NC5-63	NC5- 63-C12- 65G	20,000	NC5-100	NC5-100-C12-105G	15,000
	-C16- 60G, 70G			-C16-105G	
	-C20- 70G, 80G	-C20-105G			
	-C25- 70G, 90G	15,000		-C25-105G	
	-C32- 80G*, 90G			-C32- 90G	12,000
		-C42- 95P*			

★GFS type P.33 is available for C25 and C32 except NC5-46 shank.

Face Seal type  
(for Aluminium cutting)  
GFS  
JAPAN PAT.



NC5

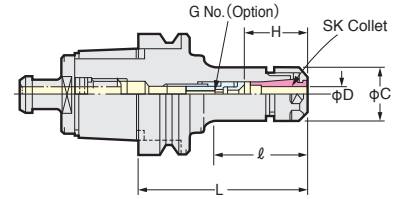
# NC5 SLIM CHUCK



Wide Variation  
of the Tool Length



Photo. shows  
with J type Nut.



SK

Centre Through  
MAX. 7MPa

- When SK J type nut is used, the total chuck length will be extended by 6mm. **JAPAN, USA, EU, KOREA PAT.**
- When using SK-A collets or SK-AC collets, or when gripping a cutting tool smaller than the nominal diameter on SK collets, the total length will be shortened by about 3 mm. Please be careful when you check the interference.

TAPER	Code No.	Chucking Range φD	ℓ	C	H	G No. (Option)	Weight (kg)	SK Collet
NC5- 46	NC5- 46-SK 6C- 75, 90, 120	0.7 ~ 6.0	48, 56, 72	19.5	26 ~ 31	SKG6-6HG	0.4, 0.5, 0.7	SK 6
	-SK10C- 75, 90, 120	1.75 ~ 10.0	50, 65, 95	27.5	35 ~ 41	SKG10-10HG	0.5, 0.6, 0.8	SK 10
	-SK13C- 90, 120	2.75 ~ 13.0	65, 95	33	39 ~ 51	SKG13-10HG	0.7, 0.9	SK 13
	-SK16C- 90, 120	2.75 ~ 16.0	67, 97	40	50	SKG16-10HG	0.8, 1.0	SK 16
	-SK20C- 90, 120	3.5 ~ 20.0		48.5	50 ~ 55, 47 ~ 63	SKG20-12MFHG, -12HG	1.2, 1.6	SK 20
	-SK25 - 90 <sup>†</sup>	7.5 ~ 25.4	67	55	55 ~ 60	SKG-12MF	1.2	SK 25
NC5- 63	NC5- 63-SK 6C- 90, 150	0.7 ~ 6.0	51, 60	19.5	26 ~ 31	SKG6-6HG	1.2, 1.4	SK 6
	-SK10C- 90, 105, 120 135, 150, 200	1.75 ~ 10.0	48, 73, 73 73, 73, 73	27.5	35 ~ 41	SKG10-10HG	1.4, 1.5, 1.6 1.6, 1.7, 1.9	SK 10
	-SK13C- 90, 150, 200	2.75 ~ 13.0	58, 88, 88	33	39 ~ 51	SKG13-10HG	1.5, 1.7, 1.9	SK 13
	-SK16C- 90, 105, 120 135, 150, 200	2.75 ~ 16.0	58, 73, 88 103, 118, 168	40	45 ~ 57	SKG16-12HG	1.5, 1.6, 1.7 1.8, 2.0, 2.2	SK 16
	-SK20C-105, 150, 200	3.5 ~ 20.0	75, 120, 170	48.5	47 ~ 63	SKG20-18HG	2.0, 2.6, 3.3	SK 20
	-SK25C-135, 180	7.5 ~ 25.4	106, 151	55	60 ~ 65, 60 ~ 70	SKG25-18HGD, 24HG	2.5, 2.8	SK 25
NC5- 85	NC5- 85-SK 6C-105, 150	0.7 ~ 6.0	55, 60	19.5	26 ~ 31	SKG6-6HG	2.3, 2.7	SK 6
	-SK10C-105, 150, 200	1.75 ~ 10.0	70, 73, 75	27.5	35 ~ 41	SKG10-10HG	2.4, 2.8, 3.2	SK 10
	-SK13C-105, 150, 200	2.75 ~ 13.0	67, 92, 92	33	39 ~ 51	SKG13-10HG	2.6, 3.0, 3.4	SK 13
	-SK16C-105, 150, 200	2.75 ~ 16.0	65, 90, 90	40	45 ~ 57	SKG16-12HG	2.7, 3.2, 3.6	SK 16
	-SK20C-135, 165, 200	3.5 ~ 20.0	97, 127, 162	48.5	47 ~ 63	SKG20-18HG	3.5, 3.9, 4.3	SK 20
	-SK25C-135, 165, 200	7.5 ~ 25.4		55	60 ~ 65, 60 ~ 70, 60 ~ 70	SKG25-18HGD, -24HG, -24HG	3.5, 4.0, 4.4	SK 25
NC5-100	NC5-100-SK 6C-105, 165	0.7 ~ 6.0	55, 60	19.5	26 ~ 31	SKG6-6HG	3.9, 4.3	SK 6
	-SK10C-105, 165, 200	1.75 ~ 10.0	57, 75, 75	27.5	35 ~ 41	SKG10-10HG	4.0, 4.4, 4.8	SK 10
	-SK13C-105, 165, 200	2.75 ~ 13.0	62, 92, 92	33	39 ~ 51	SKG13-10HG	4.2, 4.7, 5.1	SK 13
	-SK16C-105, 165, 200	2.75 ~ 16.0	62, 90, 90	40	45 ~ 57	SKG16-12HG	4.3, 5.0, 5.4	SK 16
	-SK20C-135, 165, 200	3.5 ~ 20.0	92, 122, 157	48.5	47 ~ 63	SKG20-18HG	5.1, 5.5, 6.0	SK 20
	-SK25C-135, 165, 200	7.5 ~ 25.4		55	60 ~ 70	SKG25-24HG	5.1, 5.5, 5.9	SK 25

- ★The "D" of Code No. shows MAX. gripping diameter. ★The "H" dimension is a figure in case of the MAX.gripping diameter.
- ★All slim chucks except NC5-46-SK25-90 marked \*1 are High Pressure Centre Through Coolant type (MAX.7MPa).
- ★For NC5-46-SK25-90, the adjust screw SKG-12MFH is used for centre through coolant application (1MPa).  
The Code No. of the adjust screw for J type nut is SKG-12MF-J.
- ★For the adjust screws for oil hole taps or smaller dia. cutters, please refer P.288.
- ★Collet, adjust screw (G No.) and spanner are available as an option.  
The Code No. of the spanner is SK6C(C=φ18): SKL-6, SK6C(C=φ19.5): SKL-6W, SK10C: SKL-10, SK13C: 9HC12A, SK16C: 9HC16, SK20C: 9HC22, SK25C: 9HC25
- ★Please refer P.283 for SK collet and please refer P.285 for J type nut.
- ★SK6C:φ4~φ6, SK10C:φ6~φ10, SK16C:φ10~φ16, SK25C:φ16~φ25
- ★Slim Chuck for Oil Mist is also available. Please contact with us.
- ★Please refer P.285 for sk Coolant Solution.

## High Speed Slim Chuck

"SK-P" is the Code No. of High Speed Slim Chuck.



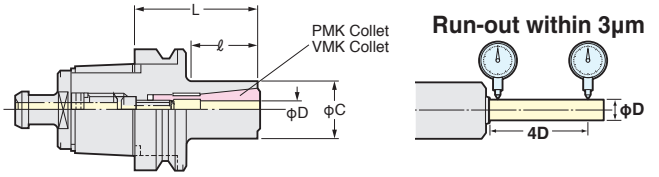
TAPER	Code No.	MAX. (r/min)	TAPER	Code No.	MAX. (r/min)
NC5-46	NC5- 46-SK 6C- 75P, 90P, 120P	40,000	NC5-85	NC5- 85-SK 6C-105P, 150P	20,000
	-SK10C- 75P, 90P, 120P			-SK10C-105P, 150P, 200P	
	-SK13C- 90P, 120P			-SK13C-105P, 150P, 200P	
	-SK16C- 90P, 120P	-SK16C-105P, 150P, 200P			
	-SK20C- 90P, 120P	-SK20C-135P, 165P, 200P			
	-SK25 - 90P	-SK25C-135P, 165P, 200P			
NC5-63	NC5- 63-SK 6C- 90P, 150P	30,000	NC5-100	NC5-100-SK 6C-105P, 165P	20,000
	-SK10C- 90P, 150P, 200P			-SK10C-105P, 165P, 200P	
	-SK13C- 90P, 150P, 200P			-SK13C-105P, 165P, 200P	
	-SK16C-105P, 150P, 200P	-SK16C-105P, 165P, 200P			
	-SK20C-105P, 150P, 200P	-SK20C-135P, 165P, 200P			
	-SK25C-135P, 180P	-SK25C-135P, 165P, 200P			
		20,000			15,000

# NC5 VEGA CHUCK



## New Innovation for High Speed Milling

The setting of cutter can be done through the centre hole of the pull stud with wrench.



VMC

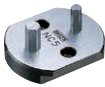
TAPER	Code No.	Chucking Range φD	C	ℓ	Collet	MAX. (r/min)	Collet Removal Jig	Weight (kg)
NC5- 63	NC5- 63-VMC 8- 60, 120N	2~8	22	30, 30	PMK 8, VMK 8J	40,000	VML-63	1.1,1.4
	-VMC12- 65, 120	4~12	30	35, 47	PMK12, VMK12J			1.2,1.7
	-VMC16- 85, 120	4~16	40	53, 88	VMK16, VMK16J			1.4,1.8
	-VMC20- 85, 120	6~20	47	53, 88	VMK20, VMK20J			1.5,2.0
	-VMC25- 90, 120	8~25	55	60, 90	VMK25, VMK25J			1.7,2.3
NC5- 85	NC5- 85-VMC 8- 75N, 135	2~8	22	30, 30	PMK 8, VMK 8J	20,000	VML-85	2.3,2.7
	-VMC12- 75, 135	4~12	30	39, 42	PMK12, VMK12J			2.4,2.9
	-VMC16- 85, 135	4~16	40	47, 57	VMK16, VMK16J			2.5,3.3
	-VMC20- 85, 135	6~20	47	47, 97	VMK20, VMK20J			2.6,3.3
	-VMC25- 90, 135	8~25	55	52, 97	VMK25, VMK25J			2.8,3.6
	-VMC32-110	12~32	70	72	VMK32, VMK32J			3.6
NC5-100	NC5-100-VMC 8- 90N, 150N	2~8	22	30, 30	PMK 8, VMK 8J	20,000	VML-100	4.0,4.5
	-VMC12- 90, 150	4~12	30	49, 60	PMK12, VMK12J			4.1,4.6
	-VMC16- 90, 150	4~16	40	49, 80	VMK16, VMK16J			4.2,4.9
	-VMC20- 85, 150	6~20	47	42, 95	VMK20, VMK20J			4.2,5.3
	-VMC25- 90, 150	8~25	55	47, 107	VMK25, VMK25J			4.3,5.4
	-VMC32-105	12~32	70	57	VMK32, VMK32J			4.9

★The "D" of the Code No. shows MAX. gripping diameter.  
★Please add "P" at the end of Code No. for High Speed Chuck. e.g. NC5-63-VMC16-85P.

★Collet and collet removal jig are available as an option.

### Collet Removal Jig

VML



Push back the Pull Stud onto the VEGA Chuck and rotate the Chuck to tighten and release. Spanner is available as an option.  
NC5-53, NC5-63:9HC22,  
NC5-85:9HC32, NC5-100:9HC42



**PROTECTION MUST BE USED.**



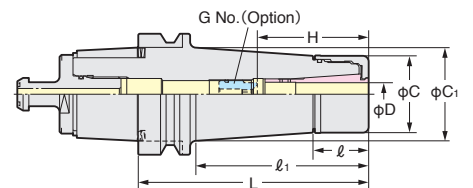
VMK Collet Code No.
VMK 8-2J, 3J, 4J, 5J, 6J, 8J
VMK12-4J, 5J, 6J, 8J, 10J, 12J
VMK16-4J, 5J, 6J, 8J, 10J, 12J, 16J
VMK20-6J, 8J, 10J, 12J, 16J, 20J
VMK25-8J, 10J, 12J, 16J, 20J, 25J
VMK32-12J, 16J, 20J, 25J, 32J

★Please note the acceptable shank tolerance is h8.  
★VMK8-2J is Jet Spread Hole type.

# NC5 ANNIVERSARY TYPE VC HOLDER



With TiN Bearing Nut  
MAX.40,000r/min  
Run-Out Accuracy:3µm at 4D



VC

JAPAN, USA, EU, KOREA PAT.

TAPER	Code No.	D	L	ℓ	ℓ <sub>1</sub>	C	C <sub>1</sub>	H	G No. (Option)	Weight (kg)	MAX. (r/min)	Collet
NC5- 46	NC5- 46-VC 6- 45, 60, 90	2.0~6.0	45,60,90	23	23,35,65	28	27.5,31.7,33.4	-,-,35~45	-,-,VCG 6- 8A	0.5,0.6,0.8	40,000	VCK 6
	-VC13- 65, 90, 120	3.0~12.0	65,90,120	29	42,67,97	40	41.8,41.3,42.4	-,-,50~60	-,-,VCG13-15A	0.8,0.9,1.2		VCK13
NC5- 63	NC5- 63-VC 6- 60, 90, 120	2.0~6.0	60,90,120	23	30,60,90	28	30.0,32.7,36.9	35~45	VCG 6- 8A	1.3,1.5,1.7	30,000	VCK 6
	-VC13- 60, 90, 120	3.0~12.0		29	31,60,90	40	40.3,44.3,48.5	-50~60,50~60	-,-,VCG13-15A,VCG13-15A	1.4,1.7,2.1		VCK13
NC5- 85	NC5- 85-VC 6-105, 135, 165	2.0~6.0	105,135,165	23	67,97,127	28	33.7,37.8,42.0	35~45	VCG 6- 8A	2.6,2.8,3.1	20,000	VCK 6
	-VC13-105, 135, 165	3.0~12.0		29	45.3,49.5,53.7	40	45.3,49.5,53.7	50~60	VCG13-15A	2.8,3.2,3.6		VCK13
NC5-100	NC5-100-VC 6-105, 135, 165	2.0~6.0	105,135,165	23	62,92,122	28	33.0,37.1,41.3	35~45	VCG 6- 8A	4.3,4.5,4.9	20,000	VCK 6
	-VC13-105, 135, 165	3.0~12.0		29	44.6,48.8,53.0	40	44.6,48.8,53.0	50~60	VCG13-15A	4.5,4.9,5.3		VCK13

★Collet, adjust screw (G No.) and GH Handle are available as an option.

★Please refer P.285 for JET Coolant Splash with J type Nut.

The Code No. of the GH Handle is VC6: GH10, VC13: GH16

★When the axial stopper is required, please use Adjust Screw (G No.)

★Please add "-RP" at the end of Code No. for Rust Proof Treatment VC Holder. e.g.: NC5-63-VC13-60-RP

★Please use VC J type Nut & Cap for Centre Through Coolant.

When VC J type Nut is used, the total holder length will be extended to 6mm.

★NC5-63-VC 6-150, NC5-63-VC13-150, NC5-100-VC13- 90, -120 are available as semi-standard.

★All series are for High Speed Rotation.

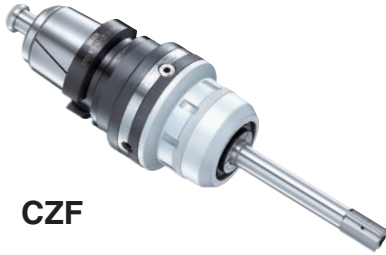
VCK Collet Code No.
VCK 6-2, 3, (3.175), 4, 5, 6
VCK13-3, (3.175), 4, 5, 6, 7, 8, 9, 10, 11, 12

★Please note the acceptable shank tolerance is h8.  
★Inch size is also available. VCK6-1/8, 3/16, 1/4 VCK13-1/8, 3/16, 1/4, 5/16, 3/8, 7/16, 1/2  
★VCK6-3.175 and VCK13-3.175 are same as VCK6-1/8 and VCK13-1/8 respectively.  
Please order VCK6-1/8 or VCK13-1/8

NC5

# NC5 ZERO FIT TYPE MILLING CHUCK

**NIKKEN**



**CZF**

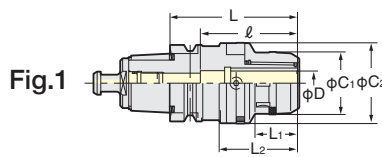


Fig.1

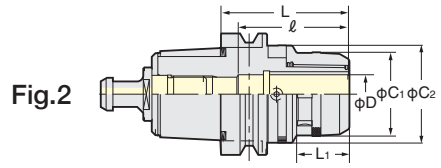


Fig.2

JAPAN, USA, UK, GERMANY, KOREA, TAIWAN PAT.

TAPER	Code No.	C1	C2	L	L1	L2	ℓ	Weight(kg)	Fig.	Collet	
NC5- 46	NC5- 46-CZF20-100	51.5	66.5	100	35	68	80	1.4	1	KM20 CCK20	
	-CZF25-100	59.5	74.5					1.5			
NC5- 63	NC5- 63-CZF20-105	51.5	66.5	105	35	65	80	2.1		2	KM20 CCK20
	-CZF25-105	59.5	74.5			68		2.4			
	-CZF32-120	69	80.5	120	42	81	105	2.9			KM32 CCK32
NC5-100	NC5-100-CZF20-105	51.5	66.5	105	35	-	80	4.9		2	KM20 CCK20
	-CZF25-105	59.5	74.5					5.3			
	-CZF32-105	69	80.5	42	105	5.7	KM32 CCK32				

★Spanner is available as an option. CZF20 type:9HC22, CZF25 type:9HC25, CZF32 type:9HC32

★Wrench to adjust run-out (9ZFL) is available as an option. ★Please note that the acceptable shank tolerance is h6~h7.

★Please refer P.280, P.281 for KM, CCK collet.

★Please add "P" at the end of Code No. for High Speed Zero Fit Milling Chuck. e.g. NC5-63-CZF25-105P

★For center through coolant application:Please use CKFN-D Nut for the direct chucking. Please use CCK collet and CKFN nut for chucking with collet. P.281

★Multi-Cam style is available. e.g. NC5-63-CZF32-120-C3. (3 Cams) Please contact us for more detail.

★Please refer P.279 for Milling chuck Coolant Solution.

Wrench to adjust  
**9ZFL**



# NC5 ZERO FIT TYPE SLIM CHUCK

**NIKKEN**



**SZF** Centre Through  
MAX. 7MPa

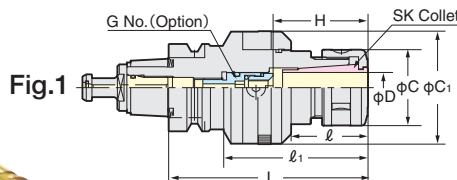


Fig.1

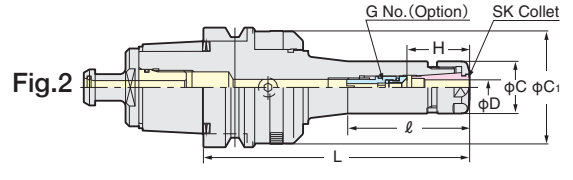


Fig.2

JAPAN, USA, UK, GERMANY, KOREA, TAIWAN PAT.

•When using SK-A collets or SK-AC collets, or when gripping a cutting tool smaller than the nominal diameter on SK collets, the total length will be shortened by about 3 mm. Please be careful when you check the interference.

TAPER	Code No.	D	L	ℓ	ℓ1	C	C1	H	G No. (Option)	Weight(kg)	Fig.	Collet
NC5- 46	NC5- 46-SZF 6C- 90	0.7~6.0	90	42	-	19.5	40.5	26~31	SKG6-6HG	0.8	2	SK 6
	-SZF10C- 90	1.75~10.0		27	61	27.5	48.5	35~41	SKG10-10HG	1.2	1	SK10
	-SZF16C-120	2.75~16.0	120	50	86	40	59.5	50	SKG16-10HG	1.7		SK16
NC5- 63	NC5- 63-SZF 6C- 90,150	0.7~6.0	90, 150	37, 60	-	19.5	40.5, 48.5	26~31	SKG6-6HG	1.3, 1.6	2	SK 6
	-SZF10C- 90,150	1.75~10.0		37, 97		27.5	48.5	35~41	SKG10-10HG	1.5, 1.7		SK10
	-SZF16C-105,150	2.75~16.0	105, 150	52, 97	40	59.5	45~57	SKG16-12HG	1.7, 2.0	1	SK16	
	-SZF25C-135,180	7.5~25.4	135, 180	70, 115	99, 144	55	66.5	60~65	SKG25-18HGD, 24HG		2.6, 2.9	SK25
NC5-100	NC5-100-SZF 6C-105,165	0.7~6.0	105, 165	41, 63	-	19.5	40.5, 59.5	26~31	SKG6-6HG	4.1, 4.5	2	SK 6
	-SZF10C-105,165	1.75~10.0		41, 101		27.5	48.5	35~41	SKG10-10HG	4.3, 4.7		SK10
	-SZF16C-105,165	2.75~16.0	41, 101	40	59.5	45~57	SKG16-12HG	4.6, 5.3	1	SK16		
	-SZF25C-135,165	7.5~25.4	135, 165	61, 101	55	66.5	60~70	SKG25-24HG		5.5, 5.9	SK25	

★Adjust screw (G No.), wrench to adjust run-out (9ZFL) and SKL spanner are available as an option. SZF6C: SKL-6W, SZF10C: SKL-10, SZF16C: 9HC16, SZF25C: 9HC25

★NC5-85 is also available. NC5-85-SZF6C-105, -150 NC5-85-SZF10C-105, -150 NC5-85-SZF16C-105, -150 NC5-85-SZF25C-135, -165

★Please use "P" class or "A" type SK collet. P.283. ★Please add "P" at the end of Code No. for High Speed Zero Fit Slim Chuck. e.g. NC5-63-SZF10C-90P

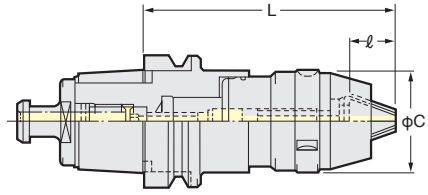
★For centre through coolant application, please use SK J type nut and cap. P.285. Please note that the total tool length with J type nut is extended 6mm longer.

★Multi-Cam style is available. e.g. NC5-63-SZF16C-105-C3. (3 Cams) Please contact us for more detail.

★Please refer P.285 for sk Coolant Solution.

# NC5 NPU DRILL CHUCK

**NIKKEN**



NPU

TAPER	Code No.	Chucking Dia. φD	C	ℓ	L MIN.	L MAX.	Weight(kg)
NC5- 46	NC5- 46-NPU 8-100	0.3~ 8	38	18.8	100	104.7	1.0
	-NPU13-120	1 ~13	48.5	26.5	120	131.7	1.4
NC5- 63	NC5- 63-NPU 8- 90	0.3~ 8	38	18.8	90	94.7	1.3
	-NPU13-110	1 ~13	48.5	26.5	110	121.7	1.7
NC5- 85	NC5- 85-NPU 8- 90	0.3~ 8	38	18.8	90	94.7	2.8
	-NPU13-110	1 ~13	48.5	26.5	110	121.7	3.4
NC5-100	NC5-100-NPU 8- 90	0.3~ 8	38	18.8	90	94.7	3.8
	-NPU13-110	1 ~13	48.5	26.5	110	121.7	4.1

★NPU8 can not be used for Centre Through Coolant application.

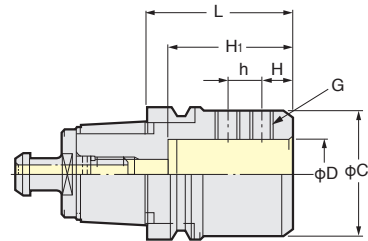
★Please add "C" to the Code No. for Centre Through Coolant type NPU13(1MPa).  
e.g. NC5-63-NPU13C-110

★Wrench is available as an option. NPU8: NPUL-8, NPU13: NPUL-13.

★When it is used for centre through coolant holder, MIN. Chucking Dia. is 6mm.

# NC5 SIDE LOCK HOLDER

**NIKKEN**



SL

Photo shows the holder with NIKKEN COMBATZ DRILL.

☞ P.309

## SIDE LOCK HOLDER for Drill

TAPER	Code No.	C	h	H	H <sub>1</sub>	G	Weight (kg)
NC5- 63	NC5- 63-SL20CN-55	50	—	14	45	M12(P=1.25)	1.4
	-SL25CN-60	55	15	11	55		1.6
	-SL32CN-70	61	20	12	60		1.7
	-SL40CN-80	70	19	15	70		1.8
NC5- 85	NC5- 85-SL20CN-70	50	16	12	45	M10(P=1.5)	2.8
	-SL25CN-70	55	17	14	55	M12(P=1.25)	2.9
	-SL32CN-70	60	15	15	60	M12(P=1.25)	2.8
	-SL40CN-80	84	19	18	70	M10(P=1.5)	3.7
NC5-100	NC5-100-SL20CN-80	50	16	12	45	M10(P=1.5)	4.2
	-SL25CN-80	55	17	14	55	M12(P=1.25)	4.4
	-SL32CN-80	60	16	15	60	M12(P=1.25)	4.6
	-SL40CN-80	88	19	15	70	M10(P=1.5)	5.9

★All holders are High Pressure Centre Through Coolant type. (7MPa).

The Code No. of SIDE LOCK HOLDER for Combination Shank Cutter is "DM".

e.g. NC5-100-DM50.8-120  
NC5- 85-DM50.8-120



## SIDE LOCK HOLDER for End Mill

TAPER	Code No.	C	h	H	H <sub>1</sub>	G	Weight (kg)
NC5- 63	NC5- 63-SLS16- 60	48	—	24	60	M14(P=2)	1.4
	-SLS20- 75	52	—	25	70	M16(P=2)	1.7
	-SLS25- 90	63	25	24	75	M18(P=2)	1.9
	-SLS32-105	72	28	24	90	M20(P=2)	2.0
NC5- 85	NC5- 85-SLS16- 70	48	—	24	60	M14(P=2)	2.7
	-SLS20- 70	52	—	25	70	M16(P=2)	3.2
	-SLS25- 95	65	25	24	75	M18(P=2)	3.6
	-SLS32-100	72	28	24	85	M20(P=2)	3.8
NC5-100	NC5-100-SLS16- 75	48	—	24	60	M14(P=2)	4.0
	-SLS20- 75	52	—	25	70	M16(P=2)	4.5
	-SLS25- 75	65	25	24	75	M18(P=2)	4.7
	-SLS32- 75	72	28	24	90	M20(P=2)	4.9
NC5-100	NC5-100-SLS42-115	90	32	30	95	M20(P=2)	6.2
	-SLS50-120	95	35	35	83	M24(P=2)	6.0
	NC5-100-SLS16- 75	48	—	24	60	M14(P=2)	4.0
	-SLS20- 75	52	—	25	70	M16(P=2)	4.5
NC5-100	-SLS25- 75	65	25	24	75	M18(P=2)	4.7
	-SLS32- 75	72	28	24	90	M20(P=2)	4.9
	-SLS42-115	90	32	30	95	M20(P=2)	6.2
	-SLS50-105	98	34.5	35	90	M24(P=2)	7.5

★The above are suitable for JIS B4005 Shank End Mill.

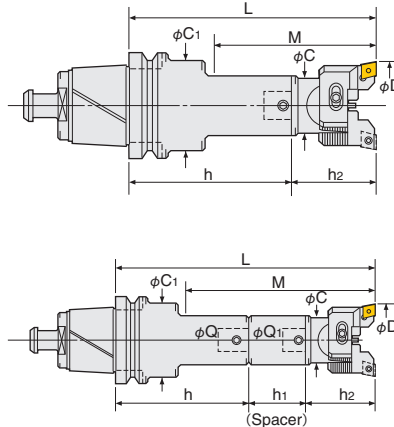
NC5

# NC5 BALANCE-CUT BORING ARBOR

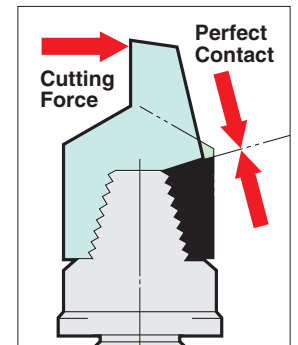


## RAC

Photo shows RAC head with A1 spacer.



## Power of Shoulder Support

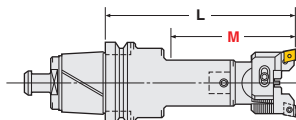


TAPER	Code No.	Boring Range D	Boring Depth M	P.62		Weight (kg)
				Head No.	Insert No.	
NC5-63	NC5- 63-RAC 25-135E, 165E, 180E	25~32	67, 105, 112	12-RAC 25- 55E	CC07-C	1.7, 1.8, 1.8
	-RAC 32-150E, 180E, 195E	32~45	77, 110, 122	16-RAC 32- 55E	CC08-C	2.1, 2.3, 2.3
	-RAC 43-150E, 180E, 210E	43~55	97, 130, 157	20-RAC 43- 70E	CC12-C	2.4, 2.6, 2.9
	-RAC 53-165E, 210E, 225E	53~70	135, 180, 195	26-RAC 53- 70E		2.2, 2.9, 3.0
	-RAC 70-180E, 195E, 240E	70~100	180, 195, 240	34-RAC 70- 85E		4.5, 4.9, 5.9
	-RAC100-195E	100~130	195	42-RAC100-100E		6.5
NC5-85	NC5- 85-RAC 25-150E, 180E, 195E	25~32	67, 105, 112	12-RAC 25- 55E	CC07-C	2.9, 3.0, 3.1
	-RAC 32-180E, 210E, 225E	32~45	77, 110, 122	16-RAC 32- 55E	CC08-C	3.6, 3.8, 3.8
	-RAC 43-180E, 195E, 225E, 240E	43~55	97, 130, 142, 157	20-RAC 43- 70E	CC12-C	3.9, 4.0, 4.3, 4.4
	-RAC 53-210E, 240E, 270E	53~70	117, 182, 177	26-RAC 53- 70E		5.1, 5.2, 5.8
	-RAC 70-255E, 285E, 315E	70~100	205, 235, 265	34-RAC 70- 85E		7.7, 8.1, 9.1
	-RAC100-225E, 290E, 315E	100~130	187, 252, 277	42-RAC100-100E		10.7, 10.7, 14.1
NC5-100	NC5-100-RAC 25-150E, 180E, 195E	25~32	67, 105, 112	12-RAC 25- 55E	CC07-C	3.9, 4.0, 4.1
	-RAC 32-180E, 210E, 225E	32~45	77, 110, 122	16-RAC 32- 55E	CC08-C	4.6, 4.8, 4.8
	-RAC 43-180E, 195E, 225E, 240E	43~55	97, 130, 142, 157	20-RAC 43- 70E	CC12-C	4.9, 5.0, 5.3, 5.4
	-RAC 53-210E, 240E, 270E	53~70	117, 182, 177	26-RAC 53- 70E		6.1, 6.2, 6.8
	-RAC 70-255E, 285E, 315E	70~100	205, 235, 265	34-RAC 70- 85E		8.7, 9.1, 10.1
	-RAC100-225E, 290E, 315E	100~130	225, 290, 315	42-RAC100-100E		11.7, 11.7, 15.1

- ★ "C" grade (Coated) inserts are supplied as standard with the head. P.62 Please refer P.106 for cutting condition.
- ★ Please refer P.224 for base holder, P.90 for spacer and P.67 for head.
- ★ For centre through coolant type, please add "-C" at the end of Code No. e.g. NC5-63-RAC53-165-C
- ★ Cartridges & Insert tips for the Heavy Duty Boring of Iron and Cast Iron (No letter), for Aluminum (A), and for Through Hole & Multiple Sheets (K) are available. Please refer P.67 for cartridges. Please add the letter "No letter", "A" or "K" at the end of Code No. e.g. NC5-63-RAC53-165A
- ★ Cartridge & Insert for Alloy Steel (E) is recommended for boring on steel and stainless steel. e.g. NC5-63-RAC53-165E
- ★ For NC5-46, modular connection system is applied. Please refer P.224 for Base Holder. Code No. of RAC25 and RAC32 with CC inserts are changed to RAC25E and RAC32E. Please refer P.59, P.60
- ★ When L length is required longer than standard, please specify the boring depth M.



## High Pressure Coolant Through

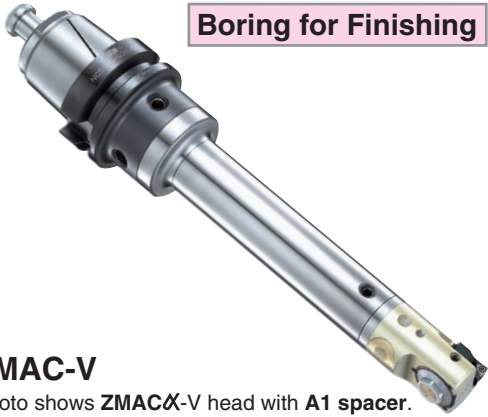


# NC5 ZMAC ADVANCED BORING ARBOR (ZMAC-V)



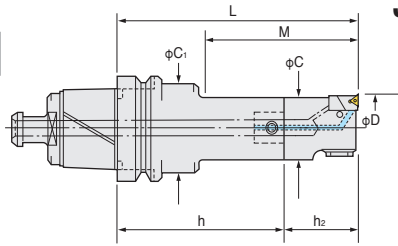
JAPAN PAT.

Boring for Finishing

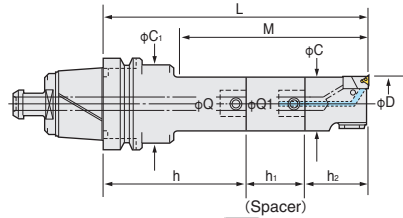
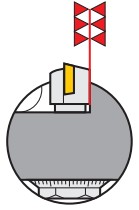


## ZMAC-V

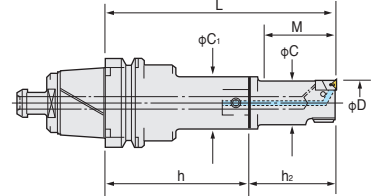
Photo shows ZMAC $\alpha$ -V head with A1 spacer.



No Micro Vibration due to Double-Contact Support of Cartridge. Long Tool-Life & High Accuracy.



(Spacer)



Only for ZMAC16-V

All codes shown are for heads with triangular inserts For heads with rhomboid inserts please add the letter "R" to the code No. e.g. NC5-63-ZMAC32 R -150V

TAPER	Code No.	Boring Range D	Boring Depth M	P.127		Weight (kg)	
				Head No.	Insert No.		
NC5-63	NC5- 63-ZMAC16-125V,135V	15.9~20.2	38, 48	12-ZMAC16-45V,55V	3MP-C,B	1.6, 1.6	
	-ZMAC20-120V, 135V, 150V	19.8~25.2	45, 67, 75	9-ZMAC 20- 40V		1.6, 1.6, 1.7	
	-ZMAC25-120V, 150V, 165V	24.8~32.2	52, 90, 97	12-ZMAC 25- 40V		1.7, 1.8, 1.8	
	-ZMAC32-150V, 180V, 195V	31.8~42.2	77, 110, 122	16-ZMAC 32- 55V	4MP-C,B	2.2, 2.4, 2.4	
	-ZMAC42-150V, 180V, 210V	41.8~55.2	97, 130, 157	20-ZMAC 42- 70V	6MP-C,B	2.7, 2.9, 3.2	
	-ZMAC55-165V, 210V, 225V	54.8~70.2	135, 180, 195	26-ZMAC 55- 70V		3.6, 4.3, 4.3	
	-ZMAC70-165V, 180V, 225V	69.8~85.2	165, 180, 225	34-ZMAC 70- 70V		5.1, 5.5, 6.5	
-ZMAC85-195V	84.8~100.2	195	42-ZMAC 85-100V	8.7			
NC5-85	NC5- 85-ZMAC16-140V, 150V	15.9~20.2	38, 48	12-ZMAC16-45V,55V	3MP-C,B	2.9, 2.9	
	-ZMAC20-150V, 165V, 180V	19.8~25.2	45, 67, 75	9-ZMAC 20- 40V		3.0, 3.0, 3.1	
	-ZMAC25-135V, 165V, 180V	24.8~32.2	52, 90, 97	12-ZMAC 25- 40V	4MP-C,B	3.7, 3.8, 3.9	
	-ZMAC32-180V, 210V, 225V	31.8~42.2	77, 110, 122	16-ZMAC 32- 55V		6MP-C,B	4.2, 4.2, 4.6, 4.7
	-ZMAC42-180V, 195V, 225V, 240V	41.8~55.2	97, 130, 142, 157	20-ZMAC 42- 70V			5.7, 5.8, 7.3
	-ZMAC55-210V, 240V, 270V	54.8~70.2	117, 182, 177	26-ZMAC 55- 70V	8.2, 8.8, 9.7		
	-ZMAC70-240V, 270V, 300V	69.8~85.2	190, 220, 250	34-ZMAC 70- 70V	10.7, 13.2, 14.2		
	-ZMAC85-225V, 290V, 315V	84.8~100.2	187, 252, 277	42-ZMAC 85-100V	12.0, 14.7, 14.6		
-ZMAC100-225V, 290V, 315V	99.5~140.5	225, 290, 315	42-ZMAC100-100V	12.8, 15.5, 16.2			
-ZMAC140-225V, 290V, 315V	139.5~180.5		42-ZMAC140-100V				
NC5-100	NC5-100-ZMAC16-140V, 150V	15.9~20.2	38, 48	12-ZMAC16-45V,55V	3MP-C,B	3.9, 3.9	
	-ZMAC20-150V, 165V, 180V	19.8~25.2	45, 67, 75	9-ZMAC 20- 40V		4.0, 4.0, 4.1	
	-ZMAC25-135V, 165V, 180V	24.8~32.2	52, 90, 97	12-ZMAC 25- 40V	4MP-C,B	4.7, 4.8, 4.9	
	-ZMAC32-180V, 210V, 225V	31.8~42.2	77, 110, 122	16-ZMAC 32- 55V		6MP-C,B	5.2, 5.2, 5.6, 5.7
	-ZMAC42-180V, 195V, 225V, 240V	41.8~55.2	97, 130, 142, 157	20-ZMAC 42- 70V			6.7, 6.8, 8.3
	-ZMAC55-210V, 240V, 270V	54.8~70.2	117, 182, 177	26-ZMAC 55- 70V	9.2, 9.8, 10.7		
	-ZMAC70-240V, 270V, 300V	69.8~85.2	190, 220, 250	34-ZMAC 70- 70V	11.7, 14.2, 15.2		
	-ZMAC85-225V, 290V, 315V	84.8~100.2	187, 252, 277	42-ZMAC 85-100V	13.0, 15.7, 15.6		
	-ZMAC100-225V, 290V, 315V	99.5~140.5	225, 290, 315	42-ZMAC100-100V	13.8, 16.5, 17.2		
-ZMAC140-225V, 290V, 315V	139.5~180.5	42-ZMAC140-100V					

\*MIN. dial readout : ZMAC25-V & smaller is 0.02mm on diameter. ZMAC32-V and larger are 0.01mm on diameter.

\*"C" grade (Coated) insert for Steel, Stainless & Cast Iron is supplied as Standard with the head (Smooth boring & Long tool-life).

We would recommend "B" grade (CBN) insert for Hardened Steel & High Speed boring of Cast Iron. Please refer P.107 for cutting condition.

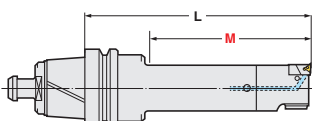
\*Please refer P.224 for Shank, and P.90 for Spacer, and P.75, P.76 for Head.

\*Centre Through Coolant function is available as standard.

\*For NC5-46, modular connection system is applied. Please refer P.224 for Base Holder.

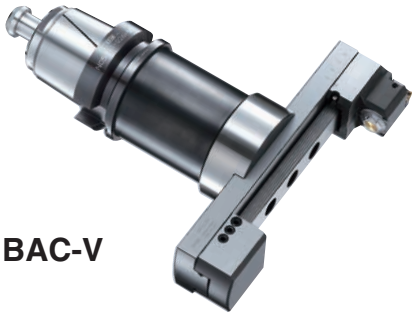
\*The location of the cutting edge is same as the drive key for ZMAC16-V to ZMAC42-V.

\*When L length is required longer than standard, please specify boring depth M.



High Speed Boring ZMAC $\alpha$ -V P.76

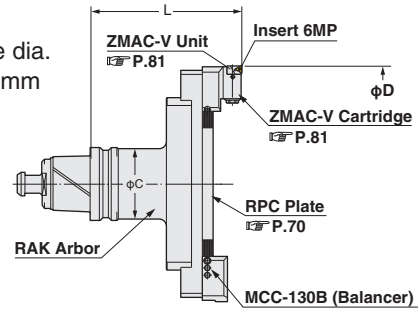
# NC5 BALANCE-CUT BAC ADVANCED BORING ARBOR for LARGE DIA. **NIKKEN** JAPAN PAT.



**BAC-V**

## For Finishing

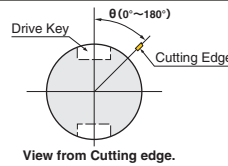
- Min. dial read out: main scale dia. 0.02mm, sub scale dia. 0.002mm
- Boring Dia:  $\phi$ 130~595mm



Boring Dia:  $\phi$ 130~595mm for Finishing.

TAPER	Code.No	D		L	C	Arbor No.	RPC Plate No	Cartridge (Balancer)	Weight (kg)
		MIN.	MAX.						
NC5- 63	NC5-63 -BAC130-205V	130	195	205	61	NC5-63-RAK-130A	RPC-130	MCCZ-130V (MCC-130B)	6.8
	-BAC180-205V	180	245				-180		7.8
NC5- 85 NC5-100	NC5-85 -BAC130-185V, 235V, 285V (NC5-100)	130	195	185, 235, 285	90	NC5-85-RAK-110A, 160A, 210A (NC5-100)	RPC-130	MCCZ-130V (MCC-130B)	13.0, 14.5, 17.5
	-BAC180-185V, 235V, 285V	180	245				-180		13.5, 15.0, 18.0
	-BAC230-185V, 235V, 285V	230	295				-230		14.0, 15.5, 18.5
	-BAC280-185V, 235V, 285V	280	345				-280		14.5, 16.0, 19.0
	-BAC330-210V	330	395	210	98	NC5-85-RAK330-125 (NC5-100)	RPC-330	Insert Tip 6MP	16.2
	-BAC380-210V	380	445				-380		16.5
	-BAC430-210V	430	495				-430		17.5
	-BAC480-210V	480	545				-480		18.5
	-BAC530-210V	530	595				-530		19.5

- ★ "C" grade (Coated) Inserts are supplied as standard.
- ★ Arbor, Plate and Cartridge are delivered in separate packages.
- ★ When ordering, please let us know machine maker and model no. to avoid the interference with tool magazine of ATC.
- ★ The location of cutting edge is same as drive key in standard. The different location is available, please specify  $\theta$  in Code No. e.g. NC5-100-BAC180-235V (90°)



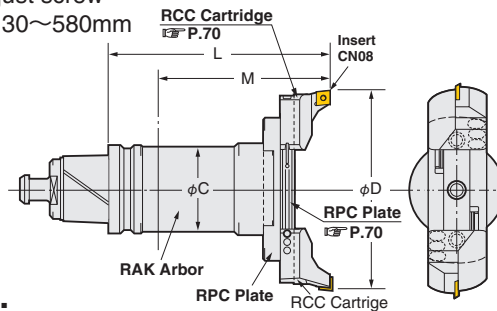
# NC5 BALANCE-CUT RAC BORING ARBOR for LARGE DIA. **NIKKEN**



**RAC**

## For Roughing

- With slight adjust screw
- Boring Dia:  $\phi$ 130~580mm



High pressure centre-through available. Photo shows with coolant nozzle.



Boring Dia:  $\phi$ 130~580mm for Roughing.

TAPER	Code.No	D		L	C	Arbor No.	RPC Plate No.	Cartridge No. for Large dia.	Weight (kg)
		MIN.	MAX.						
NC5- 63	NC5-63 -RAC130-205	130	180	205	61	NC5-63-RAK-130A	RPC-130	For Heavy Duty Boring of Iron and Cast Iron	6.8
	-RAC180-205	180	230				-180		7.8
NC5- 85 NC5-100	NC5-85 -RAC130-185, 235, 285 (NC5-100)	130	180	185, 235, 285	90	NC5-85-RAK-110A, 160A, 210A (NC5-100)	RPC-130	RCC-130 x2	11.3, 12.8, 15.8
	-RAC180-185, 235, 285	180	230				-180		11.8, 13.3, 16.3
	-RAC230-185, 235, 285	230	280				-230		12.3, 13.8, 16.8
	-RAC280-185, 235, 285	280	330				-280		12.8, 14.3, 17.3
	-RAC330-210	330	380	210	98	NC5-85-RAK330-125 (NC5-100)	RPC-330	Insert Tip CN08	15.5
	-RAC380-210	380	430				-380		16.5
	-RAC430-210	430	480				-430		17.5
	-RAC480-210	480	530				-480		18.5
	-RAC530-210	530	580				-530		19.5

- ★ The Code No. on above table are the boring arbors with RCC-130 cartridge (Insert tip: CN08) the Heavy Duty Boring of Iron and Cast Iron. Please refer P.106 for cutting condition.
- ★ Boring arbor with cartridges & insert for Steel, Stainless Steel and Cast Iron (E), for Aluminum (A) and for Through Hole & Multi Sheets (K) are available. Please refer P.70 for cartridges. e.g. NC5-100-RAC130-185E
- ★ When ordering, please let us know machine maker and model no. to avoid the interference with tool magazine of ATC.
- ★ Arbor, Plate and Cartridge are delivered in separate packages. ★ The location of cutting edge is same as drive key in standard. The different location is available, please specify  $\theta$  in Code No. e.g. NC5-100-RAC180-235 (90°)



# NC5 MODULAR TYPE BASE HOLDER



Fig.1

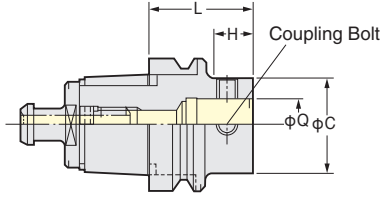


Fig.2

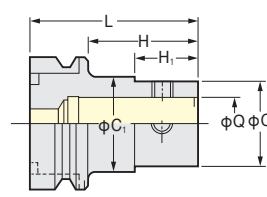
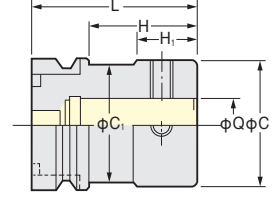
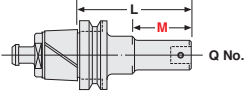


Fig.3



TAPER	Code No.	Coupling Dia Q	L	C	C1	H	H1	Coupling Bolt No.	Fig.	Weight(kg)
NC5- 46	NC5- 46-Q26- 40	26	40	50	45	18	6	B26N	3	0.4
	NC5- 63-Q 9- 80, 95	9	80, 95	19	30	48, 63	5, 27	B19	2	1.6, 1.7
NC5- 63	-Q12- 80, 110	12	80, 110	24	35	48, 78	12, 50	B12		1.6, 1.7
	-Q16- 95, 125	16	95, 125	31	42	63, 93	22, 55	B16		1.9, 2.1
	-Q20- 80, 110	20	80, 110	40	50	48, 78	27, 60	B20		2.0, 2.2
	-Q26- 50, 95, 140	26	50, 95, 140	50	—	20, 65, 110	—	B26N		0.9, 1.5, 2.3
	-Q34- 95, 110	34	95, 110	64	62	68, 83	55, 70	B34		3.0, 3.4
	-Q42- 95	42	95	83	62	68	55	B42	3.6	
NC5- 85	NC5- 85-Q 9-110, 125	9	110, 125	19	40	72, 87	5, 27	B19	2	2.9, 3.1
	-Q12- 95, 125	12	95, 125	24	44	57, 87	12, 50	B12		2.5, 3.2
	-Q16-125, 155	16	125, 155	31	50	87, 117	22, 55	B16		3.6, 3.8
	-Q20-110, 125	20	110, 125	40	60	72, 87	27, 60	B20		3.7, 3.8
	-Q26- 65, 140, 170	26	65, 140, 170	50	65	27, 102, 132	—, 40, 110	B26N	1, 2, 2	2.5, 4.6, 4.7
	-Q34-140, 170, 200	34	140, 170, 200	64	80	102, 137, 167	—, 117, 147	B34		4.5, 6.4, 6.8
	-Q42-125, 190	42	125, 190	83	—	87, 152	—	B42		8.0
NC5-100	NC5-100-Q 9-110, 125	9	110, 125	19	40	67, 82	5, 27	B19	2	4.0, 4.2
	-Q12- 95, 125	12	95, 125	24	44	52, 82	12, 50	B12		4.1, 4.3
	-Q16-125, 155	16	125, 155	31	50	82, 112	22, 55	B16		4.7, 4.9
	-Q20-110, 125	20	110, 125	40	60	67, 82	27, 60	B20		4.8, 4.9
	-Q26- 65, 140, 170	26	65, 140, 170	50	65	27, 97, 127	—, 45, 110	B26N	1, 2, 2	3.6, 5.7, 5.8
	-Q34-140, 170, 200	34	140, 170, 200	64	80	97, 127, 157	—, 117, 147	B34		5.6, 7.5, 7.9
	-Q42-125, 190	42	125, 190	83	—	87, 152	—	B42		9.1

- ★φC of Q26 base holder has been increased from 45mm to 50mm due to improvement of its rigidity.
- ★All base holders have a centre through coolant hole.
- ★The Coupling screw & wrench are supplied as standard.
- ★When L length is required longer than standard, please specify the boring depth M.

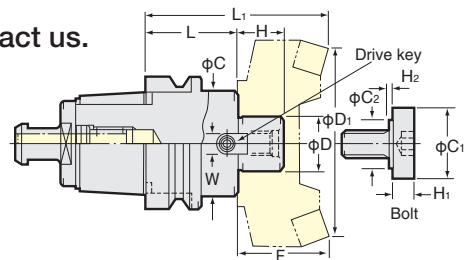


# NC5 FACE MILL ARBOR



For JIS B4113 Face Mill Cutter  
FMH arbor is available. Please contact us.

- For the Face Milling of φ80~φ200mm
- For the NIKKEN PRO-END MILL



TAPER	Code No. NC5 No. -φD -L	H	C	W	C1	C2	H1	H2	Dimension of Arbor with cutter			Drive Key	Bolt	Weight (kg)
									L1	D1	F			
NC5- 46	NC5- 46-FMA25.4 -45	22	50	9.5	33	23	10	2	95	80	50	FW5	FM12	0.6
	NC5- 63-FMA25.4 -45,90	22	58	9.5	33	23	10	2	95, 140	80	50	FW5	FM12	1.6, 3.2
NC5- 63	-FMA31.75 -45,90	30	63	12.7	40	—	—	6	105, 150	100	60	FW13	FM16	1.7, 3.1
	-FMA38.1 -60	34	80	15.9	50	27	14	6	120	125	60	FW18	FM20	2.9
	NC5- 85-FMA25.4 -45,105	22	58	9.5	33	23	10	2	95, 155	80	50	FW5	FM12	2.7, 3.8
NC5- 85	-FMA31.75 -45,105	30	70	12.7	40	—	—	6	105, 165	100	60	FW12, FW13	FM16	3.0, 4.3
	-FMA38.1 -45,90	34	80	15.9	50	27	14	6	105, 150	125	60	FW18, FW19	FM20	3.4, 4.8
	-FMA47.625-70	38	128.57	25.4	—	—	—	—	130	200	60	FW26	*	6.3
	-FMA50.8 -65	36	100	19.05	65	37	14	10	125	160	60	FW23	FM24	5.0
	NC5-100-FMA25.4 -45,105	22	58	9.5	33	23	10	2	95, 155	80	50	FW5	FM12	3.7, 5.0
NC5-100	-FMA31.75 -45,105	30	70	12.7	40	—	—	6	105, 165	100	60	FW12, FW13	FM16	4.5, 6.2
	-FMA38.1 -45,95	34	80	15.9	50	27	14	6	105, 155	125	60	FW18, FW19	FM20	4.3, 5.8
	-FMA47.625-75	38	128.57	25.4	—	—	—	—	135	200	60	FW26	*	5.8
	-FMA50.8 -45	36	100	19.05	65	37	14	10	105	160	60	FW23	FM24	4.9

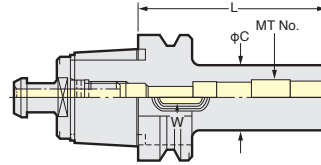
- ★The "D" in the Code No. shows centre bore dia. of the milling cutter.
- ★The above arbors are suitable for JIS B4113 milling cutter.
- ★The arbor marked \* requires 4 fixing bolts (M16).
- ★Drive keys, wrench and bolt are supplied as standard.
- ★The above weight is for arbor and pull stud only. (not including milling cutter.)
- ★FMC22 type arbor is suitable for the NIKKEN PRO-END MILL φ50 mm.
- ★NC5-46-FMC22-40, NC5-53-FMC22-40, NC5-63-FMC22-45, NC5-85-FMC22-45, NC5-100-FMC22-60
- ★Centre through coolant type arbor for the NIKKEN PRO-END MILL is also available.
- Please add "C" of the Code No. e.g. NC5-63-FMA25.4C-45
- ★Centre Through Coolant type arbor except NIKKEN PRO-END MILL, please provide the drawing of milling cutters.
- ★For high speed application, balancing must be required after fixing the milling cutter.

NC5

# NC5 MORSE TAPER SLEEVE TYPE A



■ For Drill & Reamer  
with MT No.1~No.4 Shank.



MTA

TAPER	Code No.	MTNo.	C	W	Weight (kg)
NC5- 46	NC5- 46-MTA1- 85	MT1	25	5.6	0.9
	-MTA2- 95	MT2	32	6.6	1.1
	-MTA3-115	MT3	40	8.4	1.3
NC5- 63	NC5- 63-MTA1- 85	MT1	25	5.6	1.2
	-MTA2- 95	MT2	32	6.6	1.3
	-MTA3-115	MT3	40	8.4	1.6
	-MTA4-140	MT4	50	12.4	2.2

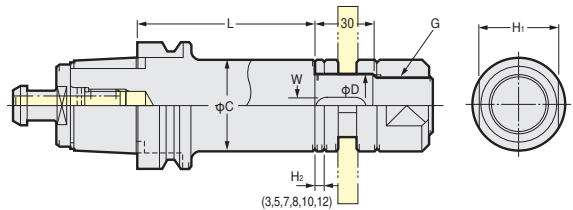
TAPER	Code No.	MTNo.	C	W	Weight (kg)
NC5- 85	NC5- 85-MTA1- 85	MT1	25	5.6	2.6
	-MTA2- 95	MT2	32	6.6	2.7
	-MTA3-115	MT3	40	8.4	3.0
	-MTA4-140	MT4	50	12.4	3.5
NC5-100	NC5-100-MTA1- 85	MT1	25	5.6	4.1
	-MTA2- 95	MT2	32	6.6	4.2
	-MTA3-115	MT3	40	8.4	4.5
	-MTA4-140	MT4	50	12.4	5.1

★Please contact with us for the Centre Through Coolant type Sleeve.

# NC5 STUB ARBOR



■ No Vibration at slotting.



SCA

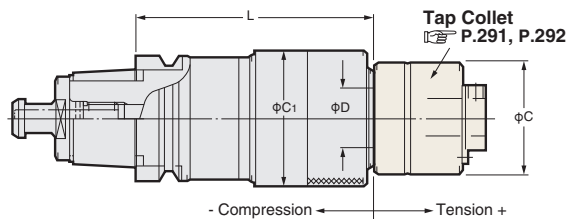
TAPER	Code No. (Inch)	H1	C	W	G	Weight (kg)	Code No. (Metric)
NC5- 63	NC5- 63-SCA12.7 -75	17	20	-	M12	1.2	NC5- 63-SCA13-75
	-SCA15.875-75	23	26	3.18(4)	M14	1.4	-SCA16-75
	-SCA22.225-75	29	34	3.18(4)	M20	1.7	-SCA22-75
	-SCA25.4 -75	32	40	6.35(7)	M24	2.0	-SCA27-75
	-SCA31.75 -90	41	46	7.92(8)	M30	2.6	-SCA32-90
NC5- 85	NC5- 85-SCA12.7 -75	17	20	-	M12	2.6	NC5- 85-SCA13-75
	-SCA15.875-90	23	26	3.18(4)	M14	2.8	-SCA16-90
	-SCA22.225-90	29	34	3.18(4)	M20	3.2	-SCA22-90
	-SCA25.4 -90, 135	32	40	6.35(7)	M24	3.5	-SCA27-90
	-SCA31.75 -90, 135	41	46	7.92(8)	M30	3.9	-SCA32-95
NC5-100	NC5-100-SCA12.7 -75	17	20	-	M12	4.0	NC5-100-SCA13-75
	-SCA15.875-90	23	26	3.18(4)	M14	4.2	-SCA16-90
	-SCA22.225-90	29	34	3.18(4)	M20	4.4	-SCA22-90
	-SCA25.4 -90	32	40	6.35(7)	M24	4.5	-SCA27-90
	-SCA31.75 -95, 135	41	46	7.92(8)	M30	4.7	-SCA32-90
-SCA38.1 -95, 135	46	55	9.52(10)	M36	4.9	-SCA40-90	

★The "D" of Code No. shows shaft diameter. ★Guide Key and Collars are supplied as standard. ★The figures in ( ) of W are for Metric.

# NC5 TAPPER CHUCK



■ Built-in Floating Mechanism and  
Torque-Limiter Mechanism on  
Tap Collet.



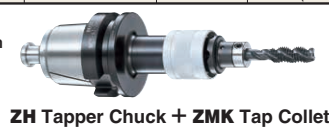
Z

TAPER	Code No.	Tapping Capability			D	C	C1	Tap Collet	Weight (kg)
		M	U	P					
NC5- 63	NC5- 63-Z12- 90	M 2~M12	1/8~1/2	P 1/16~1/4	19	32	45	ZKG12	1.5
	-Z16-120	M 3~M16	1/8~5/8	P 1/8~3/8	25	39	55	ZKG16	2.0
	-Z24-120	M 8~M24	1/2~ 1	P 1/4~5/8	30	46	68	ZKG24	2.1
	-Z38-160	M18~M38	3/8~1 3/8	P 3/8~ 1	45	78	85	ZKN38	6.7
NC5- 85	NC5- 85-Z12-105	M 2~M12	1/8~1/2	P 1/16~1/4	19	32	45	ZKG12	3.3
	-Z16-120	M 3~M16	1/8~5/8	P 1/8~3/8	25	39	55	ZKG16	4.5
	-Z24-120	M 8~M24	1/2~ 1	P 1/4~5/8	30	46	68	ZKG24	4.9
	-Z38-175	M18~M38	3/8~1 3/8	P 3/8~ 1	45	78	85	ZKN38	8.4
	-Z65-195	M36~M100	1~3 3/4	P 1~ 3	68	110(125)	110	ZKN65	8.7
NC5-100	NC5-100-Z12-130	M 2~M12	1/8~1/2	P 1/16~1/4	19	32	45	ZKG12	4.3
	-Z16-135	M 3~M16	1/8~5/8	P 1/8~3/8	25	39	55	ZKG16	5.2
	-Z24-125	M 8~M24	1/2~ 1	P 1/4~5/8	30	46	68	ZKG24	5.8
	-Z38-155	M18~M38	3/8~1 3/8	P 3/8~ 1	45	78	85	ZKN38	8.3
	-Z65-195	M36~M100	1~3 3/4	P 1~ 3	68	110(125)	110	ZKN65	9.0

★Please refer P.291, P.292 for Tap Collet.

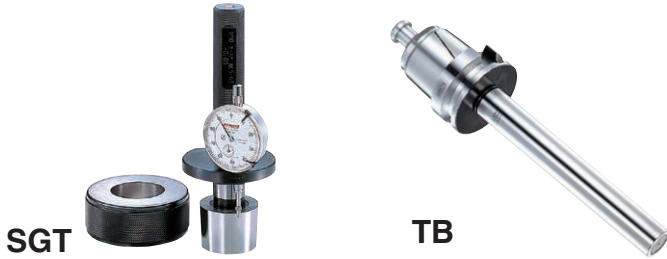
★For Synchronized Tapping: ZH Tapper Chuck without tension/compression mechanism is available. It improves tap life remarkably by absorbing fine pitch error completely with the small floating mechanism. Please use ZH Tapper Chuck only with ZMK Tap Collet without torque-limiter mechanism. Please refer P.296.

★Centre through coolant type with high pressure or oil mist type is available. In these types, OZMK-OM collet is used.



NC5- 63-ZH12- 90 NC5-100-ZH12- 90  
-ZH24-105 -ZH24-105  
NC5- 85-ZH12- 90  
-ZH24-105

# NC5 TAPER GAUGE · TEST BAR



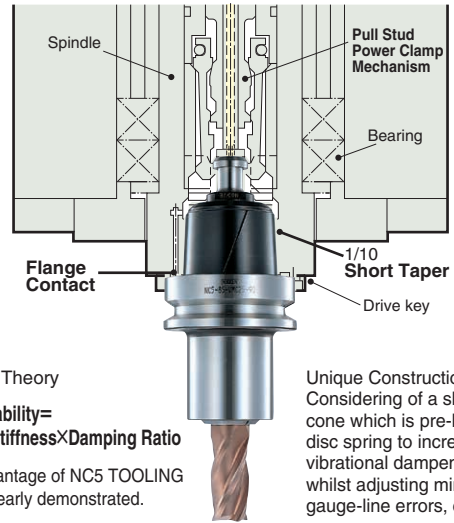
TAPER	Gauge	Test Bar(φD-L)
NC5- 46	NC5- 46-SGT	NC5- 46-TB40-200
NC5- 63	NC5- 63-SGT	NC5- 63-TB40-300
NC5- 85	NC5- 85-SGT	NC5- 85-TB40-300
NC5-100	NC5-100-SGT	NC5-100-TB40-300

★Above Code No. includes Ring GAUGE(SG-R) and Plug Gauge(SGT-P).  
★Dial Gauge is not included with the Ring Gauge.

**NC5 TOOLING SYSTEM** is basically developed for the Machine with Centre Through Coolant capability, however, of course, the system is also suitable for the Machine without Centre Through Coolant capability.

**NC5 TOOLING SYSTEM** takes advantage of the powerful pulling force to improve its static stiffness. Therefore, please ensure that at least the following pulling force figures in the table are required for each size of **NC5 TOOLING**. The Pulling Force Measuring Tool with special Pull Stud is available for the pulling force measurement.

For manufacturing of **NC5** Machine Spindle, we could supply the Gauge for Machine Spindle as well as any other know-how about Spindle Flange Cleaning, Drive Key Mechanism and so on. Please contact with us for any technical correspondences if required.



E.H.Merritt's Theory

$$\text{Chattering Stability} = \text{Static Stiffness} \times \text{Damping Ratio}$$

Thus, the advantage of **NC5 TOOLING SYSTEM** is clearly demonstrated.

Unique Construction:  
Considering of a slotted taper cone which is pre-loaded by a disc spring to increase its vibrational dampening effect whilst adjusting minute gauge-line errors, completely.



## Pulling Force Measuring Tool

Even the use with 5m cable, it can be measured both manual tool change and ATC.

☞ P.303

### Pull Stud Power Clamp & Lock Mechanism

Please ask for the details of **NIKKEN POWER5 SYSTEM**, Powerful Pulling & Locking Mechanism in order to gain maximum performance of the **NIKKEN NC5 TOOLING System**.

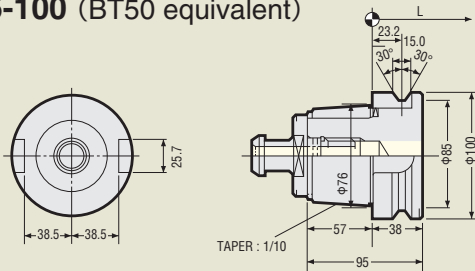
TAPER	Spindle ID	POWER 5 Code No.	Pulling Force (KN)	Measuring Tool	
				Code No.	Pull Stud
NC5- 46	30	POWER5- 46-D30	4.5~ 7	NC5- 46-CLP-D30-P	PS-N46A
	35	-D35	5.5~ 8	-D35-P	-N46
NC5- 63	40	- 63-D40	11~14	- 63-CLP-D40-P	-N63A
	45	-D45	14~17	-D45-P	-N63
NC5- 85	50	- 85-D50	20~23	- 85-CLP-D50-P	-N85
NC5-100	55	-100-D55	24~27	-100-CLP-D55-P	-N100

★Pulling Force is only guideline and depends on the M/C specification. ★Pull Stud Code No. is without hole.

# DIMENSION of NC5 TOOL SHANK

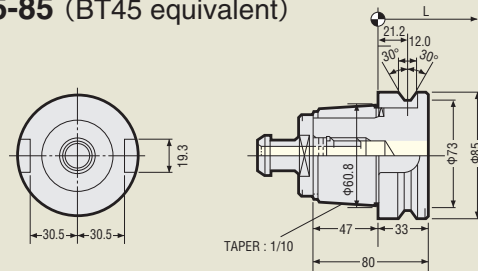


## NC5-100 (BT50 equivalent)



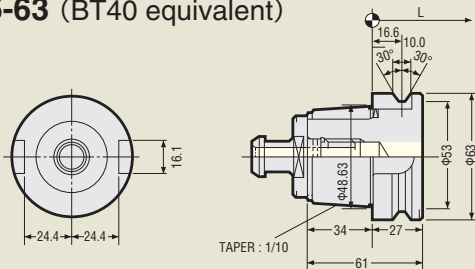
Dimensions of V Flange are same as BT50.

## NC5-85 (BT45 equivalent)



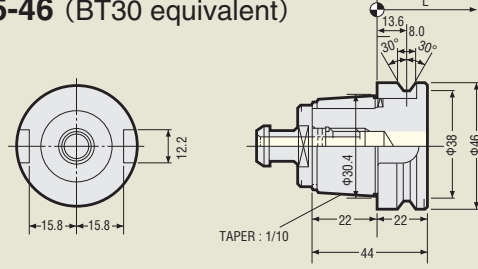
Dimensions of V Flange are same as BT45.

## NC5-63 (BT40 equivalent)



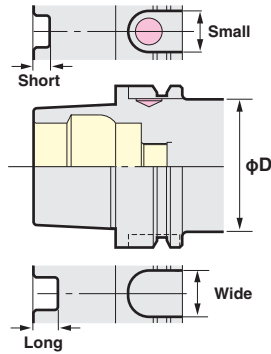
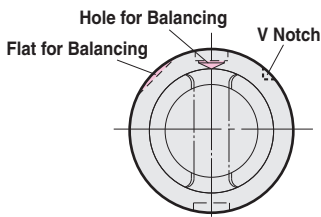
Dimensions of V Flange are same as BT40.

## NC5-46 (BT30 equivalent)



Dimensions of V Flange are same as BT30.  
(\*Width of drive key grooves are different.)

## HSK A...HSK40A, HSK50A, HSK63A, HSK100A



HSK A shank is based on ISO12164-1 (DIN69893-1) and Hollow Shank Taper with 1/10 Taper and Double Contact System of Taper & Flange. Its dimension is unsymmetrical shape such as;

- Depth of Drive Keys Slots are different.
- Width of U Groove are different.
- V Notch on one side.

1. It's not well balanced due to above unsymmetrical shape, therefore NIKKEN HSK A Shank has a hole and a flat for mass balancing as standard.

2. Hole for manual clamp is not standardized for the size smaller or equal to HSK50A. HSK63A and HSK100A tools without a hole for manual clamp are also available for high speed application.
3. Hole for ID is not standardized for all models.
4. HSK tool is clamped to the main spindle with clamping force more than about 2 times of BT tool by intensifying clamp mechanism.

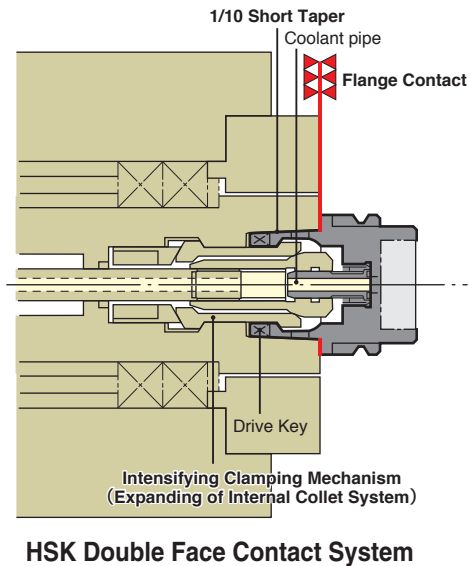
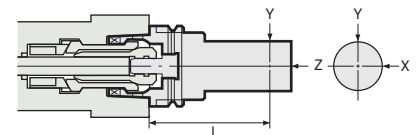
### Clamping Force

TAPER	HSK40A	HSK50A	HSK63A	HSK100A
Clamp Force	6.8kN	11kN	18kN	45kN

5. A big clamping force and the double face contact system of 1/10 short taper & flange largely improved the static stiffness as the tool interface.
6. Higher repeatability of ATC is accomplished due to the run-out accuracy of contact flange for taper is within 0.002mm.

### Repeatability of ATC

TAPER	L	Repeatability		
		X	Y	Z
HSK 25	40	0.002	0.002	0.002
32	50			
40	60			
50	75			
63	100			
100	150			



HSK

## HSK E & HSK F...HSK25E, HSK32E, HSK40E, HSK50E, HSK63E, HSK63F

HSK-E type & HSK-F type holders are for High Speed Application and are manufactured to DIN69893-5 & -6 standard. The configuration of the holder is different to that of HSK-A type, the holder is designed symmetrically without drive key slots, U-groove, V-notch, holes in the taper for manual clamping and hole for I/D chip.

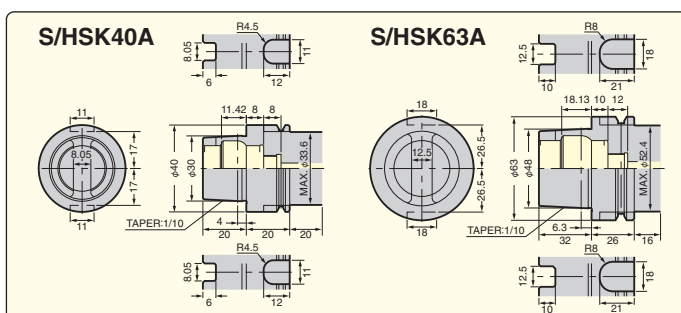
The tool flange diameter of HSK-E & -F are the same, but the taper size on HSK-F is one size smaller than HSK-E.

TCL-GH clamber is designed for symmetrical holders without drive key slots or U-groove. The TCL-GH clamber is also suitable for the other shank tooling with same flange diameter as E & F type. P.298



HSK50E

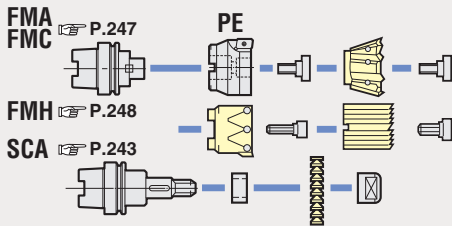
HSK63F



### Caution

- Always ensure that swarf does not attach at the spindle flange surface, because of the double contact system. Generally the inside of the machining envelope is always covered swarf. This means that there is a possibility that the flange of the tooling may collect swarf easily at the ATC. It is therefore important that the machining envelope is regularly cleaned (Clean the ATC arm, the route through which the tooling passes, the tool pot and the spindle surfaces etc.) at least every 3 months.
- Always ensure that M/C has the mechanism to confirm the perfect flange contact.
- Always ensure that M/C has the mechanism to clean the spindle flange surface.

## FACE MILL ARBOR SHOULDER CUTTER ARBOR



### ●Explanation of Code No.

**HSK - 63 - A - C 32 - 110**

Shank shape | Flange Diameter  
25,32,40,50,  
63,100

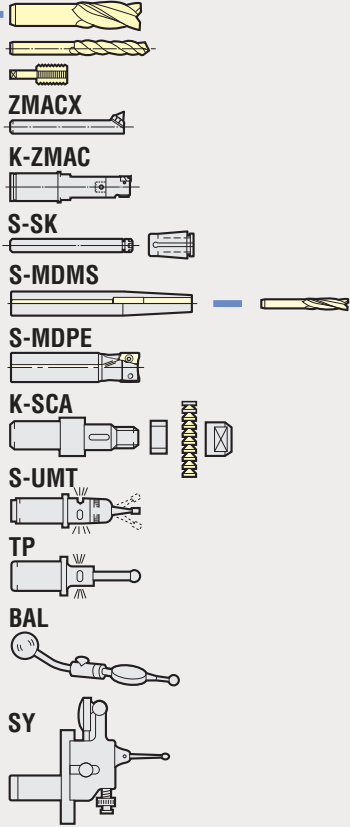
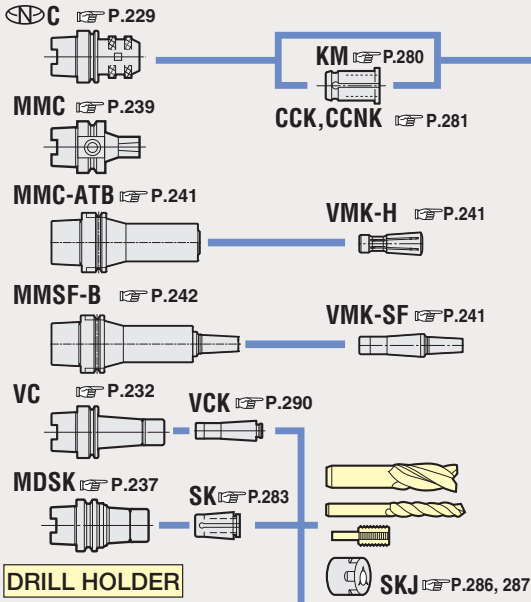
Type  
A,E,F

Symbol of Chuck

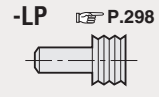
Chucking Capacity Depending on Type  
Please refer to the ID in the Code No. on each page.

FACE MILL ARBOR	FMA, FMC	TAPPER CHUCK	Z, ZH
STUB ARBOR	SCA	BORING BAR	Q, DJ, ZMAC, RAC...
ENDMILL HOLDER	C, VC, VMC	FACTORY AUTOMATION SERIES	NX, AH, MP, MO, CZF, SZF...
NC DRILL CHUCK	SK, NPU, SL, MTA		

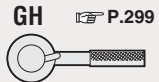
## ENDMILL HOLDER



## LUBRICATION PIPE



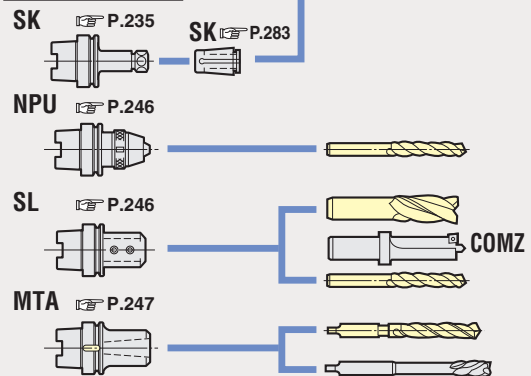
## GH Handle



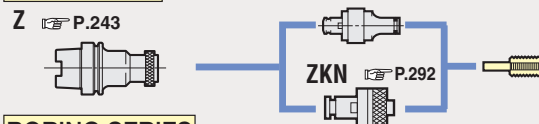
## TOOL CLAMPER



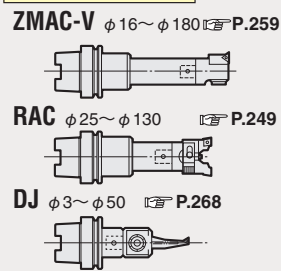
## DRILL HOLDER



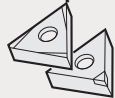
## TAP HOLDER



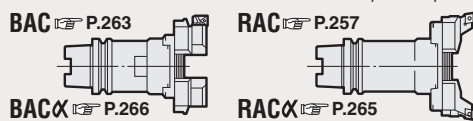
## BORING SERIES



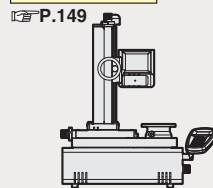
### Insert Tip P.109~P.111



### BORING FOR LARGE DIA $\phi 130 \sim \phi 595$

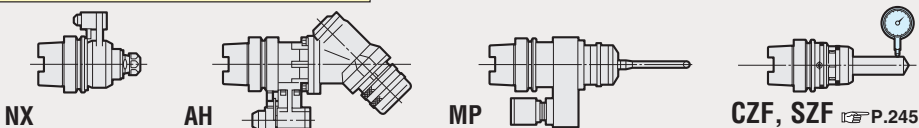


## PRESETTER



## FACTORY AUTOMATION SERIES

★Please refer P.123



# HSK HIGH SPEED MILLING CHUCK



## ANNIVERSARY Type

— Powerful gripping torque —

- High rigidity
- High precision
- Compact design



C

Centre Through  
MAX. 7MPa

Photo shows High Speed Milling Chuck

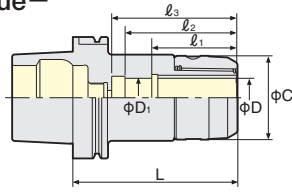


Fig.1

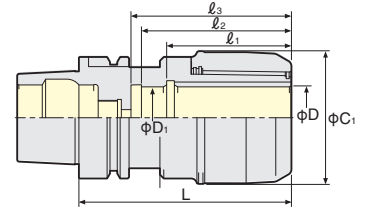


Fig.2

High Speed

TAPER	Code No.	C <sub>1</sub>	D	D <sub>1</sub>	L	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	MAX. r/min	Weight (kg)	Fig.	Collet		
HSK 40A	HSK 40A-C12- 80G	33	12	12	80	49	53	58	30,000	0.5	2	KM12 CCK12		
	-C16- 80G	40	16	16	80	51	57	60		0.7		KM16 CCK16		
	-C20-100G*2	48	20	-	100	-	-	57		1.2		KM20 CCK20 NK20		
HSK 50A	HSK 50A-C12- 80G	33	12	12	80	49	53	56	30,000	0.8	1	KM12 CCK12		
	-C16- 90G	40	16	16	90	51	57	60		1.0		KM16 CCK16		
	-C20- 95G*2	48	20	20	95	58	65	68		1.2		KM20 CCK20 NK20		
HSK 63A	HSK 63A-C12- 90G	33	12	12	90	49	53	58	30,000	1.3	1	KM12 CCK12		
	-C16- 75G*2	40	16	-	75	-	-	50		1.2		KM16 CCK16		
	- 90G			90	51	57	60	1.4						
	-120G	120	51	57	65	1.7								
	-C20- 85G*2	48	20	-	85	-	-	60	25,000	1.5	1	KM20 CCK20 NK20		
	- 95G			95	65	68	1.6							
	-110G*2			110	58	66	80	1.8						
	-120G	120	58	66	80	1.9								
	-135G	135	58	66	80	2.1								
	-C25- 90G	55	25	25	90	59	62	65	20,000	1.7	2	KM25 CCK25 NK25		
	-100G				100	61	72	75		1.9				
	-130G				130	61	72	80		2.3				
	-C32-110G	68	32	32	110	66	80	83	20,000	2.2	2	KM32 CCK32 NK32		
	-130G			130	70	81	103	2.6						
	-150G			150	70	81	107	2.6						
HSK 100A	HSK100A-C16- 90G	40	16	16	90	52	56	60	20,000	2.4	1	KM16 CCK16		
	-135G				135			56		65			3.0	
	-165G				165			56		65			3.4	
	-C20-115G	48	20	20	115	58	66	80	15,000	3.0	1	KM20 CCK20 NK20		
	-135G				135			58		66			3.6	
	-165G				165			58		66			4.1	
	-C25-115G	55	25	25	115	61	72	80	15,000	3.3	1	KM25 CCK25 NK25		
	-135G				135			61		72			3.6	
	-165G				165			61		72			4.2	
	-C32-115G	68	32	25	115	66	78	83	12,000	3.2	1	KM32 CCK32 NK32		
	-135G				135			70		81			103	4.0
	-165G				165			70		81			107	4.8
	-C42-115P*1	86	42	42	115	73	100	83	12,000	4.8	2	KM42 CCK42 NK42		
	-135P*1				135			73		100			103	5.9
	-165P*1				165			73		100			103	7.0

★Please note the acceptable shank tolerance is h6.

★Please refer P.280, P.281 for KM and CCK collet.

★GH Handle is available as an option. P.299

C12G : GH12, C16G : GH16, C20G : GH20, C25G : GH25, C32G : GH32

★NK, CCNK, ONK and OJK collet can not be used for the chucks marked \*2.

★Please contact us for the extra long length.

★Please refer P.279 for Milling chuck Coolant Solution.

★Lubrication Pipe is optional. Please refer P.298

★GFS type P.33 is available for C25, C32 and C42.



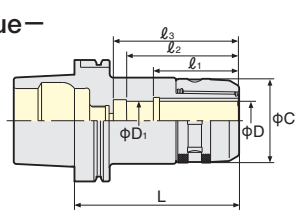
GFS type  
For machining  
of aluminum  
JAPAN PAT.

# HSK MILLING CHUCK

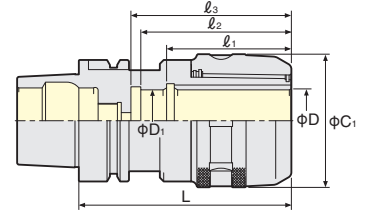


**C**  
Centre Through  
MAX. 7MPa

- ANNIVERSARY Type**  
— Powerful gripping torque —
- High rigidity
  - High precision
  - Compact design



**Fig.1**



**Fig.2**

TAPER	Code No.	C <sub>1</sub>	D	D <sub>1</sub>	L	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	Weight (kg)	Fig.	Collet		
HSK 40A	HSK 40A-C12- 80	33	12	12	80	49	53	58	0.5	2	KM12 CCK12		
	-C16- 80	44	16	16	80	51	57	60	0.7		KM16 CCK16		
	-C20-100*2	52	20	-	100	-	-	57	1.2		KM20 CCK20 NK20		
HSK 50A	HSK 50A-C12- 80	33	12	12	80	49	53	56	0.8	1	KM12 CCK12		
	-C16- 90	44	16	16	90	51	57	60	1.0		KM16 CCK16		
	-C20- 95*2	52	20	20	95	58	65	68	1.2		KM20 CCK20 NK20		
	-C25-100	55*1	25	25	100	56	72	75	1.5		KM25 CCK25 NK25		
	-C32-115	64*1	32	-	115	-	-	66	1.9		KM32 CCK32 NK32		
HSK 63A	HSK 63A-C12- 90	33	12	12	90	49	53	58	1.3	1	KM12 CCK12		
	-C16- 75*2	44	16	-	75	-	-	50	1.2		KM16 CCK16		
	- 90			90	51	57	60	1.4					
	-120			120	58	66	80	1.7					
	-C20- 85*2	52	20	-	85	-	-	60	1.5		KM20 CCK20 NK20		
	- 95			95	65	68	1.6						
	-110			110	58	66	80	1.8					
	-120			120	66	80	1.9						
	-135			135	66	80	2.1						
	-C25- 90*2	60	25	25	90	59	62	65	1.7		KM25 CCK25 NK25		
	-100			100	61	72	75	1.9					
	-130			130	61	72	80	2.3					
	-150			150	61	72	80	2.6					
	-C32-110*2	69	32	32	110	66	80	83	2.2		KM32 CCK32 NK32		
	-130			130	70	81	107	2.6					
-150	150			70	81	107	3.0						
HSK 100A	HSK100A-C16- 90	44	16	16	90	52	56	60	2.4	KM16 CCK16			
	-135				135			65	3.0				
	-165				165			65	3.4				
	-C20-115	52	20	20	115	58	66	80	3.3	KM20 CCK20 NK20			
	-135				135				66		3.6		
	-165				165				66		4.1		
	-C25-115	60	25	25	115	61	72	80	3.3	KM25 CCK25 NK25			
	-135				135				72		3.6		
	-165				165				72		4.2		
	-C32-115	69	32	25	115	66	78	83	3.2	KM32 CCK32 NK32			
	-135				135				78		4.0		
	-165				165				78		4.8		
	-200				200				70		81	107	5.7
	-250				250				70		81	107	7.0
	-300	300	70	81	107	8.9							
	-C42-115	86	42	42	115	73	80	83	4.8	KM42 CCK42 NK42			
	-135				135				80		103	5.9	
	-165				165				80		103	7.0	
-200	200				115				125		8.5		
-250	250				115				125		10.8		
-300	300	115	125	12.4									

★Spanner is available as an option.

C12 : 9HC12A C16 : 9HC16 C20 : 9HC22  
C25 : 9HC25 C32 : 9HC32 C42 : 9HC42

\*1 C25 & φC<sub>1</sub>=55 : 9HC22, C32 & φC<sub>1</sub>=64 : 9HC25

★Please note the acceptable shank tolerance is h6~7.

★Please refer P.279 for Milling chuck Coolant Solution.



★NK, CCNK, ONK and OJK collet can not be used for the chucks marked \*2.

★Please refer P.280, P.281 for KM and CCK collet.

★C22 style is also available.

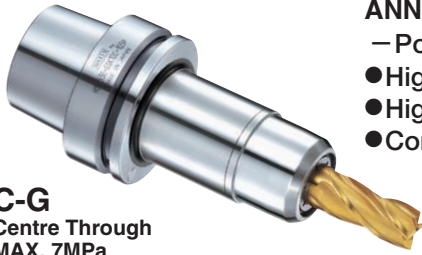
★For heavy duty milling, please grip the cutter shank longer than l<sub>1</sub>.

★Lubrication Pipe is optional. Please refer P.298

# HSK- E,F HIGH SPEED MILLING CHUCK

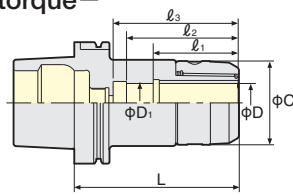


**NIKKEN**

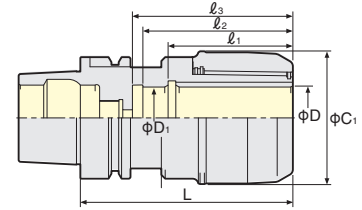


**C-G**  
Centre Through  
MAX. 7MPa  
Photo shows High Speed Milling Chuck

- ANNIVERSARY Type**  
– Powerful gripping torque –
- High rigidity
  - High precision
  - Compact design



**Fig.1**



**Fig.2**

TAPER	Code No.	C <sub>1</sub>	D	D <sub>1</sub>	L	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	MAX. r/min	Weight (kg)	Fig.	Collet
<b>HSK 40E</b>	<b>HSK 40E -C12- 80G</b>	33	12	12	80	49	53	58	30,000	0.5	2	<b>KM12 CCK12</b>
	<b>-C16- 80G</b>	40	16	16	80	51	57	60		0.7		<b>KM16 CCK16</b>
	<b>-C20-100G*2</b>	48	20	-	100	-	-	57		1.2		<b>KM20 CCK20 NK20</b>
<b>HSK 50E</b>	<b>HSK 50E -C12- 80G</b>	33	12	12	80	46	53	56	30,000	0.9	1	<b>KM12 CCK12</b>
	<b>-C16- 80G*3</b>	40	16	16	80	51	57	60		1.0		<b>KM16 CCK16</b>
	<b>-C20- 95G</b>	48	20	20	95	58	65	68		1.2		<b>KM20 CCK20 NK20</b>
<b>HSK 63E</b>	<b>HSK 63E -C12- 90G</b>	33	12	12	90	49	53	58	30,000	1.3	1	<b>KM12 CCK12</b>
	<b>-C16- 90G</b>	40	16	16	90	51	57	60	25,000	1.4		<b>KM16 CCK16</b>
	<b>-C20- 95G</b>	48	20	20	95	58	65	68		1.5		<b>KM20 CCK20 NK20</b>
	<b>-110G</b>				110		72	80	1.8	<b>KM20 CCK20 NK20</b>		
	<b>-C25-100G</b>	55	25	25	100	61	72	75	20,000	1.9		<b>KM25 CCK25 NK25</b>
	<b>-C32-110G</b>	68	32	32	110	66	80	83		2.2		<b>KM32 CCK32 NK32</b>

TAPER	Code No.	C <sub>1</sub>	D	D <sub>1</sub>	L	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	MAX. r/min	Weight (kg)	Fig.	Collet
<b>HSK 63F</b>	<b>HSK 63F -C12- 90G</b>	33	12	12	90	49	53	58	30,000	1.3	1	<b>KM12 CCK12</b>
	<b>-C16- 90G</b>	40	16	16	90	51	58	65	25,000	1.4		<b>KM16 CCK16</b>
	<b>-C20- 95G</b>	48	20	20	95	58	65	68		1.5		<b>KM20 CCK20 NK20</b>
	<b>-110G</b>				110		66	80	1.5	<b>KM20 CCK20 NK20</b>		
	<b>-C25-100G</b>	55	25	25	100	61	72	75	20,000	1.9		<b>KM25 CCK25 NK25</b>
	<b>-C32-110G</b>	68	32	32	110	66	80	83		2.2		<b>KM32 CCK32 NK32</b>

- ★Please note the acceptable shank tolerance is h6.
- ★Please refer P.280, P.281 for KM and CCK collet.
- ★GH Handle is available as an option. P.299
- C12G : GH12, C16G : GH16, C20G : GH20, C25G : GH25, C32G : GH32
- ★NK, CCK, ONK and OJK collet can not be used for the chucks marked \*2.
- ★Coolant pipe can not be used for the chuck marked \*3.
- ★Please contact us for the extra long length.
- ★Please refer P.279 for Milling chuck Coolant Solution.
- ★Lubrication Pipe is optional. Please refer P.298



★GFS type P.33 is available for C25 and C32.



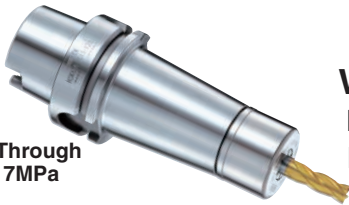
**GFS type**  
For machining  
of aluminum  
**JAPAN PAT.**



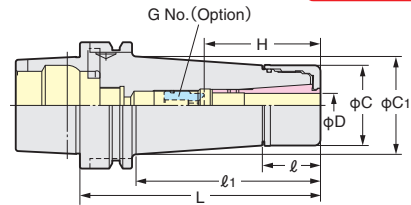
# HSK ANNIVERSARY TYPE VC HOLDER



**VC**  
Centre Through  
MAX. 7MPa



**With TiN Bearing Nut**  
**MAX.40,000r/min**  
**Run-Out Accuracy:3μm at 4D**



**High Speed**

**JAPAN, USA, EU, KOREA PAT.**

TAPER	Code No.	D	L	l	l <sub>1</sub>	C	C <sub>1</sub>	H	G No. (Option)	Weight (kg)	MAX. r/min	Collet
HSK 40A	HSK 40A-VC 6- 65	2.0~6.0	65	23	45	28	33.6	-	-	0.4	40,000	VCK 6
	- 90				70			35~45	VCG 6- 8A	0.6		VCK13
	-VC13- 90	3.0~12.0	90	29	70	40	40.0	-	-	0.7		VCK13
					- 120			100	50~60	VCG13-15A		
HSK 50A	HSK 50A-VC 6- 70	2.0~6.0	70	23	41	28	33.8	-	-	0.6	40,000	VCK 6
	- 90				61			35~45	VCG 6- 8A	0.8		
	- 120	120	91	37.0	-	-	0.9	-	-	0.9		VCK13
	- 120	3.0~12.0	120	29	94	40	40.0	50~60	VCG13-15A	1.2		
HSK 63A	HSK 63A-VC 6- 70	2.0~6.0	70	23	41	28	33.8	-	-	0.9	30,000	VCK 6
	- 90				61			35~45	VCG 6- 8A	1.0		
	- 120	120	91	37.0	-	-	1.2	-	-	1.2		VCK13
	- 120	3.0~12.0	120	29	92	40	48.8	50~60	VCG13-15A	1.6		
HSK 100A	HSK 100A-VC 6- 105	2.0~6.0	105	23	71	28	34.2	35~45	VCG 6- 8A	2.4	20,000	VCK 6
	- 135				101			38.4	2.6			
	- 165	165	131	42.6	-	-	2.9	-	-	2.9		VCK13
	- 135	3.0~12.0	135	29	101	40	50.1	50~60	VCG13-15A	3.1		
					- 165			165	54.3	3.6		

TAPER	Code No.	D	L	l	l <sub>1</sub>	C	C <sub>1</sub>	H	G No. (Option)	Weight (kg)	MAX. r/min	Collet
HSK 40E	HSK 40E-VC 6- 65	2.0~6.0	65	23	45	28	33.6	-	-	0.5	40,000	VCK 6
	- 90				70			35~45	VCG 6- 8A	0.7		
	-VC13- 90	3.0~12.0	90	29	70	40	40.0	-	-	0.8		VCK13
					- 120			100	50~60	VCG13-15A		
HSK 50E	HSK 50E-VC 6- 70	2.0~6.0	70	23	41	28	33.8	-	-	0.7	40,000	VCK 6
	- 90				61			35~45	VCG 6- 8A	0.9		
	- 120	120	91	37.0	-	-	1.0	-	-	1.0		VCK13
	- 120	3.0~12.0	120	29	94	40	40.0	50~60	VCG13-15A	1.3		
HSK 63E	HSK 63E-VC 6- 70	2.0~6.0	70	23	41	28	33.8	-	-	1.0	30,000	VCK 6
	- 90				61			35~45	VCG 6- 8A	1.1		
	- 120	120	91	37.0	-	-	1.3	-	-	1.3		VCK13
	- 120	3.0~12.0	120	29	92	40	48.8	50~60	VCG13-15A	1.7		

TAPER	Code No.	D	L	l	l <sub>1</sub>	C	C <sub>1</sub>	H	G No. (Option)	Weight (kg)	MAX. r/min	Collet
HSK 63F	HSK 63F-VC 6- 65	2.0~6.0	65	23	37	28.0	27.5	-	-	0.8	30,000	VCK 6
	- 90				61			35~45	VCG 6- 8A	0.9		
	- 120	120	91	34.8	-	-	1.1	-	-	1.1		VCK13
	- 120	3.0~12.0	120	29	92	40	48.8	50~60	VCG13-15A	1.5		

★TiN Bearing Nut is supplied as standard. ★When the axial stopper is required, please use Adjust Screw (G No.).

★GH Handle are available as an option. P.299 The Code No. of the GH Handle is VC6:GH10, VC13:GH16

★HSK63A-VC6-150, HSK63A-VC13-150, HSK100A-VC13-90, -120 are available as an option.

★Please use VC J type Nut & Cap P.49 for Centre Through Coolant application.

The Code No. of VC J type Nut is VCN-6BJ, VCN-13BJ.

The Code No. of the Cap is SKJ10-□, SKJ16-□

When VC J type Nut is used, the total holder length will be extended to 6mm.

★All series are for High Speed Rotation.

★Lubrication Pipe is optional. Please refer P.298

★Collet is available an option P.290



GH Handle

# HSK HIGH SPEED SLIM CHUCK

**NIKKEN**



**SK-P**  
Centre Through  
MAX. 7MPa

Photo shows High Speed HSK Slim Chuck

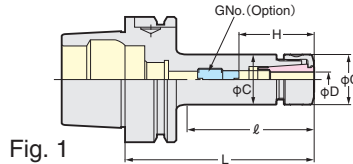


Fig. 1

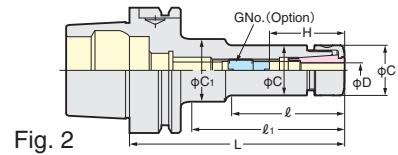


Fig. 2

H1: MAX. H without adjust screw

## High Speed

- Please add "J" at the end of code No. for the chuck with SK J type nut. (Cap is not included, please order separately) e.g. HSK63A-SK10C-105P-J
- When SK J type nut is used, the total chuck length will be extended by 6mm. JAPAN, USA, EU, KOREA PAT.
- When using SK-A collets or SK-AC collets, or when gripping a cutting tool smaller than the nominal diameter on SK collets, the total length will be shortened by about 3 mm. Please be careful when you check the interference.

TAPER	Code No.	φD	H	H1	ℓ	ℓ1	C	C1	G No. (Option)	MAX. r/min	Weight (kg)	Fig.	SK Collet
HSK 40A	HSK 40A-SK 6 - 60P*3	0.7~6.0	40	40	37	-	19.5	-	-	40,000	0.28	1	SK 6
	-SK10 - 75P*2	1.75~10.0	29~36	43	52	-	27.5	-	SKG-6L		0.4		SK10
	-SK13 - 75P*3	2.75~13.0	55	55	54	-	33	-	-		0.5		SK13
	-SK16 - 80P*3	2.75~16.0	60	60	59	-	40	-	-		0.6		SK16
HSK 50A	HSK 50A-SK 6 - 60P*3	0.7~6.0	37	37	31	-	19.5	-	-	30,000	0.4	1	SK 6
	-SK 6C- 80P		26~31	46	51	-	27.5	-	SKG6-6HG		0.5		SK10
	-SK10 - 60P*3	35	35	33	-	-	-	-	0.5		SK10		
	-SK10 - 90P*3	1.75~10.0	35~41	65	63	-	33	-	SKG-12S		0.6		SK13
	-SK13 - 70P*3	47	47	43	-	-	-	-	0.9		SK13		
	-SK13 - 90P*3	2.75~13.0	65	65	61	-	40	-	-		1.1		SK13
	-SK13 - 105P*2	31~47	80	76	-	-	-	-	1.2		SK13		
	-SK16 - 80P*3	2.75~16.0	52	52	53	-	40	-	SKG-15		0.6		SK16
-SK16 - 105P*2	50~58	65	78	-	-	-	-	0.9	SK16				
HSK 63A	HSK 63A-SK 6 - 60P*3	0.7~6.0	38	38	31	-	19.5	-	-	30,000	0.7	1	SK 6
	-SK 6 - 80P*2		21~35	58	51	-	32	-	SKG-8-18L		0.8		SK 6
	-SK 6C-100P		26~31	46	62	71	-	-	SKG6-6HG		0.9		SK 6
	-SK 6C-120P		26~31	46	62	91	-	-	SKG6-6HG		1.0		SK 6
	-SK10 - 60P*3	1.75~10.0	35	35	31	-	27.5	-	-		0.7	1	SK10
	-SK10C- 90P		33~36	53	53	-	-	-	SKG10-10HGG		1.0		SK10
	-SK10C-105P		33~41	58	74	-	32	-	SKG10-10HG		1.1		SK10
	-SK10C-120P		33~41	58	60	91	-	-	SKG10-10HG		1.3		SK10
	-SK13 - 70P*3	2.75~13.0	45	45	43	-	33	-	-		0.9	1	SK13
	-SK13 - 90P*3		64	64	61	-	-	-	-		1.1		SK13
	-SK13 - 105P*2		31~47	80	74	-	-	-	SKG-15		1.2		SK13
	-SK13C-120P		39~51	68	89	-	-	-	SKG13-10HG		1.5		SK13
	-SK16 - 80P*3	2.75~16.0	52	52	51	-	40	-	-		1.1	1	SK16
	-SK16 - 105P*2		50~58	65	76	-	-	-	SKG-8		1.3		SK16
	-SK16C-120P		45~52	77	91	-	-	-	SKG16-10HG		1.6		SK16
	-SK20 - 90P*3		3.5~20.0	59	59	63	-	48.5	-		-		1.4
	-SK20 - 105P*2	50~57		64	78	-	-	-	SKG-8		1.6	SK20	
	-SK20C-120P	50~55		74	93	-	-	-	SKG20-12MFHG		1.8	SK20	
	-SK20C-135P	50~55		74	108	-	-	-	-		2.0	SK20	
	-SK25 - 90P*3	7.5~25.4	63	63	61	-	55	-	-		1.6	1	SK25
-SK25C-135P	60~65		91	108	-	-	-	SKG25-18HGE	1.9	SK25			
HSK 100A	HSK100A-SK 6C-105P	0.7~6.0	26~31	46	62	71	19.5	-	SKG6-6HG	1.2	2	SK 6	
	-SK10C-105P	1.75~10.0	33~41	58	57	-	40	-	-	2.6		SK10	
	-SK10C-120P				74	86	27.5	-	SKG10-10HG	2.9		SK10	
	-SK10C-150P				80	116	-	-	-	3.2		SK10	
	-SK13 - 105P*3				63	63	71	-	-	2.7	SK13		
	-SK13C-120P	2.75~13.0	39~51	68	86	-	33	-	-	3.1	1	SK13	
	-SK13C-150P				116	-	45	-	SKG13-10HG	3.4		SK13	
	-SK16 - 105P*2				45~60	63	71	-	-	2.7		SK16	
	-SK16C-120P				45~52	77	86	-	40	-		SKG-12-30L	3.2
	-SK16C-150P	2.75~16.0	45~52	84	90	116	40	-	50	3.5	2	SK16	
	-SK16C-120P				84	90	50	-	SKG16-10HG	3.2		SK16	
	-SK20C-120P				50~55	74	86	-	-	3.1		SK20	
	-SK20C-150P				50~55	74	86	-	-	3.5		SK20	
	-SK20C-200P	3.5~20.0	47~3	82	116	-	48.5	-	-	3.5	1	SK20	
	-SK20C-150P				166	-	-	-	SKG20-12HG	4.2		SK20	
	-SK25 - 120P*2				55~75	76	86	-	-	3.4		SK25	
-SK25C-145P	60~65				91	111	-	55	-	SKG-12-30L		4.8	SK25
-SK25C-18HGE	60~65	91	111	-	-	-	-	15,000	4.8	SK25			

★Nut, adjust screw and collet extractor are supplied as standard. ★Please refer P.283 for SK collet and please refer P.285 for J type nut.  
 ★Collet, adjust screw (G No.) and GH Handle are available as an option. The Code No. of the GH Handle is SK6C-P:GH6, SK10C-P:GH10, SK13C-P:GH12, SK16C-P:GH16, SK20C-P:GH20, SK25C-P:GH25  
 ★All Slim Chucks are High Pressure Centre Through Coolant type (MAX. 7MPa). SK6C:φ4~φ6, SK10C:φ6~φ10, SK16C:φ10~φ16, SK25C:φ16~φ25  
 ★Slim Chucks marked \*2 and \*3 can be used for the centre through coolant type with J type nut. ★No adjust screw is applied for the Slim Chucks marked \*3.  
 ★The "H1" is the MAX. dimension without the adjust screw. ★ is C type. ★Please refer P.285 for Milling chuck Coolant Solution.  
 ★Lubrication Pipe is optional. Please refer P.298



# HSK-E,F HIGH SPEED SLIM CHUCK

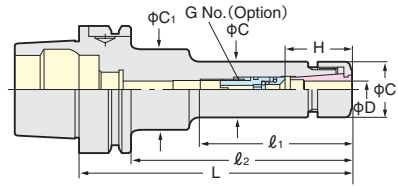
**NIKKEN**



HSK63E



HSK63F



**SK-P**  
Centre Through  
MAX. 7MPa

**High Speed**

- Please add “-J” at the end of code No. for the chuck with SK J type nut. (Cap is not included, please order separately) e.g. HSK63A-SK10C-105P-J
- When SK J type nut is used, the total chuck length will be extended by 6mm. **JAPAN, USA, EU, KOREA PAT.**
- When using SK-A collets or SK-AC collets, or when gripping a cutting tool smaller than the nominal diameter on SK collets, the total length will be shortened by about 3 mm. Please be careful when you check the interference.

TAPER	Code No.	φD	H	H <sub>1</sub>	ℓ	ℓ <sub>1</sub>	C	C <sub>1</sub>	G No. (Option)	MAX. r/min	Weight (kg)	SK Collet	
HSK 25E	HSK 25E-SK 6 - 45P <sup>*3</sup>	0.7~6.0	30.5	30.5	35		19.5		-	50,000	0.1	SK 6	
	-SK10 - 55P <sup>*3</sup>	1.75~10.0	41	41	45		27.5				0.18	SK10	
HSK 32E	HSK 32E-SK 6 - 50P <sup>*3</sup>	0.7~6.0	32	32	29		19.5			-	0.17	SK 6	
	-SK10 - 60P <sup>*3</sup>	1.75~10.0	44	44	41		27.5		-, SKG-6L		0.26	SK10	
	- 75P <sup>*2</sup>		29~36	43	54						0.30		
HSK 40E	HSK 40E-SK 6 - 60P <sup>*3</sup>	0.7~6.0	40	40	37		19.5		-	40,000	0.28	SK 6	
	-SK10 - 60P <sup>*3</sup>	1.75~10.0	40	40	39		27.5		-, SKG-6L		0.4	SK10	
	- 75P <sup>*2</sup>		29~36	43	54						0.5		
	-SK13 - 75P <sup>*3</sup>	2.75~13.0	55	55	54		33		-	30,000	0.6	SK13	
	-SK16 - 80P <sup>*3</sup>	2.75~16.0	59	59	59		40					SK16	
HSK 50E	HSK 50E-SK 6 - 60P <sup>*3</sup>	0.7~6.0	40	40	33		19.5		-	30,000	0.5	SK 6	
	-SK 6C- 80P		26~31	46	51				SKG6-6HG		0.6		
	-SK10 - 60P <sup>*3</sup>	1.75~10.0	35	35	33		27.5		-		0.5		
	- 90P <sup>*2</sup>		35~41	65	63				SKG-12S		0.6	SK10	
	-SK10C-105P	2.75~13.0	33~41	58	76				SKG10-10HG		0.7		
	-SK13 - 70P <sup>*3</sup>		47	47	43		33		-		1.0		
	- 90P <sup>*3</sup>	2.75~16.0	65	65	61				-		1.2	SK13	
	-105P <sup>*2</sup>		31~47	80	76				SKG-15		1.3		
	-SK16 - 80P <sup>*3</sup>	2.75~16.0	52	52	53		40		-		25,000	0.6	SK16
	-SK16C-120P		45~52	77	93				SKG16-10HG		1.1		
HSK 63E	HSK 63E-SK 6 - 80P <sup>*2</sup>	0.7~6.0	21~35	58	51	-	19.5	-	SKG8-18L	30,000	0.8	SK 6	
	-SK 6C-100P		26~31	46	62	71		32	SKG6-6HG		0.9		
	-120P	1.75~10.0	33~36	53	59	-			SKG10-10HGG		1.0	SK10	
	-SK10C- 90P			60		27.5	32	SKG10-10HG	1.3				
	-105P	33~41	58	75	106	40		1.5					
	-120P		73	121	34.5		1.7						
	-150P	2.75~13.0	45	45	43		33		-		1.0		SK13
	-SK13 - 70P <sup>*3</sup>		64	64	61				SKG-15		1.2		
	- 90P <sup>*3</sup>	31~47	80	74				SKG13-10HG	1.3				
	-105P <sup>*2</sup>	2.75~16.0	39~51	68	89				SKG16-10HG		1.6	SK16	
	-SK13C-120P		91		40			1.7					
	-SK16C-120P	2.75~16.0	45~52	77	121		48.5		SKG20-12MFHG		25,000	1.8	SK20
	-150P		3.5~20.0	50~55	74	93						2.0	
	-SK20C-120P	7.5~25.4		60~65	91	108		55			SKG25-18HGE	20,000	1.9
	-135P												
	-SK25C-135P												
HSK 63F	HSK 63F-SK10 - 90P <sup>*3</sup>	1.75~10.0	35~45	-	59		27.5		SKG-12S	30,000	0.6	SK10	
	-SK10C-105P		33~41	58	74				SKG10-10HG		1.3		
	-SK13 - 70P <sup>*3</sup>	2.75~13.0	45	45	43		33		-		1.0	SK13	
	-105P <sup>*2</sup>		31~47	80	74				SKG-15		1.3		
	-SK13C-120P	2.75~16.0	39~51	68	89				SKG13-10HG		1.6		SK16
	-SK16 - 90P <sup>*3</sup>		67	67	61		40		-		1.2		
	-105P <sup>*2</sup>	2.75~16.0	50~58	83	76				SKG-18S		1.7	SK16	
	-SK16C-120P		45~52	77	91		48.5		SKG16-10HG		1.8		
	-SK20C-120P	3.5~20.0	50~55	74	93				SKG20-12MFHG		25,000	1.8	SK20
	-SK25 - 90P <sup>*3</sup>		7.5~25.4	67	67	61		55			-	20,000	1.6

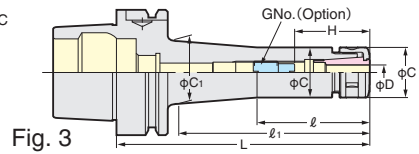
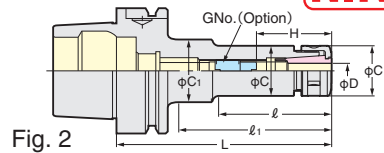
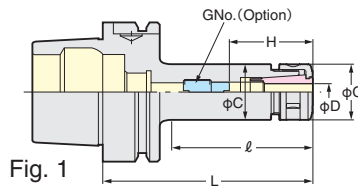
★Please refer foot note of P.233 for comment.  
★Lubrication Pipe is optional. Please refer P.298  
★Please refer P.285 for SK, MDSK Coolant Solution.

HSK

# HSK SLIM CHUCK

**NIKKEN**

**SK**  
Centre Through  
MAX. 7MPa



- Please add "-J" at the end of code No. for the chuck with SK J type nut. (Cap is not included, please order separately) e.g. HSK63A-SK10C-105P-J
- When SK J type nut is used, the total chuck length will be extended by 6mm. **JAPAN, USA, EU, KOREA PAT.**
- When using SK-A collets or SK-AC collets, or when gripping a cutting tool smaller than the nominal diameter on SK collets, the total length will be shortened by about 3 mm. Please be careful when you check the interference.

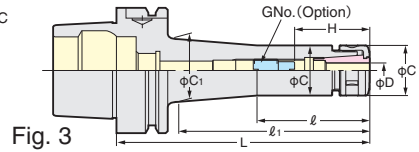
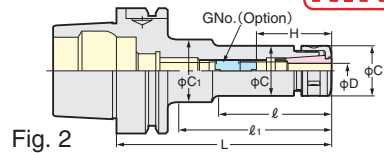
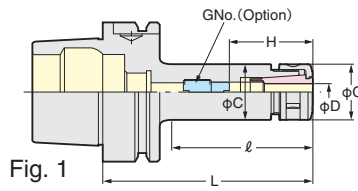
TAPER	Code No.	φD	H	H <sub>1</sub>	ℓ	ℓ <sub>1</sub>	C	C <sub>1</sub>	G No. (Option)	Weight (kg)	Fig.	SK Collet		
HSK 40A	HSK 40A-SK 6 - 60 <sup>*3</sup>	0.7~6.0	40	40	37	-	19.5	-	-	0.28	1	SK 6		
	-SK 6C- 80		26~31	46	57				SKG6-6HG	0.32				
	-SK10 - 60 <sup>*3</sup>	1.75~10.0	40	40	39	-	27.5	-	-	0.35	1	SK10		
	-SK10C-100		29~36	43	52				SKG-6L	0.4				
	-SK13 - 75 <sup>*3</sup>	2.75~13.0	33~41	58	77	-	33	-	-	0.5	1	SK13		
	-SK13C-120		55	55	54				SKG10-10HG	0.5				
	-SK16 - 80 <sup>*2</sup>	2.75~16.0	39~51	68	100	-	40	-	-	0.8	1	SK16		
	-SK16C-120		60	60	59				SKG13-10HG	0.6				
			45~52	77	99			-	0.9					
HSK 50A	HSK 50A-SK 6 - 60 <sup>*3</sup>	0.7~6.0	37	37	31	-	19.5	-	-	0.4	1	SK 6		
	-SK 6C- 80		26~31	46	51				SKG6-6HG	0.5				
	-SK10 - 60 <sup>*3</sup>	1.75~10.0	35	35	33	-	27.5	-	-	0.5	1	SK10		
	-SK10C-105		35~41	65	63				SKG-12S	0.6				
	-SK13 - 70 <sup>*3</sup>	2.75~13.0	35~41	58	76	-	33	-	-	0.7	1	SK13		
	-SK13C-120		47	47	43				SKG10-10HG	0.9				
	-SK13 - 90 <sup>*3</sup>	2.75~13.0	31~47	80	76	-	33	-	-	1.1	1	SK13		
	-SK13-105 <sup>*2</sup>		39~51	68	89				SKG13-10HG	1.4				
	-SK16 - 80 <sup>*3</sup>	2.75~16.0	52	52	53	-	40	-	-	0.6	1	SK16		
	-SK16-105 <sup>*2</sup>		50~58	65	78				SKG-6L-25L	0.9				
				45~52	77	93			-	1.1				
	HSK 63A	HSK 63A-SK 6 - 60 <sup>*3</sup>	0.7~6.0	38	38	31	-	19.5	-	-	0.7	1	SK 6	
-SK 6 - 80 <sup>*2</sup>		21~35		58	51	SKG8-18L				0.8				
-SK 6C-100		26~31		46	62	71				32	0.9			2
-SK 6C-120		26~31		46	62	91				32	1.0			
-SK 6C-150		26~31	46	60	121	25	1.2	3						
-SK10 - 60 <sup>*3</sup>		1.75~10.0	35	35	31	-	27.5	-	-	0.7	1	SK10		
-SK10C- 90			33~36	53	59				SKG10-10HGG	1.0				
-SK10C-105			33~41	58	74				SKG10-10HG	1.1			2	
-SK10C-120			33~41	58	60					91				1.3
-SK10C-135			33~41	58	75				106	40			1.5	3
-SK10C-150			33~41	58	73				121	34.5			1.7	
-SK13 - 70 <sup>*3</sup>		2.75~13.0	45	45	43	-	33	-	-	0.9	1	SK13		
-SK13 - 90 <sup>*3</sup>			64	64	61				SKG-15	1.1			1	
-SK13-105 <sup>*2</sup>			31~47	80	74					1.2				
-SK13C-120			39~51	68	89				1.5	3				
-SK13C-150				88	119	39	1.8							
-SK16 - 80 <sup>*3</sup>		2.75~16.0	52	52	51	-	40	-	-	1.1	1	SK16		
-SK16-105 <sup>*2</sup>			50~58	65	76				SKG-8	1.3				
-SK16C-120			45~52	77	91				SKG16-10HG	1.6				
-SK16C-150			45~57	84	121				SKG16-12HG	1.7				
-SK20 - 90 <sup>*3</sup>		3.5~20.0	59	59	63	-	48.5	-	-	1.4	1	SK20		
-SK20-105 <sup>*2</sup>			50~57	64	78				SKG-8	1.6				
-SK20C-120					93				SKG20-12MFHG	1.8				
-SK20C-135			50~55	74	108					2.0				
-SK25 - 90 <sup>*3</sup>	7.5~25.4	63	63	61	-	55	-	-	1.6	1	SK25			
-SK25C-135		60~65	91	108				SKG25-18HGE	1.9					

★ Collet, adjust screw (G No.) and spanner are available as an option. ★ Please refer to P.283 for SK collet and please refer to P.285 for J type nut.

# HSK SLIM CHUCK



**SK**  
Centre Through  
MAX. 7MPa



- Please add “-J” at the end of code No. for the chuck with SK J type nut. (Cap is not included, please order separately) e.g. HSK63A-SK10C-105P-J
- When SK J type nut is used, the total chuck length will be extended by 6mm. **JAPAN, USA, EU, KOREA PAT.**
- When using SK-A collets or SK-AC collets, or when gripping a cutting tool smaller than the nominal diameter on SK collets, the total length will be shortened by about 3 mm. Please be careful when you check the interference.

TAPER	Code No.	φD	H	H <sub>1</sub>	l	l <sub>1</sub>	C	C <sub>1</sub>	G No. (Option)	Weight (kg)	Fig.	SK Collet		
HSK 100A	HSK100A-SK 6C-105	0.7~6.0	26~31	46	62	71	19.5	40	SKG6-6HG	1.2	2	SK 6		
	-SK10C-105				57	71								
	-SK10C-120	1.75~10.0	33~41	58	74	86	27.5	40	SKG10-10HG	2.6	2	SK10		
	-SK10C-150				80	116								
	-SK10C-200				75	166								
	-SK13 -105* <sup>3</sup>	2.75~13.0	63	63	71	-	33	-	-	2.7	1	SK13		
	-SK13C-120				86	-								
	-SK13C-150				92	116								
	-SK13C-200				92	166								
	-SK16 -105* <sup>3</sup>	2.75~16.0	45~60	63	71	-	40	-	SKG-12-30L	2.7	1	SK16		
	-SK16C-120					86							-	
	-SK16C-150					84							90	116
	-SK16C-200					84							90	166
	-SK20C-120					50~55							74	86
	-SK20C-150	116	-											
	-SK20C-200	166	-											
	-SK25 -120* <sup>3</sup>	7.5~25.4	55~75	76	86	-	55	-	SKG-12-30L	3.4	1	SK25		
	-SK25C-145					60~65			91	111			-	SKG25-18HGE

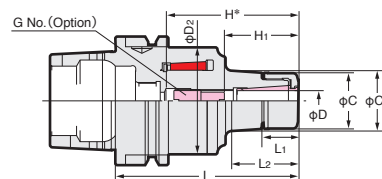
★ Collet, adjust screw (G No.) and spanner are available as an option. ★ Please refer P.283 for SK collet and please refer P.285 for J type nut.  
 The Code No. of the spanner is SK6C (C=φ18): SKL-6, SK6C (C=φ19.5): SKL-6W, SK10C: SKL-10, SK13C: 9HC12A, SK16C: 9HC16, SK20C: 9HC22, SK25C: 9HC25  
 ★ H<sub>1</sub> means MAX.H without an adjust screw. ★ No adjust screw is applied for the Slim Chucks marked \*<sup>3</sup>.  
 ★ All Slim Chucks are High Pressure Centre Through Coolant type (MAX. 7MPa). SK6C: φ4~φ6, SK10C: φ6~φ10, SK16C: φ10~φ16, SK25C: φ16~φ25  
 ★ Slim Chucks marked \*<sup>2</sup> and \*<sup>3</sup> can be used for the centre through coolant type with J type nut. ★ is C type. HSK40A-SK16C-120, HSK50A-SK6C-80, HSK63A-SK25C-135  
 ★ Please refer P.285 for sk Coolant Solution.  
 ★ Lubrication Pipe is optional. Please refer P.298





Dampening Effect TiN Bearing Effect

H\* : MAX. Cutter Shank Length to be inserted



## MDSK

## JAPAN PAT.

TAPER	Code No.	D	L	L1	L2	C	C1	C2	H*	H1	G No. (Option)	Weight (kg)	Collet
HSK 50A	HSK 50A-MDSK 6- 70	3.0~6.0	70	16.2	18.2	19.5	19.5	41.6	48	48	-	0.7	SK 6 A
	- 90		90		38.2		21.9		68	21~35	SKG- 8	1.0	
	-MDSK10- 70	3.0~10.0	70	18.2	19.2	27.5	27.5		46	46	-	0.7	SK10 A
	- 90		90		38.2		30.3		66	31~45	SKG-12S	1.0	
	-MDSK13- 90		90		22.0		40.0		33.0	35.6	66	66	
-MDSK16-115	3.0~16.0	115	23.0	24.0	40.0	40.0	54.0	91	45~70	SKG-18S	1.4	SK16 A	
HSK 63A	HSK 63A-MDSK 6- 75	3.0~6.0	75	16.2	18.0	19.5	19.5	52.4	50	21~28	SKG- 8	1.0	SK 6 A
	- 90		90		33.0		21.9		65	21~35		1.1	
	-105		105		48.0		24.0		80			1.4	
	-120		120		63.0		26.1		95			1.6	
	-MDSK10- 75	3.0~10.0	75	18.2	19.0	27.5	27.5		49	49	-	1.1	SK10 A
	- 90		90		33.0		29.6		64	31~40	1.4		
	-105		105		48.0		31.7		79	31~50	1.6		
	-120		120		63.0		33.8		94	30~50	1.8		
	-135		135		79.0		36.0		109		2.1		
	-MDSK13- 80	3.0~13.0	80	22.0	24.0	33.0	33.0		54	54	-	1.2	SK13 A
	- 90		90		33.0		34.6		64	64	1.5		
	-105		105		48.0		36.7		79	31~54	1.7		
	-120		120		63.0		38.8		94	SKG-15	1.9		
	-135		135		78.0		40.9		110		2.2		
	-MDSK16- 80	3.0~16.0	80	23.0	24.0	40.0	40.0		54	54	-	1.3	SK16 A
	- 90		90		34.2		41.6		64	64	1.5		
	-105		105		49.3		43.7		79	SKG-18S	1.7		
	-120		120		64.3		45.8		85		45~60	1.9	
	-135		135		79.0		47.9		105		SKG-18L	2.2	
	-MDSK20- 90	4.0~20.0	90	25.2	40.9	48.0	51.2		64	64	-	1.9	SK20 A
-105	105		54.3		51.1		79	79	2.1				
-120	120		70.0		50.6		94	SKG-22	2.4				
-135	135		85.8		51.2		105		2.5				
HSK 100A	HSK100A-MDSK 6-110	3.0~6.0	110	16.2	33.0	19.5	21.9	54.0	80	21~35	SKG- 8	3.9	SK 6 A
	-125		125		48.0		24.0		95			4.0	
	-140		140		63.0		26.1		110			4.1	
	-165		165		88.0		29.6		135			4.5	
	-MDSK10-110	3.0~10.0	110	18.2	33.0	27.5	29.8		80	30~50	SKG-12L	4.0	SK10 A
	-125		125		48.0		31.7		95			4.1	
	-140		140		63.0		33.8		110			4.2	
	-165		165		89.0		37.4		135			4.6	
	-MDSK13-110	3.0~13.0	110	22.0	33.0	33.0	34.6		75	31~52	SKG-15	4.3	SK13 A
	-125		125		48.0		36.7		90	4.4			
	-140		140		63.0		38.8		105	31~54		4.5	
	-165		165		88.0		42.3		130	5.0			
	-MDSK16-125	3.0~16.0	125	23.0	51.0	40.0	44.0		87	45~65	SKG-18S	4.6	SK16 A
	-140		140		66.0		46.1		104	45~70		4.8	
	-165		165		91.0		49.6		129	40~70		5.3	
	-MDSK20-140	4.0~20.0	140	25.2	42.0	48.0	51.4		104	47~70	SKG-22	4.9	SK20 A
	-165		165		67.0		54.9		129	47~80		5.5	
-MDSK25-140	8.0~25.4	140	27.0	43.0	55.0	57.3	104	55~75	SKG-28	4.9	SK25 A		
-165		165		69.0		60.9	129	55~85		5.6			

★Please use A type SK collet for the end milling operation. ☞ P.283

★Please refer ☞ P.285 for the Jet coolant system, J type nut and cap.

★GH Handle is available as an option. ☞ P.299 Please order with the Code No. GH6: MDSK6 & GH10: MDSK10, GH12 : MDSK13, GH16: MDSK16, GH20: MDSK20, GH25: MDSK25

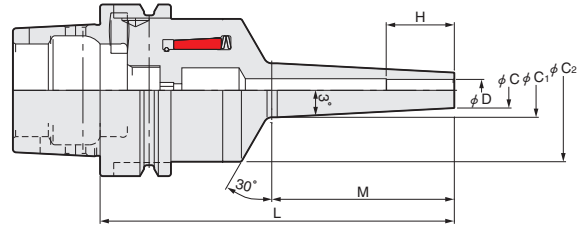
★Please add "P" at the end of Code No. for high speed specification, e.g HSK63A-MDSK10-75P

★Holder with an adjust screw for axial adjustment is supplied as an option. Please contact us.

★Please refer ☞ P.285 for sk Coolant Solution. ★Lubrication Pipe is optional. Please refer ☞ P.298



GH Handle ☞ P.299



S Slim Style

TAPER	Code No.	ϕ D	ϕ C	ϕ C1	ϕ C2	L	M	H
HSK50A	HSK 50A-MDMS 3S-100, -125	3	6	10.2, 12.8	41.6	100, 125	42, 67	10
	-MDMS 4S-100, -125	4	7	11.2, 13.8		100, 125	42, 67	13
	-MDMS 6S-100, -125	6	9	13.2, 15.8		100, 125	42, 67	19
	-MDMS 8S-100, -125	8	13	17.2, 19.8		100, 125	42, 67	25
HSK63A	HSK 63A-MDMS 3S-105, -130	3	6	10.2, 12.8	52.4	105, 130	42, 67	10
	-MDMS 4S-105, -130	4	7	11.2, 13.8		105, 130	42, 67	13
	-MDMS 6S-105, -130	6	9	13.2, 15.8		105, 130	42, 67	19
	-MDMS 8S-105, -130	8	13	17.2, 19.8		105, 130	42, 67	25
	-MDMS10S-105, -130	10	16	20.2, 22.8		105, 130	42, 67	31
	-MDMS12S-105, -130	12	19	23.2, 25.8		105, 130	42, 67	31
HSK100A	HSK100A-MDMS 3S-150	3	6	12.8	54	150	67	10
	-MDMS 4S-125, -150	4	7	11.2, 13.8		125, 150	42, 67	13
	-MDMS 6S-125, -150	6	9	13.2, 15.8		125, 150	42, 67	19
	-MDMS 8S-125, -150	8	13	17.2, 19.8		125, 150	42, 67	25
	-MDMS10S-125, -150	10	16	20.2, 22.8		125, 150	42, 67	31
	-MDMS12S-125, -150	12	19	23.2, 25.8		125, 150	42, 67	31

R Standard

TAPER	Code No.	ϕ D	ϕ C	ϕ C1	ϕ C2	L	M	H
HSK50A	HSK 50A-MDMS 4R -100, -125	4	10	14.2, 16.8	41.6	100, 125	42, 67	13
	-MDMS 6RN*1-100, -125	6	15*1	19.2, 21.8*1		100, 125	42, 67	19
	-MDMS 8R -100, -125	8	18	22.2, 24.8		100, 125	42, 67	25
	-MDMS10R -100	10	22	26.2		100	42	31
HSK63A	HSK 63A-MDMS 3R -105	3	7.5	11.7	52.4	105	42	10
	-MDMS 4R -105	4	10	14.2		105	42	13
	-MDMS 6RN*1-105, -130	6	15*1	19.2, 21.8*1		105, 130	42, 67	19
	-MDMS 8R -105, -130	8	18	22.2, 24.8		105, 130	42, 67	25
	-MDMS10R -105, -130	10	22	26.2, 28.8		105, 130	42, 67	31
	-MDMS12R -105, -130	12	26	30.2, 32.8		105, 130	42, 67	31
HSK100A	-MDMS16R -105	16	32	36.2	105	42	33	
	HSK100A-MDMS 6RN*1-125, -150	6	15*1	19.2, 21.8*1	54	125, 150	42, 67	19
	-MDMS 8R -125, -150	8	18	22.2, 24.8		125, 150	42, 67	25
	-MDMS10R -125, -150	10	22	26.2, 28.8		125, 150	42, 67	31
	-MDMS12R -125, -150	12	26	30.2, 32.8	125, 150	42, 67	31	
	-MDMS16R -145, -170	16	32	36.2, 38.8	87	145, 170	42, 67	33
-MDMS20R -145, -170	20	38	42.2, 44.8	145, 170		42, 67	40	
-MDMS25R -145, -170	25	45	49.2, 51.8	145, 170	42, 67	45		

- ★Please note the acceptable shank tolerance is h6.
  - ★Carbide tool can be used and HSS tool can not be used.
  - ★The tool will become very hot during heat shrinking. Please use glove for safety.
  - ★HSK shank masamune shrink fit holder are available. Please contact with us.
  - ★ID=ϕ16, ϕ20 and ϕ25mm are available.
  - ★The capacity of the drier is approx. 3kW.
  - ★Inductive style of the heat shrinking unit is recommended.
- \*1 MDMS6R (tip outer diameter ϕ12) is changed to MDMS6RN (tip outer diameter ϕ15). Please be careful of interference.



# HSK MINI-MINI CHUCK ADVANCED ALPHA

**NIKKEN**

## MMC

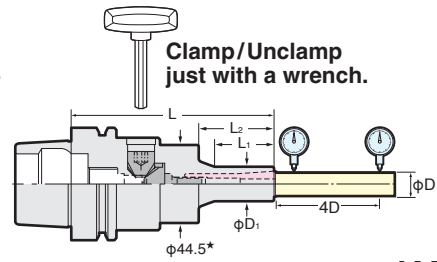
Centre Through  
MAX. 7MPa

Extra-long sizes  
are added

## High Speed



30,000r/min  
Gripping from Front Nose  
Run-Out Accuracy :  
3µm at 4D



Dimension marked ★ is 52.4 for MMC12. **JAPAN PAT.**

TAPER	Code No.	φ D	L	φD <sub>1</sub>	L <sub>1</sub>	Collet	MAX.r/min	Weight(kg)
HSK50A	HSK 50A - MMC 4 -128-AA	1~4	128	15	30	MPK 4	30,000	1.4
	8C -127-AA		127		33			1.4
	-157-AA	2~8	157	20	40	PMK 8 VMK 8		1.5
	-187-AA		187					1.6
	12C -129-AA	4~12	129	30	35	PMK12 VMK12		1.6
	-159-AA		159		60			1.7
-189-AA	189		70		1.8			
HSK63A	HSK 63A - MMC 4C -116-AA	1~4	116	15	30	MPK 4	30,000	1.4
	8C -115-AA		115		33			1.4
	-145-AA	2~8	145	20	40	PMK 8 VMK 8		1.5
	-175-AA		175					1.6
	12C -117-AA	4~12	117	30	35	PMK12 VMK12		1.6
	-147-AA		147		60			1.7
-177-AA	177		70		1.8			
HSK100A	HSK100A - MMC 4 -131-AA	1~4	131	15	30	MPK 4	30,000	2.9
	8C -130-AA		130		33			2.9
	-160-AA	2~8	160	20	40	PMK 8 VMK 8	3.0	
	-190-AA		190				3.1	
	12C -130-AA	4~12	130	30	35	PMK12 VMK12	3.1	
	-160-AA		160		60		3.2	
-190-AA	190		70		3.3			

TAPER	Code No.	φ D	L	φD <sub>1</sub>	L <sub>1</sub>	Collet	MAX.r/min	Weight(kg)
HSK50E	HSK 50E - MMC 4 -128-AA	1~4	128	15	30	MPK 4	30,000	1.4
	8C -127-AA	2~8	127	20	33	PMK 8 VMK 8		1.4
	12C -129-AA	4~12	129	30	36	PMK12 VMK12		1.6
HSK63E	HSK 63E - MMC 4 -116-AA	1~4	116	15	30	MPK 4	30,000	1.4
	8C -115-AA	2~8	115	20	33	PMK 8 VMK 8		1.4
	12C -117-AA	4~12	117	30	36	PMK12 VMK12		1.6

TAPER	Code No.	φ D	L	φD <sub>1</sub>	L <sub>1</sub>	Collet	MAX.r/min	Weight(kg)
HSK63F	HSK 63F - MMC 4 -128-AA	1~4	128	15	30	MPK 4	30,000	1.4
	MMC 8C -127-AA	2~8	127	20	33	PMK 8 VMK 8		1.4
	MMC12C -129-AA	4~12	129	30	36	PMK12 VMK12		1.6

★Wrench EA573KL-6 : MMC4, MMC8C MMCL12-M6W : MMC12C (HSK50A,63A) :  
MMCL12-M6T62 : MMC12C (HSK100A) is attached as standard.

★Extra-long sizes are added

\*Extra-long sizes : longer +30~90mm than conventional.

★Collet is available as an option. Please refer P.290

★Please refer P.289 for MMC Coolant Solution. ★Lubrication Pipe is optional. Please refer P.298

## Extra-long sizes are added\*



Photo shows  
HSK63A type

longer than +30~60mm  
than conventional.

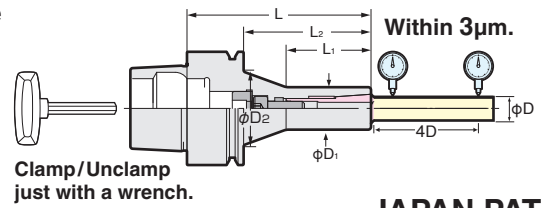
Easy to approach a complicated work piece  
due to compact and extra-long design



# HSK Direct Screw Type MINI-MINI CHUCK ADVANCED ALPHA



30,000r/min  
Gripping from Front Nose  
Run-Out Accuracy :  
3µm at 4D



**MMC-AT**

Centre Through  
MAX. 7MPa

High Speed

JAPAN PAT.

TAPER	Code No.	φD	L	φD <sub>1</sub>	φD <sub>2</sub>	L <sub>1</sub>	L <sub>2</sub>	Collet	MAX.r/min	Weight(kg)
HSK25E	HSK 25EN* <sup>1</sup> -MMC 4 - 60-AT	1~4	60	15	19.3	30	50	MPK 4	30,000	0.1
HSK32E	HSK 32EN* <sup>1</sup> -MMC 4 - 65-AT		65		26.0		45			0.2
HSK40E	HSK 40EN* <sup>1</sup> -MMC 4 - 65-AT		70		31.2		44			0.25
HSK50E	HSK 50E -MMC 4 - 70-AT		70		31.2		44			0.5
HSK63E	HSK 63E -MMC 8C* <sup>2</sup> -107-AT	2~8	107	20	42.6	36	78	PMK 8 VMK 8	30,000	0.95
	-135-AT		135		64		106			1.0
	HSK 63E -MMC12C* <sup>2</sup> -110-AT	4~12	110	30	51.8	43	83	PMK12 VMK12	30,000	1.2
-135-AT	135		68		108		1.3			
HSK63F	HSK 63F -MMC 4 - 70-AT	1~4	70	15	31.2	30	44	MPK 4	30,000	0.8
HSK40A	HSK 40AN* <sup>1</sup> -MMC 4 - 65-AT	1~4	65	15	26.0	30	45	MPK 4	30,000	0.25
HSK50A	HSK 50A -MMC 4 - 70-AT		70		31.2		44			0.5
HSK63A	HSK 63A -MMC 8C* <sup>2</sup> -107-AT	2~8	107	20	42.6	36	78	PMK 8 VMK 8	30,000	0.95
	-135-AT		135		64		106			1.0
	HSK 63A -MMC12C* <sup>2</sup> -110-AT	4~12	110	30	51.8	43	83	PMK12 VMK12		1.2
	-135-AT		135		68		108			1.3
HSK100A	HSK100A -MMC 8C* <sup>2</sup> -117-AT	2~8	117	20	46.3	36	85	PMK 8 VMK 8	20,000	2.35
	-145-AT		145		64		113			2.4
	HSK100A -MMC12C* <sup>2</sup> -120-AT	4~12	120	30	55.5	43	90	PMK12 VMK12		2.7
-145-AT	145		68		115		2.8			

★Wrench MMC4→9ZFL,MMC8→EA573KL-15,MMC12→EA573KL-16 is attached as standard.

★Collet is available as an option. Please refer to P.290

★For the chucks marked\*1 lubrication pipe can not be attached. Please use external cooling

★For the chucks marked\*2 center through coolant is available.

★Please refer to P.289 for MMC Coolant Solution. ★Lubrication Pipe is optional. Please refer to P.298



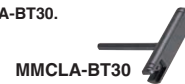
# DIRECT SCREW TYPE MINI-MINI CHUCK



TAPER	Code No.	φD	L	φD <sub>1</sub>	L <sub>1</sub>	L <sub>2</sub>	Collet	MAX.r/min	Weight(kg)
No.30	BT30-MMC8C-65-AT	2~8	65	20	30	40	VMK 8	30,000	0.4

★Wrench EA573KL-15 is attached as standard. ★Wrench both for chuck and pull stud is available as an option. Code No. is MMCLA-BT30.

★Collet is available as an option. Please refer to P.290



## BT30 Direct Screw Type



Photo shows BT30-MMC8-65-AT

High Accuracy and High Gripping  
Torque by rigid and smooth shape body

HSK

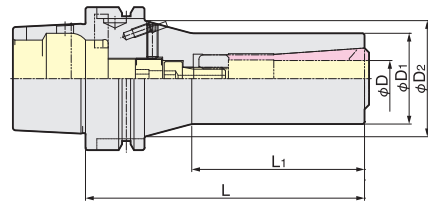
# HSK MINI-MINI MASTER CHUCK



## MINI-MINI MASTER CHUCK



MMC-ATB



TAPER	Code No.	φD	L	φD1	φD2	L1	Collet	Weight (kg)
HSK63A	HSK 63A-MMC16C-125-ATB	10~16	123	40	52.7	76	VMK16-SF VMK16-H	1.4
	-MMC20C-125-ATB	12~20		47	52.9	89	VMK20-SF VMK20-H	1.6
HSK100A	HSK100A-MMC16C-132-ATB	10~16	130	40	70.8	73.5	VMK16-SF VMK16-H	2.8
	-MMC20C-132-ATB	12~20		47	70.8	85.3	VMK20-SF VMK20-H	3.0

★VMK-H collet for high torque is recommended.

★The included wrench is for temporary fixing.

★Wrench is attached as standard.

★Balance adjustment screw is available as an option. The Code No. of the screw is 9SFB-ASC-M4-3, 4, 6

★Mounting handle is available as an option. The Code No. of the handle is 9SFB-AL-M2

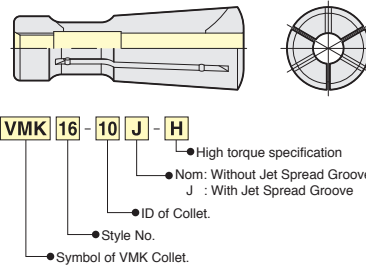
★Set Code for handle and all screws are S.9SFB-ASC-M4

★Lubrication Pipe is optional. Please refer P.298

## High torque specification VMK-H Collet



VMK-H



VMK-H Collet Code No.	Min.Gripping Length
VMK16-10, 12, 16-H	40, 42, 42
VMK20-12, 16, 20-H	47, 47, 47

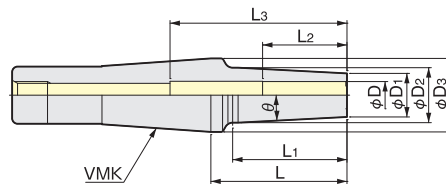
VMK-H Collet Code No.	Min.Gripping Length
VMK16-10J, 12J, 16J-H	40, 42, 42
VMK20-12J, 16J, 20J-H	47, 47, 47

★Please note the acceptable shank tolerance ius h6~h8.

## VMK-SF Shrink Fit Holder



VMK-SF



### Standard Type

TAPER	Code No.	φD	φD1	φD2	φD3	θ	L	L1	L2	L3	Weight (kg)
VMK16	VMK16-SF 3S- 50	3	7.5	11.7	27	3°	50	42	10	-	0.3
	-SF 4S- 50	4	10	14.2					13		
	-SF 6S- 50	6	15	19.2					19		
	-SF 8S- 50	8	18	22.2					25		
	-SF10S- 50,80,110	10	16	20.2, 23.4, 27			50, 80, 110	42, 72, 105	65	0.3, 0.4, 0.5	
	-SF12S- 50,80,110	12	19	23.2, 27, 27			50, 80, 110	42, 76.4, 76.4	31	0.3, 0.4, 0.5	
	-SF16S- 50,80,110	16	24	27			50, 80, 110	28.7	33	50	0.4, 0.5, 0.6

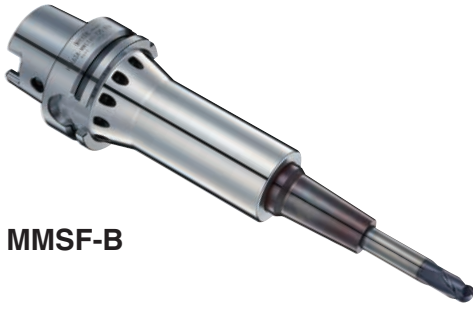
### High Rigidity Type

TAPER	Code No.	φD	φD1	φD2	φD3	θ	L	L1	L2	L3	Weight (kg)
VMK20	VMK20-SF10R- 50,80,110	10	22	26.2, 29.4, 32	32	3°	50, 80, 110	42, 72, 95.4	31	65	0.5, 0.6, 0.8
	-SF12R- 50,80,110	12	26	30.2, 32, 32			50, 80, 110	42, 57.3, 57.3		80	0.5, 0.7, 0.9
	-SF16R- 50,80,110	16	32	32			50, 80, 110	50, 80, 110		33	50

★Hybrid Shrink Fit Holder can be built by Mini-Mini Master Chuck and VMK-SF Shrink Fit Holder.

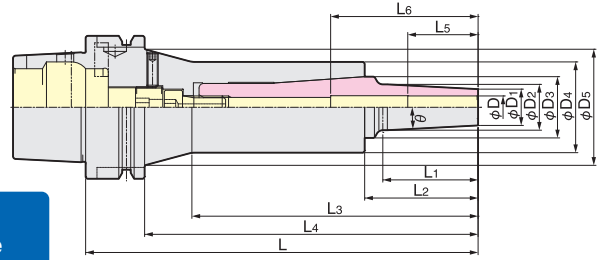
# HSK HYBRID SHRINK-FIT HOLDER

**NIKKEN**



MMSF-B

MMSF-B holder is pre-balanced by the balance adjusting screws.  
30,000r/min



## Standard Type

TAPER	Code No.	φD	φD1	φD2	φD3	φD4	φD5	θ	L	L1	L2	L3	L4	L5	L6	Weight (kg)								
HSK63A	HSK 63A-MMSF 3S-173B	3	7.5	11.7	27	40	51.2	3°	173	42	50	126	147	10	-	1.7								
	-MMSF 4S-173B	4	10	14.2										13										
	-MMSF 6S-173B	6	15	19.2										19										
	-MMSF 8S-173B	8	18	22.2										25										
	-MMSF10S-173B	10	16	20.2										65										
	-203B			23.4																				
	-233B	27	27	40										51.2			3°	203	72	80	156	177	31	1.8
	-MMSF12S-173B	12	19	23.2										50										
	-203B			173													42	50	126	147	1.7			
	-233B	203	76.4	80										156			177	1.8						
	-MMSF16S-173B	16	24	27										33			173	50	126	147	1.8			
	-203B																203	28.7	80	156	177	1.9		
	-233B																203	110	186	207	2.0			
	-233B																233	110	186	207	2.0			
HSK100A	HSK100A-MMSF 3S-180B	3	6	10.2	27	40	55.5	3°	180	42	50	123.5	151	10	-	3.1								
	-MMSF 4S-180B	4	7	11.2										13										
	-MMSF 6S-180B	6	9	13.2										19										
	-MMSF 8S-180B	8	13	17.2										25										
	-MMSF10S-180B	10	16	20.2										65										
	-210B			23.4																				
	-240B	27	27	40										55.5			3°	240	105	110	183.5	211	31	3.2
	-MMSF12S-180B	12	19	23.2										50										
	-210B			180													42	50	123.5	151	3.1			
	-240B	210	76.4	80										153.5			181	3.2						
	-MMSF16S-180B	16	24	27										33			180	50	123.5	151	3.2			
	-210B																210	28.7	80	153.5	181	3.3		
	-240B																240	110	183.5	211	3.3			
	-240B																240	110	183.5	211	3.4			

## High Rigidity Type

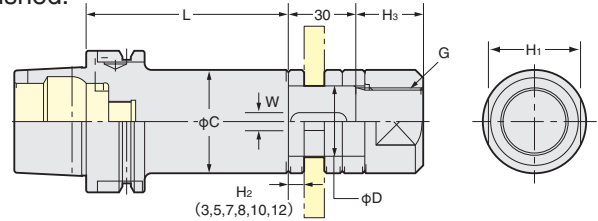
TAPER	Code No.	φD	φD1	φD2	φD3	φD4	φD5	θ	L	L1	L2	L3	L4	L5	L6	Weight (kg)						
HSK63A	HSK 63A-MMSF10R-173B	10	22	26.2	32	47	51.3	3°	173	42	50	139	147	31	65	2.1						
	-203B			29.4												203	72	80	169	177	2.2	
	-233B			32												233	95.4	110	199	207	2.4	
	-MMSF12R-173B	12	26	30.2												80						
	-203B			173													42	50	139	147	2.1	
	-233B			203													57.3	80	169	177	2.3	
	-MMSF16R-173B	16	32	32												33	173	50	50	139	147	2.2
	-203B																203	80	80	169	177	2.3
	-233B																233	110	110	199	207	2.5
HSK100A	HSK100A-MMSF10R-180B	10	22	26.2	32	47	55.5	3°	180	42	50	133.5	151	31	65	3.5						
	-210B			29.4												210	72	80	163.5	181	3.6	
	-240B			32												240	95.4	110	193.5	211	3.8	
	-MMSF12R-180B	12	26	30.2												80						
	-210B			180													42	50	133.5	151	3.5	
	-240B			210													57.3	80	163.5	181	3.7	
	-MMSF16R-180B	16	32	32												33	180	50	50	133.5	151	3.6
	-210B																210	80	80	163.5	181	3.7
	-240B																240	110	110	193.5	211	3.9

★Hybrid Shrink Fit Holder can be built by Mini-Mini Chuck Master and VMK-SF Shrink Fit Holder. ☎ P.241  
★Lubrication Pipe is optional. Please refer ☎ P.268

# HSK STUB ARBOR



■ Reliable Milling with No Chattering Accomplished.



## SCA

Inch Series

(●) shows for Metric Series.

Metric Series

TAPER	Code No.	D	L	C	W	H1	H3	G	Weight(kg)	Code No.
HSK 63A	HSK 63A-SCA25.4 -90	25.4 (27)	90	40	6.35 (7)	32	25	M24	1.8	HSK 63A-SCA27-90
	SCA31.75-90	31.75 (32)		46	7.92 (8)	41	30	M30	2.3	HSK 63A-SCA32-90
HSK100A	HSK100A-SCA25.4 -90	25.4 (27)	90	40	6.35 (7)	32	25	M24	3.2	HSK100A-SCA27-90
	SCA31.75-90	31.75 (32)		46	7.92 (8)	41	30	M30	3.7	HSK100A-SCA32-90

★JIS B4206, JIS B4107, JIS B4219, JIS B4109 cutters can be attached.

★Key and collars (H<sub>2</sub>=3, 5, 7, 8, 10, 12mm) are supplied as standard. For Code No. of collar and nut, please refer to P.118.

★Lubrication Pipe is optional. Please refer to P.298

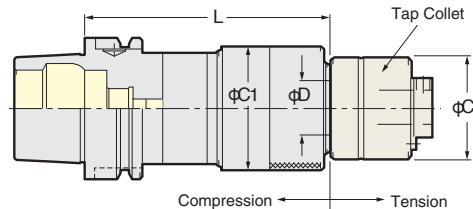
# HSK TAPPER CHUCK



■ With the axial NC floating system.



## Z



TAPER	Code No.	Tapping Capability			D	C	C <sub>1</sub>	Tap Collet	Weight (kg)
		M	U	P					
HSK 63A	HSK 63A-Z 8-115*1	M 2~M 8	1/8~1/4	—	13	23	33	ZKN 8	2.7
	-Z12-120	M 2~M12	1/8~1/2	P 1/16~1/4	19	32	45	ZKG12	3.2
	-Z16-130	M 3~M16	1/8~5/8	P 1/8~3/8	25	39	55	ZKG16	4.3
	-Z24-140	M 8~M24	1/2~1	P 1/4~5/8	30	46	68	ZKG24	4.7
	-Z38-190	M18~M38	3/8~1 3/8	P 3/8~1	45	78	85	ZKN38	8.2
HSK100A	HSK100A-Z 8-120*1	M 2~M 8	1/8~1/4	—	13	23	33	ZKN 8	3.5
	-Z12-125	M 2~M12	1/8~1/2	P 1/16~1/4	19	32	45	ZKG12	3.6
	-Z16-140	M 3~M16	1/8~5/8	P 1/8~3/8	25	39	55	ZKG16	5.0
	-Z24-150	M 8~M24	1/2~1	P 1/4~5/8	30	46	68	ZKG24	5.8
	-Z38-190	M18~M38	3/8~1 3/8	P 3/8~1	45	78	85	ZKN38	8.3
	-Z65-215	M36~M100	1~3 3/4	P 1~3	68	110(125)	110	ZKN65	9.0

★Marked \*1 Z8 Tapper Chuck and ZKN8 Tap Collet are available as semi-standard.

★Please refer to P.293 for ZKG/ZKN tap collet.

★For Synchronized Tapping

★High pressure centre through coolant type and oil mist type are available.

But, OZMK Tap Collet must be used. Please contact us.

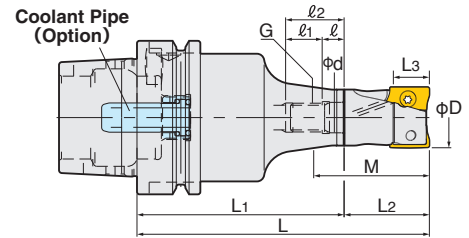
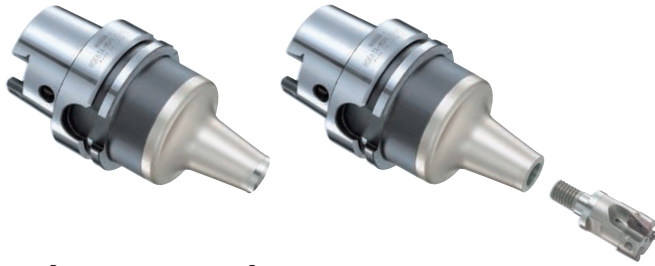
★Lubrication Pipe is optional. Please refer to P.298



ZDS Centre Through

Photo shows "Dream Synchro Tap Holder+ZDK Tap Collet"

e.g.HSK 63A-ZDS12-110  
ZDS16-120  
ZDS24-125  
HSK100A-ZDS12-120  
ZDS16-130  
ZDS24-135



HSK-MDPE (Arbor+Head)

TAPER	Code No.	φD	L	L <sub>1</sub>	L <sub>2</sub>	MAX. Depth L <sub>3</sub>	M	Arbor Code No.	Head Code No.
HSK 63A	HSK 63A-MDPE16-100,120,135	16	100,120,135	70, 90,105	30	10	37.4	HSK 63A-MDPE-M 8- 70, 90,105	M 8-MDPE16-30
	-MDPE20-105,120,135	20	105,120,135	75, 90,105			40.0	-MDPE-M10- 75, 90,105	M10-MDPE20-30
	-MDPE25-105,120,135	25	70, 85,100	35			45.3,47.5,47.5	-MDPE-M12- 70, 85,100	M12-MDPE25-35
	-MDPE32-120,135,150	32	80, 95,110	40			52.5	-MDPE-M16- 80, 95,110	M16-MDPE32-40
HSK 100A	HSK100A-MDPE16-120,140,155	16	120,140,155	90,110,125	30	10	37.4	HSK100A-MDPE-M 8- 90,110,125	M 8-MDPE16-30
	-MDPE20-125,140,155	20	125,140,155	95,110,125			40.0	-MDPE-M10- 95,110,125	M10-MDPE20-30
	-MDPE25-125,140,155	25	90,105,120	35			45.3,47.5,47.5	-MDPE-M12- 90,105,120	M12-MDPE25-35
	-MDPE32-140,155,170	32	100,115,130	40			52.5	-MDPE-M16-100,115,130	M16-MDPE32-40

★2pcs of tip clamp bolt and tip clamp wrench are supplied as standard.  
★Please refer P.244 for cutting condition.

★Insert tip is available as an option. Please refer P.187.  
★Centre through coolant is available for all series.

HSK-MDPE-M (Arbor) ★Coolant pipe : Option P.298

TAPER	Code No.	φD	L <sub>1</sub>	ID φd	Arbor Front Dia.	ℓ	ℓ <sub>1</sub>	ℓ <sub>2</sub>	Screw G
HSK 63A	HSK 63A-MDPE-M 8- 70, 90,105	16	70, 90,105	8.5	14.7	9	11	20	M 8
	-MDPE-M10- 75, 90,105	20	75, 90,105	10.5	18.7		12	21	M10
	-MDPE-M12- 70, 85,100	25	70, 85,100	12.5	23.0		15	24	M12
	-MDPE-M16- 80, 95,110	32	80, 95,110	17.0	30.0		16	25	M16
HSK 100A	HSK100A-MDPE-M 8- 90,110,125	16	90,110,125	8.5	14.7		11	20	M 8
	-MDPE-M10- 95,110,125	20	95,110,125	10.5	18.7		12	21	M10
	-MDPE-M12- 90,105,120	25	90,105,120	12.5	23.0		15	24	M12
	-MDPE-M16-100,115,130	32	100,115,130	17.0	30.0		16	25	M16

★Head is available as an option. P.187

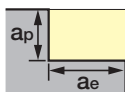
★Centre through coolant is available for all series.

★This is interchangeable with DEPO. When the connection interface (Screw G and ID φd) is same, the cutter head of other carbide makers can be used.

★Lubrication Pipe is optional. Please refer P.298

CUTTING CONDITION of PRO-ENDMILL

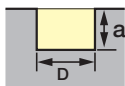
Side  
Milling



- The bold figures of cutting speed **V**(m/min.) show the cutting speed when **a<sub>e</sub>**=0.5 X D. **V**(m/min.) should be reduced to 80%, when **a<sub>e</sub>**=0.75 X D.
- Feed rate per 1 tooth/ 1 revolution **f**(mm/tooth) should be smaller, when **a<sub>p</sub>** is getting larger. The feed rate of **f**(mm/tooth) shows the feed rate when **a<sub>e</sub>**=0.5 X D & **a<sub>p</sub>**=MAX.

Material	Mild Steel (SS400, S10C)	Carbon Steel (S45C, SCM440)	Cast Iron (FC300)	Ductile Cast Iron (FCD450)	Hardened Steel HRC40~55 (SKD)
Cutting Speed <b>V</b>	<b>220</b> (140~270)	<b>170</b> (110~210)	<b>170</b> (110~210)	<b>120</b> (80~150)	<b>85</b> (50~100)
<b>f</b>	MDPE16	<b>0.1</b> (0.1~0.15)		<b>0.07</b> (0.07~0.1)	
	MDPE20	<b>0.1</b> (0.1~0.25)		<b>0.07</b> (0.07~0.2)	<b>0.07</b> (0.07~0.15)
	MDPE25	<b>0.1</b> (0.1~0.3)		<b>0.07</b> (0.07~0.25)	<b>0.07</b> (0.07~0.15)
	MDPE32	<b>0.1</b> (0.1~0.3)		<b>0.07</b> (0.07~0.25)	<b>0.07</b> (0.07~0.15)

Groove  
Milling



- Feed rate per 1 tooth/ 1 revolution **f**(m/min) should be smaller, when **a<sub>p</sub>** is getting larger. The feed rate of **f**(mm/tooth) shows the feed rate when **a<sub>e</sub>**=0.5 X D & **a<sub>p</sub>**=MAX.
- MAX. ramping angle is MDPE16: 15°, MDPE20: 9°, MDPE25: 11°, MDPE32: 7°

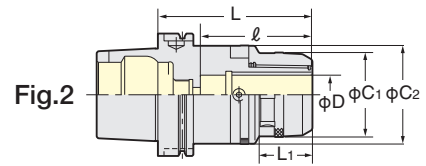
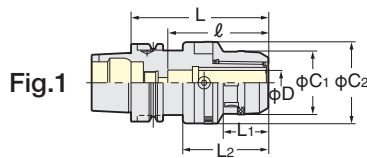
Material	Mild Steel (SS400, S10C)	Carbon Steel (S45C, SCM440)	Cast Iron (FC300)	Ductile Cast Iron (FCD450)	Hardened Steel HRC40~55 (SKD)
Cutting Speed <b>V</b>	<b>180</b> (140~210)	<b>140</b> (110~160)	<b>100</b> (80~120)	<b>100</b> (80~120)	<b>70</b> (50~80)
<b>f</b>	MDPE16	<b>0.1</b>		<b>0.07</b>	
	MDPE20	<b>0.07</b> (0.07~0.1)		<b>0.07</b>	
	MDPE25	<b>0.07</b> (0.07~0.15)		<b>0.07</b>	
	MDPE32	<b>0.07</b> (0.07~0.15)		<b>0.07</b>	



• Please clamp the insert tip with the suitable torque.  
AOMT123608 : 1.0Nm , AOMT184808 : 4.0Nm

• For the guide line of insert tip life, the flank wear within 0.3mm under normal cutting will be recommended.

# HSK ZERO FIT TYPE MILLING CHUCK

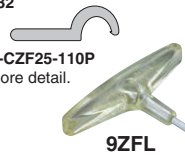


CZF

JAPAN, USA, UK, GERMANY, KOREA, TAIWAN PAT.

TAPER	Code No.	C1	C2	L	L1	L2	l	Weight(kg)	Fig.	Collet	
HSK 50A	HSK 50A-CZF20-115	51.5	66.5	115	35	73	80	1.8	1	KM20 CCK20	
	HSK 63A-CZF20-110			110				2			
HSK 63A	-CZF25-110	59.5	74.5	130	42	88	105	2.5			KM25 CCK25
	-CZF32-130	69	80.5	130	42	88	105	2.8			KM32 CCK32
HSK 100A	HSK 100A-CZF20-115	51.5	66.5	115	35	-	80	3.5	2	KM20 CCK20	
	-CZF25-115	59.5	74.5		42			83			3.8
	-CZF32-115	69	80.5	42	83	4					

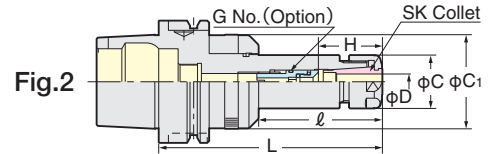
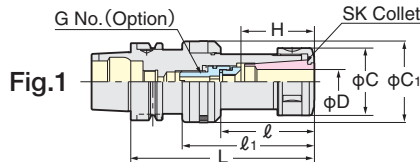
- ★Spanner is available as an option. CZF20 type:9HC22, CZF25 type:9HC25, CZF32 type:9HC32
- ★Please note that the acceptable shank tolerance is h6~h7.
- ★Wrench to adjust run-out (9ZFL) is available as an option.
- ★Please add "P" at the end of Code No. for High Speed Zero Fit Milling Chuck. e.g. HSK63A-CZF25-110P
- ★Multi-Cam style is available. e.g. HSK63A-CZF32-130-C3. (3 Cams) Please contact us for more detail.
- ★Please refer P.279 for Milling chuck Coolant Solution.
- ★Lubrication Pipe is optional. Please refer P.298



- ★Please refer P.281 for KM, CCK collet.
- ★For Centre Through Coolant application: Please use CKFN-D Nut for the direct chucking. Please use CCK collet and CKFN nut for chucking with collet.

HSK

# HSK ZERO FIT TYPE SLIM CHUCK



SZF

JAPAN, USA, UK, GERMANY, KOREA, TAIWAN PAT.

•When using SK-A collets or SK-AC collets, or when gripping a cutting tool smaller than the nominal diameter on SK collets, the total length will be shortened by about 3 mm. Please be careful when you check the interference.

TAPER	Code No.	D	L	l	l1	C	C1	H	G No. (Option)	Weight(kg)	Fig.	Collet
HSK 40A	HSK 40A-SZF 6C-105	0.7~6.0	105	32	70	19.5	40.5	26~31	SKG 6- 6HG	0.6	1	SK 6
	-SZF10C-105	1.75~10.0				27.5	48.5	35~41	SKG10-10HG	0.7		SK10
	-SZF16C-120	2.75~16.0				40	59.5	45~52	SKG16-10HG	0.8		SK16
HSK 50A	HSK 50A-SZF 6C-120	0.7~6.0	120	68	-	19.5	40.5	26~31	SKG 6- 6HG	0.9	2	SK 6
	-SZF10C-120	1.75~10.0		46	78	27.5	48.5	35~41	SKG10-10HG	1.1	SK10	
	-SZF16C-135	2.75~16.0	135	57	93	40	59.5	45~52	SKG16-10HG	1.5	1	SK16
	-SZF25C-135	7.5~25.4				55	66.5	60~65	SKG25-18HGE	1.8	SK25	
HSK 63A	HSK 63A-SZF 6C-120	0.7~6.0	120	68	-	19.5	40.5	26~31	SKG 6- 6HG	1.2	2	SK 6
	-SZF10C-105, 150	1.75~10.0				105, 150	53, 98	27.5	48.5	35~41		SKG10-10HG
	-SZF16C-150	2.75~16.0	150	76	40	59.5	45~57	SKG16-12HG	2	SK16		
	-SZF25C-135	7.5~25.4	135	57	93	55	66.5	60~65	SKG25-18HGE	2.1	1	SK25
HSK 100A	HSK 100A-SZF 6C-120	0.7~6.0	120	54	-	19.5	40.5	26~31	SKG 6- 6HG	2.4	2	SK 6
	-SZF10C-150	1.75~10.0				150	85	27.5	48.5	35~41		SKG10-10HG
	-SZF16C-150	2.75~16.0	150	85	-	40	59.5	45~57	SKG16-12HG	3.7	SK16	
	-SZF25C-150	7.5~25.4				95	55	66.5	60~65	SKG25-18HGE	4.1	SK25

- ★Adjust screw (G No.), wrench to adjust run-out (9ZFL) and SKL spanner are available as an option. SZF6C:SKL-6W, SZF10C:SKL-10, SZF16C:9HC16, SZF25C:9HC25
- ★Spanner for run-out adjustment is available as an option. Code No. is 9ZFL.
- ★Please use "P" class or "A" type SK collet. P.283
- ★For High Speed type, Code No. is "SZF-P". e.g. HSK63A-SZF10C-105P
- ★For Centre Through Coolant application, please use SK J type nut and cap. P.285
- ★Please note that the total tool length with J type nut is extended 6mm longer.
- ★Multi-Cam style is available. e.g. HSK63A-SZF16C-150-C3. (3 Cams) Please contact us for more detail.
- ★Please refer P.285 for SK Coolant Solution.
- ★Lubrication Pipe is optional. Please refer P.298



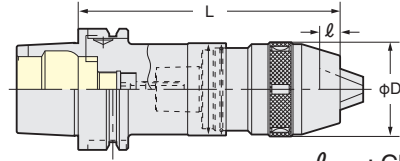
9ZFL

GH Handle P.299

# HSK NC DRILL CHUCK



■ Compact, High Accuracy and Rigidity



ℓ : Chucking Length  
 NPU 8 : 18.8mm  
 NPU13 : 26.5mm

NPU

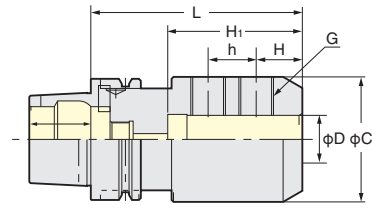
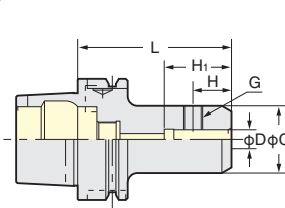
TAPER	Code No	Chucking Dia φ mm	D	L		Weight(kg)
				MIN.	MAX.	
HSK 40A	HSK 40A-NPU 8-114	0.3~8	38	115.5	121.8	0.8
	HSK 50A-NPU 8-118	0.3~8	38	119.5	125.8	1.0
HSK 50A	-NPU13-135	1~13	48.5	136.2	147.6	1.5
	HSK 63A-NPU 8-120	0.3~8	38	121.6	127.9	1.3
HSK 63A	-NPU13-135	1~13	48.5	136.2	147.6	1.9
	HSK100A-NPU 8-130	0.3~8	38	131.5	137.8	2.7
HSK100A	-NPU13-145	1~13	48.5	144.9	156.3	3.4

- ★Wrench is available as an option. The Code No. of wrench is NPU8:NPUL-8, NPU13:NPUL-13
- ★Centre Through Coolant (MAX. 1MPa) is available for NPU13 style only. Please add "C" at the Code No. e.g. HSK63A-NPU13C-135
- ★When it is used for centre through coolant holder, MIN. Chucking Dia. is 6mm.
- ★Lubrication Pipe is optional. Please refer to P.298

# HSK SIDE LOCK HOLDER



■ Simple and Rigid



SL

TAPER	Code No	φD	L	C	h	H	H1	G	Weight(kg)
HSK 63A	HSK 63A-SLS 6- 80	6	80	25	-	18	25	M6	0.9
	-SLS 8- 80	8		28			30	M8	0.9
	-SLS10- 80	10		35		20	42	M10	1.0
	-SLS12- 80	12		42		22.5	46	M12	1.2
	-SLS16- 80	16	48	24	52	M14	1.3		
	-SLS20- 80	20	52	25	52	M16	1.4		
	-SLS25-110	25	110	65	25	24	70	M18	1.8
	-SLS32-110	32		72	28		75	M20	2.6
HSK100A	HSK100A-SLS 6- 80	6	80	25	-	18	25	M6	2.3
	-SLS 8- 80	8		28			30	M8	2.3
	-SLS10- 80	10		35		20	42	M10	2.4
	-SLS12- 80	12		42		22.5	49	M12	2.6
	-SLS16-100	16	48	24	52	M14	3.0		
	-SLS20-100	20	52	25	54	M16	3.1		
	-SLS25-100	25	100	65	25	24	65	M18	3.7
	-SLS32-100	32		72	28		68	M20	3.9

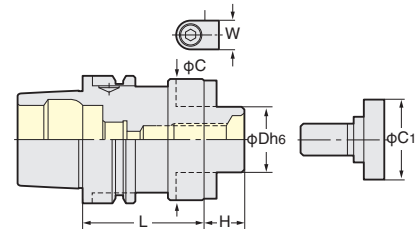
- ★JIS B4005 end mill can be gripped.
- ★The Code No. for ultra heavy duty combination shank end mill is "DM". e.g. HSK100A-DM50.8-120
- ★Lubrication Pipe is optional. Please refer to P.298



# HSK FACE MILL ARBOR / HSK SHOULDER CUTTER ARBOR



- FMA: JIS B 4113 Face Mill Cutter
- FMC: Shoulder Cutter (SANDVIK, SUMITOMO etc.)



## FMA

TAPER	Code No.	Dimensions						Drive key	Lock bolt	Weight (kg)
		D	L	H	C	C1	W			
HSK 40A	HSK 40A-FMA25.4 -50	25.4	50	22	50	33	9.5	FW5	FM12	0.7
HSK 50A	HSK 50A-FMA25.4 -55	25.4	55	22	50	33	9.5	FW5	FM12	0.8
HSK 63A	HSK 63A-FMA25.4 -50	25.4	50	22	50	33	9.5	FW5	FM12	1.2
	-FMA31.75 -60	31.75	60	30	60	40	12.7	FW13	FM16	1.6
	-FMA38.1 -60	38.1		34	80	50	15.9	FW18	FM20	1.8
HSK100A	HSK100A-FMA25.4 -50	25.4	50	22	50	33	9.5	FW5	FM12	2.4
	-FMA31.75 -75	31.75	75	30	70	40	12.7	FW13	FM16	3.4
	-FMA38.1 -75	38.1		34	80	50	15.9	FW19	FM20	3.8
	-FMA50.8 -75	50.8		36	100	65	19	FW24	FM24	4.4
	-FMA47.625-75	47.625		38	128.57	-	25.4	FW26	9GM16-55	5.3

★The arbor marked \* requires 4 fixing bolts. (M16)

## FMC

TAPER	Code No.	Dimensions						Drive key	G Cap bolt	Weight (kg)
		D	L	H	C	C1	W			
HSK 40A	HSK 40A-FMC22-50	22	50	18	45	16	10	FW 8	9GM10-30	0.6
HSK 50A	HSK 50A-FMC22-50	22	50	18	45	16	10	FW 8	9GM10-30	0.7
	-FMC27-60	27	60	20	60	18	12	FW11	9GM12-35	1.1
HSK 63A	HSK 63A-FMC22-45, 60	22	45, 60	18	45	16	10	FW 8	9GM10-30	1.0, 1.2
	-FMC27-60	27	60	20	60	18	12	FW11	9GM12-35	1.4
	-FMC32-60	32		22	80	24	14	FW16	9GM16-35	1.9
HSK100A	HSK100A-FMC22-50	22	50	18	45	16	10	FW 8	9GM10-30	2.4
	-FMC27-50	27		20	60	18	12	FW11	9GM12-35	2.6
	-FMC32-75	32	75	22	80	24	14	FW16	9GM16-35	3.4

★Drive key, L-Wrench & Bolts are supplied as standard.

★The bolt may not be the same as above table, please use the bolt specified by the cutter maker.

★Extended length Face Mill Arbors are available as an option.

HSK100A-FMA25.4 -200, 250  
-FMA31.75-150, 200  
-FMA38.1 -150, 200

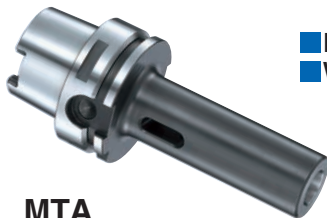
★Above weight is for arbor only. (Not include Face Mill Cutter)

★In case of the special cutter, please specify the dimension below.

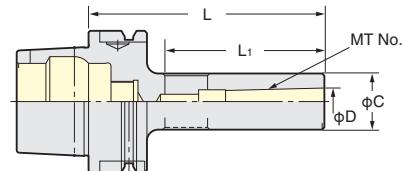
★In case of the special cutter, please specify the dimensions below.

★Lubrication Pipe is optional. Please refer to P.298

# HSK MORSE TAPER ADAPTER A TYPE



- For Drill & Reamer with MT1~MT5 Shank.
- With Side Lock Screw.



## MTA

TAPER	Code No.	MT.No.	D	C	L1	Weight(kg)
HSK 63A	HSK 63A-MTA1-105	1	12.065	25	74	0.9
	-MTA2-120	2	17.780	32	89	1.1
	-MTA3-150	3	23.825	40	119	1.6
	-MTA4-165	4	31.267	50	136	2.2
HSK100A	HSK100A-MTA1-110	1	12.065	25	71	2.3
	-MTA2-125	2	17.780	32	86	2.3
	-MTA3-140	3	23.825	40	106	2.8
	-MTA4-165	4	31.267	50	131	3.6
	-MTA5-195	5	44.399	65	161	4.9

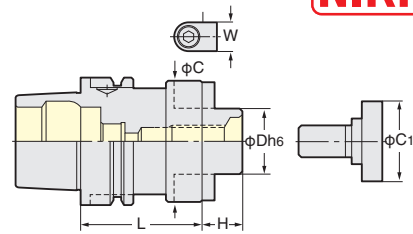
★Lubrication Pipe is optional. Please refer to P.298



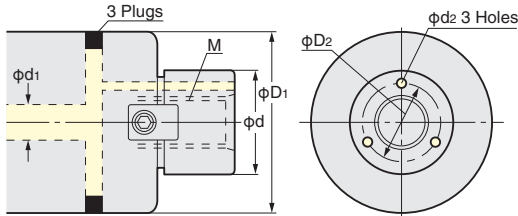
# HSK FMH FACE MILL ARBOR



■ For Oil Hole Cutter  
■ For High Feed Cutter



FMH



Code No.	Cutter Dia.	φd	φD1	M	Coolant Hole		
					φD2	φd1	φd2
FMH22 (22.225)	φ50, φ52	22(22.225)	47	M10 P1.5	16	6~8	3
	φ63, φ66		60				
FMH27 (25.4)	φ80	27(25.4)	76(70)	M12 P1.75	19.5(18.5)	8~10	3.5
FMH32 (31.75)	φ100	32(31.75)	96	M16 P2.0	24	10~13	4
FMH40 (38.1)	φ125	40(38.1)	100	M20 P2.5	30(29)	10~15	5
FMH50.8	φ160	50.8	100	M24 P3.0	37.5	15~20	7

## FMH Inch Series

★ Lubrication Pipe is optional. Please refer P.298

★ Fixing dimension is basically based on FMA/FMC. ★ The combination of the other cutter dia. are also available.

TAPER	Code No.	Arbor						Drive Key	Lock Bolt	G Cap Bolt	Weight (kg)		
		D	L	H	C	C1	W						
HSK 63A	HSK 63A-FMH22.225 - 47 - 45	22.225	45	17	47	28	8	FW 3	FM10	—	1.1		
	- 60		60								1.3		
	- 90		90								1.7		
	HSK 63A	-FMH25.4 - 70 - 60	25.4	60	22	70	33	9.5	FW 5	FM12	—	2.5	
		- 90		90								1.8	
		- 150		150								2.5	
HSK 63A		-FMH31.75 - 76 - 60	31.75	60	30	76	40	12.7	FW13	FM16	—	2.0	
		- 90		90								2.7	
		- 150		150								4.1	
	HSK100A	HSK100A-FMH22.225 - 47 - 105	22.225	105	17	47	28	8	FW 3	FM10	—	3.4	
		- 150		150								4.0	
		- 200		200								4.7	
- 250		250		5.3									
HSK100A		-FMH22.225 - 60 - 60	22.225	60	17	60	28	8	FW 3	FM10	—	2.9	
		- 105		105								3.9	
		- 150		150								4.9	
		- 200		200								6.1	
		HSK100A	-FMH25.4 - 70 - 60	25.4	60	22	70	33	9.5	FW 5	FM12	—	7.2
			- 90		90								3.2
			- 150		150								4.1
			- 200		200								5.9
	HSK100A		-FMH31.75 - 76 - 60	31.75	60	30	76	40	12.7	FW13	FM16	—	7.4
			- 90		90								3.9
			- 105		105								5.5
			- 150		150								6.4
HSK100A			-FMH38.1 - 100 - 60	38.1	60	34	100	50	15.9	FW19	FM20	—	9.0
			- 90		90								4.1
			- 105		105								6.8
			HSK100A	- 150	150	11.8							
		- 150		150	4.1								
		- 150		150	5.9								

## FMH Metric Series

★ Lubrication Pipe is optional. Please refer P.298

TAPER	Code No.	Arbor						Drive Key	Lock Bolt	G Cap Bolt	Weight (kg)		
		D	L	H	C	C1	W						
HSK 63A	HSK 63A-FMH16 - 37 - 45	16	45	17	37	20	8	FW 3	FM 8	—	1.0		
	-FMH22 - 47 - 45	22	45	18	47	16	10	FW 8	—	9GM10-30	1.1		
	- 60		60								1.3		
	- 90		90								1.7		
	HSK 63A	-FMH27 - 60 - 60	27	60	20	60	18	12	FW11	—	9GM12-35	1.6	
- 90		90		2.3									
- 150		150		3.4									
HSK100A		HSK100A-FMH22 - 47 - 105	22	105	18	47	16	10	FW 8	—	9GM10-30	4.0	
		- 150		150								4.7	
	- 200	200		5.4									
	- 250	250		7.2									
	HSK100A	-FMH22 - 60 - 60	22	60	18	60	16	10	FW 8	—	9GM10-30	2.9	
		- 105		105								3.9	
		- 150		150								5.4	
		- 200		200								6.1	
		HSK100A	-FMH27 - 60 - 60	27	60	20	60	18	12	FW11	—	9GM12-35	2.9
			- 90		90								3.7
			- 150		150								5.0
			- 250		250								7.2
HSK100A			-FMH27 - 76 - 60	27	60	20	76	18	12	FW11	—	9GM12-35	3.2
			- 90		90								4.3
			- 150		150								6.5
			- 250		250								8.9
	HSK100A		-FMH32 - 96 - 60	32	60	22	96	24	14	FW16	—	9GM16-35	3.8
			- 90		90								5.5
			- 150		150								8.9
			HSK100A	-FMH40 - 100 - 75	40	75	26	100	50	16	FW22	FM20	—
		- 90		90		6.8							
		- 105		105		9.6							

# HSK BALANCE-CUT BORING ARBOR (RAC-E)

**NIKKEN**

Rough Boring — For Steel, Stainless Steel and Cast Iron  
CC Insert (Positive type)



RAC-E

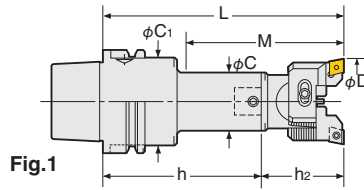


Fig.1

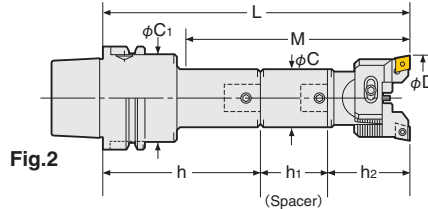


Fig.2

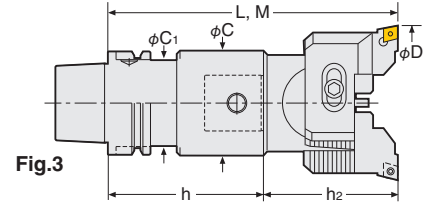
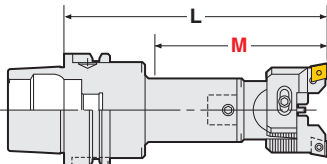


Fig.3

TAPER	Code No.	Boring Range D	Boring Depth M	C	C <sub>1</sub>	Shank Code No.	Spacer Code No.	P.250		Weight (kg)	Fig
								Head Code No.	Tip No.		
HSK63A	HSK 63A-RAC25-135E	25~32	67	15	24	HSK 63A-Q12- 80	—	12-RAC 25- 55E	CC07-C	1.7	1
	-165E		105			-Q12-110	—			1.8	
	-180E		112			-Q12- 80	SP12-12-45			1.8	
	-RAC32-150E	32~45	77	19	30	-Q16- 95	—	16-RAC 32- 55E	CC08-C	2.1	1
	-180E		110			-Q16-125	—			2.3	
	-195E		122			-Q16- 95	SP16-16-45			2.3	
	-RAC43-150E	43~55	97	40	50	-Q20- 80	—	20-RAC 43- 70E	CC12-C	2.4	1
	-180E		130			-Q20-110	—			2.6	
	-210E		157			-Q20- 80	SP20-20-60			2.9	
	-RAC53-165E	53~70	135	53	50	-Q26- 95	—	26-RAC 53- 70E	CC12-C	2.2	1
	-210E		180			-Q26-140	—			3.0	
	-225E		195			-Q26- 95	SP26-26-60			3.0	
	-RAC70-180E	70~100	180	64	52.4	-Q34- 95	—	34-RAC 70- 85E	CC12-C	4.5	3
	-195E		195			-Q34-110	—			4.9	
	-240E		240			-Q34- 95	SP34-34-60			5.9	
-RAC100-195E	100~130	195	83	—	-Q42- 95	—	42-RAC100-100E	—	6.5	—	

- ★“C” grade (Coated) inserts are supplied as standard with the head. P.250 Please refer P.106 for cutting condition.
- ★Please refer P.267 for base holder, P.90 for spacer and P.67 for head.
- ★For centre through coolant type, please add “-C” at the end of Code No. e.g. HSK63A-RAC53-165E-C
- ★For HSK40A or 50A, modular connection system is applied. Please refer P.267 for Base Holder.
- ★When L length is required longer than standard, please specify the boring depth M.
- ★Lubrication Pipe is optional. Please refer P.298



★Code No. of RAC25 and RAC32 are changed to RAC25E and RAC32E.  
e.g. HSK63A-RAC25-135 → HSK63A-RAC25-135E  
12-RAC25- 55 → 12-RAC25- 55E



High Pressure Coolant Through Tool

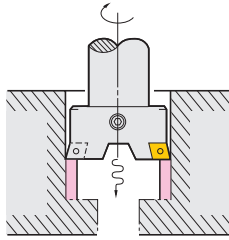
# HSK BALANCE-CUT BORING ARBOR (RAC-E)



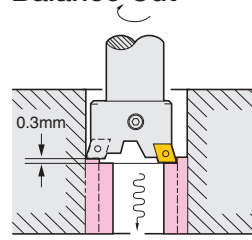
Balance cut boring bar executes boring in 2 cartridge inserts absorbing the vibration each other. The faster the feed rate, the better swarf ejection. This is ideal for rough and medium boring.

## Double Cutting Capability

Please use RAC-K for through hole boring.  
 ☞ P.255, P.256



## Example of 2 Stepped Balance Cut



Approx. double removal of below cutting condition is possible by -0.3 Cartridge.  
 ☞ P.68

TAPER	Code No.	Boring Range D	Boring Depth M	C	C <sub>1</sub>	Shank Code No.	Spacer Code No.	P.250		Weight (kg)	Fig
								Head Code No.	Tip No.		
HSK100A	HSK100A-RAC 25-150E	25~32	67	15	24	HSK100A-Q12- 95	—	12-RAC 25- 55E	CC07-C	3.9	1
	-180E		105			-Q12-125				4.1	
	-195E		112			-Q12- 95				4.0	2
	-RAC 32-180E	32~45	77	31	50	-Q16-125N	—	16-RAC 32- 55E	CC08-C	4.6	1
	-210E		110			-Q16-155				4.8	
	-225E		122			-Q16-125N				4.8	2
	-RAC 43-180E	43~55	97	40	60	-Q20-110	—	20-RAC 43- 70E		4.9	1
	-195E		130			-Q20-125				5.0	
	225E		142			-Q20-110				5.3	2
	-240E		157			-Q20-110				5.4	
	-RAC 53-210E	53~70	117	53	65	-Q26-140	—	26-RAC 53- 70E		6.1	1
	-240E		182			-Q26-170N				6.2	
	-270E		177			-Q26-140				6.8	2
	-RAC 70-255E	70~100	202	64	80	-Q34-170	—	34-RAC 70- 85E		8.7	1
	-285E		232			-Q34-200				9.1	
	-315E		262			-Q34-170				10.1	2
	-RAC100-225E	100~130	225	83	83	-Q42-125	—	42-RAC100-100E		11.7	1
	-290E		290			-Q42-190				11.7	
-315E	315		-Q42-125			15.1				2	

★“C” grade (Coated) inserts are supplied as standard with the head. ☞ P.250 Please refer ☞ P.106 for cutting condition. ★Code No. of RAC25 and RAC32 with CC inserts are changed to RAC25E and RAC32E.  
 ★Please refer ☞ P.267 for base holder, ☞ P.90 for spacer and ☞ P.67 for head.  
 ★For centre through coolant type, please add“-C” at the end of Code No. e.g. HSK100A-RAC53-210E-C  
 ★For HSK40A or 50A, modular connection system is applied. Please refer ☞ P.267 for Base Holder.  
 ★HSK100A-RAC100-375E, 425E and 475E are also available.  
 ★Lubrication Pipe is optional. Please refer ☞ P.298  
 e.g. HSK100A-RAC25-150 → HSK100A-RAC25-150E  
 12-RAC25- 55 → 12-RAC25- 55E

## Insert tip for RAC-E

● : best ○ : good

Material	Steel		●	
	Stainless Steel		●	
	Cast Iron		○	●
Aluminium				
		Coated Carbide M	Coated Carbide K	
		Grade	C	
		Material	AC630M	AC410K
		Nose R		
RAC25E		CC07-○0.4	●	●
		CC07-○0.8	●	●
RAC25E(CC08), RAC32E		CC08-○0.4	●	●
		CC08-○0.8	●	●
RAC43E - RAC530E		CC12-○0.4	●	●
		CC12-○0.8	●	●

Please add the grade indication into ○, and add the insert tip material indication at the end off the Code No. e.g. CC12-C8(AC630M)

★Minimum order quantity : 10pcs.

# HSK BALANCE-CUT BORING ARBOR (RAC)



Rough Boring — For Heavy Duty Boring of Iron and Cast Iron  
CN Insert (Negative type)



Heavy Duty Boring

RAC

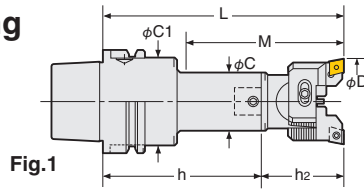


Fig.1

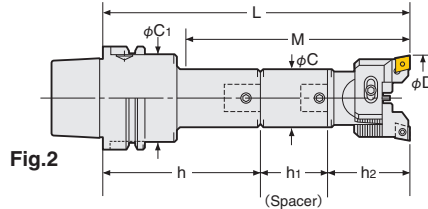


Fig.2

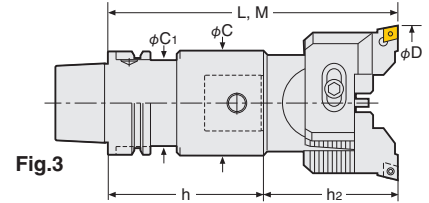
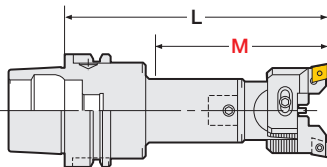


Fig.3

TAPER	Code No.	Boring Range D	Boring Depth M	C	C <sub>1</sub>	Shank Code No.	Spacer Code No.	P.252		Weight (kg)	Fig
								Head Code No.	Tip No.		
HSK63A	HSK 63A-RAC43-150	43~55	97	40	50	HSK 63A-Q20- 80	—	20-RAC 43- 70	CN08-C	2.4	1
	-180		130			—	2.6				
	-210		157			SP20-20-60	2.9				
	-RAC53-165	53~70	135	53	-Q26- 95	—	26-RAC 53- 70	2.2	1		
	-210		180		—	3.0					
	-225		195		SP26-26-60	3.0					
	-RAC70-180	70~100	180	64	-Q34- 95	—	34-RAC 70- 85	4.5	3		
	-195		195		—	4.9					
	-240		240		SP34-34-60	5.9					
	-RAC100-195	100~130	195	83	52.4	-Q42- 95	—	42-RAC100-100	6.5		

- ★“C” grade (Coated) inserts are supplied as standard with the head. P.252 Please refer P.106 for cutting condition.
- ★Please refer P.267 for base holder, P.90 for spacer and P.67 for head.
- ★For centre through coolant type, please add“-C” at the end of Code No. e.g. HSK63A-RAC53-165-C
- ★For HSK40A or 50A, modular connection system is applied. Please refer P.267 for Base Holder.
- ★When L length is required longer than standard, please specify the boring depth M.
- ★Lubrication Pipe is optional. Please refer P.298



High Pressure Coolant Through Tool

★Code No. of RAC25 and RAC32 with CC inserts are changed to RAC25E and RAC32E. Please refer P.249, P.250

# HSK BALANCE-CUT BORING ARBOR (RAC)

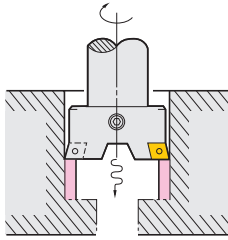


Balance cut boring bar executes boring in 2 cartridge inserts absorbing the vibration each other. The faster the feed rate, the better swarf ejection. This is ideal for rough and medium boring.

## Double Cutting Capability

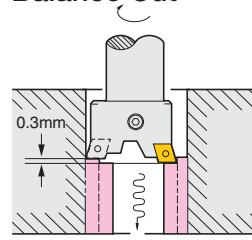
Please use RAC-K for through hole boring.

P.255, P.256



## Example of 2 Stepped Balance Cut

Approx. double removal of below cutting condition is possible by -0.3 Cartridge. P.68



TAPER	Code No.	Boring Range D	Boring Depth M	C	C <sub>1</sub>	Shank Code No.	Spacer Code No.	P.252		Weight (kg)	Fig
								Head Code No.	Tip No.		
HSK100A	HSK100A-RAC 43-180	43~55	97	40	60	HSK100A-Q20-110	—	20-RAC 43- 70	CN08-C	4.9	1
	-195		130			-Q20-125				5.0	
	225		142			-Q20-110				5.3	
	-240		157			-Q20-110				5.4	
	-RAC 53-210		117			-Q26-140				6.1	
	-240	53~70	182	53	65	-Q26-170N	—	26-RAC 53- 70	6.2	1	
	-270		177			-Q26-140		6.8			
	-RAC 70-255		202			-Q34-170		8.7			
	-285	70~100	232	64	80	-Q34-200	—	34-RAC 70- 85	9.1	1	
	-315		262			-Q34-170		10.1			
	-RAC100-225		225			-Q42-125		11.7			
	-290	100~130	290	83	83	-Q42-190	—	42-RAC100-100	11.7	1	
	-315		315			-Q42-125		15.1			

- ★"C" grade (Coated) inserts are supplied as standard with the head. P.252 Please refer P.106 for cutting condition.
- ★Code No. of RAC25 and RAC32 with CC inserts are changed to RAC25E and RAC32E. Please refer P.249, P.250
- ★Please refer P.267 for base holder, P.90 for spacer and P.67 for head.
- ★For centre through coolant type, please add "-C" at the end of Code No. e.g. HSK100A-RAC53-210-C
- ★For HSK40A or 50A, modular connection system is applied. Please refer P.267 for Base Holder.
- ★HSK100A-RAC100-375, 425 and 475 are also available.
- ★Lubrication Pipe is optional. Please refer P.298

## Insert tip for RAC for Heavy Duty Boring

Material	Steel		●
	Stainless Steel		●
	Cast Iron		●
	Aluminium		●
Applicable Arbor	Dimension	Code No.	Coated Carbide M
			Grade
			Material
RAC43 - RAC530		CN08-○8	AC630M
			Grade C
			Material AC630M

Please add the grade indication into ○, and add the insert tip material indication at the end off the Code No. e.g. CC08-C8(AC630M)

- ★Minimum order quantity : 10pcs.
- ★When CN08 insert (CN○1204○) in the market is used, please use the eccentric bolt type cartridge (S.RCC-○○Q) P.102. Nikken CN08-○8 insert can be used on the eccentric bolt type cartridge.

HSK

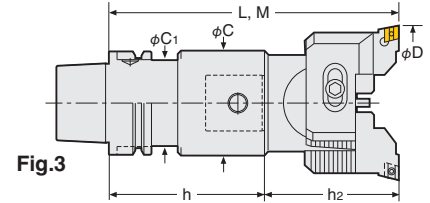
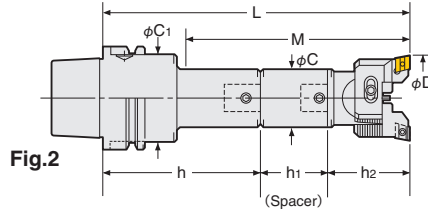
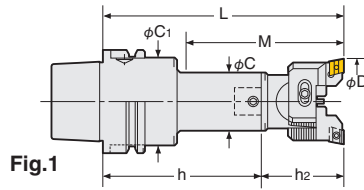
# HSK BALANCE-CUT BORING ARBOR (RAC-A)

**NIKKEN**

Rough Boring—For Aluminium

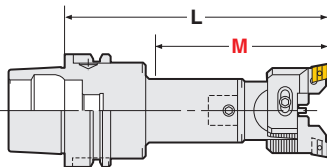


RAC-A



TAPER	Code No.	Boring Range D	Boring Depth M	C	C <sub>1</sub>	Shank Code No.	Spacer Code No.	P.254		Weight (kg)	Fig
								Head Code No.	Tip No.		
HSK63A	HSK 63A-RAC25-135A	25~32	67	15	24	HSK 63A-Q12- 80	—	12-RAC 25- 55A	AEG12	1.7	1
	-165A		105			-Q12-110	—			1.8	
	-180A		112			-Q12- 80	SP12-12-45			1.8	
	-RAC32-150A	32~45	77	19	30	-Q16- 95	—	16-RAC 32- 55A	AEG16	2.1	1
	-180A		110			-Q16-125	—			2.3	
	-195A		122			-Q16- 95	SP16-16-45			2.3	
	-RAC43-150A	43~55	97	40	50	-Q20- 80	—	20-RAC 43- 70A	AEG16	2.4	1
	-180A		130			-Q20-110	—			2.6	
	-210A		157			-Q20- 80	SP20-20-60			2.9	
	-RAC53-165A	53~70	135	53	50	-Q26- 95	—	26-RAC 53- 70A	AEG16	2.2	1
	-210A		180			-Q26-140	—			3.0	
	-225A		195			-Q26- 95	SP26-26-60			3.0	
	-RAC70-180A	70~100	180	64	52.4	-Q34- 95	—	34-RAC 70- 85A	AEG16	4.5	3
	-195A		195			-Q34-110	—			4.9	
	-240A		240			-Q34- 95	SP34-34-60			5.9	
-RAC100-195A	100~130	195	83	—	-Q42- 95	—	42-RAC100-100A	—	6.5	—	

- ★“F” grade inserts are supplied as standard with the head. P.254 Please refer P.106 for cutting condition.
- ★Please refer P.267 for base holder, P.90 for spacer and P.67 for head.
- ★For centre through coolant type, please add “-C” at the end of Code No. e.g. HSK63A-RAC53-165A-C
- ★For HSK40A or 50A, modular connection system is applied. Please refer P.267 for Base Holder.
- ★When L length is required longer than standard, please specify the boring depth M.
- ★Lubrication Pipe is optional. Please refer P.298



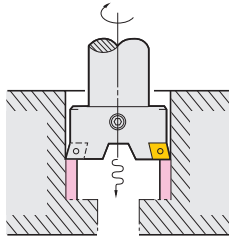
High Pressure Coolant Through Tool

# HSK BALANCE-CUT BORING ARBOR (RAC-A)

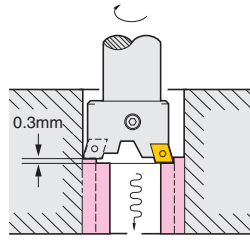


Balance cut boring bar executes boring in 2 cartridge inserts absorbing the vibration each other. The faster the feed rate, the better swarf ejection. This is Ideal for rough and medium boring.

## Double Cutting Capability



## Example of 2 Stepped Balance Cut



Approx. double removal of below cutting condition is possible by **-0.3 Cartridge**.  
 P.68

TAPER	Code No.	Boring Range D	Boring Depth M	C	C <sub>1</sub>	Shank Code No.	Spacer Code No.	P.254		Weight (kg)	Fig
								Head Code No.	Tip No.		
HSK100A	HSK100A-RAC 25-150A	25~32	67	15	24	HSK100A-Q12- 95	—	12-RAC 25- 55A	AEG12	3.9	1
	-180A		105			-Q12-125				4.1	
	-195A		112			-Q12- 95				4.0	2
	-RAC 32-180A	32~45	77	31	50	-Q16-125N	—	16-RAC 32- 55A	AEG12	4.6	1
	-210A		110			-Q16-155				4.8	
	-225A		122			-Q16-125N				4.8	2
	-RAC 43-180A	43~55	97	40	60	-Q20-110	—	20-RAC 43- 70A	AEG12	4.9	1
	-195A		130			-Q20-125				5.0	
	225A		142			-Q20-110				5.3	2
	-240A	157	-Q20-110	5.4	2						
	-RAC 53-210A	53~70	117	53	65	-Q26-140	—	26-RAC 53- 70A	AEG16	6.1	1
	-240A		182			-Q26-170N				6.2	
	-270A		177			-Q26-140				6.8	2
	-RAC 70-255A	70~100	202	64	80	-Q34-170	—	34-RAC 70- 85A	AEG16	8.7	1
	-285A		232			-Q34-200				9.1	
	-315A		262			-Q34-170				10.1	2
	-RAC100-225A	100~130	225	83	83	-Q42-125	—	42-RAC100-100A	AEG16	11.7	1
	-290A		290			-Q42-190				11.7	
-315A	315		-Q42-125			15.1				2	

★“F” grade inserts are supplied as standard with the head. P.254 Please refer P.106 for cutting condition.

★Please refer P.267 for base holder, P.90 for spacer and P.67 for head.

★For centre through coolant type, please add“-C”at the end of Code No. e.g. HSK100A-RAC53-210A-C

★For HSK40A or 50A, modular connection system is applied. Please refer P.267 for Base Holder.

★HSK100A-RAC100-375A, 425A and 475A are also available.

★Lubrication Pipe is optional. Please refer P.298

## Insert tip for RAC-A

Material	Steel		Code No.	Grade	Material
	Stainless Steel	Cast Iron			
RAC25A, RAC32A	Aluminium	●	AEG12-○1 AEG12-○2 AEG12-○4	F	●
	Coated Carbide K	●			
	Grade	F			
	Material	KW10			
RAC43A-RAC530A	Aluminium	●	AEG16-○1 AEG16-○2 AEG16-○4	F	●
	Coated Carbide K	●			
	Grade	F			
	Material	KW10			

Please add the grade indication into ○, and add the insert tip material indication at the end off the Code No. e.g. AEG16-F2 (KW10)

★Minimum order quantity : 10pcs.

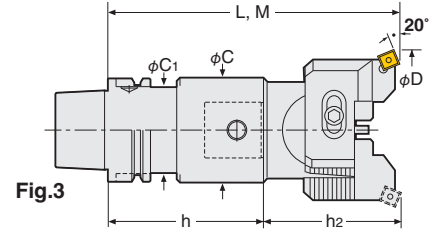
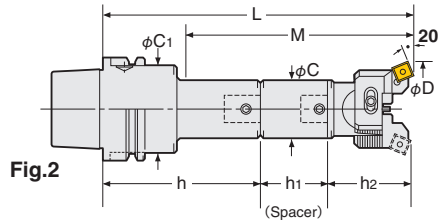
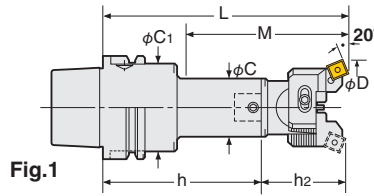
# HSK BALANCE-CUT BORING ARBOR (RAC-K)

**NIKKEN**

Rough Boring—For Through Hole and Multi Sheets

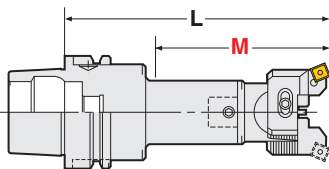


RAC-K



TAPER	Code No.	Boring Range D	Boring Depth M	C	C <sub>1</sub>	Shank Code No.	Spacer Code No.	P.256		Weight (kg)	Fig	
								Head Code No.	Tip No.			
HSK63A	HSK 63A-RAC25-135K	25~32	67	15	24	HSK 63A-Q12- 80	—	12-RAC 25- 55K	SC09	1.7	1	
	-165K		105			-Q12-110	—					1.8
	-180K		112			-Q12- 80	SP12-12-45					1.8
	-RAC32-150K	32~45	77	19	30	-Q16- 95	—	16-RAC 32- 55K	SC09	2.1	1	
	-180K		110			-Q16-125	—					2.3
	-195K		122			-Q16- 95	SP16-16-45					2.3
	-RAC43-150K	43~55	97	40	50	-Q20- 80	—	20-RAC 43- 70K	SC12	2.4	1	
	-180K		130			-Q20-110	—					2.6
	-210K		157			-Q20- 80	SP20-20-60					2.9
	-RAC53-165K	53~70	135	53	53	-Q26- 95	—	26-RAC 53- 70K	SC12	2.2	1	
	-210K		180			-Q26-140	—					3.0
	-225K		195			-Q26- 95	SP26-26-60					3.0
	-RAC70-180K	70~100	180	64	52.4	-Q34- 95	—	34-RAC 70- 85K	SC12	4.5	3	
	-195K		195			-Q34-110	—					4.9
	-240K		240			-Q34- 95	SP34-34-60					5.9
-RAC100-195K	100~130	195	83	—	-Q42- 95	—	42-RAC100-100K	—	6.5	—		

- ★“C” grade (Coated) inserts are supplied as standard with the head. P.256 Please refer P.106 for cutting condition.
- ★Please refer P.267 for base holder, P.90 for spacer and P.67 for head.
- ★For centre through coolant type, please add “-C” at the end of Code No. e.g. HSK63A-RAC53-165K-C
- ★For HSK40A or 50A, modular connection system is applied. Please refer P.267 for Base Holder.
- ★When L length is required longer than standard, please specify the boring depth M.
- ★Lubrication Pipe is optional. Please refer P.298



High Pressure Coolant Through Tool

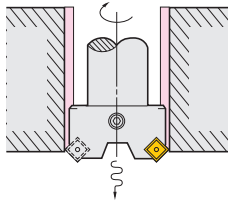


# HSK BALANCE-CUT BORING ARBOR (RAC-K)



Balance cut boring bar executes boring in 2 cartridge inserts absorbing the vibration each other. The faster the feed rate, the better swarf ejection. This is Ideal for rough and medium boring.

## Double Cutting Capability



TAPER	Code No.	Boring Range D	Boring Depth M	C	C <sub>1</sub>	Shank Code No.	Spacer Code No.	P.256		Weight (kg)	Fig
								Head Code No.	Tip No.		
HSK100A	HSK100A-RAC 25-150K	25~32	67	15	24	HSK100A-Q12- 95	—	12-RAC 25- 55K	SC09	3.9	1
	-180K		105			-Q12-125				4.1	
	-195K		112			-Q12- 95				SP12-12-45	4.0
	-RAC 32-180K	32~45	77	31	50	-Q16-125N	—	16-RAC 32- 55K	SC09	4.6	1
	-210K		110			-Q16-155				4.8	
	-225K		122			-Q16-125N				SP16-16-45	4.8
	-RAC 43-180K	43~55	97	40	60	-Q20-110	—	20-RAC 43- 70K	SC12	4.9	1
	-195K		130			-Q20-125				5.0	
	225K		142			-Q20-110				SP20-20-45	5.3
	-240K	157	-Q20-110	SP20-20-60	5.4						
	-RAC 53-210K	53~70	117	53	65	-Q26-140	—	26-RAC 53- 70K	SC12	6.1	1
	-240K		182			-Q26-170N				6.2	
	-270K		177			-Q26-140				SP26-26-60	6.8
	-RAC 70-255K	70~100	202	64	80	-Q34-170	—	34-RAC 70- 85K	SC12	8.7	1
	-285K		232			-Q34-200				9.1	
	-315K		262			-Q34-170				SP34-34-60	10.1
	-RAC100-225K	100~130	225	83	83	-Q42-125	—	42-RAC100-100K	SC12	11.7	1
	-290K		290			-Q42-190				11.7	
	-315K		315			-Q42-125				SP42-42-90	15.1

★“C” grade (Coated) inserts are supplied as standard with the head. P.256 Please refer P.106 for cutting condition.

★Please refer P.267 for base holder, P.90 for spacer and P.67 for head.

★For centre through coolant type, please add “-C” at the end of Code No. e.g. HSK100A-RAC53-210K-C

★For HSK40A or 50A, modular connection system is applied. Please refer P.267 for Base Holder.

★HSK100A-RAC100-375K, 425K and 475K are also available.

★Lubrication Pipe is optional. Please refer P.298

## Insert tip for RAC-K

● : best ○ : good

Material	Steel	●	○
	Stainless Steel	●	○
Aluminium	Cast Iron	○	●
	Aluminium	○	●
	Coated Carbide M		Coated Carbide K
	Grade	C	
	Material	AC630M	AC410K
Applicable Arbor	Dimension	Code No.	Material Nose R
RAC25K, RAC32K		SC09-○4	0.4
RAC43K-RAC100K		SC12-○8	0.8

Please add the grade indication into ○, and add the insert tip material indication at the end off the Code No. e.g. SC12-C8 (AC630M)

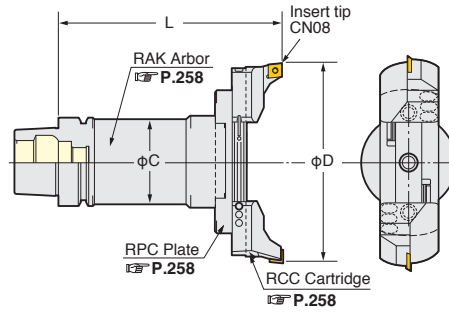
★Minimum order quantity : 10pcs.

HSK

# HSK BALANCE-CUT RAC BORING ARBOR for LARGE DIA. **NIKKEN**

**For Roughing**

- With the screws for slight adjustment
- Boring Dia. :  $\phi 130 \sim \phi 580\text{mm}$



**RAC**

**Boring Dia.:  $\phi 130 \sim 580\text{mm}$**

TAPE	Code.No	D	L	C	RAK Arbor Code No.	RPC Plate No.	RCC Cartridge No.	Weight (kg)
		MIN.~MAX.						
<b>HSK 63A</b>	<b>HSK 63A-RAC130-205</b>	130~180	205	61	<b>HSK 63A-RAK-130A</b>	<b>RPC-130</b>		6.9
	<b>-RAC180-205</b>	180~230						7.5
<b>HSK100A</b>	<b>HSK100A-RAC130-185</b>	130~180	185	90	<b>HSK100A-RAK-110A</b>	<b>RPC-130</b>	For Heavy Duty Boring of Iron and Cast Iron RCC-130 x2 Insert Tip CN08	9.3
	<b>-235</b>		235		<b>-160A</b>			11.8
	<b>-285</b>		285		<b>-210A</b>			14.5
	<b>-335</b>		335		<b>-260A</b>			17.2
	<b>-385</b>		385		<b>-310A</b>			19.9
	<b>-435</b>		435		<b>-360A</b>			22.6
	<b>-485</b>		485		<b>-410A</b>			25.3
	<b>-RAC180-185</b>		185		<b>-RAK-110A</b>			9.9
	<b>-235</b>	235	<b>-160A</b>		12.4			
		285	<b>-210A</b>		15.1			
		335	<b>-260A</b>		17.8			
		385	<b>-310A</b>		20.5			
		435	<b>-360A</b>		23.2			
		485	<b>-410A</b>		25.9			
		<b>-RAC230-185</b>	185		<b>-RAK-110A</b>	10.6		
		<b>-235</b>	235		<b>-160A</b>	13.1		
	285		<b>-210A</b>		15.8			
	335		<b>-260A</b>		18.5			
	385		<b>-310A</b>		21.2			
	435		<b>-360A</b>		23.9			
	485		<b>-410A</b>		26.6			
	<b>-RAC280-185</b>		185		<b>-RAK-110A</b>	11.2		
	<b>-235</b>		235		<b>-160A</b>	13.7		
		285	<b>-210A</b>		16.4			
		335	<b>-260A</b>		19.1			
		385	<b>-310A</b>		21.8			
		435	<b>-360A</b>		24.5			
		485	<b>-410A</b>		27.2			
<b>-RAC330-210</b>		330~380	210	98	<b>HSK100A-RAK330-125</b>	<b>RPC-330</b>	17.8	
<b>-RAC380-210</b>		380~430				<b>-380</b>	18.6	
<b>-RAC430-210</b>	430~448	<b>-430</b>				19.5		
<b>-RAC480-210</b>	480~530	<b>-480</b>				20.4		
<b>-RAC530-210</b>	530~580	<b>-530</b>				21.2		

★The Code No. on above table are the boring arbors with **RCC-130** cartridge (Insert tip: **CN08**) the Heavy Duty Boring of Iron and Cast Iron. Please refer P.106.

★Boring arbor with cartridges & insert for Steel, Stainless Steel and Cast Iron (E), for Aluminum (A) and for Through Hole & Multi Sheets (K) are available. Please refer P.258 for cartridges. e.g. **HSK100A-RAC130-185E**

★Please refer P.258 for **RAK** arbor and **RPC** plate.

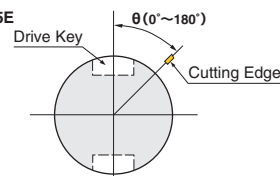
★Arbor, plate and cartridges are delivered in separate packages.

★Please check the interference of the arbor with your M/C not to occur the interference in the tool magazine.

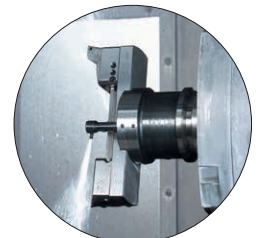
★The location of the cutting edge is same as the drive key for standard. The different location is available, please specify  $\theta$ . e.g. **HSK100A-RAC180-235-90°**

★For centre through coolant type, please add "C" at the end of Code No. e.g. **HSK100A-RAC130-185-C**

★Lubrication Pipe is optional. Please refer P.298



View from Cutting Edge



High Pressure Coolant Through Tool

# HSK MODULAR TYPE ARBOR



## BALANCE CUT RAK BORING ARBOR for LARGE DIA. <RAK Arbor>



RAK

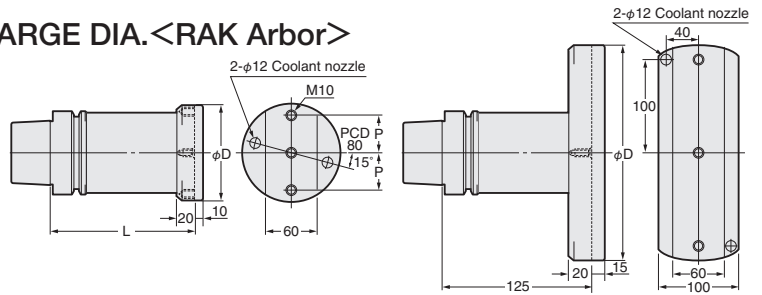


Fig.1

Fig.2

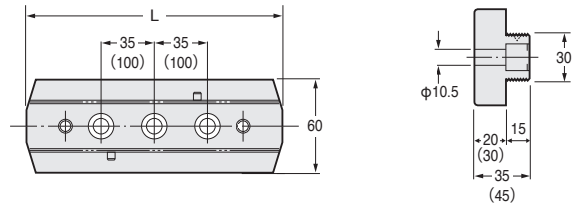
Code No.	Boring Range	L	D	P	Weight (kg)	Applicable RPC Plate	Hex. Socket bolt	Fig.
HSK 63A-RAK-130A	130~230	130	102	35	4.3	RPC-130, 180	M1035	1
HSK100A-RAK-110A	130~330	110			6.7	RPC-130, 180, 230, 280		
-RAK-160A		160			9.2			
-RAK-210A		210			11.9			
-RAK-260A		260			14.6			
-RAK-310A		310			17.3			
-RAK-360A		360			20.0			
-RAK-410A	410	22.7						
-RAK330-125	330~580	125	240	100	11.3	RPC-330, 380, 430, 480, 530	M1045	2

★The location of the cutting edge is same as the drive key for standard. The different location is available, please specify θ. e.g. HSK100A-RAK-160A(90°)

★For centre through coolant type, please add“-C”at the end of Code No. e.g. HSK100A-RAK-160A-C 2 set of coolant nozzles are standard accessory.



## BALANCE CUT PLATE for LARGE DIA. <RPC Plate>



Dimensions in ( ) are for RPC-330, 380, 430, 480 and 530.

Code No.	Boring Range	L	Weight(kg)	Code No.	Boring Range	L	Weight(kg)	Code No.	Boring Range	L	Weight(kg)
RPC-130	130~180	118	1.4	RPC-330	330~380	316	5.3	RPC-530	530~580	516	8.7
-180	180~230	166	2.0	-380	380~430	366	6.1				
-230	230~280	216	2.7	-430	430~480	416	7.0				
-280	280~330	266	3.3	-480	480~530	466	7.9				

## Accessories for Balance-Cut RAC

Steel, Stainless Steel and Cast Iron  
RCC-130 (CN08)

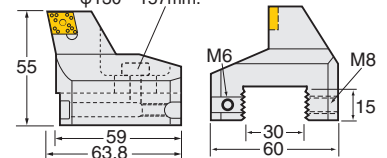
Heavy Duty Boring of Iron and Cast Iron  
RCC-130E (CC12)

For aluminum  
RCC-130A (AEG16)

For Through Hole and Multi Sheets  
RCC-130K (SC12)



Cartridge Lock Bolt  
Please remove the bolt when using RAC-130 type for φ130~157mm.



Weight : 0.6kg

Accessories	Insert Tip	Clamp Bolt	Adjust Screw	Adjust Wrench	Wrench for Insert	Set Screw (M8)	Wrench for M815 Bolt	Hex Socket Bolt	Applicable RPC Plate
Code No.	*	CSM-70	M540	M3	20S	M815	M4	M625	RPC-130, 180, 230, 280, 330, 380, 430, 480, 530

★\*: The insert tip is RCC-130:CN08 (P.252), RCC-130E:CC12 (P.250), RCC-130A:AEG16 (P.254), RCC-130K:SC12 (P.256) Please refer P.106 for cutting condition.

★There are two different types clamping system. One is eccentric system, the other is screw on system. Above parts are for screw on system.

★Code No. RCC-130 indicates a single cartridge. When ordering a pair cartridge, please appoint to us Code No. S.RCC-130.

★The Code No. of the cartridges for 2 stepped balance cut is SRCC-130(0.3)

# HSK ZMAC ADVANCED BORING ARBOR (ZMAC-V)



## Boring for Finishing



ZMAC-V

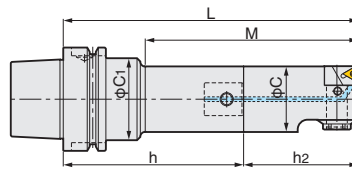


Fig.1

Only for ZMAC16-V

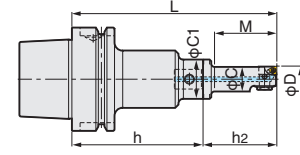


Fig.3

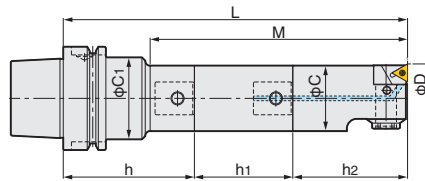


Fig.2

ZMAC100-V, 140-V

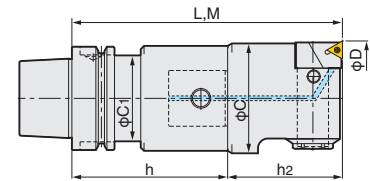


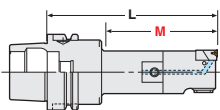
Fig.4

Code No. of the insert tip are shown.

JAPAN PAT.

TAPER	Code No.	Boring Range D	Boring Depth M	C	C <sub>1</sub>	Shank Code No.	Extension Spacer Code No.	P.109		Weight (kg)	Fig
								Head No.	Insert No.		
HSK63A	HSK63A-ZMAC16-125V	15.8~20.2	38	15	24	HSK63A-Q12- 80	—	12-ZMAC16- 45V	3MP-C,B	1.6	3
	-135V		48					12-ZMAC16- 55V		1.6	
	-ZMAC20-120V	19.8~25.2	45	19	30	-Q 9- 80	—	9-ZMAC20- 40V		1.6	1
	-135V		67							-Q 9- 95N	
	-150V		75							-Q 9- 80	1.7
	-ZMAC25-120V	24.8~32.2	52	24	35	-Q12- 80	—	12-ZMAC25- 40V		1.7	1
	-150V		90							-Q12-110	
	-165V		97							-Q12- 80	1.8
	-ZMAC32-150V	31.8~42.2	77	31	42	-Q16- 95	—	16-ZMAC32- 55V		2.2	1
	-180V		110							-Q16-125	
	-195V		122							-Q16- 95	2.4
	-ZMAC42-150V	41.8~55.2	97	40	50	-Q20- 80	—	20-ZMAC42- 70V		2.7	1
	-180V		130							-Q20-110	
	-210V		157							-Q20- 80	3.1
	-ZMAC55-165V	54.8~70.2	135	53	50	-Q26- 95	—	26-ZMAC55- 70V		3.6	1
	-210V		180							-Q26-140	
	-225V		195							-Q26- 95	4.3
	-ZMAC70-165V	69.8~85.2	165	67	52.4	-Q34- 95	—	34-ZMAC70- 70V		5.1	4
-180V	180		-Q34-110						5.5		
-225V	225		-Q34- 95						6.5		
-ZMAC85-195V	84.8~100.2	195	83	52.4	-Q42- 95	—	42-ZMAC85-100V	8.7			

- ★Minimum reading unit (diameter) ZMAC16V, ZMAC20V (main scale 0.02mm only) ZMAC25V (main scale 0.02mm / vernier scale 0.005mm) ZMAC32V to ZMAC140V (main scale 0.01mm / vernier scale 0.005mm).
- ★“C” grade (Coated) insert for Steel, Stainless & Cast Iron is supplied as Standard with the head (Smooth boring & Long tool-life). P.109 Please refer P.107 for cutting condition. We would recommend “B” grade (CBN) insert for Hardened Steel & High Speed boring of Cast Iron.
- ★Please refer P.267 for base holder, P.90 for spacer and P.75, P.76 for head.
- ★Centre Through Coolant function is available as standard.
- ★For HSK40A or 50A, modular connection system is applied. Please refer P.267 for Base Holder.
- ★When L length is required longer than standard, please specify boring depth M.
- ★Lubrication Pipe is optional. Please refer P.298



Boring Arbor with Extension Spacer

ZMAC-V for Multi-Stage Boring Bar P.95

Please contact us for the special boring bar.

High Pressure Coolant Through Tool



# HSK ZMAC ADVANCED BORING ARBOR (ZMAC-V)

**NIKKEN**

■ With ZMAC $\alpha$ -V Boring Head  
Please add "AA" at the end of Code No.  
e.g. HSK63A-ZMAC42-150AAV



ZMAC $\alpha$ -V

Diameter can be adjusted easily and quickly by new handle with wrench.



Unlock







Adjust diameter

Lock

Code No. of the insert tip   are shown.

JAPAN PAT.

TAPER	Code No.	Boring Range D	Boring Depth M	C	C <sub>1</sub>	Shank Code No.	Extension Spacer Code No.	P.109		Weight (kg)	Fig	
								Head No.	Insert No.			
HSK100A	HSK100A-ZMAC 16-140V	15.8~20.2	38	15	24	HSK100A-Q12- 95	—	12-ZMAC 16- 45V	3MP-C,B	3.9	3	
	-150V		48					12-ZMAC 16- 55V		3.9		
	-ZMAC 20-150V	19.8~25.2	45	19	40	-Q 9-110	—	9-ZMAC 20- 40V	3MP-C,B	4.0	1	
	-165V		67							-Q 9-125N		4.0
	-180V		75							-Q 9-110		4.1
	-ZMAC 25-135V	24.8~32.2	52	24	44	-Q12- 95	—	12-ZMAC 25- 40V	3MP-C,B	4.0	1	
	-165V		90							-Q12-125		4.0
	-180V		97							-Q12- 95		4.1
	-ZMAC 32-180V	31.8~42.2	77	31	50	-Q16-125N	—	16-ZMAC 32- 55V	4MP-C,B	4.7	1	
	-210V		110							-Q16-155		4.8
	-225V		122							-Q16-125N		4.9
	-ZMAC 42-180V	41.8~55.2	97	40	60	-Q20-110	—	20-ZMAC 42- 70V	6MP-C,B	5.2	1	
	-195V		130							-Q20-125		5.2
	-225V		142							-Q20-110		5.6
	-240V		157							-Q20-110		5.7
	-ZMAC 55-210V	54.8~70.2	117	53	65	-Q26-140	—	26-ZMAC 55- 70V	6MP-C,B	6.7	1	
	-240V		182							-Q26-170N		6.8
	-270V		177							-Q26-140		8.3
	-ZMAC 70-240V	69.8~85.2	187	67	80	-Q34-170	—	34-ZMAC 70- 70V	6MP-C,B	9.2	1	
	-270V		217							-Q34-200		9.8
	-300V		247							-Q34-170		10.7
	-ZMAC 85-225V	84.8~100.2	187	83	—	-Q42-125	—	42-ZMAC 85-100V	6MP-C,B	11.7	1	
	-290V		252							-Q42-190		14.2
	-315V		277							-Q42-125		15.2
	-ZMAC100-225V	99.5~140.5	225	95	98	-Q42-125	—	42-ZMAC100-100V	6MP-C,B	11.6	4	
	-290V		290							-Q42-190		14.3
	-325V		325							-Q42-225A		17.0
	-375V		375							-Q42-275A		19.7
	-425V		425							-Q42-325A		22.4
	-ZMAC140-225V		139.5~180.5							225		135
-290V	290	-Q42-190		15.7								
-325V	325	-Q42-225A		18.4								
-375V	375	-Q42-275A		21.1								
-425V	425	-Q42-325A		23.8								

★Minimum reading unit (diameter) ZMAC16V, ZMAC20V (main scale 0.02mm only) ZMAC25V (main scale 0.02mm / vernier scale 0.005mm) ZMAC32V to ZMAC140V (main scale 0.01mm / vernier scale 0.005mm).  
★When L length is required longer than standard, please specify boring depth M. ★Centre Through Coolant function is available as standard.  
★"C" grade (Coated) insert for Steel, Stainless&Cast Iron is supplied as Standard with the head (Smooth boring & Long tool-life).  P.109  
We would recommend "B" grade (CBN) insert for Hardened Steel & High Speed boring of Cast Iron. Please refer  P.107 for cutting condition.  
★Please refer  P.267 for base holder,  P.90 for spacer and  P.75, P.76 for head.  
★Lubrication Pipe is optional. Please refer  P.298

HSK

## Boring for Semi-Finishing—ZMAC-VR



ZMAC-VR

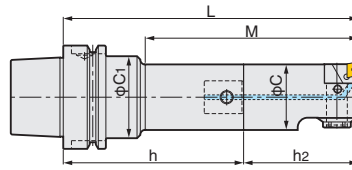


Fig.1

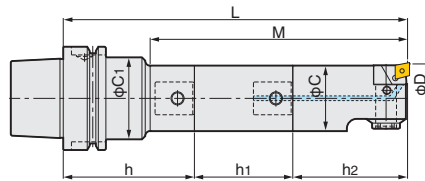


Fig.2

ZMAC100-VR, 140-VR

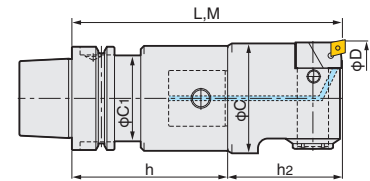


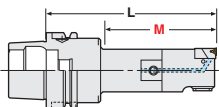
Fig.3

Code No. of the insert tip are shown.

JAPAN PAT.

TAPER	Code No.	Boring Range D	Boring Depth M	C	C <sub>1</sub>	Shank Code No.	Extension Spacer Code No.	P.262		Weight (kg)	Fig	
								Head No.	Insert No.			
HSK63A	HSK63A-ZMAC32R-150V	31.8~42.2	77	31	42	HSK63A-Q16- 95	—	16-ZMAC32R- 55V	CC06-C	2.2	1	
	-180V		110			-Q16-125				2.4		
	-195V		122			-Q16- 95				2.4		
		ZMAC42R-150V	41.8~55.2	97	40	50	-Q20- 80	—	20-ZMAC42R- 70V	CC06-C	2.7	1
	-180V	130		-Q20-110			2.9					
	-210V	157		-Q20- 80			3.1					
		ZMAC55R-165V	54.8~70.2	135	53	50	-Q26- 95	—	26-ZMAC55R- 70V	CC06-C	3.6	1
	-210V	180		-Q26-140			4.3					
	-225V	195		-Q26- 95			4.3					
		ZMAC70R-165V	69.8~85.2	165	67	52.4	-Q34- 95	—	34-ZMAC70R- 70V	CC08-C	5.1	4
	-180V	180		-Q34-110			5.5					
	-225V	225		-Q34- 95			6.5					
	ZMAC85R-195V	84.8~100.2	195	83	52.4	-Q42- 95	—	42-ZMAC85R-100V		8.7		

- ★Minimum reading unit (diameter) ZMAC32VR to ZMAC85VR (main scale 0.01mm / vernier scale 0.005mm).
- ★“C” grade (Coated) insert for Steel, Stainless & Cast Iron is supplied as Standard with the head (Smooth boring & Long tool-life). P.262 Please refer P.107 for cutting condition. We would recommend “B” grade (CBN) insert for Hardened Steel & High Speed boring of Cast Iron.
- ★Please refer P.267 for base holder, P.90 for spacer and P.75, P.76 for head.
- ★Centre Through Coolant function is available as standard.
- ★For HSK40A or 50A, modular connection system is applied. Please refer P.267 for Base Holder.
- ★When L length is required longer than standard, please specify boring depth M.
- ★Lubrication Pipe is optional. Please refer P.298



Boring Arbor with Extension Spacer

ZMAC-V for Multi-Stage Boring Bar P.95

High Pressure Coolant Through Tool

Please contact us for the special boring bar.



# HSK ZMAC ADVANCED BORING ARBOR (ZMAC-VR)



## Insert Tip for ZMAC-VR

●:best ○:good

Material	Steel		●	○
	Stainless Steel		●	○
	Cast Iron		○	●
Material	Aluminium		○	○
	High Speed finish for Cast Iron		○	○
	Hardened Steel		○	○
	High Speed finish for Aluminium		○	○

Applicable Arbor	Dimension	Code No.	Nose R	Coated Carbide M	Coated Carbide K
				Grade C	
				Material	Material
				AC630M	AC410K
ZMAC32-VR, ZMAC42-VR, ZMAC55-VR		CC06-○4	0.4	●	●
		CC06-○8	0.8	●	●
		CC08-○4	0.4	●	●
ZMAC70-VR, ZMAC85-VR		CC08-○4	0.4	●	●
		CC08-○8	0.8	●	●
		CC12-○4	0.4	●	●
ZMAC100-VR, ZMAC140-VR		CC12-○4	0.4	●	●
		CC12-○8	0.8	●	●

Please add the grade indication into ○, and add the insert tip material indication at the end off the Code No. e.g. CC12-C8(AC630M)

There is the CBN insert tip which both corners can be used. Please refer P.109 for ISO code of the insert tip.



Code No. of the insert tip are shown.

TAPER	Code No.	Boring Range D	Boring Depth M	C	C <sub>1</sub>	Shank Code No.	Extension Spacer Code No.	P.262		Weight (kg)	Fig
								Head No.	Insert No.		
HSK100A	HSK100A-ZMAC 32R-180V	31.8~42.2	77	31	50	HSK100A-Q16-125N	—	16-ZMAC 32R- 55V	CC06-C	4.7	1
	-210V		110			-Q16-155				4.8	
	-225V		122			-Q16-125N				4.9	
	-ZMAC 42R-180V	41.8~55.2	97	40	60	-Q20-110	—	20-ZMAC 42R- 70V	CC06-C	5.2	1
	-195V		130			-Q20-125				5.2	
	-225V		142			-Q20-110				5.6	
	-240V	157	-Q20-110	5.7							
	-ZMAC 55R-210V	54.8~70.2	117	53	65	-Q26-140	—	26-ZMAC 55R- 70V	CC06-C	6.7	1
	-240V		182			-Q26-170N				6.8	
	-270V		177			-Q26-140				8.3	
	-ZMAC 70R-240V	69.8~85.2	187	67	80	-Q34-170	—	34-ZMAC 70R- 70V	CC08-C	9.2	1
	-270V		217			-Q34-200				9.8	
	-300V		247			-Q34-170				10.7	
	-ZMAC 85R-225V	84.8~100.2	187	83	—	-Q42-125	—	42-ZMAC 85R-100V	CC08-C	11.7	1
	-290V		252			-Q42-190				14.2	
	-315V		277			-Q42-125				15.2	
	-ZMAC100R-225V	99.5~140.5	225	95	83	-Q42-125	—	42-ZMAC100R-100V	CC12-C	11.6	4
	-290V		290			-Q42-190				14.3	
	-325V		325			-Q42-225A				17.0	
	-375V	375	-Q42-275A	19.7							
	-425V	425	-Q42-325A	22.4							
	-ZMAC140R-225V	139.5~180.5	225	135	83	-Q42-125	—	42-ZMAC140R-100V	CC12-C	13.0	4
	-290V		290			-Q42-190				15.7	
	-325V		325			-Q42-225A				18.4	
-375V	375		-Q42-275A			21.1					
-425V	425		-Q42-325A			23.8					

★Minimum reading unit (diameter) ZMAC32VR to ZMAC85VR (main scale 0.01mm / vernier scale 0.005mm).

★When L length is required longer than standard, please specify boring depth M. ★Centre Through Coolant function is available as standard.

★"C" grade (Coated) insert for Steel, Stainless&Cast Iron is supplied as Standard with the head (Smooth boring & Long tool-life). P.262

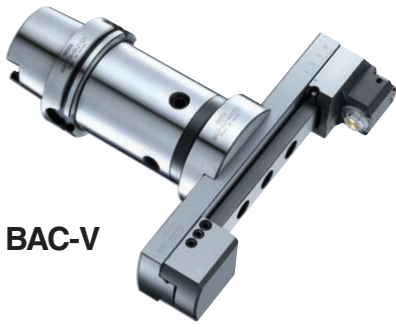
We would recommend "B" grade (CBN) insert for Hardened Steel & High Speed boring of Cast Iron. Please refer P.107 for cutting condition.

★Please refer P.267 for base holder, P.90 for spacer and P.75, P.76 for head.

★Lubrication Pipe is optional. Please refer P.298

# HSK BALANCE-CUT BAC ADVANCED BORING ARBOR for LARGE DIA.

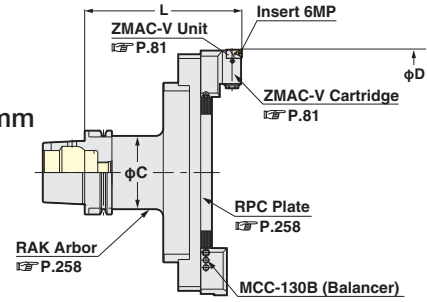
**NIKKEN**



BAC-V

**For Finishing**

- MIN. dial readout on dia. : 0.01mm
- Boring Dia :  $\phi 130 \sim \phi 595\text{mm}$

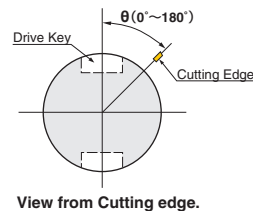


Boring Dia:  $\phi 130 \sim 595\text{mm}$

JAPAN PAT. **P.109**

TAPER	Code.No	D		L	C	RAK Arbor Code No.	PPC Plante No	Cartridge (Balancer)	Weight (kg)
		MIN.	MAX.						
HSK 63A	HSK 63A-BAC130-205V	130	195	205	61	HSK 63A-RAK-130A	RPC-130		6.5
	-BAC180-205V	180	245						7.5
HSK100A	HSK100A-BAC130-185V	130	195	185	90	HSK100A-RAK-110A	RPC-130	MCCZ-130V (MCC-130B) Insert 6MP	9.5
	-235V			235		-160A			12.0
	-285V			285		-210A			14.7
	-335V			335		-260A			17.3
	-385V			385		-310A			20.1
	-435V			435		-360A			22.8
	-485V			485		-410A			25.5
	-BAC180-185V			185		-RAK-110A			10.1
	-235V	235	-160A	12.6					
	-285V	285	-210A	15.3					
	-335V	335	-260A	18.0					
	-385V	385	-310A	20.7					
	-435V	435	-360A	23.3					
	-485V	485	-410A	26.1					
	-BAC230-185V	185	-RAK-110A	10.8					
	-235V	235	-160A	13.3					
	-285V	285	-210A	16.0					
	-335V	335	-260A	18.7					
	-385V	385	-310A	21.3					
	-435V	435	-360A	24.1					
	-485V	485	-410A	26.8					
	-BAC280-185V	185	-RAK-110A	11.4					
	-235V	235	-160A	13.9					
	-285V	285	-210A	16.6					
-335V	335	-260A	19.3						
-385V	385	-310A	22.0						
-435V	435	-360A	24.7						
-485V	485	-410A	27.4						
-BAC330-210V	330	395	210	98	HSK100A-RAK330-125	RPC-330	18.0		
-BAC380-210V	380	445				-380	18.8		
-BAC430-210V	430	495				-430	19.7		
-BAC480-210V	480	545				-480	20.6		
-BAC530-210V	530	595				-530	21.4		

- ★ "C" grade (Coated) Inserts are supplied as standard. P.109 Please refer P.107 for cutting condition.
- ★ Unit "M5HZ-55V" is provided as standard, please refer P.258 for Arbor (RAK) and Plate (RPC).
- ★ Arbor, Plate and Cartridge are delivered in separate packages.
- ★ When ordering, please let us know machine maker and model no. to avoid the interference with tool magazine of ATC.
- ★ The location of cutting edge is same as drive key in standard.  
The different location is available, please specify  $\theta$  in Code No. e.g. HSK100A-BAC180-235V (90°)
- ★ For centre through coolant type, please add "C" at the end of Code No. e.g. HSK100A-BAC130-185V-C
- ★ Lubrication Pipe is optional. Please refer P.298



High Pressure Coolant Through Tool

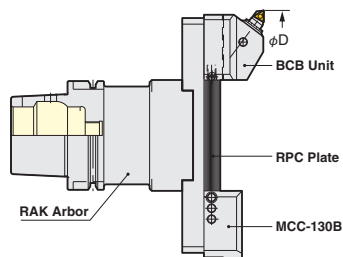


# BALANCE-CUT BCB BORING ARBOR for LARGE DIA.



BCB

For Roughing / Finishing



Boring Dia:  $\phi 130 \sim 595\text{mm}$

TAPER	Code.No	D		L	C	RAK Arbor Code No.	RPC Plante No	Cartridge (Balancer)	Weight (kg)
		MIN.	MAX.						
HSK 63A	HSK 63A-BCB130-215	130	195	215	61	HSK 63A-RAK-130A	RPC-130		6.9
	-BCB180-215	180	245						7.9
HSK100A	HSK100A-BCB130-195	130	195	195	90	HSK100A-RAK-110A	RPC-130	BCB-130 (MCC-130B)	9.8
	-245			245		-160A			12.3
	-295			295		-210A			15.0
	-345			345		-260A			17.7
	-395			395		-310A			20.4
	-445			445		-360A			23.1
	-495			495		-410A			25.8
	-BCB180-195			195		HSK100A-RAK-110A			10.2
	-245	245	-160A	12.9					
	-295	295	-210A	15.6					
	-345	345	-260A	18.3					
	-395	395	-310A	21.0					
	-445	445	-360A	23.7					
	-495	495	-410A	26.4					
	-BCB230-195	195	HSK100A-RAK-110A	10.9					
	-245	245	-160A	13.6					
	-295	295	-210A	16.3					
	-345	345	-260A	19.0					
	-395	395	-310A	21.7					
	-445	445	-360A	24.4					
	-495	495	-410A	27.1					
	-BCB280-195	195	HSK100A-RAK-110A	11.5					
	-245	245	-160A	14.2					
	-295	295	-210A	16.9					
	-345	345	-260A	19.6					
	-395	395	-310A	22.3					
	-445	445	-360A	25.0					
	-495	495	-410A	27.7					
-BCB330-220	330	395	220	98	HSK100A-RAK330-125	RPC-330	Insert 10MP	18.1	
-BCB380-220	380	445				-380		18.9	
-BCB430-220	430	495				-430		19.8	
-BCB480-220	480	545				-480		20.7	
-BCB530-220	530	595				-530		21.5	

★10MP-T (Cermet) is supplied as standard. P.111 Please refer P.106 for cutting condition.  
 ★MIN. dial readout on dia.: 0.02mm, Sub scale: 0.002mm  
 ★Lubrication Pipe is optional. Please refer P.298

Up to  $\phi 800$  is also available. Please contact with us.

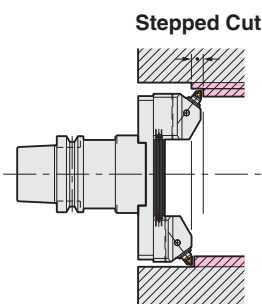
## Double Cut Style BCB Boring Bar



BCB-W

★Double cut style can be done with both side of BCB-130 cartridges. Please add "W" at the end of Code No. e.g. BT50-BCB130W-195

- True balance cut can be done to adjust the height by micro adjustment first and then to adjust the diameter by adjust screw.
- Stepped cut can be done to change the height of the cartridges.



HSK

# BALANCE-CUT BORING ARBOR for LARGE DIA. ULTRA-LIGHT WEGHT



## RAC $\alpha$ BORING ARBOR

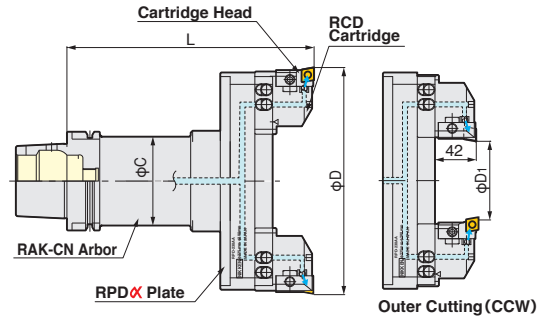
For Roughing

- With the screws for slight adjustment
- Boring Dia :  $\phi 130 \sim \phi 580 \text{mm}$



RAC $\alpha$

High Pressure Coolant Through Tool

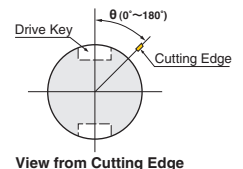


P.62

Boring Dia. :  $\phi 130 \sim 580 \text{mm}$  / Outer Cutting Dia. :  $\phi 10 \sim 430 \text{mm}$

TAPE	Code.No	D		L	D1		C	RAK-CN Arbor Code No.*1	RPD $\alpha$ Plate No.	RCD Cartridge No.	Weight (kg)
		MIN.~MAX.			MIN.~MAX.						
HSK63A	HSK 63A-RAC130-225AA	130~180		225	10~30		61	HSK 63A-RAK-130A	RPD-130AA		6.6
	-RAC180-225AA	180~230			30~80						-180AA
HSK100A	HSK100A-RAC130-205AA	130~180		205	10~30	90		HSK100A-RAK-110A	RPD-130AA	For Heavy Duty Boring of Iron and Cast Iron RCD-130 x2 Insert CN08	9.0
	-255AA		255	-160A				11.5			
	-305AA		305	-210A				14.2			
	-355AA		355	-260A				16.9			
	-405AA		405	-310A				19.6			
	-455AA		455	-360A				22.3			
	-505AA		505	-410A				25.0			
	-RAC180-205AA		205	-RAK-110A				9.5			
	-255AA	255	-160A	12.0							
	-305AA	305	-210A	14.7							
	-355AA	355	-260A	17.4							
	-405AA	405	-310A	20.1							
	-455AA	455	-360A	22.8							
	-505AA	505	-410A	25.5							
	-RAC230-205AA	205	-RAK-110A	10.1							
	-255AA	255	-160A	12.6							
	-305AA	305	-210A	15.3							
	-355AA	355	-260A	18.0							
	-405AA	405	-310A	20.7							
	-455AA	455	-360A	23.4							
	-505AA	505	-410A	26.1							
	-RAC280-205AA	205	-RAK-110A	10.6							
	-255AA	255	-160A	13.1							
	-305AA	305	-210A	15.8							
-355AA	355	-260A	18.5								
-405AA	405	-310A	21.2								
-455AA	455	-360A	23.9								
-505AA	505	-410A	26.6								
-RAC330-220AA	330~380		180~230	220	98	HSK100A-RAK330-125	RPD-330AA	15.7			
-RAC380-220AA	380~430		230~280				-380AA	16.2			
-RAC430-220AA	430~480		280~330				-430AA	16.7			
-RAC480-220AA	480~530		330~380				-480AA	17.2			
-RAC530-220AA	530~580		380~430				-530AA	17.7			

- \*The Code No. on above table are the boring arbors with RCD-130 cartridge (Insert tip: CN08) the Heavy Duty Boring of Iron and Cast Iron. Please refer P.106 for cutting condition.
- \*Boring arbor with cartridges & insert for Steel, Stainless Steel and Cast Iron (E), for Aluminum (A) and for Through Hole & Multi Sheets (K) are available. Please refer P.84 for cartridges. e.g. HSK100A-RAC130-205AA-E
- \*Please refer P.84 for RAK arbor and RPD plate.
- \*Arbor, plate and cartridges are delivered in separate packages.
- \*Please check the interference of the arbor with your M/C not to occur the interference in the tool magazine.
- \*The location of the cutting edge is same as the drive key for standard. The different location is available, please specify  $\theta$ . e.g. HSK100A-RAC180-255AA (90°)
- \*Lubrication Pipe is optional. Please refer P.298
- \*When cutting the outer diameter, use the spindle in reverse rotation.



# BALANCE-CUT BORING ARBOR for LARGE DIA. ULTRA-LIGHT WEGHT

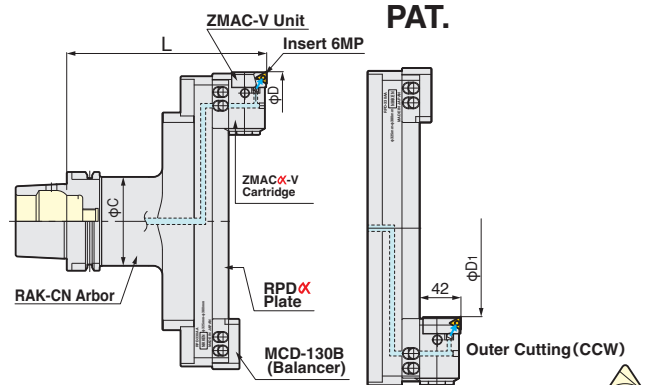


## BAC $\alpha$ ADVANCED BORING ARBOR



**BAC  $\alpha$ -V**  
High Pressure Coolant  
Through Tool

For Finishing



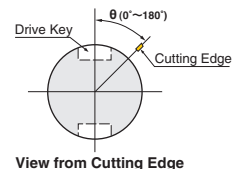
Boring Dia. :  $\phi 130 \sim 580$ mm / Outer Cutting Dia. :  $\phi 10 \sim 430$ mm

JAPAN PAT.



TAPE	Code.No	D		L	D <sub>1</sub>		C	RAK-CN Arbor Code No.*1	RPD $\alpha$ Plate No.	Cartridge (Balancer)	Weight (kg)
		MIN.~MAX.			MIN.~MAX.						
HSK63A	HSK 63A-BAC130-225AAV	130~180		225	10~30		61	HSK 63A-RAK-130A	RPD-130AA		6.9
	-BAC180-225AAV	180~230			30~80						7.4
HSK100A	HSK100A-BAC130-205AAV	130~180		205	10~30		90	HSK100A-RAK-110A	RPD-130AA		9.3
	-255AAV		255	11.8							
	-305AAV		305	14.5							
	-355AAV		355	17.2							
	-405AAV		405	19.9							
	-455AAV		455	22.6							
	-505AAV		505	25.3							
	-BAC180-205AAV		205	9.8							
	-255AAV	255	12.3								
	-305AAV	305	15.0								
	-355AAV	355	17.7								
	-405AAV	405	20.4								
	-455AAV	455	23.1								
	-505AAV	505	25.8								
	-BAC230-205AAV	205	10.4								
	-255AAV	255	12.9								
	-305AAV	305	15.6								
	-355AAV	355	18.3								
	-405AAV	405	21.0								
	-455AAV	455	23.7								
	-505AAV	505	26.5								
	-BAC280-205AAV	205	10.9								
	-255AAV	255	13.4								
	-305AAV	305	16.1								
	-355AAV	355	18.8								
	-405AAV	405	21.5								
	-455AAV	455	24.2								
	-505AAV	505	26.9								
-BAC330-220AAV	330~380		180~230		98	HSK100A-RAK330-125		RPD-330AA		16.0	
-BAC380-220AAV	380~430		230~280							-380AA	16.5
-BAC430-220AAV	430~480		280~330							-430AA	17.0
-BAC480-220AAV	480~530		330~380							-480AA	17.5
-BAC530-220AAV	530~580		380~430							-530AA	18.0

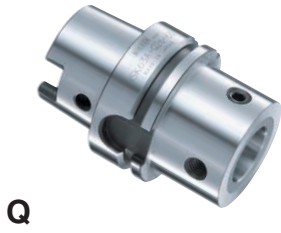
- ★ "C" grade (Coated) Inserts are supplied as standard. P.109  
Please refer P.107 for cutting condition.
- ★ Unit "M10HZ-75V" is provided as semi-standard,  
please refer "M10HZ-85V" P.86 for Arbor (RAK) and Plate (RPD).
- ★ Arbor, Plate and Cartridge are delivered in separate packages.
- ★ When ordering, please let us know machine maker and model no.  
to avoid the interference with tool magazine of ATC.
- ★ The location of cutting edge is same as drive key in standard.  
The different location is available, please specify  $\theta$  in  
Code No. e.g. HSK100A-BAC180-255AAV (90°)
- ★ Lubrication Pipe is optional. Please refer P.298
- ★ When using it for outer diameter cutting, the spindle will rotate in reverse.



HSK

# HSK BASE HOLDER for MODULAR TYPE

**NIKKEN**



Q

Fig.1

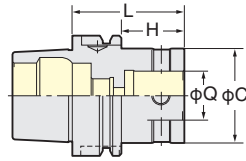


Fig.2

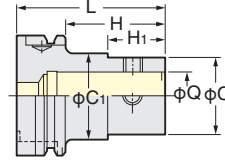
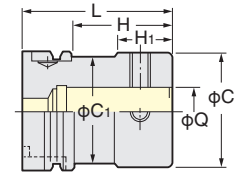
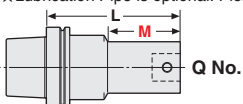


Fig.3

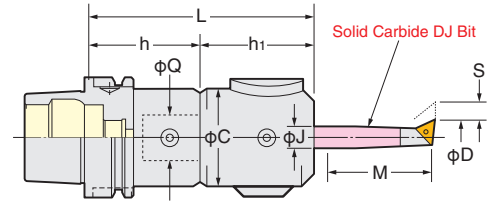


TAPER	Code No.	Q	L	C	C1	H	H1	Coupling Bolt No.	Fig.	Weight(kg)	
<b>HSK 40A</b>	<b>HSK 40A-Q26- 75</b>	26	75	50	33.6	55	40	B26N	3	0.8	
<b>HSK 50A</b>	<b>HSK 50A-Q26- 75</b>	26	75	50	41.6	48	33	B26N	3	1.1	
<b>HSK 63A</b>	<b>HSK 63A-Q 9- 80</b>	9	80	19	30	49	5	B19	2	0.7	
	<b>- 95N</b>		95			64	27			0.7	
	<b>-Q12- 80</b>	12	80	24	35	49	12	B12	2	0.8	
	<b>-110</b>		110			79	50			0.8	
	<b>-Q16- 95</b>	16	95	31	42	64	22	B16	2	1.0	
	<b>-125</b>		125			94	55			1.1	
	<b>-Q20- 80</b>	20	80	40	50	53	27	B20	2	1.4	
	<b>-110</b>		110			83	60			1.3	
	<b>-Q26- 60</b>	26	60	50	—	33	—	B26N	1	1.0	
	<b>- 95</b>		95			68				113	1.5
	<b>-140</b>		140			113					2.3
	<b>-Q34- 95</b>	34	95	64	52.4	68	53	B34	3	2.0	
	<b>-110</b>		110			83	68			2.4	
	<b>-Q42- 95</b>	42	95	83	52.4	68	35	B42	3	2.5	
<b>HSK100A</b>	<b>HSK100A-Q 9-110</b>	9	110	19	40	76	5	B19	2	2.3	
	<b>-125N</b>		125			91	27			2.3	
	<b>-Q12- 95</b>	12	95	24	44	61	12	B12	2	2.3	
	<b>-125</b>		125			91	50			2.3	
	<b>-Q16-125N</b>	16	125	31	50	91	22	B16	2	2.8	
	<b>-155</b>		155			121	55			2.9	
	<b>-Q20-110</b>	20	110	40	60	76	27	B20	2	2.9	
	<b>-125</b>		125			91	60			3.0	
	<b>-Q26- 65</b>	26	65	50	65	33	—	B26N	1	2.4	
	<b>-140</b>		140			106			45	2	4.5
	<b>-170N</b>		170			136			110	4.6	
	<b>-Q34-140</b>	34	140	64	80	106	—	B34	1	4.4	
	<b>-170</b>		170			138			117	2	5.3
	<b>-200</b>		200			168			147	5.9	
	<b>-Q42-125</b>	42	125	83	—	95	—	B42	1	5.3	
	<b>-190</b>		190			160				7.9	
	<b>-Q42-225A</b>	42	225	83	—	—	—	B42	1	11.7	
	<b>-275A</b>		275							14.4	
	<b>-325A</b>		325							17.1	
	<b>-375A</b>		375							19.8	

- ★φC of Q26 base holder has been increased from 45mm to 50mm due to improvement of its rigidity.
- ★All base holders have a centre through coolant hole.
- ★The Coupling screw & wrench are supplied as standard.
- ★When L length is required longer than standard, please specify the boring depth M.
- ★Lubrication Pipe is optional. Please refer to P.298



# HSK DJ BORING BAR



DJ

High Pressure Coolant Through Tool is available.



TAPER	Code No.	Boring Range	Boring Depth	L	C	Bit Hole Size	Shank Code No.	Head Code No.	Bit Stroke	DJ Bit Code No.
		D	M			J				
HSK 63A	HSK 63A-DJ3-100A	3~28	14~ 80	100	50	10	HSK 63A-Q26- 60	Q26-DJ3-40A	5.2	J10
	-135A			135						
	-DJ8-104AN	3~50	14~130	104	59	16	HSK 63A-Q26- 60	-DJ8-44AN	6.0	J16
	-139AN			139						
HSK100A	HSK100A -DJ3-105A	3~28	14~ 80	105	50	10	HSK100A-Q26- 65	Q26-DJ3-40A	5.2	J10
	-210A			210						
	-DJ8-109AN	3~50	14~130	109	59	16	HSK100A-Q26- 65	-DJ8-44AN	6.0	J16
	-214AN			214						

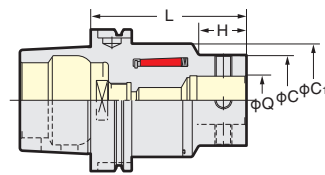
- ★MIN. dial readout on dia.: 0.01mm, Sub scale: 0.005mm, 0.8mm/rev.
- ★Each boxed set of DJ3 and DJ8 Boring Bars include 4 pcs of DJ Boring Bits as standard.
- Bits included to HSK63A-DJ8-104A : J16-8-40, J16-18-80, J16-28-85, J16-38-85
- Bits included to HSK63A-DJ8-104AN : J16-8-40, J16-18-60, J16-28-65, J16-38-65
- ★DJ Boring Bar without Boring Bits is also available. Please add"-BD" at the end of Code No. e.g. HSK63A-DJ3-100A-BD
- ★Shank and DJ Head (including Boring Bits) are delivered in separate packages.
- ★Please refer P.88 for Boring Bits. Please refer P.108 for cutting condition.
- ★Lubrication Pipe is optional. Please refer P.298

## MAJOR DREAM HOLDER

# HSK BASE HOLDER for MODULAR TYPE



JAPAN PAT.

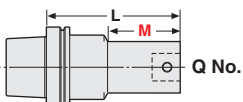


MDQ

Photo shows with spacer and ZMAC-V head.

TAPER	Code No.	Q	L	C	C1	H	Weight(kg)	ZMAC-V Boring Range
HSK 50A	HSK 50A-MDQ26- 95	26	95	50	50	95.0	1.2	16~70
HSK 63A	HSK 63A-MDQ26-100	26	100	50	52.4	30.0	1.5	16~70
HSK100A	HSK100A-MDQ26-135	26	135	50	80	18.0	5.2	16~70
	-MDQ34-140	34	140	64		27.5	5.3	16~85
	-MDQ42-150	42	150	83		121	6.1	16~180

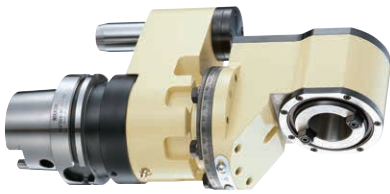
- ★All base holders have a centre through coolant hole.
- ★The coupling bolt and wrench are supplied as standard.
- ★When L length is required longer than standard, please specify the boring depth M and Q No.
- ★Lubrication Pipe is optional. Please refer P.298



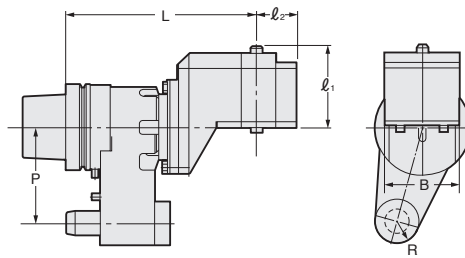
# QUICK TYPE ANGULAR HEAD (Free Positioning in 360°)



## Quick type Off-Set Angular Head



**AFT**



Explanation of the Code No.

**HSK63A - AF T 30 - 210**

- Length from Gauge Line
- Taper No. of Adapter
- Quick type
- Off-Set type Angular Head
- Shank

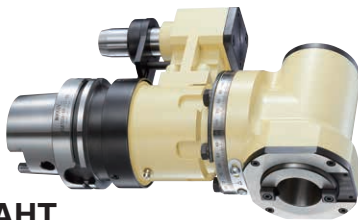
MAX2,000r/min

TAPER	Code No.	Shank	L	P	$l_1$	$l_2$	B	R	Adapter	Weight (kg)
HSK 63A	HSK 63A-AFT30-210	HSK 63A	210	65	85	35	70	17.5	AHK30	7.5
HSK100A	HSK100A-AFT35-237	HSK100A	237	110	85	45	84	25	AHK35	16.0

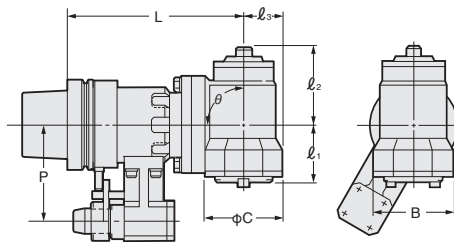
★Taper Connection System is applied to Stopper Block. (Different from the another FA Tooling) ★All types are available with Oil Hole System. ★Test bar is attached as standard.  
 ★Stopper block is available as an option. When ordering, please inform your M/C maker and Model as well as your M/C spindle flange dimension.  
 ★When M/C spindle rotates CW, the cutter rotates CW.



## Quick type 90° Angular Head



**AHT**



Explanation of the Code No.

**HSK63A - AH T 30 - 165 - 90**

- Angle
- Length from Gauge Line
- Taper No. of Adapter
- Quick type
- Symbol of Angular Head
- Shank

MAX2,000r/min

TAPER	Code No.	L	$\theta$	Shank	L	P	$l_1$	$l_2$	$l_3$	C	B	$\theta$	Adapter	Weight (kg)
HSK 63A	HSK 63A-AHT30-165 -90	165	90	HSK 63A	65	58	61	37	86	80	90	90	AHK30	6.5
	-250* -90													250
HSK100A	HSK100A-AHT35-217 -90	217	90	HSK100A	110	65	88	45	100	90	90	90	AHK35	17.0
	-300* -90													300

★Taper Connection System is applied to Stopper Block. (Different from the another FA tooling) ★All types are available with Oil Hole System. ★Test bar is attached as standard.  
 ★Stopper block is available as an option. When ordering, please inform your M/C maker and Model as well as your M/C spindle flange dimension.  
 ★Models with \* mark : Detailed discussion is needed. ★When M/C spindle rotates CCW, the cutter rotates CW.

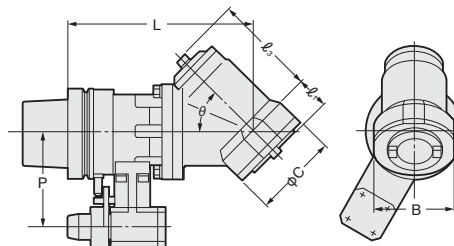


## Quick type 30°, 45°, 60° Angular Head



**AHT**

Photo shows 30° type.



Explanation of the Code No.

**HSK63A - AH T 30 - 220 - 30**

- Angle
- Length from Gauge Line
- Taper No. of Adapter
- Quick type
- Symbol of Angular Head
- Shank

MAX2,000r/min

TAPER	Code No.	L	$\theta$	Shank	L	P	$l_1$	$l_2$	C	B	$\theta$	Adapter	Weight (kg)		
HSK 63A	HSK 63A-AHT30-220 -30	220	30	HSK 63A	65	65	35	88	86	80	45	AHK30	6.5		
	-185 -45												185	6.5	
	-175 -60												175	6.5	
	HSK 63A	HSK 63A-AHT30-250* -30	250	30	HSK 63A	65	65	35	88	86	80	45	AHK30	10.5	
		-45												250	10.5
		-60												250	10.5
HSK 100A	HSK100A-AHT35-265 -30	265	30	HSK100A	110	110	26	110	100	90	45	AHK35	17.0		
	-232 -45												232	17.0	
	-217 -60												217	17.0	
	HSK 100A	HSK100A-AHT35-300* -30	300	30	HSK100A	110	110	26	110	100	90	45	AHK35	22.0	
		-45												300	22.0
		-60												300	22.0

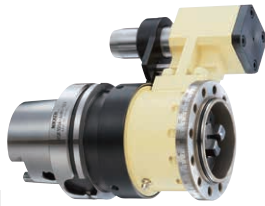
★Taper Connection System is applied to Stopper Block. (Different from the another FA tooling) ★All types are available with Oil Hole System. ★Test bar is attached as standard.  
 ★Stopper block is available as an option. When ordering, please inform your M/C maker and Model as well as your M/C spindle flange dimension.  
 ★Models with \* mark : Detailed discussion is needed. ★When M/C spindle rotates CCW, the cutter rotates CW.



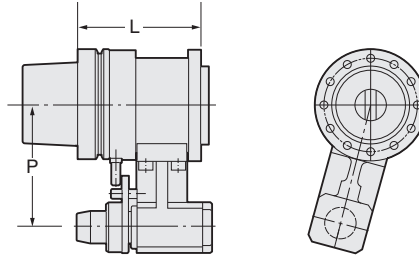
# MODULAR TYPE ANGULAR HEAD

**NIKKEN**

## Modular type Angular Head AHM



AHM



MAX6,000r/min

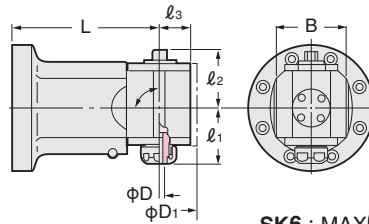
TAPER	Code No.	-L	L	P	Weight (kg)	Suitable Modular Head
HSK 63A	HSK 63A-AHM-115		100	65	4.5	
HSK100A	HSK100A-AHM-127		120	110	11.5	

★Taper Connection System is applied to Stopper Block. (Different from the another FA Tooling) ★All types are available with Oil Hole System.  
 ★Stopper block is available as an option. When ordering, please inform your M/C maker and Model as well as your M/C spindle flange dimension.

## 90°type Modular Head AHM90



AHM



Explanation of the Code No.

AHM90 - SK6 - 80

- Length from Gauge Line
- Symbol of Slim Chuck
- Symbol of Modular Head 90°type

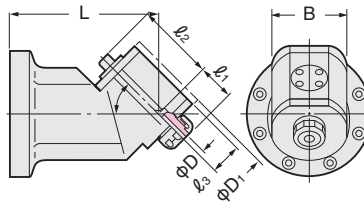
SK6 : MAX6,000r/min SK10,16 : MAX4,000r/min

Code No.	-L	D	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	D <sub>1</sub>	B	Weight (kg)	SK Collet
AHM90-SK 6-80, 120, 150*		0.7~6	42	35	22	50	48	3.0, 4.0, 4.5	SK 6
-SK10-80, 120, 150*		1.75~10	63	57	32	64	60	3.5, 4.5, 5.0	SK 10
-SK16-80, 120, 150*		2.75~16	66	58	35	74	70	4.2, 5.2, 5.7	SK 16

★★Mark is for light machining. ★For SK Collet, please refer P.283. ★When M/C spindle rotates CCW, the cutter rotates CW. ★Test bar is attached as standard.



AHM



Explanation of the Code No.

AHM45 - SK6 - 120

- Length from Gauge Line
- Symbol of Slim Chuck
- Symbol of Modular Head 45°type

SK6 : MAX6,000r/min SK10,16 : MAX4,000r/min

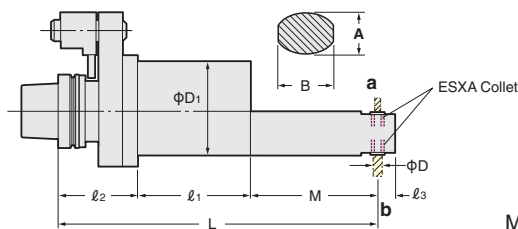
Code No.	-L	D	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	D <sub>1</sub>	B	Weight (kg)	SK Collet
AHM45-SK 6-120, 150*		0.7~6	27	67	22	50	52	3.0, 4.0, 4.5	SK 6
-SK10-120, 150*		1.75~10	39	80	30	64	60	3.5, 4.5, 5.0	SK 10
-SK16-120, 150*		2.75~16	38	90	35	74	70	4.2, 5.2, 5.7	SK 16

★★Mark is for light machining. ★For SK Collet, please refer P.283. ★Angle 30°, 60° are also available as an option. ★When M/C spindle rotates CCW, the cutter rotates CW. ★Test bar is attached as standard.

## Angular head for deep hole AHPL



AHPL



MAX3,500r/min

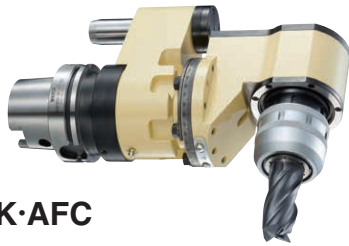
TAPER	Code No.	-L	D	D <sub>1</sub>	A	B	L	M	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	r/min	Weight (kg)	Applicable Collet
HSK 63A	HSK 63A-AHPL4-194		1.0~4.0	80	25	31	194	32	67.5	94.5	14.5	6,450	5.0	ESXA4
	-218	218					56	5.5						
	-242	242					80	6.0						
	-266	266					104	7.5						
	-AHPL6-203	202.5					46.5	5.0						
HSK 100A	-231	230.5	74.5	61.5	94.5	15	8,000	6.0	ESXA6					
	-259	258.5	102.5	8.0										
	HSK100A-AHPL6-206	205.5	46.5	7.0										
	-234	233.5	74.5	61.5	97.5	15	8,000	8.0						
	-262	261.5	102.5	10.0										
	-AHPL8-255	254.5	73	9.0										
	-287	286.5	105	78	103.5	20	6,000	10.0		ESXA8				
-307	306.5	125	11.0											

★ESXA Collet is supplied as an option. ★Different shape is possible, please contact with us for more detail.  
 ★When M/C spindle rotates CW, the cutter at a rotates CW and the cutter at b rotates CCW.

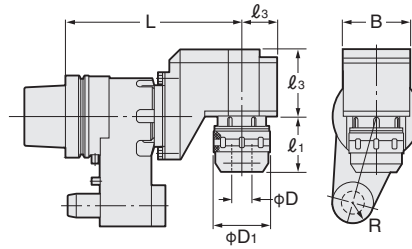
HSK

# HSK SOLID TYPE ANGULAR HEAD (Free Positioning in 360°) **NIKKEN**

## Solid OFF SET type Angular head



**AFK·AFC**



Explanation of the Code No.

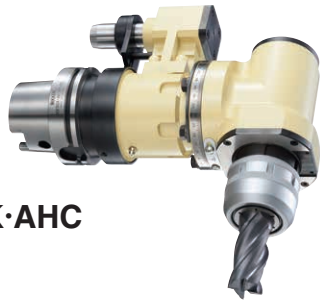
**HSK63A** - **AF** **K** **16** - **210**

- Length from Gauge Line
- MAX. Chucking Dia.
- Kind of chuck  
K : Slim Chuck  
C : Milling Chuck
- OFF SET type  
Symbol of Angular Head
- Shank

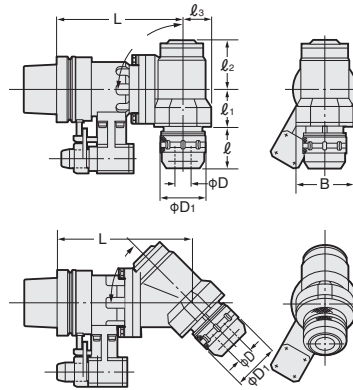
TAPER	Code No.	-L	D	D <sub>1</sub>	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	B	R	r/min	Weight (kg)	Collet
HSK 63A	HSK 63A-AFK16-210	2.75~16	2.75~16	40	50	85	35	70	17.5	2,000	8.5	<b>SK 16</b>
	-AFC20-210	2~20	2~20	52	56						8.7	<b>KM 20</b>
HSK100A	HSK100A-AFC20-237	2~20	2~20	52	58	85	45	84	25	2,000	17.0	<b>KM 20</b>
	-AFC32-237	3~32	3~32	69	65						17.2	<b>KM 32</b>

- ★Taper Connection System is applied to Stopper Block. (Different from the another FA Tooling)
- ★All types are available with Oil Hole System.
- ★Stopper block is available as an option. When ordering, please inform your M/C maker and Model as well as your M/C spindle flange dimension.
- ★For **SK16**, please refer **P.283**. For **KM20** and **KM32**, please refer **P.280**.
- ★Please advise name of M/C builder and model No. etc.
- ★Test bar is attached as standard.
- ★When M/C spindle rotates CW, the cutter rotates CW.

## Solid - 90°, 45° type Angular head



**AHK·AHC**



Explanation of the Code No.

**HSK63A** - **AH** **K** **10** - **195** - **90**

- angle 30°, 45°, 60°, 90°
- Length from Gauge Line
- MAX chucking Dia
- Kind of chuck  
K : Slim Chuck  
C : Milling Chuck
- Symbol of Angular Head
- Shank

TAPER	Code No.	-L	D	D <sub>1</sub>	l	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	B	r/min	Weight (kg)	Collet
HSK 63A	HSK 63A-AHK10-195 -90	1.75~10	1.75~10	27.5	18	45	57	32	60	4,000	8.0	<b>SK 10</b>
	-235* -90										9.0	
	-AHK16-195 -90	2.75~16	2.75~16	40	25	41	58	35	70	2,000	8.7	<b>SK 16</b>
	-235* -90										9.7	
	-AHC20-165 -90	2~20	2~20	52	57	58	61	37	80	7.1	<b>KM 20</b>	
-250* -90	11.1											
HSK100A	HSK100A-AHK10-207 -90	1.75~10	1.75~10	27.5	18	45	57	32	60	4,000	15.0	<b>SK 10</b>
	-247* -90										16.0	
	-AHK16-207 -90	2.75~16	2.75~16	40	25	41	58	35	70	2,000	15.7	<b>SK 16</b>
	-247* -90										16.7	
	-AHK25-217 -90	7.5~25.4	7.5~25.4	55	57	60	82	45	90	17.2	<b>SK 25</b>	
	-300* -90									22.2		
	-AHC32-217 -90	3~32	3~32	69	69	69	82	45	90	17.5	<b>KM 32</b>	
-300* -90	22.5											

- ★Taper Connection System is applied to Stopper Block. (Different from the another FA Tooling)
- ★All types are available with Oil Hole System.
- ★Stopper block is available as an option. When ordering, please inform your M/C maker and Model as well as your M/C spindle flange dimension.
- ★For **SK10**, **SK16**, **SK25**, please refer **P.283**. For **KM20**, **KM25** and **KM32**, please refer **P.280**.
- ★Angle 30°, 45°, 60° are also available as an option. ★ \* Mark is for light cutting.
- ★When M/C spindle rotates CCW, the cutter rotates CW.
- ★Please contact with us for the dimension of 30°, 45°, 60° type.
- ★Lubrication Pipe is optional. Please refer **P.298**
- ★Test bar is attached as standard.



# HSK HIGH SPEED SPINDLE SPEEDER

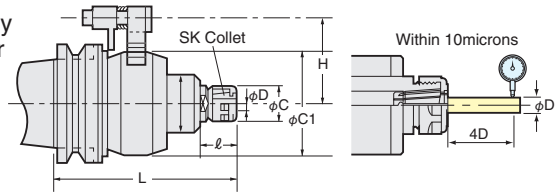


## HSK-PX

Explanation of the Code No.  
**HSK40** - **PX** **5** **160**  
 • Shank • Ratio • Length  
 • NX : 4times, 5 times  
 • PX : 6times, 10times

## 10,000~40,000r/min

- **NIKKEN NX** increases the spindle speed by 4 to 10 times, so economically convert your standard M/C to high speed M/C.
- Even small endmills can cut smoothly without chatter.
- **Run-out accuracy is more stable due to TiN Bearing Nut (standard accessory).**



TAPER	Code No.	D	L	C	C <sub>1</sub>	ℓ	H	Ratio	MAX. r/min	Weight(kg)	Collet
HSK63A	HSK 63A-PX 6-150GX	0.5~8.0	151	22	76	14.5	60	6	30,000	4.1	ETS14
	-PX10-160GX		160.5		98			10	40,000	4.5	
HSK100A	HSK100A-PX 6-150GX		147		76			6	30,000	6.8	
	-PX10-160GX		171.5		98			10	40,000	7.2	

## PX type

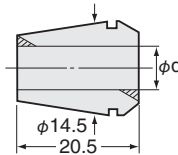
- ★ Grease lubrication is standard.
- ★ Please add "MX" instead of "GX" at the end of Code No. for the oil mist lubrication. e.g. BT40-PX6-130MX
- ★ ETS collet is supplies as an option.

## Air Cylinder for Cooling with ON/OFF Magnet NXE-COOL

The best cooling is to cool the speeder body directly.



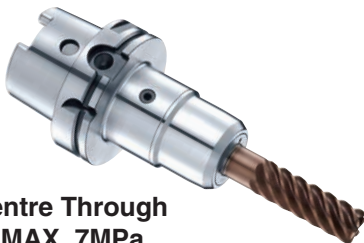
## ETS Collet



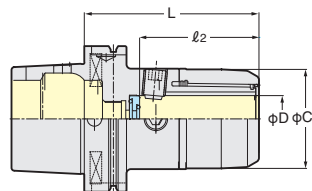
Explanation of the Code No.  
**ETS** **14** - **0.5**  
 • Style No. • MAX. Chucking Dia. • Symbol of ETS Collet

- ★ φd=0.5~1.0: Each 0.1mm (Gripping range : 0.1mm) e.g. ETS14-0.5 : 0.4~0.5mm
- ★ φd=1.25~2.5: Each 0.25mm (Gripping range : 0.25mm)
- ★ φd=3.0~8.0: Each 0.5mm (Gripping range : 0.5mm)

# X-Treme Shank HSK X-Treme Chuck



Centre Through  
 MAX. 7MPa



Explanation of the Code No.  
**HSK100A** - **C32EX** - **121** - **J**  
 • Shank No. • X-Treme Chuck • Chucking Capacity • Symbol of Milling Chuck • J: J-Type (Jet Groove) • Nominal Gauge Length

JAPAN, USA, EU, CHINA PAT.

TAPER	Code No. (φD - L)	C <sub>1</sub>	L	ℓ <sub>2</sub>	End mill with oil hole		Handle (Option)	Weight (kg)
					Stopper*	Face cap*		
HSK63A	HSK 63A-C12EX- 96	40	96	58	9MC12HEX- 6L	9C12SL-FS-EX-A1	GH16	1.3
	-C16EX-101	48	101	68	9MC16HEX-6.5L	9C16SL-FS-EX-A1	GH20	1.5
	-C20EX-106	55	106	71	9MC20HEX- 7L	9C20 -FS-EX-A1	GH25	1.7
HSK100A	HSK100A-C12EX- 96	40	96	58	9MC12HEX- 6L	9C12SL-FS-EX-A1	GH16	2.7
	-C16EX-106	48	106	68	9MC16HEX-6.5L	9C16SL-FS-EX-A1	GH20	3.0
	-C20EX-116	55	116	71	9MC20HEX- 12L	9C20 -FS-EX-A1	GH25	3.6
	-C25EX-116	55	116.3	76.3	9MC25HEX-6.2L	9C25SL-FS-EX-A1	GH25	3.5
	-C32EX-121	68	121.3	83.3	9MC32HEX- 7L	9C32SL-FS-EX-A1	GH32	4.0
	-C42EX-136	86	136	86	9MC42HEX- 9L	9C42SL-FS-EX-A1	9HC42	5.7
HSK125A	HSK125A-C20EX-121S	55	121	71	9MC20HEX- 12L	9C20 -FS-EX-A1	GH25	5.4
	-C25EX-121S	55	121.3	77.3	9MC25HEX-6.2L	9C25SL-FS-EX-A1	GH25	5.3
	-C32EX-136S	68	136.3	83.3	9MC32HEX- 7L	9C32SL-FS-EX-A1	GH32	6.3
	-C42EX-136S	86	136	86	9MC42HEX- 9L	9C42SL-FS-EX-A1	9HC42	7.1

Please use direct chucking without KM collet.

★ MAX. 7MPa of center through coolant is available with the stopper.

★ Please use J-type X-Treme chuck, when end mill without oil hole is used. eg) HSK125A-C32EX-136S-J

In case of J-type X-Treme chuck, J-type stopper and J-type face cap (with Jet grooves) are attached. 9MC32HEX-7L-J, 9C32SL-FS-EX-J1

J-type X-Treme chuck is used for the pocket milling and side milling.



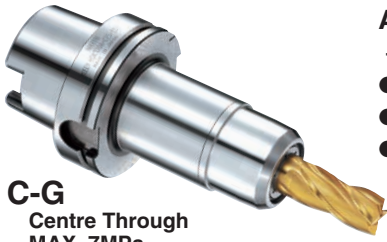
GH Handle P.299

HSK

# HSK HIGH SPEED MILLING CHUCK (INCH)

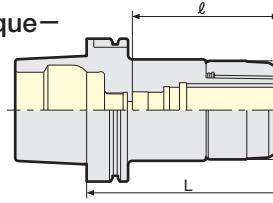


**NIKKEN**

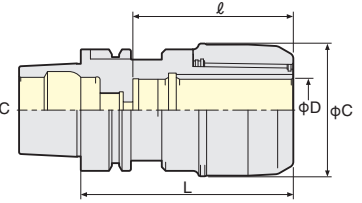


**C-G**  
Centre Through  
MAX. 7MPa  
Photo shows High Speed Milling Chuck

- ANNIVERSARY Type**  
— Powerful gripping torque—
- High rigidity
  - High precision
  - Compact design



**Fig. 1**



**Fig. 2**

Dimensions are displayed in inches.

TAPER	Code No.	C	D	l	L	MAX. r/min	Weight (kg)	Fig.	Collet	Chucking Range	Handle (Option)
HSK 63A	HSK 63A-C3/4 - 95G	1.890	0.750	2.244	3.740	25,000	1.6	1	KM3/4	0.125~0.750	GH20
	-110G				4.331		1.8				
	-C1 -100G	2.165	1.000	2.362	3.937	20,000	1.9	2	KM1	0.125~1.000	GH25
	-130G				5.118		2.3				
	-C1 1/4 -110G	2.677	1.250	2.559	4.331		2.2				
	-130G				2.756		2.6				
HSK100A	HSK100A-C 3/4 -115G	1.890	0.750	2.244	4.528	20,000	3.0	1	KM3/4	0.125~0.750	GH20
	-135G				5.315		3.6				
	-C1 -115G	2.165	1.000	2.362	4.528	15,000	3.3	1	KM1	0.125~1.000	GH25
	-135G				5.315		3.6				
	-C1 1/4 -115G	2.677	1.250	2.559	4.528	12,000	3.2	1	KM1 1/4	0.187~1.250	GH32
	-165G				2.756		4.8				

★Please note the acceptable shank tolerance is h6.  
★Please refer P.280 for KM collet.(inch)  
★Lubrication Pipe is optional. Please refer P.298

GH Handle P.299



# HSK MILLING CHUCK (INCH)

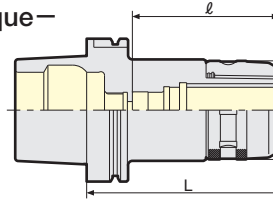


**NIKKEN**

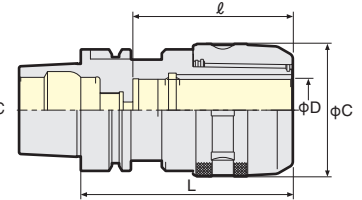


**C**  
Centre Through  
MAX. 7MPa

- ANNIVERSARY Type**  
— Powerful gripping torque—
- High rigidity
  - High precision
  - Compact design



**Fig. 1**



**Fig. 2**

Dimensions are displayed in inches.

TAPER	Code No.	C	D	l	L	Weight (kg)	Fig.	Collet	Chucking Range	Spanner (Option)
HSK 63A	HSK 63A-C3/4 - 95	2.047	0.750	2.244	3.740	1.6	1	KM3/4	0.125~0.750	9HC22
	-110				4.331	1.8				
	-C1 -100	2.362	1.000	2.362	3.937	1.9	2	KM1	0.125~1.000	9HC25
	-130				5.118	2.3				
	-C1 1/4 -110	2.717	1.250	2.559	4.331	2.2				
	-130				2.756	2.6				
HSK100A	HSK100A-C 3/4 -115	2.047	0.750	2.244	4.528	3.0	1	KM3/4	0.125~0.750	9HC22
	-135				5.315	3.6				
	-C1 -115	2.362	1.000	2.362	4.528	3.3	1	KM1	0.125~1.000	9HC25
	-135				5.315	3.6				
	-C1 1/4 -115	2.717	1.250	2.559	4.528	3.2	1	KM1 1/4	0.187~1.250	9HC32
	-165				2.756	4.8				

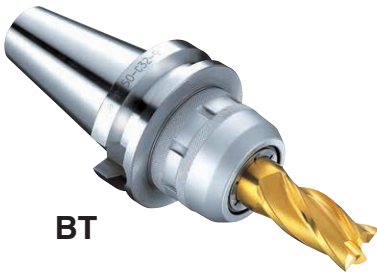
★Please refer P.280 for KM collet.(inch)  
★Please note the acceptable shank tolerance is h6~7.  
★Lubrication Pipe is optional. Please refer P.298

Spanner P.299

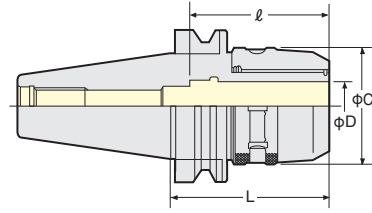


# BT MILLING CHUCK (INCH)

**NIKKEN**



BT



Dimensions are displayed in inches.

TAPER	Code No.	C	D	l	L	Weight (kg)	Collet	Chucking Range	Spanner (Option)
BT40	BT40 -C3/4 - 70	2.047	0.750	3.150	2.756	1.6	KM3/4	0.125~0.750	9HC22
	-105				4.134	2.0			
	-C1 - 70	2.362	1.000	3.150	2.756	1.8	KM1	0.125~1.000	9HC25
	- 90				3.543	2.1			
	-C1 1/4- 85	2.717	1.250	3.031	3.346	2.1	KM1 1/4	0.187~1.250	9HC32
-120	4.724				2.8				
BT50	BT50 -C 3/4 -105	2.047	0.750	3.150	4.134	4.5	KM3/4	0.125~0.750	9HC22
	-135				5.315	4.8			
	-C1 -105	2.362	1.000	3.150	4.134	4.8	KM1	0.125~1.000	9HC25
	-135				5.315	5.2			
	-C1 1/4- 90	2.717	1.250	4.134	3.543	4.3	KM1 1/4	0.187~1.250	9HC32
	-135				5.315	5.6			

★Please refer  P.280 for KM collet.(inch)

★Please note the acceptable shank tolerance is h6~7.

Spanner  P.299 

# CAT MILLING CHUCK (INCH)

**NIKKEN**



CAT

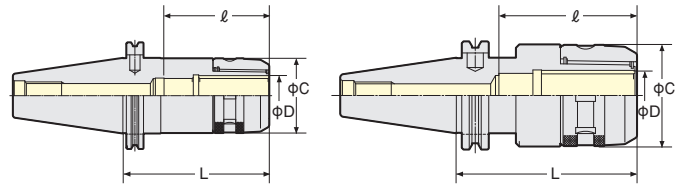


Fig. 1

Fig. 2

Dimensions are displayed in inches.

TAPER	Code No.	C	D	l	L	Weight (kg)	Fig.	Collet	Chucking Range	Spanner (Option)
CAT40	CAT40-C3/4 - 70U-IDU	2.047	0.750	3.150	2.75	1.6	2	KM3/4	0.125~0.750	9HC22
	- 85U-IDU				3.346	1.8				
	-105U-IDU				4.134	2.0				
	-120U-IDU				4.724	2.2				
	-C1 - 85U-IDU	2.362	1.000	3.150	3.346	2.1		KM1	0.125~1.000	9HC25
	-105U-IDU				4.134	2.3				
	-C1 1/4SL- 85U-IDU				3.031	2.1				
-105U-IDU	2.717	1.250	3.543	4.134	2.5	KM1 1/4	0.187~1.250	9HC32		
-120U-IDU				4.724	2.8					
CAT50	CAT50-C 3/4 -105U-IDU	2.047	0.750	3.150	4.134	4.5	1	KM3/4	0.125~0.750	9HC22
	-135U-IDU				5.315	4.8				
	-160U-IDU				6.496	5.1				
	-C1 -105U-IDU	2.362	1.000	3.150	4.134	4.8		KM1	0.125~1.000	9HC25
	-135U-IDU				5.315	5.2				
	-C1 1/4 - 90U-IDU	2.717	1.250	4.134	3.543	4.3		KM1 1/4	0.187~1.250	9HC32
	-105U-IDU				4.134	4.6				
	-135U-IDU				5.315	5.6				
-165U-IDU	6.496				6.4					

★Please refer  P.280 for KM collet.(inch)

★Please note the acceptable shank tolerance is h6~7.

★ID chip pocket is put as standard.

Spanner  P.299 

# CAT HIGH SPEED MILLING CHUCK (INCH)



**NIKKEN**



CAT

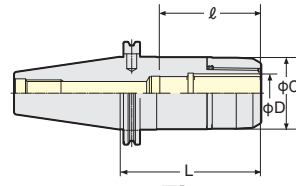


Fig. 1

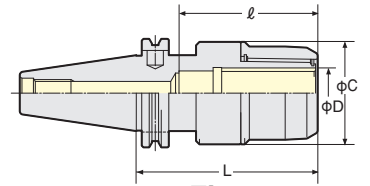


Fig. 2

Dimensions are displayed in inches.

TAPER	Code No.	C	D	l	L	MAX. (r/min)	Weight (kg)	Fig.	Collet	Chucking	Handle (Option)
CAT40	CAT40-C3/4 - 85UG-IDU	1.890	0.750	3.150	3.346	25,000	1.8	2	KM3/4	0.125~0.750	GH20
	-105UG-IDU				4.134		2.0				
	-C1 - 85UG-IDU	2.165	1.000	3.150	3.346	20,000	2.1		KM1	0.125~1.000	GH25
	-105UG-IDU				4.134		2.3				
	-C1 1/4SL-105UG-IDU	2.677	1.250	2.500	4.134		2.5		KM1 1/4	0.187~1.250	GH32
	-120UG-IDU			3.150	4.724		2.8				
CAT50	CAT50-C 3/4 -105UG-IDU	1.890	0.750	3.150	4.134	20,000	4.5	1	KM3/4	0.125~0.750	GH20
	-135UG-IDU				5.315		4.8				
	-C1 -105UG-IDU	2.165	1.000	3.150	4.134	15,000	4.8		KM1	0.125~1.000	GH25
	-135UG-IDU				5.315		5.2				
	-C1 1/4 -105UG-IDU	2.677	1.250	4.134	4.134		4.6		KM1 1/4	0.187~1.250	GH32
	-135UG-IDU				5.315		5.6				

- ★Please note the acceptable shank tolerance is h6
- ★Please refer to P.280 for KM collet.(inch)
- ★ID chip pocket is put as standard.

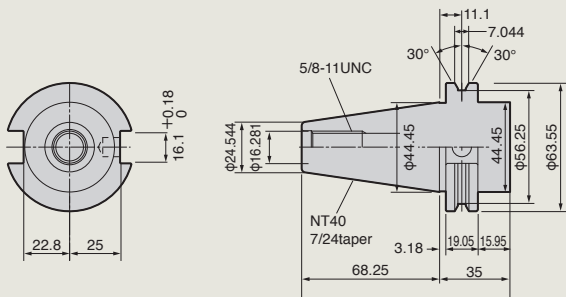


GH Handle P.299

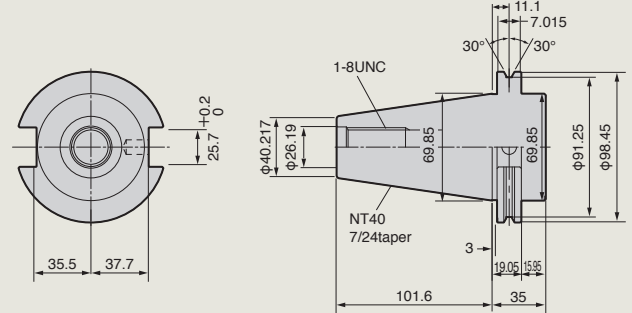
## DIMENSION of CAT TOOL SHANK

**NIKKEN**

### CAT40



### CAT50



CAT standard is based on ASME B5-50-1985 (CATERPILLAR 1975).

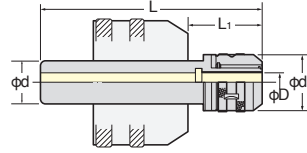
# Straight Shank MILLING CHUCK

**NIKKEN**

S-C for Multi-Lock Milling Chuck ■ For Extension



Photo. shows S32-C12-200



Style	Code No.	φd	φD	φd <sub>1</sub>	L	MAX. L <sub>1</sub>	Collet	Weight(kg)
32	S32-C12-120, 160, 200	32	12	33	120, 160, 200	60, 100, 140	KM12	0.6, 0.9, 1.1
	-C16-130		16	44	130	70	KM16	0.7
	-C20-150		20	52	150	90	KM20	1.1
42	S42-C16-180	42	16	44	180	120	KM16	1.6
	-C20-185		20	52	185	125	KM20	1.7

★S32-C22-150, S42-C22-185, S42-C25-150 are also available as semi-standard.

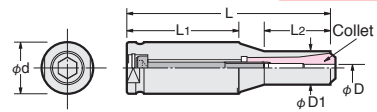
★The MC and NC straight shank Milling Chuck is unified to the above Code No. ★Please refer P.280 for KM Collet.

★Spanner is available as an option. C20 : 9HC22, C25 : 9HC25 C32 : 9HC32, C42 : 9HC42 C12 (d1=φ30) : 9HC12, C12 (d1=φ33) : 9HC12A, C16 : 9HC16, C20 : 9HC22

# Straight Shank MINI-MINI CHUCK

**NIKKEN**

K-MMC



Style	Code No.	Chucking Range D	L	φD <sub>1</sub>	L <sub>1</sub>	L <sub>2</sub>	Collet	Weight(kg)
16	K16-MMP 4- 70, 150	1~ 4	70, 150	15	50, 130	20	MPK 4	0.1, 0.2
20	K20-MMC 8-100	2~ 8	100	20	80	20	PMK 8 VMK 8	0.2
32	K32-MMC 8-122, 160	2~ 8	122, 160	20	67	40	PMK 8 VMK 8	0.5, 0.7
	K32-MMC12-170S	4~12	170	30	120	50	PMK12 VMK12	1.0

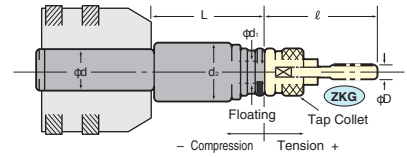
★Wrench is supplied as standard. Collet is available as an option.

# Straight Shank TAPPER CHUCK

**NIKKEN**

■ For Slim body and Ultra Smooth Tapping Operations with Float Mechanism.

NZ

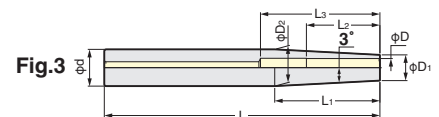


Style	Code. No.	Tapping Capability		L	d <sub>1</sub>	d	d <sub>2</sub>	Float		Weight (kg)	Tap Collet
		M	P					Compression	Tension		
32	NZ32-12-105	M 2~12	P1/16 ~1/4	105~125	19	32	45	5	15	1.3	ZKG12
	-16-125	M 3~16	P1/8 ~3/8	125~145	25		55	8	20	2.2	ZKG16
	-24-140	M 8~24	P1/4 ~5/8	140~160	30		63	8	20	2.8	ZKG24
42	NZ42-12- 90	M 2~12	P1/16 ~1/4	90~125	19	42	45	5	15	2.0	ZKG12
	-16-125	M 3~16	P1/8 ~3/8	125~160	25		55	8	20	3.0	ZKG16
	-24-140	M 8~24	P1/4 ~5/8	140~175	30		63	8	20	3.6	ZKG24

# STRAIGHT SHANK MASAMUNE SHRINK FIT HOLDER

**NIKKEN**

MS-A



Style d	Code No.	L	φD	L <sub>1</sub>	L <sub>2</sub>	L <sub>3</sub>	D <sub>1</sub>	D <sub>2</sub>	Fig	
10	MS10-A 3- 90	90	3	27	10	—	6	8.7	1	
	-A 4- 90		4		13		7	9.7		
16	MS16-A 4-120	120	4	42	13	—	7	11.2	1	
	-A 6-120		6		19		10	14.2		
	-A 8-120		8		25		12	16.0	2	
20	MS20-A 6-150	150	6	72	19	—	10	17.4	1	
	-A 8-150		8		25		12	19.4		
	-A10-150		10		31		63	14	20.0	3
	-A12-150		12		38		78	16	20.0	

★Please note the acceptable shank tolerance is h6.

★Carbide tool can be used and HSS tool can not be used.

★Minimum insertion length is L<sub>2</sub>.

★Maximum insertion length is L<sub>3</sub>. If cutting tool is inserted longer than L<sub>3</sub>, the cutting tool bottom will be contacted to holder. Then, the run-out accuracy will be worse.

★The tool will become very hot during heat shrinking. Please use glove for safety.

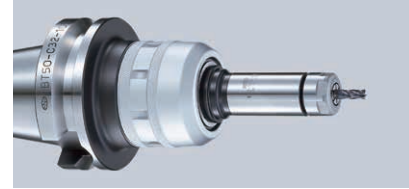
★ID=φ16, φ20 and φ25mm are available.

★The capacity of the drier is approx. 3kW.

★Inductive style of the heat shrinking unit is recommended.

STRAIGHT

# Straight Shank SLIM CHUCK



Suitable for Multi-Lock Milling Chuck

**K-SK**

Explanation of the Code No.

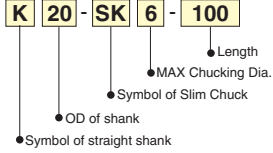


Fig. 1

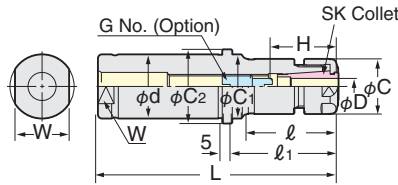
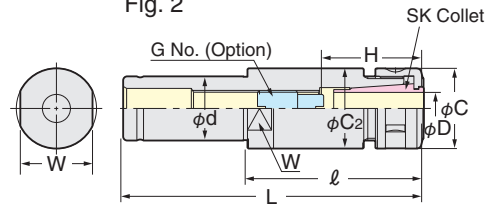


Fig. 2



Code No.	D	ℓ	ℓ <sub>1</sub>	C	C <sub>1</sub>	C <sub>2</sub>	W	H	G No. (Option)	Weight (kg)	Fig	SK Collet
K20-SK 6-100, 120	0.7~6.0	37, 57		19.5		27	18	21~35	SKG-8	0.2, 0.2	1	SK 6
-SK10-100, 120	1.75~10.0	40, 60		27.5		27.5	18	30~50	SKG-12L	0.3, 0.3	2	SK10
K22-SK 6-100, 120	0.7~6.0	37, 57		19.5		27	19	21~35	SKG-8	0.2, 0.2	1	SK 6
-SK10-100, 120	1.75~10.0	40, 60		27.5		27.5	19	30~50	SKG-12L	0.3, 0.3	2	SK10
K25-SK 6-100, 130	0.7~6.0	32, 62		19.5			30	21~35	SKG-8	0.3, 0.3		SK 6
-SK10-120, 150	1.75~10.0	50, 80		27.5			22	30~50	SKG-12L	0.4, 0.5		SK10
K32-SK 6-120, 140, 170	0.7~6.0	45, 65, 63	53, 73, 100	19.5	32, 32, 24			21~35	SKG-8	0.5, 0.5, 0.5	1	SK 6
-SK10-120, 150, 180, 210	1.75~10.0	45, 75, 75, 75	53, 83, 111, 141	27.5	32, 32, 31.5, 33.5	37	27	30~50	SKG-12L	0.6, 0.7, 0.8, 1.0		SK10
-SK13-120, 150, 180, 210	2.75~13.0	52, 82, 112, 142		33				31~65	SKG-15	0.7, 0.8, 1.0, 1.2		SK13
-SK16-120, 150, 180, 210	2.75~16.0	58, 88, 118, 148		40		40	36	45~70	SKG-18L	0.7, 0.9, 1.2, 1.4		SK16
-SK20-120, 150, 180	3.5~20.0	58, 88, 118		48.5		40	41	47~80	SKG-22	0.9, 1.3, 1.7	2	SK20
-SK25-150	7.5~25.4	88		55		42	46	55~65	SKG-18L	1.3		SK25
K42-SK 6-150, 170	0.7~6.0	52, 62	61, 78	19.5	32			21~35	SKG-8	1.0, 1.1		SK 6
-SK10-150, 180	1.75~10.0	56, 78		27.5			47	30~50	SKG-12L	1.1, 1.3		SK10
-SK13-150, 180	2.75~13.0	56, 86		33			36	31~65	SKG-15	1.2, 1.4	1	SK13
-SK16-150, 180	2.75~16.0	58, 88		40				45~70	SKG-18L			SK16
-SK20-150, 180	3.5~20.0	68, 98		48.5		48.5		47~80	SKG-22	1.5, 1.9		SK20
-SK25-170	7.5~25.4	88		55		44.5	46	55~65	SKG-18L	1.8	2	SK25

\*Collet, adjust screw (G No.) and spanner are available as an option.

The Code No. of the spanner is SK6 (C=φ18) : SKL-6, SK6 (C=φ19.5) : SKL-6W, SK10: SKL-10, SK13: 9HC12A, SK16: 9HC16, SK20: 9HC22, SK25: 9HC25

\*Please refer P.283 for SK Collet.

\*All Slim Chucks are Centre Through Coolant type.

\*Please refer P.288 for adjust screw (G No.).



# Straight Shank SLIM CHUCK ULTRA LONG TYPE

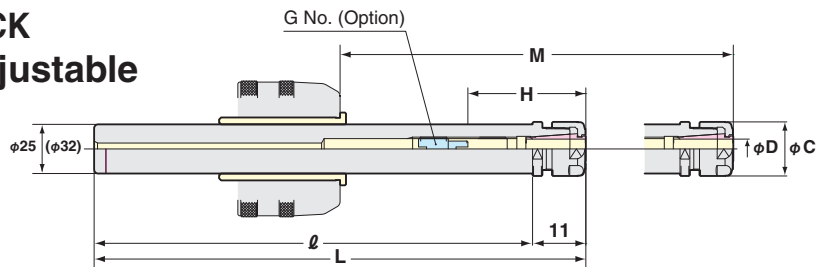


ULTRA LONG SLIM CHUCK  
Axially Adjustable



**S-SK**

Photo. shows solid carbide type.



Solid Carbide type is also available.

Please add "X" to the Code No. e.g. S25-SK10X-250, S25-SK10X-300

JAPAN, USA, EU, KOREA PAT.

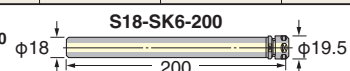
Code.No.	D	L	ℓ <sub>1</sub>	ℓ <sub>2</sub>	C	Over Hang Length M	H	G No. (Option)	Weight (kg)	Collet
S25-SK10-250	1.75~10.0	250	223	27	27.5	145~200	30~60	SKG-12L	0.9	SK10
-300		300	273			195~250			1.1	
S32-SK13-250	2.75~13.0	250	224	26	33	145~185	31~65	SKG-15	1.4	SK13
-300		300	274			195~235			1.7	
S32-SK16-250	2.75~16.0	250	192	58	40	145~185	40~70	SKG-18	1.5	SK16
-300		300	242			195~235			1.8	

\*Nut, Adjust Screw (G No.) and Collet Extractor are supplied as standard.

\*Spanner "SKL-10" is available as an option.

\*Please refer P.283 for SK collet. \*Please add "C" at the Code No. for Centre Through Coolant type. e.g. S25-SK10C-250

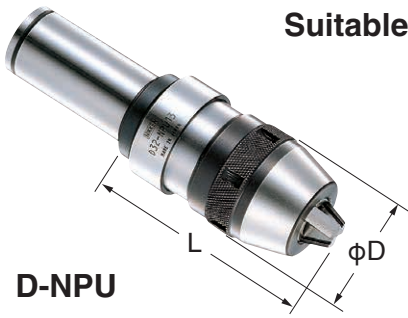
\*S18-SK6-200 is also available \*Please refer P.288 for adjust screw (G No.).



# Straight Shank NPU DRILL CHUCK

**NIKKEN**

Suitable For MULTI-LOCK Milling Chuck



D-NPU

Style	Code No.	Chucking Dia	L		Weight (kg)
			MIN.	MAX.	
32	D32-NPU 8	0.3~8	65.5	72.5	0.9
	-NPU13	1~13	84.5	96.5	1.4
42	D42-NPU 8	0.3~8	55.5	62.5	1.2
	-NPU13	1~13	79.5	91.5	1.7

★φD: NPU 8: 36.5mm Chucking Length: NPU 8: 18.8mm NPU13: 48mm ★Wrench is available as an option. NPU8: NPUL-8, NPU13: NPUL-13.

# Straight Shank CENTER DRILL HOLDER

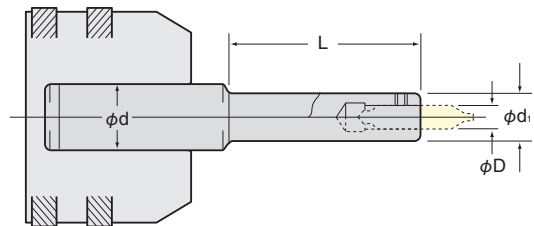
**NIKKEN**

Suitable For MULTI-LOCK Milling Chuck

Effective for centering in narrow places



NCD

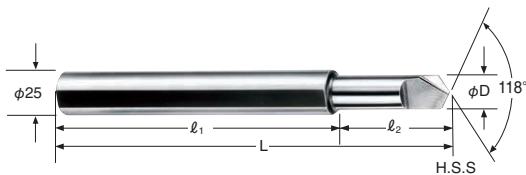


Style	Code No.	D	L	d <sub>1</sub>	d
32	NCD32- 5-100,150	5	85, 135	16	32
	- 6-100,150	6	85, 135		
	- 8-100,150	8	85, 135		
	-10-100,150	10	85, 135		
	-12-100,150	12	85, 135	20	

Style	Code No.	D	L	d <sub>1</sub>	d
42	NCD42- 5-100,150	5	82, 132	16	42
	- 6-100,150	6	82, 132		
	- 8-100,150	8	82, 132		
	-10-100,150	10	82, 132		
	-12-100,150	12	82, 132	20	

# CENTERING TOOL CENTERING END MILL

**NIKKEN**



CCT

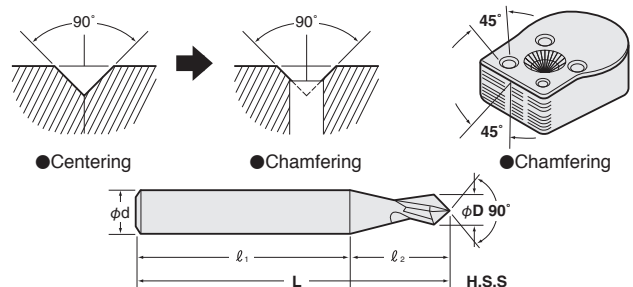


CC

Nikken Chamfering combined centering end mill 90° Twist type

Code No.	φD	φd	L	l <sub>1</sub>	l <sub>2</sub>
CC10-16	10	16	130	95	35
CC12-16	12	16	145	100	45
CC16-20	16	20	150	100	50
CC20-25	20	25	155	100	55

Three kinds of machining can be done with one cutting tool.



Code No.	φD	L	l <sub>1</sub>	l <sub>2</sub>
CCT25-12-165	12	165	100	65
-15-220	15	220	155	
-15-330		330	265	
-19-165	19	165	100	
-19-220		220	155	
-19-330		330	265	

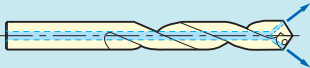
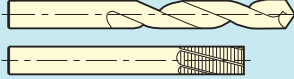

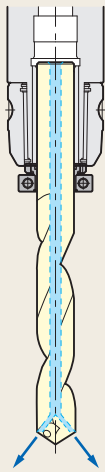


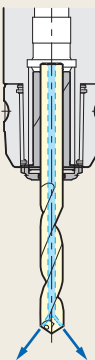

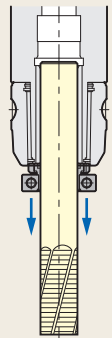


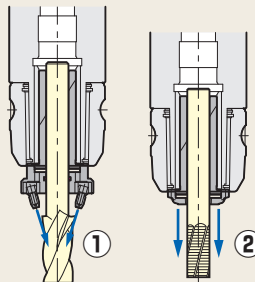

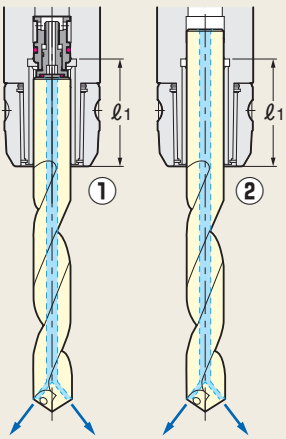

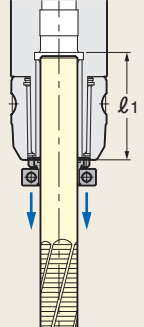
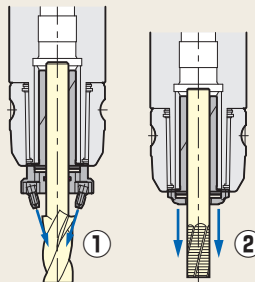
BT

STRAIGHT

# MILLING CHUCK COOLANT SOLUTION



BT

	CUTTING TOOL WITH OIL HOLE 		JETCOOLANT SYSTEM 	
	Direct Chucking	with Collet	Direct Chucking	with Collet
<b>Standard Milling Chuck</b> ex.) BT00-C00	Front Nut with O-ring for direct chucking  CKFN-DC 	Front Nut with O-ring  CCNK Collet    CCK Collet  CKFN-C 	Front Nut for Direct Chucking for JETCOOLANT  CKFN-D (with JETCOOLANT Groove) 	Front Nut for JETCOOLANT  CCNK Collet    CCK Collet  CKFN-MN (with Coolant Nozzle)    CKFN (with V Groove) 
<b>Milling chuck for high pressure center through</b> ex.) BT00-C00C MBT00-C00 NBT00-C00 NC500-C00 HSK00-C00	① In case of cutting tool shank is shorter than $l_1$ . Please use stopper.  P.34 ② Inserting depth is longer than $l_1$ . 	Front Nut for Direct Chucking for JETCOOLANT *Inserting depth should be less than $l_1$ .  CKFN-D (with JETCOOLANT Groove) 	 ① In case cutter dia is larger than its shank dia. ② Front Nut for JETCOOLANT	

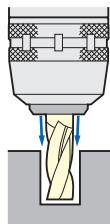
\*Direct chucking means, for example, to use shank dia.32 cutting tool to Milling Chuck with inner dia.32.  
 \*Milling Chuck for high pressure center through can be used for high pressure due to inside perfect seal.

## CENTRE COOLANT STRAIGHT COLLET + FRONT NUT

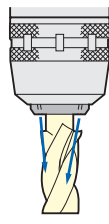
The Jet Coolant Pressure creates a tornado effect, ensuring efficient swarf dispersal.



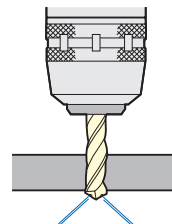
CCK



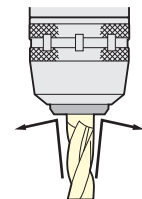
For groove cutting + CKFN



For cutters with cutting diameter which is larger than the shank diameter. + CKFN-MN



A front nut with an O-ring seal, for use with oil hole cutter, is also available as option. + CKFN-C



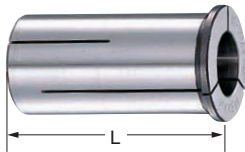
Prevention of the swarf contamination.

ACCESSORY



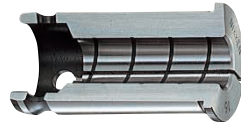
# STRAIGHT COLLET (KM COLLET)

**NIKKEN**



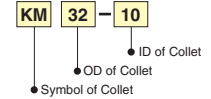
**KM**

Photo shows ANNIVERSARY type KM Collet.



○ means with internal grooves for gripping strongly to eliminate the oil.

Explanation of the Code No.



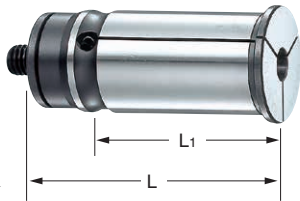
**KM** :Standard  
**NK** :Adjustable  
**CCK** :Centre Coolant  
**CCKN**:Centre Coolant, Adjustable

Style	L	KM Collet Code No. (OD-ID)
<b>(KM12)</b>	40	<b>KM12-2, 3, 4, 5, 6, 7, 8, 9, 10</b>
<b>(KM16)</b>	47.5	<b>KM16-2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12</b>
<b>(KM20)</b>	53	<b>KM20-2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16</b>
<b>(KM22)</b>	57	<b>KM22-3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20</b>
<b>(KM25)</b>	59	<b>KM25-3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22</b>
<b>(KM32)</b>	64.5	<b>KM32-3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 30</b>
<b>(KM42)</b>	73(78)	<b>KM42-3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 40</b>

- ★[For Synchronous Tapping Program] : Special ID Collets for Tap Shank are also available.
- ★Other metric sizes and imperial sizes, 1/8, 1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4, 13/16, 7/8, 1, 1-1/8, 1-1/4, 1-1/2"are also available.
- ★The collets with bold character are the "ANNIVERSARY" type KM Collet.  
 Ordinary KM Collet can be used with "ANNIVERSARY" type Milling Chuck, but better performance can be found with the "ANNIVERSARY" type KM Collet.
- ★Please note the acceptable shank tolerance is h6~h7.
- ★( ): L dimension for **KM42-12** or larger ID.
- ★Collet removal (**9CKR**) is an optional accessory for NC milling chuck.

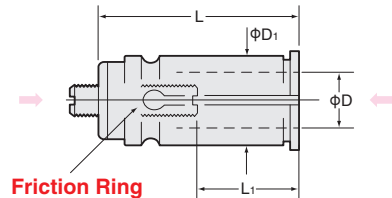
# STRAIGHT COLLET (NK COLLET)

**NIKKEN**



**NK**

Cutter length adjustment on the collet is possible from front and back.



○ means with internal grooves for gripping strongly to eliminate the oil.

Style	L	L1	NK Collet Code No. (OD-ID)
<b>(NK20)</b>	63	20~40	<b>NK20-3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16</b>
<b>(NK22)</b>	70	30~50	<b>NK22-3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18</b>
<b>(NK25)</b>	68	30~55	<b>NK25-3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22</b>
<b>(NK32)</b>	75	30~60	<b>NK32-3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26</b>
<b>(NK42)</b>	85(92)	30~65	<b>NK42-3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32</b>

- ★[For Synchronous Tapping Program] : Special ID Collets for Tap Shank are also available.
- ★Other metric sizes and imperial sizes, 1/8, 1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4, 13/16, 7/8, 1, 1-1/8, 1-1/4, 1-1/2"are also available.
- ★The collets with bold character are standard.
- ★Please note the acceptable shank tolerance is h6~h7.
- ★( ): L dimension for **NK42-12** or larger ID.
- ★Collet removal (**9CKR**) is an optional accessory for NC milling chuck.

# STRAIGHT COLLET (KM COLLET) (I.D.inch)

**NIKKEN**



**KM**

Photo shows ANNIVERSARY type KM Collet.

Style	L	KM Collet Code No. (inside diameter)
<b>(KM20)</b>	53	<b>KM20 -1/8, 1/4, 5/16, 3/8, 7/16, 1/2, 5/8</b>
<b>(KM25)</b>	59	<b>KM25 -1/8, 1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4, 7/8</b>
<b>(KM32)</b>	64.5	<b>KM32 -1/8, 1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4, 7/8, 1</b>

# STRAIGHT COLLET (KM COLLET) (inch)

**NIKKEN**



**KM**

Style	KM Collet Code No. (outer, inside diameter)
<b>(KM3/4)</b>	<b>KM3/4 -1/8, 3/16, 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8</b>
<b>(KM1)</b>	<b>KM1 -1/8, 3/16, 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 3/4, 7/8</b>
<b>(KM1 1/4)</b>	<b>KM1 1/4 -1/8, 3/16, 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 3/4, 7/8, 1</b>

- ★Please note the acceptable shank tolerance is h6~h7.
- ★KM collet with outer diameter in inches and inner diameter in millimeters are made to order.
- ★Collet removal (**9CKR**) is an optional accessory for NC milling chuck.

BT

ACCESSORY

# CENTRE COOLANT STRAIGHT COLLET



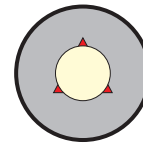
Suitable for all models of the NIKKEN MILLING CHUCK



**CCK Collet**

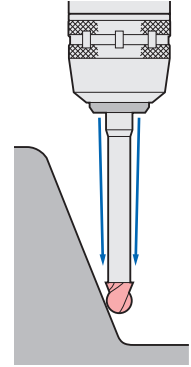


**Front Nut**



**Jet Coolant**

⊕  
**Prevention of Swarf entering the collet through the slots**

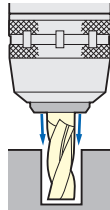


Explanation of the Code No.

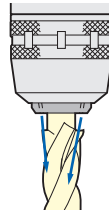
**CCK** 32 - 10

- ID of Collet
- OD of Collet
- Symbol of CCK Collet

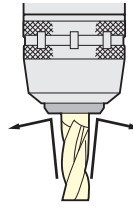
**CCK** : Centre Coolant  
**CCNK** : Centre Coolant, Adjustable  
**KM** : Standard  
**NK** : Adjustable  
**ONK** : Oil Hole Drill  
**OJK-A** : Jet Coolant  
**OJK-S** : Multiple Nozzles



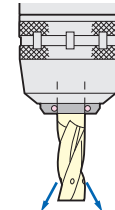
For grooving.



For cutters with cutting diameter which is larger than the shank diameter.



**Prevention of the swarf contamination.**



A front nut with an O-ring seal, for use with oil hole cutter, is also available as option.



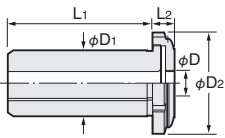
**CKFN-MN**



**CKFN-C**

## CCK Collet

○ means with internal grooves for gripping strongly to eliminate the oil.



**CCK**

Explanation of the Code No.

**CCK** 32 - 10

- ID of Collet
- OD of Collet
- Symbol of Centre Coolant Collet

It can be used for the standard collet.

Style	φD1	φD2	L1	L2	CCK Collet Code No. (OD-ID)	Front Nut Code No.
<b>CCK12</b>	12	19.5	38	7	<b>CCK12</b> -3, 4, 5, 6, 8, 10	<b>CKFN12</b>
<b>CCK16</b>	16	28.5	45	8	<b>CCK16</b> -3, 4, 5, 6, 8, 10, 12	<b>CKFN16</b>
<b>CCK20</b>	20	33	50.5	8	<b>CCK20</b> -6, 8, 10, 12, 16	<b>CKFN20</b>
<b>CCK25</b>	25	39	56	8.5	<b>CCK25</b> -6, 8, 10, 12, 16, 20	<b>CKFN25</b>
<b>CCK32</b>	32	46.5, 43	61.5	9	<b>CCK32</b> -6, 8, 10, 12, 16, 20, 25	<b>CKFN32, CKFN32T</b>
<b>CCK42</b>	42	59.5	70(75)	9	<b>CCK42</b> -6, 8, 10, 12, 16, 20, 25, 32	<b>CKFN42</b>

★ Above bold figures indicate "ANNIVERSARY" type CCK Collet.

★ Please note the acceptable shank tolerance is h6~h7.

★ Other metric sizes and imperial sizes, 1/8, 1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4, 13/16, 7/8, 1, 1-1/8, 1-1/4, 1-1/2" are also available.

★ CKFN front nut and CCKL spanner are optional accessories.

★ Collet removal (9CKR) is an optional accessory for NC milling chuck.



## CCNK Collet

○ means with internal grooves for gripping strongly to eliminate the oil.

Cutter length adjustment on the collet is possible from front and back.



Explanation of the Code No.

**CCNK** 32 - 10

- ID of Collet
- OD of Collet
- Symbol of Centre Coolant Collet for NC

Photo shows with front nut.

**CCNK+CKFN**

It can be used for the standard collet.

Style	CCNK Collet Code No. (OD-ID)	Front Nut Code No.
<b>CCNK20</b>	<b>CCNK20</b> -6, 8, 10, 12, 16	<b>CKFN20</b>
<b>CCNK25</b>	<b>CCNK25</b> -6, 8, 10, 12, 16, 20	<b>CKFN25</b>
<b>CCNK32</b>	<b>CCNK32</b> -6, 8, 10, 12, 16, 20, 25	<b>CKFN32, CKFN32T</b>
<b>CCNK42</b>	<b>CCNK42</b> -6, 8, 10, 12, 16, 20, 25, 32	<b>CKFN42</b>

★ Please note the acceptable shank tolerance is h6~h7.

★ Other metric sizes and imperial sizes, 1/8, 1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4, 13/16, 7/8, 1, 1-1/8, 1-1/4, 1-1/2" are also available.

★ CKFN front nut and CCKL spanner are optional accessories.

★ Collet removal (9CKR) is an optional accessory for NC milling chuck.



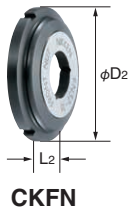
2 LOCK

ACCESSORY

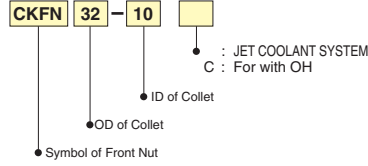
# FRONT NUT For CENTRE COOLANT STRAIGHT COLLET



## Front Nut



Explanation of the Code No.



Style	φD2	L2	Front Nut Code No.	Spanner(option)
<b>CKFN12</b>	19.5	7	<b>CKFN12</b> -3, 4, 5, 6, 8, 10	<b>CCKL12</b>
<b>CKFN16</b>	28.5	8	<b>CKFN16</b> -3, 4, 5, 6, 8, 10, 12	<b>CCKL16</b>
<b>CKFN20</b>	33	8	<b>CKFN20</b> -6, 8, 10, 12, 16	<b>CCKL20</b>
<b>CKFN25</b>	39	8.5	<b>CKFN25</b> -6, 8, 10, 12, 16, 20	<b>CCKL25</b>
<b>CKFN32</b>	46.5	9	<b>CKFN32</b> -6, 8, 10, 12, 16, 20, 25	<b>CCKL32</b>
<b>CKFN32T</b>	43	9	<b>CKFN32T</b> -6, 8, 10, 12, 16, 20, 25	<b>CCKL25</b>
<b>CKFN42</b>	59.5	9	<b>CKFN42</b> -6, 8, 10, 12, 16, 20, 25, 32	<b>CCKL42</b>

★For C32 there are 2 sizes, CKFN32 = for nosering diameter of φ 69mm, CKFN32T = for nosering diameter of φ 64mm

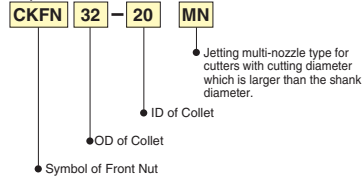
★Front Nut fitted with an O-ring is available, e.g. The Code No. is **CKFN25-12C**

★Other metric sizes and imperial sizes, 1/8, 1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4, 13/16, 7/8, 1, 1-1/8, 1-1/4, 1-1/2 are also available.

## Front Nut : MN



Explanation of the Code No.



Style	Front Nut Code No.	Spanner(option)
<b>CKFN16</b>	<b>CKFN16</b> -6*, 8*MN	<b>CCKL16</b>
<b>CKFN20</b>	<b>CKFN20</b> -6, 8, 10, 12, 16MN	<b>CCKL20</b>
<b>CKFN25</b>	<b>CKFN25</b> -6, 8, 10, 12, 16, 18, 20MN	<b>CCKL25</b>
<b>CKFN32</b>	<b>CKFN32</b> -6, 8, 10, 12, 16, 20, 25MN	<b>CCKL32</b>
<b>CKFN32T</b>	<b>CKFN32T</b> -6, 8, 10, 12, 16, 20, 25MN	<b>CCKL25</b>
<b>CKFN42</b>	<b>CKFN42</b> -6, 8, 10, 12, 16, 20, 25, 32MN	<b>CCKL42</b>

★\*marks are special order items, others are standard items.

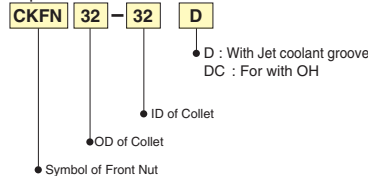
Other metric sizes and imperial sizes, 1/8, 1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4, 13/16, 7/8, 1, 1-1/8, 1-1/4, 1-1/2 are also available.

★For C32 there are 2 sizes, CKFN32 = for nosering diameter of φ 69mm, CKFN32T = for nosering diameter of φ 64mm

## Front NUT for Direct chucking : D,DC



Explanation of the Code No.



For direct chucking:  
e.g. with a round diameter of 32 mm

Style	Front NUT for direct chucking Code No.	Spanner(option)
<b>CKFN12</b>	<b>CKFN12</b> -12D, 12DC	<b>CCKL12</b>
<b>CKFN16</b>	<b>CKFN16</b> -16D, 16DC	<b>CCKL16</b>
<b>CKFN20</b>	<b>CKFN20</b> -20D, 20DC	<b>CCKL20</b>
<b>CKFN25</b>	<b>CKFN25</b> -25D, 25DC	<b>CCKL25</b>
<b>CKFN32</b>	<b>CKFN32</b> -32D, 32DC	<b>CCKL32</b>
<b>CKFN32T</b>	<b>CKFN32T</b> -32D, 32DC	<b>CCKL25</b>
<b>CKFN42</b>	<b>CKFN42</b> -42D, 42DC	<b>CCKL42</b>

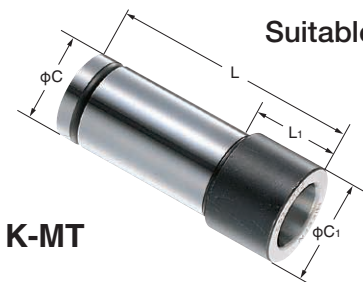
★All are semi-standard.

★For C32 there are 2 sizes, CKFN32 = for nosering diameter of φ 69mm, CKFN32T = for nosering diameter of φ 64mm

# Straight Shank MORSE TAPER SOCKET

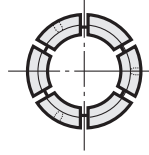
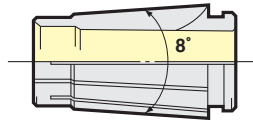


Suitable for MULTI-LOCK Milling Chuck

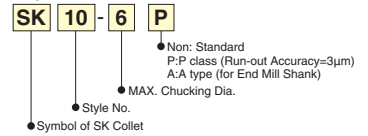


Style	Code No.	L	L1	C	C1
<b>20</b>	<b>K20-MT1, MT2</b>	59, 70.5	5, 20	20	25
<b>25</b>	<b>K25-MT1, MT2</b>	59, 70.5	3, 10.5	25	29
<b>32</b>	<b>K32-MT1, MT2, MT3</b>	59, 70.5, 88	3, 8.5, 26	32	37
<b>42</b>	<b>K42-MT1, MT2, MT3, MT4</b>	59, 70.5, 89, 113.5	5, 5, 5, 18	42	48

# SLIM CHUCK COLLET (SKCOLLET)



Explanation of the Code No.



**SK** "A" type SK collet (for End Mill Shank) are marked **●**. The acceptable shank tolerance is h8. Code No. is e.g. SK10-10A  
 "P" class SK collet (for drill) are available for all series. e.g. SK10-10P

Code No.	Chucking D
SK 6- 0.8	0.7 ~ 0.8
- 1	0.9 ~ 1.0
- 1.25	1.15~ 1.25
- 1.5	1.3 ~ 1.5
- 1.75	1.55~ 1.75
- 2	1.8 ~ 2.0
- 2.25	2.05~ 2.25
- 2.5	2.3 ~ 2.5
- 2.75	2.55~ 2.75
- 3	2.8 ~ 3.0
- 3.5	3.0 ~ 3.5
- 4	3.5 ~ 4.0
- 4.5	4.0 ~ 4.5
- 5	4.5 ~ 5.0
- 5.5	5.0 ~ 5.5
- 6	5.5 ~ 6.0
SK10- 1	0.9 ~ 1.0
- 1.25	1.15~ 1.25
- 1.5	1.3 ~ 1.5
- 1.75	1.55~ 1.75
- 2	1.75~ 2.0
- 2.25	2.0 ~ 2.25
- 2.5	2.25~ 2.5
- 2.75	2.5 ~ 2.75
- 3	2.75~ 3.0
- 3.5	3.0 ~ 3.5
- 4	3.5 ~ 4.0
- 4.5	4.0 ~ 4.5
- 5	4.5 ~ 5.0
- 5.5	5.0 ~ 5.5
- 6	5.5 ~ 6.0
- 6.5	6.0 ~ 6.5
- 7	6.5 ~ 7.0
- 7.5	7.0 ~ 7.5
- 8	7.5 ~ 8.0
- 8.5	8.0 ~ 8.5
- 9	8.5 ~ 9.0
- 9.5	9.0 ~ 9.5
-10	9.5 ~10.0

Code No.	Chucking D
SK13- 3	2.75~ 3.0
- 3.5	3.0 ~ 3.5
- 4	3.5 ~ 4.0
- 4.5	4.0 ~ 4.5
- 5	4.5 ~ 5.0
- 5.5	5.0 ~ 5.5
- 6	5.5 ~ 6.0
- 6.5	6.0 ~ 6.5
- 7	6.5 ~ 7.0
- 7.5	7.0 ~ 7.5
- 8	7.5 ~ 8.0
- 8.5	8.0 ~ 8.5
- 9	8.5 ~ 9.0
- 9.5	9.0 ~ 9.5
- 10	9.5 ~10.0
- 10.5	10.0~10.5
- 11	10.5~11.0
- 11.5	11.0~11.5
- 12	11.5~12.0
- 12.5	12.0~12.5
- 13	12.5~13.0

Code No.	Chucking D
SK16- 3	2.75~ 3.0
- 3.5	3.0 ~ 3.5
- 4	3.5 ~ 4.0
- 4.5	4.0 ~ 4.5
- 5	4.5 ~ 5.0
- 5.5	5.0 ~ 5.5
- 6	5.5 ~ 6.0
- 6.5	6.0 ~ 6.5
- 7	6.5 ~ 7.0
- 7.5	7.0 ~ 7.5
- 8	7.5 ~ 8.0
- 8.5	8.0 ~ 8.5
- 9	8.5 ~ 9.0
- 9.5	9.0 ~ 9.5
- 10	9.5 ~10.0
- 10.5	10.0~10.5
- 11	10.5~11.0
- 11.5	11.0~11.5
- 12	11.5~12.0
- 12.5	12.0~12.5
- 13	12.5~13.0
- 13.5	13.0~13.5
- 14	13.5~14.0
- 14.5	14.0~14.5
- 15	14.5~15.0
- 15.5	15.0~15.5
- 16	15.5~16.0

Code No.	Chucking D
SK20- 4	3.5 ~ 4.0
- 4.5	4.0 ~ 4.5
- 5	4.5 ~ 5.0
- 5.5	5.0 ~ 5.5
- 6	5.5 ~ 6.0
- 6.5	6.0 ~ 6.5
- 7	6.5 ~ 7.0
- 7.5	7.0 ~ 7.5
- 8	7.5 ~ 8.0
- 8.5	8.0 ~ 8.5
- 9	8.5 ~ 9.0
- 9.5	9.0 ~ 9.5
- 10	9.5 ~ 10.0
- 10.5	10.0~ 10.5
- 11	10.5~ 11.0
- 11.5	11.0~ 11.5
- 12	11.5~ 12.0
- 12.5	12.0~ 12.5
- 13	12.5~ 13.0
- 13.5	13.0~ 13.5
- 14	13.5~ 14.0
- 14.5	14.0~ 14.5
- 15	14.5~ 15.0
- 15.5	15.0~ 15.5
- 16	15.5~ 16.0
- 16.5	16.0~ 16.5
- 17	16.5~ 17.0
- 17.5	17.0~ 17.5
- 18	17.5~ 18.0
- 18.5	18.0~ 18.5
- 19	18.5~ 19.0
- 19.5	19.0~ 19.5
- 20	19.5~ 20.0

Code No.	Chucking D
SK25- 8	7.5~8.0
- 10	9.5~10.0
- 12	11.5~12.0
- 16	15.5~16.0
- 16.5	16.0~16.5
- 17	16.5~17.0
- 17.5	17.0~17.5
- 18	17.5~18.0
- 18.5	18.0~18.5
- 19	18.5~19.0
- 19.5	19.0~19.5
- 20	19.5~20.0
- 20.5	20.0~20.5
- 21	20.5~21.0
- 21.5	21.0~21.5
- 22	21.5~22.0
- 22.5	22.0~22.5
- 23	22.5~23.0
- 23.5	23.0~23.5
- 24	23.5~24.0
- 24.5	24.0~24.5
- 25	24.5~25.0
- 25.4	25.0~25.4

★SK6 collet with the special internal dia. is also available.



Collet removal (SKR-6) is supplied as standard only for SK6. SKR-10, SKR-16 and SKR-25 are available as an option. Collet removal is not necessary for the new types of collet (SK10 to SK25 collet including SK13 and SK20).

★Collets with special inner diameters can also be manufactured.  
 ★Please refer to P.284 as for SK coolant collet (AC collet).  
 ★Please refer to P.285 as for the jet coolant system and the system for oil hole drill.

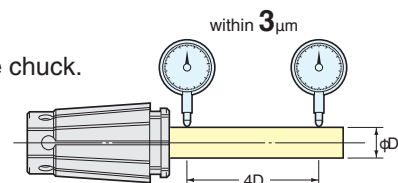
★When gripping a cutting tool of less than nominal size with the SK collet, please be careful that the tool protrusion will be shortened.

## ■ "P" class SK collet for drill

It guarantees the Run-out accuracy within 3 micron at the nose (4D) from the chuck. Additionally Collet Set is also available.

## ■ "A" type SK collet for endmill

The acceptable shank tolerance is h8.



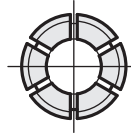
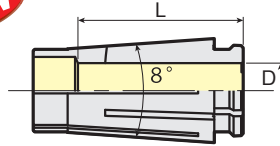
SK Collet A Type
SK 6-3A, 4A, 5A, 6A
SK10-3A, 4A, 5A, 6A, 8A, 10A
SK13-3A, 4A, 5A, 6A, 8A, 10A, 12A, 13A
SK16-3A, 4A, 5A, 6A, 8A, 10A, 12A, 16A
SK20-4A, 5A, 6A, 8A, 10A, 12A, 16A, 20A
SK25-8A, 10A, 12A, 16A, 20A, 25A

SK Collet A Type (Inch)
SK 6 -1/8A, 3/16A
SK10 -1/8A, 3/16A, 1/4A, 5/16A, 3/8A
SK13 -1/8A, 3/16A, 1/4A, 5/16A, 3/8A, 7/16A, 1/2A
SK16 -1/8A, 3/16A, 1/4A, 5/16A, 3/8A, 7/16A, 1/2A, 9/16A, 5/8A
SK20 -1/8A, 3/16A, 1/4A, 5/16A, 3/8A, 7/16A, 1/2A, 9/16A, 5/8A, 3/4A
SK25 -3/16A, 1/4A, 5/16A, 3/8A, 7/16A, 1/2A, 5/8A, 3/4A, 25.4A

# CENTER-THRU COOLANT COLLET (SK-AC) for NIKKEN SLIM CHUCK



**NEW**



Code number reference

**SK** **10** - **6** **AC**

- Center-thru coolant
- MAX. Chucking Dia.
- Style No.
- Symbol of SK Collet

## SK-AC

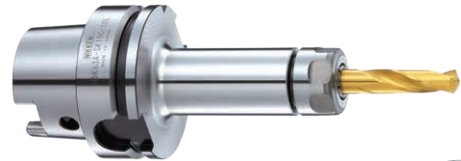
The acceptable shank tolerance is h8.

Style	Code No.	Chucking D	Min. Gripping Length L
SK 6	SK 6- 3AC	3.0	16.0
	- 4AC	4.0	18.0
	- 5AC	5.0	19.0
	- 6AC	6.0	25.0
SK10	SK10- 3AC	3.0	18.0
	- 4AC	4.0	20.0
	- 5AC	5.0	22.0
	- 6AC	6.0	23.0
	- 7AC	7.0	24.0
	- 8AC	8.0	24.0
	- 9AC	9.0	25.0
	-10AC	10.0	31.0
SK13	SK13- 4AC	4.0	24.0
	- 5AC	5.0	25.0
	- 6AC	6.0	29.0
	- 7AC	7.0	30.0
	- 8AC	8.0	30.0
	- 9AC	9.0	30.0
	-10AC	10.0	30.0
	-11AC	11.0	30.0
SK16	SK16- 6AC	6.0	25.0
	- 7AC	7.0	27.0
	- 8AC	8.0	30.0
	- 9AC	9.0	32.0
	-10AC	10.0	34.0
	-11AC	11.0	35.0
	-12AC	12.0	36.0
	-13AC	13.0	36.0
SK20	SK20-12AC	12.0	41.0
	-13AC	13.0	40.8
	-14AC	14.0	41.1
	-15AC	15.0	41.3
	-16AC	16.0	46.0
SK25	SK25-16AC	16.0	46.0
	-20AC	20.0	47.0
	-25AC	25.0	57.0

Style	Code No.	Chucking D	Min. Gripping Length L
SK20	SK20-12AC	12.0	41.0
	-13AC	13.0	40.8
	-14AC	14.0	41.1
	-15AC	15.0	41.3
	-16AC	16.0	46.0
SK25	SK25-16AC	16.0	46.0
	-20AC	20.0	47.0
	-25AC	25.0	57.0

## Quick & Easy to block coolant diffusion

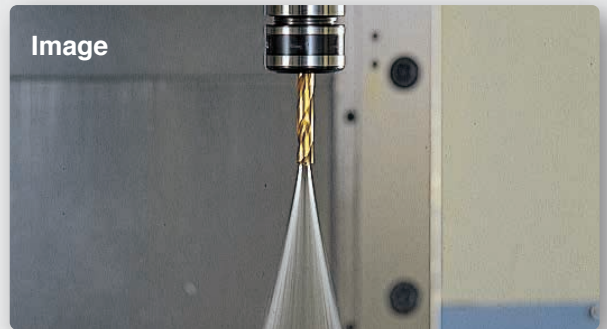
Slim Chuck  
Major Dream Holder



SK standard nut  
SKT/MDSK standard nut



New SK coolant collet



Coolant may leak when the cutting tool has a flat area on the shank.

★Clamping range: h8

★When using A TYPE SLIM COLLET (P.283 and AC collet, the total length will be shorter by about 3mm. Please be careful when you check the interference.

# SK COLLET CASE **NEW**



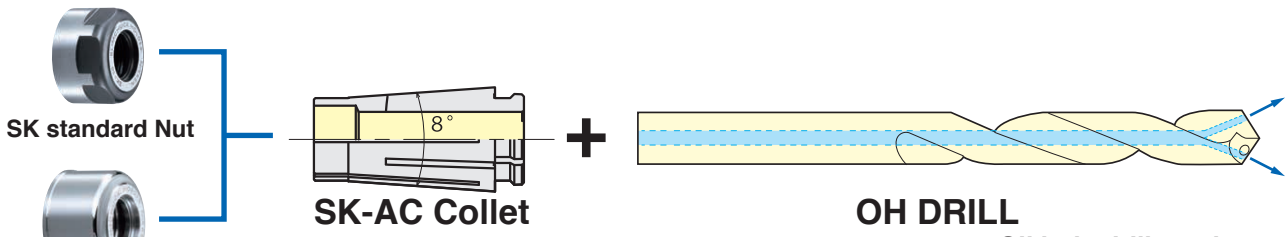
This case allows for compact storage of SK Collet.

This SK collet case reduces set-up time by keeping things organized.

Code No.	Collet	Maximum storage capacity	Dimension
SKBX- 10	SK10	60	W300×H100 ×D200mm
- 16	SK16	24	
- 610	SK 6	26	
	SK10	40	
-1316	SK13	24	
	SK16	14	

WITH OIL HOLE DRILL		JET COOLANT SYSTEM	
<p><b>1</b> Standard Nut + SK-AC Coolant Collet</p>	<p><b>2</b> J-TYPE Nut with Standard Collet and J CAP(C)  P.286</p>	<p><b>3</b> J-TYPE Nut with Standard Collet and J CAP  P.287</p>	

## 1 WITH OIL HOLE DRILL SK standard Nut + AC Collet (for using of oil hole drill)



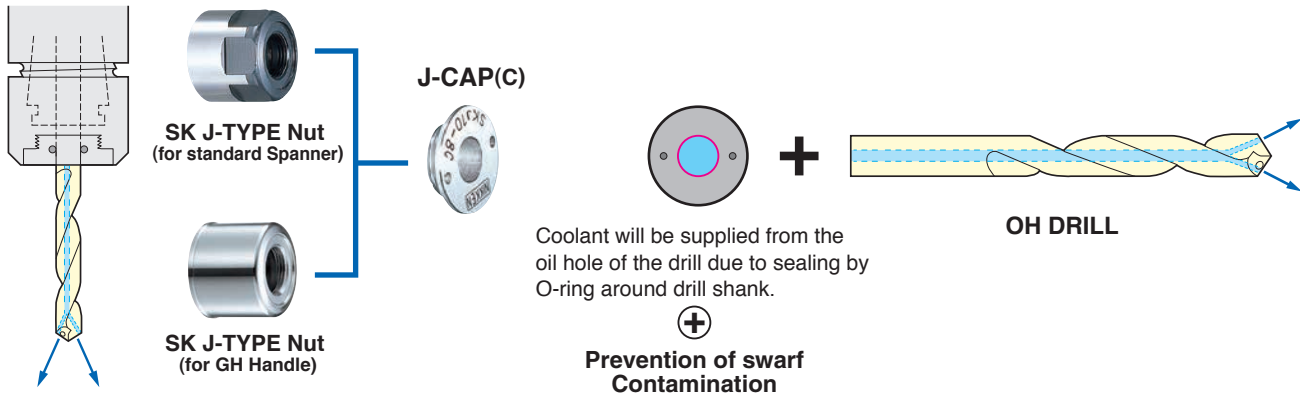
Oil hole drill can be used by AC collet (Coolant Collet) With standard Nut P.284

Style	Nut for standard Spanner		Nut for GH Handle		AC Collet (OPTION)	ADJUST SCREW (OPTION)
	Nut Code No.	Spanner (OPTION)	Nut Code No.	GH Handle (OPTION)		
SK 6 SK 6(P)	SKN-6WK	SKL-6W	SKN-6WK (GH)	GH6	SK 6-3AC, 4AC, 5AC, 6AC	Please refer  P.288 Fig3, Fig4, Fig5
SKT 6 MDSK 6	SKTN-6K		MDSKN-6K			
SK10 SK10(P)	SKN-10K	SKL-10	SKN-10K (GH)	GH10	SK10-3AC, 4AC, 5AC, 6AC, 7AC, 8AC, 9AC, 10AC	
SKT 10 MDSK10	SKTN-10K		MDSKN-10K			
SK13 SK13(P)	SKN-13B	9HC12A	SKN-13B (GH)	GH12	SK13-4AC, 5AC, 6AC, 7AC, 8AC, 9AC, 10AC, 11AC, 12AC	
SKT 13 MDSK13	SKTN-13B		MDSKN-13B			
SK16 SK16(P)	SKN-16B	9HC16	SKN-16B (GH)	GH16	SK16-6AC, 7AC, 8AC, 9AC, 10AC, 11AC, 12AC, 13AC, 14AC, 15AC, 16AC	
SKT 16 MDSK16	SKTN-16B		MDSKN-16B			
SK20 SK20(P)	SKN-20B	9HC22	SKN-20B (GH)	GH20	SK20-12AC, 16AC, 20AC, 25AC	
SKT 20 MDSK20	SKTN-20B		MDSKN-20B			
SK25 SK25(P)	SKN-25B		SKN-25B (GH)			GH25
SKT 25 MDSK25	SKTN-25B	MDSKN-25B				

★Please refer to P.284 for SK Coolant Collet (AC Collet)

★The nut Code No. for SK6 and SK10 are changed. The old Code No. are  
 SKN-6WK : SKN-6WB, SKTN-6K : SKTN-6B, SKN-10K : SKN-10B, SKTN-10K : SKN-10B, SKN-6WK (GH) : SKN-6WB (GH),  
 MDSKN-6K : SKN-6B (GH), MDSKN-10K : SKN-10B (GH), SKN-10K (GH) : SKN-10B (GH)  
 We are replaced by a new model product as soon as the product stock of the old model No. disappears.

## 2 WITH OIL HOLE DRILL J-TYPE Nut with standard Collet and J-CAP(C)



In the case of with J-Nut, please add “-J” to the end Code No. As Nut full length becomes longer 6mm than a standard nut, in the case of J-Nut, please be careful.

•When using SK-A collets or AC collets, or when gripping a cutting tool smaller than the normal diameter on SK collets, the total length will be shortened by about 3mm. Please be careful when you check the interference.

Style	Collet Selection	OPTION					
		J-TYPE Nut		Spanner	J-CAP(C) Code No. for OIL HOLL DRILL	Wrench for J-cap Code No.	ADJUST SCREW
		SK, SK-P	SKT, MDSK				
SK 6 SK 6(P) (High Speed) MDSK 6 SKT 6	SK 6-0.0 SK 6-0.0A	(for standard Spanner)	(for standard Spanner)	(standard Spanner)	SKJ 6-3C, 3.3C, 4C, 4.2C, 5C, 6C	SKJL-6	Please refer P.56 Fig3, Fig4, Fig5
		(for GH Handle)	(for GH Handle)	(GH Handle)			
SK10 SK10(P) (High Speed) MDSK10 SKT10	SK10-0.0 SK10-0.0A	(for standard Spanner)	(for standard Spanner)	(standard Spanner)	SKJ10-3C, 4C, 5C, 5.5C, 6C, 6.2C, 6.8C, 7C, 8C, 8.5C, 10C	SKJL-10	
		(for GH Handle)	(for GH Handle)	(GH Handle)			
SK13 SK13(P) (High Speed) MDSK13 SKT13	SK13-0.0 SK13-0.0A	(C-Spanner)	(C-Spanner)	(C-Spanner)	SKJ16-7C, 8C, 8.5C, 10C, 10.3C, 12C, 12.5C	SKJL-16	
		(for GH Handle)	(for GH Handle)	(GH Handle)			
SK16 SK16(P) (High Speed) MDSK16 SKT16	SK16-0.0 SK16-0.0A	(C-Spanner)	(C-Spanner)	(C-Spanner)	SKJ16-7C, 8C, 8.5C, 10C, 10.3C, 12C, 12.5C, 14C, 15C, 16C	SKJL-16	
		(for GH Handle)	(for GH Handle)	(GH Handle)			
SK20 SK20(P) (High Speed) MDSK20 SKT20	SK20-0.0 SK20-0.0A	(C-Spanner)	(C-Spanner)	(C-Spanner)	SKJ25-8C, 10C, 12C, 16C 17.5C, 20C	SKJL-25	
		(for GH Handle)	(for GH Handle)	(GH Handle)			
SK25 SK25(P) (High Speed) MDSK25 SKT25	SK25-0.0 SK25-0.0A	(C-Spanner)	(C-Spanner)	(C-Spanner)	SKJ25-8C, 10C, 12C, 16C 17.5C, 20C, 25C	SKJL-25	
		(for GH Handle)	(for GH Handle)	(GH Handle)			

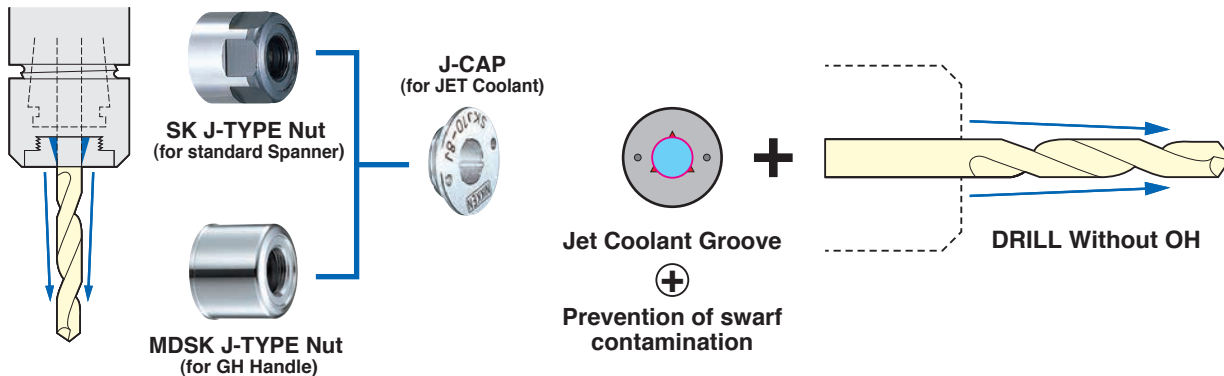
\*We recommend A type Collet in MDSK.

★The nut Code No. for SK6 and SK10 are changed. The old Code No. are  
SKN-6WKJ : SKN-6WBJ, SKN-6WKJ (GH) : SKN-6WBJ (GH), SKN-10KJ : SKN-10BJ, SKN-10KJ (GH) : SKN-10BJ (GH),  
SKTN-6KJ : SKTN-6BJ, MDSKN-6KJ : MDSKN-6BJ, SKTN-10KJ : SKN-10BJ, MDSKN-10KJ : SKN-10BJ (GH)  
We are replaced by a new model product as soon as the product stock of the old model No. disappears.

# SLIM CHUCK COOLANT SOLUTION

**NIKKEN**

## 3 WITHOUT OH DRILL (JET Coolant SYSTEM) J-type Nut with standard Collet and J-CAP



- In the case of with J-Nut, please add “-J” to the end Code No. As Nut full length becomes longer 6mm than a standard nut, in the case of J-Nut, please be careful.
- When using SK-A collets or SK-AC collets, or when gripping a cutting tool smaller than the nominal diameter on SK collets, the total length will be shortened by about 3 mm. Please be careful when you check the interference.

Style	Collet Selection	OPTION					
		J-TYPE Nut		Spanner	J-CAP Code No. (for JET Coolant)	Wrench for J-cap Code No.	ADJUST SCREW
		SK, SK-P	SKT, MDSK				
SK 6 SK 6(P) (High Speed) MDSK 6 SKT 6	SK 6-0.0 SK 6-0.0A	(for standard Spanner) SKN-6WKJ	(for standard Spanner) SKTN-6KJ	(standard Spanner) SKL-6W	SKJ 6-3, 3.3, 4, 4.2, 5, 6	SKJL-6	
		(for GH Handle) SKN-6WKJ (GH)	(for GH Handle) MDSKN-6KJ	(GH Handle) GH6			
SK10 SK10(P) (High Speed) MDSK10 SKT10	SK10-0.0 SK10-0.0A	(for standard Spanner) SKN-10KJ	(for standard Spanner) SKTN-10KJ	(standard Spanner) SKL-10	SKJ10-3, 4, 5, 5.5, 6, 6.2, 6.8, 7, 8, 8.5, 10	SKJL-10	
		(for GH Handle) SKN-10KJ (GH)	(for GH Handle) MDSKN-10KJ	(GH Handle) GH10			
SK13 SK13(P) (High Speed) MDSK13 SKT13	SK13-0.0 SK13-0.0A	(C-Spanner) SKN-13BJ	(C-Spanner) SKTN-13BJ	(C-Spanner) 9HC12A	SKJ16-7, 8, 8.5, 10, 10.3, 12, 12.5	SKJL-16	Please refer P.288 Fig5
		(for GH Handle) SKN-13BJ (GH)	(for GH Handle) MDSKN-13BJ	(GH Handle) GH12			
SK16 SK16(P) (High Speed) MDSK16 SKT16	SK16-0.0 SK16-0.0A	(C-Spanner) SKN-16BJ	(C-Spanner) SKTN-16BJ	(C-Spanner) 9HC16	SKJ16-7, 8, 8.5, 10, 10.3, 12, 12.5, 14, 15, 16	SKJL-16	
		(for GH Handle) SKN-16BJ (GH)	(for GH Handle) MDSKN-16BJ	(GH Handle) GH16			
SK20 SK20(P) (High Speed) MDSK20 SKT20	SK20-0.0 SK20-0.0A	(C-Spanner) SKN-20BJ	(C-Spanner) SKTN-20BJ	(C-Spanner) 9HC22	SKJ25-8, 10, 12, 16, 17.5, 20	SKJL-25	
		(for GH Handle) SKN-20BJ (GH)	(for GH Handle) MDSKN-20BJ	(GH Handle) GH20			
SK25 SK25(P) (High Speed) MDSK25 SKT25	SK25-0.0 SK25-0.0A	(C-Spanner) SKN-25BJ	(C-Spanner) SKTN-25BJ	(C-Spanner) 9HC22	SKJ25-8, 10, 12, 16, 17.5, 20, 25	SKJL-25	
		(for GH Handle) SKN-25BJ (GH)	(for GH Handle) MDSKN-25BJ	(GH Handle) GH25			

\*We recommend A type Collet in MDSK.

\*The nut Code No. for SK6 and SK10 are changed. The old Code No. are  
 SKN-6WKJ : SKN-6WBJ, SKN-6WKJ (GH) : SKN-6WBJ (GH), SKN-10KJ : SKN-10BJ, SKN-10KJ (GH) : SKN-10BJ (GH)  
 SKTN-6KJ : SKTN-6BJ, MDSKN-6KJ : MDSKN-6BJ, SKTN-10KJ : SKN-10BJ, MDSK-10KJ : SKN-10BJ (GH)  
 We are replaced by a new model product as soon as the product stock of the old model No. disappears.



# ADJUST SCREW FOR SLIM CHUCK



The adjust Screw for the High Speed Slim Chuck "GSK-P type" is identical to the Standard Slim Chuck as below.  
e.g. The adjust Screw for BT30-GSK10-45P is SKG-12S, is the same as the screw for BT30-SK10-45.

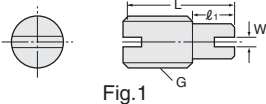


Fig.1

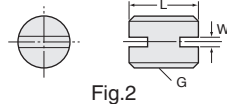


Fig.2

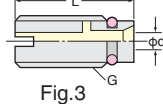


Fig.3

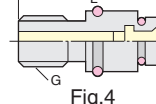


Fig.4

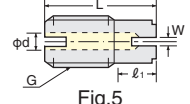


Fig.5

Please remove standard Adjust Screw or use the Adjust Screw specially designed to J type Nut for the stopper.

## SK

Explanation of the Code No. of the Adjust screw for Standard Slim Chuck

e.g. **SKG** - **12** **L** - **J**

- None, -J : Symbol of adjust screw used with J type nut (Fig.5)
- None, S, L : Length indication
- 8, 12, 18, 28 : Screw size
- Symbol of adjust screw

Style	Adjust Screw Code No.	Fig.	Slim Chuck Code No.
SK 6	SKG- 8	1	All SK6 Slim Chucks
SK10	SKG-12L	1	All SK10 Slim Chucks except below
	SKG-12S	2	BT30-SK10-45, HSK50A-SK10-90, HSK63F-SK10-90
SK13	SKG-15	1	All SK13 Slim Chucks
SK16	SKG-18L	1	All SK16 Slim Chucks except below
	SKG-12	2	BT30-SK16-90
	SKG-12L	1	BT30-SK16-60
	SKG-18S	2	BT40-SK16-60
SK20	SKG-22	1	All SK20 Slim Chucks except below
	SKG-12	2	BT30-SK20-90
	SKG-12L	1	BT30-SK20-75
	SKG-12S	2	BT30-SK20-60
SK25	SKG-28	1	All SK25 Slim Chucks except below
	SKG-12	2	BT30-SK25-90, BT40-SK25-75
	SKG-12MF	2	NC5-46-SK25-90

★W=2mm is standard. W=2.4, 3, 4, 5, 6, 8, 12mm are also available. e.g. SKG-12L-W2.4  
Please choose suitable one for the tang width of your drill.

Explanation of the Code No. of the Adjust screw with centre hole for Standard Slim Chuck

e.g. **SKG** - **12** **H** **A**

- None, A : Centre hole indication
- H : With centre hole
- 12, 18, 28 : Screw size
- Symbol of adjust screw

Style	Screw Size	Adjust Screw Code No.	Fig.	Hole Dia.	Cutter Shank Dia.	Wrench width
SK10	M12	SKG-12H	3	φ4	φ6~	3
		SKG-12HA		φ2.5	φ4~	2
SK13	M15 P1.0	SKG-15H	3	φ4	φ6~	3
		SKG-15HA		φ2.5	φ4~	2
SK16	M12	SKG-12H	3	φ4	φ6~	3
		SKG-12HA		φ2.5	φ4~	2
	SKG-18H	φ7.2		φ10~	6	
	SKG-18HA	φ3.5		φ5~	3	
SK20	M12	SKG-12H	3	φ4	φ6~	3
		SKG-12HA		φ2.5	φ4~	2
SK20	M22 P1.5	SKG-22H	3	φ8	φ10~	5
		SKG-22HA		φ4	φ6~	3
SK25	M12	SKG-12H	3	φ4	φ6~	3
		SKG-12HA		φ2.5	φ4~	2
SK25	M28 P2.0	SKG-28H	3	φ12	φ16~	8
		SKG-28HA		φ2.5	φ4~	2

★The adjust screw for oil hole tap is also available. Please contact with us.  
★These adjust screws are for the coolant pressure up to 1MPa.

## SK-C

There is no leakage of coolant from screw, because OD of the straight portion of the adjust screw is sealed.

Explanation of the Code No. of the Adjust screw for High Pressure Coolant Slim Chuck

e.g. **SKG** **10** - **10** **HG** **B** - **J**

- None, -J : Symbol of adjust screw used with J type nut (Fig.5)
- None, A, B, ... : Specification (Length, for small drill, for Tap...)
- Symbol of high pressure coolant
- 6, 10, 12, 18, 24 : Screw size
- 6, 10, 16, 25 : Slim chuck style
- Symbol of adjust screw

3LOCK tool (MBT, MIT and MCAT) , 2LOCK tool (NBT, NIT and NCAT) , NC5 tool and HSK tool can be used at high pressure centre through tool coolant application (MAX.7MPa) .

Please change the shank No. from BT to MBT or NBT for 3LOCK tool or 2LOCK tool.

The adjust screw for BT40-SK16F-90 is same as the adjust screw for MBT40-SK16F-90 and NBT40-SK16F-90.

Please refer adjust screw for oil hole holder.

SKO P.121, MOK P.119



Adjustment tool for adjust screw  
Scale wrench with scale useful for presetting tool length

Code No. ex.) SKWR-DR-120L  
(Minus driver type: Standard type)

It is compatible with each type of SK.  
Please let us know the model number of the slim chuck you will be using.

Style	Adjust Screw Code No.	Fig.	Hole Dia.	Cutter Shank Dia.	Slim Chuck Code No.	Wrench width
SK 6	SKG 6- 6HG	1	φ2.5	φ4~	All SK6C/SK6F Slim Chucks	2
SK10	SKG10-10HG		φ4	φ6~	All SK10C/SK10F Slim Chucks	4
	SK10	SKG10-10HGA	φ2.5	φ4~	All SK10C/SK10F Slim Chucks	2
SK13		SKG13-10HG	φ4	φ6~	All SK13C/SK13F Slim Chucks	4
	SK13	SKG13-10HGA	φ2.5	φ4~	All SK13C/SK13F Slim Chucks	2
SK16		SKG16-12HG	3	φ7.2	φ10~	All SK16C/SK16F Slim Chucks except below
	SKG16-12HGB	BT40-SK16F-90				
	SKG16-10HG	HSK40A-SK16C-120, HSK50A-SK16C-120				
		HSK63A-SK16C-120, 150, HSK100A-SK16C-120				
		NC5-46-SK16C-90, -120, NBT40-SK16C-60, NBT30-SK16C-75				
		NBT30-SK16C-60				
SK16	SKG16-12HGE	4	φ3.5	φ5~	All SK16C/SK16F Slim Chucks except below	3
	SKG16-12HGA				BT40-SK16F-90	
	SKG16-12HGBA				HSK40A-SK16C-120, HSK50A-SK16C-120	
					HSK63A-SK16C-120, 150, HSK100A-SK16C-120	
					NC5-46-SK16C-90, -120, NBT40-SK16C-60, NBT30-SK16C-75	
					NBT30-SK16C-75	
SK20	SKG20-18HG	4	φ6.8	φ10~	All SK20C/SK20F Slim Chucks except below	5
	SKG20-12MFHG				NC5-46-SK20C-90, NC5-53-SK20C-90, HSK63A-SK20C-120,-135	
	SKG20-12HG				NC5-46-SK20C-120, NC5-53-SK20C-120, NBT30-SK20C-90	
					HSK100A-SK20C-150, -200	
					NBT30-SK20C-75	
					NBT40-SK20C-60	
SK20	SKG20-16HG	4	φ6.8	φ10~	All SK20C/SK20F Slim Chucks except below	5
	SKG20-18HGB				BT40-SK20F-90	
	SKG25-24HG				HSK40A-SK25C-120, HSK50A-SK25C-120	
					HSK63A-SK25C-120, 150, HSK100A-SK25C-120	
					NC5-46-SK25C-90, -120, NBT40-SK25C-60, NBT30-SK25C-75	
					NBT30-SK25C-75	
SK25	SKG25-24HGA	4	φ12	φ16~	All SK25C/SK25F Slim Chucks except below	8
	SKG25-18HGC				BT40-SK25F-120, BT50-SK25F-105	
	SKG25-18HGD				BT40-SK25F-90	
					BT40-SK25C-90, NC5-63-SK25C-135	
					NC5-85-SK25C-135, NBT40-SK25C-90	
					HSK63A-SK25C-135, HSK100A-SK25C-145, NBT40-SK25C-75	

★The adjust screw for oil hole tap is different from standard. The front end of the adjust screw is flat, not taper.

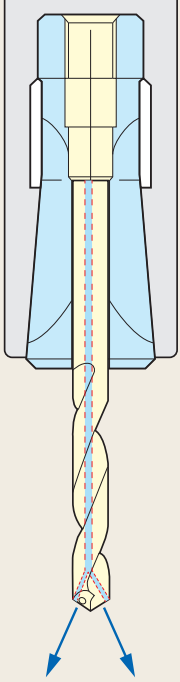
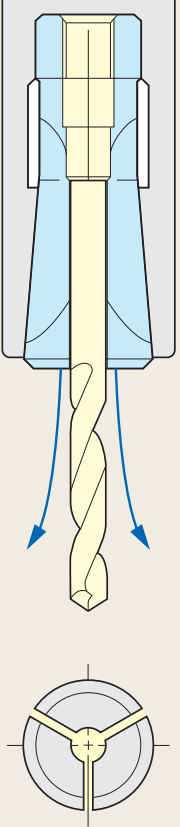
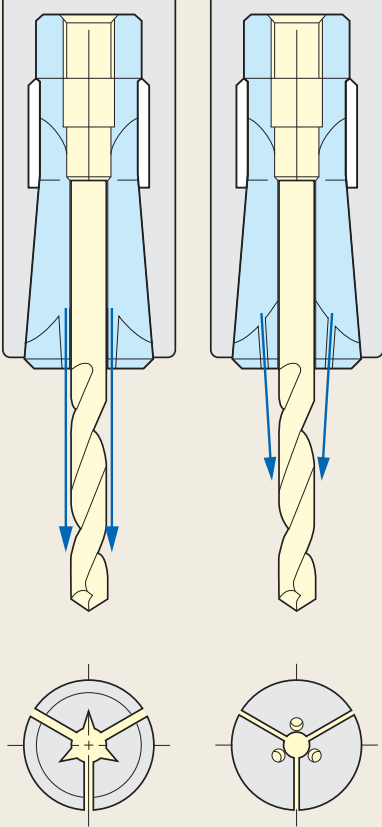

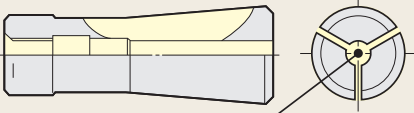
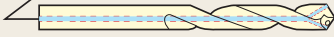

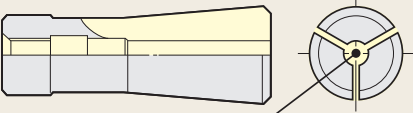
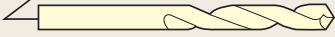

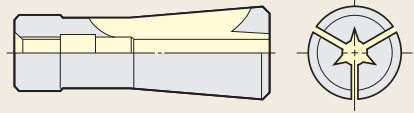
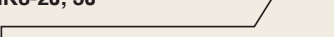
Please add "S" at the end of Code No. e.g. SKG10-10HGAS, SKG16-12HGAS, SKG16-12HGASB

★The adjust screw for extra small cutter shank dia. (φ3) is available. Please contact with us.

★The steel made adjust screw for SK10 or SK16 is available.

Please add "-FE" at the end of Code No. e.g. SKG10-10HG-FE



FOR OILHOLE DRILL	FOR STANDARD OILHOLE DRILL, ENDMILL	
		 <p style="text-align: right;">(VMK8-2J, 3J)</p>
<p><b>1</b> By using VMK collet, supply coolant through the coolant hole of the cutting tool with OH.</p>	<p><b>2</b> By using MPK or PMK collet, supply coolant through the collet gap.</p>	<p><b>3</b> By using VMK-J collet, jet coolant is supplied through the J-groove. *VMK8-2J and 3J are of the jet hole type.</p>
<p><b>VMK COLLET</b></p>    <p style="text-align: center;">OILHOLE DRILL</p>	<p><b>MPK COLLET (MMC4)</b> <b>PMK COLLET (MMC8, 12)</b></p>    <p style="text-align: center;">STANDARD DRILL</p> <p>★If the rotation speed is high, the coolant will spread, so use <b>3</b>VMK-J Collet.</p>	<p><b>VMK-J COLLET</b></p>    <p style="text-align: center;">STANDARD DRILL</p>

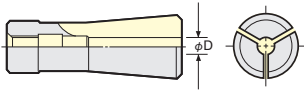
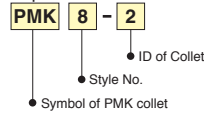
# MINI-MINI COLLET (MPK/PMK/VMK COLLET)



## STANDARD COLEET : MPK Collet / PMK Collet



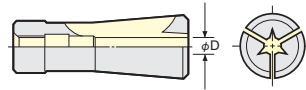
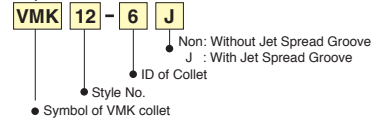
Explanation of the Code No.



## FOR CENTRE THROUGH TOOL COOLANT : VMK Collet / VMK-J Collet



Explanation of the Code No.



Jet Spread Groove (J Type)



Jet spread Hole Type  
VMK8-2J, VMK8-3J

Code No.	Min. Gripping Length
MPK 4- 1	6
- 1.5	8
- 2	10
- 2.5	12
- 3	16
- 3.5	16
- 4	16
-1/16	8
-3/32	10
- 1/8	16

Code No.	Min. Gripping Length
PMK 8- 2	10
- 2.2	10
- 2.4	12
- 2.6	12
- 2.8	12
- 3	16
- 3.2	16
- 3.4	16
- 3.6	16
- 3.8	16
- 4	20
- 4.2	20
- 4.4	20
- 4.6	22
- 4.8	22
- 5	22
- 5.2	22
- 5.4	22
- 5.6	22
- 5.8	22
- 6	22
- 6.2	22
- 6.4	22
- 6.6	22

Code No.	Min. Gripping Length
PMK 8-6.8	22
- 7	22
- 7.2	22
- 7.4	22
- 7.6	22
- 7.8	22
- 8	22
- 8	16
- 3/16	22
PMK12- 4	19
- 5	22
- 6	30
- 8	31
- 10	31
- 12	31

Code No.	Min. Gripping Length
VMK8 - 2	10
- 3	16
- 4	20
- 5	22
- 6	22
- 7	22
- 8	22
- 2JB	10
- 3JB	16
- 4J	20
- 5J	22
- 6J	22
- 7J	22
- 8J	22
- 1/8	15
-3/16	22
- 1/4	22
-5/16	22
- 3/8	22
- 1/8JB	16
-3/16J	22
- 1/4J	22
-5/16J	22
- 3/8J	22

Code No.	Min. Gripping Length
VMK12- 4	19
- 5	22
- 6	30
- 8	31
- 10	31
- 12	31
- 4J	19
- 5J	22
- 6J	30
- 8J	31
- 10J	31
- 12J	31
-3/16	22
- 1/4	30
-5/16	31
- 3/8	31
-7/16	31
- 1/2	31
-3/16J	22
- 1/4J	30
-5/16J	31
- 3/8J	31
-7/16J	31
- 1/2J	31

## For Centre Through Tool Coolant: MPK-C

Code No.	Min. Gripping Length
MPK 4- 3C	16
- 4C	16

## Jet Spread Hole Type: MPK-JB



Code No.	Min. Gripping Length
MPK 4-2JB	10
-3JB	16
-4JB	16

★Please note the acceptable shank tolerance of MPK Collet is h6.  
★Even the gripping range of PMK Collet is 0.2mm / dia. (e.g. PMK8-2 : 1.8~2.0) but the shank tolerance of h6 highly recommended for precision machining.

★For Centre through tool Coolant type MINI-MINI Chuck :  
★Standard VMK Collet is for the cutting tool with coolant hole.  
★VMK-J Collet is for the cutting tool without Coolant hole.  
★Please note the acceptable shank tolerance h6.  
★VMK8-2J is Jet Spread Hole type.  
★VMK-2J and VMK-3J will be replaced with VMK-2JB and VMK-3JB as soon as the stock is runs out.

## For VEGA CHUCK

VMK Collet Code No.
VMK16-4J, 5J, 6J, 8J, 10J, 12J, 16J
VMK20-6J, 8J, 10J, 12J, 16J, 20J
VMK25-8J, 10J, 12J, 16J, 20J, 25J
VMK32-12J, 16J, 20J, 25J, 32J

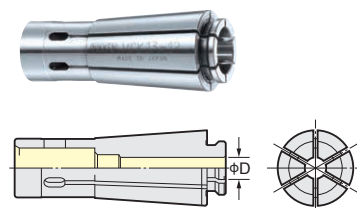
★Please note the acceptable shank tolerance h6.  
★For details of collets for MINI-MINI CHUCK, Please refer to the upper row.

## For VC HOLDER

VCK Collet Code No.
VCK 6-2, 3, (3.175), 4, 5, 6
VCK13-3, (3.175), 4, 5, 6, 7, 8, 9, 10, 11, 12

★Please note the acceptable shank tolerance h8.  
★Also available in inch sizes. VCK 6-1/8, 3/16, 1/4 VCK13-1/8, 3/16, 1/4, 5/16, 3/8, 7/16, 1/2  
★Innerdiameter (3.175) is the same as 1/8. Code No. is -1/8. e.g.VCK6-1/8

## VCK Collet



## Jet coolant splash with J type Nut.



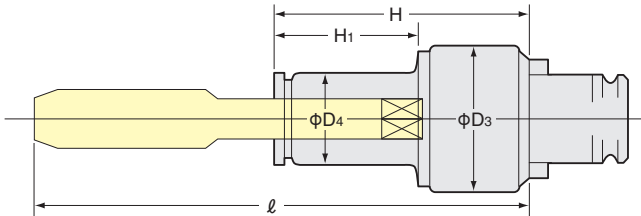
Cap with triangular grooves  
The jet coolant pressure creates a tornado effect.

Cap with O-ring  
For oil hole cutting tool

# ONE TOUCH TAP COLLET (JIS)



## ZKG Tap Collet

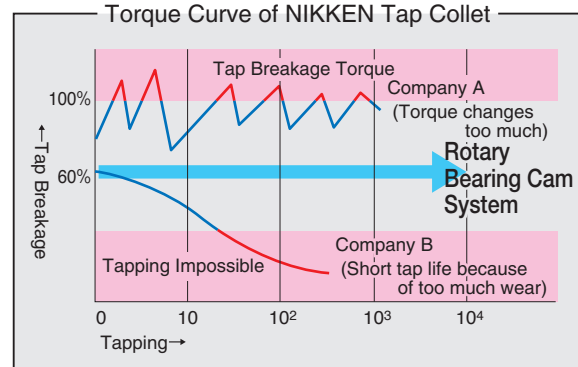


**D<sub>3</sub> Dimension**  
**ZKG12:32mm**  
**ZKG16:39mm**  
**ZKG24:46mm**

■ **High Accuracy, Quick Response and Long Tap Life.**  
 NIKKEN ZKG Tap Collet can be used with all of NIKKEN floating Tapper Chucks.

■ **Rotary Bearing Cam Mechanism**

The ZKG tap collet can respond very smoothly for the change of the tapping torque.



■ The torque of CCW is 1.4 times of the torque of CW to prevent the problem of the swarf.

■ The tap can be clamped with one touch operation.

■ The adjustment mechanism of the setting torque is not installed on the ZKG tap collet. The high torque setting type is available for the tapping on the stainless as an option. e.g ZKG12-4-HT

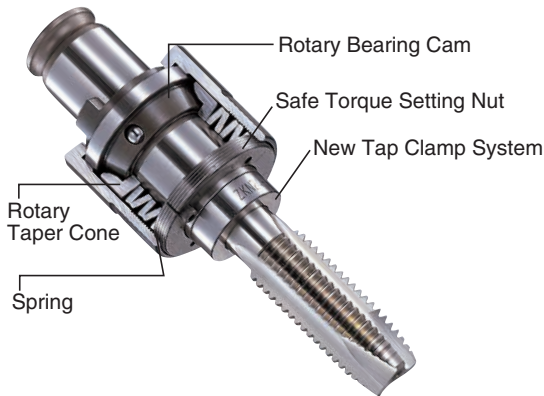
	ZKG12					ZKG16					ZKG24							
	Code.No	D <sub>4</sub>	H	H <sub>1</sub>	ℓ	Code.No	D <sub>4</sub>	H	H <sub>1</sub>	ℓ	Code.No	D <sub>4</sub>	H	H <sub>1</sub>	ℓ			
Metric (M)	ZKG12- 2	13	54.5	30.5	72	ZKG16- 3	13	64.5	37.5	85.5	ZKG24- 8	19	73	45	111			
	- 3				75	- 4				90.5	-10				116			
	- 4				80	- 5				98.5	-12				122			
	- 5				88	- 6				100.5	-14				123			
	- 6	19	55	31	90	- 8	19	65	38	104	-16	26	74	48	128			
	- 8				94	-10				109	-18				128			
	-10				99	-12				115	-20				136			
	-12				105	-14				116	-22				141			
						-16	26	66	42	121	-24	32			144			
	Unified (U) or British Standard Whitworth (W)	ZKG12-1/8	13	54.5	30.5	75	ZKG16-1/8	13	64.5	37.5	85.5	ZKG24-1/2	19	73	45	124		
-3/16		88				-3/16	98.5				-9/16	125						
-1/4		90				-1/4	100.5				-5/8	129						
-5/16		93.5				-5/16	104				-3/4	137						
-3/8		19	55	31	99	-3/8	19	65	38	109	-7/8	32	74	48	141			
-7/16					103	-7/16				113	-1				149			
-1/2					107	-1/2				117								
						-9/16	26	66	42	118								
						-5/8				122								
Pipe (PT) (PS) (PF)	ZKG12-1/8P	19	56	32	83	ZKG16-1/8P				19	66.5	39	93	ZKG24-1/4P	26	75	49	104
	-1/4P				89	-1/4P							97	-3/8P				105
	-1/16P				81.5	-3/8P	98	-1/2P	114									
	-1/16P-Y				81.5			-5/8P	115									

★ Tap for pipe thread is clamped with the side lock screw.  
 ★ High torque setting type example for stainless steel is available. Please add "-HT" at the end of Code No. e.g. ZKG12-4-HT  
 ★ Low torque setting is "-LT". e.g. ZKG12-4-LT  
 ★ Please refer P.295 for the long size tap collet.  
 ★ The ahank dimension of the 1/16P tap varies depending on the tap maker.  
 ★ The internal mechanism of the tap collet for the left handed tap is different from the standard one. Please use the special tap collet for the left handed tap.

# ZKN TAP COLLET (JIS)



## ZKN Tap Collet



- High Accuracy, Quick Response and Long Tap Life.
- Rotary Bearing Cam Mechanism  
NIKKEN ZKG Tap Collet can be used with the all NIKKEN floating Tapper Chucks.
- The torque of CCW is 1.4 times of the torque of CW to prevent the problem of the swarf.
- The setting torque can be adjusted.

Smaller equal to ZKG38-24

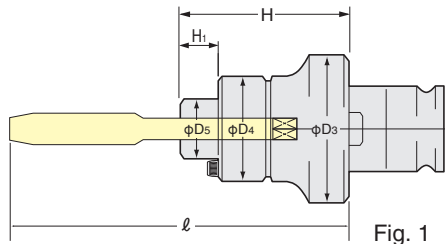


Fig. 1

All size for ZKN8  
Larger equal to ZKN38-27  
All size of ZKN65

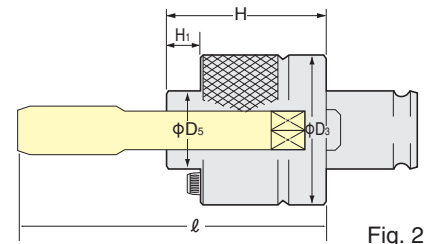


Fig. 2

**ZKN65** : The tap collet for the unified thread is also available. (U,W)  
 $1\frac{3}{8}$ ,  $1\frac{1}{2}$ ,  $1\frac{5}{8}$ ,  $1\frac{3}{4}$ ,  $1\frac{7}{8}$ , 2,  $2\frac{1}{4}$ ,  
 $2\frac{1}{2}$ ,  $2\frac{3}{4}$ , 3,  $3\frac{1}{4}$ ,  $3\frac{1}{2}$ ,  $3\frac{3}{4}$

	ZKN8	ZKN38		ZKN65	
		M18~24	M27~36	M36~65	M68~100
D <sub>3</sub>	23	78		110	125
D <sub>4</sub>	—	56	—	—	—

ZKN8 is semi-standard.

	ZKN 8					ZKN38					ZKN65					
	Code.No	D <sub>5</sub>	H	H <sub>1</sub>	ℓ	Code.No	D <sub>5</sub>	H	H <sub>1</sub>	ℓ	Code.No	D <sub>5</sub>	H	H <sub>1</sub>	ℓ	
Metric (M)	ZKN 8-2	13	29.5	6.5	50	ZKN38-18	32	61	17	117	ZKN65- 36	68	89	20	179	
	-3				55	-20				121	- 39				187	
	-4				56	-22				130	- 42				189	
	-5				64	-24				133	- 45				194	
	-6				66	-27				142	- 48				198	
	-8				73	-30				145	- 52				205	
						-33				153	- 56				212	
						-36				161	- 60				222	
						-38				121	- 64				229	
											- 65				229	
				- 68	254											
Unified (U) or British Standard Whitworth (W)	ZKN 8-1/8	13	29.5	6.5	55	ZKN38-3/4	32	61	17	122	- 72	84	94	25	254	
	-3/16				64	-7/8				130	- 80				264	
	-1/4				66	-1				138	-100*				274	
						-11/8				145	ZKN65-1P				127	
						-11/4				153	-11/8P				135	
						-13/8				161	-11/4P				139	
											-13/8P				144	
											-11/2P				144	
											-15/8P				144	
											-13/4P				144	
Pipe (PT) (PS) (PF)					ZKN38 -3/8P	26	61	17	24	91	-13/4P	84	94	25	144	
					-1/2P	32			100	-2P	149					
					-5/8P	104			-21/4P	159						
					-3/4P	103			-21/2P	174						
					-7/8P	45			64	12	106				-23/4P	174
					-1P	109			-3P	174						

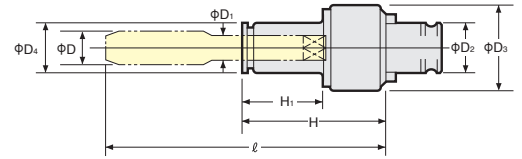
★\*mark: The Code No. of tap collet for M85 to M90 is ZKN65-100.  
 The Code No. of tap collet for M95 to M100 is ZKN65-100N.  
 ★The internal mechanism of the tap collet for the left handed tap is different from the standard one. Please use the special tap collet for the left handed tap.

# ONE TOUCH TAP COLLET (ISO, IMPERIAL, DIN)

**NIKKEN**

- Can be used with all NIKKEN Floating Tapper Chucks.
- Setting and Removal of Tap can be done in ONE TOUCH.
- Torque Limiter Mechanism built-in.

Reversing Torque is 1.4 times of Normal Rotation in order to prevent the troubles caused by swarf.



ZKG

Tapping Capacity	ZKG12		ZKG16			ZKG24		
	M2~5	M6~12	M3~5	M6~12	M14~20	M8~12	M14~20	M22~24
D <sub>2</sub>	19		25			30		
D <sub>3</sub>	32		39			46		
D <sub>4</sub>	13	19	13	19	26	19	26	32
H	54.5	55	64.5	65	66	73	74	
H <sub>1</sub>	30.5	31	37.5	38	42	45	48	

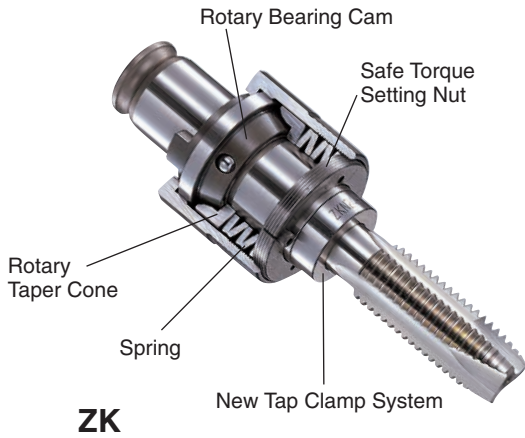
TAP SPEC.	ZKG12					ZKG16					ZKG24				
	Code No.	D	D <sub>1</sub>	W	ℓ	Code No.	D	D <sub>1</sub>	W	ℓ	Code No.	D	D <sub>1</sub>	W	ℓ
ISO Metric	ZKG12-2S	2	2.5	2	74	ZKG16-4S	4	4	3.15	93	ZKG24-12S	12	9	7.1	129
	-3S	3	3.15	2.5	79	-5S	5	5	4	97	-14S	14	11.2	9	130
	-4S	4	4	3.15	83	-6S	6	6.3	5	102	-16S	16	12.5	10	136
	-5S	5	5	4	87	-8S	8	8	6.3	106	-18S	18	14	11.2	145
	-6S	6	6.3	5	92	-10S	10	10	8	113	-20S	20	14	11.2	145
	-8S	8	8	6.3	96	-12S	12	9	7.1	121	-22S	22	16	12.5	145
	-10S	10	10	8	103	-14S	14	11.2	9	122	-24S	24	18	14	155
	-12S	12	9	7.1	111	-16S	16	12.5	10	128					
ISO Pipe	ZKG12-1/8PS	9.728	8	6.3	87	ZKG16-1/8PS	9.728	8	6.3	97.5	ZKG24-1/4PS	13.157	10	8	110
						-1/4PS	13.157	10	8	103.5	3/8PS	16.662	12.5	10	116
						-3/8PS	16.662	12.5	10	109.5	-1/2PS	20.955	16	12.5	122
IMPERIAL BSW BSF	ZKG12-1/8S(No.5S)	3.175	3.15	2.5	78	ZKG16-1/8S(No.5S)	3.175	3.15	2.5	88	ZKG24-1/2S	12.7	9	7.1	129
	-No.6S	3.505	3.55	2.8	80	-No.6S	3.505	3.55	2.8	90	-9/16S	14.288	11.2	9	130
	-No.8S	4.166	4.5	3.55	82	-No.8S	4.166	4.5	3.55	92	-5/8S	15.875	12.5	10	136
	-3/16S(No.10S)	4.762	5	4	86	-3/16S(No.10S)	4.762	5	4	96	-3/4S	19.05	14	11.2	145
	-No.12S	5.48	5.6	4.5	90	-No.12S	5.48	5.6	4.5	100	-7/8S	22.225	16	12.5	145
	-1/4S	6.35	6.3	5	90	-1/4S	6.35	6.3	5	100	-1S	25.4	18	14	155
	-5/16S	7.937	8	6.3	95	-5/16S	7.937	8	6.3	105					
	-3/8S	9.525	10	8	101	-3/8S	9.525	10	8	111					
	-7/16S	11.112	8	6.3	108	-7/16S	11.112	8	6.3	118					
	-1/2S	12.7	9	7.1	111	-1/2S	12.7	9	7.1	121					
IMPERIAL Pipe	ZKG12-1/8PB	9.728	8.08	6	83.037	ZKG16-1/8PB	9.728	8.08	6	93.537	ZKG24-1/4PB	13.157	10.9	8.18	104.8
						-1/4PB	13.157	10.9	8.18	98.3	-3/8PB	16.662	13.77	10.31	106.388
						-3/8PB	16.662	13.77	10.31	99.888	-1/2PB	20.955	17.45	13.08	114.5
DIN Metric	ZKG12-2D(DIN352)	2	2.8	2.1	72	ZKG16-4D(DIN371)	4	4.5	3.4	102	ZKG24-12D(DIN376)	12	9	7	150
	-3D(DIN371)	3	3.5	2.7	85	-5D(DIN371)	5	6	4.9	107	-14D(DIN376)	14	11	9	145
	-4D(DIN371)	4	4.5	3.4	92	-6D(DIN371)	6	6	4.9	117	-16D(DIN376)	16	12	9	145
	-5D(DIN371)	5	6	4.9	97	-8D(DIN376)	8	6	4.9	127	-18D(DIN376)	18	14	11	158
	-6D(DIN371)	6	6	4.9	107	-8D7(DIN371)	8	8	6.2	123	-20D(DIN376)	20	16	12	168
	-8D(DIN376)	8	6	4.9	117	-10D(DIN376)	10	7	5.5	134	-22D(DIN376)	22	18	14.5	166
	-8D7(DIN371)	8	8	6.2	113	-10D7(DIN371)	10	10	8	131	-24D(DIN376)	24	18	14.5	186
	-10D(DIN376)	10	7	5.5	124	-12D(DIN376)	12	9	7	142					
	-10D7(DIN371)	10	10	8	121	-14D(DIN376)	14	11	9	137					
	-12D(DIN376)	12	9	7	132	-16D(DIN376)	16	12	9	137					
DIN Pipe	ZKG12-1/8R(DIN353)	9.728	7	5.5	92	ZKG16-1/8R(DIN353)	9.728	7	5.5	102.5	ZKG24-1/4R(DIN353)	13.157	11	9	105
						-1/4R(DIN353)	13.157	11	9	98.5	-3/8R(DIN353)	16.662	12	9	112
						-3/8R(DIN353)	16.662	12	9	105.5	-1/2R(DIN353)	20.955	16	12	116

★Long size TAP Collet is available. □P.295 e.g. ZKG12-4S-50L

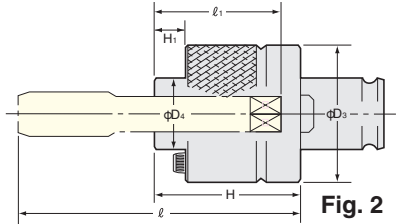
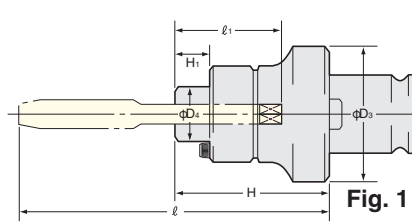
★TAP Clamp Mechanism for PIPE TAP is Side Lock System.

★High torque setting type example for stainless steel is available. Please add "-HT" at the end of Code No. e.g. ZKG12-3S-HT

# ZK TAP COLLET (ISO, IMPERIAL, DIN)



- Can be used with all NIKKEN Floating Tapper Chucks.
- Torque Limiter Mechanism built-in.



Total length "l" is calculated as ;  
 $l = \text{Tap length} - l_1 + H$

	ZK8	ZK38	ZK65
D <sub>4</sub>	13	45	68
D <sub>3</sub>	23	78	110
H <sub>1</sub>	6.5	12	13
H	29.5	64	89

ZK8 type is semi-standard.

TAP SPEC.	ZK 8					Fig	ZK38					Fig	ZK65					Fig	
	Code No.	D	D <sub>1</sub>	W	l <sub>1</sub>		Code No.	D	D <sub>1</sub>	W	l <sub>1</sub>		Code No.	D	D <sub>1</sub>	W	l <sub>1</sub>		
ISO Metric	ZK8-2S	2	2.5	2.0	22.5	2	ZK38-18S	18	14	11.2	44	1	ZK65-36S	36	25.0	20.0	58	2	
	-3S	3	3.15	2.5	23.5		-20S	20					-39S	39	28.0	22.4	60		
	-4S	4	4.0	3.15	24.5		-22S	22	16	12.5	46		-42S	42					
	-5S	5	5.0	4.0	25.5		-24S	24	18	14	48		-45S	45	31.5	25.0	65		
	-6S	6	6.3	5.0	26.5		-27S	27	20	16	54		-48S	48					
								-30S	30					-52S	52	35.5	28.0		68
ISO Pipe							-33S	33	22.4	18	56	2	-56S	56					
							-36S	36	25	20	58		-60S	60	40.0	31.5	71		
							ZK38-3/8PS	16.662	12.5	10	34	1	ZK65-11/4PS	41.910	31.5	25	51		
							-1/2PS	20.955	16	12.5	38		-11/2PS	47.803	35.5	28	55		
	IMPERIAL BSW BSF	ZK8-No.2S	2.18	2.8	2.24	23.5	2	-5/8PS	22.911	18	14	40	2	-13/4PS	53.746				
		-No.3S	2.515													- 2 PS	59.614	40	31.5
		-No.4S	2.845	3.15	2.5	23.5		ZK38- 3/4S	19.050	14	11.2	44	1	ZK65-11/2S	38.100	28	22.4	60	
		-No.5S(1/8S)	3.175													-13/4S	44.450	31.5	25.0
		-No.6S	3.505	3.55	2.8	24.5		- 1 PS	33.249	25	20	50	2	- 2 S	50.800	35.5	28.0	68	
		-No.8S	4.166					4.5	3.55	24.5	ZK38- 3/8PB	16.662		13.77	10.31	33.7	-21/4S	57.150	40.0
-No.10S(3/16S)		4.826	5.0	4.0	25.5	- 7/8S		22.225	16	12.5	46	1	-21/2S	63.500					
-No.12S		5.480	5.6	4.5	26.5	-11/8S		28.575	20	16	54		2						
-1/4S		6.350	6.3	5.0	26.5	-11/4S		31.750	22.4	18	56	2		ZK65-11/4PB	41.910	33.32	25.0	51	
IMPERIAL Pipe									-13/8S	34.925	25		20	58		-11/2PB	47.803	38.10	28.57
							ZK38- 3/8PB	16.662	13.77	10.31	33.7	1	-13/4PB	53.746	41.28	30.94	62		
							- 1/2PB	20.955	17.45	13.08	39.9		- 2 PB	59.614	47.63	35.71	56		
							- 5/8PB	22.911	20.32	15.3	39.5								
							- 3/4PB	26.441	23.01	17.3	43.5	2							
							- 7/8PB	30.201	27.76	20.6	45.1								
DIN Metric	ZK8-2D	2(Din 371)	2.8	2.1	23.5	2	ZK38-18D	18(Din 376)	14	11	44	1	ZK65-36D	36(Din 376)	28.0	22.0	59		
	-3D	3(Din 371)	3.5	2.7	24.5		-20D	20(Din 376)	16	12	45		2	-39D	39(Din 376)	32.0	24.0	61	
	-4D	4(Din 371)	4.5	3.4			-22D	22(Din 376)	18	14.5	47			-42D	42(Din 376)	36.0	29.0	69	
	-5D	5(Din 371)	6.0	4.9	26.5		-24D	24(Din 376)					-45D	45(Din 376)					
	-6D	6(Din 371)								-27D	27(Din 376)		20	16	53	-48D	48(Din 376)		
	-8D	8(Din 376)					-30D	30(Din 376)	22	18	55		-52D	52(Din 376)	40.0	32.0	72		
							-33D	33(Din 376)	25	20	57		-60D	60(Din 376)	45.0	35.0	75		
							-36D	36(Din 376)	28	22	59		-64D	64(Din 376)	50.0	39.0	78		
DIN Pipe							ZK38-3/8R	16.662	12	9	33	1	ZK65-11/8R	37.898 (Din 353)	28.0	22.0	51		
							-1/2R	20.955	16	12	37		-11/4R	41.910 (Din 353)	32.0	24.0	53		
							-5/8R	22.911	18	14.5	39		-13/8R	44.325 (Din 353)					
							-3/4R	26.441	20	16	45		-11/2R	47.803 (Din 353)	36.0	29.0	55		
							-7/8R	30.201	22	18	47		-13/4R	53.746 (Din 353)					
							- 1 R	33.249	25	20	49		- 2 R	59.614 (Din 353)					

★ Tap collet Code No. "ZK" is for ISO, IMPERIAL and DIN Taps.  
 ★ Tap collet Code No. "ZKN" is for JIS Taps. Please refer to P.292 for ZK New tap collet.

BT

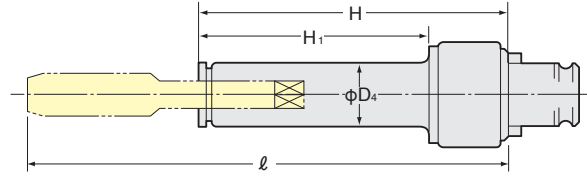
ACCESSORY

# LONG SIZE ONE TOUCH TAP COLLET (ISO)

**NIKKEN**



ZKG-L



(ISO)

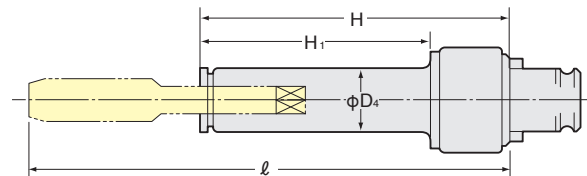
	ZKG12L					ZKG16L					ZKG24L					
	Code.No	D <sub>4</sub>	H	H <sub>1</sub>	ℓ	Code.No	D <sub>4</sub>	H	H <sub>1</sub>	ℓ	Code.No	D <sub>4</sub>	H	H <sub>1</sub>	ℓ	
50mm Long	ZKG12- 3S- 50L	13	104.5	38.5	129	ZKG16- 3S- 50L	13	114.5	38.5	139	ZKG24- 8S- 50L	19	123	95	164	
	- 4S- 50L				133	- 4S- 50L				143	-10S- 50L				171	
	- 5S- 50L				137	- 5S- 50L				147	-12S- 50L				179	
	- 6S- 50L				142	- 6S- 50L				152	-14S- 50L				180	
	- 8S- 50L	19	105	81	146	- 8S- 50L	19	115	88	156	-16S- 50L	26	124	98	186	
	-10S- 50L				153	-10S- 50L				163	-18S- 50L				195	
	-12S- 50L				161	-12S- 50L				171	-20S- 50L				195	
100mm Long	ZKG12- 3S-100L	13	154.5	88.5	179	ZKG16- 3S-100L	13	164.5	88.5	189	ZKG24- 8S-100L	19	173	145	214	
	- 4S-100L				183	- 4S-100L				193	-10S-100L				221	
	- 5S-100L				187	- 5S-100L				197	-12S-100L				229	
	- 6S-100L				192	- 6S-100L				202	-14S-100L				230	
	- 8S-100L	19	155	131	196	- 8S-100L	19	165	138	206	-16S-100L	26	174	148	236	
	-10S-100L				203	-10S-100L				213	-18S-100L				245	
	-12S-100L				211	-12S-100L				221	-20S-100L				245	

# LONG SIZE ONE TOUCH TAP COLLET (JIS)

**NIKKEN**



ZKG-L



(JIS)

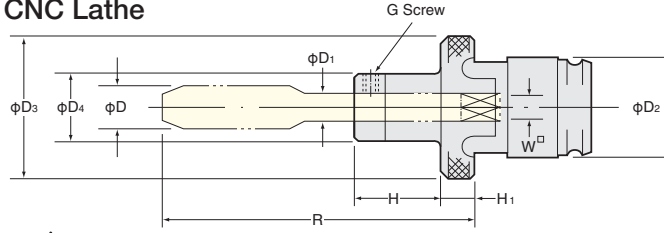
	ZKG12L					ZKG16L					ZKG24L					
	Code.No	D <sub>4</sub>	H	H <sub>1</sub>	ℓ	Code.No	D <sub>4</sub>	H	H <sub>1</sub>	ℓ	Code.No	D <sub>4</sub>	H	H <sub>1</sub>	ℓ	
50mm Long	ZKG12- 3- 50L	13	104.5	38.5	125	ZKG16- 3- 50L	13	114.5	38.5	135.5	ZKG24- 8- 50L	19	123	95	161	
	- 4- 50L				130	- 4- 50L				140.5	-10- 50L				166	
	- 5- 50L				138	- 5- 50L				148.5	-12- 50L				172	
	- 6- 50L				140	- 6- 50L				150.5	-14- 50L				173	
	- 8- 50L	19	105	81	144	- 8- 50L	19	115	88	154	-16- 50L	26	124	98	178	
	-10- 50L				149	-10- 50L				159	-18- 50L				178	
	-12- 50L				155	-12- 50L				165	-20- 50L				186	
100mm Long	ZKG12- 3-100L	13	154.5	88.5	175	ZKG16- 3-100L	13	164.5	88.5	185.5	ZKG24- 8-100L	19	173	145	211	
	- 4-100L				180	- 4-100L				190.5	-10-100L				216	
	- 5-100L				188	- 5-100L				198.5	-12-100L				222	
	- 6-100L				190	- 6-100L				200.5	-14-100L				223	
	- 8-100L	19	155	131	194	- 8-100L	19	165	138	204	-16-100L	26	174	148	228	
	-10-100L				199	-10-100L				209	-18-100L				228	
	-12-100L				205	-12-100L				215	-20-100L				236	



# TAP COLLET without TORQUE CONTROL (JIS)



- Tap Collet for ZH Tapping Holder
- Tap Collet for CNC Lathe



⚠ Torque Control is not built-in. Careful attention must be paid to diameter of drilled hole, program and so on.

## ZMK

For Synchronized Tapping on M/C, use ZMK tap collet with ZH Tapping Holder, Please refer P.54.

## Dimension List of ZMK Tap Collet

D	ZMK8		ZMK12		ZMK16			ZMK24		
	M3~6	M8	M3~6	M8~12	M4~6	M8~12	M14~16	M12	M14~16	M18~24
D <sub>2</sub>	13		19		25			30		
D <sub>3</sub>	20		28		36			42		
D <sub>4</sub>	13	19	13	19	13	19	26	19	26	32
H	14	24	16	20	21			25		29
H <sub>1</sub>	4		6		6			8		
G	M4-0.5	M6-0.75	M4-0.5	M6-0.75	M4-0.5	M6-0.75		M6-0.75	M8-1.0	

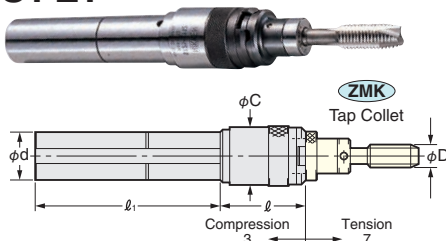
	ZMK 8				ZMK12				ZMK16				ZMK24			
	Code No.	D <sub>1</sub>	W	ℓ	Code No.	D <sub>1</sub>	W	ℓ	Code No.	D <sub>1</sub>	W	ℓ	Code No.	D <sub>1</sub>	W	ℓ
Metric (M)	ZMK8-3	4	3.2	43.5	ZMK12-3	4	3.2	47.5	ZMK16-4	5	4.0	53.5	ZMK24-12	8.5	6.5	83
	-4	5	4.0	44.5	-4	5	4.0	48.5	-5	5.5	4.5	61.5	-14	10.5	8.0	84
	-5	5.5	4.5	52.5	-5	5.5	4.5	56.5	-6	6	4.5	63.5	-16	12.5	10.0	89
	-6	6	4.5	54.5	-6	6	4.5	58.5	-8	6.2	5.0	66	-18	14	11.0	93
	-8	6.2	5.0	67	-8	6.2	5.0	65	-10	7	5.5	71	-20	15	12.0	97
Unified (U) or British Standard Whitworth (W)	ZMK8-1/8	4	3.2	43.5	ZMK12-1/8	4	3.2	47.5	ZMK16-1/8	4	3.2	52.5	ZMK24-1/2	9	7.0	85
	-3/16	5	4.5	52.5	-3/16	5.5	4.5	56.5	-3/16	5	4.5	61.5	-9/16	10.5	8.0	86
	-1/4	6	4.5	54.5	-1/4	6	4.5	58.5	-1/4	6	4.5	63.5	-5/8	12	9.0	90
					-5/16	6.1	5.0	65	-5/16	6.1	5.0	66	-3/4	14	11.0	98
					-3/8	7	5.5	70	-3/8	7	5.5	71	-7/8	17	13.0	106
					-7/16	8	6.0	74	-7/16	8	6.0	75	-1	20	15.0	114
					-1/2	9	7.0	78	-1/2	9	7.0	79				
									-9/16	10.5	8.0	80				
									-5/8	12	9.0	84				
Pipe (PT) (PF)					ZMK12-1/8P	8	6.0	51	ZMK16-1/8P	8	6.0	54	ZMK24-3/8P	14	11.0	63
									-1/4P	11	9.0	56	ZMK24-1/2P	18	14.0	76
									-3/8P	14	11.0	57	ZMK24-5/8P	19	15.0	80

★For long size Tap Collets are also available. 50mm (-50L), 100mm (-100L) longer than standard type. e.g. ZMK12-4-50L

# NIKKEN TAPPER CHUCK for NC lathes



## ST-ZT



- Float mechanism suitable for NC lathes makes it easy to follow, ideal for precision tapping work.

Code No.	L	Tapping Capability D	d	C	ℓ	ℓ <sub>1</sub>	Tap Collet
ST25-ZT12		M3~M12	25	32	48	70	ZMK 12
ST32-ZT12		M3~M12	32	32	48	70	
-ZT16		M4~M16			42	55	70

# Tool Wagon



TW

TAPER	Code No.	Wagon Storage	With E236N
BT30	TW30	60piece	40piece
BT40	TW40	48piece	32piece
BT50	TW50	40piece	28piece
NC5-46, HSK40A	TW-NC5- 46	48piece	32piece
NC5-63, HSK63A	TW-NC5- 63	48piece	32piece
NC5-85	TW-NC5- 85	40piece	28piece
NC5-100, HSK100A	TW-NC5-100	40piece	28piece



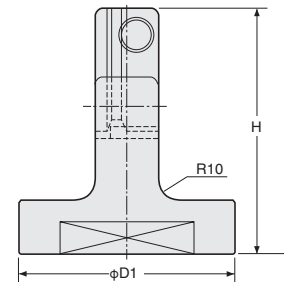
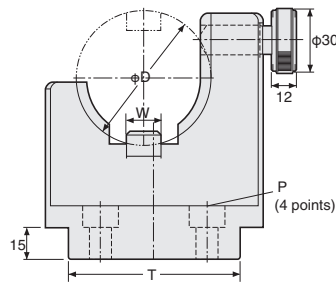
TAPER CLEANER

★For the Code No. of Taper Cleaner, please add "Taper No." at the end of "NTP-CLE".  
e.g. NTP-CLE50

# TOOL CLAMPER



NCL



Code No.	φD	W	φD1	H	T	P	Pitch	Remark
NCL-BT30	46	15.9	102	110	80	φ10.3 (M10)	50 × 60	
-BT40	63	15.9	102	115	80		50 × 60	NC5- 63 can be used
-BT45	85	19.2	115	124	90		60 × 70	NC5- 85 can be used
-BT50	100	25.6	130	133	100		70 × 80	NC5-100 can be used
NCL-NC5-46	46	12	102	110	80		50 × 60	
-IT50	97.5	25.6	130	133	100		70 × 80	
-ICAT40	63.55	15.9	102	115	80		50 × 60	IT40, CAT40
-CAT50	98.45	25.6	130	133	100		70 × 80	

★Please refer P.304 for the TCL-GH Tool Clammer.

MEASUREMENT

ACCESSORY

# HSK LUBRICATION PIPE

**NIKKEN**



TAPER	Lubrication Pipe Code No.		Wrench Code No. for Movable type*1
	Movable	Stationary	
HSK 40A	HSK 40-LP	HSK 40-LPS	HSK 40-LPL
HSK 50A	HSK 50-LP	HSK 50-LPS	HSK 50-LPL
HSK 63A	HSK 63-LP	HSK 63-LPS	HSK 63-LPL
HSK100A	HSK100-LP	HSK100-LPS	HSK100-LPL

- \*Wrench for movable type marked \*1 is as an option.
- \*Standard wrench can be used for stationary type.  
HSK40-LPS:W=5, HSK50-LPS:W=5, HSK63-LPS:W=6, HSK100-LPS:W=8
- \*Stationary type is popular but, movable type is used for the M/C of JTEKT, TSUGAMI, KOMATSU NTC or TAKIZAWA. Please check your M/C specification.

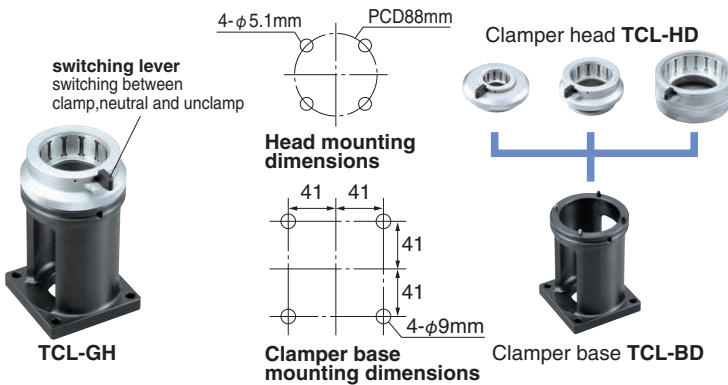


## Caution

- For the HSK M/C with centre through coolant delivered via the tool clamping system, please make sure that the lubrication pipe is fitted in the rear of the HSK tool. This will prevent coolant from flooding the hollow chamber of the HSK Tool.
- For the HSK M/C without centre through coolant facility, but only external coolant source, care must be taken to prevent coolant from entering the front nose of chuck or collet slots and so contaminating the hollow area of the chuck. Please fit recommended plug.  
Please add "-LPGP" at the end of HSK No. e.g. HSK63-LPGP

# GH Handle Type TOOL CLAMPER

**NIKKEN**



Please use the TCL-GH clamper as a clamper for tools that do not have drive grooves or U grooves, such as the HSK E / F type.

Different shanks can be clamped as long as the V-flange diameter is the same.

EX.) TCL-63GH (HSK63A, 63E, 63F, BT40, NC5-63)

The clamper base is common, and various shanks can be supported by exchanging the clamper head.

CLAMPER Code No.	BASE Code No.	HEAD Code No.	SHANK
TCL- 25GH	TCL-BD	TCL- 25HD	HSK 25E
TCL- 32GH		TCL- 32HD	HSK 32E
TCL- 40GH		TCL- 40HD	HSK 40A, 40E
TCL- 46GH		TCL- 46HD	BT30, NC5-46
TCL- 50GH		TCL- 50HD	HSK 50A, 50E
TCL- 63GH		TCL- 63HD	HSK 63A, 63E, 63F, BT40, NC5-63
TCL-100GH		TCL-100HD	HSK100A, BT50, NC5-100

HSK

ACCESSORY

# HANDLE / SPANNER / WRENCH

**NIKKEN**

## Handle for Milling Chuck

Style	Code No.
C12 (C1=φ30mm)	9HC12*
C12 (C1=φ33mm)	9HC12A
C16	9HC16
C20	9HC22
C25 (C1=φ55mm)	9HC22
C25 (C1=φ60mm)	9HC25
C32 (C1=φ64mm)	9HC25
C32 (C1=φ69mm)	9HC32
C42	9HC42

\*9HC12 will be discontinued as soon as the product stock disappears.

## Spanner for Slim Chuck

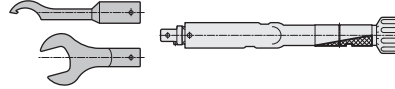
Style	Code No.
SK6 (C=φ18mm)	SKL-6
SK6 (C=φ19.5mm)	SKL-6W
SK10	SKL-10
SK13	9HC12A
SK16	9HC16
SK20	9HC22
SK25	9HC22



## Torque adjustable Spanner for Slim Chuck

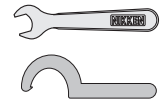
Spanner Code No.	Spannerhead Code No.	Torque wrench Code No.
SKL-6-TLS	SKL-6-TLS-HD	N50LCK (L1=85)
SKL-6W-TLS	SKL-6W-TLS-HD	
SKL-10-TLS	SKL-10-TLS-HD	
SKL-13-TLS	SKL-13-TLS-HD	N100LCK (L1=113)
SKL-16-TLS	SKL-16-TLS-HD	
SKL-20-TLS	SKL-20-TLS-HD	
SKL-25-TLS	SKL-25-TLS-HD	

★Torque adjustable spanner can be purchased separately from wrench heads and torque wrenches.



## Wrench for NPU Drill Chuck

Style	Code No.
NPU 8	NPUL- 8
NPU13	NPUL-13



# GH HANDLE for HIGH SPEED TOOLING

**NIKKEN**

GH Handle has a two-way tightening/loosening ratchet on the handle that has been developed to provide quick and convenient loading of the tool. The GH Handle also dispenses with the need for notches on the nose ring. JAPAN, USA, KOREA, TAIWAN PAT.

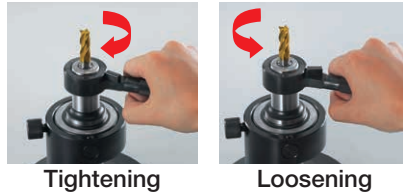


GH

## GH Handle

Code No.	Milling Chuck	Slim Chuck	MAJOR DREAM	VC Holder
GH 6*	—	SK 6-P / SKT 6	MDSK 6	—
GH10*	—	SK10-P / SKT10	MDSK10	VC6
GH12*	C12-G	SK13-P / SKT13	MDSK13	—
GH16*	C16-G	SK16-P / SKT16	MDSK16	VC13
GH20*	C20-G	SK20-P / SKT20	MDSK20	—
GH25*	C25-G	SK25-P / SKT25	MDSK25	—
GH32S	C32-G (Nose Ring:φ62mm)	—	—	—
GH32	C32-G (Nose Ring:φ68mm)	—	—	—

★Torque adjustable GH Handle is available for \* marked handle. The Code No. is GH6-TLS, GH10-TLS, GH16-TLS, GH25-TLS.



## Torque adjustable GH Handle

Spanner Code No.	Spannerhead Code No.	Torque wrench Code No.
GH 6-TLS	GH 6-TLS-HD	N50LCK (L1=85)
GH10-TLS	GH10-TLS-HD	
GH12-TLS	GH12-TLS-HD	
GH16-TLS	GH16-TLS-HD	N100LCK (L1=113)
GH20-TLS	GH20-TLS-HD	
GH25-TLS	GH25-TLS-HD	

★Torque adjustable GH Handle can be purchased separately from wrench heads and torque wrenches.



# CLAMPING HANDLE "BENKEI"

**NEW NIKKEN**

JAPAN PAT.

Clamp Nose Ring (Milling Chuck) by pair of clamping handles. New designed clamping handle "BENKEI"



HC-TW

Reference of the code number

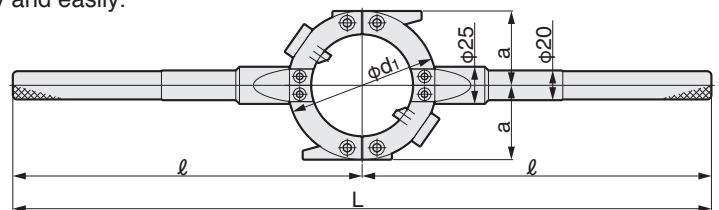
9HC32 - TW

● Clamping handle

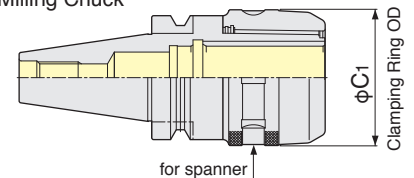
● Corresponding Milling Chuck (Ex. \*32 is available for C32(φC1=69mm) milling chuck)



3 easy steps make it possible to clamp, unclamp milling chuck very safely and easily.



Milling Chuck

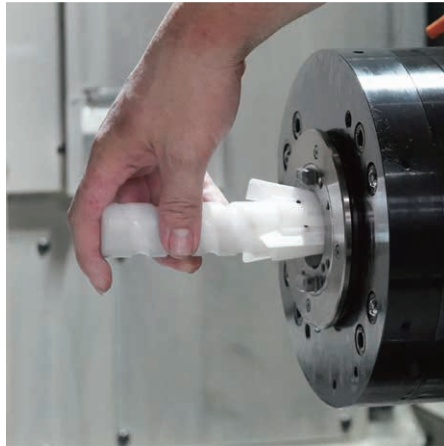


Code No.	Dimensions(mm)				Corresponding Milling Chuck
	a	ℓ	L	φd1	
9HC32TW	50	235	470	100	C32 (φC1=69mm)
9HC42TW	59	285	570	117	C42 (φC1=86mm)
9HC50TW	69	285	570	138	C50EX (φC1=105mm)

# SILICONE TAPER SCRAPER **NEW**

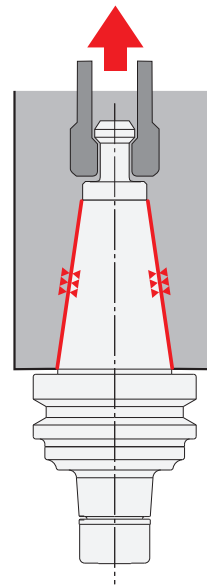
**NIKKEN**

The Cleaning Instrument Capable of Surely and Quickly Removing Oil and Particles Stuck to the Machine Spindle.



<Material>  
Base :Polyacetal  
Scraper :Silicon rubber

Silicone Taper Scraper to maintain perfectly "Taper Contact"



## Product Lineup



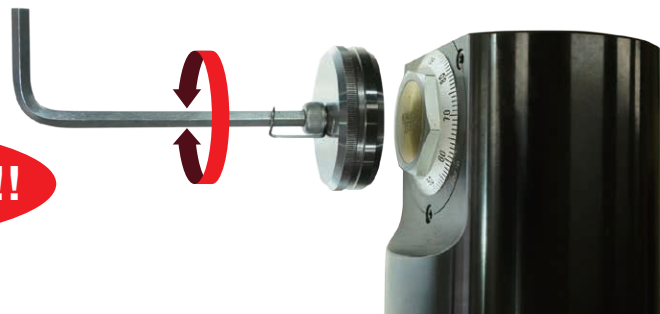
	Code No.
for BT30	CLEH-NT30-R
for BT40	CLEH-NT40-R
for BT50	CLEH-NT50-R
for HSK 63A	CLEH-HSK 63-R
for HSK100A	CLEH-HSK100-R

※Please note that you can't choose the color of scraper.

# For ZMAC **THUMB WHEEL SOCKET** **NEW** ADVANCED For Quick and Fast Adjustment of Dial Ring

**NIKKEN**

**Improve Setting Times!!**



※L-share hexagon wrench is available.

Code No.	Head No.
M 2HZL-SCT	ZMAC 16
	ZMAC 20
M 3HZL-SCT	ZMAC 25
M 4HZL-SCT	ZMAC 32
M 5HZL-SCT	ZMAC 42
	ZMAC 55
M 7HZL-SCT	ZMAC 70
M10HZL-SCT	ZMAC 85
	ZMAC100
	ZMAC140

BT

ACCESSORY

# SCALE WRENCH **NEW**

**NIKKEN**



**Quick & Easy Set-up Tool  
for NIKKEN SLIM CHUCK**




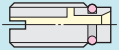

## Hexagon

Code No.	Corresponding Slim Chuck	Hexagon Size
<b>SKWR-2- 95L</b>	Available for standard centre through, high pressure centre through	2
<b>-3-101L</b>		3
<b>-4-110L</b>		4
<b>-5-120L</b>		5
<b>-6-133L</b>		6
<b>-8-154L</b>		8

## Flathead screwdriver

Code No.	Corresponding Slim Chuck	Style
<b>SKWR-DR-120L</b>	Standard Slim Chuck	Flathead Screwdriver Type

## Adjusting Screw and Scale Wrench Compatibility Chart

Style	SK Scale Wrench for standard adjust screw		SK Scale Wrench for Center-thru adjust screw		SK Scale Wrench for high pressure coolant thru Slim Chuck adjust screw	
	Adjust screw Code No. 	Code No.	Adjust screw Code No. 	Code No.	Adjust screw Code No. 	Code No.
SK 6	SKG- 8	SKWR-DR-120L	—	—	SKG 6- 6HG	SKWR-2- 95L
SK10	SKG-12L		SKG-12H	SKWR-3-101L	SKG10-10HG	SKWR-4-110L
	-12S		-12HA	-2- 95L	-10HGA	-2- 95L
SK13	SKG-15		SKG-15H	SKWR-3-101L	SKG13-10HG	SKWR-4-110L
			-15HA	-2- 95L	-10HGA	-2- 95L
SK16	SKG-18L -12 -12L -18S		SKG-12H -12HA -18H -18HA	SKWR-3-101L -2- 95L -6-133L -3-101L	SKG16-12HG	SKWR-6-133L
					-12HGB	
					-10HG	
					-12HGE	
SK20	SKG-22 -12 -12L -12S		SKG-12H -12HA -22H	SKWR-3-101L -2- 95L -5-120L	SKG16-12HGA	SKWR-3-101L
		-10HGA				
		SKG20-18HG			SKWR-5-120L	
		-12MFHG				
-12HG						
-12HGE						
SK25	SKG-28 -12 -12MF	SKG-12H -12HA -28H	SKWR-3-101L -2- 95L -8-154L	-16HG	SKWR-8-154L	
				-18HGB		
				SKG25-24HG		
				-24HGA		
				-18HGC		
				-18HGD		
				-18HGE		

★Please refer  P.288 for the Code No. of the adjust screw corresponding to the Slim Chuck.

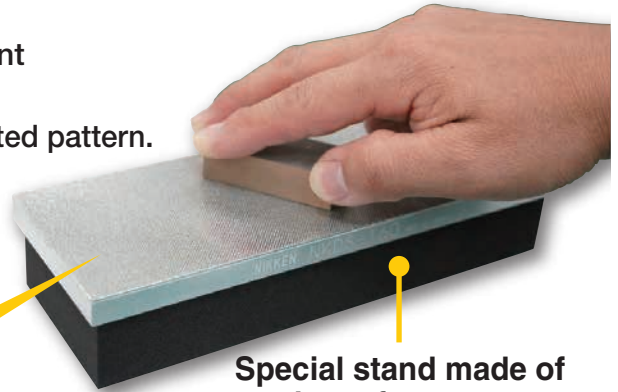
ACCESSORY

# NIKKEN DIAMOND SURFACE NEW

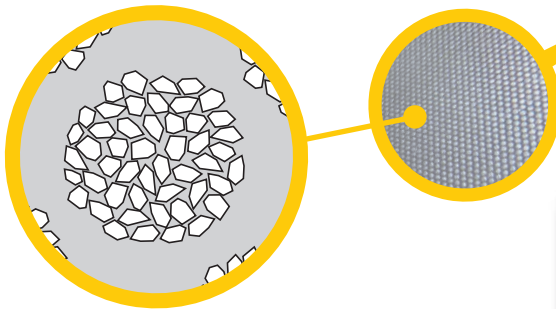
**NIKKEN**

All cutting edges of diamonds electrodeposited by a special manufacturing method are aligned, and it provides a smooth feel and uniform polishing.

- The use of high quality diamonds provides excellent sharpness and durability.
- Uniformly arranged diamond abrasive grains in a dotted pattern.
- Can be used freely from all directions for workpiece.
- The special stand made of urethane foam with excellent workability.



Special stand made of urethane foam with excellent workability

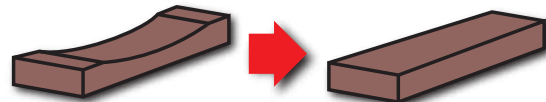


## The Secret of DIAMOND SURFACE

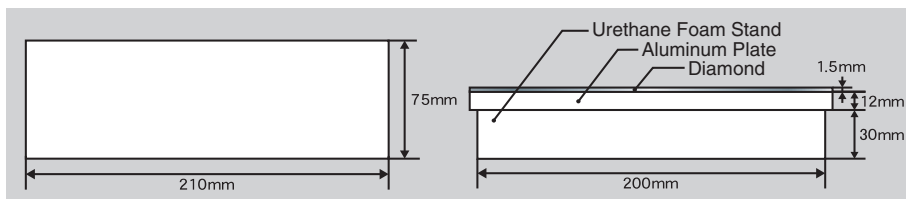
Dots made of diamond abrasive grains are evenly arranged. The aggregation becomes a sharp cutting edge.

### Best of Whetstone Restoration

Surface restoration of the whetstone is completed in **60** seconds.



## Dimensions



## Specifications

Grain Size	Surface Roughness	Code No.
#160	Coarse	NKDS-160
#400	Second-cut	NKDS-400
#600	Smooth	NKDS-600

# ECO BLACK TOOLING

**NIKKEN**

## Rust Proof Treatment (Option)

The RP treatment creates a fine film of the contents ( $Fe_3O_4$ ) and ( $Fe_2O_3$ ), and penetrates into the tool holder material 1~2 micron deep. This fine film inhibits the rust and corrosion of your tool holder taper and stops it from being transmitted to your machine spindle. The RP treatment will not effect the accuracy and the hardness of your NIKKEN tool holders.

### ⚠ Caution

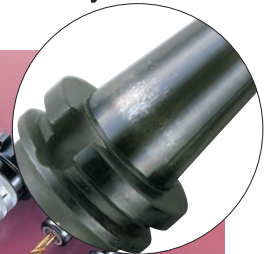
- If the detection of tool existing at tool magazine by optical method on your M/C, the tool with RP treatment may be judged "no tool existing". Please check your M/C specification.
- The taper connection of the tool shank with RP treatment is more stuck than the taper connection of the tool shank without RP treatment. Then, the unclamping force for the tool with RPT is required 20% stronger than the unclamping force for the tool without RPT. Please be careful to check the unclamping force of your M/C, when the tool with RPT treatment is chosen.
- Therefore, the taper cone of **3LOCK** tool and **NC5** tool is changed to without RP treatment as standard. And the special anti-rust treatment is applied to the taper cone of the **3LOCK** tool and **NC5** tool.

Standard  
8 years used



## RP treatment

RPT  
18 years used



ACCESSORY

# Pulling Force Measuring Tool for Portable

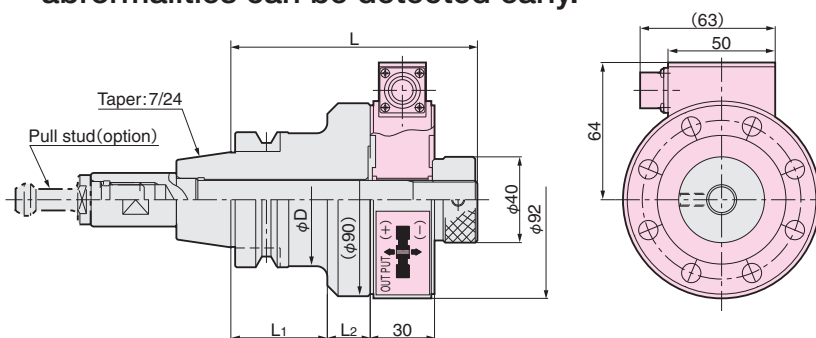
**NIKKEN**



**CLP-P**

Photo shows with Aluminum case. **S.BT40-CLP-P**

■ By measuring the pull force in M/C spindles regularly, abnormalities can be detected early.



Load Cell(SH-50KN) and Digital Indicator are shared with all taper sizes.

TAPER	Code. No.	φD	L1	L2	L	Load Cell		Use Range	Weight (kg)
						Code	MAX. Load		
<b>BT30</b>	<b>BT30-CLP-N-P</b>	45	35	15	100	SH-50KN	50KN	0~15KN	2.5
<b>BT40</b>	<b>BT40-CLP-P</b>	62	45	20	115			0~24KN	3.5
<b>BT50</b>	<b>BT50-CLP-P</b>	90	70	-	121			0~40KN	5.0

- ★NC5 taper is also available. Please specify pull stud code. **P.226** e.g. **NC5-63-CLP-D40-P**
- ★Please add **"-BD"** at the end of the code No. When you require just taper shank. e.g. **BT50-CLP-BD**
- ★Set code with Aluminum case e.g. **S.BT40-CLP-P**
- 1pc of taper shank can be stored.
- ★HSK, Polygonal taper is also available. e.g. **HSK63A-CLP-P**



# THREE ANGLE CLAMPER



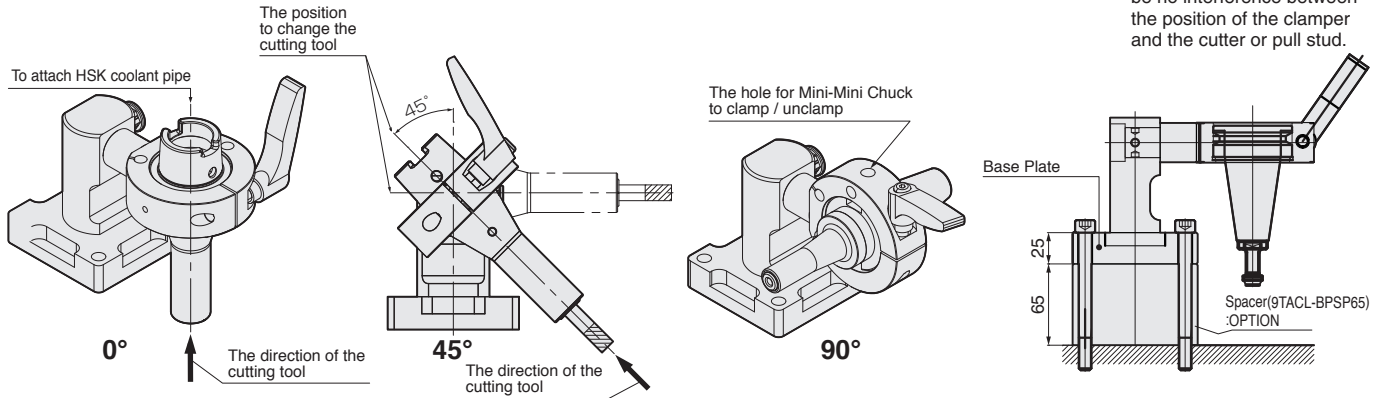
## Exchangeable Adapter

Please select suitable one by the table below.

Clamp Ring

## TOOL CLAMPER MAIN BODY

\*Check the direction of rotation of clamp ring to make sure that there will be no interference between the position of the clamper and the cutter or pull stud.



Clamper Code No.	BT40	BT50	IT40	CAT40	NC5-63	NC5-100	HSK63	HSK100	C6
TACL-B40H63A	○	—	—	—	○	—	○	—	—
TACL-B50H100A	—	○	—	—	—	○	—	○	—
TACL-ICAT40A	—	—	○	○	—	—	—	—	—
TACL-C6A	—	—	—	—	—	—	—	—	○

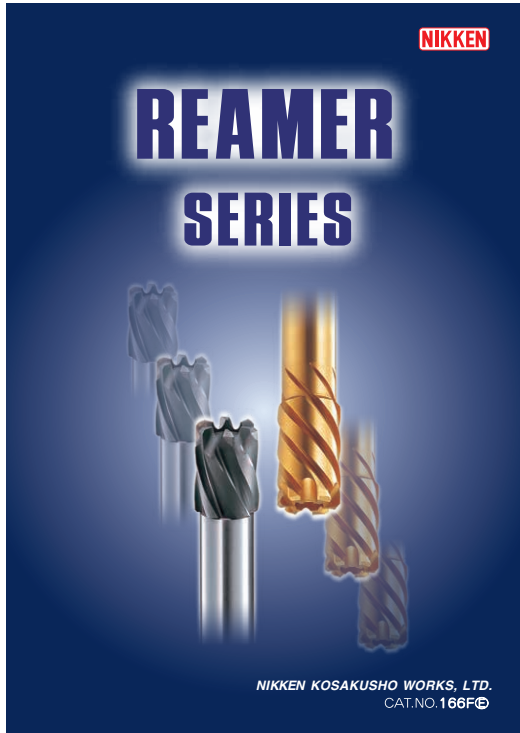
## Exchangeable adapter

TACL-B40H63A Suitabele Clamper	Adaptation shank
9TACL63D-B30N46	BT30, NC5-46
9TACL63D-HSK50	HSK50, C5*1
9TACL63D-HSK40	HSK40, C4
9TACL63D-HSK32	HSK32
9TACL63D-HSK25	HSK25

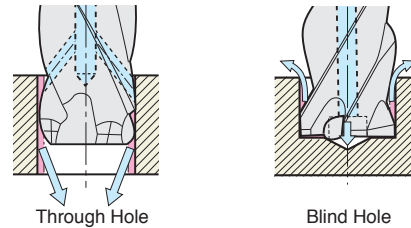
\*1 Length at  $\phi 50$  must be over 25.4mm.

## Replacement adapter for Straight Shank

TACL-B40H63A Suitabele Clamper	Adaptation shank
9TACL63D-S5/8	15.875mm (5/8")
9TACL63D-S3/4	19.05mm (3/4")
9TACL63D-S20	20mm
9TACL63D-S25	25mm
9TACL63D-S1	25.4mm (1")



- **CARBIDE, HSS / With / Without MILLING BLADE / from SMALL DIA. to LARGE DIA.**
- **REAMER SERIES CATALOGUE CAT No.166F to cover all kinds of Reamers (Carbide / HSS, Without / With End Tooth, Diameter from  $\phi$ 2mm to  $\phi$ 100mm)**
- **CARBIDE PF RADICAL MILL REAMER EVO**  
Specially designed for the tough material such as Inconel, Hastelly, Waspaloy and Titanium Smooth cutting capability and special coating to protect the base material from cutting heat and deposition.
- **CARBIDE PF SPECTRUM REAMER SPX**  
The newest reamer for Aluminium and Nonferrous Metals Due to the high hardness level (6000HV) has been achieved using Hydrogen-Free DLC coating, the hardness of the SPX reamer is close to the hardness of the diamond.
- **Two types of OH reamer, through hole and blind hole, are line-up.**



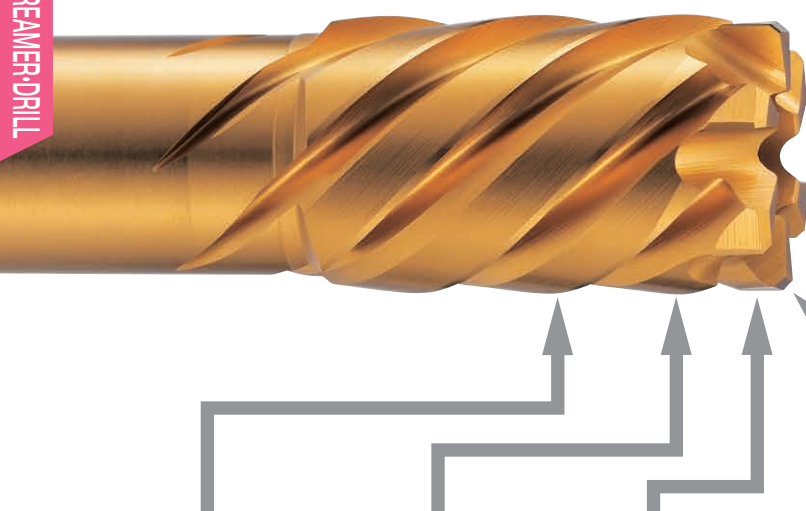
OH shape of reamer with OH

Please refer to REAMER SERIES Catalogue.

## NIKKEN REAMER SERIES / WITH MILLING BLADE

- **CHARACTERISTICS of REAMER With MILLING BLADE**
- **Hole accuracy is not required for inspection** (finished hole tolerance within H7)
- **Outstanding surface roughness and durability** (surface roughness within 3S)

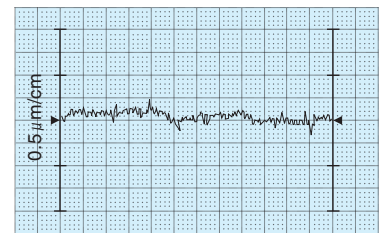
REAMER·DRILL



### Plane roughness data of NCS-16.0

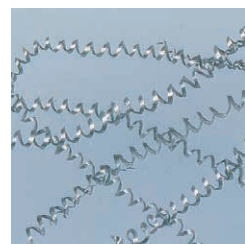
P-curve  
L=1.6mm

X20000  
X50



Material : S45C  
Cutting speed : 14.5m/min  
Feed rate : 0.35mm/rev.  
Drilled hole :  $\phi$ 15.5 ( $\phi$ 0.5 stock removal)

- |                                                                                                       |                                                                                                 |                                                                                  |                                                                                                   |
|-------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| <b>Burnishing</b>                                                                                     | <b>Reamer blade (finishing)</b>                                                                 | <b>Pilot part</b>                                                                | <b>Milling blade (Semi-Finish)</b>                                                                |
| This is a polishing section without a cutting edge to clean up the roughness of the finished surface. | Smooth finish is achieved by reamer blade for the optimal finishing removal from milling blade. | NC sensor reamer moves forward guiding the pilot hole machined by milling blade. | Semi-finish (Optimal finishing removal) is achieved by milling blade from drilled hole variation. |



Swarf by milling blade



Swarf by reaming blade

# NIKKEN CARBIDE PF RADICAL REAMER EVO

NIKKEN

Specially designed for the material difficult-to-cut.



Photo shows Radical Mill Reamer PF-RMSS-EVO

- Especially for nickel-based alloys and titanium alloys such as Inconel®, Hastelloy® and Waspaloy®.
- Smooth cutting capability and special coating to protect the base material from cutting heat and deposition.

**Radical Mill Reamer EVO  
is a reamer dedicated  
to the materials difficult-to-cut.**

## ■ Machining Result

Hastelloy® C276 equivalent (HB180)  $\phi$ 10mm

V=18m/min, f=0.2mm/rev →  $\phi$ 10mm within H7 and Ra0.3

Inconel® 718 equivalent (HB250~280)  $\phi$ 10mm

V=5m/min, f=0.2mm/rev →  $\phi$ 10mm within H7 and Rz6.3

Inconel® 65 equivalent (HB210)  $\phi$ 4mm

V=10m/min, f=0.1mm/rev, Hole depth 12mm

1000 holes could be done.

■ The latest advanced coating technology has been incorporated into the Radical Mill Reamer EVO.

- The angle of the cutting edge is optimized for the materials difficult-to-cut.
- Highly deposition-resistant coating was used with a heat resistance of 1100°C and a film hardness of 3200 HV.
- Even though the arc evaporation, the droplets and pin holes are extremely reduced and smooth cutting surface can be done.

# NIKKEN CARBIDE PF SPECTRUM REAMER SPX

NIKKEN

The newest reamer for aluminum and nonferrous metals with SPX coating



Photo shows Radical Mill Reamer PF-RMSS-SPX

Features of SPX coating (Hydrogen-Free DLC)

## ■ High level of hardness

High hardness level (6000 HV) has been achieved using a **Hydrogen-Free DLC coating**, which contains no hydrogen at the time of deposition.

The hardness is extremely close to that of a diamond. (The hardness of conventional diamond-like carbon (DLC) coatings is approximately 3000 HV.)

## ■ Heat resistance

Coating for physical vapor deposition (PVD) adopting special filtering technology allows for a highly heat-resistant coating with few impurities and with heat resistance of 550°C. (The heat resistance of conventional diamond-like carbon (DLC) coatings the heat resistance is approximately 300°C.)

## ■ High efficiency performance

The film thickness is 1 $\mu$ m or less, therefore it does not effect to cutting performance.

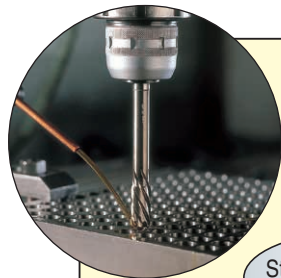
The coating with superior sliding performance and adhered strongly on the base material suppress heat generation when reaming and long tool life can be realized.

■ The "Spectrum Reamer" is ...

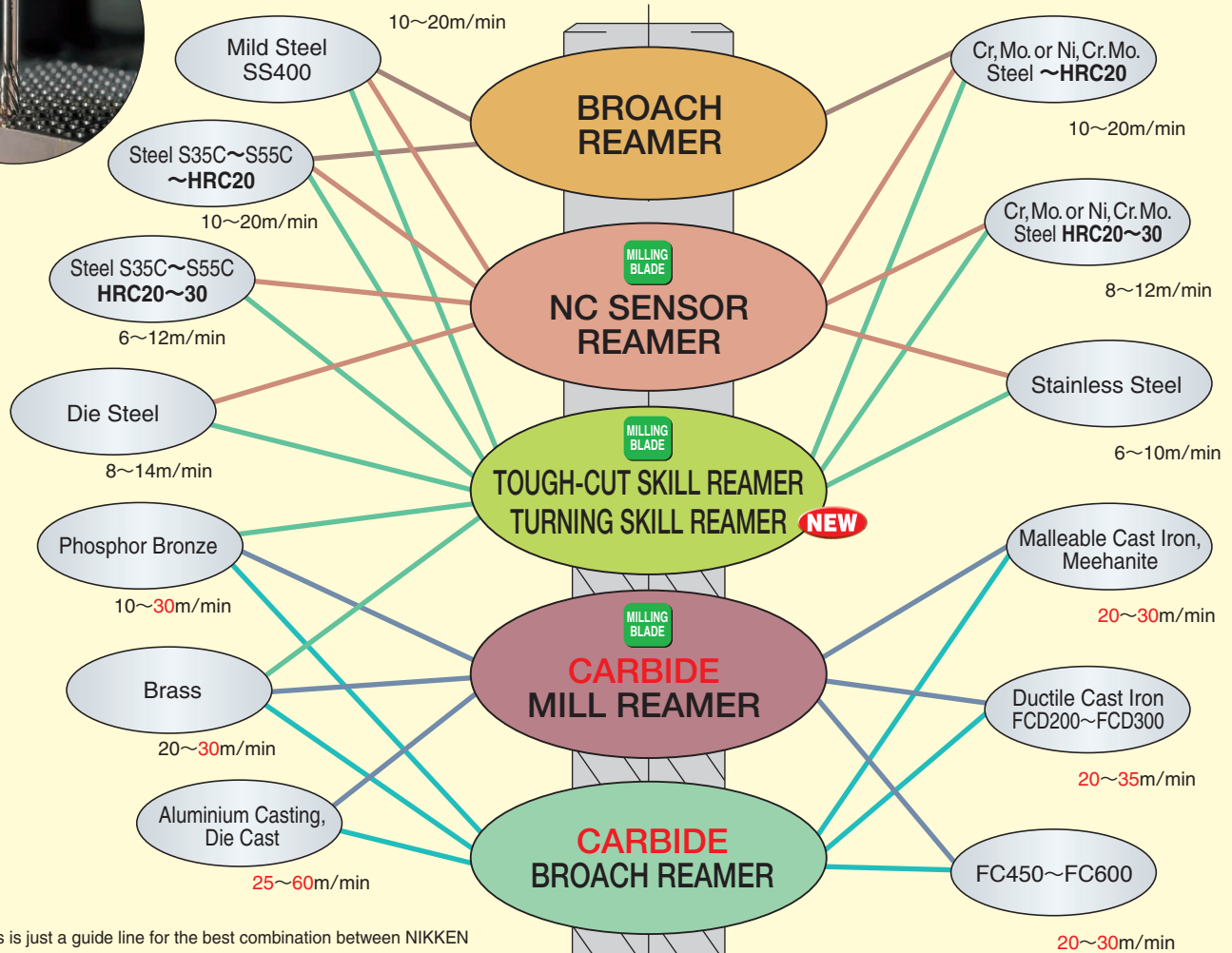
- This is a special new reamer for aluminum, cast aluminum, nonferrous metals and resin, with a new type of **Hydrogen-Free SPX** (new coating), which has thin film with a high level of hardness, and totally different from conventional DLC contained hydrogen.
- The angle of the cutting edge has been optimized for the work materials and SPX coating.

REAMER-DRILL

Wide Product Range to meet Any Material Requirements  
Long Life • High Finishing Accuracy on Tough Materials



## Cutting Speed on Each Material for Oil Base Coolant Use

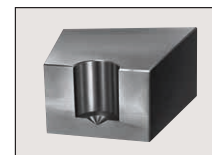
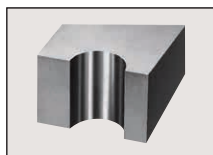


This is just a guide line for the best combination between NIKKEN reamers and each material, Therefore Broach reamer also can be used on die steel or non-alloy steel.

(The above cutting speed in red shows the cutting speed by carbide reamer.)

## REAMERS FOR THROUGH HOLE / STEPPED HOLE / BLIND HOLE

CAN BE SELECTED BY SHAPE OF THE HOLE

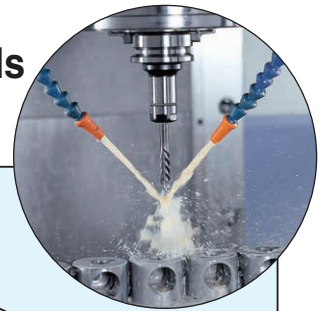


WHEN YOU CANNOT GET GOOD RESULT FOR BLIND HOLE BY USING ENDMILL, BORING ARBOR AND SO ON, PLEASE TRY "REAMERS FOR BLIND HOLE"

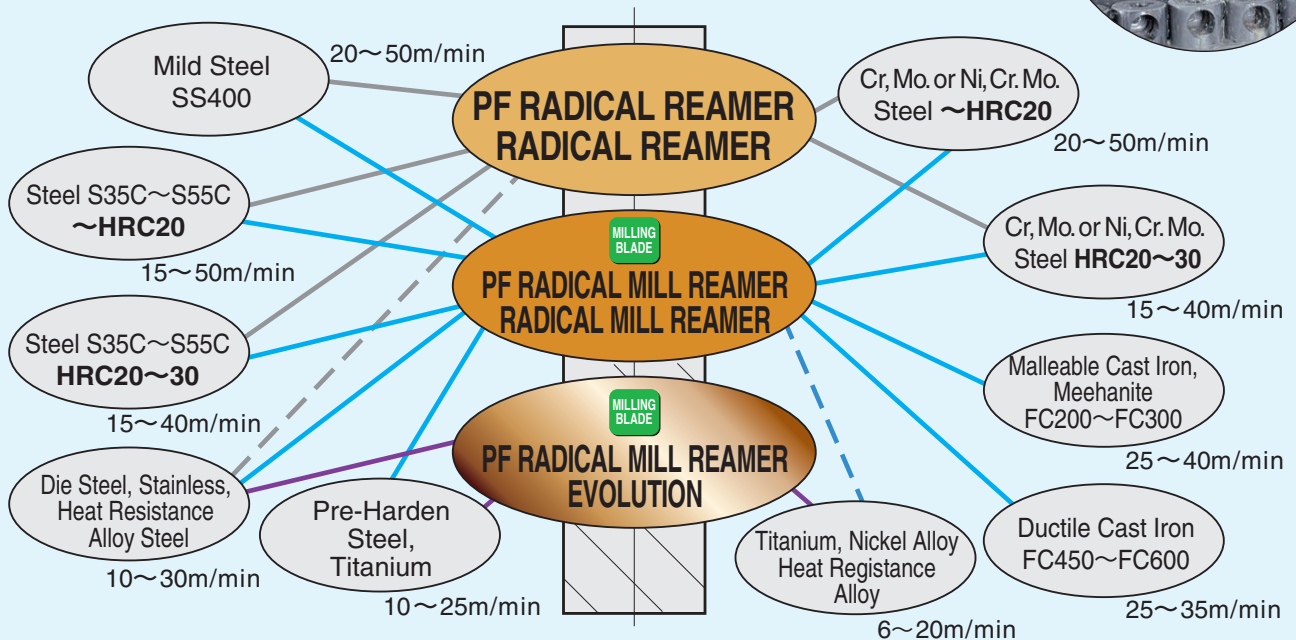
### PARTICULAR CASE

- \* Coated reamer is normally not suitable for the cast iron, however (PF)RADICAL REAMER / NC SENSOR REAMER may be suitable for FCD400-600.
- \* Under normal conditions, coated reamer is not suitable for the aluminium, however (PF)RADICAL REAMER may be suitable for ADC as well.
- \* For the cast iron with soluble coolant, CARBIDE MILL REAMER (K01 GRADE) may be used.

Wide Product Range to meet All Material Requirements  
Long Tool Life • High Finishing Accuracy on Tough Materials

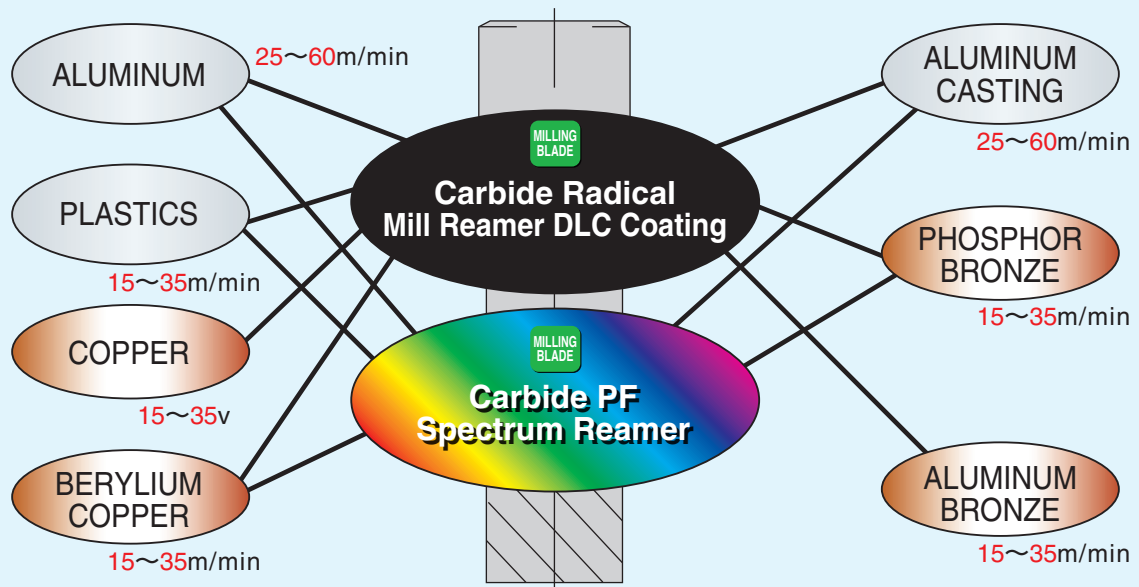


## Cutting Speed on Each Material for Soluble Coolant Use



- Please select the other reamers as PF radical reamer (below) for aluminium / copper / no-ferrous alloy.
- When using oil base coolant, you could get better accuracy and longer tool life.

## Cutting Speed on Each Material for Soluble Coolant Use



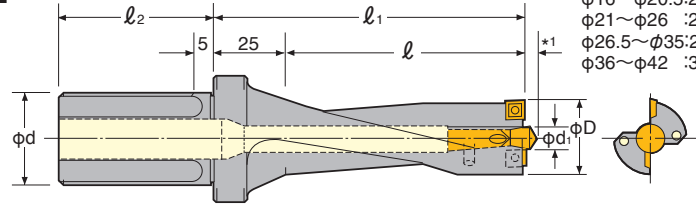
- Please select the other reamers for the other materials.
- With using oil base coolant, you could get better accuracy and longer tool life.

# COMBAT Z DRILL

Cost down can be achieved by improvement of drilling operation.



Dimensions of  $\phi 16 \sim 42$  mm  
COMBAT Z DRILL



\*1 Dimension  
 $\phi 16 \sim \phi 20.5$ : 2.1mm  
 $\phi 21 \sim \phi 26$ : 2.4mm  
 $\phi 26.5 \sim \phi 35$ : 2.8mm  
 $\phi 36 \sim \phi 42$ : 3.4mm

$\phi 16 \sim \phi 38$   
 $L/D=3$  or  $4$

$\phi 16 \sim \phi 35$ mm by every 0.5mm increment,  $\phi 36 \sim \phi 60$ mm by every 1mm increment,  $\phi 60 \sim \phi 80$ mm by every 5mm increment are standard.

Each 0.1mm increment drill is available as an option.

Drill Dia.	3D Series				4D Series				3D, 4D							
	Code No.			$l$	$l_1$	Code No.			$l$	$l_1$	$\phi d$	$l_2$	Pilot Drill	Insert Tip	Clamp Screw	Tip Clamp Handle
	$\phi d$	$\phi D$	$-l$			$\phi d$	$\phi D$	$-l$								
16	ST20-COMZ16	-	50	ST20-COMZ16	-	65	20	43	9CMD5 $d_1=\phi 5$	9CMT4 2 pcs	M1840	T-6				
16.5	-COMZ16.5	-	50	-COMZ16.5	-	65										
17	-COMZ17	-	50	-COMZ17	-	65										
17.5	-COMZ17.5	-	50	-COMZ17.5	-	65										
18	-COMZ18	-	55	-COMZ18	-	75										
18.5	-COMZ18.5	-	55	-COMZ18.5	-	75										
19	-COMZ19	-	55	-COMZ19	-	75										
19.5	-COMZ19.5	-	55	-COMZ19.5	-	75										
20	-COMZ20	-	60	-COMZ20	-	80										
20.5	-COMZ20.5	-	60	-COMZ20.5	-	80										
21	ST25-COMZ21	-	60	ST25-COMZ21	-	80	25	53	9CMD6 $d_1=\phi 6$	9CMT6 2 pcs	M2560	T-8				
21.5	-COMZ21.5	-	60	-COMZ21.5	-	80										
22	-COMZ22	-	65	-COMZ22	-	85										
22.5	-COMZ22.5	-	65	-COMZ22.5	-	85										
23	-COMZ23	-	70	-COMZ23	-	90										
23.5	-COMZ23.5	-	70	-COMZ23.5	-	90										
24	-COMZ24	-	70	-COMZ24	-	90										
24.5	-COMZ24.5	-	70	-COMZ24.5	-	90										
25	-COMZ25	-	75	-COMZ25	-	100										
25.5	-COMZ25.5	-	75	-COMZ25.5	-	100										
26	-COMZ26	-	75	-COMZ26	-	100	32	58	9CMD8 $d_1=\phi 8$	9CMT7 2 pcs	M3070	T-10				
26.5	ST32-COMZ26.5	-	80	ST32-COMZ26.5	-	110										
27	-COMZ27	-	80	-COMZ27	-	110										
27.5	-COMZ27.5	-	80	-COMZ27.5	-	110										
28	-COMZ28	-	80	-COMZ28	-	110										
28.5	-COMZ28.5	-	80	-COMZ28.5	-	110										
29	-COMZ29	-	80	-COMZ29	-	110										
29.5	-COMZ29.5	-	80	-COMZ29.5	-	110										
30	-COMZ30	-	80	-COMZ30	-	110										
30.5	-COMZ30.5	-	80	-COMZ30.5	-	110										
31	-COMZ31	-	80	-COMZ31	-	110										
31.5	-COMZ31.5	-	80	-COMZ31.5	-	110										
32	-COMZ32	-	90	-COMZ32	-	120										
32.5	-COMZ32.5	-	90	-COMZ32.5	-	120										
33	-COMZ33	-	90	-COMZ33	-	120										
33.5	-COMZ33.5	-	90	-COMZ33.5	-	120										
34	-COMZ34	-	90	-COMZ34	-	120										
34.5	-COMZ34.5	-	90	-COMZ34.5	-	120										
35	-COMZ35	-	90	-COMZ35	-	120										
36	-COMZ36	-	100	-COMZ36	-	125										
37	-COMZ37	-	100	-COMZ37	-	125										
38	-COMZ38	-	100	-COMZ38	-	125										

★Two Pilot Drills, a pair of insert tips and Insert Clamp Handle are supplied as standard.

★Please refer P.48 for Centre Through Side Lock Holder, P.48 for Flange Through Side Lock Holder and P.121 for Oil Hole Holder for COMBAT Z Drill at M/C use.

REAMER-DRILL

# COMBAT Z DRILL

Cost down can be achieved by improvement of drilling operation.



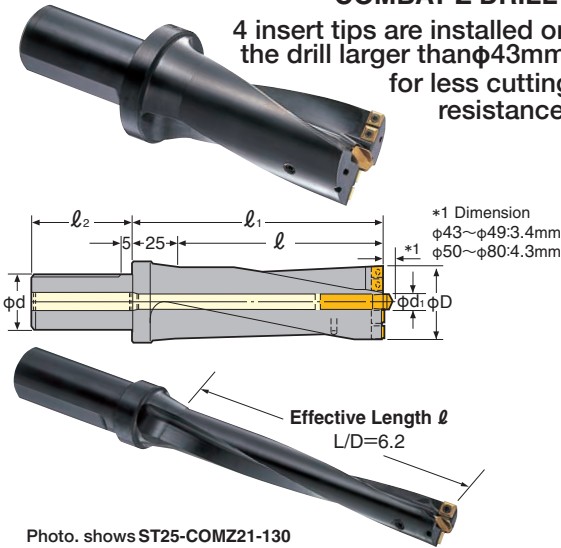
φ39~φ49 L/D=2, 3 or 4

Drill Dia.	2D Series				3D Series				4D Series			2D,3D,4D				
	Code No.	ℓ	ℓ <sub>1</sub>	Code No.	ℓ	ℓ <sub>1</sub>	Code No.	ℓ	ℓ <sub>1</sub>	φ <sub>d</sub>	ℓ <sub>2</sub>	Pilot Drill	Insert Tip	Clamp Screw	Tip Clamp Handle	
																φ <sub>d</sub> -φD -ℓ
39	ST32-COMZ39- 80	80	105	ST32-COMZ39-120	120	145	ST32-COMZ39-160	160	185	32	58	9CMD10 d <sub>1</sub> =φ10	9CMT9 (2 pcs)	M4090	T-15	
40	-COMZ40- 80			-COMZ40-120			-COMZ40-160									
41	-COMZ41- 80			-COMZ41-120			-COMZ41-160									
42	-COMZ42- 80			-COMZ42-120			-COMZ42-160									
43	-COMZ43- 80			-COMZ43-120			-COMZ43-160									
44	-COMZ44- 80			-COMZ44-120			-COMZ44-160									
45	-COMZ45- 80			-COMZ45-120			-COMZ45-160									
46	-COMZ46- 80			-COMZ46-120			-COMZ46-160									
47	-COMZ47- 80			-COMZ47-120			-COMZ47-160									
48	-COMZ48- 80			-COMZ48-120			-COMZ48-160									
49	-COMZ49- 80	-COMZ49-120	-COMZ49-160													

## Dimensions of φ43mm or larger

### COMBAT Z DRILL

4 insert tips are installed on the drill larger than φ43mm for less cutting resistance.



The extended drill longer than L/D=5 or with chamfering tool are available as an option.  
Minimum. order quantity of special drill is 2 off.

φ50~φ80 L/D=2

Drill Dia.	2D Series				φ <sub>d</sub>	ℓ <sub>2</sub>	Pilot Drill	Insert Tip	Clamp Screw	Tip Clamp Handle							
	Code No.	ℓ	ℓ <sub>1</sub>	φ <sub>d</sub> -φD -ℓ													
											50	ST32-COMZ50-100	100	125	32	58	9CMD12 d <sub>1</sub> =φ12
51	-COMZ51-100																
52	-COMZ52-100																
53	-COMZ53-100																
54	-COMZ54-100																
55	-COMZ55-100																
56	-COMZ56-110	110	135	40	68	9CMD12 d <sub>1</sub> =φ12	9CMT7 (4 pcs)	M3070	T-10								
57	-COMZ57-110																
58	-COMZ58-110																
59	-COMZ59-110																
60	ST40-COMZ60-120	120	145	40	68	9CMD12 d <sub>1</sub> =φ12	9CMT7 (4 pcs)	M3070	T-10								
65	-COMZ65-120																
70	-COMZ70-130																
75	-COMZ75-130																
80	-COMZ80-150	150	175	40	68	9CMD12 d <sub>1</sub> =φ12	9CMT9 (4 pcs)	M4090	T-15								

★Two Pilot Drills, a pair of insert tips and Insert Clamp Handle are supplied as standard.  
★Please refer P.48 for Centre Through Side Lock Holder, P.48 for Flange Through Side Lock Holder and P.121 for Oil Hole Holder for COMBAT Z Drill on M/C.

## Insert Tip for COMBAT Z DRILL

Code No.	Insert Tip					ISO Code No.	Grade	Material	Applicable Drill	
	Dimensions	φD	T	φ <sub>d</sub>	Nose Radius					
9CMT4		4.76	1.98	1.9	0.4	MPMT04T104	Coated (PR1725)	Steel Cast Iron	COMZ16~20.5	
9CMT6		6.35	2.38	2.8					COMZ21~26 COMZ43~55	
9CMT7		7.94	3.18	3.4	0.8				MPMT070308	COMZ26.5~35 COMZ56~65
9CMT9		9.525		4.4					MPMT090308	COMZ36~42 COMZ66~80

★The Rhomboid insert tips are installed on the drill. Total 4 corners at 2 external and 2 internal diameters can be used. Please pay attention to install the insert into the pockets correctly.  
★The spare Insert Tips are available per a box (10 off).

## COMBAT Z DRILL Economical Cutting Condition

- For Steel/Cast Iron  
"40,000" is the basic figure for cutting speed, and the rotation speed could be obtained by dividing above figure by the drill diameter.  
e.g. for φ32mm diameter drill: 40,000 ÷ 32 = 1,250 (r/min)
- For Stainless Steel/Steel Plate SS41  
"25,000" is the basic figure for cutting speed, and the rotation speed could be obtained by dividing above figure by the drill diameter.  
e.g. for φ32mm diameter drill: 25,000 ÷ 32 = 780 (r/min)
- Feed Rate

Drill Dia	φ16~φ26	φ26.5~φ42	φ43~φ85
Mild Steel Feed per rev.	0.1~0.15	0.1~0.2	0.15~0.2
Cast Iron Feed per rev.	0.15~0.2	0.2~0.3	0.2~0.35

★How to install Insert Tips

★Coolant pressure more than 0.5MPa must be supplied.

★For Stainless Steel/Steel Plate, even the cutting speed is reduced to meet with the materials, please do not reduce the feed rate and keep it as for steel.

★For tough materials, e.g. steel plate, please use stepped feed (G73) for breaking the swarf.

★This drill is suitable for offset hole, or inter-merged twin bore, but not suitable for stacked plate drilling.

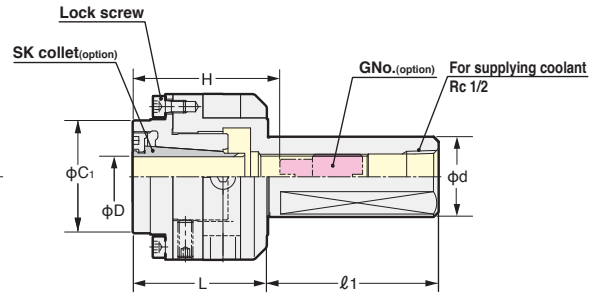
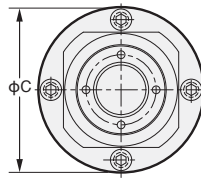
# ZERO-ZERO HOLDER FOR TURNING MACHINE

JAPAN PAT. **NIKKEN**



LCH40-SZF16S-55

Required for ultra-high precision drilling and ultra precision reaming



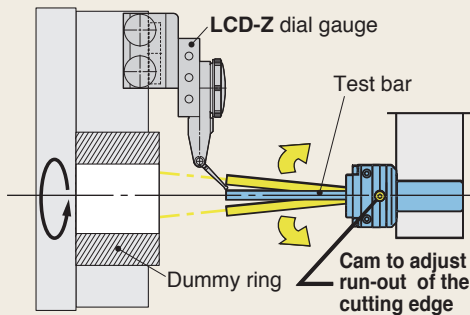
Code No.	D	d	L	l1	H	C	c1	G No. (Option)	Nut (Standard)	SK Collet	Spanner (Option)
LCH32-SZF10S-52	1.75~10	32	52.1	68	50	66	35	SKG-18-SZF10S	SKN-10SB	SK10	SKL-10S-P
LCH40-SZF10S-52		40								SK10-P	
LCH32-SZF10S-52-A		32							SK10-A		
LCH40-SZF10S-52-A		40							SK10-AC		
LCH32-SZF16S-55	2.75~16	32	54.3	70	70	45	SKG-18L	SKN-16SB	SK16	SKL-16S-P	
LCH40-SZF16S-55		40							SK16-P		
LCH32-SZF16S-55-A		32						SK16-A			
LCH40-SZF16S-55-A		40						SK16-AC			

- ★Nut is supplied as standard.
- ★Collet is available as an option. Please refer P.283, P.284.
- ★A Type and SK Coolant Collet : Chucking range : h8
- ★Tightening Spanner SKL-10S-P, SKL-16S-P is available as an option.
- ★Adjustment Wrench 9ZFL is available as an option.
- ★Dial Gauge LCD-Z is available as an option.
- ★Test bar is available as an option.  
Code.No. is SZF-TB10-140, SZF-TB16-200

★There is also a ZERO-ZERO holder Pro set in which a collet, a tightening spanner and a wrench for swing adjustment are set in the ZERO-ZERO holder.

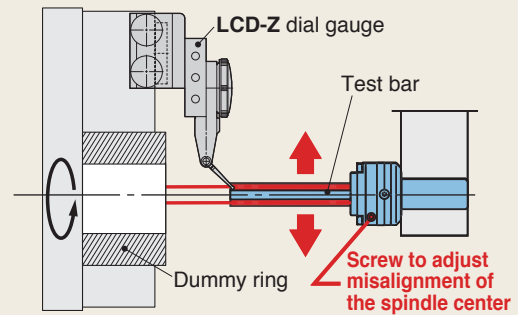
- Pro set with standard collet : S.LCH32-SZF16S, S.LCH40-SZF16S
- Pro set with coolant collet : S.LCH32-SZF16SC, S.LCH40-SZF16SC
- Full set with standard collet : S.LCH32-SZF16S-FZ, S.LCH40-SZF16S-FZ
- Full set with coolant collet : S.LCH32-SZF16SC-FZ, S.LCH40-SZF16SC-FZ

## Run-out adjustment



Run-out adjustment range at the tip of 100mm test bar : 0.05mm  
(Cam ring indication :  $\phi$  0.1mm)

## Misalignment adjustment



Misalignment adjustment range : 0.5mm/diameter

- Better Hole Diameter
- Better Surface Roughness
- Extend Tool Life

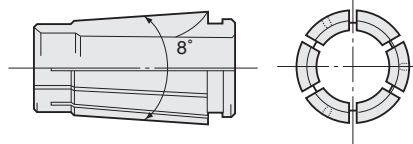
## COLLETS FOR ZERO-ZERO HOLDER



SK Collet

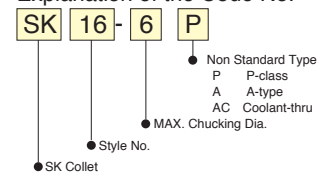
SK Coolant Collet

Perfect seal, ideal for coolant-thru tools



P.283, P.284

Explanation of the Code No.



## HOW TO ADJUST

### Required Tools

Adjustment Wrench  
9ZFL (Optional)



Tightening Spanner  
SKL-10S-P (Optional)  
SKL-16S-P (Optional)



Dial Gauge  
LCD-Z (Optional)



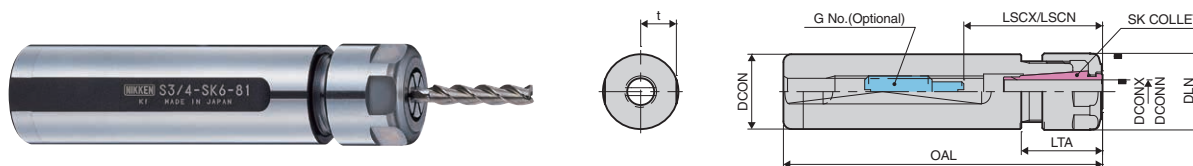


# HIGH PRECISION SLEEVE FOR CNC AUTOMATIC TURNING MACHINE



## SK SLEEVE (SLIM CHUCK)

High accuracy Slim Chuck makes it possible to achieve precise hole-making operation.



Code.No.	DCON	t	DCONN~DCONX	OAL	LTA	DLN	LSCN~LSCX	G No. (Option)	Weight (kg)	SK Collet	Spanner (Option)
ST 3/4 -SK 6 - 81	19.05	9	0.7~6.0	80.5	20.5	19.5	21~35	SKG-8	0.14	SK6	SKL-6W (SKL-6WS)
ST 3/4 -SK 6 -141				140.5					0.26		
ST 3/4 CM -SK 6 - 97				96.5					0.17		
ST 20 -SK 6 - 81				80.5					0.14		
ST 20 -SK 6 -141	20			140.5		19.5		0.26			
ST 22 SC -SK 6 - 97	22	10.5 (1 side)		96.5					0.18		
ST 1 -SK10 - 82	25.4	11	1.75~10.0	82.1	22.1	27.5	30~57	SKG-12L	0.23	SK10	SKL-10
ST 1 -SK10 -142				142.1					0.40		
ST 1 CM -SK10 - 97				97.1			30~60		0.30		
ST 25 -SK10 - 82	25			82.1			30~57		0.23		
ST 25 -SK10 -142				142.1					0.40		

★Nut is included.  
Collet is not included.

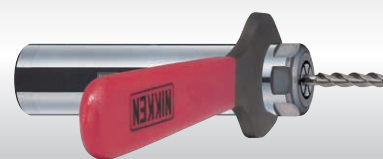
★Please confirm the machine specification. The modification is sometimes required. \*CM is designed exclusively for CITIZEN MACHINERY.  
★Tool shank Dia 22mm and 15.875mm are available. (Optional) (Ex.) S22-SK6-141

FOR SK SLEEVE  
SK COLLET



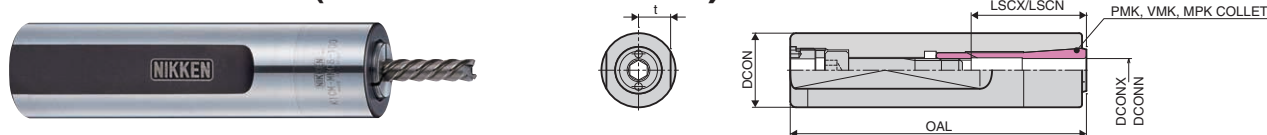
Code No.	Chucking Dia.	Code No.	Chucking Dia.
SK6 - 0.8	0.7 ~ 0.8	SK10 - 2	1.75 ~ 2.0
- 1	0.9 ~ 1.0	- 2.25	2.0 ~ 2.25
- 1.25	1.15 ~ 1.25	- 2.5	2.25 ~ 2.5
- 1.5	1.3 ~ 1.5	- 2.75	2.5 ~ 2.75
- 1.75	1.55 ~ 1.75	- 3	2.75 ~ 3.0
- 2	1.8 ~ 2.0	- 3.5	3.0 ~ 3.5
- 2.25	2.05 ~ 2.25	- 4	3.5 ~ 4.0
- 2.5	2.3 ~ 2.5	- 4.5	4.0 ~ 4.5
- 2.75	2.55 ~ 2.75	- 5	4.5 ~ 5.0
- 3	2.8 ~ 3.0	- 5.5	5.0 ~ 5.5
- 3.5	3.0 ~ 3.5	- 6	5.5 ~ 6.0
- 4	3.5 ~ 4.0	- 6.5	6.0 ~ 6.5
- 4.5	4.0 ~ 4.5	- 7	6.5 ~ 7.0
- 5	4.5 ~ 5.0	- 7.5	7.0 ~ 7.5
- 5.5	5.0 ~ 5.5	- 8	7.5 ~ 8.0
- 6	5.5 ~ 6.0	- 8.5	8.0 ~ 8.5
		- 9	8.5 ~ 9.0
		- 9.5	9.0 ~ 9.5
		- 10	9.5 ~ 10.0

Wrench (Optional)  
SKL-6W, SKL-10



Small size wrench "SKL-6WS" is available when there is some interferences.

## MMC SLEEVE (MINI-MINI CHUCK)



Code.No.	DCON	t	DCONN~DCONX	OAL	LSCN~LSCX	Collet	Spanner (Option)
K 5/8 CM*- MMC4 - 50	15.875	7	1.0~4.0	52.0	16~24	MPK4	Allen Key 4mm
K 3/4 CM*- MMC8 - 80	19.05	9	1.8~8.0	81.5	22~41	PMK8	Allen Key 6mm or EA573KL-6
K 1 CM*- MMC8 -100	25.4	11					
K 20 CM*- MMC8 -100	20.0	9					
K 22 SC - MMC8 -100	22.0	10.5 (1 side)		101.5		VMK8	
K 25 TG - MMC8C-100	25.0	11.5 (1 side)	2.0~8.0 (1.8~8.0)			(PMK8)	

★Collet and Wrench are not included. \*CM is designed exclusively for CITIZEN MACHINERY.

FOR MMC4  
MPK COLLET



Code No.
MPK4-1, 1.5, 2, 2.5, 3, 3.5, 4

MPK Collet clamping range: h6

FOR MMC8  
PMK COLLET  
VMK



Code No.
PMK 8-2, 2.2, 2.4, ...3, ...4, ...5, ...6, ...7, ...8 (each 0.2mm)
VMK 8-2, 3, 4, 5, 6, 8, 10

Choosing exactly the same size with tool shank (tolerance h6) is highly recommended.  
PMK Collet Clamping Range: 0.2mm  
VMK Collet Clamping Range: h6~h8

Clamp / Unclamp from the back side of the tool

EA573KL-6



# OIL JETTER SYSTEM for NC LATHE

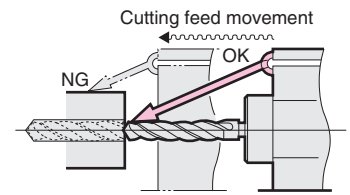


The problem of NC lathe process is said to be inner diameter machining.

Trouble frequent due to insufficient supply of coolant

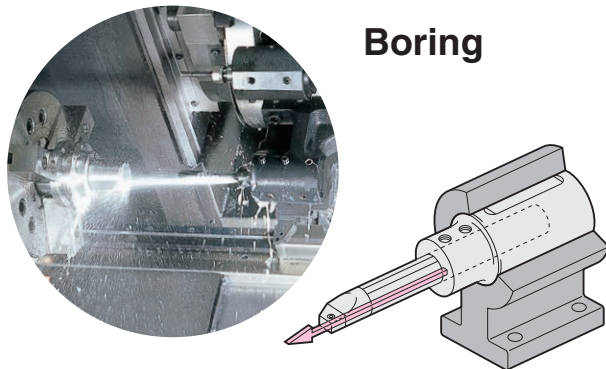
**Solution**  
 Drilling  
 Boring  
 Variation in inner diameter dimension

Coolant is not enough for external supply

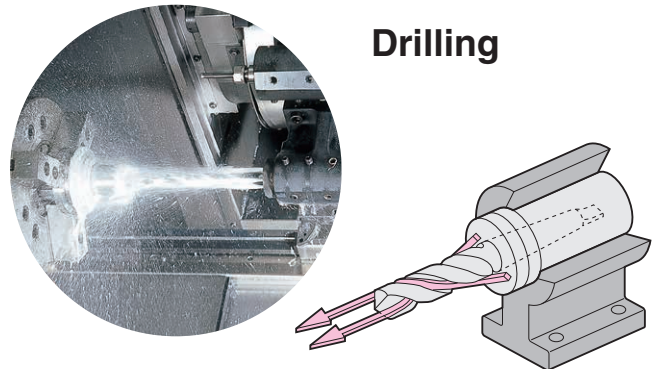


Coolant is not supplied to required area.

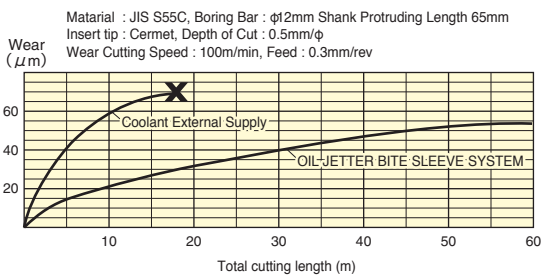
NIKKEN OIL JETTER SYSTEM developed for internal rationalization solves this problem.



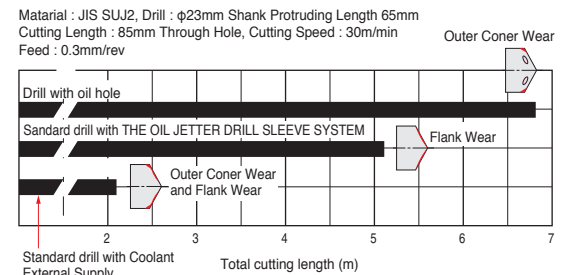
Boring



Drilling



With reliable jetting  
 Edge Cooling  
 Chip Discharge  
 Long Service Life of Cutting  
 Tool Reduction of Setup Time  
 and Setup Times Unattended  
 Operation at Night



- With external supply, the total cutting length is 17m and wears by 70 $\mu$ m, and the service life is reached.
- In THE OIL JETTER BITE SLEEVE SYSTEM it is possible to continue with wear of 50 $\mu$ m even after cutting 60m.

- Oil hole drill is good for life expectancy,
- The outer corner wear and there are many regrinding steps.
- Not suitable for through holes.
- There is a limit to the discharge amount.
- It is expensive.

- In contrast, THE OIL JETTER SLEEVE SYSTEM
- Mainly flank are wear, easy to regrinding.
- Suitable for through holes.
- It is proportional to the tank discharge amount and the discharge amount is large.
- It is also possible to use a standard drill.

# OIL JETTER SYSTEM for NC LATHE

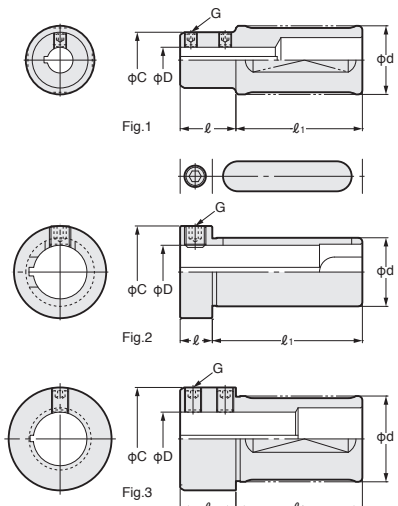


## Oil Jetter Bite Sleeve (for Commercially Available Boring Bar)

LEA



- With powerful coolant discharge groove.
- Excellent coolant effect for boring.
- Always remove chips with strong pressure to protect the cutting edge.



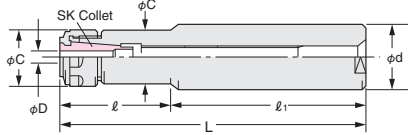
Code No. d- D	C	$\ell$	$\ell_1$	G	Fig	Code No. d- D	C	$\ell$	$\ell_1$	G	Fig
LEA16- 6	15.5		26	70	1	LEA32-16	30	26	70	9SLG8P1.0-8	1
- 8	16			9SLG6P0.75-5		-20	31.5	15		9SLG10-10	2
LEA20- 6	18		26	70	1	LEA40-10	24	26	70	9SLG6P0.75-6	1
- 8	19.5			9SLG6P0.75-6		-12	26				
-10	19.5			9SLG6P0.75-5		-16	30				
-12	30	10		9SLG6-8		-20	34				
LEA25- 6	20		26	70	1	-25	48		9SLG8P1.0-8	3	
- 8	22			9SLG6P0.75-6		-32	53	20	9SLG12-12		2
-10	22			9SLG6P0.75-5		LEA50-12	26	26	75		9SLG6P0.75-6
-12	24			9SLG6P0.75-5		-16	30	30	9SLG8P1.0-8		
-16	24.5			9SLG6P0.75-5		-20	34	34	9SLG8P1.0-12		
LEA32- 8	22		26	70	1	-25	48	48	9SLG10P1.25-10	3	
-10	24			9SLG6P0.75-6		-32	58	58			
-12	26										

# OIL JETTER SLIM CHUCK for NC LATHE



## Oil Jetter SLIM CHUCK

STH-SK



Code No.	D	d	C	l	l <sub>1</sub>	G (Option)	SK Collet
STH16-SK10-120	1.75~10	16	27.5	50	70	-	SK 10
STH20-SK16-130		20					
STH25-SK16-130	2.75~16	25	40	60	90	SKG-18A	SK 16
STH32-SK16-120		32		50			
STH40-SK16-120		40		30			
STH50-SK16-120		50		45			

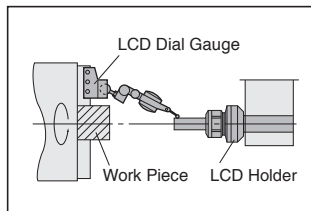
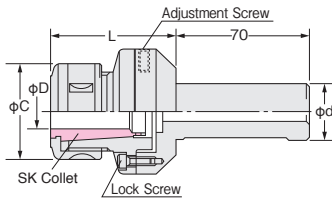
★Please refer to P.283 for SK Collet.

## Adjust type Centering Holder & Centering Dial Gauge

LCH-SK



The angle of the flat surface of the shank and the adjusting screw is 45° as standard. For different angles, please contact us separately.



- Adjust any radial direction 0.5mm.
- Adjust misalignment within ±0.01mm between a chuck and a turret head.
- Stable drilling and perfect finishing.
- Improve tool life and promote high precision and unmanned operation.
- Especially, it is essential for carbide and small diameter center drill.

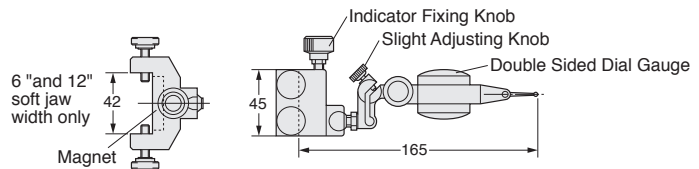
Code No.	D	d	L	C	SK Collet
LCH16-SK10	1.75~10	16	46	27.5	SK 10
LCH20-SK16		20			
LCH25-SK16	2.75~16	25	58	40	SK 16
LCH32-SK16		32			
LCH40-SK16		40			
LCH50-SK16		50			

★Please refer to P.283 for SK Collet.

- 6" to 12" chuck is available.
- It is possible to put on lathe chuck jaws and measure directly runout turret head.
- Double Sided Dial Gauge with excellent visibility is attached.



LCD



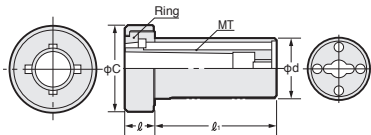
# OIL JETTER DRILL SLEEVE for NC LATHE



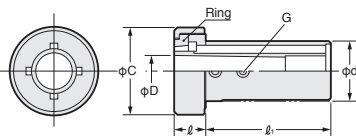
- With 4 coolant discharge nozzles along the drill groove.
- Since the nozzle position is variable, it exhibits the coolant effect.
- An expensive oil hole drill is unnecessary and continuous operation is possible.



LE-MT



LS



<For MT Shank Drill>

Code No.	C	l	l <sub>1</sub>		
LE25-MT1	47	15	44.5		
-MT2			57		
LE32-MT1	47	15	44.5		
-MT2			59		
-MT3			65		
LE40-MT1	56	18	41.5		
-MT2			56		
-MT3			65		
LE50-MT1	83	48	65		
-MT4			65		
LE50-MT1			66	18	75
-MT2					20
-MT3	70				
-MT4	83	38	75		

<For Straight Shank Drill>

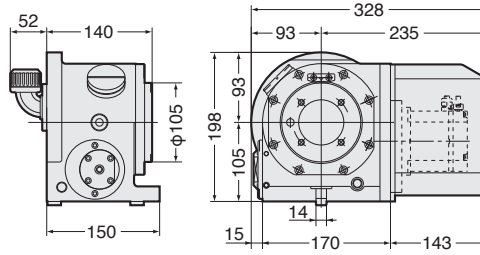
Code No.	C	l	l <sub>1</sub>	G
LS16-10	47	25	60	M8
LS20-10				M8
LS25-10	47	15	60	M6
-12				M8
LS32-10	56	25	70	M6
-12				M8
-16				M10
LS40-10	56	30	70	M6
-12				M8
-16				M10
-20				M12
LS50-10	66	18	75	M6
-12				M8
-16				M10
-20				M12
-25				M8
-32				M12

MT No.	Drill diameter	φD	Drill diameter
MT1	φ8.1~φ14	10	φ8.1~φ10
MT2	φ14.1~φ23	12	φ10.1~φ13
MT3	φ23.1~φ32	16	φ13.1~φ14.5
MT4	φ32.1~φ44	20	φ14.6~φ18.5
		25	φ18.6~φ23.5
		32	φ23.6~φ32

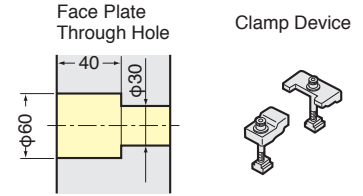
# CNC ROTARY TABLE with AR21 CONTROLLER



## CNC105AR21-04



Powerful Clamping Torque : 205Nm

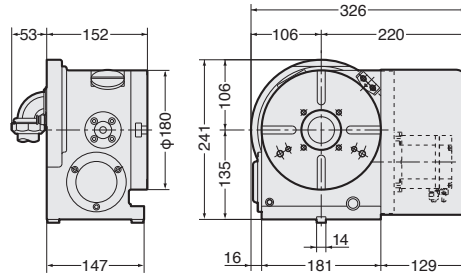


Air purge function is provided.

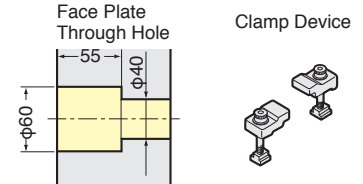
## CNC180AR21-04



CNC180AR21-04 (400W) is standard. CNC180AR21-08 (750W) and CNC180AR21-06 (High Torque) are available.



Powerful Clamping Torque : 303Nm

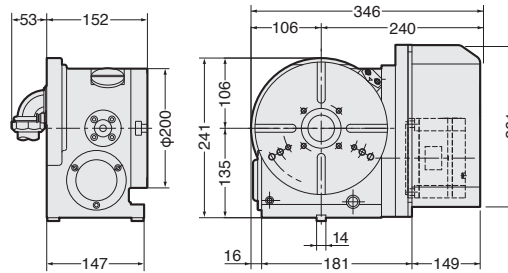


Air purge function is provided.

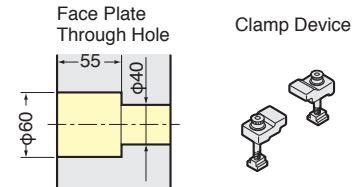
## CNC202AR21-08



CNC202AR21-08 (750W) is standard. CNC202AR21-06 (High Torque) is available.



Powerful Clamping Torque : 303Nm

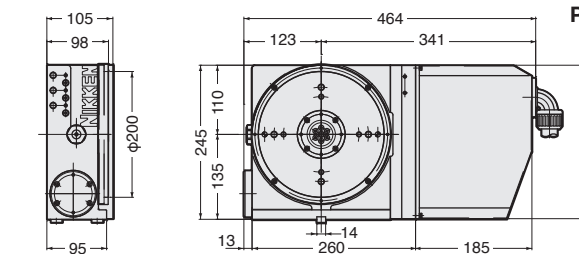


Air purge function is provided.

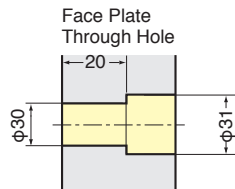
## CNC205AR21-05



CNC205AR21-05 (450W) is standard. ★Built-in type rotary joint 6+1 can be mounted.



Powerful Clamping Torque : 380Nm



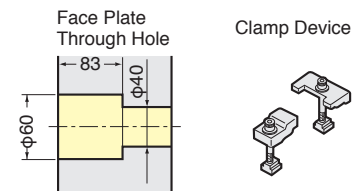
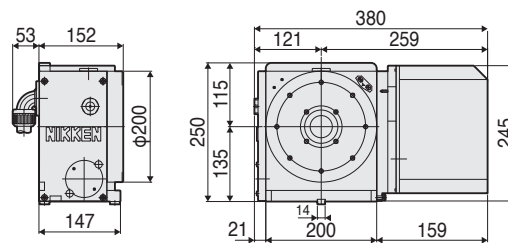
Air purge function is provided.

Rotary joint shown in photo is optional.

## NCT200AR21-08



Powerful Clamping Torque : 900Nm



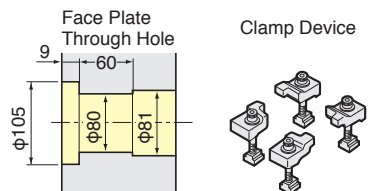
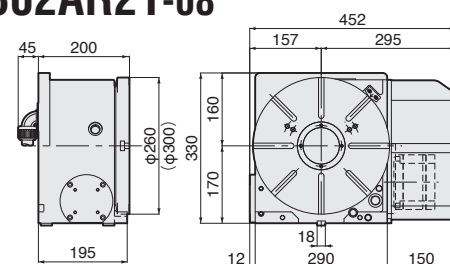
Air purge function is provided.

## CNC260AR21-08, 302AR21-08

CNC260, 302AR21-08 (750W) is standard. CNC260, 302AR21-06 (High Torque) is available.



CNC260



For the rotary table with pneumatic brake, air purge function is provided inside the motor cover as standard.

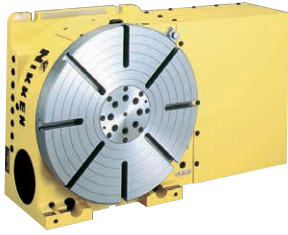
High speed rotation Z series is available for all models of CNC rotary table. e.g. CNCZ260AR21

# CNC ROTARY TABLE with AR21 CONTROLLER

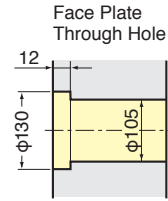
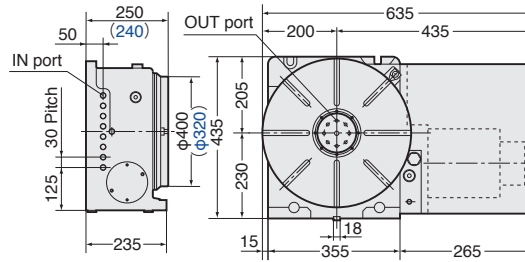


## CNC321, 401AR21-18

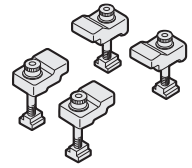
★ Built-in type rotary joint can be mounted.



Rotary joint shown in photo is optional.



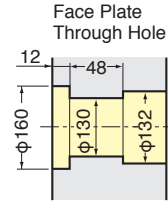
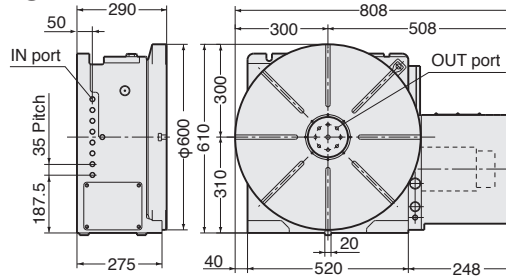
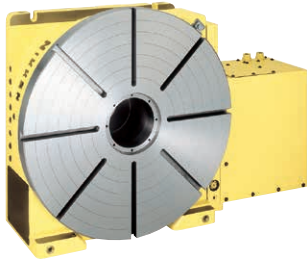
Clamp Device



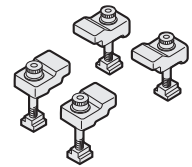
★ Please contact us for the dimension of CNC321AR21-18.

## CNC501, 601, 802AR21-18

★ Built-in type rotary joint can be mounted.

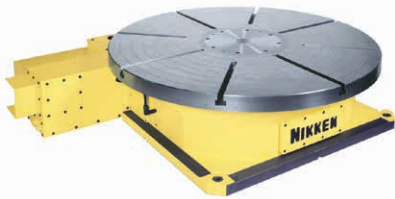


Clamp Device

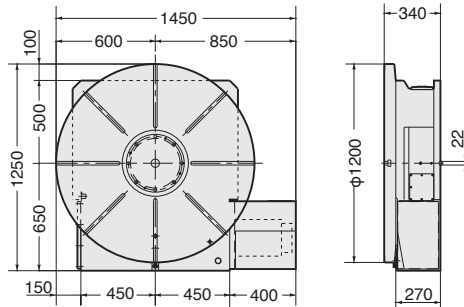


★ Please contact us for the dimension of CNC501, 802AR21-18.

## CNC1000, 1200AR21

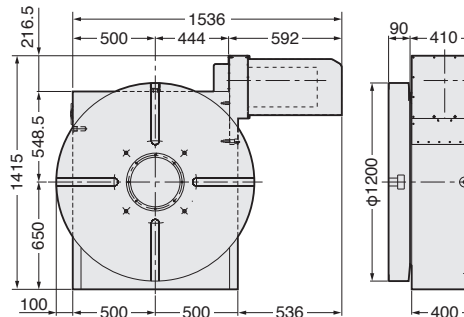
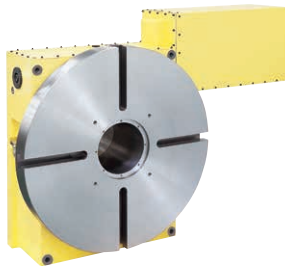


Center socket shown in photo is optional.



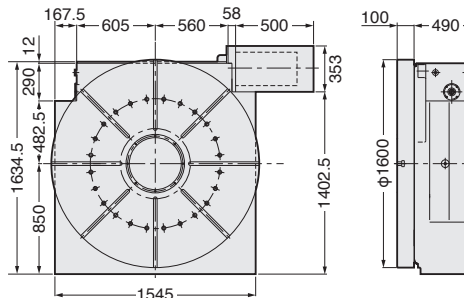
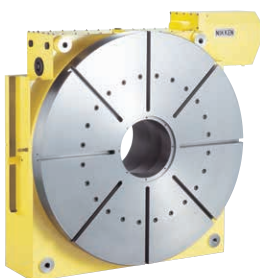
- ★ Ultra precision of  $\pm 3\text{sec.}$  is available as an option. There is no through hole on the rotary table due to the rotary encoder for ultra precision option.
- ★ Please contact us for the dimension of CNC1000AR21.
- ★ Code No. will be varied according to the servo motor capacity. e.g CNC1000AR21-44 (4.4KW Motor)

## CNC1201AR21



- ★ Ultra precision of  $\pm 3\text{sec.}$  is available as an option. There is no through hole on the rotary table due to the rotary encoder for ultra precision option.
- ★ Please contact us for the dimension of CNC1000AR21.
- ★ Code No. will be varied according to the servo motor capacity. e.g CNC1201AR21-110 (11KW Motor)

## CNC1600AR21



- ★ Ultra precision of  $\pm 3\text{sec.}$  is available as an option. There is no through hole on the rotary table due to the rotary encoder for ultra precision option.
- ★ Please contact us for the dimension of CNC2000AR21.
- ★ Code No. will be varied according to the servo motor capacity. e.g CNC1600AR21-44 (5KW Motor)

The specification of the large rotary table will be varied according to your application.

1. With/without T slot, Width of T slot
2. Spindle hole dimension...Center socket for centering is normally installed.
3. Layout of the rotary table...Vertical use, horizontal use, vertical and horizontal use
4. Total reduction ratio...Suitable capacity of the servo motor can be selected.

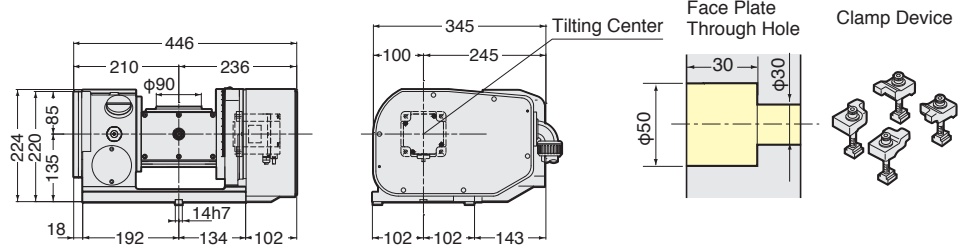


Please refer to CNC ROTARY TABLE Catalogue.

# Tilting Rotary Table with AR21 Controller



## 5AX-100WAR21



Motor capacity of rotary axis and tilting axis are added at the end of Code No. e.g 5AX-100WAR21-0404

## 5AX-130WAR21

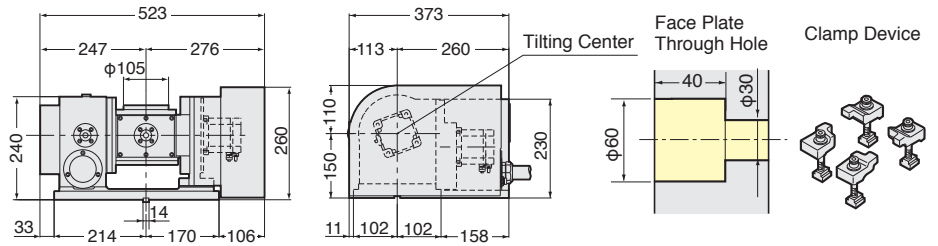
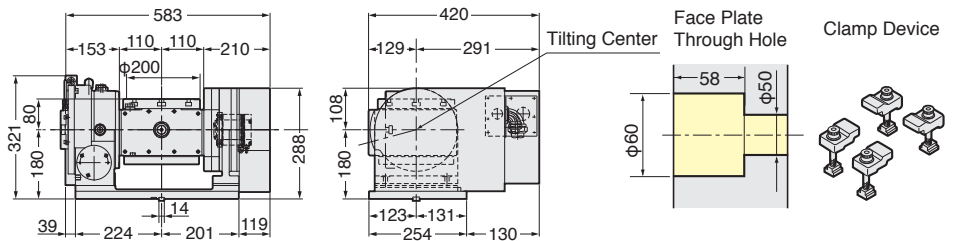
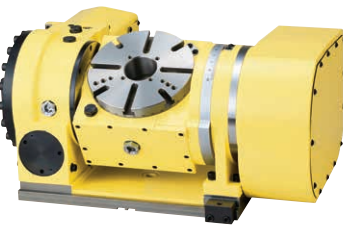


Photo with  $\phi 130$ mm plate.  
Rotary axis cable stays.

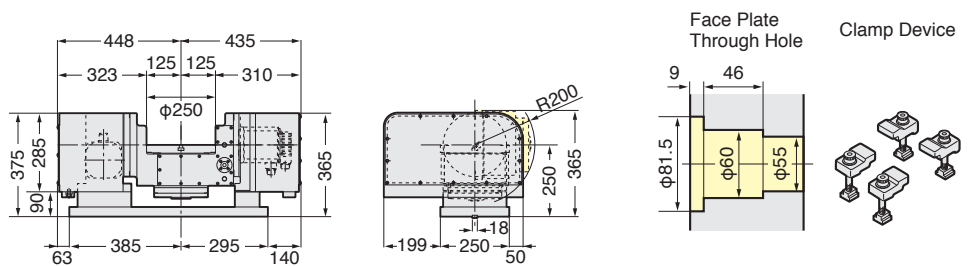
Motor capacity of rotary axis and tilting axis are added at the end of Code No. e.g 5AX-130WAR21-0404

## 5AX-201WAR21



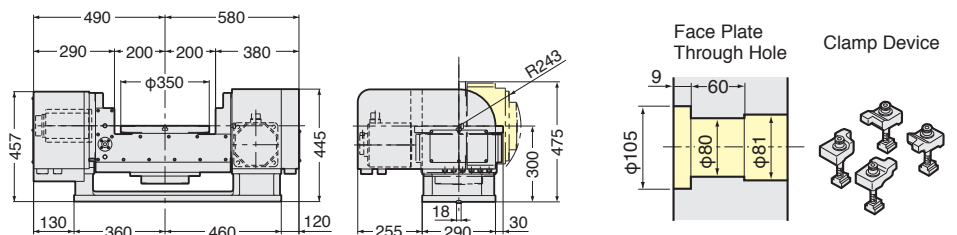
Motor capacity of rotary axis and tilting axis are added at the end of Code No. e.g 5AX-201WAR21-0408

## 5AX-250WAR21



Motor capacity of rotary axis and tilting axis are added at the end of Code No. e.g 5AX-250WAR21-1313

## 5AX-350WAR21



Motor capacity of rotary axis and tilting axis are added at the end of Code No. e.g 5AX-350WAR21-1318



# CNC ROTARY TABLE with AR21 CONTROLLER

**NIKKEN**

## Minimum Command Increment: 0.001° or 1sec.

AR21 controller can drive all models of NIKKEN CNC rotary table.

## Single M signal provides Various Automatic Operation.

Any unequal dividing, equal dividing, arc cutting, lead cutting etc. can be done very easily.

## USB interface as standard equipment

By connecting to a PC, program data and parameters can be input and output. (However, communication software is required on the PC side.)


## Upgrade of Water Proof Characteristic

### EMC Assessment

The direct out type connection is applied for all models of CNC rotary table, and the EMC assessment is satisfied as the total system.

## Digital Servo System & Absolute Encoder

Very excellent acceleration/deceleration characteristics, the powered up torque and the best suited servo parameter realize the high quality and long life.

 after Power ON or after releasing the emergency stop condition is not necessary.\*

## Plenty of Optional Functions

True Closed Loop, Manual Pulse Generator, M Function (Input: 5/ Output: 5), External N Number Search, External Position Display, External Power ON/OFF, Pitch Error Compensation

## More than 30,000 sets working in the field.

This fact ensures the highest reliability.

## Product compatible with ROHS2-10 commands

The AR21 controller is now ROHS2-10 compliant and has the product code AR21, which can be shipped to EU member countries.

\* : The operation to establish the coordinate system is required at once, when turning the POWER ON at first time just after connecting the cable.



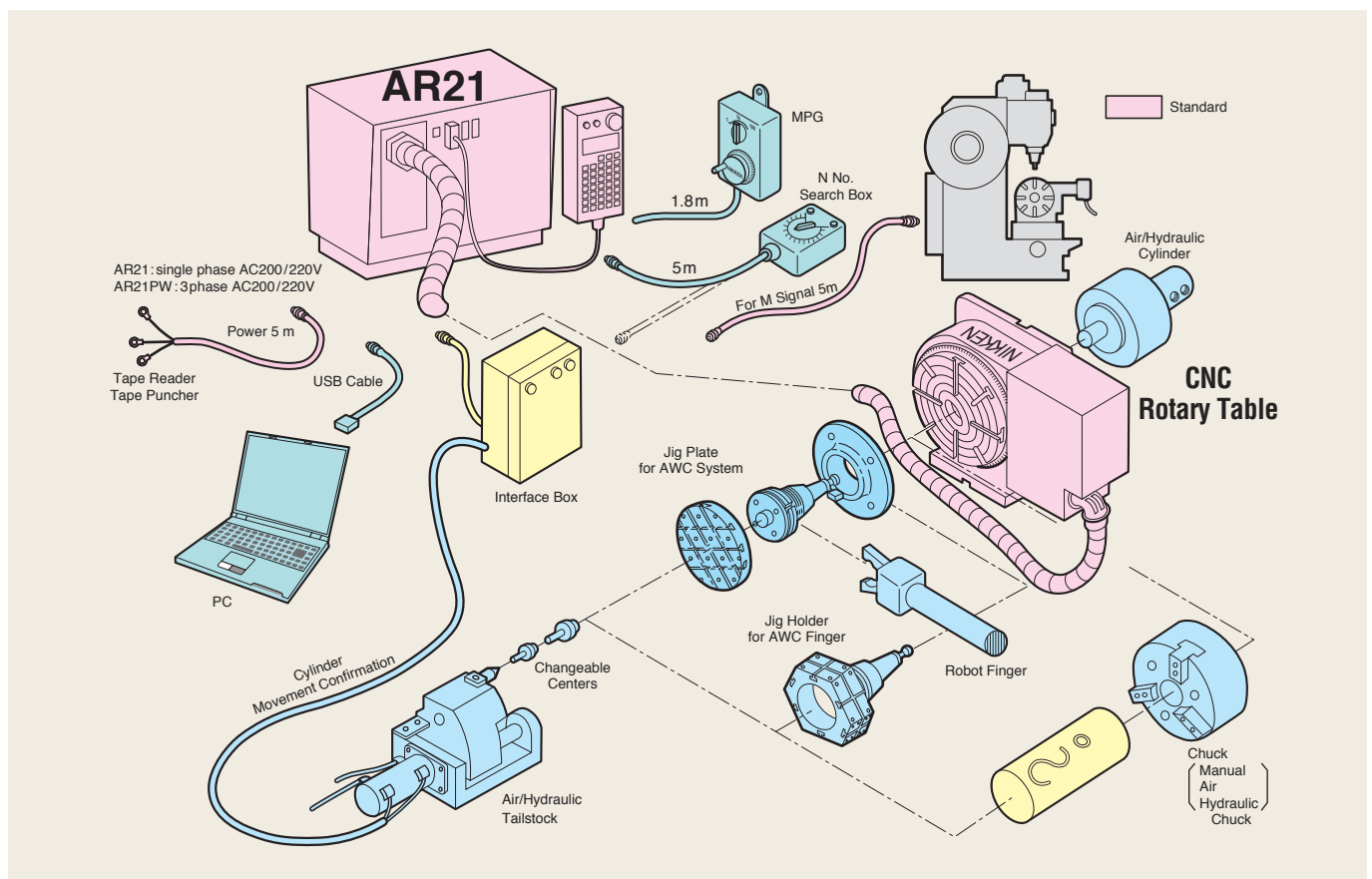
**AR21 controller**  
 • Standard (400W, 750W)  
 300×280×285 10kg  
 • Single Phase AC200/220V



**AR21 PW controller**  
 • Power up (1.3KW, 1.8KW)  
 540×360×400 28kg  
 • 3 phase AC200/220V



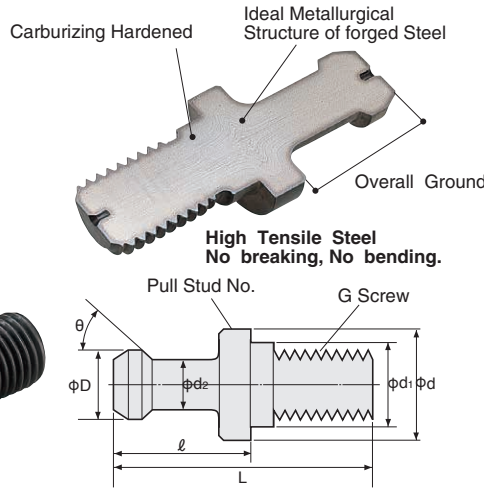
**AR21 controller for larger capacity**  
 • (2.7KW, 4.4KW and 11kW) is available.  
 • 3 phase AC200/220V



# PULL STUD



PS



●PULL STUDS of new standard are also available.

## Pulling Force Measuring Tool



Transducer size  
W X H X D = 100 X 140 X 200

We would strongly recommend that a regular check on the pulling force of your M/C should be carried out to identify any problems at early stage. The NIKKEN Pulling Force Measuring Tool - CLP comes complete with 5m cable and the pulling force of your machine can be measured with the CLP using either a manual tool change or A.T.C.

Pull Stud No.	D	d	d <sub>1</sub>	d <sub>2</sub>	L	ℓ	G	θ°	Type	Remarks			
PS- 1	15	23	17	10	60	35	M16	45°	BT40 MAS-1 Standard Type	MAS P40T-1			
- 2								60°	BT40 MAS-2 Standard Type	MAS P40T-2			
- 3								45°	BT45 MAS-1 Standard Type	MAS P45T-1			
- 4								60°	BT45 MAS-2 Standard Type	MAS P45T-2			
- 5	23	38	25	17	85	45	M24	45°	BT50 MAS-1 Standard Type	MAS P50T-1			
- 6								60°	BT50 MAS-2 Standard Type	MAS P50T-2			
-16	11	16.5	12.5	7	43	23	M12	45°	BT30 MAS-1 Standard Type	MAS P30T-1			
-17								60°	BT30 MAS-2 Standard Type	MAS P30T-2			
-18								45°	BT35 MAS-1 Standard Type	MAS P35T-1			
-19								60°	BT35 MAS-2 Standard Type	MAS P35T-2			
-5F	23	38	25	17	85	45	M24	45°	BT50 MAS-1	PS-5 Top face ground			
-6F								60°	BT50 MAS-2	PS-6 Top face ground			
-50	23	38	26.187	17	110	70	1-8UNC	45°	BT50				
-53					85.2	45.2		60°	CAT50U				
-63					26	82.5		45	1-8UNC	60°	CAT50U		
-70	19	23	17	14	60	35	M16	45°	BT40				
-72	15		16.281	10	57.15	32.15			5/8-11UNC	CAT40U			
-O	23	38	25	17	85	45	M24	90°	BT50-90° Type				
-O8-1	15	23	17	10	60	35	M16		BT40-90° Type				
-P	24	36	25	18	71	31	M24	90°	BT50	MITSUI SEIKI			
-P5-1	15	23	17	10	50	25	M16		BT40	MITSUI SEIKI			
-P10	11	16	12.5	7	40	20	M12		BT30	MITSUI SEIKI			
-U2	13.7	20	13	8.9	53	28	M24	60°	BT35	MATSUURA			
-G4	23	38	25	17	85	45		90°	BT50	MAZAK			
-G5	15	23	17	10	54.6	29.6	M16	90°	BT40	MAZAK			
-G45	28.956	37	25	20.828	65.2	25.2	M24		BT50	MAZAK Top face ground	PS-G41 W/o hole		
-G58	18.796	22	17	12.446	44.1	19.106	M16	45°	BT40	MAZAK Top face ground	PS-G51 W/o hole		
-G60	18.796	21.8	16.281	12.446	41.256	16.256	5/8-11UNC		CAT40U	OKUMA			
-O19	23	38	25	17	85	45.2	1-8UNC	90°	CAT50U				
-O47-2									85	45.2	M24	IT50	DMG MORI
-P13									24	36	18	71	31
-H30	15	23	16.281	10	57.2	32.2	5/8-11UNC	45°	CAT40U	DMG MORI			
-B1	22	38	25	16	112	72	M24	60°	BT50	OKUMA			
-809	28			21	74	34			BT50	Top face ground	JIS-B6339-89		
-805	19	23	17	14	54	29	M16	75°	BT40	Top face ground	JIS-B6339-89		
-801	12	16.5	12.5	8	43	23.4	M12		BT30	Top face ground	JIS-B6339-89		
-J	14	20	13	8	45	23		90°	BT35	KITAMURA			
-M10	14	16	12.5	10	40	22	45°		CAT30S	MAKINO SEIKI			
-R3	10	18	13	7	43	25	M24	45°	BT35	ROKU-ROKU			
-C	21	39	25	15	105.1	63.1			BT50	HITACHI SEIKO			
-301	15	23	17	11	60	35	M16	60°	BT40	TSUGAMI			
-Q3	16	16.5	12.5	12.5	31.8	11.8	M12	45°	BT30	OKADA			
-BR*1	7	10	6.5	4	28	17	M 6	45°	BT15	BROTHER			
-81	12	16.5	12.5	8	44	24	M12	R4	BT30	CKD			
-581	28	36	25	21	74	34	M24	75°	IT50		DIN69872-B-1988		
-302	19	23	17	14	54	26	M16		IT40		DIN69872-A-1988		
-366									BT40	DMG MORI			
-122	13	17	13	9	44	24	M12	IT30		DIN69872-A-1988			
-S27	18.95	22.5	17	12.95	44.25	19.25	M16	45°	BT40	SNK			

\*When Pull Stud w/o hole is used on Centre Through Coolant M/C, please use the Pull Stud which Top Face is ground.

\*1 The monoblock style of BT15 Slim Chuck with PS-BR is recommended.

### PULL STUD with RPT

e.g. PS-16-RP



### PULL STUD with ID



Please add the abbreviation of ID maker on to the PULL STUD No.  
e.g. PS-6-IDB

OMRON	V600-D23P53 (φ8×6)	:-IDM
	V600-D23P54 (φ12×5)	:-IDN
BALLUFF	BIS-C122-04/L (φ10×4.5)	:-IDU
	BIS-C105-05 (φ12×6)	:-IDB
JAPAN ID SYSTEM	WDD12B (φ12×6)	:-IDQ

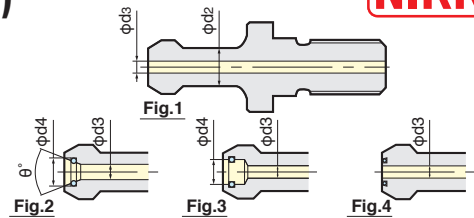


# PULL STUD (CENTRE THROUGH COOLANT)



**PS**  
(Centre Through Coolant)

The specification of the pull stud may be different depending on the machine specification and the machine serial number. Please confirm the specification of your machine and order the proper pull stud.



Pull Stud	Specification	Machine Maker	φd3	FIG	Remarks
PS-130E	BT30 MAS- II Special PS-17	BROTHER, TOYOSK	2.5	1	φd2=7.5
-132	BT30 MAS- I Special PS-16	FANUC	4	1	φd2=8
-114		DMG MORI	2.5	2	φd4=6.5 θ=30°
-802	BT30 JIS PS-801		4	1	PS-801 with hole
-876		MAZAK	2.5	2	φd4=5.5 θ=30°
PS-73*1	BT40 MAS-I PS-1		4	1	PS-1 with hole
-371		OKUMA HOWA	3	2	φd4=7 θ=30°
-392		JTEKT	3	3	φd4=7.3
-H28		DMG MORI	3	3	φd4=5
-75*1	BT40 MAS-II PS-2		4	1	PS-2 with hole*4
-806-1	BT40 JIS PS-805		6	1	PS-805 with φ6 hole*4
-813-1		MAKINO	6	1	AS568-015 with O-ring
-854		YASDA	6	1	φ3 with air hole
-874			6	2	φd4=10 θ=30°
-877		JTEKT	3	3	φd4=7.3
-881		KITAMURA	3	2	φd4=7 θ=30°
-B62-1		OKUMA	4	1	With O-ring S15
-366-D7	BT40 Centre Through	DMG MORI	7	1	
-366E-1			7	2	φd4=10 θ=30° N29104*3
-G51	BT40 ANSI PS-G58	MAZAK	7	1	PS-G58 with hole 34931900680*2
-G510	IT40 DIN PS-302		7	3	PS-G51 High pressure 34261910160*2
-309			7	1	DIN 69872-A-1988
-380E	IT40 DIN Centre Through	DMG MORI	7	2	φd4=10 θ=30° N29106*3
-A1	IT40 ISO A		7	1	ISO-7388/2-1984A
-A4	IT40 ISO B		7.35	1	ISO-7388/2-1984B
-G52	IT40 ANSI	MAZAK	7	1	34931900660*2
-G53		MAZAK	7	1	34931900670*2
-B64-1	CAT40U ANSI	OKUMA	4	1	With O-ring S15
-D72			7	1	ANSI/ASME B5.50-1985
-381E	CAT40U Centre Through	DMG MORI	7	2	φd4=10 θ=30° N29105*3
PS-5E	BT50 MAS- I PS-5		6	1	PS-5 with hole
-552		JTEKT	6	3	φd4=10.4
-563		YASDA, KOMATSU NTC	5.5	2	φd4=11.2 θ=60°
-595		DMG MORI	8	2	φd4=11 θ=30° N29120*3
-5024		OKUMA HOWA	6	2	φd4=9.5 θ=30°
-B66		OKUMA	6	1	With O-ring P21
-5027		NIDEC OKK	6	4	With O-ring S9 at Face
-5030G		TOSHIBA	4.5	1	With O-ring P21
-M16		MAKINO	6	1	With O-ring P21
-H38-B		DMG MORI	3	4	With O-ring S5 at Face
PS-6E		BT50 MAS- II PS-6		6	1
-578	JTEKT		6	3	φd4=10.4
-579	YASDA		5.5	2	φd4=11.2 θ=60°
-596	DMG MORI		8	2	φd4=11 θ=30° N29121*3
-5016	OKUMA HOWA		6	2	φd4=9.5 θ=30°
-5022G	TOSHIBA		4.5	1	With O-ring P21
-5031	OKK		6	4	With O-ring S9 at Face
-B60	OKUMA		6	1	With O-ring P21
-H39-B	DMG MORI		3	4	With O-ring S5 at Face
-M23	MAKINO		6	1	With O-ring P21
PS-O31	BT50 90° PS-O			6	1
-O54		OKUMA	6	1	With O-ring P21
-O56		DMG MORI	8	2	φd4=11 θ=30° N29119*3
-O67		OKK	6	4	With O-ring S9 at Face
-O72		OKUMA HOWA	6	2	φd4=9.5 θ=30°
-O48-B		DMG MORI	3	4	With O-ring S5 at Face
PS-810	BT50 JIS PS-809		10	1	PS-809 with hole
-816-1		MAKINO	6	1	With O-ring P21
-819		JTEKT	6	3	φd4=10.4
-833		YASDA	5.5	2	φd4=11.2 θ=60°
-850		OKUMA	6	1	With O-ring P21
PS-P16	BT50 MITSUI	MITSUI	8	1	PS-P with hole, Top surface ground
PS-G41	BT50 ANSI PS-G45	MAZAK	10	4	With O-ring P12 at Face 44831901160*2
-G63			10	1	PS-G45 with hole, Top surface ground 32551901720*2
-G410			10	3	PS-G41 High pressure 34341901620*2
-D92			CAT50U ANSI		11.7
PS-A3	IT50 ISO A		11.5	1	ISO-7388/2-1984A
-A6	IT50 ISO B		11.55	1	ISO-7388/2-1984B
-512	IT50 DIN		11.5	1	DIN 69872-A-1988

\*When pull stud without hole is used on the M/C with the centre through coolant, please use the pull stud which top surface is ground.  
 \* JIS40 type pull stud (φd2=14) is recommended for the machine with the centre through coolant instead of MAS40 type pull stud marked \*1(φd2=10).  
 \* \*2 shows the pull stud Code No. of MAZAK. \* The top surface of the pull stud of Fig.2 is not ground. \* \*3 shows the pull stud Code No. of MORI SEIKI. \* \*4 φd3=φ7 is also available.

□ :NC5 Spindle Available

Machine Maker	Machine Model	TAPER	Holder	Code No.
IKEGAI	TV4, 4F, 4L	No.40	BT40	PS-1
	TV-U4, 4LII H4 TH500 THU500	40	40	-805
	TV5, U5 MXseries BX110Pseries BX130Pseries TH600 THU600 AH6, 8	50	50	-5
IWASHITA INDUSTRIAL	IAMseries	No.40	BT40	PS-2
	IAMseries	50	50	-6
EGURO	E-32V E-32VLC	No.30	BT30	PS-16
	REVOLVER-32	30	NC5-46 Special	-837
	E-43V	40	BT40	-805
	APORO4	40	NC5-63	-834-1
ENSHU	S300 SS300 DT CENTERseries JE30S ES400	No.30	BT30	PS-16
	E-130 JE130 JE30S JE30G ES400 EV360, 360T	30	30	-17
	Super400, 450FV VMCseries HMCseries	40	40	-1
	JEseries ES450, 450T EV450, 530S GE460H, 480H	40	40	-2
	JE50	40	NC5-63	-N63AE
	EV650, 600MV VMCseries HMCseries VE65E	50	BT50	-5
OKUMA	JE80, 80G EV530 GE580, 590H	50	50	-6
	MA, MB, MC, MD, MF, MX-Aseries VH-40 VR-40 MP-46V GENOSseries	No.40	BT40	PS-2
	Centre Through (JIS)	40	40	-B62-1
	MX-55VA	40	NC5-63	-N63AE
OKUMA HOWA	MA, MB, MC, MD, MX-B, MCV-A, B, MCR, MU, MFseries MCM-B	50	BT50	-6
	Centre Through	50	50	-B60
	MILLAC Vseries, Hseries MAC TURNseries MM-300 ML-300	No.40	BT40	PS-1
	Centre Through	40	40	-371
	MILLAC VIIseries	40	40	-2
	Centre Through	40	40	-B62-1
	MILLAC Vseries, Hseries VTMseries VMP-10, 16	50	50	-6
	Centre Through	50	50	-5016
NIDEC OKK	MILLAC VIIseries	50	50	-6
	Centre Through	50	50	-B60
	VTM-65, 100	50	NC5-100	-N100VE
	PM300, 350	No.30	BT30	PS-801
	PCV, TRC, VM, AMC, DGM, VP, GC, HM, HP, VCseries PG8 PM400III DV5, V1 VB53 GR400	40	40	-1
	MCV-350, 410/40 PCH-400, 500 HPV400 MPH-400	40	40	-08-1
	VM4, 5 PCV-40II PCV-55 VC8-Jr4, 5 HM 40 HC8-40 PM 400 PG 8	40	NC5-63	-N63VE
	KCV600/800 MCVseries VC8series HM 50, 63 MCH600 HC8-50, 63, 600	45	NC5-85	-N85VE
	MCV, MCH, MHA, KCV, ACM, DCM, VM, HMseries PCV-510, 620 VG5000 GC600 DV5	50	BT50	-0
	PCV50, 55, 60	50	50	-5
OHTORI	PM500II	50	NC5-100	-N100VE
	OSH-54 OSVseries OSU-545 BMVII-85	No.40	BT40	PS-1
	FTV-500, 500HV	40	40	-805
OM	BMV-40NC (OP), 400NC (OP), 500LNC, 500ANC OSV-139 FTV-1200	50	50	-5
	OMC-40HS	No.40	BT40	PS-1
	OMC-50V, 50HS	50	50	-5
KITAMURA	TDC, Omega-M, VTLex-M, Neo Xseries	50	50	-6
	Centre Through	50	50	-579
	HX-250G	No.30	BT30	PS-801
	Centre Through	30	30	-802
	Mycenter-3XG, 4XiF, 7X, HX400G, Supercell-400 Mytrunnion-5 JIGcenter-5	No.40	BT40	PS-805
KIRA	Centre Through	40	40	-806-1
	Mycenter-4XiF, 7X, HX500i, 630i, 800iL, 1000i, 1250i, BridgeCenter-8F, 10	No.50	BT50	PS-809
	Centre Through	50	50	-810
	VMC, HMC, Arik, KN, VTCseries PC-30E, 30F, 30H, 30W KPC30a, 30b HPC-30Vb PCV-30, 150	No.30	BT30	PS-16
KIWA	Centre Through	30	30	-802
	VTC-30a	30	NC5-46	-N46AE
	KV, Arik, VTC, KNseries PC40G	40	BT40	-1
KURASHIKI	Centre Through	40	40	-806-1
	KCW-5VR	No.30	BT30	PS-16
	Triple-V21i, V41 KNH-426 KH-41, 45 KCW-10V	40	40	-805
	Centre Through	40	40	-806-1
KOMATSU NTC	KH-55	No.50	BT50	PS-809
	Centre Through	50	50	-810
	KV-500, 500H, 700	No.40	BT40	PS-1
	KVseries KMVseries KBTseries KHseries CMNseries KHM-125 KBM11X	50	50	-5
	N, Zseries	No.30	BT30	PS-16
SHIZUOKA	TMC, NH, NV, H, N, Z, ZV, ZHseries	40	40	-1
	ZV5400 ZH4000, 5000 (Centre Through)	40	40	-371
	TMC, CNC, N, ZVseries	50	50	-5
	ZV5500 (Centre Through)	50	50	-563
SHIN NIPPON KOKI (SNK)	CM-210G, 350B CM300-A, 300-5A	No.30	BT30	PS-16
	Bseries CM-350 SSR-550 HSR-7, 10	40	40	-08-1
	Bseries SMVseries SG-600	50	50	-0
SUGINO MACHINE	SUPER HIGH SPEED MACHINE CMV	No.30	NC5-46	PS-N46
	CMV-50, 70T	40	BT40	-2
	CMV, DC, ESP FSP, HF, HPS, PS, RB, BFRseries PC-55V EXI-70K	50	50	-6
	REBO FLAME MACHINE, RAIL MACHINE	50	NC5-100	-N100VE
TAKIZAWA	PV640J	No.30	BT30	PS-16
	FA, FV, FVN, FXN, JV, PVseries e500H4, UX570	40	40	-1
	FH-40II	40	NC5-63	-N63AE
	FV, FVN, FHN, FXN, PV, BN, FH, FA, RB, SBseries SV-65 e500H5	50	BT50	-5
	DN-1V, 2V, 1H (Centre Through)	50	50	-52
TAKEDA KIKAI	Self Centre V15, NSV15, VC15, H15, H15B	No.30	BT30	PS-17
	MAC-V1E, 430VP VP10	No.40	BT40	-1
	MAC-V40, 40B Y520	40	40	-805
TSUGAMI	MAC-V40, 40B Y520 (Centre Through)	40	40	-806-1
	MAC-V40	40	NC5-63	-N63VE
	MV, TK-VSseries	No.40	BT40	PS-1
	VSseries	50	50	-6
TSUGAMI	VMA3-III VMC3-III VML3-III VA31H, 32H VA3	No.30	BT30	PS-16
	FMA3-III FMA5-III	40	40	-2
	VMA4-III	40	40	-1
	VMT4-III	40	40	-805

# PULL STUDS CODE NO.



□ :NC5 Spindle Available

Machine Maker	Machine Model	TAPER	Holder	Code No.
SHIBAURA	JRV400, 450 NX76B	No.40	BT40	PS-1
	BMC, BTD, BP, MPC, MPE, MPF, MPH, VMC, BF, BTU, NX, BTH, BSF, BTFseries	50	50	PS-5
	MF-2020 MP-2635(5A)	45	NC5-85	PS-N85VE
	NX-76 MGF-21130	50	NC5-100	PS-N100VE
	BTD-110R13U	50	NC5-100	PS-831
TOYO SEIKI	TVT, TVMC, THMC, TTC, DTRseries	No.30	BT30	PS-17
	Centre Through	30	30	-130E
	VT 30SR TVMC 301 THMC 310 TVT310S TVT313M1.S, SL TVT302M1.S, L	30	NC5-46	-N46AE
	TVT 30SR Special TVMC 301 THMC 310 TVT310S TVT302M1.S, L	30	NC5-46	-N46E
	H-44, 45 THMC410 H-46	40	BT40	-1
NIIGATA	PN40, 40A SPN40 EF40H ENseries VNseries PNseries	No.40	BT40	PS-2
	HNseries BHNseries SPN50, 63 ULTY501, 701, 901 MPN-80	50	50	-6
	BFN-50, 63	40	NC5-63	-820-1
	SBS-2	40	-63	-358
	HFA-3 VFR-3 HAS-3 HLA-3 HLB-3	No.30	BT30	PS-16
NISHIDA KIKAI	HDB-3	30	NC5-46	-827
	HKD-3 HDB-3	30	-46	-N46E
	VS-4, HS-4C, 4M HT-4 HD-4 HW-4 HLE-4 HFA-4 HLB-4	40	BT40	-1
	HDC-4	40	NC5-63	-849
	HFB-4 HFC-4 HDC-4	40	-63	-N63AE
	HS-5C, 5M, 5D HP-5A, 5B HFA-5 HLB-3	50	BT50	-6
	V3, V3-5AX	No.30	NC5-46	PS-N46AE
HASEGAWA	FZ-16, 16L, 16E, 26, 26L DZ-16, 16L, 16LA	No.30	BT30	PS-16
	MC-3VA, 3VS, 4VS EN-3, 4, 6 EN-40 HN-40	40	40	-1
	MC-50V, 70V, 80V, 6V, 5VA, 6VA, 8VA T-80MH, 180MH	50	50	-5
FANUC	ROBO DRILL/DRILL MATEseries X-T14iA X-T21iD X-T21iE X-T21iF X-D14iA X-D21iA	No.30	BT30	PS-16
	Centre Through	30	30	-132
	X-T14iB X-T14iC X-T21iD X-T21iE X-T21iF	30	NC5-46	-123-AIR
	Centre Through	30	NC5-46	-123E
FUJI SEIKI	FMC-3V, 30V5, 35V5	No.40	BT40	PS-2
	Centre Through	40	40	-806-1
	FMC-6V, 6VR, VG, VP, 50HF, 300QT	50	50	-5
	Centre Through	50	50	-526
BROTHER	TC-201, 203, 203C, 20A	No.15	No.15	PS-BR
	TC-221, 225, 227, 229, 229N, 22A, 311, 312N, 31A, 321, 323, 324, 324N, 325, 32A, 32B, S2A, S2B, S2C, R2A, 22B, S2D, 32BN, 31B, R2B, S500X1, S700X1	30	30	-17
	Centre Through	30	30	-130E
	TC-22A, 32A, 32B	30	NC5-46	-N46AE
	TC-731, 731S	40	BT40	-1
HEIAN CORPORATION	REX, ER, NCseries	No.30	BT30	PS-16
	ER, NCseries	35	MAS BT35	PS-19
	NCseries	40	BT40	PS-2
HORKOS	HFN, HTNC, ESseries NJ50 RS50H PM70H RM70 ES50H ES50V-I	No.30	BT30	PS-16
	HFN, HTNC, RM, DM, HFNseries NS70 MOH630 THMC410 TM70H TG70H MBE	40	40	-1
	HFN-SAM40 HFN-SM30H RS50H	30	NC5-46	-N46E
	Centre Through	40	BT40	-73
	HFN, HTNCseries G50H C50H DM100H RM100H NM100 DM100H NM100	50	50	-5
HOWA	Centre Through	50	50	-5E
	MMN, MDT, MBN, MSN, MEN, MJN, MZN, MKNseries	No.30	BT30	PS-16
	Centre Through	30	30	-132
	MXN-600-VCJ	30	NC5-46	-N46AE
	MBN, MCN, MHNseries MCV-800	40	BT40	-1
	Centre Through	40	40	-73
	MBN-800 HS-500	50	50	-5
Centre Through	50	50	-5E	
HONDA ENGINEERING	SPOOL HOLE MACHINE	No.30	NC5-46 Special	PS-N46AE
	H-VS5000	30	NC5-46	-N46AE
	H-VT6000 SHAFT END MACHINE	40	NC5-63	-N63AE
	H-CR462	40	NC5-63 Special	Special
HOMMA	NN-S HB-LB461	50	NC5-100	PS-N100VE
	FM, TAC, STAC, HM, HTM, HGMseries	No.50	BT50	PS-5
MAKINO	a1, A, Vseries J55, 88 D300, 500, 800Z BH50	No.40	BT40	PS-805
	Centre Through	40	40	-813-1
	BNC, FNC, MCseries SF64 A55, 66, 88 FB127series	40	40	-1
	a1, A, V, GFseries	50	50	-809
	Centre Through	50	50	-816-1
MAKINO SEIKI	FDNC, FNC, GF, MC, MCC, MCD, MCFseries GN1712-A a71, 81 A77, 88, 99, 100 V77	50	50	-5
	MSA30, 40, 50 MS5A, 5B MSX30 PS1-W MSJ25 MSJX25 MSB58, 512, 516	No.30	BT30	PS-16
	MSA30, 40, 50 MS5A, 5B MSX30 MSB58, 512, 516, S5B	40	40	-1
	MSA30, 40, 50 MSB58	40	NC5-63	-N63VE
	Centre Through	40	BT40	-73
MATSUURA	MASTER, 400V-24, FX-1	No.30	BT-30	PS-17
	VX-0, -1 FX-0, 1G, 2 LX-0, 160 LF-160 LV-500	30	30	-801
	MC, RA, MAM, FXM, FX, H.Max, V.Max, H.Plus, R.Plus, V.Plusseries Mold Plus800 MX-520 VX-1000	40	40	-805
	MC-600VG, 600VDC RA-4G MAM-500HF	40	NC5-63	-N63AE
	MCseries RAseries MAMseries	40	NC5-63	-N63VE
	Centre Through	40	BT40	-806-1
	MC-1000V, 1250V, 1500V, 2000V MC900H, 900HG H.Plusseries	50	50	-6
RA-4G(#50) MC-1500VG(#50) MC-900HG LX-1500	50	50	-809	
MITSUI SEIKI	VS, HR, HT, HUservices VT3A VU50A	No.40	BT40	PS-P5-1
	Vertexseries	40	40	-805
	Centre Through	40	40	-813-E5
	VU, VJ, VS, H, HU, HS, HR, HPTseries	50	50	-P
	Centre Through	50	50	-P16
MITSUBISHI	V-360 M-V4C, V5C M-H4B, H5B MPAseries M-Vseries M-Hseries	No.40	BT40	PS-1
	V, M-V, M-H, M-VS, MPA, MAF, MVR, MHT, MKH, DHseries	50	50	-6
	Centre Through	50	50	-6E
	MAF	50	NC5-100	-N100VE
MECTRON (MIYANO)	MSV, MTV-C, , MTV-T, MTS, TSVseries MCH-80	No.30	BT30	PS-17
	MSV, MTV-C, MTV-T, TSVseries	40	40	-2

★This table shows the standard Pull Stud Code No. for the newest M/C. Please refer old NIKKEN catalogue for the Pull Stud of the old M/C.  
★The Pull Stud Code No. depends on your M/C specification, therefore please check your M/C specification to select the proper Pull Stud.

□:NC5 Spindle Available

Machine Maker	Machine Model	TAPER	Holder	Code No.
DMG MORI SEIKI	TV-300, 400 ACCUMILL4000 ULTIMILL H3000, V3000 MILLTAP700 MAX3000	No.30	BT30	PS-16
	Centre Through	30	30	-114
	SV, SH, SLV, MV, MH, NV, NMV, NVD, NH, AFM, Dura Vertical, NVX, NHX, VS, NTseries	40	40	-O8-1
	Super TILT500 SVL5000, 5250	40	40	-366E-1
	Centre Through	40	40	-366E-1
	SV400	40	NC5-63	-N63AE
	SV500 SH50 SH500	40	NC5-63	-N63VE
	SV, SH, MV, MH, MB, NV, NH, NVX, NHX, VS, NMH, NMV, NTseries	50	BT50	-0
	MV1003	50	NC5-100	-N100VE
	MV65B/50	50	-100	-835
	duo BLOCKseries	No.40	BT40	PS-366
		40	I T40	-302
	duo BLOCKseries Centre Through	40	BT40	-366-D7
		40	I T40	-309
	VKseries VM-40, 50 VS-40, 50, 60 VKCseries VAseries HG-400 HSseries HK-630 HAseries	No.40	BT40	PS-1
	VS-50, 60	40	NC5-63	-N63AE
	Centre Through	40	BT40	-H28
	VS-40, 50, 60, HG- 800	45	NC5-85	-N85VE
VK-45, 55, 65, 85 VAseries VGseries VFseries VS-50, 60 HSseries HK-630 HGseries HCseries	50	BT50	-0	
HS-630 HG-630 VF-23 VK-85	50	NC5-100	-N100	
Centre Through	50	BT50	-048B	
YAMAZAKI MAZAK	IMPULSE30 TypeA, B, C UN-600V, 600H	No.30	BT30	PS-17
	VTC, V, VQC, AJV, FJV, FH, FF, VARIAXIS, NEXUS, INTEGREX, VCN, HCN, PFH, $\mu$ series ANGULAX900	40	40	-G58*1
	FF-510, 660	40	NC5-63	-N63AE
	VTC, V, VQC, AJV, FJV, SV, H, FH, MTV, HV, INTEGREX, VORIEX, VARIAXIS, VCN, HCN, VERSATECH, $\mu$ series	50	BT50	-G45*1
	H-12, 12N, 15, 20, 25 V12, 15, 20 VQC-10/15, 20/50	50	50	-G4
	Centre Through	50	BT50	-048B
YASDA	YBM, YPC, VPCseries H30i H40	No.40	BT40	PS-1
	YBMVi40	40	40	-805
	Centre Through	40	40	-854
	YBM, YMCseries	50	50	-5
	Centre Through	50	50	-563
	YBM-700N, YBM-120N	50	NC5-100	-N100VE
ROKU-ROKU	LIBERO RXseries	No.30	BT30	PS-16
	LIBERO RXseries	30	NC5-46	-110
	GIGA LIBERO RXseries	30	NC5-46	-N46E
	KX, MX, LX, GR-655N VERTIMACseries RMseries GIGA	40	BT40	-1

★This table shows the standard Pull Stud Code No. for the newest M/C. Please refer old NIKKEN catalogue for the Pull Stud of the old M/C.

★The Pull Stud Code No. depends on your M/C specification, therefore please check your M/C specification to select the proper Pull Stud.

★\*1 Please order the pull stud Code No. of MAZAK P.320

## TECHNICAL INFORMATION for STOPPER PIN

This is typical information (guide line) of the stopper pin only for the Spindle Speeder and Oil Hole Holder. Be careful that the dimension of the stopper pin for Angular Head is different from this. Please refer your M/C specification very carefully for more detail.

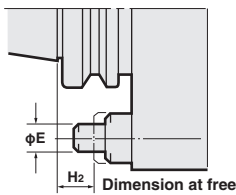


Fig.1

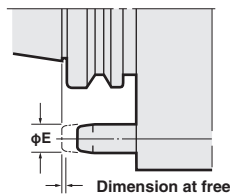
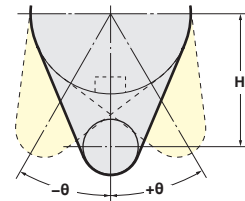


Fig.2



Machine Maker	Shank	H	E	H2	Fig.
ENSHU	BT30	50	12	4	1
	40	60	12	14	1
	50	82	18	22	1
OKUMA	BT40	65	18	0	2
	50	80	18	0	2
OKUMA HOWA	BT40	65	18	0	2
	50	80	18	11	2
NIDEC OKK	BT40	65	12	16	1
	50	82	18	22	1
KITAMURA	BT40	65	18	0	2
	50	82	18	22	1
KURASHIKI	BT40	60	12	14	1
	50	145	18	0	2
SHIN NIPPON KOKI(SNK)	BT50	82	18	22	1
TOSHIBA	BT40	65	18	0	2
	50	145	24	24	2
JTEKT	BT40	65	18	0	2
	50	80	18	4	2
NIIGATA	BT40	65	18	0	2
	50	80	18	11	2

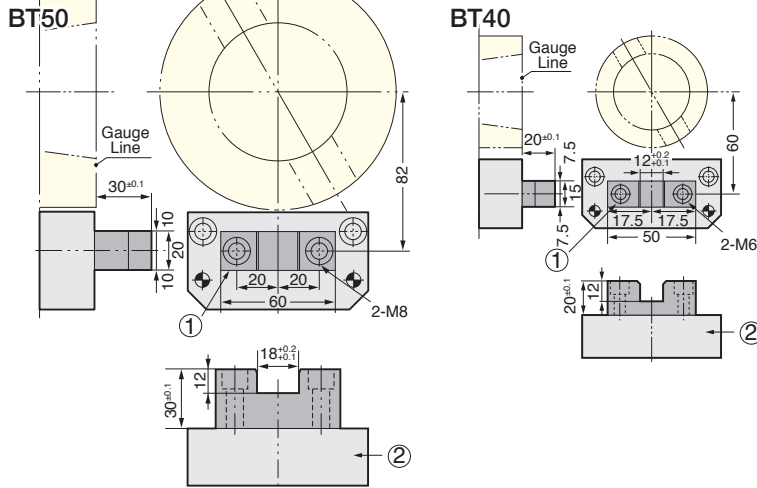
Machine Maker	Shank	H	E	H2	Fig.
DMG MORI (HITACHI SEIKI)	BT40	60	12	14	1
	50	82	18	22	1
BROTHER	BT30	40	12	12	1
	40	60	12	14	1
KIRA	BT30	55	12	-1	1
FANUC	BT30	55	12	29	1
MAKINO	BT40	65	18	2	2
	50	80	18	5	2
MATSUURA	BT40	60	12	28	1
	50	82	18	22	1
MITSUI SEIKI	BT40	60	12	14	1
	50	82	18	22	1
MITSUBISHI	BT40	65	18	0	2
	50	80	18	27.7	2
DMG MORI	BT40	65	18	4	2
	50	80	18	0	2
YAMAZAKI MAZAK	BT40	65	18	2	2
	50	80	18	0	2
ROKU-ROKU	BT40	65	18	9	2
YASDA	BT40	60	12	14	1
	50	82	18	22	1

# TECHNICAL INFORMATION for STOPPER BLOCK



This is the information for the stopper block when **NIKKEN Standard Spindle Speeder, Oil Hole Holder and Angular Head** are used. Please be careful that the pitch between the spindle centre and the centre of the hole of the stopper block varies depending on your M/C specification. When the stopper block has been already installed on your M/C, **please specify the drawing of the spindle flange on your M/C**, when ordering of the Spindle Speeder, Oil Hole Holder and Angular Head etc.

## For SPINDLE SPEEDER

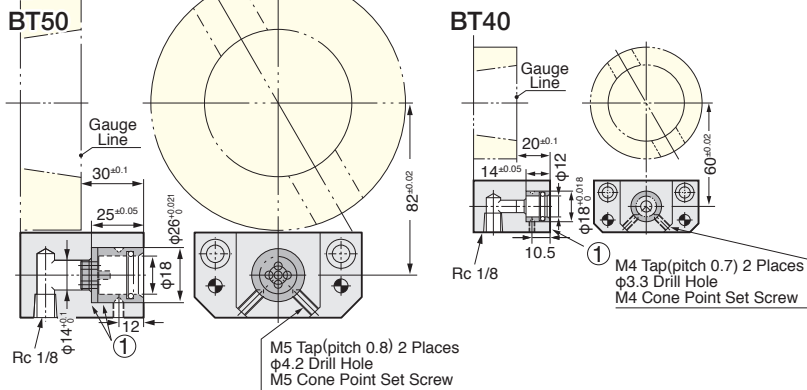


1. Please use **NIKKEN Original Stopper Block for Spindle Speeder** ① and make the **Stopper Block Base** ② by yourself.

**Code No. of Stopper Block**  
 #40:NX40-STB  
 #50:NX50-STB

2. How to make the Stopper Block Base
  - Make the suitable shape to meet with the tapped holes and the dowel pin holes on your M/C.
  - It's not necessary to be heat-treated.
3. The pitch between the spindle centre and the centre of stopper block has to be physically adjusted when the spindle speeder is clamped on the spindle.

## For OIL HOLE HOLDER

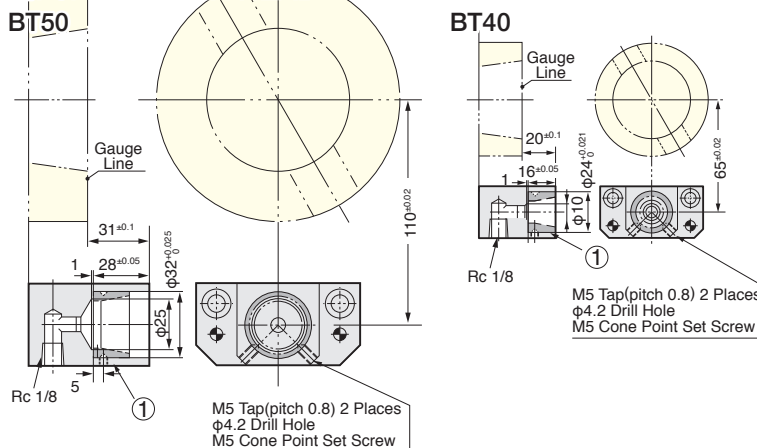


1. Please use **NIKKEN Bushing & Push Pin for the Oil Hole Holder** ① and make the Stopper Block by yourself.

**Code No. of Bushing & Push Pin**  
 #40:BK40BS-A with O-ring P12  
 #50:BK50BS-A & BK50PP-A with O-ring P18

2. How to make the Stopper Block.
  - Make the suitable shape to meet with the tapped holes and the dowel pin holes on your M/C.
  - It's not necessary to be heat-treated.
3. The pitch between the spindle centre and the centre of the hole of stopper block has to be physically adjusted when the oil hole holder is clamped on the spindle.

## For ANGULAR HEAD

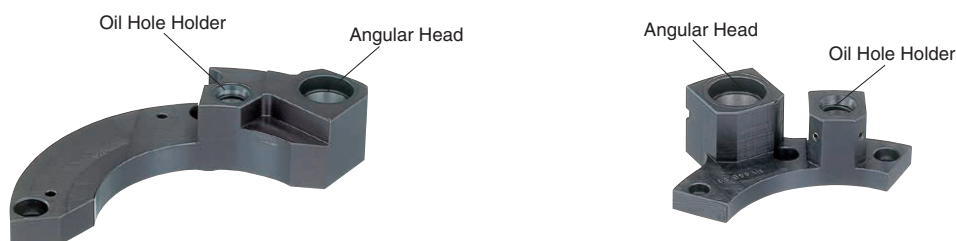


1. Please use **NIKKEN Bushing for the Angular Head** ① and make the Stopper Block by yourself.

**Code No. of Bushing**  
 #40:AHA-03000-01  
 #50:AHA-01000-02

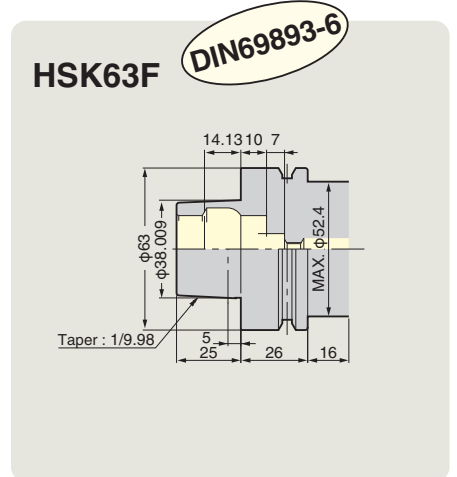
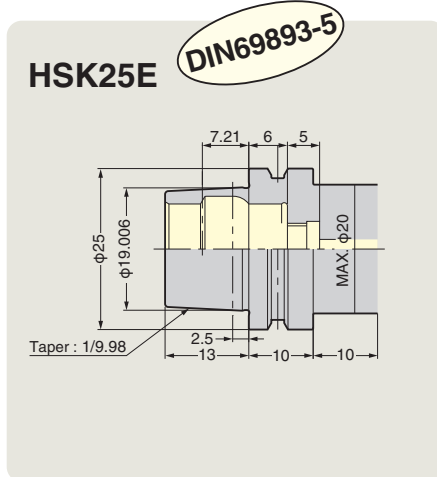
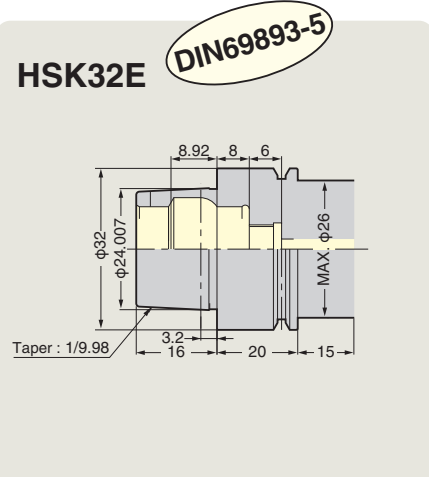
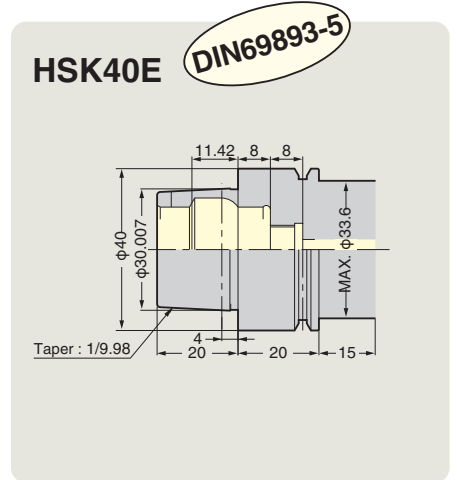
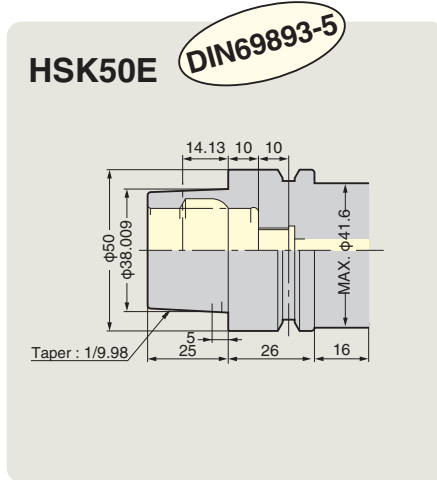
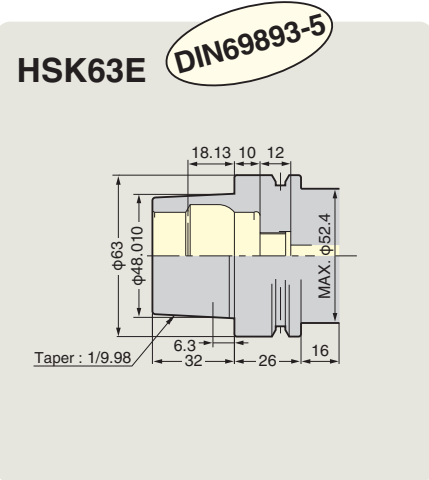
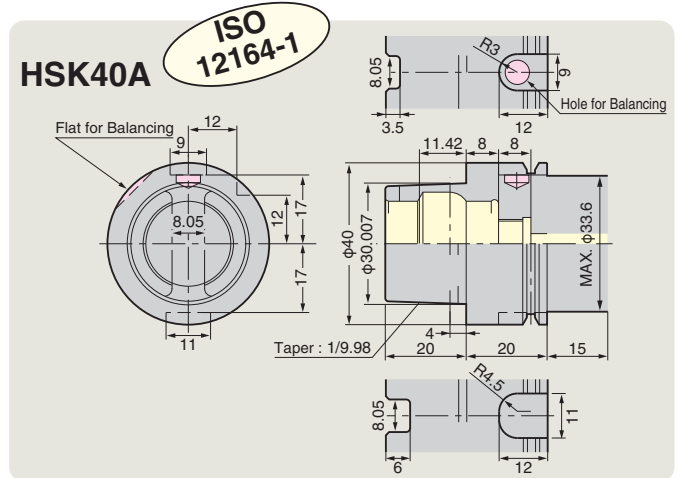
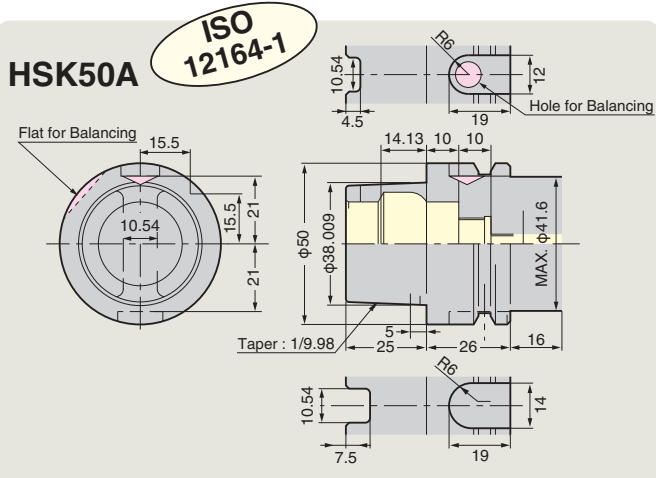
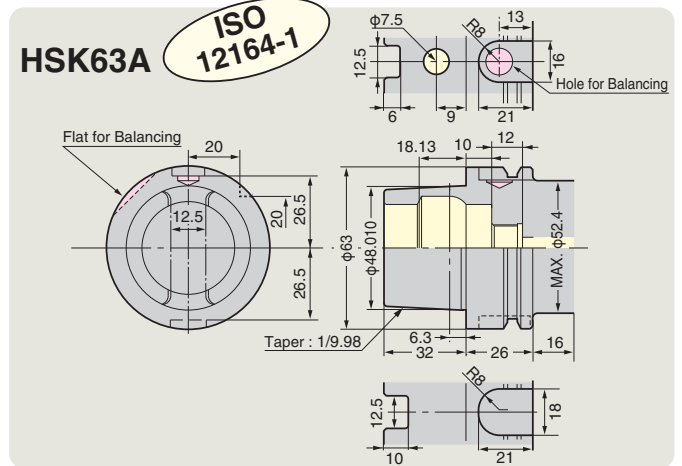
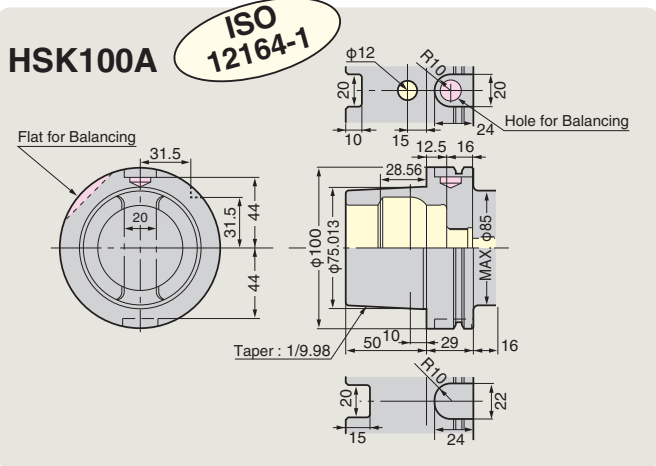
2. How to make the Stopper Block
  - Make the suitable shape to meet with the tapped holes and the dowel pin holes on your M/C.
  - It's not necessary to be heat-treated.
3. The pitch between the spindle centre and the centre of the hole of stopper block has to be physically adjusted when the angular head is clamped on the spindle.

The combination stopper block is also available. Please specify the dimension when ordering.





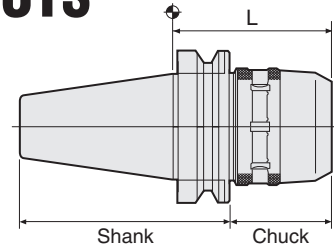
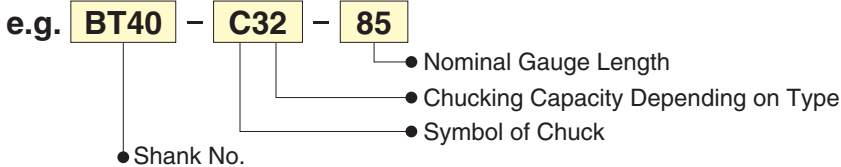
# DIMENSION of ISO, DIN & HSK SHANK



NIKKEN HSK Tooling has a hole and a flat for mass balancing as standard. Hole for manual clamp and hole for ID are not standardized. Special HSK A type which U grooves and drive key slots are symmetric design without V notch is also available. Please contact with us.

# ALPHABETICAL INDEX OF THE PRODUCTS

Explanation of Code No.



**BT/IT/CAT** BT/IT standard P.325, **CAT** P.275

Code No. "MBT□□" is **3Lock Toolig** for BT. P.153

Code No. "NBT□□" is **2Lock Toolig** for BT. P.173

Code No. "NC5-□□" is **NC5 Toolig**. P.213

Code No. "IT□□" is **IT Toolig**. P.135

Code No. "MIT□□" is **3Lock Toolig** for IT. P.168

Code No. "NIT□□" is **2Lock Toolig** for IT. P.209

Code No. "HSK□□" is **HSK Toolig**. P.227

Code No. "CAT□□" is **CAT Toolig**. P.274

When shank No. is BT□□-, please search by the symbol of chuck.

e.g. If Codo No. is **BT40-C32-85**, please refer **P.31** searched by **BT-C**.

## BT/IT-C□□ MULTI LOCK MILLING CHUCK ..... 31

When shank No. is started except BT□□-, please search by the shank No.

e.g. If Codo No. is **HSK63A-C32-115G**, please refer **P.229** searched by **HSK□□-C□□-G**.

## HSK□□-C□□-G HIGH SPEED MULTI LOCK MILLING CHUCK ..... 229

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1MP	INSERT TIP	109
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3P	INSERT TIP	111
3MP	INSERT TIP	109
4MP	INSERT TIP	109
5P	INSERT TIP	111
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6MP	INSERT TIP	109
7P	INSERT TIP	111
9A	SPARE part of CHAMFERING TOOL	
9CKR	COLLET REMOVAL for MILLING CHUCK	280
9CMD	PILOT DRILL for COMBAT Z DRILL	309
9CMT	INSERT TIP for COMBAT Z DRILL	309
9DKT	INSERT TIP for PRO-END MILL	117
9HC	SPANNER	299
9HC-TW	BOTH HAND CLAMPING HANDL BENKEI	299
9MC	STOPPER for MILLING CHUCK	34
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9ZFL	WRENCH for ZERO FIT HOLDER	131
9□□	SPARE PART Code No.	
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BF	AUTOMATIC BACK SPOT FACING ARBOR	133
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BRS	STRAIGHT SHANK BROACH REAMER	REAMER
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LM□-□	LIVE CENTRE	
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LNC-□	BORING BITE BIT	
LNT-□	BORING BITE BIT	
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<b>BT/IT- MOL□□</b>	SIDE LOCK type MULTI OIL HOLE HOLDER	120
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<b>MX</b>	MORSE TAPER SHANK CARBIDE BROACH REAMER	REAMER
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<b>NCS</b>	STRAIGHT SHANK NC SENSOR REAMER for Through Hole	REAMER
<b>NCS-F</b>	STRAIGHT SHANK NC SENSOR REAMER for Stepped Hole	REAMER
<b>NK</b>	STRAIGHT COLLET WITH AXIAL ADJUSTMENT	280
<b>NMP</b>	MICRO TOOL PRESETTER	
BT/IT- NPU□□	NC DRILL CHUCK	45
BT/IT- NPU□□C	NC DRILL CHUCK for CENTRE THROUGH	46
BT/IT- NPU□□F	NC DRILL CHUCK for FLANGE THROUGH	46
<b>NPUL</b>	SPANNER for NC DRILL CHUCK	45
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<b>NST</b>	CNC ROTARY TABLE	CNC
<b>NST-□□HP</b>	CONVENTIONAL TILTING TABLE	CNC
<b>NSVX</b>	CNC ROTARY TABLE	CNC
<b>NSVZ</b>	CNC ROTARY TABLE	CNC
BT/IT- NX□□	HIGH SPEED SPINDLE SPEEDER	123
<b>NX□□-STB</b>	STOPPER BLOCK for NX	324
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<b>PFL</b>	PRESS FIT STAND	
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<b>PFL□-□□</b>	PFL SHANK TOOL	
<b>PFO</b>	PUSH OUT BAR	
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BT/IT-RN□□	AWCFINGER	..... CNC
ROD□□	HEIDENHAIN ROTARY ENCODER	..... CNC
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NIT□□-MDSK□□	MAJOR DREAM HOLDER	211
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HSK□□-DJ□□	DJ BORING BAR	268
HSK□□-□□EX	X-Treme CHUCK	272
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HSK□□-FMC□□	FACE MILL ARBOR	247
HSK□□-FMH□□	FACE MILL ARBOR	248

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HSK□□-SK□□-P	HIGH SPEED SLIM CHUCK	233
HSK□□-SL□□	SIDE LOCK HOLDER	246
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HSK□□-SZF□□	ZERO FIT type SLIM CHUCK	245
HSK□□-TB□□	TEST BAR	148
HSK□□-VC□□	VC HOLDER	232
HSK□□-Z□□	TAPPER CHUCK	243
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NC5-□□-CZF□□	ZERO FIT type MILLING CHUCK	219
NC5-□□-FMA□□	FACE MILL ARBOR	224
NC5-□□-MTA□□	MORSE TAPER ADAPTER A type	225
NC5-□□-NPU□□	NC DRILL CHUCK	220
NC5-□□-PFL□□	PF MASTER HOLDER	
NC5-□□-Q□□	BASE HOLDER for MODULAR type	224
NC5-□□-RAC□□	BALANCE CUT RAC BORING ARBOR	221
NC5-□□-RAC□□□	BALANCE-CUT RAC BORING ARBOR for LARGE DIA.	223
NC5-□□-SCA□□	STUB SRBOR	225
NC5-□□-SK□□	SLIM CHUCK	217
NC5-□□-SL□□	SIDE LOCK HOLDER	220
NC5-□□-SZF□□	ZERO FIT type SLIM CHUCK	219
NC5-□□-TB	TEST BAR	226
NC5-□□TBC□□	TURBINE BLADE HOLDER	
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NC5-□□-VMC□□	VEGA CHUCK	218
NC5-□□-Z□□	TAPPER CHUCK	225
NC5-□□-ZMAC□□	ZMAC-V BORING ARBOR	222

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CAT□□-C□□G	HIGH SPEED MILLING CHUCK (INCH)	275
CAT-FMD	SHOULDER CUTTER ARBOR	

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IT□□-CZF□□	ZERO FIT type MILLING CHUCK	140
IT□□-MDSK□□	MAJOR DREAM HOLDER	138
IT□□-MMC□□AA	MINI-MINI CHUCK ADVANCED ALPHA	139
IT□□-NC5-	DREAM-CUT HOLDER	
IT□□-SK□	SLIM CHUCK	136
IT□□-SK□-P	HIGH SPEED SLIM CHUCK	137
IT□□-SZF□□	ZERO FIT type SLIM CHUCK	140
IT□□-VC□□	VC HOLDER	139

## Code No. of End of Production / Sales

<b>A</b>		
ANQ		ON NON STOP TOOL
<b>B</b>		
BT/IT-BCB□□		MICRO CUT BORING BAR (SOLID type)
BT/IT-BRB□□		RING type BORING BAR
BS50-□□		MAS Straight Shank TOOL
BT50T-□□		TOOL for TOSHIBA TURNING CENTRE
BTP50-□□		TOOL for SNK BOTTLE GRIP SHANK
BT/IT-BL□□		BALANCE CUT BORING BAR
BT/IT-LB□□		LB ARBAR for LARGE DIA.
<b>C</b>		
CAT30S-□□		TOOL for MAKINO SEIKI
CBT□□-□□		COMBINATION TOOL
CG		GERMAN COOLANT NOZZLE
BT/IT-CV		CV CHUCK
<b>D</b>		
BT/IT-DAC□□□		DOUBLE CUT BORING ARBOR for LARGE DIA.
DCD-□□		TOOL for HITACHI DRILLING CENTRE
DK□□-□□		DRILL MATRE COLLET
DS□□-□□		DS type BORING HEAD
BT/IT-DW□□		DOUBLE ANGLE CHUCK (DRILL MATE CHUCK)
<b>E</b>		
EBA-□□-□□		NATIONAL TAPER BCB BORING BAR
EBK-□□-□□		Straight SHANK BCB BORING BAR
EBM-□□-□□		MORSE TAPER BCB BORING BAR
EBR-□□-□□		CENTURY TAPER BCB BORING BAR
EBT-□□-□□		QUICK CHANGE type BCB BORING BAR
<b>G</b>		
GSK□□		Old type HIGH SPEED SLIM CHUCK
<b>H</b>		
HA-□□-□□		FLANGE type QUICK CHANGE HOLDER
BT/IT-HC□□		HYDRAULIC CHUCK
HNA-□□		TOOL for HITACHI (1-8UNC) BOYTTLER GRIP SHANK
HNB-□□		TOOL for HITACHI (1-8UNC) BOYTTLER GRIP SHANK
HNC-□□		TOOL for HITACHI (M24) BOYTTLER GRIP SHANK
HSK□□-GSK□□		HIGH SPEED SLIM CHUCK
HSK□□-NC5-		DREAM CUT HOLDER
H□□U(M)-□□		FLANGE type QUICK CHANGE TOOL
<b>I</b>		
BT-IC300		AIR DRIVE ANGULAR HEAD
<b>J</b>		
BT/IT-JB		JIG BORING HEAD
BT/IT-JBD		JIG BORING HEAD
<b>L</b>		
LB		LB ARBOR for LARGE DIA.
L□□-NPU□□		DRILL CHUCK for NC LATHE
<b>M</b>		
MBT□□-GSK□□		HIGH SPEED SLIM CHUCK
MHP□-□□		MASTER BORING HEAD
MC□□-□□		Straight SHANK MILLING CHUCK (OLD Code No.)
MPA-□□		TOOL for MITSUBISHI BOTTLE GRIP SHANK
MTO		MOT SLEEVE for OIL HOLE HOLDER
<b>N</b>		
NC□□-□□		Adjustable Straight SHANK MILLING CHUCK
NC5□□-GSK□□		HIGH SPEED SLIM CHUCK
ND□□-JTA		Adjustable DRILL CHUCK ARBOR
NEB□□-□□		Adjustable Straight SHANK BCB BORING BAR
NG-□		GERMAN STAND
NK□□-MT□□		Adjustable MORSE TAPERCOLLET
<b>O</b>		
ON□□		ON NON STOP TOOL
<b>P</b>		
PC□□		Straight SHANK PRO-CUT ENDMILL
BT/IT-PC□□		Straight SHANK PRO-CUT ENDMILL

<b>R</b>		
RH□□-BRB□□		MICRO CUT BORING BAR for LARGE DIA.
RH□□-BRS□□		SQUARE BYTE BORING BAR for LARGE DIA.
<b>S</b>		
BT/IT-SC□□		SC SLIM CHUCK
SC□□-□		SC SLIM CHUCK COLLET
SKN□		NUT for SLIM CHUCK
SKN-□J		J type NUT for SLIM CHUCK
BT/IT-SKZ□□		SLIM CHUCK for TAP with SQUARE HOLE
SKZ□□-□		SLIM CHUCK COLLET for TAP with SQUARE HOLE
SQ□□×□□		SQUARE BYTE with MICRO CUT CARTRIDGE
ST□□-SK□□		SLIM CHUCK for SIDE LOCK type A
<b>T</b>		
BT/IT-TA□□		SEMI-AUTOMATIC BORING HEAD
TCL□□		TOOL CLAMPER
TCP		TOOL CLAMPING PRESETTER
TDC-□□		TOOL for FANUC DRILL MATE
BT/IT-TA□□		BT SHANK QUICK CHANGE HOLDER
<b>U</b>		
BT-UAR		AUTO REVERSE BFACING HEAD
UCA□□-□□		NATIONAL TAPER ULTRA MILL MILLING CHUCK
UCR□□-□□		CENTURY TAPER ULTRA MILL MILLING CHUCK
UCT□□-□□		QUICK CHANGE type ULTRA MILL MILLING CHUCK
BT-UC□□		ULTRA MILL MILLING CHUCK
UK□□-□		ULTRA MILL COLLET
BT-UMS		UNIVERSAL MICRO SENSOR
BT-UP□□		HIGH SPEED BASE CHUCK
UPA		UNIVERSAL BORING HEAD
UPK□□-□		UPK COLLET for UP BASE CHUCK
<b>W</b>		
WASP		ECONOMY type PRESETTER
BT/IT-WE□□		SIDE LOCK HOLDER (USA)

## Ending of the Maintenance Duties of Nikken Controller for CNC Rotary Table

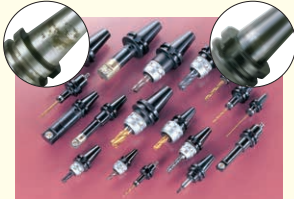
The maintenance duties of Nikken controller had been continued as long as the electric parts/boards could be supplied. But, the electric parts / boards for the controllers described below became impossible. Therefore, the maintenance duties is ended. Please exchange to new CNC rotary table with X 21 controller.

•Controllers for CNC rotary table	ND5000, 8000DC, 8800DC, 9000DC	..... Ended at 2005. APR
•Controllers for NSV Index table	NSV controller (M function/B function)	..... Ended at 2005. APR
•Controllers for CNC rotary table	8800DX, 8800AX	..... Ended at 2013. APR

## ⚠ Caution for Tooling

- Please use a **NIKKEN** collet for the **NIKKEN** chucks.
- Please use a **NIKKEN** chuck for the **NIKKEN** collets. **may not be performed 100% using on the other makers chucks.**
- Please be careful not to inflict personal injury at your handling of cutting tools.
- Please clean the contact surface on a holder & cutting tool shank.
- Please pay attention to prevent from the rust at the storage. We will recommend to use **NIKKEN TOOLINGS with RPT process for rust prevention.** Due to the optical system to detect the tool existing on the tool magazine of certain machines, **NIKKEN's RP treated tooling may not be detected.** Please check your machine's specifications very carefully to avoid this problem before you purchase our RP treated tooling. The taper connection of the tool shank with RP treatment is

Standard 8 years used      RPT 18 years used



more stuck than the taper connection of the tool shank without RP treatment. Then, the unclamping force for the tool with RP treatment is required 20% stronger than the unclamping force for the tool without RP treatment. Please be careful to check the unclamping force of your M/C, when the tool with RP treatment is chosen.

- Please do not use the tooling that has scratches, damaged or rusted on its taper. This may cause false accuracy readings and reduce cutting performance.
- Please pay attention not to inflict personal injury with the broken tools or swarfs.
- Please do not modify the holders by yourselves.
- Please do not touch the tool at its rotating.
- Please do not touch the tool just after machining, it might be very hot.
- Please check if the cutting tool is held with the holder properly before the machining.
- For high speed application, please use **NIKKEN HIGH SPEED TOOLINGS** or the pre-balanced toolings.

### MTA

- Please insert the tool shank into the bore of the holder with adjusting the tang location, and hold them with facing tool front end upwards, and hit the bottom end of the holder (pull stud end) by copper hammer hardly.
- For removal of the tool, insert a bar into tang hole and hit the bar by hammer with special care to prevent the tool from popping out.
- Please clamp side lock screw in case of coolant through application. **For high pressure coolant through application, please use milling chuck, slim chuck or side lock holder instead of MT adapter.**

### MTB

- Please insert the tool shank into the bore of the holder and tighten the draw bolt for the setting.
- For removal of the tool, loosen the bolt at couple rotation and hit the bolt head by a hammer in order to remove the taper fitness, then remove the bolt.

### SCA, SCC

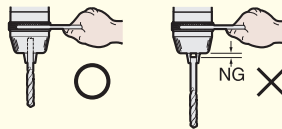
- When setting of side cutter or metal saw onto the arbor, please adjust the location of the drive key.

### JTA

- When setting drill chuck onto the arbor please put the chuck onto the arbor with adjusting the locations of male & female tapers and hit the bottom end of the holder (pull stud end) by copper hammer.
- Please use **NIKKEN SLIM CHUCK** for high precision and high speed operation.

### NPU

- Please insert the drill shank into the bottom, and chuck the shank with the total chucking length of **NPU**.
- Please check the run-out accuracy before machining especially for the small diameter drill.
- When setting the drill onto the chuck, set the drill into the chuck and tighten the chuck ring by hand then tighten the ring by attached spanner to complete.



### SL, SLA, SLB, SLS, DM

- When setting the tool onto the holder, adjust the locations between notches or flat face of the tool shank and side lock screws, and tighten the screws completely.
- The dimension of the flat portion of the cutter shank varies, therefore please select a proper holder according to the cutter shank dimension.
- Code No. of the side lock holder for oil hole drill is **SLOC. OK25~OK40** collet can be used for **SLOC**.

Type	Cutter	Axial Adjustment
SL	φ 6~φ16 Drill, Endmill	—
SLA	φ20~φ42 Endmill	○
SLS*	φ 6~φ50 Endmill	—
WE	Inch Size Endmill	—
SLB	Drill Used with DSA socket	○

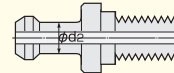
\*SLS is the holder for JIS B 4005 endmill or welded type endmill.

### FMA, FMB, FMC, SMA, SMB, SMS

- Please use the bolt specified by the cutter maker.
- When setting the face milling cutter onto the arbor, insert the spigot of the arbor into the cutter bore and minimize the backlash between the drive key and the slot against the direction of rotation, then tighten the end bolt.
- For the cutter with coolant through the body, please check the coolant pass in the arbor and the cutter before machining.
- For high speed application, please perform the balancing operation with the cutter and insert tips fitted.

### PS

- The pull stud is considered to consumption item and should be replaced periodically. The guide line of replacement is ;  
Without hole : 3 years or 150,000 times of ATC.  
With coolant hole : 2 years or 100,000 times of ATC.



## ⚠ Caution for 3LOCK · 2LOCK

- Always ensure that M/C has the mechanism to confirm the perfect flange contact.
- Always ensure that M/C has the mechanism to clean the spindle flange surface.
- Please ensure that the suitable spacer is fitted on the machine spindle flange when the **3LOCK** tooling is used on the standard BT/IT/CAT spindle machine. Please do not use the **3LOCK** tooling on the standard spindle machine without the suitable thickness of the spacer.

### Caution at Use

- Always ensure that swarf should not attach at the spindle flange surface of the double contact system. Generally the inside of the machining envelope is always covered with swarf. This means that there is a possibility that the flange of the tooling may collect swarf easily at the ATC. It is therefore important that the machine envelope is regularly cleaned (Clean the ATC arm, the route through which the tooling passes, the tool pot and the spindle surfaces etc.) at least every 3 months.
- The rust or fine swarf may be fitted on vacant pot inside. So, if ATC mechanism of your M/C is random pot change mechanism (the tool on the spindle is returned to the pot in which the next tool is stored), please insert the dummy tool into all vacant pots to protect this.
- Caution for centre through coolant application  
There are 2 types of the sealing method of the coolant at pull stud, sealing of face contact and sealing of taper contact. please choose the proper pull stud for your M/C.  
• If your center through coolant M/C does not have the sealing mechanism at pull stud, the coolant stays inside the spindle and is sealed at BT/IT taper connection. tool can not seal the coolant at taper connection, because the taper cone of tool has the slit. Please select tooling instead.

### Pulling Force of the M/C

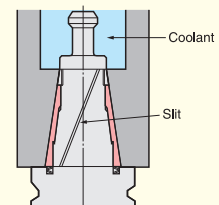
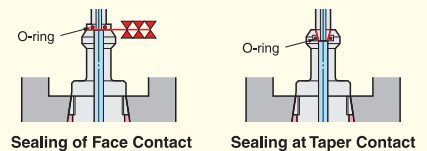
- If the pulling force of machine spindle decreases substantially, the **NIKKEN 3LOCK** tooling cannot perform 100% at its capability. We would recommend that regular inspection of the pulling force is carried out to prevent any reduction in the pulling force at an early stage. Please refer **P.319** for pulling force measurement tool.
- When the pulling force of the M/C became too low, **3LOCK** tool can not perform its capability. Please ensure the MIN. pulling force as follows:  
MBT40: 5KN  
MBT50: 15KN  
The periodical inspection of the pulling force is required.

### Rust Proof Treatment

- The taper connection of the tool shank with RP treatment is more stuck than the taper connection of the tool shank without RP treatment. Then, the unclamping force for the tool with RP treatment is required 20% stronger than the unclamping force for the tool without RP treatment. Please be careful to check the unclamping force of your M/C, when the tool with RP treatment is chosen.
- Therefore, the taper cone of **3LOCK** tool and **NC5** tool is changed to without RPT treatment as standard. And the special anti-rust treatment is applied to the taper cone of the **3LOCK** tool and **NC5** tool.

### M/C with Flange Trough Tool Coolant

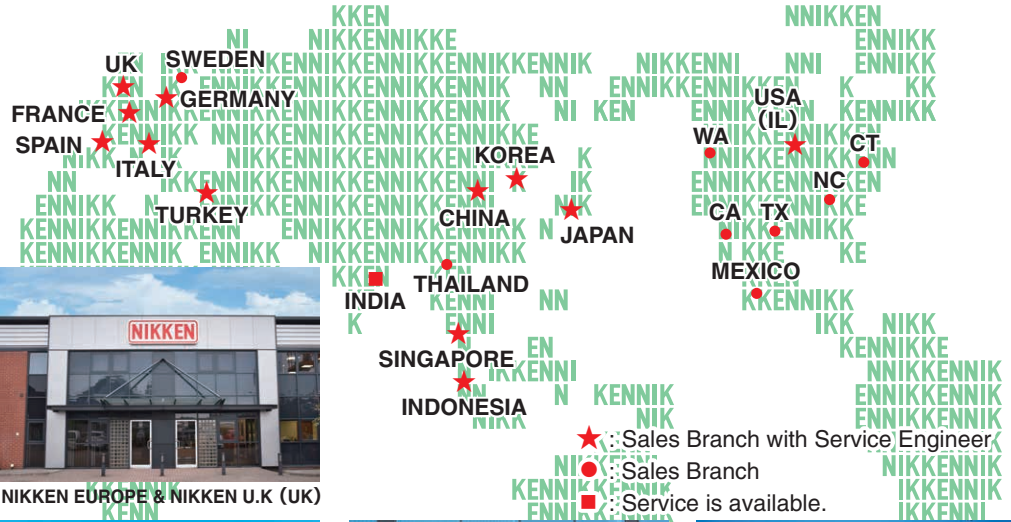
- When the stroke of the coolant nozzle at spindle flange is not sufficient on BT/IT standard M/C, **2LOCK** tooling may not be used due to the collision. Please check the specification of your M/C.



# NIKKEN WORLD WIDE SALES BRANCH



There are overseas Sales Branches in 12 countries. Each sales branch has stocks for toolings and CNC Rotary Tables, and service engineers look after the maintenance and service operation of our products. In the other region, e.g. East-South Asia, Ozaena, South America, Africa, etc., there are some distributors. At the production line in abroad, as there are many requirements for special tools and CNC Rotary Table to suit the special specifications, please ask us or distributors for spare tools and maintenance parts in advance.



LYNDEX-NIKKEN (U.S.A.)



HERRAMIENTAS LYNDEX-NIKKEN (MEXICO)



NIKKEN EUROPE & NIKKEN U.K. (UK)



NIKKEN SCANDINAVIA (SWEDEN)



NIKKEN DEUTSCHLAND (GERMANY)



PROCOMO-NIKKEN (FRANCE)



KOREA NIKKEN (KOREA)



VEGA INTERNATIONAL (ITALY)



OLASA (SPAIN)



CUTTING TOOL (SPAIN)



NIKKEN TURKEY (TURKEY)



NIKKEN CHINA (CHINA)



SIAM NIKKEN (THAILAND)



NIKKEN ASIA (SINGAPORE)



NIKKEN INDONESIA (INDONESIA)

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New Nikken facility was opened at Zhao Hua Road, Shanghai on 2004 JAN due to the Chinese business expansion. The standard items of NC tooling & CNC rotary table and each important spare parts are stocked for quick delivery.

You can access to Nikken China with Chinese, Japanese or English. Not only Chinese catalogue but also Chinese instruction manual are provided for Chinese domestic market. Our office has the show room to see and touch our products, and our presentation will be done more practically. Technical seminar of Nikken is also opened at user factory side.



Chinese engineer well trained in Japan is engaged in the service of our products. Different types of the NC controller for the CNC rotary table are provided for the trial running after repair. The most important spare parts are stocked. It is possible to stock the special spare parts of the custom-made tooling or CNC rotary table for further discussion. Please consider to make a contract of "Nikken Rotary Table Overseas Warantee Contract" for the CNC rotary table delivered to China.

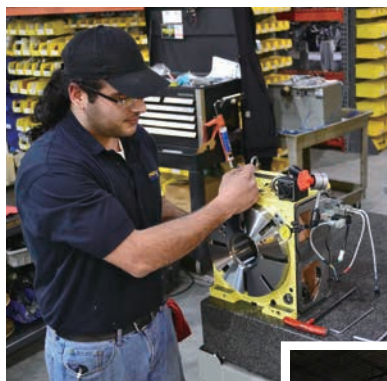
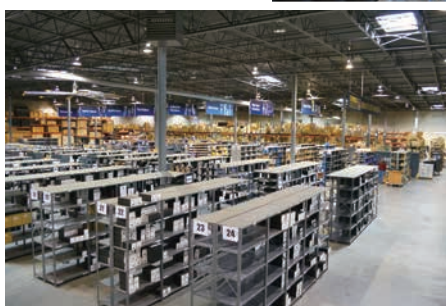
The sales of nikken products through Internet is not started in China. For after service and the further maintenance, please purchase Nikken products through authorized distributors.

As North America's leading supplier of machine tool accessories, LYNDEX-NIKKEN is a wholly-owned subsidiary of NIKKEN Kosakusho Works., Ltd. - Japan. Backed by over a half century of experience, LYNDEX-NIKKEN sets the standard for high quality and high technology with a complete line of superior toolholders and machine tool accessories. From one source you can expect the best of both worlds: Extreme Quality and Advanced Technology.

LYNDEX-NIKKEN has a team of dedicated application and engineering staff available to advise you on your application and support our entire product line throughout the U.S., Canada, Mexico and South America. Our regional managers in Chicago, Los Angeles, Boston, Charlotte, Dallas and Seattle support our 1,000 plus distributors with machine tool accessories expertise. LYNDEX-NIKKEN provides expert process and product consultation for even the most demanding applications with full on-demand field support and ongoing training.

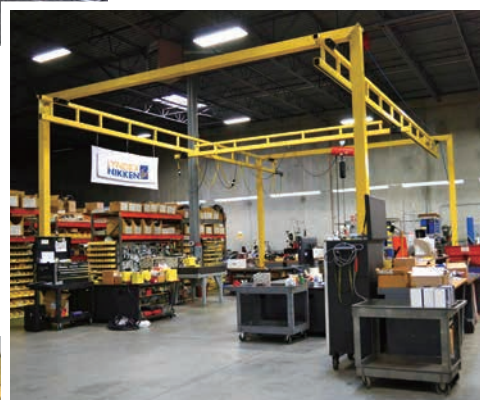
### North American Facility

The LYNDEX-NIKKEN North American headquarters is centrally located near Chicago Illinois. Our 50,000 sq ft. facility warehouses an inventory of over 12,000 machine tool accessories stocked for fast delivery. Over 95% of orders are shipped out same day. Our extensive inventory of products includes:



### Products

- **Rotary Tables** - NIKKEN's complete line of CNC Rotary Tables are known worldwide for their wear-resistance, rigidity and high-speed rotation. NIKKEN rotary tables are built to provide high accuracy, increased production and a trouble-free long life.
- **Advanced Toolholders** - Maximize the potential of your machine tools with LYNDEX-NIKKEN's advanced toolholders.
- **Standard Toolholders** - LYNDEX-NIKKEN's complete range of quality-driven toolholding solutions are designed to meet your strictest requirements.



- **Presettters** - Our full line of Presettters are full-featured for optimum accuracy in tooling setup, measurement and inspection.

### Service & Support

- Dedicated application and engineering support staff
- Support for entire product line spans the U.S., Canada, Mexico and South America
- On-demand field support and ongoing training
- Customer service and technical support staff
- Expert process and product consultation for even the most demanding applications
- Cutting trials and testing
- Service, repair and custom configuration completed on-site
- Attention to high-tech application demands, including high-speed and balanced toolholding solutions





The NIKKEN Euro Centre based in the UK was opened in 1999; from here we sell, distribute and support all products to our subsidiaries and dealers in over 20 countries around Europe. At the NIKKEN Euro Centre we take great pride in the consistent delivery of the four founding principles of our business: **Absolute Integrity, Uncompromising Quality, Unflinching Support**, and above all **“Total Commitment” to our customers.**



**NICE** ( NIKKEN Innovation Center Europe ) is established in AMRC park at the end of 2015, and user support of the difficulty cut materials processing for plane in particular, energy industry is enriched.



### Product Inventory

NIKKEN Euro Centre facilities has a warehouse space of 13,000m<sup>2</sup>. which holds over 50,000 individual items covering a range of some 4,000 product lines, including the latest generation of Single & Multi Axis CNC Rotary tables, thus making it the largest stock of NIKKEN products in Europe.

### Our Technical Support and Training Section provides our existing customers and potential customers access to:

- A Multimedia based training facility that ensures our customers, through comprehensive training, will realize the full productivity potential of their application.
- A wealth of engineering expertise covering all aspects of application set-up, optimization and implementation that is available for the full life of the NIKKEN product.

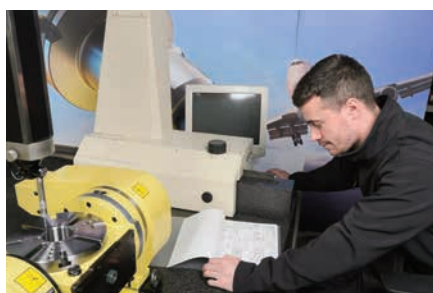


### Our machining centre equipped with Testing Facilities enables us to:

- Research, develop and optimize all of our tooling systems.
- Demonstrate to our potential customers the advantages of using both NIKKEN Tooling and CNC Rotary Tables in their applications.

### Our Service Department specializes in:

- Providing on-site inspections prior to rotary table repairs and refurbishment by our own NIKKEN trained service engineers.
- Providing tooling and rotary tables optimized to seamlessly integrate into any application.



Nikken Deutschland GmbH, a wholly owned subsidiary in Germany of NIKKEN Kosakusho Works, was established in 2003 to take over the sales activities of the previous distributor. In the beginning based in Russelsheim, which is a town made famous by the manufacturing complex of Opel, the company was located about 15 minutes away by car from Frankfurt airport. Germany has ranked at the top of the machine tool industry for many years, and is also the supply source of machine tools that are fuelling the significant expansion now taking place in Eastern Europe. Nikken Deutschland GmbH had its base at the centre of the huge market of Germany and Eastern Europe, and continues to broaden the range of the company's sales operations from NEU-ULM now.

NIKKEN has achieved some impressive successes in Germany with its CNC rotary tables and tool holders thanks to a long sales history of the company's sales activities. A sales force consisting mainly of German personnel stands on the front line of this activity to address the sales and servicing needs of the entire country. More specifically, the company provides technical advice, repairs, aftersales support and other services to end users, distributors and machine dealers.



Nikken Deutschland GmbH has participated in and contributed to many trade shows and exhibitions held in Germany, including the EMO show, METAF, AMB and EURO MOULD. The company's fully furnished showroom is a Mecca of information to the constant stream of visitors who can inspect products and examples of machining, as well as receive application advice and technical training. They can handle NIKKEN's products for themselves, learn about the construction and capability of the CNC rotary tables, and learn about the accuracy and other features of NIKKEN's products.

A complete support organisation is in place to ensure that advice is relayed promptly by telephone and other rapid communication media, that repairs or delivery of tool holders and CNC rotary tables are carried out promptly with all due diligence, and that emergency service calls are responded to rapidly.

To enable speedy delivery of standard items in the German market and of popular products compliant with European standards, Nikken Deutschland GmbH works closely with Nikken Euro Centre to keep a full stock at its disposal. The company uses the most appropriate type of delivery in each case, including parcel post, DHL, door-to-door service and flash shipment, to meet the demands of customers.

The sales territory of Nikken Deutschland GmbH spans the vast area of eastern Europe and covers such countries as the Czech Republic, Slovakia, Austria, Russia, Poland, Hungary, Romania and Bulgaria, all countries in which Japanese companies are rapidly expanding their business. The service is not limited to sales, but engineers make on-site adjustments, repairs and service calls as well.

To make it possible to support all types of motors and controllers for NIKKEN's CNC rotary tables, the company has set up trial run equipment that accommodates many different motors, and offers a full range of accessories including tailstocks, support tables, scroll chucks and collet chucks adapted to the CNC rotary tables. The fact that NIKKEN's CNC rotary tables are endowed with outstanding durability and that a complete support service is provided instils confidence in users that the equipment will give outstanding service in the years ahead.

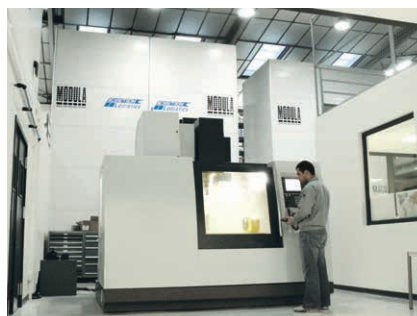
Procomo France S.A.S was established 30 years ago with the avowed intent to deliver the high-accuracy and high-quality tool holders and CNC rotary tables as well as related services, applications and after-sales servicing, into the hands of engineers in France. A major milestone in the company's history was marked in 2006 with the change of the company name to PROCOMO-NIKKEN, and the company took on a new lease of life as NIKKEN's wholly owned subsidiary in France.



In 2005, PROCOMO-NIKKEN embarked on a complete renovation of its buildings and facilities in order to make it possible for users to gain hands-on experience of NIKKEN's products in a bright and comfortable environment.



In the meeting room, which is fitted out with all the latest multimedia technology, technical seminars are regularly held so that attendees will come away with a clear understanding of NIKKEN's products and technology. The showroom is where videos of cutting operations are screened, and visitors can actually handle some of NIKKEN's products in this room as well. The machining centre, which is used for cutting trials, enables visitors to identify what makes NIKKEN's products different from those of other companies and to judge how impressive are the machining accuracy and advanced cutting capabilities of NIKKEN's products. As the top tool holder manufacturer, NIKKEN believes is that once customers have their own personal experience of the low machining noise, attractive-looking cut surfaces and uniform discharge of chips, they will be convinced that they can completely trust in and depend on the expertise and capabilities of the company.



The stocks of a large number of standard products are always on hand, enabling the products that customers need to be delivered in the shortest possible time. The NIKKEN Euro Centre and PROCOMO-NIKKEN retain constant and close contact; together they take on the challenge of how to machine products in a more rationalized manner, in a shorter time and to a higher accuracy so that France's engineers can meet every need of the French marketplace.

NIKKEN has already earned an enviable reputation in the global marketplace for the high accuracy and outstanding wear resistance of the company's CNC rotary tables. PROCOMO-NIKKEN has a team of five engineers dedicated full-time to providing users with application support prior to placing orders for tool holders and CNC rotary tables and to carrying out the preparation for shipment, education and training programs, maintenance and repairs, and servicing. This support network delivers a wide range of services, while willingly taking up the challenge of coming to grips with new applications.

# NIKKEN

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●Specifications are subject to change without notice.