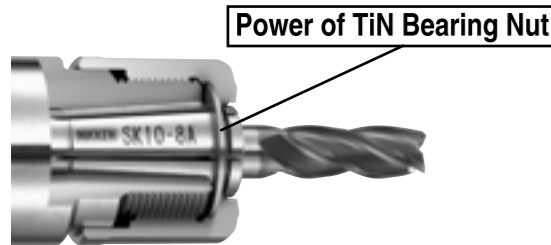


NEW SLIM CHUCK with TiN BEARING NUT INSTRUCTION MANUAL NIKKEN VER.14

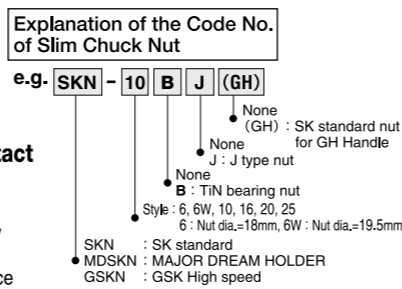
Thank you for your purchase of NIKKEN products. We can recommend our products with our confidence, however, please read this manual for long terms. And, please keep it where the operator can refer to it whenever necessary. Newly developed TiN bearing nut is highly recommended to use for better accuracy.

TiN BEARING NUT for SLIM CHUCK NIKKEN

More efficient than conventional ball bearing built-in nut!



- Power of TiN Bearing Nut**
- ◆ **Good sliding effect due to the surface hardness of HV2,200.**
 - ◆ **[No corrosion occurs] internally.**
 - ◆ **Less micron vibration with collet flange contact**
Improvement of cutting performance and tool life durability.
 - ◆ **Well balanced** (For high speed rotation)
 - ◆ **Concentricity** Better and stable run-out accuracy
Improvement of surface finish
 - ◆ **Easy Handling** GH Handle - easy and convenience



TiN bearing nut fits all existing Slim Chuck. We strongly recommend to use TiN bearing nut for spare part.

Spanner	C-Spanner				GH Handle						
	SK standard nut		SKT option		SK standard nut for GH Handle		SKT standard		MDSK	GSK nut for High Speed Use	
Nut	J type Nut		J type Nut		J type Nut		J type Nut		J type Nut	J type Nut	
Style	SKN-6WB	SKN-6WB(B)	SKTN-6B	SKTN-6B(B)	SKN-6WB(GH)	SKN-6WB(B)(GH)	MDSKN-6B	MDSKN-6B(B)	GSKN-6B	GSKN-6B(B)	
SK 6/SKT 6/MDSK 6/GSK 6	SKN-6WB	SKN-6WB(B)	SKTN-6B	SKTN-6B(B)	SKN-6WB(GH)	SKN-6WB(B)(GH)	MDSKN-6B	MDSKN-6B(B)	GSKN-6B	GSKN-6B(B)	
SK10/SKT10/MDSK10/GSK10	-10B	-10B(B)	SKN-10B	SKN-10B(B)	-10B(GH)	-10B(B)(GH)	SKN-10B(GH)	SKN-10B(B)(GH)	-10B	-10B(B)	
SK16/SKT16/MDSK16/GSK16	-16B	-16B(B)	SKTN-16B	SKTN-16B(B)	-16B(GH)	-16B(B)(GH)	MDSKN-16B	MDSKN-16B(B)	-16B	-16B(B)	
SK20/SKT20/MDSK20/GSK20	-20B	-20B(B)	SKN-20B	SKN-20B(B)	MDSKN-20B	MDSKN-20B(B)	-20B	-20B(B)	-20B	-20B(B)	
SK25/SKT25/MDSK25/GSK25	-25B	-25B(B)	SKTN-25B	SKTN-25B(B)	SKN-25B(GH)	SKN-25B(B)(GH)	-25B	-25B(B)	-25B	-25B(B)	

*Nut dia. of SKN-6W type and GSKN-6 type are 19.5mm.

Chucking

- Always ensure that there is no damage on the internal bore of the chuck, the internal & external of the collet, and the Cutting tool shank.
- Wipe all dust from internal bore of chuck, inside and outside of collet, inside of nut and shank of cutter.
Clean minute dust inside slot grooves of collet and inside of nut by air blow.
We will recommend to use J type nut to prevent swarf and dust contermination.
- Set SK Collet onto SK Nut with Collet Extractor.
Code No. of Collet Extractor : SKR-6, SKR-10, SKR-16, SKR-25
Note : Only for SK20, GSK20, MDSK20 without using Collet Extractor.
- Screw SK Nut into Slim Chuck spindle.

⚠ Do not insert a SK Collet alone into Slim Chuck spindle.

- Insert cutting tool shank into SK Collet.
 - Protection must be used to grip cutter teeth.
 - Use a proper SK Collet to grip a cutter shank.
 - Standard SK Collet, except listed in Table 1 gripping range is 0.5mm per diameter.
 - Use "A" type SK Collet to grip a cutter with End Mill shank. Gripping range of "A" type SK Collet is hs.
 - Clamp as much of the shank of cutter as possible. If the clamping length of shank is too short it might cause breakage of the cutter or Collet, even damage to the chuck itself. (Suitable gripping length = cutting tool diameter x over 4~5 times)
 - Do not clamp without a cutter.
 - In case of heavy duty milling of the chuck bigger equal to SK16, the followings are recommended.
 - Remove the oil from the Collet completely.
 - Clean the internal taper of the chuck.
 - Put a small amount of the pure oil on the internal taper very thinly.
 This allows the Collet to detach the taper connection with ease after heavy duty milling.

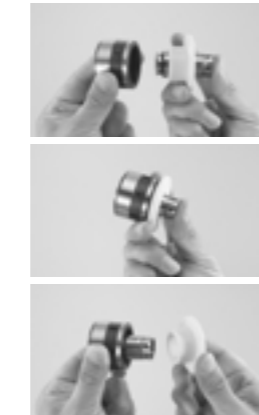
- After tightening SK Nut by hand, tighten further by NIKKEN spanner. The guide line of the Tightening Torque is shown on Table 2 and Table 3.

Always ensure that the slim chuck is set up on the proper fixture, e.g. NIKKEN tool clamber TCL-GH, when the nut is tightened.

Wipe all dust and oil from the external of SK Nut and the internal of the GH Handle to tighten/loosen surely.

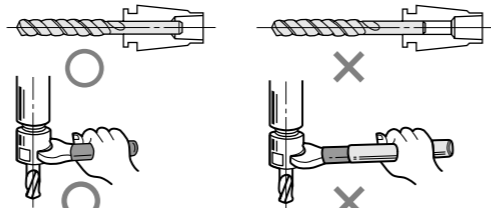
- In case of length adjustment of cutting tool, an adjustment screw is required. If the bottom of the cutter shank touches the screw, gripping torque will be reduced. Therefore please leave a small space between screw and cutter shank when adjusting length, then tighten SK Nut.
- For high speed application, please test before the practical use and confirm the no deflection, vibration and unusual sound.

Slim Chuck for synchronized tapping holder
SK6 type Slim Chuck is not suitable for synchronized tapping holder. Please use SK10, SK16, SK20, SK25 type Slim Chuck for synchronized tapping holder. Please use "A" type SK Collet to grip a tap with End mill shank. Gripping range of "A" type SK Collet is hs.



Code No.	Chucking D
SK 6-0.8	0.7 ~ 0.8
SK 6-1	0.9 ~ 1.0
SK 6-1.25	1.15 ~ 1.25
SK 6-1.5	1.3 ~ 1.5
SK 6-1.75	1.55 ~ 1.75
SK 6-2	1.8 ~ 2.0
SK 6-2.25	2.05 ~ 2.25
SK 6-2.5	2.3 ~ 2.5
SK 6-2.75	2.55 ~ 2.75
SK 6-3	2.8 ~ 3.0
SK10-2	1.75 ~ 2.0
SK10-2.25	2.0 ~ 2.25
SK10-2.5	2.25 ~ 2.5
SK10-2.75	2.5 ~ 2.75
SK10-3	2.75 ~ 3.0
SK16-3	2.75 ~ 3.0

Table 1 Gripping Range



Style	Spanner	With Torque Adjustment	Tightening Torque (Nm)
SK 6 (φ18)	SKL- 6	SKL- 6-TLS	10~30*
SK 6 (φ19.5)	SKL- 6W	SKL- 6W-TLS	10~30*
SK10	SKL-10	SKL-10-TLS	30~45~60
SK16	9HC16	SKL-16-TLS	60~75~85
SK20	9HC22	SKL-20-TLS	70~85~95
SK25	9HC22	SKL-25-TLS	80~90~100

*Guide line of the tightening torque for SK6 (made *): ~φ3 : 10~20Nm
φ3~φ6 : 20~30Nm

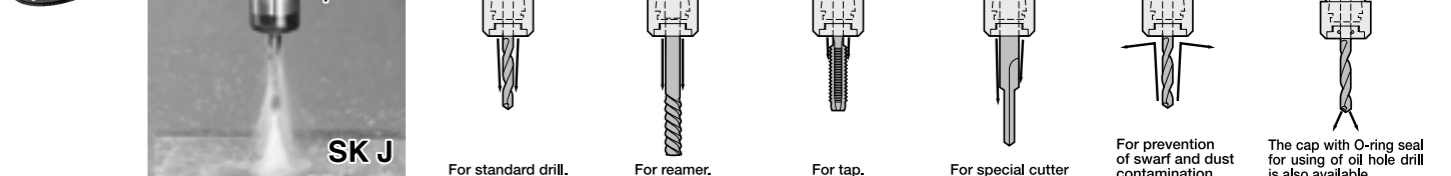
*SKN-6 marked *1 is not a TiN bearing nut.

Style	GH Handle	With Torque Adjustment	Tightening Torque (Nm)
GSK 6 SKT 6 MDSK 6 SK 6(GH)	GH 6	GH 6-TLS	10~30*
GSK10 SKT10 MDSK10 SK10(GH)	GH10	GH10-TLS	30~45~60
GSK16 SKT16 MDSK16 SK16(GH)	GH16	GH16-TLS	60~75~85
GSK20 SKT20 MDSK20 SK20(GH)	GH20	GH20-TLS	70~85~95
GSK25 SKT25 MDSK25 SK25(GH)	GH25	GH25-TLS	80~90~100

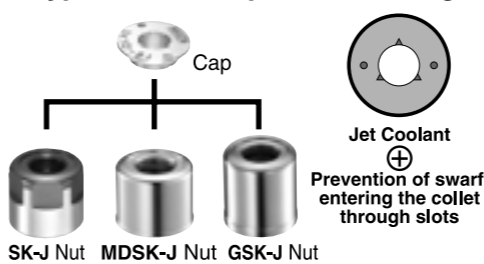
*Guide line of the tightening torque for SK6 (made *): ~φ3 : 10~20Nm
φ3~φ6 : 20~30Nm

J TYPE NUT for SLIM CHUCK NIKKEN

The Jet Coolant pressure creates a tornado effect, ensuring efficient swarf dispersal.



J type nut and cap fit all existing Slim Chuck. We strongly recommend to use J type nut with TiN bearing.

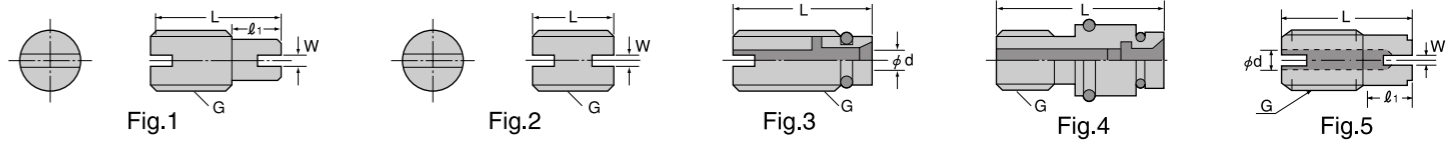


Style	J type NUT Code No.			Cap Code No.	WRENCH Code No.
	SK	SKT/MDSK	GSK		
SK 6 (φ18)	SKN- 6J*	-	-	SKJ 6-3, 3.3, 4, 4.2, 5, 6	SKJL- 6
SK 6 (φ19.5)	SKN- 6WBJ	MDSKN- 6BJ	GSKN- 6BJ	SKJ10-3, 4, 5, 5.5, 6, 6.2, 6.8, 7, 8, 8.5, 10	SKJL-10
SK10	SKN-10BJ	SKN-10BJ(GH)	GSKN-10BJ	SKJ16-7, 8, 8.5, 10, 10.3, 12, 12.5, 14, 15, 16	SKJL-16
SK16	SKN-16BJ	MDSKN-16BJ	GSKN-16BJ	SKJ25-8, 10, 12, 16, 17.5, 20, 25	SKJL-25
SK20	SKN-20BJ	MDSKN-20BJ	GSKN-20BJ		
SK25	SKN-25BJ	MDSKN-25BJ	GSKN-25BJ		

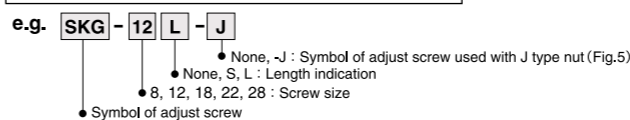
★When J type nut is used, the total chuck length will be extended by 6mm. ★SKN-6J marked * is not a TiN bearing nut.
★Standard J type nut can prevent dust and chips entering inside Slim Chuck. ★Different internal diameters are available. Please contact with us.
★SK J-type cap with o-ring is also available. Please add "C" at the end of Code No. e.g. SKJ10-4C
★When the internal hole is machined to the blank cap, the centralizing of the cap is important. Please contact with us.

ADJUST SCREW for SLIM CHUCK NIKKEN

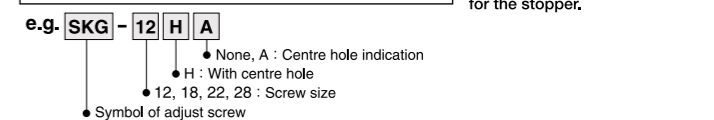
The adjust screw for High Speed "GSK-P" Slim chuck is same as the adjust screw for Standard "SK" Slim Chuck. e.g. The adjust screw for BT30-GSK10-45P is SKG-12S, it is same as the adjust screw for BT30-SK10-45.



Explanation of the Code No. of the Adjust screw for Standard Slim Chuck



Explanation of the Code No. of the Adjust screw with centre hole for Standard Slim Chuck

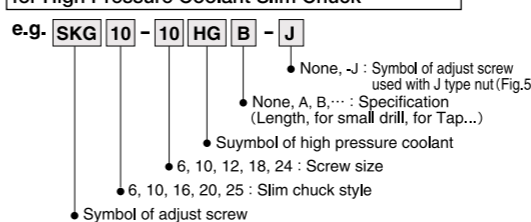


Please remove standard Adjust Screw or use the Adjust Screw specially designed to J type Nut for the stopper.

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
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. Please choose suitable one for the tang width of your drill.

Explanation of the Code No. of the Adjust screw for High Pressure Coolant Slim Chuck



Style	Adjust Screw Code No.	Fig.	Hole Dia.	Cutter Shank Dia.	Slim Chuck Code No.	Hexagon Socket Size
SK 6	SKG 6- 6HG		φ2.5	φ4	All SK6C/SK6F Slim Chucks	2
SK10	SKG10-10HG		φ4	φ6	All SK10C/SK10F Slim Chucks	4
	SKG10-10HGA		φ2.5	φ4	All SK10C/SK10F Slim Chucks	2
SK16	SKG16-12HG		φ7.2	φ10	All SK16C/SK16F Slim Chucks except below	6
	SKG16-12HGB					
	SKG16-10HG					
	SKG16-12HGA					
SK20	SKG20-12HG		φ6.8	φ10	All SK20C/SK20F Slim Chucks except below	5
	SKG20-12MHFG					
	SKG20-18HG					
	SKG20-18HGB					
SK25	SKG25-24HG		φ12	φ16	All SK25C/SK25F Slim Chucks except below	8
	SKG25-24HGA					
	SKG25-18HGC					
	SKG25-18HGE					

★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, SKG16-12HGBAS
★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
★The slim chucks with 3LOCK (MBT, MIT, MCAT), NC5, HSK shank is basically for high pressure coolant through type.
In case of 3LOCK slim chuck, please change the shank Code No. from "BT" to "MBT". e.g. The adjust screw for MBT40-SK16F-90 is same as the adjust screw for BT40-SK16F-90.

⚠ Quotation fee of the repair is always necessary whether repair or not.

This manual is for basic instruction and information for safety use of our product. Please contact with us for the further details. Please note that we could not take a responsibility of the accidental damage on our product which is modified the specifications by the customer without our approval.

NIKKEN NIKKEN KOSAKUSHO WORKS, LTD.

Head office : 5-1, 1-chome, Minamishinden, Daito, Osaka, Japan

Tel : 072-869-5820 Fax : 072-869-6220

http://www.nikken-world.com
e-mail : export@nikken-kosakusho.co.jp