# PRESETTER PRODUCT CATALOG

Ergonomic, simple yet powerful, we guarantee added productivity one toolholder at a time!



THERMAL STABILITY COUPLED WITH HIGH PRECISION



## WHY GET A PRESETTER?

#### **SHOP TALK PRESETTER ROI**

	а	b	С	d	е	f
	Quantity of Tools per Machine	Total Time to Measure 20 Tool Offsets	Average Number of Times Cutter Replaced	Hourly Cost to Prepare Offsets on Presetter (offline)	Quantity of Machines in the Shop	CNC Machine Rate
	(tools/machine)	(min.)	(times/5 day week)	(US\$/hour)		(US\$/hour)
Manual Height Setter	20	16	12	\$0.00	5	\$60.00
In-Machine Touch Probe	20	14	12	\$0.00	5	\$60.00
Presetter	20	12	12	\$20.00	5	\$0.00

Formula
Total Presetting Cost
(\$/5 day week)
b×c×e×f/60
\$960
b×c×e×f/60
\$840
b×c×d×e/60
\$240

		Weekly Cost Difference vs Presetter	Savings per Month using Presetter on 5 CNC Machines	Cost of Average Presetter	Number of weeks for ROI
Manual Height Setter	VS Presetter	\$720	\$2,880	\$19,000	26.39
In-Machine Touch Probe		\$600	\$2,400	\$19,000	31.67



#### **PRESETTER ADVANTAGES**

#### **PRACTICAL**

- Measuring tools offline increases spindle uptime.
- For smaller tools, measuring lengths and diameters is easily accomplished.
- Efficiency can be realized throughout the entire shop for both mills and lathes.

#### **PRECISE**

- With 1 micron resolution, length and diameter dimensions transferred to machines are very accurate.
- Preset tools allow for tooling consistency that results in performance consistency.

#### **PRODUCTIVE**

- Monitoring tool run out will help optimize cutter life and part accuracy.
- More parts produced since less time is dedicated to toolholder set up.
- Inspection tools can see insert and cutter edge wear preventing scrap or poor finishes.



### **ROCK SOLID PRECISION**

## Thermal Stability coupled with High Precision

Elbo Controlli Nikken Tool Presetters combine the best of both worlds for thermal stability and optical precision. This combination provides the highest level of repeatability and reproducibility making Elbo Controlli Nikken Presetters ideal for most tool measuring and inspecting applications.

With over 40 years of experience specializing in the engineering and design of optical scales, Elbo Controlli Nikken Tool Presetters incorporate custom optical scales and vision systems that are designed for measuring and inspecting cutting tools.

Ergonomic, simple yet powerful, we guarantee added productivity one toolholder at a time!



## PRECISION SPINDLE SYSTEM

All Elbo Controlli Nikken precision spindle systems are fully interchangeable. This gives you the opportunity to replace the spindle holder quickly and safely, while maintaining the same precision and not introducing coupling errors.

## FEATURES AND BENEFITS



## GRANITE COLUMN CONSTRUCTION

Mounted and supported by dual rail guides, the rugged design assures the same perpendicularity accuracy for tools of all sizes.





#### **AXIS CLAMPING**

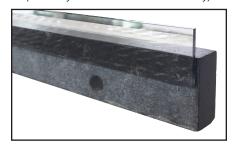
An ergonomic pneumatic handle allows for movement and locking of both axis simultaneously with one hand, freeing up the other hand to position the toolholder.





#### **OPTICAL SCALES**

All E68 series presetters are equipped, on both the X and Z axes, with patented GS371 optical scales which include a natural granite ruler and graduated glass scale. This is the first and only optical scale in the world that uses natural granite, ensuring precision and repeatability never seen before. (Currently available on E68 Series only)





#### **VISION SYSTEM**

Elbo Controlli Nikken's custom vision system makes measuring and inspection accurate and easy to visualize. Built with a dual lit system, variable LED arrangement and a CMOS sensor; brightness for optimal visualization is achieved while minimizing heat generation that can distort measuring accuracy.





#### **SOFTWARE FEATURES**

Presetters not only provide the ability to quickly measure tools, but also can be used to help increase productivity. Elbo Controlli Nikken software packages (except the E236+ model) include an inspection mode where run out and cutting edge surface inspection can easily be performed. With over 40 years of experience specializing in the engineering and design of optical scales, Elbo Controlli Nikken Tool Presetters incorporate custom optical scales and vision systems that are geared for measuring and inspecting cutting tools.

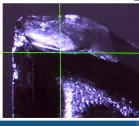
Ergonomic, simple yet powerful, we guarantee added productivity one toolholder at a time!



#### **MEASUREMENT MODE**



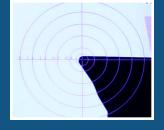
#### **INSPECTION MODE**



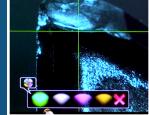


#### **VISUAL INTERFACE**

Thin Film Transistor LCD Touch Screen coupled with icon based software provides an easy to use interface with superb image quality.









BT30/40/50 CAT40/50









#### **SPINDLES**

Constructed with triple re-circulating ball bearing supports, repeatable run out and perpendicularity can be achieved when spindles are interchanged. (Other spindle types available upon request)

#### PRESETTER OFFERINGS

All Elbo Controlli Nikken presetters by Lyndex-Nikken use precision ground granite for the base and column, providing the utmost thermal stability, making them ideal for the work shop environment. This combination provides the highest level of repeatability and reproducibility, making Elbo Controlli Nikken presetters ideal for most tool measuring and inspecting applications.

All presetter models utilize interchangeable spindles (CAT, BT, HSK, Polygonal Taper, etc.) thereby eliminating the need for adapters which introduce additional error. All units also come with fifty of the most common post processors for today's CNC controls.







#### E236+

#### **MEASURABLE RANGE:**

• X-Axis: 10.23" (Diameter)

• **Z-Axis:** 14.17" (Length)

#### **FEATURES & BENEFITS:**

- 7" TFT vertical touch screen
- Measurement capability by full screen auto-targeting
- Axis Positioning System for quick centering of cutting edge measurement
- Micro adjustments in X and Z (1µm resolution)
- 20x Camera magnification

#### **DIMENSIONS:**

• Width: 22.44" • Height: 31.22"

• **Depth:** 16.06" • **Weight:** 99 lbs.

• Camera Framed Area: 0.197" x 0.197"

#### E346+ E346V+ E356+

#### **MEASURABLE RANGE:**

• X-Axis: 14.17" (Diameter)

• **Z-Axis:** 18.11" (Length)

• **Z-Axis:** 22.04" (Length) *E356+ only* 

#### **FEATURES & BENEFITS:**

- 15.6" TFT vertical touch screen
- Inspection Mode to verify condition of cutting tools
- Micro adjustments in X and Z (1µm resolution)
- Vacuum toolholder clamping (Model E346V+ only)
- 25x Camera magnification

#### **DIMENSIONS:**

• Width: 37.40" • Height: 38.27"

• Height: 42.20" (Model E356+)

• Depth: 16.93" • Weight: 198 lbs.

• Camera Framed Area: 0.299" x 0.283"

#### E346BA

#### **MEASURABLE RANGE:**

• X-Axis: 14.17" (Diameter)

• **Z-Axis:** 18.11" (Length)

#### **FEATURES & BENEFITS:**

- 15.6" TFT vertical touch screen
- Inspection Mode to verify condition of cutting tools
- Micro adjustments in X and Z (1µm resolution)
- Angle and Radius Comparison Tool
- Automatic spindle rotation and tool edge measurement
- Single and Multi-edge measurement acquisition cycle
- 25x Camera magnification

#### **DIMENSIONS:**

• Width: 37.68" • Height: 38.42"

• **Depth:** 17.99" • **Weight:** 253 lbs.

• Camera Framed Area: 0.299" x 0.283"









#### **E46B**

#### **MEASURABLE RANGE:**

X-Axis: 15.74" (Diameter)Z-Axis: 23.62" (Length)

#### **FEATURES & BENEFITS (STANDARD):**

- Vertical TFT 15.6" full HD touch screen monitor
- Pneumatic spindle brake
- 1 µm camera system resolution
- · Import DXF files and create tool overlay
- · Adjustable area of interest
- Pneumatic axis movement unlock
- · Motorized mechanical toolholder clamping
- · Tool inspection function
- 18x magnification with 4x digital zoom

#### **DIMENSIONS:**

Width: 44.72" • Height: 76.18"
Depth: 22.36" • Weight: 506 lbs.
Camera Framed Area: 0.394" x 0.394"

#### **E46BA**

#### **MEASURABLE RANGE:**

X-Axis: 15.74" (Diameter)Z-Axis: 23.62" (Length)

#### **FEATURES & BENEFITS:**

- Vertical TFT 15.6" full HD touch screen monitor
- Pneumatic spindle brake
- 1 μm camera system resolution
- Import DXF files and create tool overlay
- · Adjustable area of interest
- Pneumatic axis movement unlock
- · Motorized mechanical toolholder clamping
- · Tool inspection function
- · Spindle Identification System (SP-ID)
- · C axis readout
- Automatic spindle rotation and tool edge measurement
- 18x magnification with 4x digital zoom

#### **DIMENSIONS:**

• Width: 44.72" • Height: 76.18"

• **Depth:** 22.36" • **Weight:** 506 lbs.

• Camera Framed Area: 0.394" x 0.394"

#### E46BP

#### **MEASURABLE RANGE:**

• X-Axis: 15.74" (Diameter)

Z-Axis: 23.62" (Length)

#### **FEATURES & BENEFITS:**

- Vertical TFT 15.6" full HD touch screen monitor
- · Pneumatic spindle brake
- 1 µm camera system resolution
- Import DXF files and create tool overlay
- · Adjustable area of interest
- · Pneumatic axis movement unlock
- Motorized mechanical toolholder clamping
- · Tool inspection function
- Motorized X, Z and C axes
- · Motorized fine adjustment
- Presetter automation software for tool presetting (1 step)
- · Keyboard and mouse
- 18x magnification with 4x digital zoom

#### **DIMENSIONS:**

• Width: 46.42" • Height: 76.18"

• Depth: 22.36" • Weight: 506 lbs.

• Camera Framed Area: 0.394" x 0.394"







#### **E46C**

#### **MEASURABLE RANGE:**

X-Axis: 15.74" (Diameter)Z-Axis: 23.62" (Length)

#### **FEATURES & BENEFITS (STANDARD):**

- Vertical TFT 21.5" full HD touch screen monitor
- Manual DXF acquisition of cutting tool profile
- · WiFi connection
- Pneumatic axis movement unlock
- · Motorized mechanical toolholder clamping
- · Adjustable area of interest
- Spindle Identification System (SP-ID)
- · Tool inspection function
- · Pneumatic spindle brake
- · Keyboard and mouse
- 25x magnification with 4x digital zoom

#### **DIMENSIONS:**

Width: 46.42" • Height: 76.18"
Depth: 22.36" • Weight: 506 lbs.
Camera Framed Area: 0.394" x 0.394"

#### E46CA

#### **MEASURABLE RANGE:**

X-Axis: 15.74" (Diameter)Z-Axis: 23.62" (Length)

#### **FEATURES & BENEFITS:**

- Vertical TFT 21.5" full HD touch screen monitor
- Automatic DXF acquisition of cutting tool profile
- · WiFi connection
- Pneumatic axis movement unlock
- Motorized mechanical toolholder clamping
- · Adjustable area of interest
- Spindle Identification System (SP-ID)
- · Tool inspection function
- · Pneumatic spindle brake
- Keyboard and mouse
- Automatic spindle rotation and tool edge measurement
- Automatic electronic index
- 25x magnification with 4x digital zoom

#### **DIMENSIONS:**

Width: 46.42"Height: 76.18"Depth: 22.36"Weight: 506 lbs.

• Camera Framed Area: 0.394" x 0.394"

#### E46CX

#### **MEASURABLE RANGE:**

X-Axis: 15.74" (Diameter)Z-Axis: 23.62" (Length)

#### **FEATURES & BENEFITS:**

- Vertical TFT 21.5" full HD touch screen monitor
- Manual DXF acquisition of cutting tool profile
- · WiFi connection
- Pneumatic axis movement unlock
- Motorized mechanical toolholder clamping
- · Adjustable area of interest
- Spindle Identification System (SP-ID)
- · Tool inspection function
- Pneumatic spindle brake
- · Keyboard and mouse
- Motorized X, Z and C axes
- · Motorized fine adjustment
- Presetter automation software for tool presetting and multi-step geometry check (Full CNC)
- 25x magnification with 4x digital zoom

#### **DIMENSIONS:**

• Width: 46.42" • Height: 76.18"

• **Depth:** 22.36" • **Weight:** 506 lbs.

Camera Framed Area: 0.394" x 0.394"



#### E46LTWA

#### **MEASURABLE RANGE:**

X-Axis: 12.59" (Diameter)Z-Axis: 23.62" (Length)

#### **FEATURES & BENEFITS:**

- Vertical TFT 21.5" full HD touch screen monitor
- 3 Camera System for Tool Inspection (front, top and side).
  - Main camera: Tool measurement (diascopic) and cutting-edge inspection (episcopic) bi-telecentric lens.
     Magnification 26x, digital zoom 2x and 4x available.
  - Second/Third camera: Cutting-edge inspection (episcopic) with on screen measurement bi-telecentric lens.
     Magnification 60x, digital zoom 2x and 4x available.
- Automatic DXF acquisition of cutting tool profile
- Automatic spindle rotation and tool edge measurement
- Motorized mechanical toolholder clamping
- · Spindle Identification System (SP-ID)

#### **DIMENSIONS:**

Width: 50.47" • Height: 73.78"Depth: 26.46" • Weight: 595 lbs.



E68B, E68BA, E68L, E68LA, E81L, E81LA

#### **MEASURABLE RANGE:**

• X-Axis: 23.62", 31.49" optional E81 Series (Diameter)

• **Z-Axis:** 31.49", 39.37" optional E81 Series (Length)

#### **FEATURES & BENEFITS (STANDARD):**

- · Motorized mechanical toolholder clamping
- Tool inspection function
- Motorized X and Z axes
- · Spindle Identification System (SP-ID)

#### E68B FEATURES (in addition to standard):

- Vertical TFT 15" full HD touch screen monitor
- 38x Magnification

#### **E68BA FEATURES** (in addition to standard):

- Vertical TFT 15" full HD touch screen monitor
- Automatic spindle rotation and tool edge measurement
- 38x Magnification

#### **E68L FEATURES** (in addition to standard):

- · Vertical TFT 22" full HD touch screen monitor
- 32x magnification with 4x digital zoom
- On-screen manual measure with axes for radius and angle using user selected points

#### E68LA FEATURES (in addition to standard):

- · Vertical TFT 22" full HD touch screen monitor
- 32x magnification with 4x digital zoom
- Automatic spindle rotation and tool edge measurement
- Motorized X, Z and C axes
- Elbo Controlli NIKKEN IS (Integrated Solution) twin screen option available
- Available with optional M.U.S.T. Multi-step measurement. (Full CNC)

#### **DIMENSIONS - ALL MODELS:**

Width: 66.93" • Height: 90.55"Depth: 27.56" • Weight: 1,210 lbs.

## PRESETTER VERSIONS

Find out what each type of Presetter can do



#### **L VERSION**

Denotes Standard Model (Model E68L)



#### **B VERSION**

Provides a smaller and more economical screen (Series E46B & E68B)

#### **C VERSION**

Provides a larger touch screen

(Series E46C)



#### **A VERSION**

Allows for Automatic Focusing of the C-Axis Spindle. (Models: E346BA, E46BA, E46CA, E68BA & E68LA)



#### **P VERSION**

Single Point Positioning. (Model E46BP)



#### **X VERSION**

Multi-step Full CNC Positioning. (Model E46CX)

### **A.I.S SOFTWARE COMPARISON**

What is A.I.S.? **Advanced Integrated Solutions** is the new Elbo Controlli NIKKEN department dedicated to the development, study and implementation of tool presetting with the rest of the workshop.

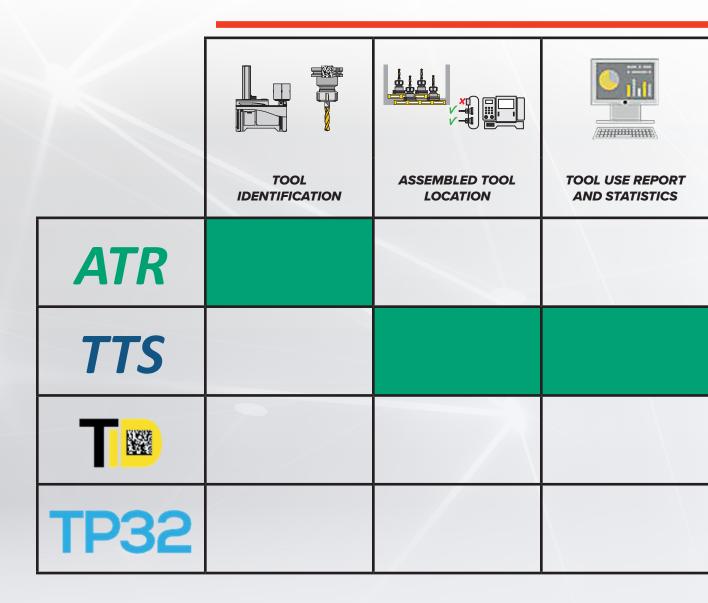
The A.I.S. department was created with the aim of positioning our company at the top of technology and digitalization for workshops. We seek to embrace the latest industry trends, improving productivity, operational efficiency and overall competitiveness.

Being at the forefront of technology will give you a competitive advantage in the market, allowing you to respond promptly to your customers' needs. With a team of highly qualified experts, A.I.S. will focus on key areas such as tool identification, tracking and data management. Discover the world of Elbo Controlli NIKKEN!

#### INTEGRATION

#### **PRESETTER**

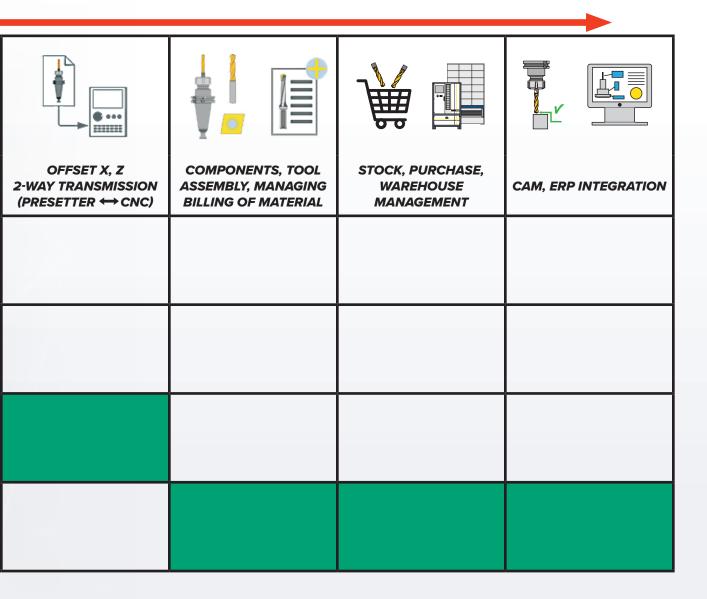
#### **CNC MACHINES**





#### Advanced Integrated Solutions by ECN

#### **COMPANY**



## ATR AUTOMATIC TOOL RECOGNITION

#### Search, find and activate: all automatically.

Often, the search for a tool within your presetter machine database can be a laborious and long operation, wasting time unnecessarily. How do we solve this problem? Easy! Thanks to our new **Automatic Tool Recognition (ATR)** system, available on all Elbo Controlli Nikken E346+, E46B, E46C and E68 presetter machine series.

#### When identification becomes easy and quick.

The association of a unique data matrix code to each physical tool allows its identification within the tool tables stored in the presetter machine. Through this unique code, it's possible to locate a single tool within all stored data records.



### What happens if the tool is present in multiple tables and in multiple machine origins?

Don't worry! The presetter will show you all of the tool tables and in which machines your tool has been used. The operator will simply read the tool code through the scanner and the machine will automatically open the page with the data for that tool, preparing the presetter for measurement operations. All automatic, within everyone's reach.

#### **SEARCH BY MACHINE**



#### **TOOL TABLE SEARCH**





#### A unique solution, many advantages.

This solution accelerates the measurement operations, makes the tool data traceable, simplifies the use of the presetter and it's the starting point for the integration of the TID system for sending offsets directly to the NC. The benefits are in your hands.





## TTS TOOL TRACKING SYSTEM

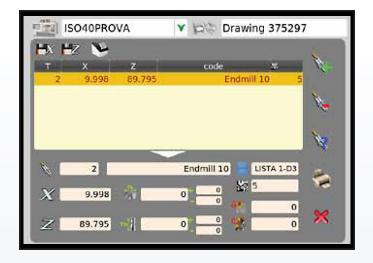
How often while presetting tools for your next job, do you struggle to find the exact tool you need? How often do you find out at the last minute that the tool you need is busy on another machine? Do you feel a lack of organization in your toolroom? We have a solution that's right for you!

**TTS (Tool Tracking System)** is a solution that allows presetters to verify the exact position of all your tools in your shop. Once all the assembled tools have been identified with a unique Data Matrix code, the TTS software will be able to identify the precise location of your tool in real time, whether it is on a machine tool or inside your tool crib.

TTS solves one of the most time-consuming and trickiest daily tasks: knowing where the tool you will need is located.

Once the tool has been identified, all the information (identification number, stock position, values and geometries) are visible in this screen.

Our software was developed to make daily work simple and intuitive: in fact, through a user friendly graphic interface, the operator is able to easily track all the tools available.

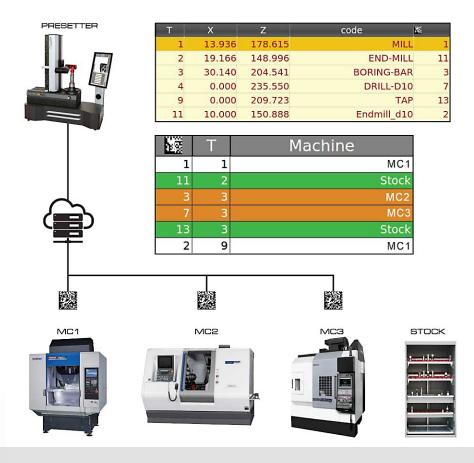




It is possible to trace the tool within the tables present on the presetter. The presetter is able to instantly display the tools that are present in one or more tables, making the tracking operation as simple as possible.

TTS is the Elbo Controlli NIKKEN solution that will allow your organization to optimize the spindle time of your machines providing the needed tool information when needed.





When the operator selects the tool table present in the presetter, the machine software shows all the tools linked to that specific job. The unique Data Matrix code assigned to each tool allows it to be searched quickly and easily within the workshop.

The operator just needs to query the presetter to get the exact report location of tools.

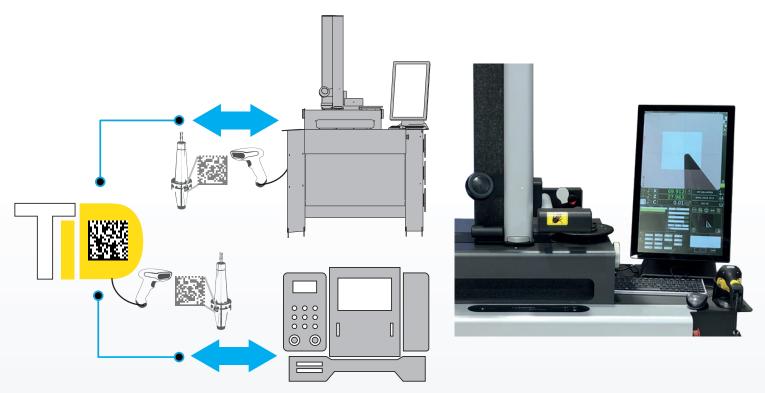
#### **TECHNICAL FEATURES**

- No Interface required with NC Control
- Use of a Data Matrix bi-dimensional barcode
- Data Matrix 2D Reader
- NO memory support to be applied on tools
- INDUSTRY 4.0 READY

## TID AUTOMATIC TOOL IDENTIFICATION SYSTEM

**TID (Automatic Tool Identification System)** is a solution which allows Elbo Controlli Nikken presetter machines to quickly identify tools and send data directly to the numerical control without interrupting any operation in progress. Elbo Controlli Nikken has created **the ideal appliance to manage tool identification data**.

The power of TID will amaze you.



#### SECURITY AND RELIABILITY WITH TID

Tools which are simple to use and limit the possibility of operator errors are essential in the workplace. TID has an intuitive graphical interface which interacts and guides the operator during use, minimizing the possibility of errors.

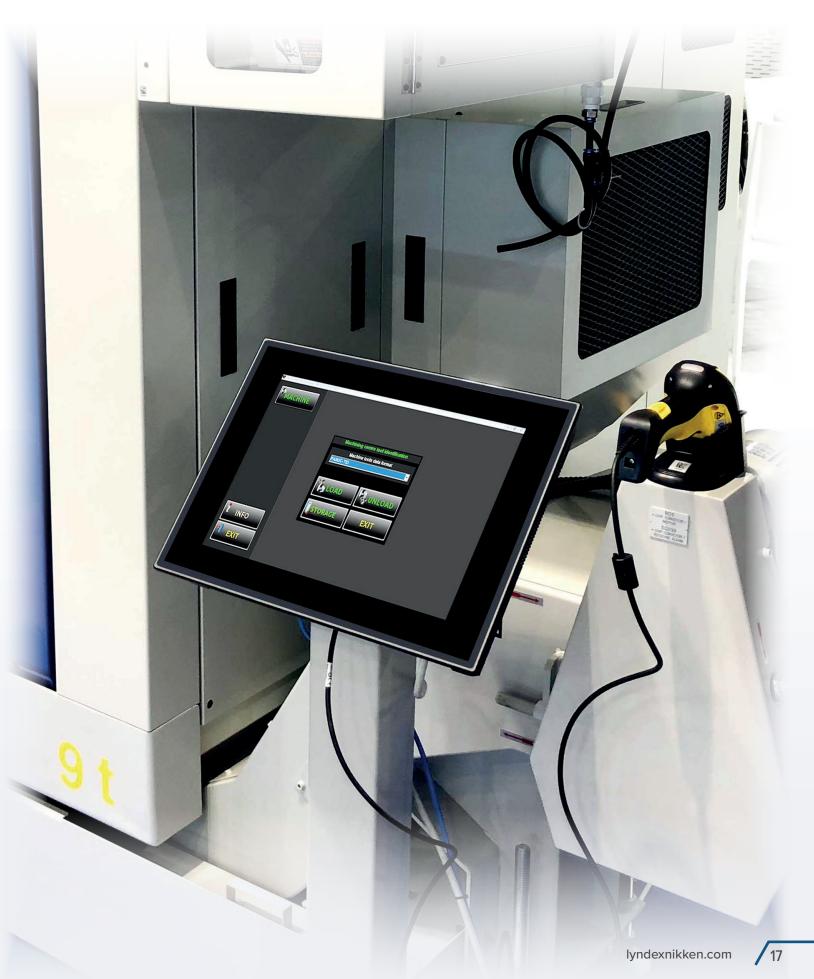
TID identifies the tools through a unique code with which all the technological data of the tool are associated (diameter, length, tool life, etc.), the operator measures the tool and then can decide on which machine it will be loaded.

TID allows a two-way communication between presetter and CNC. Measurements taken from the presetter can be sent directly to the CNC without downtime. Moreover, TID can acquire tool data from the CNC offset table.

Do you have special requirements? Is there a need for integration?

Tool ID manager can be customized according to YOUR needs.



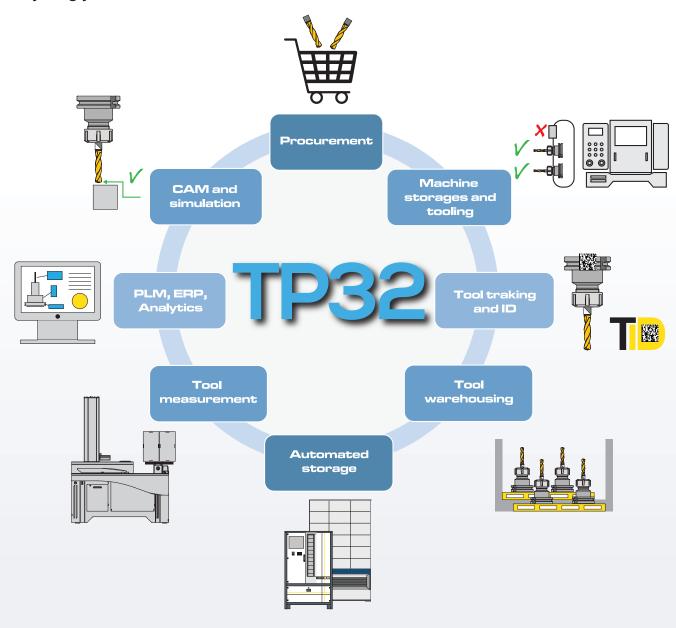


#### **TP32 INTEGRATED TOOL MANAGEMENT SYSTEM**

The E46, E68 and E81 presetter machine series can be equipped with **TP32 (Integrated Tool Management System)** and **TID (Automatic Tool Identification System)** which allows complete management of your toolroom, significantly reducing production costs and optimizing the material supply system.

Manage your tool warehouse, check your vending machine with loading / unloading equipment, set up your machine tools and much more.

#### Everything you need in one solution.







## E236+

## The high performance "entry level" option for our advanced tool presetting machines.

Our entry level bench model, the E236+ features a ground granite base and column, and ergonomic design combined with a new 7" high resolution TFT LCD Touch Screen. This system provides full operator control and selection of options and functions via an intuitive icon system allowing operational and functional simplicity that is second to none.

Includes 9 machine tool origins and 9 tool tables. With the free DPP Software, which includes a Data Post Processing file generator, more than 50 CNC machine-specific formats by the universal post-processors creator the user can transmit the data to his CNC Controller. User friendly backup and restore management of machine origins and tool-list are also included.

#### **FEATURES AND BENEFITS**

- Granite Column and Base for utmost thermal stability
- Interchangeable Spindles for CAT 40/50, BT30/40/50, HSK and Polygonal PSC
- 7" TFT vertical touch screen
- Measurement capability by full screen auto-targeting
- 20x camera magnification
- Free DPP Software included (Requires use of an external PC - not included)

#### **SPECIFICATIONS**

Measuring Range:

o Max. Diameter: 10.23" (260mm) o Max. Length: 14.17" (360mm)

o Max. Tool Wgt.: 66 lbs.

· Weight: 99 lbs.

Power: 110V Single Phase

Camera Framed Area: 0.197" x 0.197"

#### **CONTROL FEATURES**



Easiest Electronic Presetter in the industry. Simple and clear control layout makes this unit ideal for anyone to use.



Automatic Edge Targeting makes measuring fast and accurate.



Angle and Radius measurement functions.





## E346+, E346V+, E356+

#### Innovative design, reliable construction and versatile functions.

The E346+ is synonymous with precision, stability and reliability, thanks to an oversized structure. In fact, it guarantees greater accuracy of measurements, better dimensional stability and excellent reliability in terms of measurement repeatability.

The E346+, E346V+ and E356+ feature a ground granite base and column, electro-welded and de-tensioned steel construction with an ergonomic design. These features are combined with a new larger 15" TFT LCD Touch Screen that provides full operator control via an intuitive icon system allowing functional simplicity that is second to none. Also included as standard is the capability to inspect the cutting edge. Includes up to 9,999 machine tool origins and up to 999,999 tool table capacity.

The technology and power of Automatic Tool Identification System (TID), Automatic Tool Recognition (ATR) and Tool Tracking System (TTS) is available on the E346+. TID provides a two-way communication between the presetter machine CNC for sending tool data.

#### FEATURES AND BENEFITS

- Granite Column and Base for utmost thermal stability
- Interchangeable Spindles for CAT 40/50, BT30/40/50, HSK and Polygonal PSC
- 15" TFT vertical touch screen
- Inspection mode to verify condition of cutting tools
- 25x camera magnification
- Vacuum toolholder clamping (Only on Model E346V+).

#### **SPECIFICATIONS**

#### E346+ and E346V+

Measuring Range:

o Max. Diameter: 14.17" (360mm) o Max. Length: 18.11" (460mm)

o Max. Tool Wgt.: 66 lbs.

#### E356+

Measuring Range:

o Max. Diameter: 14.17" (360mm) 22.04" (560mm) o Max. Length:

o Max. Tool Wgt.: 66 lbs.

Weight: 198 lbs.

Power: 110V Single Phase

Camera Framed Area: 0.299" x 0.283"

Standard shop air hookup 70~120 PSI (E346V+ only)

#### **CONTROL FEATURES**



**Tool Measurement** is possible with three different measurement modes including an automatic mode.



With a Customizable Tool Table, all the information you need is in the right place, at the right moment: internal and external angles, radii, heights and diameters.



Inspection Mode is able to quickly identify the areas of wear or damage of the cutting edge, eliminating costly scrap.







## **E346BA**

## The real strength is simplicity. Measure tools with no operator intervention with AutoFocus Mode.

The AUTOFOCUS function allows tools to be automatically measured with no manual operator intervention. The software automatically recognizes the number of cutting edges and, based on the size of the tool, precisely controls the rotation speed of the spindle increasing and then decreasing it as the measuring point for each edge is reached for highly accurate measurement acquisition.

There are two main reasons for choosing a pre-registration and measurement system of tools which adopts both a motorized C axis and software capable of automatically recognizing and measuring the cutting edges. The need for a solution that minimizes human error and also one that provides the measurement of tools which feature multiple cutting edges that would be very complex if done manually.

E346BA allows users to reduce the possibility of presetter operator error in the measurement of the tools.

#### FEATURES AND BENEFITS

- Granite Column and Base for utmost thermal stability
- Interchangeable Spindles for CAT 40/50, BT30/40/50, HSK and Polygonal PSC
- 15" TFT vertical touch screen
- Inspection mode to verify condition of cutting tools
- · 25x camera magnification
- Spindle Identification System (SP-ID)
- Single and Multi-edge measurement acquisition cycle

#### **SPECIFICATIONS**

Measuring Range:

o Max. Diameter: 14.17" (360mm) o Max. Length: 18.11" (460mm)

o Max. Tool Wgt.: 66 lbs.

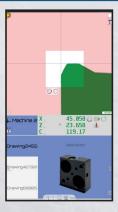
Weight: 253 lbs.

Power: 110V Single Phase

Camera Framed Area: 0.299" x 0.283"

Standard shop air hookup 70~120 PSI

#### **CONTROL FEATURES**



SINGLE EDGE MEASUREMENT ACQUISITION CYCLE

E346BA allows you to carry out the multi-cutting acquisition cycle, or rather the automatic recognition and measurement of each single cutting edge detected during the complete rotation of the spindle.



MULTI-EDGE
MEASUREMENT
ACQUISITION CYCLE
E346BA acquires the
X and Z dimensions,
highlighting any values
that are out of tolerance.





## **E46B**

#### The importance of objectivity in measurement.

The increased cross section and size of the column gives added stability up to 600mm in height and this theme is continued with revised axis slideways that also deliver increased reliability. The pneumatic axis brake and control system have been completely updated from the previous model and finally, and most noticeably, the original pendant and operator panel are now combined in to one single touch screen system that is located away from the camera and column.

These features are combined with a new, larger 15.6" Full HD TFT LCD Touch Screen that provides full operator control via an intuitive icon system allowing functional simplicity that is second to none. Also included as standard is the capability to inspect the cutting edge. Includes up to 9,999 machine tool origins and up to 999,999 tool table capacity.

The objectivity of the measurement is essential when working in a shared environment, where the presetting operation is carried out by multiple people.

#### FEATURES AND BENEFITS

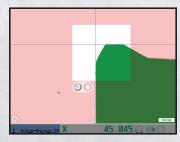
- Granite Column and Base for utmost thermal stability
- Interchangeable Spindles for CAT 40/50, BT30/40/50, HSK and Polygonal PSC
- Vertical TFT 15.6" full HD touch screen monitor
- Pneumatic spindle brake and axis movement unlock
- 18x magnification with 4x digital zoom
- Mechanical toolholder clamping
- Import DXF files and create tool overlay

#### **SPECIFICATIONS**

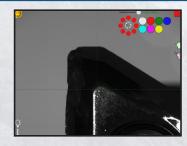
- Measuring Range:
  - o Max. Diameter: 15.74" (400mm)
  - o Max. Length: 23.62" (600mm)
  - o Max. Tool Wgt.: 88 lbs.
- Weight: 506 lbs.
- Power: 110V Single Phase
- Camera Framed Area: 0.394" x 0.394"
- Standard shop air hookup 70~120 PSI



Create tool sets according to the individual job



Adjustable area of interest



Tool inspection function





## E46BA

#### Autofocus function: no measurement errors.

In an industry where automation becomes a constant request a presetter with that provided an autofocus capability becomes a necessity.

The AUTOFOCUS function allows tools to be measured automatically, without the operator intervening manually. This mode is recommended for those who need to carry out measurements on multi-edged tools which would be very long if carried out manually and, above all, which reduces the risk of human error to a minimum.

Once the tool has been clamped, the operator will simply have to choose what type of measurement he wants to carry out (single cutting edge or multi-cutting edge) and what to measure (X, Z or both axes) and start the measurement cycle. Without having to enter the number of cutting edges to measure or any theoretical value, the software will automatically start the cycle and ends it once the 360° rotation has been carried out.

In addition, the E46BA with the spindle identification system (SP-ID). Each time the toolholder is changed the system allows the preset to identify the toolholder and suggests the correct machine origins.

#### FEATURES AND BENEFITS

- Granite Column and Base for utmost thermal stability
- Interchangeable Spindles for CAT 40/50, BT30/40/50, HSK and Polygonal PSC
- Vertical TFT 15.6" full HD touch screen monitor
- Pneumatic spindle brake and axis movement unlock
- 18x magnification with 4x digital zoom
- · Spindle Identification System (SP-ID)
- · C axis readout
- · Mechanical toolholder clamping
- · Import DXF files and create tool overlay

#### **SPECIFICATIONS**

Measuring Range:

o Max. Diameter: 15.74" (400mm) o Max. Length: 23.62" (600mm)

o Max. Tool Wgt.: 88 lbs.

Weight: 506 lbs.

Power: 110V Single Phase

Camera Framed Area: 0.394" x 0.394"

Standard shop air hookup 70~120 PSI



Create tool sets according to the individual job



Automatic spindle rotation and tool edge measurement



Tool inspection function





## **E46BP**

#### A fusion of superior construction and innovative technology.

E46BP was born from the need to have a tool presetter capable of semi-autonomously carrying out the positioning and measurement operations of the cutting edges, in order to further reduce the risk of errors and automate the presetting operation.

The solutions that we design and create are aimed at companies that want to allow their operators to work better, with quality and reducing downtime. For Elbo-Controlli Nikken, attention to every detail is a priority to offer solutions that drastically reduce the possibility of the operator making mistakes, constantly guiding them in their work, through the automations that our systems offers.

How does the new automatic axis positioning system work? The operation is very simple and intuitive, so that anyone can use it without any problem. Once the tool has been identified, the theoretical diameter and height values and the tolerances have been entered, the presetter is able to position itself and automatically carry out the measurement operation of the maximum values of X and Z, with a 360° rotation of the spindle. The measurement can be repeated as many times as desired by simply recalling the tool to be measured.

#### **FEATURES AND BENEFITS**

- Granite Column and Base for utmost thermal stability
- Interchangeable Spindles for CAT 40/50, BT30/40/50, HSK and Polygonal PSC
- Vertical TFT 15.6" full HD touch screen monitor
- Pneumatic spindle brake and axis movement unlock
- 18x magnification with 4x digital zoom
- Spindle Identification System (SP-ID)
- Motorized X, Z and C axes
- Import DXF files and create tool overlay
- Presetter automation software for tool presetting (1-step)

#### **SPECIFICATIONS**

- Measuring Range:
  - o Max. Diameter: 15.74" (400mm)
  - o Max. Length: 23.62" (600mm)
  - o Max. Tool Wgt.: 88 lbs.
- · Weight: 506 lbs.
- Power: 110V Single Phase
- Camera Framed Area: 0.394" x 0.394"
- Standard shop air hookup 70~120 PSI
- Keyboard and mouse

#### **CONTROL FEATURES**



Create tool sets according to the individual job



Presetter automation software for tool presetting (1-step)



Tool inspection function

30





## **E46C**

#### Measuring complexity meets simplicity of use.

With the E46C series, it is possible to analyze all aspects of the tools that are not identifiable with in-machine tool presetting systems. In addition to X and Z values, the presetter can detect angles, radii, tool wear and much more.

All E46C series presetters are capable of measuring and recording multi-step, multi-edge cutting tools, with complex geometries regardless of their form.

The tool profile can be captured and overlaid on the presetter screen. It can also be exported to your favorite CAD/CAM system as a .DXF file.

#### **FEATURES AND BENEFITS**

- Granite Column and Base for utmost thermal stability
- Interchangeable Spindles for CAT 40/50, BT30/40/50, HSK and Polygonal PSC
- Vertical TFT 21.5" full HD touch screen monitor
- Pneumatic spindle brake and axis movement unlock
- 25x magnification with 4x digital zoom
- Spindle Identification System (SP-ID)
- Manual DXF acquisition of cutting tool profile

#### **SPECIFICATIONS**

- Measuring Range:
  - o Max. Diameter: 15.74" (400mm)
  - o Max. Length: 23.62" (600mm)
  - o Max. Tool Wgt.: 88 lbs.
- Weight: 506 lbs.
- Power: 110V Single Phase
- Camera Framed Area: 0.394" x 0.394"
- Standard shop air hookup 70~120 PSI
- Keyboard and mouse
- WiFi connection



Manual DXF acquisition of cutting tool profile



Adjustable area of interest



Tool inspection function





## E46CA

#### When software becomes the heart of innovation.

Our new software makes the presetting experience simple and enjoyable, fully developed with smartphone usability. Why complicate your life with complex software? Choose ease of use. Choose E46CA.

In addition, to all of the benefits of the E46C, the E46CA features AutoFocus in which once the tool has been clamped, the operator will simply have to choose what type of measurement he wants to carry out (single cutting edge or multicutting edge) and what to measure (X, Z or both axes) and start the measurement cycle. Without having to enter the number of cutting edges to measure or any theoretical value, the software will automatically start the cycle and end it once the 360° rotation has been carried out.

#### **FEATURES AND BENEFITS**

- Granite Column and Base for utmost thermal stability
- Interchangeable Spindles for CAT 40/50, BT30/40/50, HSK and Polygonal PSC
- Vertical TFT 21.5" full HD touch screen monitor
- Pneumatic spindle brake and axis movement unlock
- 25x magnification with 4x digital zoom
- Spindle Identification System (SP-ID)
- Automatic spindle rotation and tool edge measurement
- Automatic DXF acquisition of cutting tool profile

#### **SPECIFICATIONS**

Measuring Range:

o Max. Diameter: 15.74" (400mm) o Max. Length: 23.62" (600mm)

o Max. Tool Wgt.: 88 lbs.

Weight: 506 lbs.

Power: 110V Single Phase

Camera Framed Area: 0.394" x 0.394"

Standard shop air hookup 70~120 PSI

Keyboard and mouse

WiFi connection



Automatic DXF acquisition of cutting tool profile



Adjustable area of interest



Tool inspection function





## E46CX

#### Automation increases productivity.

All sectors that involve repetitive activities can make use of automation, however it is more widespread in the industrial and manufacturing sectors. The E46CX presetter allows you to improve production processes, and the quality of workmanship of the product.

Why choose the new E46CX presetter? Automation is essential to manage, change and adapt the processes through which the company operates. Here comes a machine that helps streamline your tool crib. The new E46CX features motorized X, Z and C axes which can measure the complete profile of your tool.

Prepare your measurement program with our new, simple and intelligent interface that allows you to set all measurement points, number of cutting edges, theoretical values and tolerances. You will find everything you need in one screen: decide how you want to measure your tools and where you want to export the measurement results (post-processor, TID, RFID chip or simply save and print the report), and more importantly the process is automatic.

No complications. The software helps you at every stage.

#### **FEATURES AND BENEFITS**

- Granite Column and Base for utmost thermal stability
- Interchangeable Spindles for CAT 40/50, BT30/40/50, HSK and Polygonal PSC
- Vertical TFT 21.5" full HD touch screen monitor
- Pneumatic spindle brake and axis movement unlock
- 25x magnification with 4x digital zoom
- Spindle Identification System (SP-ID)
- Motorized X, Z and C axes
- · Adjustable area of interest
- Tool inspection function

#### **SPECIFICATIONS**

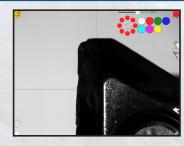
- Measuring Range:
  - o Max. Diameter: 15.74" (400mm) o Max. Length: 23.62" (600mm)
  - o Max. Tool Wgt.: 88 lbs.
- Weight: 506 lbs.
- Power: 110V Single Phase
- Camera Framed Area: 0.394" x 0.394"
- Standard shop air hookup 70~120 PSI
- Keyboard and mouse
- WiFi connection



Automatic DXF acquisition of cutting tool profile



Presetter automation software for tool presetting and multi-step geometry check (Full CNC)



Tool inspection function





## E46LTWA

### Tool makers' best friend.

The E46LTWA is equipped with 3 cameras for the front view with 26 X magnification, and side and top views of the tool, both with 60X magnification. The system allows tool grinders to measure all the geometrical features of the cutting tool.

The side and top camera can be utilized to measure the features of the cutting tools including but not limited to, the rake, primary, secondary and helix angles, webs, and lands.

The primary camera is capable of measuring complex form tools with multiple edges, steps, angles and radii and generating a detail report for each individual cutting tool.

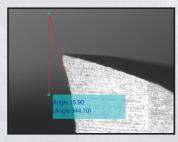
### FEATURES AND BENEFITS

- · Granite Column and Base for utmost thermal stability
- Interchangeable Spindles for CAT 40/50, BT30/40/50, HSK & Polygonal PSC
- Automatic Spindle Identification System (SP-ID)
- Extended Tool Table function for Tool Report customization
- Automatic DXF acquisition of cutting tool profile
- · Automatic spindle rotation and tool edge measurement
- Motorized mechanical toolholder clamping
- 3 Camera System for Tool Inspection (front, top and side)
  - Main Camera: Tool measurement (diascopic) and cutting-edge inspection (episcopic) Bi-telecentric lens.
     Magnification 26X, digital zoom 2x and 4x available.
  - Second/Third Camera: Cutting-edge inspection (episcopic) with on screen measurement Bi-telecentric lens.
     Opportunity to view the tool from the top (front) or from the side (chest). Thanks to the rotating support by 90 degrees, the camera can be removed from above not to obstruct the measurement operations. Magnification 60X, digital zoom 2x and 4x available.

### **SPECIFICATIONS**

- Measuring Range:
  - o Max. Diameter: 12.59" (320mm) o Max. Length: 23.62" (600mm)
  - o Max. Tool Wgt.: 88 lbs.
- Weight: 584 lbs.
- Power: 110V Single Phase
- Standard shop air hookup 70~120 PSI

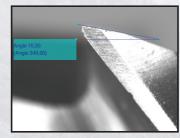
### **CONTROL FEATURES**



Cylindrical cutter with 3 cutting edges, diameter 10mm. Front view: front extent rake (rake angle) determines the performance of tool's working conditions.



Cylindrical cutter with 4 cutting edges, diameter 6mm. Front view: checking back rake angles (1° and 2°), required to guarantee finish cutting without vibrations affecting the material being processed.



Cylindrical cutter with 4 cutting edges, diameter 6mm.
Side view: measure the helix angle and rake angle, important to determine to suit the type of application and the type of material being processed.





### E68B, E68BA, E68L, E68LA

# The first and only optical scale in the world that uses natural granite, ensuring a precision and repeatability never seen before (patented).

The E68B presetter is equipped, both for X and Z axes, with natural granite and glass scales. This unique scale, which uses the granite as support structure, quarantees an accuracy and precision never before reached.

Natural granite is used for the column and base with an increased size compared to previous models. The thermal stability of this material allows users to place the machine in the workshop. Great attention has been paid to the machine's structure and base sizing, by ensuring rigidity, high precision and dimensional stability to the whole presetter.

### FEATURES AND BENEFITS

- · Motorized mechanical toolholder clamping
- · Tool inspection function
- Motorized X and Z axes
- Spindle Identification System (SP-ID)

#### **E68B FEATURES**:

- Vertical TFT 15" full HD touch screen monitor
- 38x Magnification

### **E68BA FEATURES** (in addition to standard):

- Vertical TFT 15" full HD touch screen monitor
- 38x Magnification
- · Automatic spindle rotation and tool edge measurement

#### **E68L FEATURES** (in addition to standard):

- · Vertical TFT 22" full HD touch screen monitor
- 32x magnification with 4x digital zoom
- On-screen manual measure with axes for radius and angle using user selected points

#### **E68LA FEATURES** (in addition to standard):

- · Vertical TFT 22" full HD touch screen monitor
- 32x magnification with 4x digital zoom
- · Automatic spindle rotation and tool edge measurement
- Elbo Controlli NIKKEN IS (Integrated Solution) twin screen option available
- Available with optional M.U.S.T. Multi-step measurement. (Full CNC)

### **SPECIFICATIONS**

Measuring Range:

o Max. Diameter: 23.62" (600mm) o Max. Length: 31.50" (800mm)

o Max. Tool Wgt.: 88 lbs.

• Weight: 1,213 lbs.

Power: 110V Single Phase

Standard shop air hookup 70~120 PS

### **CONTROL FEATURES**



Create a DXF by framing the tool with automatic geometrical measurements, acquire the tool profile and export it. (excluding E68B)



With a Customizable Tool Table, all the information you need is in the right place, at the right moment: internal and external angles, radii, heights and diameters. (Only on E68L and E68LA models)



A Universal Post Processor Generator to transmit instantly with zero errors. More than 50 postprocessors are included.





# E81L, E81LA

### When size defines measuring complexity and simplicity of use

The E81 presetter machine series is equipped, both for X and Z axes, with natural granite and glass scales. This unique scale, which uses the granite as support structure, guarantees an accuracy and precision never before reached.

Natural granite is used for the column and base with an increased size compared to previous models. The thermal stability of this material allows users to place the machine in the workshop. Great attention has been paid to the machine's structure and base sizing, by ensuring rigidity, high precision and dimensional stability to the whole presetter.

In addition, the E81 series' increased diameter and length offers the maximum area in the presetter line to handle larger tools.

### FEATURES AND BENEFITS

- · Motorized mechanical toolholder clamping
- · Tool inspection function
- · Motorized X and Z axes
- · Spindle Identification System (SP-ID)

#### E81L FEATURES (in addition to standard):

- Vertical TFT 22" full HD touch screen monitor
- 32x magnification with 4x digital zoom
- On-screen manual measure with axes for radius and angle using user selected points

### **E81LA FEATURES** (in addition to standard):

- · Vertical TFT 22" full HD touch screen monitor
- 32x magnification with 4x digital zoom
- Automatic spindle rotation and tool edge measurement
- Elbo Controlli NIKKEN IS (Integrated Solution) twin screen option available
- Available with optional M.U.S.T. Multi-step measurement. (Full CNC)

### **SPECIFICATIONS**

Measuring Range:

o Max. Diameter: 31.50" (800mm) o Max. Length: 39.37" (1000mm)

o Max. Tool Wgt.: 88 lbs.

Weight: 1,276 lbs.

Power: 110V Single Phase

Standard shop air hookup 70~120 PSI

### **CONTROL FEATURES**



Create a DXF by framing the tool with automatic geometrical measurements, acquire the tool profile and export it. (excluding E68B)



With a Customizable Tool Table, all the information you need is in the right place, at the right moment: internal and external angles, radii, heights and diameters.



A Universal Post Processor Generator to transmit instantly with zero errors. More than 50 postprocessors are included.





### MODEL COMPARISON

### **LEGEND:**

- Not Available
- Available
- **♦ Optional**









FEATURES	E236+	E346+	E346V+	E346BA	E356+	E46B
Granite Column and Base for utmost thermal stability	•	•	•	•	•	•
Touch Screen Monitor	7"	15"	15"	15"	15"	15" HD
Interchangeable Spindle (BT30/40/50, CAT40/50, HSK40-100A, C3-C8)	•	•	•	•	•	•
Manual X-axis and Z-axis focusing control bars	•	•	•	ı	_	_
Allows for Automatic Focusing of the C-Axis Spindle	_	ı	_	•	_	_
Manual Braking of spindle-holder rotation	•	•	•	ı	•	_
Pneumatic Mechanical Braking of spindle-holder rotation	_	ı	_	•	_	•
Pneumatic Braking of spindle-holder rotation with three 120° pistons	_	ı	_	1	_	•
One-handed Pneumatic Automatic Axis Clamping	_	-	_	_	_	•
Mechanical Draw Bar Clamping on most retention knob designs	_	ı	_	-	_	•
Measurement capability by full screen Auto-Targeting	•	•	•	•	•	•
Measurement capability by full-screen Fixed Reticule	•	•	•	•	•	•
Micro adjustments in X and Z (40 millionths of an inch resolution)	_	•	•	•	•	•
Automatic Angle & Radius Measurement	_	•	•	•	•	•
Automatic Spindle Identification System (SP-ID)	_	ı	_	•	_	_
Upload and Download DXF Tool Profile	_	ı	_	ı	_	_
Complete Tool Table Management & Post Processing capabilities	$\Diamond$	•	•	•	•	•
Automatic geometrical measurements on the Tool Profile	_	•	•	•	•	•
360° Tool Profile Capture	_	-	_	_	_	•
Tool Inspection Function	_	•	•	•	•	•
Camera System Resolution	1μm	1μm	1μm	1μm	1μm	1μm
Camera System Magnification	20x	25x	25x	18x	25x	18x
Digital Zoom 4x	_	-	_	•	•	•
Camera System Measurement Range (mm)	5 x 5	6.4 x 6.4	6.4 x 6.4	7.6 x 7.2	7.6 x 7.2	10 x 10
Motorized Axes Movement	_	_	_	_	_	-
Label Printer	$\Diamond$	<b>\langle</b>	<b>\langle</b>	<b>\Q</b>	$\Diamond$	$\Diamond$







					-				
E46BA	E46BP	E46C	E46CA	E46CX	E46LTWA	E68B	E68BA	E68L/E81L	E68LA/E81LA
•	•	•	•	•	•	•	•	•	•
15" HD	15" HD	22" HD	22" HD	22" HD	22" HD	15"	15"	22" HD	22" HD
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1μm	1μm	1μm	1μm	1μm	1μm	1μm	1μm	1μm	1μm
18x	18x	25x	25x	25x	1st Cam: 26x 2nd Cam: 60x 3rd Cam: 60x	38x	38x	32x	32x
•	•	•	•	•	_	-	-	•	•
10 x 10	1st Cam: 10 x 10 2nd Cam: 4 x 4 3rd Cam: 4 x 4	5 x 5	5 x 5	8 x 8	8 x 8				
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### **ACCESSORIES**



**LABEL PRINTER**Optional for ALL Models.



**MACHINE STANDS** 

Stand with additional spindle storage.

Available for E236+, E346+, E346V+, E346BA and E356+.





### **MASTER GAUGES**

Precision Ground, Designed for presetter use with etched known dimensions.

Available for CAT 40/50, BT30/40/50, HSK 32-125 and C3-C8.



### **INTERCHANGEABLE SPINDLES**

Constructed with triple re-circulating ball bearing supports. Repeatable run out and perpendicularity can be achieved when spindles are interchanged.

Available for CAT 40/50, BT30/40/50, HSK 32-125 and C3-C8. (Other spindle types available upon request)

# ELBO CONTROLLI NIKKEN PRESETTERS **SET THE BAR FOR ROCK SOLID PRECISION**

All Elbo Controlli Nikken tool presetters utilize natural granite for the column and base to insure the best thermal stability.





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