Elbo Controlli NIKKEN
E460N Tool Presetting Machine

Our range of standard and advanced tool presetting machines are designed, developed and manufactured by our sister company Elbo Controlli NIKKEN.

All Elbo Controlli NIKKEN tool presetters are designed and manufactured 'in-house' at our two sites in Meda near Milan, Italy. Every single construction material and component is carefully controlled and developed specifically with the function and requirement of measuring tools in mind (from the optics and electronics right through to the glass scales, spindles and structural assemblies).

MAIN FRAME & CONSTRUCTION

Designed to be bench mounted with a machine structure in stainless steel to provide increased stiffness with higher stability and rigidity. Solid granite column and base to guarantee and maintain maximum accuracy (also available to enhance the E460N is our new standard presetter stand 06TA346+ which incorporates storage for up to three spindle cartridges). This construction ensures durability and offers high levels of thermal stability making the E460N highly suitable for machine shop conditions with no issue of concern in respect of accuracy, repeatability and reproducibility.

SPINDLE SYSTEM

A wide variety of tools can be pre-set utilizing interchangeable spindle cartridges rather than adaptors. This reduces the number of interface connections delivering accuracy across all spindle types. The machine allows for push button vacuum tool clamping of ISO/BT adaptors in conjunction with an innovative taper contact confirmation system to verify proper tool location.

FUNCTIONALITY

The E460N features a new and innovative automatic measuring routine allowing the operator to simply rotate the tool through 360 degrees after which the software captures and locks the maximum measured radius/diameter and length values of all the cutting edges. The software is displayed and interacted with via a 15" TFT touch screen mounted horizontally for easy viewing and operation. The screen layout and design is split into two distinct sections. The left half of the display shows visible images of the current tool and profile whilst the right section allows access to all the current functions. Simple icon and graphically driven menus enable the operator to quickly and intuitively manage all tool measurement and inspection modes, in addition a range of auxiliary capabilities are available such as creating CNC Machine origins and tool sets.

SERVICE & SUPPORT

NIKKEN have a UK based service and Engineering team offering unrivaled levels of customer support, we are able to offer a comprehensive range of services including:
- Installation, training, technical support, service and calibration. Our team is 'manufacturer' trained and we stock a wide range of spares to facilitate quick response times and a highly efficient service.

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TECHNICAL DATA

Measuring range: Diameter max 400 mm (radius 200 mm); height max 600 mm.

Standard mechanical/electronic and optical equipment:
Base and column made of natural granite to guarantee the maximum accuracy: linearity max error 2 µm/Mt – certification with Taylor Hobson res.1 µm/Mt. electronic millesimal level.
ELBO CONTROLLI NIKKEN Linear Transducers in optical glass type AS 371 certified HP laser: Axes resolution: X= 1 µm, Z= 1 µm.
Machine structure in steel offering high mechanical resistance and long life.
ISO / BT / HSK / VDI...etc. Interchangeable rotating spindle-holder (to be specified) max run-out error < 2 µm.
Linear slideways: 2 for X axis slideways and 1 for Z axis slideway.
Double re-circulating ball bearing slides (four in total), lubricated for life. Manual braking of the spindle-holder rotation.
Constant load Archimedean spiral spring (as opposed to a mass counter-balance system).

Vision-system for tool measuring and cutting inspection consisting of:
C-MOS sensor – Framed image area 6,4 x 6,4 mm.
Magnification around 30X.
Bi-telecentric lens.
Doublet lenses at low F/Number in order to eliminate the error of the clearness circle.
Red light episcopic LED's illuminator with ring lens, red light diascopic LED puntiform illuminator.

Machine operator interface through:
TFT 15" colour Touch Screen.
Intel Atom D.C. fanless motherboard.
UBUNTU LINUX operating system.
Data storage on solid state disk SSD.
X and Z axes lock management for a translation speed lower than 2 mm/sec.

Standard software:
Operator-machine interface simple and intuitive by single screen function.
Ease of use thanks to the integrated touchscreen.
CNC machine origin and spindle adaptor management.
Tool list creation and/or single tool.
Automatic change of CNC machine origin allocation.
Tool set and Post Processor universal generator.
Printable tool set report.
Theoretical measurements and tolerances management.
Anti-dust cover provided for when not in use.

Overall dimensions: Length = 1070 mm, Height = 1140 mm, Depth = 595 mm. Net weight: 135 Kg.

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Interchangeable spindle options available:

Part Description	Part Numbers	
	Interchangeable Spindle	Resetting Gauge
ISO/BT/CAT Spindle-holder with integrated vacuum clamping. 7/24 taper versions for 50, 40 & 30 are available.	04PMI50N 04PMI40N 04PMI30N	04B125 04B123 04B122
HSK Spindle-holder. Equipped with an integrated manual mechanical clamping system. HSK100, HSK80, HSK63, HSK50, HSK40 FORM A,C,E versions are available.	04PMH100R 04PMH80R 04PMH63R 04PMH50R 04PMH40R 04PMH32R	04B128 04B131 04B127 04B130 04B133 04B132
VDI Spindle-holder. VDI50,40 & 30 versions are available.	04PMV50R 04PMV40R 04PMV30R	N/A
Polygonal taper Spindle-holder. Equipped with an integrated manual mechanical clamping system. C8, C6, C5 & C4 versions are available.	04PMC8RV 04PMC6RV 04PMC5RV 04PMC4RV	N/A
Other spindle holders and accessories available by request.		