NIKKEN

E460A

TOOL PRESETTER

E460A: MEASURE YOUR TOOL IN AUTOMATIC MODE

AUTOFOCUS function: frame, start the program and measure

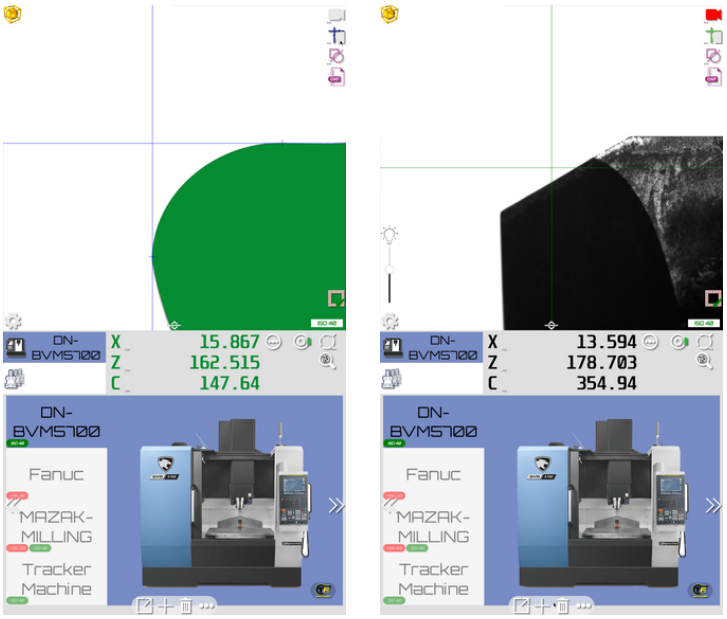
The AUTOFOCUS function allows tools to be automatically measured with no manual operator intervention. The software automatically recognizes the number of cutting edges and, based on the size of the tool, precisely controls the rotation speed of the spindle increasing and decreasing it as the measuring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

The E460A acquires the X and Z dimensions, highlighting any values that are out of tolerance. It's also possible, if preferred, to quickly acquire the maximum X and Z values using a faster cycle which simply commands a complete rotation of the spindle. The real strength is simplicity!

Inspection modes and measurement acquisition cycle

The E460A allows you to automatically capture the X and Z values for each flute of the cutting tool, due to its unique for size automatic spindle it can replay these measurements with its powerful inspection camera enabling operators to identify, track and evaluate the cutting edge condition ensuring it is free from damage prior to cutting.

This function is a powerful extension to shop floor or tool room control.



Why choose the E460A presetter

In an industry where automation becomes a constant request, a presetter with that provided autofocus capability becomes a necessity. There are two main reasons for choosing a pre-registration and measurement system of tools which adopts both a motorized X 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.

The E460A allows users to reduce the possibility that the presetter operator suffers error in the measurement of the tool, thanks to the systems developed by NIKKEN.

Elbo Controlli NIKKEN
E460A 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

Machine structure in high quality structural steel to provide increased stiffness with higher accuracy and rigidity. Solid granite column and base (increased substantially in size over previous generation models) to guarantee and maintain maximum accuracy. This construction ensures durability and offers high levels of thermal stability making the E460A highly suitable for machine shop conditions with no issue of concern in respect of accuracy, repeatability and reproducibility.

FUNCTIONALITY

The software is displayed and interacted with via a 21.5” capacitive touch screen mounted vertically for easy viewing and operation. The screen layout and design is split into two distinct sections. The upper half of the display shows visible images of the current tool and profile whilst the lower section, along with our floating menu window, provides 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.

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 electro-mechanical tool clamping of ISO adaptors and provides storage for up to six additional spindle cartridges in conjunction with an innovative taper contact confirmation system to verify proper tool location. The cartridges supplied all feature our unique spindle identification system (SP-ID) which identifies which spindle is loaded and prohibits selection of the incorrect reference from the library.

SERVICE & SUPPORT

NIKKEN have a UK-based service and Engineering team offering unrivalled 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.

TECHNICAL DATA

General Features:

- Measuring range: dia. max. 370 mm (radius 185 mm); height max. 600 mm
- Machine Structure – Steel
- Granite base and column
- Moving Column System
- Manual axis movement
- Interchangeable Spindle System – Max. run-out error 2µm/m
- ELBO CONTROLLI NIKKEN Linear transducers in optical glass type AS371
- Motor providing automatic rotation of the spindle. Pneumatic engagement of the motion transmission system for zero backlash (patented system)
- Spindle-holder identification system (SP-ID)
- Pneumatic spindle brake
- TFT 15.6" colour vertical touch screen monitor with Td SIX software
- Vision system for tool measuring and inspection
- Framed image area 7.6mm x 7.2mm. Magnification 25x
- Octa Core processor
- Data storage on solid state drive. 4 x USB ports & LAN connection

Part Description	Part Numbers	
	Interchangeable Spindle	Resetting Gauge
ISO/BT/CAT Spindle-holder. 7/24 taper versions for 50, 45, 40 & 30 are available.	04PME50RA 04PME45RA 04PME40RA 04PME30RA	04B125 04B124 04B123 04B122
HSK Spindle-holder with SP-ID system. Equipped with an integrated manual mechanical clamping system. HSK100, HSK80, HSK63, HSK50, HSK40 FORM A,C,E versions are available.	04PMH100RA 04PMH80RA 04PMH63RA 04PMH50RA 04PMH40RA 04PMH32RA	04B128 04B131 04B127 04B130 04B133 04B132
NEW HSK Spindle-holder with SP-ID system. Equipped with an integrated motorized mechanical clamping system. HSK100, HSK63, HSK50 & HSK40 FORM A,C,T motorized version is available.	04PMH100RMA 04PMH63RMA 04PMH50RMA 04PMH40RMA	04B128 04B127 04B130 04B133
VDI Spindle-holder with SP-ID system. VDI50,40 & 30 versions are available.	04PMV50RA 04PMV40RA 04PMV30RA	N/A
Polygonal taper Spindle-holder with SP-ID system. Equipped with an integrated manual mechanical clamping system. C8, C6, C5 & C4 versions are available.	04PMC8RVA 04PMC6RVA 04PMC5RVA 04PMC4RVA	N/A
NEW Polygonal taper Spindle-holder with SP-ID system. Equipped with an integrated motorized mechanical clamping system. C8, C6 & C5 versions are available.	04PMC3RMA 04PMC4RMA 04PMC5RMA	04PMC3RMA 04PMC4RMA 04PMC5RMA
	04PMC6RMA 04PMC8RMA 04PMC10RMA	04PMC6RMA 04PMC8RMA 04PMC10RMA

Other spindle holders and accessories available by request.

Tool Management

Streamline manufacturing processes to save time and money with Elbo Controlli NIKKEN's 360° Tool Management Solutions.

TP32

TP32 is a complete 360 degree solution, developed to provide an all-round tool and stock control system for manufacturers and machine shops. TP32 meets the demands for businesses requiring a system capable of managing tool holders, cutting tools, spare parts, inserts, consumables and all associated data and information. TP32 is a program which is fundamentally dedicated to the management of the tool repository, which is woven in as a fundamental component of the productive cycle. As such, the data is inserted and managed within a system which allows all information to be accessible to all members across the manufacturing process and presented in the simplest and most straight forward and useable manner.

Through TP32, it is possible to have the stock repository under full control both as a management solution and also to the teams responsible for the composition and assembly of the individual components. In this way, everyone has all the necessary information that is required for effective production (component availability, assembly verification, etc.) including going as far as individual part and assembly administration (stock values, ordering replenishments from suppliers, etc.).

TOOL FLOW

THE DIGITAL PLATFORM FOR INTELLIGENT TOOL MANAGEMENT

TOOL FLOW is the modular software platform developed by Elbo Controlli NIKKEN for the intelligent management of assembled tools in mechanical workshops throughout their entire lifecycle.

Designed to connect tools, production teams, and CNC systems, TOOL FLOW digitises and controls every stage of tool movement from workshop data capture through to centralised management, advanced analysis and performance monitoring.

Scalable, configurable and fully integrated, TOOL FLOW adapts to real production environments without requiring changes to your existing infrastructure.

TOOL FLOW™

TRACKER

TOOL FLOW TRACKER captures live shop-floor activity, ensuring every tool movement is traceable and accurate.

MANAGER

TOOL FLOW MANAGER centralises and synchronises tool data across presetter, CAM and machine controls, actively preventing loading errors and safeguarding the production process.

VIEWER

TOOL FLOW VIEWER transforms operational data into meaningful insight, supporting smarter planning, cost control, and continuous improvement.

"rock solid measurement"

Mechanics

- Measuring range: diameter max 370 mm (radius 185 mm); height max 600 mm
- Base and column made of NATURAL GRANITE: linearity max error 8 µm/m
- ELBO CONTROLLI NIKKEN Linear Transducers in optical glass type AS 371 laser certified
- ISO/BT/HSK/polygonal taper... etc. interchangeable rotating spindle-holder (to be specified) max run-out error < 2 µm
- Machine structure in electro-welded steel
- Linear slideways: N°2 X axis slideways; N°1 Z axis slideway
- Double re-circulating ball bearing slides (three in total), lubricated for life
- Pneumatic braking of the interchangeable spindle-holder rotation

Electronics - Optics

- Vision-system for tool measuring and inspection
- C-MOS sensor
- Framed image area 6,4 x 6,4 mm
- Magnifications 25X
- Telecentric lens
- Red light episcopic LEDs illuminator with ring lens, red light diascopic LED puntiform illuminator
- Cutting inspection
- TFT 15,6" colour 16:9 vertical Touch Screen monitor
- Embedded electronics and operating system
- 4 USB ports and 1 LAN networking port

Software

- Autofocus function
- Multi edged cutter acquisition cycle
- Peripheral speed of the spindle rotation is calculated and controlled based on the diameter of the current tool being measured
- CNC machine origin management and adapters
- Tool list creation and/or single tool
- Tools set and Post Processor universal generator
- Printable tool set report
- TID (Automatic Tool Identification System) ready
- Ready for magnetic chip code-holders (Balluff for example, hardware not included)
- Theoretical measurements and tolerances management
- Axes resolution: X = 1 µm, Z = 1 µm

NIKKEN

NIKKEN Innovation Centre Europe
Advanced Manufacturing Park, Brindley Way,
Catcliffe, Rotherham, S60 5FS, UK
t: +44 (0)1709 366306 | f: +44 (0)1709 376683
e: info@nikken-world.com | w: www.nikken-world.com

The Spirit of Innovation