

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 then decreasing it as the measuring point for each edge is reached for highly accurate measurement acquisition.

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!

Single and multi-edge measurement acquisition cycle

E460A 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.

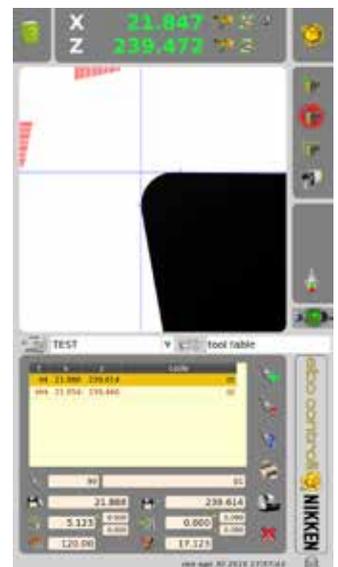
Once the tool is clamped the operator simply has to choose what type of measurement he wants to carry out (single cutting edge or multi-cutting edge) and what to measure (X, Z or both axes) then start the measuring cycle.

When the measurement cycle is finished, the data obtained is available to be printed on a label, saved in the tool table or stored and made available for the TID tool identification system.

SINGLE EDGE TOOL



MULTI-EDGE TOOL



Why choose E460A presetter

In an industry where automation becomes a constant request a presetter with that provided an 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 C axis and software capable of automatically recognizing and measuring the cutting edges. The 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.

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

Let yourself be conquered.



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.

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 for the E46L 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.

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.

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 & 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	04B125
	04PME45RA	04B124
	04PME40RA	04B123
	04PME30RA	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	04B128
	04PMH80RA	04B131
	04PMH63RA	04B127
	04PMH50RA	04B130
	04PMH40RA	04B133
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	04B128
	04PMH63RMA	04B127
	04PMH50RMA	04B130
	04PMH40RMA	04B133
VDI Spindle-holder with SP-ID system. VDI50,40 & 30 versions are available.	04PMV50RA	N/A
	04PMV40RA	
	04PMV30RA	
Polygonal taper Spindle-holder with SP-ID system. Equipped with an integrated manual mechanical clamping system. C8, C6, C5 & C4 versions are available.	04PMC8RVA	N/A
	04PMC6RVA	
	04PMC5RVA	
	04PMC4RVA	
NEW Polygonal taper Spindle-holder with SP-ID system. Equipped with an integrated motorized mechanical clamping system. C8, C6 & C5 versions are available.	04PMC3RMA	04PMC3RMA
	04PMC4RMA	04PMC4RMA
	04PMC5RMA	04PMC5RMA
	04PMC6RMA	04PMC6RMA
	04PMC8RMA	04PMC8RMA
	04PMC10RMA	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.



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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.).



TiD

Tool ID allows you to manage and control tool identification and geometrical data seamlessly. TiD uses a handheld scanner at the presetter to scan and read a data matrix tag (similar to a QR code) located on the tool assembly. A similar scanner is located at the machine tool connected to either a Windows PC or touchscreen console on which the TiD software is also running.

This process allows the tool data (measured or theoretical) to remain centralized within the TiD database and is transferred from the presetter directly into the tool table on the respective machine tool.

The intuitive graphical interface within TiD allows configuration of the format and the mapping for the data required for the tool identification.



“*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 $\mu\text{M}/\text{M}$
- 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 DIASCOPIIC 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

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Specifications are subject to change without notice



The Spirit of Innovation