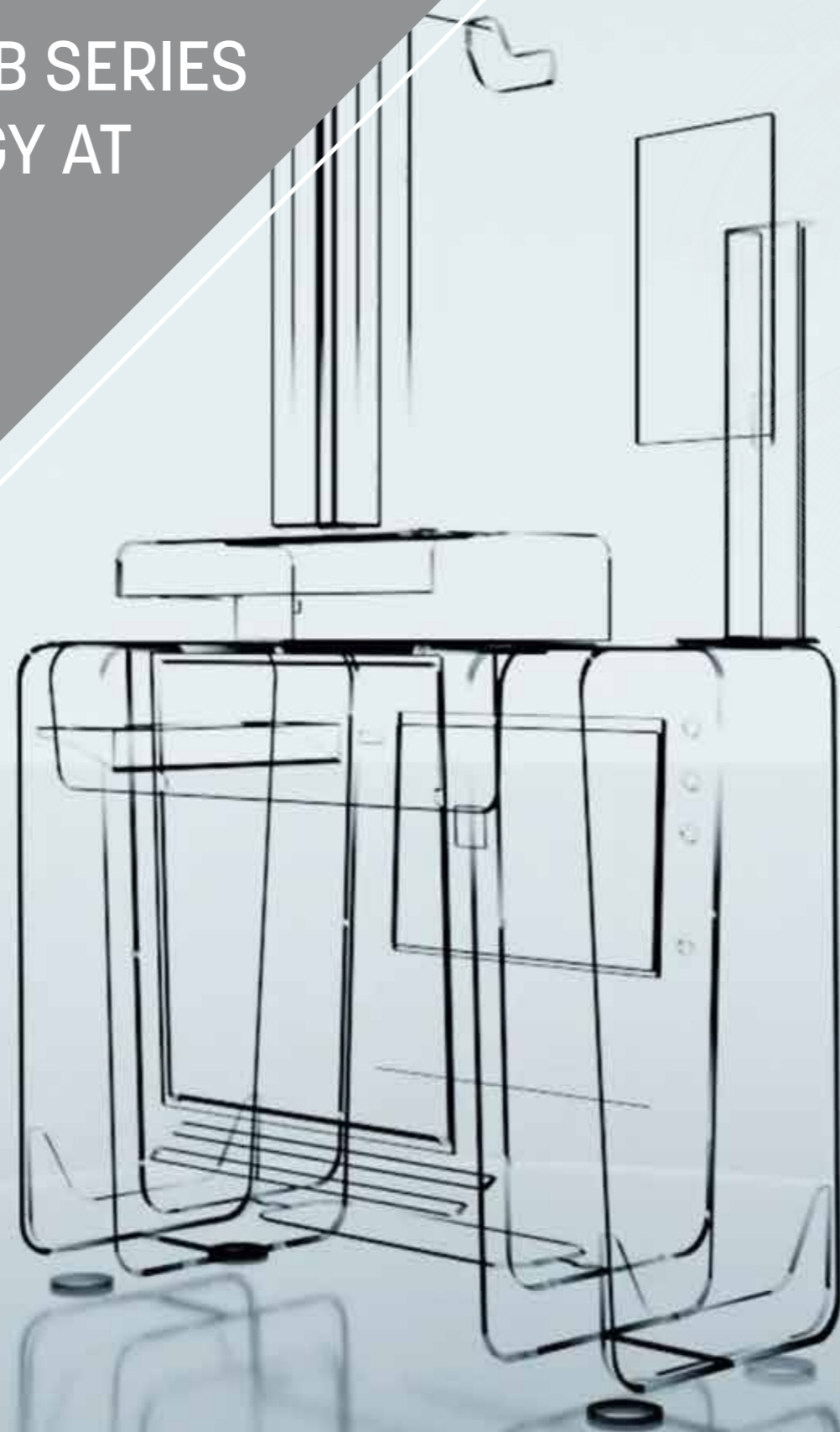


NEW E46B SERIES TECHNOLOGY AT YOUR SERVICE



The new E46B presetter series allow you to optimize the machine tools setup, reducing downtime in your workshop.

Thanks to continuous research and development of new technical solutions, we are able to offer a unique and cutting-edge product: mechanics, electronics, optics and software are completely developed by our team of technicians, to make the presetting experience simple and intuitive.

The new presetter generation is waiting for you!
Elbo Controlli NIKKEN: presetting experience for over 40 years!

The tool pre-registration, measurement and inspection machine is an indispensable and necessary tool for any type of workshop and for any type of application, from automotive to aerospace, oil & gas, etc.

Why use a presetting machine in a mechanical workshop?

The big advantage of using an Elbo Controlli NIKKEN presetter external to the machines lies in the fact that, during the machining of a piece, all the tools for subsequent machining are previously measured, with a significant saving of time during machine downtime. Furthermore, it reduces the possibility of human error with serious consequences during the processing of the pieces.

But the advantages don't end there. The objectivity of the measurement is essential when working in a shared environment, where the presetting operation is carried out by multiple people.

**Objectivity is important, as is the precision of the measurement.
Trust the presetting experts!**

THE IMPORTANCE OF OBJECTIVITY IN MEASUREMENT



THE BEATING HEART OF THE PRESETTER IS ITS MECHANICS

The E46B presetter series have been designed and built with superior quality components, dedicated to this specific application: presetting, measuring and inspecting a tool.

For us at Elbo Controlli NIKKEN, quality is fundamental. For this reason, we dedicate 30% of the instrument assembly time to checking critical components, in order to guarantee maximum results.

The new AS371 optical scales model allow for high and precise performance. The development of this essential component is given by forty years of experience in the field of measurement in the mechanical sector.

All the elements that make up our optical scales are studied and designed internally for this specific application: measuring and presetting tools in a reliable and repeatable way.

Trust the industry experts!

We have dedicated a lot of attention to the development of the spindle holders, a fundamental element for a successful measurement.

All our spindle holders are interchangeable, avoiding the use of adapters so as not to introduce coupling errors.

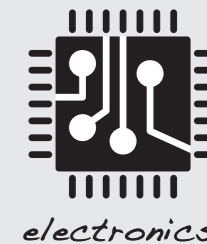
NATURAL GRANITE IS OUR TRADEMARK

Natural granite is one of the natural materials with the lowest coefficient of thermal expansion in the world, a very important peculiarity when it comes to measurement.

For over 30 years we have been using granite for the base and the column: in fact, it allows our presetters to have a high degree of dimensional stability, guaranteeing precision and repeatability of measurements.

When granite makes the difference!

VERTICAL MONITOR IMPROVES THE WAY YOU VIEW DATA



The lives of all of us have completely changed thanks to technology. New technologies have advanced at an ever-increasing pace and have begun to be part of our daily lives.

E46B is equipped with a 15.6" vertical capacitive touchscreen monitor, positioned vertically for better viewing of both data and measurement functions.



RESEARCH AND ATTENTION TO DETAIL OFFER UNIQUE PRODUCTS

Measuring a tool is a simple and fast operation thanks to a high-performance vision system. The E46B presetter series are equipped with bi-telecentric optics with 18X magnification and up to 8X digital zoom to give you the ultimate viewing experience.

The latest electronics generation have allowed the performance of the presetter to be significantly increased. The quality of the measurement is essential for us.

The importance of choosing the right monitor goes beyond its intended use: a good monitor must be able to meet the needs of every type of user.

Prioritizing comfort and practicality, **our monitor balances ergonomics and performance**, guaranteeing a unique presetting experience..

The images of the tool profiles are visible on the upper half, while all the tool data and software functions are positioned on the lower half.

We at Elbo Controlli NIKKEN believe in ease of use: the interface is designed to be immediately understandable for every user, even the less experienced one. Usability is one of the quality factors of our software and it can be said that, together with functionality, it can be considered one of the two pillars on which the other quality factors are based.

But what can you do with the new software? All the "traditional" functions are present, such as measurement via fixed reticule, autocollimation or with freezing mode, tool inspection, creation of post-processors and much more.

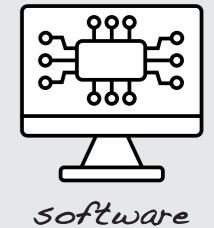
EASE OF USE IS THE WINNING WEAPON

Thanks to the experience gained over the years, we have identified what the characteristics must be to make a software easy and intuitive.

Design is user-centered: by this we mean the inclusion of the future user in the entire development process.

Why complicate your life with complex software?
The new user interface derives from smartphone technology, making the software more "familiar". **Seeing is believing.**

THE EVOLUTION OF THE PRESETTER IS ITS SOFTWARE



The new machine software guarantees high performance: it is the heart of innovation in our world, especially that which looks to evolution.

The evolution of our software increases the connections between operators, tools and machines in the smart factory. All this translates into a real increase in terms of quality and performance.



SMARTPHONE TECHNOLOGY

What is the most important feature of this new software?

The new graphic interface is in line with the company philosophy: making the use of the presetting as simple as possible.

Smartphone-type usability has allowed us to develop easy and intuitive software: scroll the pages from left to right and vice versa with a simple movement of your fingers on the screen, hold down an icon to open the submenu, manage and customize the monitor spaces according to your needs.

Limits are made to be overcome! Discover all the power of this incredible software!



AUTOFOCUS FUNCTION: NO MEASUREMENT ERRORS

IE46B

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 end it once the 360° rotation has been carried out.

A UNIQUE AND INNOVATIVE PATENTED SYSTEM

It is very important for us to patent the innovative technological solutions that we study and develop for our products. Through patents we are able to enhance our products which reflect Elbo Controlli NIKKEN's cutting-edge level of technology and proposed solutions.

For this reason, the "Research and Development" department is constantly engaged in the study of unique solutions, which sets us apart from all the others.



Elbo Controlli NIKKEN has developed a system that adapts the peripheral rotation speed of the tool based on the maximum diameter to be measured: the constant peripheral speed avoids the introduction of errors, whether you are measuring a 2 mm diameter tool or a 200 mm one.

How does the new automatic axis positioning system work?

The operation is very simple and intuitive: 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. The user will only have to wait for the machine to complete the operation.

The objectivity of the measurement is essential when working in a shared environment, where the presetting operation is carried out by multiple people. For this reason, it is necessary to have an efficient and high-performance tool.

AXES AND CAMERA AUTOMATIC POSITIONING

For us at 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.

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.

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.

A NEW PRODUCT WITH HUGE POTENTIAL

E46BP



elbo controll

TECHNICAL FEATURES

MECHANICS

- Measuring range: max diameter 400 mm (radius 200 mm); max height 600 mm
- Base and column in natural granite: max linearity error 8 µm/m
- ELBO CONTROLLI NIKKEN type AS 371 linear optical glass transducers certified with interferometric laser. Axis resolution: X = 1 µm, Z = 1 µm
- Motor for automatic rotation of the spindle holder with pneumatic insertion for backlash-free motion transmission (patented)
- (FOR "A" AND "P" VERSIONS)**
- C axis display: angular position of the spindle holder with 0.01° resolution **(FOR "A" AND "P" VERSIONS)**
- Interchangeable rotating spindle holder ISO/BT/HSK/polygonal TAPER/VDI ... etc. (to be specified) maximum run-out error < 2 µm
- Ground-based steel machine structure with 3 fixed and 1 adjustable feet
- Spindle holder identification system (SP-ID) with NFC technology for automatic recognition of the spindle holder **(FOR "A" AND "P" VERSIONS)**
- Spindle index in four angular positions: 0°-90°-180°-270°
- Linear guides: 2 X axis guides; 1 Z axis guide
- Double recirculating ball slides lubricated for life
- Mechanical tool clamping
- Pneumo-mechanical brake of the spindle holder rotation with radial compensation of the clamping force: no axis angular deviation error
- Dimensions: L = 1282 mm, H = 1874 mm, D = 672 mm
- Net weight: -200kg

ELECTRONICS - OPTICS

- Vision system for tool measurement and cutting-edge inspection
- Bi-telecentric lens
- 18X magnifications, possibility of digital zoom up to 8X
- Monochromatic C-MOS sensor 1.3 Mega pixels USB 3.0 Super speed connection
- Framed image area 10 x 10 mm
- Illuminator: episcopic toroidal lens and red LEDs; red dot-shaped LED diascope
- 15.6" TFT Touch Screen Monitor
- Octa Core processor
- EMBEDDED LINUX operating system
- Data storage on solid micro-SD support
- X and Z axis block management with electronic control
- 4 USB ports and 1 LAN port

SOFTWARE

- Autofocus function **(FOR "A" AND "P" VERSIONS)**
- Multi-edge acquisition cycle **(FOR "A" AND "P" VERSIONS)**
- Peripheral speed of the spindle rotation is calculated and controlled based on the diameter of the current tool being measured **(FOR "A" AND "P" VERSIONS)**
- DXF format drawings import capability for overlaying on live tool profile
- Operator-machine interface simple and intuitive by single screen function
- Ease of use thanks to the integrated touch-screen
- CNC machine origin and adapter management
- Tool list creation and/or single tool
- Automatic change of CNC machine origin allocation
- Tools set and Post Processor universal creator
- Printable tool set report
- Ready for TID infrastructure for tool identification with Datamatrix code (hardware not included)
- Ready for magnetic chip code-holders (Balluff for example, hardware not included)
- Theoretical measurement and tolerance management

OPTIONAL

- ISO/BT/HSK/polygonal taper/VDI... etc.
- C axis display: angular position of the spindle holder with 0.01° resolution **(ONLY FOR "A" AND "P" VERSIONS)**
- Label printer
- ATR automatic tool recognition system (Datamatrix)

COMPARISONS

LEGEND: — not available ● available ○ option	E46B	E46BA	E46BP
Measuring range (Diameter and Height)	400 mm (D) - 600 mm (H)	400 mm (D) - 600 mm (H)	400 mm (D) - 600 mm (H)
Natural granite base and column	●	●	●
Interchangeable spindle (ISO, HSK, VDI, etc.)	●	●	●
C axis visualization	○	●	●
Automatic spindle rotation	—	●	●
Pneumo-mechanical braking of the spindle-holder rotation	●	●	●
Motorized mechanical tool holder clamping	●	●	●
Tool inspection function	●	●	●
Camera system measuring range (ECN)	10 x 10 mm	10 x 10 mm	10 x 10 mm
Camera system resolution (ECN)	1 µm	1 µm	1 µm
Camera System magnification (ECN)	18 X	18 X	18 X
1µm AS371 certified optical scales (ECN)	●	●	●
Vertical Touch Screen Monitor (ECN)	TFT 15,6"	TFT 15,6"	TFT 15,6"
Label printer	○	○	○
Micrometric adjustment	●	●	●
ECN software on Linux platform	●	●	●
Number of machine origins / number of tool sets	∞ / ∞	∞ / ∞	∞ / ∞
Indicators for maximum rotation point in X and Z	●	●	●
On-screen manual measure function with fixed crosshair	●	●	●
On-screen automatic measure function with floating crosshair & profile intersection indicators	●	●	●
On-screen circular indicator for tool radius 'shadow graph' function	●	●	●
On-screen adjustable circular indicator for tool radius 'shadow graph' function	●	●	●
On-screen automatic measure of tool corner radius & theoretical centre point	●	●	●
On-screen automatic measure of tool corner angle & theoretical intersection	●	●	●
On-screen manual measure with axes for radius and angle using user selected points	●	●	●
ECN tool manager software	●	●	●
TID ready	●	●	●

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