



elbo controlli



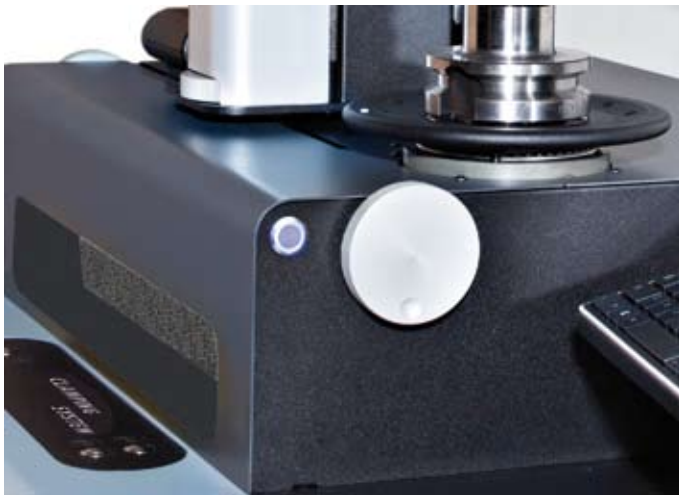
E46LTW

TOOL PRESSETTER





*The base and the column, made of ground granite, are increased substantially in size over the previous generation model to guarantee and maintain maximum accuracy. The low coefficient of thermal expansion from this natural material allows the location of the machine directly in the workshop with no issue or concern in respect of accuracy and performance.*



*Micrometric movement of the axes are made, for the X axis with two wheels on the right and left of the machine, for the Z axis with one placed at the base of the column. This precise micrometric adjustment is indispensable for the final collimation of the cutting edge of the tools.*



*Great attention has been paid to the size and strength of the machine base which is totally produced from structural steel and is welded with both TIG and continuous welding. This concept allows the whole machine a very high stiffness the result of which guarantees high accuracy and rigidity.*



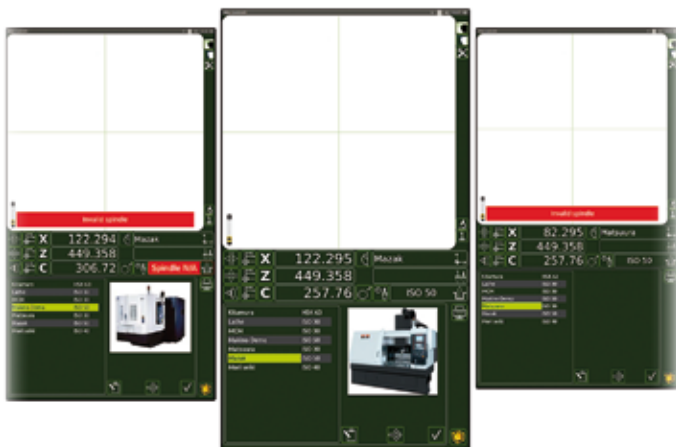
*The rotating spindle is interchangeable with cartridges available for all types of machine tapers: HSK, ISO, VDI, BT, CAPTO, etc. ISO/BT spindles feature automatic tool clamping. Within the base, to the right side of the presetter spindle storage is provided for up to six cartridges. To the left also incorporated are practical shelves for additional storage capability.*



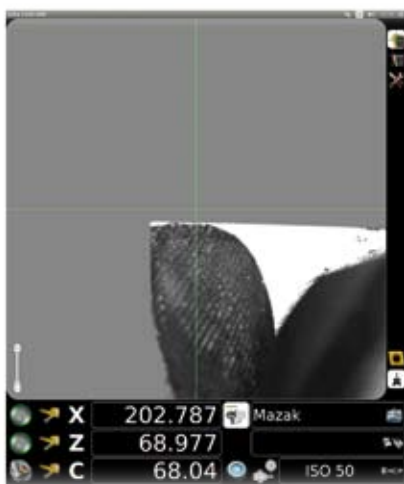
The presetter E46LTW is equipped with a 22" capacitive touch-screen monitor, mounted vertically for easy viewing. The screen layout and design is split into two distinct sections. The upper half of the display shows visible images of the current tool and profile. The lower half shows and allows access to all the current software functions. The operation is very intuitive and logical to allow the operator to interact with the machine and software without having to attend complex trainings sessions.



The ergonomic design and location of manual axis movements and controls allow for fatigue-free working. Simultaneous unlocking of both axes is activated by a single button. This operation for locking/unlocking of the axes is pneumatic. Bronze internal sectors act on the screw itself for both axes and have been designed to obtain high-precision fine adjustments.

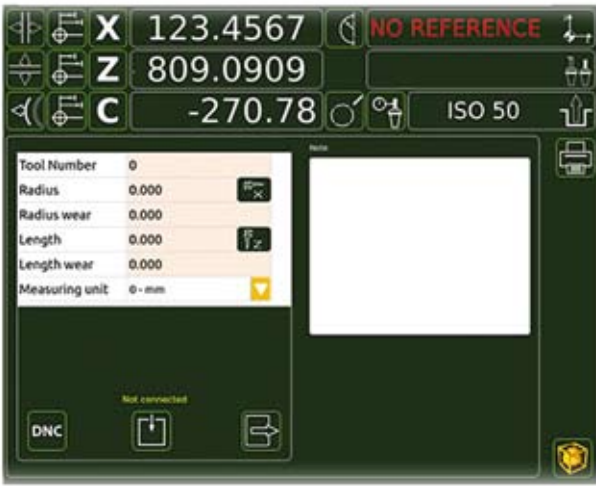


The new software also includes automatic recognition of the spindle via SP-ID (Spindle Identification System). This system allows the presetter to identify each spindle cartridge as it is loaded and suggest the correct machine origins, whenever the spindle is changed. (Optional)

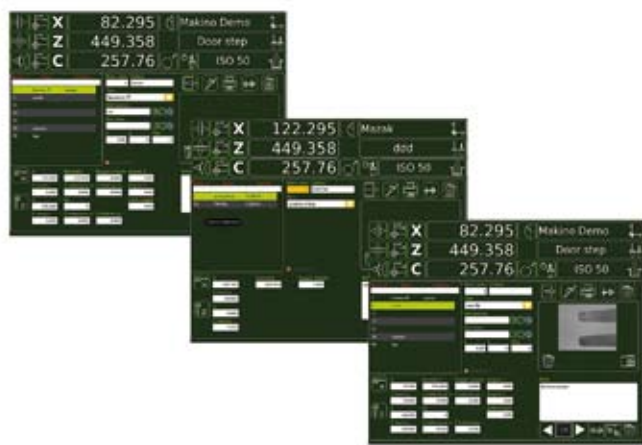


New electronics: a powerful PC running Ubuntu 14,04 LTS for the integrated management and control of the all the functions of measurement/tool inspection, machine origins and tool tables. Ease of use thanks to the integrated touch-screen.

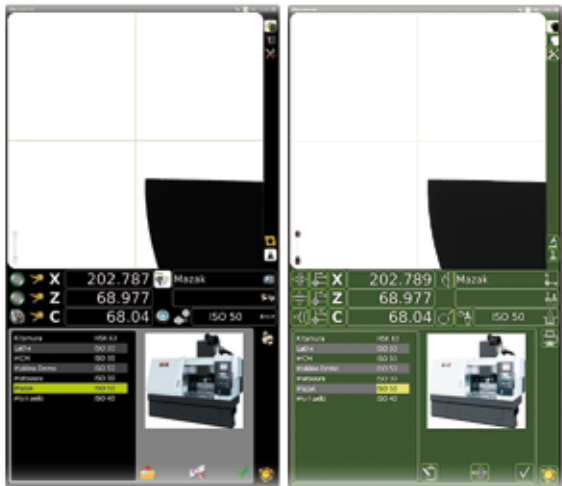




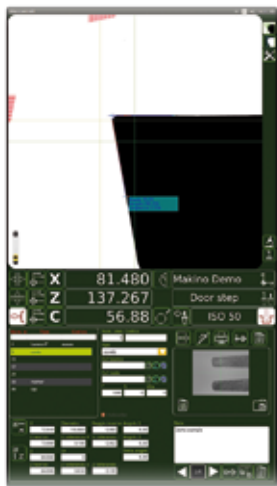
Also included is DNC connection software that allows the transfer of the tool offset data directly into the tool table of the Numerical Control (depending on CNC controller capability).



Fully customizable tool tables to handle all measurements and tool features required of the cutting edge. Capability for individual customization of the printed report.



The new software provided the operator the choice of two different graphical layouts: the first provides icons similar to ISO 7000 and the second allows the familiar 'ELBO CONTROLLI' graphical interface.

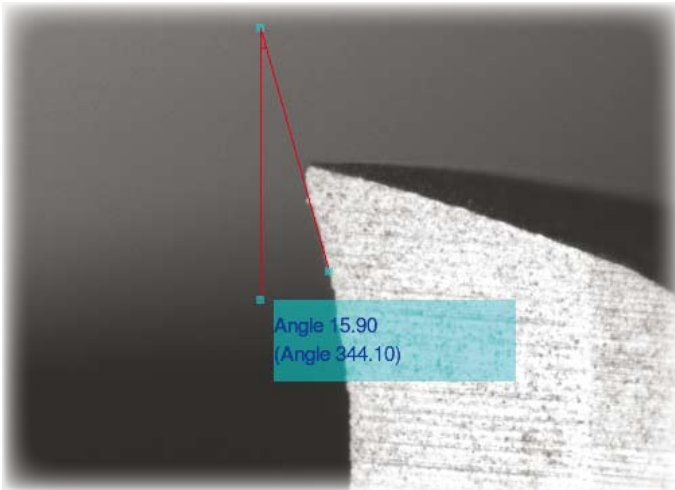


Also included for the first time is the capability for multi-measurement directly on the screen. So during tool inspection it is possible to make more than one measurement at a time on the same tool profile.



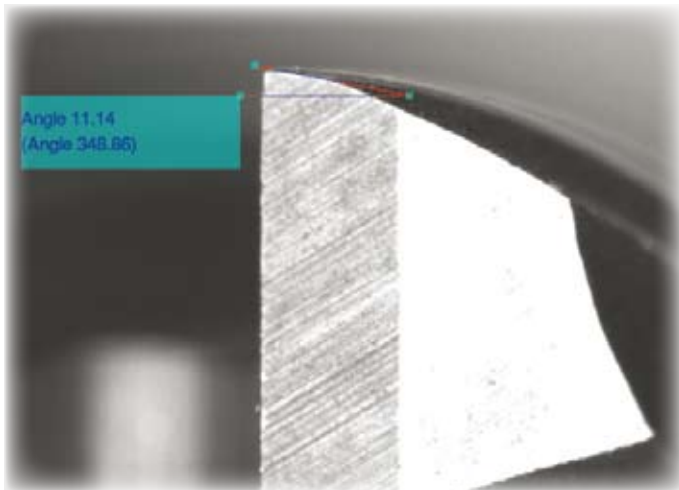
*The new E46LTW is equipped with 3 cameras for the front view and side view of the tool.*

*The system allows to tool manufacturers and tool regrinders to measure all the geometrical features of the tool.*



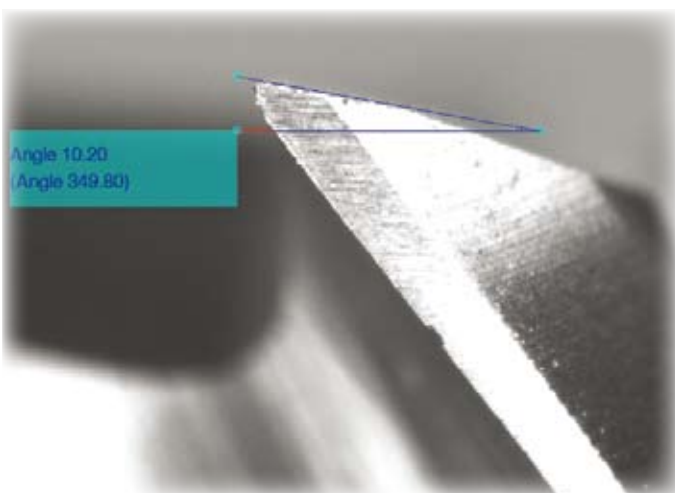
*Cylindrical cutter with 3 cutting edges, diameter 10mm.*

*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 ( $1^\circ$  and  $2^\circ$ ), required to guarantee finish cutting without vibrations affecting the material being processed.*



*Cylindrical cutter with 4 cutting edges, diameter 6mm.*

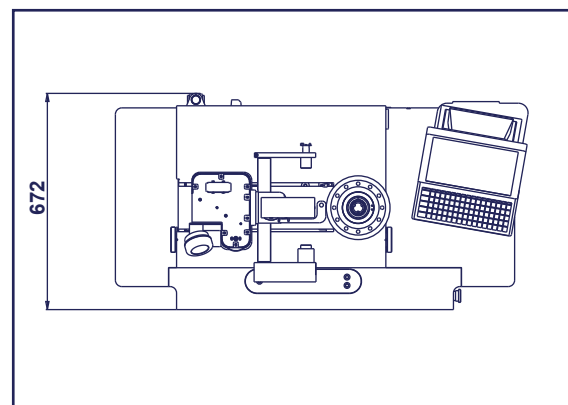
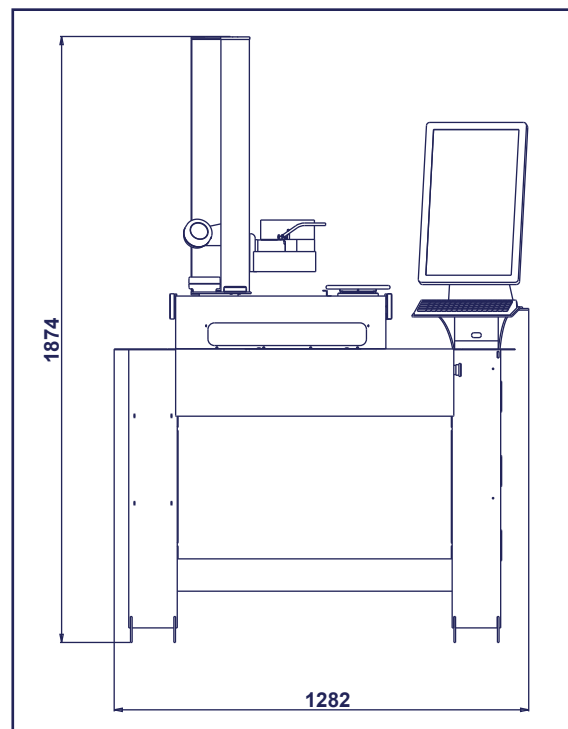
*Side view (chest): measure the propeller screw angle and rake angle, important to determinate to suit the type of application and the type of material being processed.*

## TECHNICAL FEATURES:

- Measuring range: diameter max 320 mm (radius 160 mm); height max 600 mm.
- Machine structure in stainless steel offering high mechanical durability and long life, floor mounted with 3 fixed supports and 1 adjustable support in steel, equipped with keyboard and monitor adjustable support.
- Base and column made of ground granite: linearity max error 2  $\mu\text{m}/\text{m}$  certification with Taylor Hobson res.1  $\mu\text{m}/\text{Mt}$  electronic millesimal level.
- ISO/BT/HSK/VDI ..... etc. Interchangeable rotating spindle-holder (to be specified) max run-out error < 2  $\mu\text{m}$ .
- Double vault arc prismatic slideways: 2 for X axis slideways, 1 for Z axis slideway.
- Double re-circulating ball bearing slides, lubricated for life (4) (preloading slides/slideways: P/H class).
- Universal mechanical tool clamping managed via software. (ISO/BT tools only).
- Tool-holder taper connection control (run-out test, ISO/BT tools only).
- Pneumatic-mechanic braking of the spindle-holder rotation with radial compensation of the clamping force: no axis angular run error.
- Constant load Archimedean spiral spring (as opposed to a mass counter-balance system).
- Machine operator interface through:
  - Full HD LCD 22" Touch Screen monitor
  - Intel I3 Quad Core Processor
  - UBUNTU 14.04 LTS LINUX operating system
  - Data storage on solid state disk SSD
  - X and Z axes block management with control maximum speed of translation 2mm/sec.
  - 4 USB ports (keyboard, mouse, Dymo printer and one spare) and 1 LAN port
- Standard software:
  - CNC machine origin management and adapters
  - Tool list creation and/or single tool
  - Automatic change of CNC machine origin allocation
  - Tools set and Post Processor universal generator
  - Magnetic chip code-holders (Balluff for example, hardware not included)
  - Printable tool set report
  - Theoretical measurements and tolerances management
- Main Camera: tool measurement (diascopic) and cutting-edge inspection (episcopic):
  - Bi-telecentric lens
  - Optical doublets at low F/Number in order to eliminate the error of the clearness circle
  - Magnification 26X, digital zoom 2x and 4x available
  - C-MOS sensor 1,3 Mega pixels, USB 2.0 High speed connection
  - Framed image area 10 x 10 mm (3 times bigger than standard values)
  - Episcopic illuminator with ring lens and red leds; diascopic illuminator with red, puntiform light red
- 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
  - C-MOS sensor 1,3 Mega pixels, USB 2.0 High speed connection
  - Framed image area 4 x 4 mm (3,9 $\mu\text{m}/\text{pixel}$ )
  - Illuminator: episcopic ring with diffused light and low angle: reducing glare caused by tool surface characteristic
- ELBO CONTROLLI Linear Transducers in optical glass type SLIDE 371 certified HP laser:
  - Axes resolution: X= 1  $\mu\text{m}$ , Z= 1  $\mu\text{m}$
- Anti-dust cover provided for when not in use.
- Overall dimensions: Length = 1282 mm, Height = 1874 mm, Depth = 672 mm
- Net weight: ~ 265 Kg

### OPTIONS:

- Spindle index in four angular positions: 0°-90°-180°-270°.
- C Axis display spindle body and spindle-holder.
- Spindle-holder Identification System (SP-ID), mounted on the spindle body.
- Spindle-holder Identification System (SP-ID) for spindle-holder, mounted on the interchangeable spindle.



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