

MECATECH 334

INNOVATION IN POLISHING



POLISHING



The top of the range of automatic polishing machines.

Powerful: MECATECH is fitted with powerful motors controlled by a frequency controller!

Reproducible: built-in memory stores all your polishing processes!

Efficient: all the settings are adjustable and programmable!

Simple: includes the latest generation colour touch screen!

Intelligent: all the technological experience of PRESI goes into the most complete polishing machine on the market!

TECNIMETAL

IGNACIO ELLACURÍA, 10-12
TELS. 91 356 22 94 - FAX: 91 355 58 08
28017 MADRID

38320 Brié et Angonnes - Grenoble - France. Tel. 33 (0)4
E-mail : presi@presi.com

E-mail: info@tecnimetal.com

MECATECH 334

The most complete polishing machine on the market

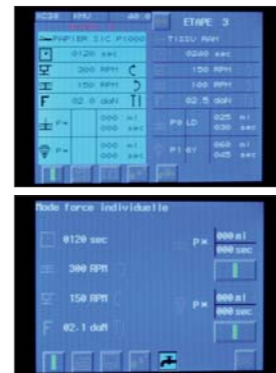
Operation

The MECATECH 334 is a robust, powerful and reliable polishing machine, incorporating the most advanced technologies for ease of use and simple maintenance. Its 250 and 300 mm Ø plates, associated with the TC 15, TI 15 and TCI 15 polishing heads give the best polishing results on all types, sizes and numbers of specimens.

- Thanks to the LCD touch screen, which can be located on the left or right, it is very easy to create or modify a method or to record (100 methods can be stored) and manage the functions of the MECATECH 334. While the cycle is in progress, the current operation is displayed together with the next or previous operation, enabling the operator to anticipate future consumables.
- The powerful and quiet motors controlled by frequency controllers, and a Poly-V belt transmission, with no tension adjustment (new technology) endow the MECATECH 334 with silent operation, giving a high level of comfort in the laboratory.
- The force applied to the specimens is controlled by an electronic proportional valve ensuring unequalled accuracy. The MECATECH 334 automatically calculates the force to be applied to the specimen, whatever the number of specimens, eliminating any risk of operator error. The force is reduced when starting and stopping the cycle to give optimum polishing quality.

- Lubricants and abrasives are introduced by peristaltic micro pumps giving an accurate dose, resulting in substantial economies and perfect reproducibility, whoever the user.
- Automatic locking of the polishing head at the start of the cycle eliminates any risk of error due to the use of a lever. Raising the polishing head at the end of the cycle improves ergonomics and the loading/unloading of the specimen stage or individual specimens.
- Apart from the usual adjustment of the polishing time, it is also possible to program the desired amount of material to be removed from the specimen, freeing the operator from tedious and stressful manual operations, with central pressure only.
- Illumination of the polishing pad with a LED lamp eliminates shadow areas under the polishing head, giving the user better visual control during operation.

- The 230 V single phase electrical power supply enables the MECATECH 334 to be positioned wherever the user wishes, without any special connection requirements.
- The MECATECH 334 has been designed for a large maintenance facility (easily cleanable removable bowl, with integral anti-sputtering flange) and a simplified SAV: the solenoid valve controlling the water inlet is on the outside of the machine, the single printed circuit controlling all the functions can easily be replaced by simply raising the removable bowl, the LCD screen is offset, and the frequency controller can be easily reached without removing the cover.



Technical glossary

Frequency controller: uses "Inverter" technology. This unit controls the three phase motors. The functions used with the MECATECH 334 are: ultra precise speed variation, constant torque and speed whatever the load, progressive acceleration and immediate stop, two directions of rotation and safety in the event of prolonged overload.

Locking of polishing heads: a mechanical device provides a vertical movement of 50 mm for good ergonomics and automatic locking in the horizontal plane, for increased safety and comfort.

120 x 90 TFT LCD screen: very sensitive colour touch screen covering all the functions of the

MECATECH 334, avoiding a proliferation of keys or buttons and any errors in settings. Very easy to use, with "logical functions".

Memorisation: it is possible to store 100 methods of polishing, which ensures perfect reproducibility of methods and enables operators to save their own settings and protect them with a password.

Measurement of material removal: an ultra-accurate linear gauge measures the movement of the actuator. This function is particularly useful when it is necessary to remove a precise amount of material, or to look for a defect. The accuracy obtained is plus or minus 5 µ with a suitable polishing pads.

Electronic proportional valve: this unit enables the air pressure to be measured and stabilised at a precise value, thereby ensuring a perfectly constant and reliable force on the specimens. No drift is possible, unlike using a classical pressure controller, ensuring perfect reproducibility with the MECATECH 334.

Peristaltic micro-pump: these pumps give very accurate dosing of liquids, unlike gravity devices. This precise dosing prevents any overheating or drying of the polishing pad and frees the operator from continuous monitoring.

POLISHING HEADS

3 TYPES OF HEAD POLISHING are available for the MECATECH 334. They are all fitted with a powerful motor and gearbox driven by a frequency controller, an electronic proportional valve, 50 mm of vertical movement which improves the ergonomics, automatic locking at the start of the cycle, and a lubricant reservoir with a peristaltic micro-pump for accurate dosing.

TI 15



Individual pressure. For polishing from 1 to 6 individual specimens automatically and reproducibly.

TC 15



Central pressure. For automatic and reproducible polishing of Ø 160 to 210 mm specimen holders, with 3 to 12 specimens per holder. Specimen material removal measurement function with stopping at the programmed value.

TCI 15



Individual and central pressure. Has the ability to polish from 1 to 6 individual specimens automatically from memory. For automatic, reproducible polishing of 160 to 210 mm Ø specimen holders, with 3 to 12 specimens per holder. Specimen material removal measurement function with stopping at the programmed value.

Distritech 1

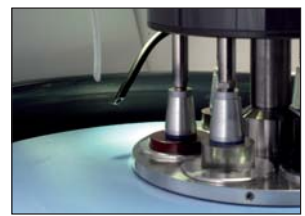


- The 500 cc liquid distribution device (Mecaprex bottle) incorporated in the MECATECH 334 is very easily interchangeable when changing from one part to another.
- The MECATECH 334 controls the dosage.
- Each DISTRITECH 1 has its own peristaltic micro-pump and distribution tube to prevent any risk of pollution, and a supporting frame.
- Rinsing and priming function.

Distritech 5

- Liquid distribution device with 5 x 500 cc bottles (Mecaprex bottle) to be located beside the MECATECH 334.
- The MECATECH 334 controls the dosage from each bottle. Each DISTRITECH 5 bottle has its own peristaltic micro-pump and tube to prevent any risk of pollution.
- Rinsing and priming function.





Technical specifications of Mecatech 334

Dia. of polishing plate	250 to 300 mm
Speed of rotation	20 to 600 r.p.m
Direction of rotation	Clockwise and anti-clockwise
Motor power	900 W
Torque compensation	automatic
Immediate stopping of plate	automatic
Progressive acceleration of plate	automatic
600 r.p.m. centrifugation function	yes
Lighting of polishing plate	yes
Spindle on bearings + seal	yes
Mounting plate with lugs + antivibration joints	yes
Composite removable tank	yes
Anti-sputtering flange	yes
High strength mechanically-welded + painted steel chassis	yes
Composite casing	yes
TFT LCD 120x90 mm colour touch screen	yes
DISTRITECH 1 (500 cc with peristaltic micro-pump)	yes
Simplified SAV and maintenance without dismantling	yes
Voltage/Frequency/Max. current.	230 V 1P/50-60 Hz/8A
Air Pressure	5-10 bars
Water inlet	Ø 12 mm
Water outlet	Ø 32 mm
Compressed air	Ø 10 mm
Dimensions WxDxH (with polishing head)	520 x 750 x 640 mm
Weight (with polishing head)	75 kg
Standards	EC

Technical specifications of TI 15/TC 15/TCI 15

	TI 15	TC 15	TCI 15
Individual pressure	yes	no	yes
Ø 170 mm holder, 1 to 6 specimens Ø 50 mm max.	yes	no	yes
Central pressure	no	yes	yes
Holder for Ø 160 to 210 mm, 3 to 12 specimens	no	yes	yes
Mounted specimens	yes	yes	yes
Non-mounted specimens	no	yes	yes
Rectangular specimens	no	yes	yes
Speed of rotation	0 to 150 r.p.m	0 to 150 r.p.m	0 to 150 r.p.m
Direction of rotation	Clockwise and anti-clockwise	Clockwise and anti-clockwise	Clockwise and anti-clockwise
Motor gearbox power	180 W	180 W	180 W
Measurement of material removed with automatic stop	no	yes	yes
Force per specimen	0,1 - 15 daN	0,1 - 15 daN	0,1 - 15 daN
Force controlled electronically	yes	yes	yes
Force reduced at start and end of cycle	yes	yes	yes
50 mm lowering and raising of the polishing head	yes	yes	yes
Automatic locking of the polishing head	yes	yes	yes
200 cc reservoir with peristaltic micropump	yes	yes	yes
Built-in connections with no wires or pipes showing	yes	yes	yes



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