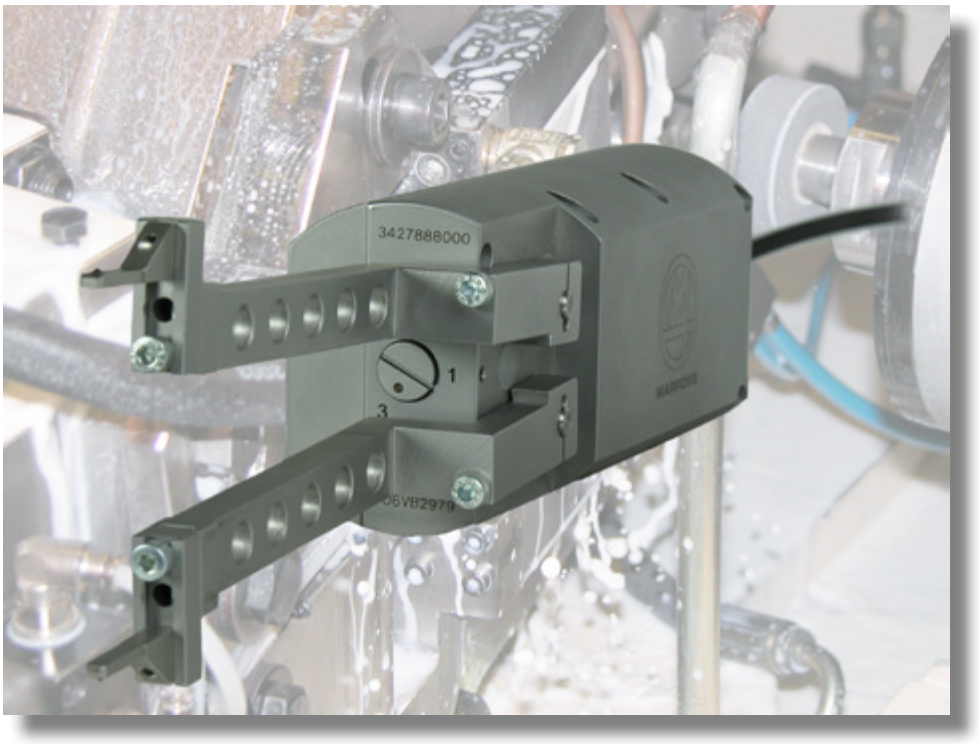


MEASUREMENT HEADS FOR IN-PROCESS CONTROLS ON INTERNAL DIAMETERS ON GRINDERS

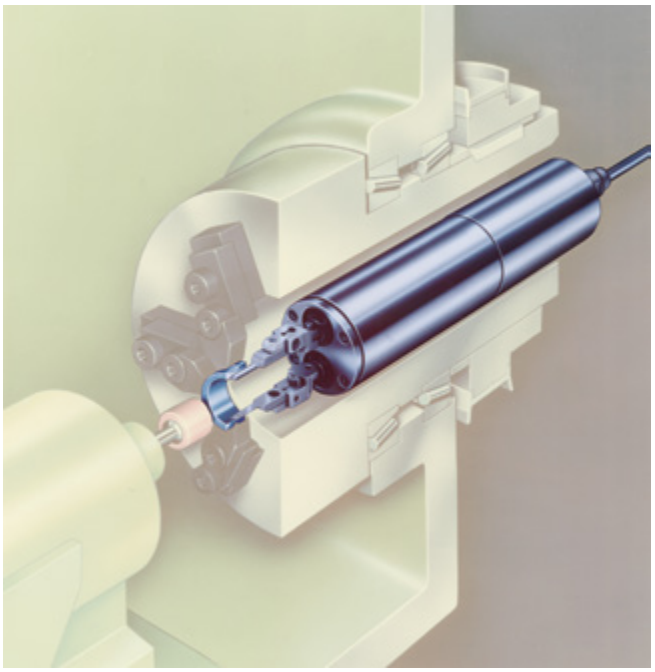
Thanks to extensive experience in the field of measurement on grinding machines, Marposs is able to offer a complete range of gauges for in-process controls on internal diameters.
The wide range of Thruvar gauges provides the most advanced in-process measurement solutions for a vast range of internal diameters on grinding machines.
These measuring heads are housed inside the spindle making it much easier to access the workpiece; the Quick-set up system keeps the re-tooling operations to an absolute minimum when changing the type of workpiece, thus reducing machine down time and significantly increasing productivity.
The measurement is performed during the machining cycle, the gauge exchanges signals and information with the machine logic, thus maximising machine performance.
All Thruvar heads are constructed from materials featuring high strength, thermal stability and resistance to wear and tear in order to guarantee the highest possible performance in the grinding environment.

Main features

- Extremely resistant
- Rapid zeroing systems
- Easy loading/unloading of pieces
- High measurement accuracy
- Wide versatility

The system

Operating principle

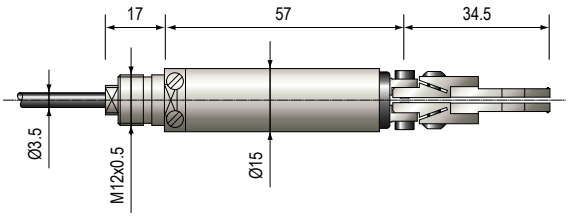


The in-process internal diameters measurement application consists of a measuring head housed inside the spindle and the P7 electronic control unit.
The adjacent figure illustrates the operating principle:
The measurement head housed inside the spindle on the opposite side to the grinding wheel monitors the workpiece while it is being machined and sends the measurement signals to the P7 electronic unit that controls the machining cycle, stopping it when the final size is reached in order to reduce the number of rejects.

The measuring heads*

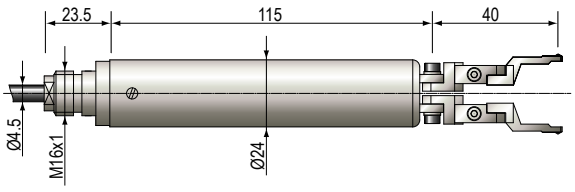
Picothruvar

ZEROING	Mechanical guides
PIECE CHANGE	Manual
MEASUREMENT RANGE	Ø1,5÷8 mm (Ø.06"÷.31")
REPEATABILITY	0,5 μm



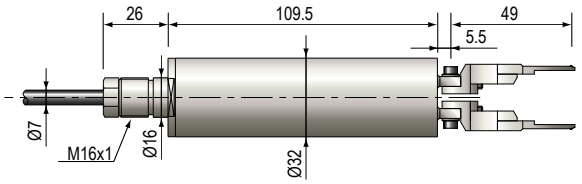
Microthruvar

ZEROING	Mechanical guides
PIECE CHANGE	Manual
MEASUREMENT RANGE	Ø2÷15 mm (Ø.08"÷.59")
REPEATABILITY	0,5 μm



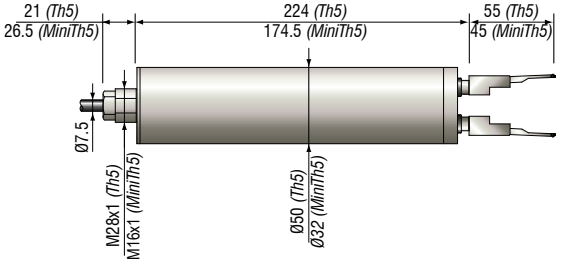
Minithruvar

ZEROING	Mechanical guides
PIECE CHANGE	Manual
MEASUREMENT RANGE	Ø3÷32 mm (Ø.12"÷1.26")
REPEATABILITY	0,5 µm



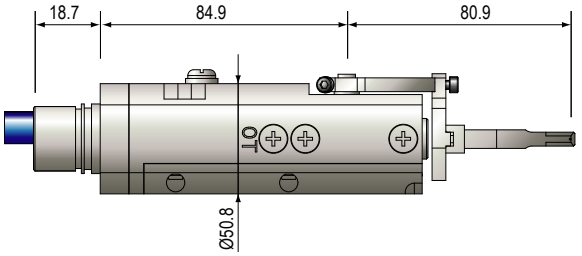
Thruvar5 - Minithruvar5

ZEROING	Automatic
PIECE CHANGE	Automatic
MEASUREMENT RANGE	Ø10÷116 mm (Ø.39"÷4.57") - *(Thruvar5)* Ø25÷35 mm (Ø.98"÷1.38") - *(Minithruvar5)*
REPEATABILITY	0,5 µm



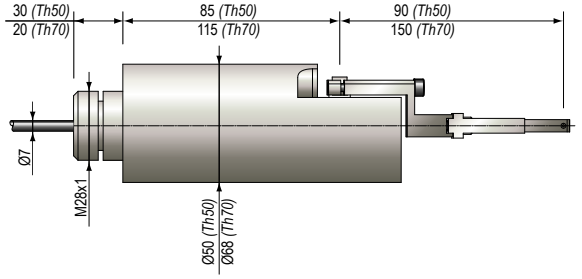
Thruvar8

ZEROING	Quick set up
PIECE CHANGE	Quick set up
MEASUREMENT RANGE	Ø9.5÷158 mm (Ø.37"÷6.22")
REPEATABILITY	0,5 µm



Thruvar 50 - Thruvar 70

ZEROING	Automatic
PIECE CHANGE	Automatic
MEASUREMENT RANGE	Ø10÷150 mm (Ø.39"÷5.91") - *Thruvar 50* Ø10÷230 mm (Ø.39"÷9.06") - *Thruvar 70*
REPEATABILITY	0,5 µm



(*) = The values indicated in these tables are typical values for the respective products. There are other Marposs models available that may feature different measurements. Contact your nearest Marposs distributor for more information.

Measurement and processing electronics

Marposs offers a wide range of machining cycle control units, of varying capacity, available in stand-alone configuration or equipped with remote control panels that can be integrated into the machine console. The more advanced models can be supplied complete with user interface software that is fully compatible with the machine interface.

P3ME:
- Measurement processing and analog display

P7:
microprocessor controlled complete machine monitoring system:
- In- and post-process measurement
- Grinder balancing (manual/automatic)
- Acoustic signal monitoring (gap/crash/wheel dress monitoring)
- Eddy Current surface crack detection
- Process statistical check with machining cycle feedback

MHIS:
machine PC compatible display software:
- In-process measurement
- Grinder balancing
- Analysis with acoustic sensors

P3ME

P7

MHIS

Summary table

MODEL	Ø BODY [mm]	ZEROING	PIECE CHANGE	Ø MEASUREMENT RANGE [mm]	REPEATABILITY [µm]	MAX OSCILLATIONS	INTERRUPTED SURFACES
PICOTHRUVAR	15	Mechanical guides	Manual	1.5÷8	0.5	800	No
MICROTHRUVAR	24	Mechanical guides	Manual	2÷15	0.5	800	No
MINITHRUVAR	32	Mechanical guides	Manual	3÷32	0.5	600	Yes
MINITHRUVAR 5	32	Automatic	Automatic	25÷35	0.5	600	No
THRUVAR 5	50	Automatic	Automatic	10÷116	0.5	/	Yes *keyslots only*
THRUVAR 8	50	Quick set up	Quick set up	9,5÷158	0.5	/	No
THRUVAR 50	50	Automatic	Automatic	10÷150	0.5	/	No
THRUVAR 70	68	Automatic	Automatic	10÷230	0.5	/	No

For a full list of address locations, please consult the Marposs official website

D6I03600G0 - *Edition 02/2014 - Specifications are subject to modifications*

Marposs has an integrated system to manage the Company quality, the environment and safety, attested by ISO 9001, ISO 14001 and OHSAS 18001 certifications. Marposs has further been qualified EAQF 94 and has obtained the Q1-Award.

www.marposs.com

Download the latest version of this document