



M2/M3

OPTICAL MEASURING MACHINE
FOR CYLINDRICAL ELEMENTS.

Measuring big shafts as easily as small ones.



M2/M3

MILESTONE TECHNOLOGY.



M2/M3 is an **optical measuring machine for shafts**, designed to perform quick and reliable measurements.

Every part produced by your CNC Lathe or Grinding center can be easily measured by operators, in just seconds, **directly on the shop floor**.

By saving time, you can **increase productivity**, improve efficiency and reduce the reject rate. This results in a quick **return on investment**.

M2/M3 UNIQUE FEATURES

The integrated software provides all measurements displaying the **live image of the part**.

Displaying the live image gives the feeling of the level of finishing and cleaning of the element under inspection.

The operator can identify any dirt present, intervening quickly and efficiently.

The **LED illuminated loading area** provides excellent visibility for the purpose of cleaning, as well as loading.

Its "Open Top" design allows the use of loading devices.

Its unique **wide open front** facilitates manual operations.

Measuring sensors are retractable, protected during loading and unloading.

Triple protective bumpers on sensors.

The **full metal housing** provides protection from oil in the working environment, and the **photoelectric cells** make the measuring process safer.

The upper tailstock **slides on prismatic guides** with ball bearings, guaranteeing maximum precision and sliding over time.

The upper tailstock is equipped with a new and more practical load lever.

It is activated by a rack and pinion, providing maximum accuracy as the piece to be clamped approaches.

A counter-weight makes the entire system run smoothly.

The machine is equipped with a **double temperature compensation system** (both on diameters and on lengths), making it ideal for direct use on the shop floor.

Its unique **"Air Flow" cooling system** means it can withstand even the toughest environments.

Self-programming and **step-by-step programming** features facilitate operations.

Measuring programs can be loaded manually, by bar-code (not included in the supply of the machine) or by self-recognition of the piece image.

Among the possible measurements:

Diameters (static, dynamic, interrupted, etc.)

Lengths (distance between points or other general geometric elements)

Angles and Radii

Cylindrical and conical threads and nut measurements

Geometric measurements (parallelisms and orthogonalities)

Shape measurements (circularities, coaxialities, run-outs, cylindricities)

DXF comparison*, camshaft and turbine measurements* (*optionals)

SPEED UP OPERATION, COST REDUCTION:

- Inspections in a matter of seconds
- Programs in just minutes

GREATER EFFICIENCY ON SMALLER BATCHES:

- Helps operators in batch changeover
- Allows rapid batch changing
- Can be used by more than one operator at the same time.

IMPROVES PRODUCTION:

- Operators are more independent during inspection.
- Measurement is not influenced by manual intervention.
- Allows to set tool offset before values are out of tolerance.
- Assess product quality without extra costs

Technical Data	M2	M3
Max. measurable piece	600x140 mm	900x140 mm
Max. piece to be loaded	650x240 mm	950x240 mm
Max. weight to be loaded	30 kg	30 kg
Measurement accuracy on diam. (average diam.)	$(2+D[\text{mm}] / 100) \mu\text{m}^*$	$(2+D[\text{mm}] / 100) \mu\text{m}^*$
Measurement accuracy on length	$(5+L[\text{mm}] / 100) \mu\text{m}^*$	$(5+L[\text{mm}] / 100) \mu\text{m}^*$
Measurement repeatability on diam. (average diam.)	$0,4 \mu\text{m}^*$	$0,4 \mu\text{m}^*$
Measurement repeatability on length	$3 \mu\text{m}^*$	$3 \mu\text{m}^*$
Vertical scanning speed	100 mm/s	100 mm/s
Rotational scanning speed	1080 °/s **	1080 °/s **
Machine's weight	395 kg	400 kg
Power supply	230V – 50/60 Hz	230V – 50/60 Hz
Dimensions LxWxH	920x1029x2000 mm	920x1029x2000 mm

* Data indicated refers to measurements taken with a temperature of 20°C on clean and rectified surfaces. Data may vary according to shape and surface condition of the pieces.

** The maximum rotation speed depends on security conditions and on fixing conditions.



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