Several measurements from a unique instrument: MTL1
MTL1

- Wide measuring area 300x60 mm in a practical and compact optical measuring machine for turned parts.
- Its unique design gives direct access to the piece, ensuring practical loading for both small and large components.
- The full metal housing provides protection from oil in the working environment.
- Vertical positioning of the piece facilitates loading, even with pieces up to 300 mm in length, by using either cone tailstocks, clamping chucks or negative cone cusps for blocking pieces without centers.
- The upper tailstock slides on prismatic guide with ball runner blocks guaranteeing maximum precision and sliding over time.
- The upper tailstock movement is obtained by a rack and pinion which provides 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.
Results in few seconds

1. Loading  
2. Press start  
3. Acquisition

- Result of measurements on histograms for immediate consultation.  
- Report of measured pieces can be run directly on the machine by the operator.  
- Measurement trend graphs with a simple click.  
- Shape measurements in few seconds with graphics.
Fast and more accurate

MTL1 includes the functions of profile projectors, micrometers, roundness gage, etc., eliminating human error in acquiring measurements and allowing operators to manage the acquired data. Carrying out all measurements with a single tool means saving time, manpower and improving the accuracy of the control.

Static measurements:
- Diameters
- Lengths
- Angles
- Radii
- Distances and angles between points and lines
- Mean sphere diameters

Geometric measurements:
- Symmetries
- Parallelisms
- Orthogonalities

Thread measurements:
- Nominal diameters
- Internal diameters
- Mean diameters
- Crest angles
- Pitches
- Roll dimensions

Shape measurements:
- Rotation diameters
- Circularities
- Coaxialities
- Run-out
- Cylindricities
- Angular timings

Nut measurements:
- Keys
- Asymmetries
- Angular timings

DXF comparison (option):
- Distances from profile
- Distances from tolerance
- GD&T

TRADITIONAL MEASUREMENT SYSTEM

- Measurement from 10 to 30 minutes.
- Data conditioned by human intervention.
- Difficulty of use.
- Necessity to collect data.

VICIVISION MEASUREMENT SYSTEM

- Measurement from 30 to 60 seconds.
- Eliminates human error.
- Automatic cycle at the touch of a button.
- Automatic data collection.
To increase your production

MTL is an optical measuring machine for turned and ground parts capable of taking measurements on a piece profile in a matter of seconds on the shop floor. This means:

- Control on shop floor
- Time savings of up to one hour for each batch, measuring pieces beside the lathe.
- Reduction in machine downtime thanks to immediate control without leaving workstation.
- Reduction in waste, implementing the preventive actions indicated by the measurement trend graphs.

<table>
<thead>
<tr>
<th>MODEL</th>
<th>MTL 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measuring field</td>
<td>Ø 60 mm (2.36&quot;) L 300 mm (11.81&quot;)</td>
</tr>
<tr>
<td>Max. loadable sizes</td>
<td>Ø 90 mm (3.54&quot;) L 315 mm (12.40&quot;) Weight 6 Kg</td>
</tr>
<tr>
<td>Resolution</td>
<td>Ø 0.1μm L 0.1μm Rotation 0.001°</td>
</tr>
<tr>
<td>Accuracy</td>
<td>Ø 2×D(mm)/100)μm L 5×L(mm)/100)μm</td>
</tr>
<tr>
<td>Repeatability</td>
<td>Ø 0.4μm L 3μm</td>
</tr>
<tr>
<td>Power supply</td>
<td>Voltage 230V Frequency 50/60 Hz Nominal power 1.73 A</td>
</tr>
</tbody>
</table>

Data indicated refer to measurement taken with a temperature of 20°C on clean and ground surfaces. Data may vary according to shape and surfaces condition of the pieces.
The most advanced software features

**SELF-PROGRAMMING:**
Acquires the image of the piece, the software measures all the recognized geometric elements and elaborates an immediate report of each single piece.

**STEP BY STEP ASSISTED PROGRAMMING:**
The software suggests what to measure for rapid programming on small batches.

**ADVANCED MANUAL PROGRAMMING**
The operator can choose 100% of the references to create a program and obtain results useful to correcting the machining center.

**AUTOMATIC LOADING OF THE PART PROGRAM**
Recognizing the piece loaded into the machine MTL1 is able to automatically load the right measuring program. Suitable to swap among few part programs of articles running in production.

**DXF COMPARISON option on request**
Compares the piece profile with the DXF cad file. Detects:
- maximum profile distance
- maximum distance from tolerance
- GD&T

In this catalogue, machines are shown with options. The firm reserves the right to modify technical specifications without prior notice, provided that such modifications do not affect safety as per E.C. certification.