Tropel® FlatMaster® System with Surface Roughness Measurement

Key Benefits
- Improves product quality, manufacturing yield and throughput
- Lowers manufacturing costs
- Increases process understanding and reduces time to market
- Increases customer satisfaction

Powerful
- Measure key surface characteristics including lay, roughness, and all standard profile parameters for 2D and 3D standards

Flexible
- Measures a broad variety of materials and surface finishes
- Easy to configure measurement analysis
- Suitable for production, quality control, or R&D applications

Easy to Use
- Simply place the part on the system and in seconds you will have full profile analysis
- Automatic exporting enables seamless integration into your SPC system
Tropel® FlatMaster® System with Roughness Specifications

**Performance**

<table>
<thead>
<tr>
<th>Field of view</th>
<th>2.5x</th>
<th>10x</th>
<th>20x</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.0 mm</td>
<td>0.8 mm</td>
<td>0.4 mm</td>
<td></td>
</tr>
<tr>
<td>4.4 um</td>
<td>0.96 um</td>
<td>0.48 um</td>
<td></td>
</tr>
</tbody>
</table>

- Measurement method: White Light Scanning Interferometry
- Measurement time: 15 seconds typical
- Auto Focus: 5 seconds typical
- Measured data points: up to 1.0 million per measurement
- Materials: Metals, glass, polymers, ceramics, and many others
- Surfaces: Fine-ground, lapped, polished, super-finished and others

**Accuracy and Repeatability**

<table>
<thead>
<tr>
<th>RMS</th>
<th>0.01 nm (0.0004 µin)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resolution</td>
<td>0.02 nm (0.0008 µin)</td>
</tr>
</tbody>
</table>

*Refers to instrument limited Accuracy and Repeatability (1σ) as based on measurement of traceable artifact

**Tropel Metrology Software (TMS5™)**

- **Standard Parameters**: Flatness, line profile, surface profile, Sa, Sv, Sz, Sp, Ra, Raa, Ryni, Rq, Rrms, Ry, Rp, Rt, Rsk, Rku, Rzdn, Rtm, Rzjis, and others.
- **User-defined Report Layouts**: User-configurable including: OpenGL® 3-D, 2-D, line trace (X/Y, radial, circular), color contour, isometric, histogram, user-defined tolerances, pass/fail criteria
- **Data Management**: Available in report layouts, also MS Excel®, CSV, optional export to industry standard database formats.

**Environmental and Facility**

- **Temperature**: 15 °C to 25°C (59 °F to 77 °F)
- **Rate of temperature change**: < 1.0 °C per hour
- **Vibration Isolation**: Passive isolation included
- **Humidity**: 5% to 95% relative humidity, non-condensing
- **Power**: 100-240 VAC, 50/60 Hz, 4 Amp
- **Air/Vacuum**: Not-Required
- **System Dimensions (W x D x H)**: Depends on configuration
- **System Weight**: Depends on configuration

**Standard System Configuration**

- **Computer**: Windows® x64 based PC
- **Software**: TMS5™ Analysis software
- **Traceable artifact**: Optional

For more information about the Roughness option, or any of the other Tropel® Metrology Instruments, please contact:

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