Mitutoyo has developed a wide range of surface roughness analysis product line-up from hand-held portable type up to CNC type Surftest with broader functions and higher accuracy. By utilizing the technologies developed over the years on surface roughness measuring machines, our Coordinate Measuring Machines can now execute surface roughness analysis by implementing a Surftest Probe and the dedicated software.

Features

- Can be attached to our CNC CMM (Retro-fitting is possible depending on the model)
- The auto joint-probe system allows probe changing automatically between scanning (SP25M) and the CMM Surftest surface analysis probe. The measurement and evaluation of size, shape and roughness, is completely automated with auto joint-probe changing.*
- PH10M(Q) allows surface roughness measurement for features requiring rotation
- The CMM Surftest Probe is derived from the successful Mitutoyo SJ-210/310 Series of Portable Surface Finish Units.

* Requires ACR3 change rack (OPTION)

Note: For new purchase of Crysta-AS700 and larger, retrofit of existing Crysta-AS CMM by request.
Detectors used for CMM Surftest Probe only

**Standard-type detector**
- 4mN (Stylus R5 μm)
- 4mN (Stylus R10 μm)

**Small hole detector**
- 4mN (Stylus R5 μm)

**Deep groove detector**
- 4mN (Stylus R5 μm)

**Extra small hole detector**
- 4mN (Stylus R5 μm)

**Gear-tooth surface detector**
- 4mN (Stylus R5 μm)

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**Skid Measurement Specifications**

<table>
<thead>
<tr>
<th>Item</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Probe (Detector specifications)</td>
<td>Measurement range: AUTO, 25, 100, 360 μm</td>
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<tr>
<td></td>
<td>Driving range: 17.5 mm</td>
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<tr>
<td></td>
<td>Measurement speed: 0.25, 0.5, 0.75 mm/s</td>
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<tr>
<td></td>
<td>Stylus tip radius: 2, 5, 10* μm *Standard-type detector only</td>
</tr>
<tr>
<td></td>
<td>Measuring force: 4mN (Std), 0.75mN (Opt.)</td>
</tr>
<tr>
<td>Evaluation software</td>
<td>Analysis software: SURFPAK-SP</td>
</tr>
<tr>
<td></td>
<td>Control software: MCOSMOS</td>
</tr>
<tr>
<td></td>
<td>Miscellaneous: Multi-wire autojoint probe head required (PH6M, PH10M, PH10MQ)</td>
</tr>
</tbody>
</table>

**Skidded Measurement**

In skidded measurements, surface features are measured with reference to a skid following close behind the stylus. This cannot measure waviness and stepped features exactly but the range of movement within which measurement can be made is greater because the skid tracks the workpiece surface contour.

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**Note:** All information regarding our products, and in particular the illustrations, drawings, dimensional and performance data contained in this printed matter as well as other technical data are to be regarded as approximate average values. We therefore reserve the right to make changes to the corresponding designs. The stated standards, similar technical regulations, descriptions and illustrations of the products were valid at the time of printing. In addition, the latest applicable version of our General Trading Conditions will apply. Only quotations submitted by ourselves may be regarded as definitive.

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