ON-LINE SURFACE ROUGHNESS
MP900 & MP9000

FOCALSPEC
Measuring the invisible
On-line surface roughness measurement

Modern manufacturing is fast-paced, and the products must achieve a high standard. Surface roughness is monitored to improve various aspects of product quality such as look and feel, or to optimize various stages of the product manufacturing process such as extrusion.

FocalSpec’s MicroProfilers MP900 and MP9000 are designed for continuous non-contact measurement of surface roughness.

FocalSpec offers a unique solution for on-line surface roughness measurement, which allows manufacturers to attain a constant high quality without affecting line speed.
FocalSpec’s MicroProfilers

MP900 and MP9000 are the world’s first plug-and-play systems for automated, non-contact surface roughness analysis and on-line process control delivering laboratory accuracy. They both utilize FocalSpec’s unique, patented measurement technology, Line Confocal Imaging (LCI).

MP900 for cables, tubes and wires

MP9000 for flat surfaces, such as webs, films and sheets
Benefits

- Enabling instant detection of process changes and abnormal variation
- Reducing time and labor needed for manual product sampling and quality control checks
- Providing reliable results without manual measurement and recording errors
- Generating quality reports of entire batches automatically
- Improving product surface quality, reducing claims, waste and rejects

Both the MP900 and MP9000 are easy to integrate on existing manufacturing lines
Measuring principle

- Measurement speed
  250 x 2048 points per second
- 30 nm accuracy for line speeds up to 2.5 meters per second
# Technical specification

<table>
<thead>
<tr>
<th>Measurement parameters</th>
<th>MP900</th>
<th>MP9000</th>
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<tbody>
<tr>
<td>Ra</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Rz</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Rsm</td>
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<td>✔</td>
</tr>
<tr>
<td>Rzjis82</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Rzjis 94</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Rc</td>
<td>✔</td>
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<table>
<thead>
<tr>
<th>Process parameters</th>
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<tbody>
<tr>
<td>Std</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Cpk</td>
<td>✔</td>
<td>✔</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Minimum cable/wire/tube diameter</th>
<th>1 mm (0.04&quot;)</th>
<th>not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum cable/wire/tube diameter</td>
<td>unlimited</td>
<td>not applicable</td>
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</table>

<table>
<thead>
<tr>
<th>Minimum web width</th>
<th>not applicable</th>
<th>unlimited</th>
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</thead>
<tbody>
<tr>
<td>Maximum web width</td>
<td>not applicable</td>
<td>unlimited</td>
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</tbody>
</table>

- **Ra measurement range**: 0.5–10 μm (20–390 μin)
- **Ra measurement precision**: better than 0.03 μm (1.2 μin)
- **Measurement speed**: 250 measurements / s
- **Maximum line speed**: 2.5 m / s (8.2 ft / s)
- **Reporting**: graphical and numeric
- **Data views**: current and historical
- **Data output format**: .csv

- **Surface material**: any
- **Surface color**: any
- **Working distance to surface**: 16 mm (0.63")
- **Connection to local area network**: Ethernet

### Sensor attributes

<table>
<thead>
<tr>
<th>Length of measurement line</th>
<th>11.26 mm (0.44&quot;)</th>
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<tbody>
<tr>
<td>Number of measurement points</td>
<td>2048 points / line</td>
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</table>

Optional measurements: thickness, flatness, waviness

FocalSpec 3D Line Confocal Scanner UULA can be utilized for comprehensive off-line surface roughness measurement and analysis.
FocalSpec builds products to measure and inspect the quality of the advanced materials and devices in use today and currently in development for the future. Our goal is to make the growing world of small objects safer and the manufacturing of products more efficient and effective.