### OPTICAL PROBES

**CHRocodile unit**  |  **CHRocodile 2 S, 2 SE, S, SE, E, M4**  |  **CHRocodile IT TW, DW, 2 IT 500, IT 500, IT 1000, IT 1000 RW, IT 18-3000, IT 150-15000, M5, LR**  |  **CHRocodile 2 IT 500, IT 500 RW, IT 500 RW, 2 IT 1000, 2 IT 1000 RW, IT 1000 RW, IT 18-3000, IT 150-15000, M5, LR, DW**

<table>
<thead>
<tr>
<th>application</th>
<th>Thickness measurement</th>
<th>Thickness and distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>measuring principle</td>
<td>Interferometric</td>
<td>Interferometric</td>
</tr>
<tr>
<td>measuring range</td>
<td>depends on the CHRocodile sensor</td>
<td>depends on the CHRocodile sensor</td>
</tr>
<tr>
<td>working distance ¹</td>
<td>27 mm</td>
<td>101 mm</td>
</tr>
<tr>
<td>spot diameter</td>
<td>40 µm</td>
<td>50 µm</td>
</tr>
<tr>
<td>lateral resolution</td>
<td>25 µm</td>
<td>6.5 µm</td>
</tr>
<tr>
<td>numerical aperture</td>
<td>0.09</td>
<td>0.1</td>
</tr>
<tr>
<td>measurement angle to surface ²</td>
<td>90° +/- 5°</td>
<td>90° +/- 5°</td>
</tr>
<tr>
<td>thickness measuring range</td>
<td>depends on the CHRocodile sensor</td>
<td>depends on the CHRocodile sensor</td>
</tr>
<tr>
<td>dimensions (without fiber connector)</td>
<td>l = 54 mm, d = 15 mm</td>
<td>l = 129 mm, d = 28 mm</td>
</tr>
<tr>
<td>weight</td>
<td>37 g</td>
<td>276 g</td>
</tr>
<tr>
<td>order number</td>
<td>5005000</td>
<td>5005019</td>
</tr>
</tbody>
</table>

¹) bottom of optical probe to middle of measuring range  |  ²) decreasing accuracy on the limits

The given data was generated for a typical application and may be different given other circumstances. Furthermore misprints, changes and/or innovations may lead to differences in the listed measurements, technical data and features. Therefore all information is non-binding and technical data, measurements as well as features are not guaranteed by information in this product information.
The optical probes for non-contact distance and thickness measurements have a wide measuring range: from a few microns to several millimeters.

**ADVANTAGES:**
- Precise measurements independent of the surface type
- High axial resolution for the measurement of complex structures
- Measurements also on highly tilted, reflective and dispersive surfaces
- Small spot diameter
- Robust and compact design

All probes are available in a vacuum version. For every application the perfect optical probe!

### RELIABLY FAST MEASUREMENTS ON CHALLENGING SAMPLES

The superior dynamic range and outstanding signal-to-noise ratio of the detectors used in the ChrOcodile sensors offer excellent measuring results even on variably reflective surfaces.

#### EXAMPLES:
- **a)** Sample with differing reflective properties (auto-adjustment enables continuous measurement)
- **b)** Sample with reflective, wavy surface (high aperture captures sufficient light even at large angles)

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