



OPTICAL PROBES

CHRocodile unit	CHRocodile S, SE, E, M4	CHRocodile IT-TW, DW, IT 500, IT 500RW, IT 1000, IT 1000RW, IT 18-3000, IT 150-15000, MI5, LR
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application	thickness measurement					thickness and distance
measuring principle	interferometric					interferometric
measuring range	depends on the CHRocodile sensor					
working distance ¹⁾	27 mm	9.5 mm	101 mm	10.6 mm	18.1 mm	39.7 mm
spot diameter	40 µm	10 µm	50 µm	13 µm	50 µm	CHRocodile IT 500/1000/500RW/1000RW/18-3000/150-15000/MI5/DW: 13 µm CHRocodile LR: 9 µm CHRocodile IT-TW: 50 µm
lateral resolution	20 µm	5 µm	25 µm	6.5 µm	25 µm	CHRocodile IT 500/1000/500RW/1000RW/18-3000/150-15000/MI5/DW: 6.5 µm CHRocodile LR: 4.5 µm CHRocodile IT-TW: 25 µm
numerical aperture	0.09	0.17	0.1	0.19	0.1	0.1
measurement angle to surface ²⁾	90°+/-5°	90°+/-10°	90°+/-5°	90°+/-10°	90°+/-5°	90°+/-5°
thickness measuring range	depends on the CHRocodile sensor					
dimensions (without fiber connector)	l = 54 mm d = 15 mm	l = 54 mm d = 15 mm	l = 129 mm d = 28 mm	l = 67 mm d = 8 mm	l = 40 mm d = 8 mm	l = 58 mm d = 15 mm
weight	21 g	21 g	278 g	23 g	10 g	53 g
order number	5005000	5005008	5005019	5003517	5002947	5002807
note			large working distance		extra compact	accessories available for distance measurement



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.

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THICKNESS	DISTANCE	TOPOGRAPHY

Optical Probes

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!

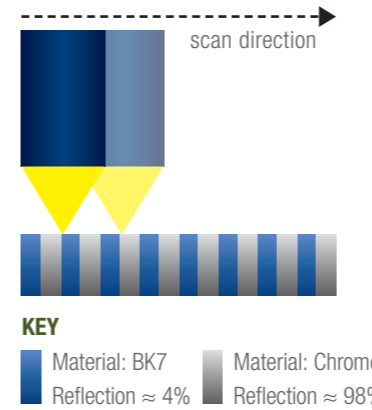


RELIABLY FAST MEASUREMENTS ON CHALLENGING SAMPLES

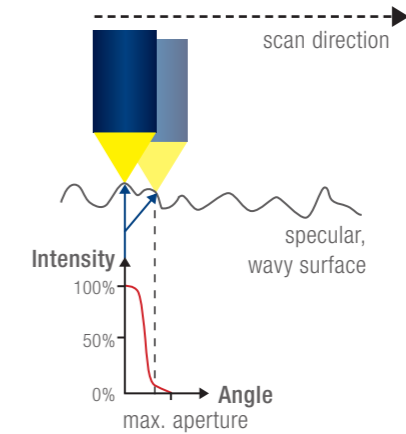
The superior dynamic range and outstanding signal-to-noise ratio of the detectors used in the CHRocodile sensors offer excellent measuring results even on variably reflective surfaces.

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)

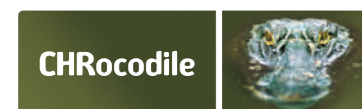


CHRocodile unit	CHRocodile S, SE, E, X, DX, H, XL, M4, M10														CHRocodile LR
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application	distance and thickness															
measuring principle	chromatic confocal															
measuring range	100 µm	300 µm	350 µm	400 µm	600 µm	1 mm	2 mm	2 mm	3 mm	6 mm	8 mm	10 mm	12 mm	15 mm	25 mm	100 µm
working distance ¹⁾	1.4 mm	4.5 mm	8.4 mm	15.3 mm	6.5 mm	19.1 mm	61 mm	14.1 mm	22.5 mm	35 mm	36.3 mm	70 mm	54 mm	57 mm	76.5 mm	6.5 mm
spot diameter	3.5 µm	5 µm	5 µm	4 µm	4 µm	3.5 µm	12.5 µm	12 µm	12 µm	16 µm	30 µm	24 µm	30 µm	20 µm	25 µm	1.4 µm
lateral resolution	1.8 µm	2.5 µm	2.5 µm	2 µm	2 µm	1.8 µm	6 µm	6 µm	6 µm	8 µm	15 µm	12 µm	15 µm	10 µm	12.5 µm	0.7 µm
numerical aperture	0.7	0.5	0.33	0.7	0.5	0.7	0.26	0.5	0.5	0.43	0.27	0.33	0.27	0.46	0.26	0.66
measurement angle to surface ²⁾	90° +/- 45°	90° +/- 30°	90° +/- 20°	90° +/- 45°	90° +/- 30°	90° +/- 45°	90° +/- 15°	90° +/- 30°	90° +/- 30°	90° +/- 25°	90° +/- 15°	90° +/- 20°	90° +/- 15°	90° +/- 27°	90° +/- 15°	90° +/- 40°
thickness measuring range ³⁾	up to 150 µm	up to 450 µm	up to 525 µm	up to 600 µm	up to 900 µm	up to 1.5 mm	up to 3 mm	up to 3 mm	up to 4.5 mm	up to 9 mm	up to 12 mm	up to 15 mm	up to 18 mm	up to 22.5 mm	up to 37.5 mm	up to 150 µm
dimensions (without fiber connector)	l = 66 mm d = 8 mm	l = 111 mm d = 15 mm	l = 106 mm d = 15 mm	l = 149 mm d = 50 mm	l = 125 mm d = 19 mm	l = 164 mm d = 55 mm	l = 109 mm d = 45 mm	l = 70 mm d = 33 mm	l = 106 mm d = 49 mm	l = 197 mm d = 52/70 mm	l = 45 mm d = 25 mm	l = 146 mm d = 65 mm	l = 61 mm d = 36 mm	l = 158 mm d = 84 mm	l = 243 mm d = 76 mm	l = 158 mm d = 30 mm
weight	36 g	38 g	36 g	1250 g	71 g	1118 g	315 g	220 g	501 g	1244 g	97 g	721 g	281 g	2550 g	1637 g	323 g
order number	5002430	5002227	5002378	5002589	5002183	5002130	5002399	5005126	5001678	5002187	5002327	5001688	5002508	5006617	5002206	5005770
note	high numerical aperture	angled available	angled available	high numerical aperture	angled available	high numerical aperture	angled available; large working distance	extra bright	extra bright	extra bright	extra compact	extra bright	extra compact	high numerical aperture	extra bright	small spot size, extra bright, high numerical aperture

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

³⁾ refractive index n = 1.5



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