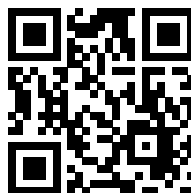
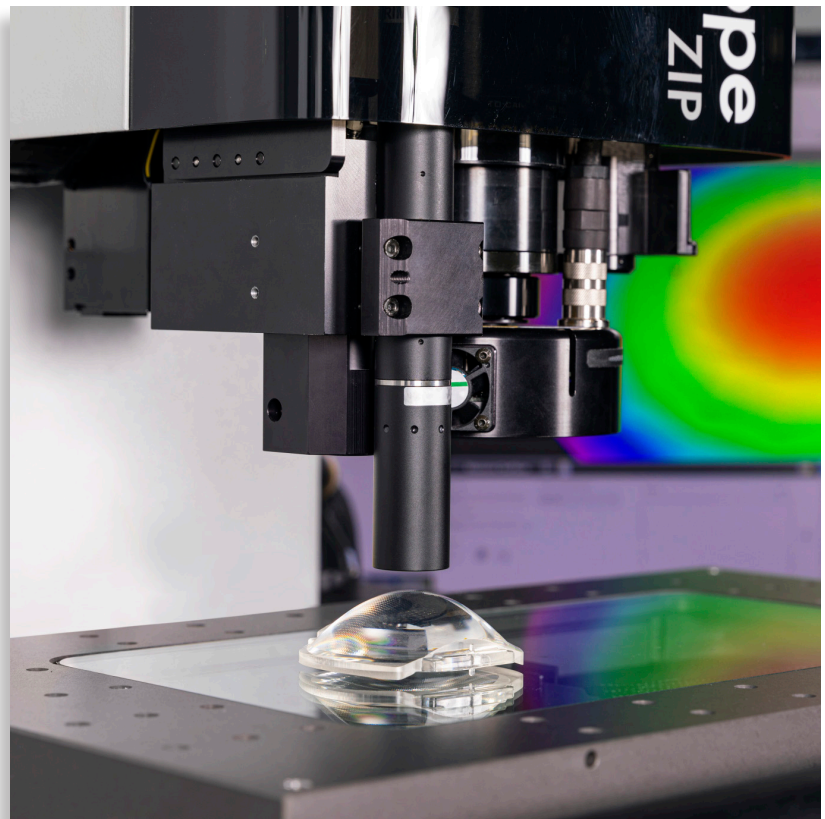
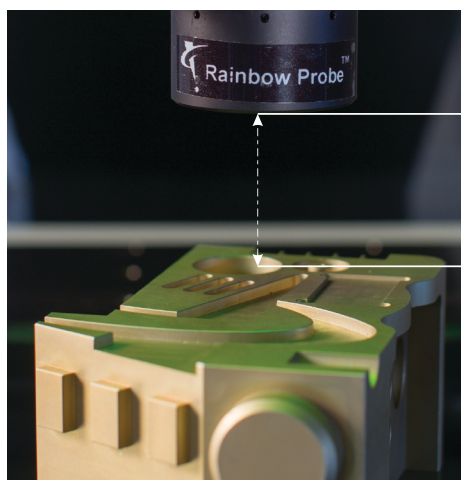


Rainbow Probe is a non-contact chromatic confocal sensor that measures surfaces by analyzing changes in the optical spectrum as a function of part to probe spacing. Additional capabilities include:

- **Measurement Advantages –**
Rainbow Probe easily measures transparent, translucent, fragile, liquid, or easily deformable surfaces. The Rainbow Probe also has dual measuring modes for select distance or thickness measuring mode.
- **Right Probe - Right Application –**
A range of CL-series and RP1500 probes are available, each with a unique measuring range, working distance, axial resolution, accuracy, and spot size.
- **Multisensor Integration –**
Integrates into automatic measurements with other sensors on measurement systems.

High Resolution, Non-Contact Optical Sensor for Surface Measurements





32 mm
Working
Distance

The RP1500's 32 mm working distance and 40 nm resolution make it the probe of choice for many applications.

Technical Specifications – RP1500¹

Available for	Fusion™, SmartScope ZIP® and most SmartScope® Flash™, and Quest™ systems	OGP® Benchmark™, Pinnacle™, and Summit™ systems
Required Metrology Software	ZONE3®	VMS™ or ZONE3
Working Distance (mm)	32	
Measuring Range (mm)	1.5	
Accuracy ² (µm)	0.3	
Numerical Aperture	0.42	
Max Data Rate (samples/sec)	1000	
Max Object Slope ³ (deg)	± 24	
Spot Size Diameter (µm)	10	
Axial Resolution ⁴ (µm)	0.04	
Lateral Resolution (µm)	5	
Min Measurable Thickness (µm)	180	
Probe Barrel Diameter (mm)	50	

Technical Specifications – CL Series¹

Available for	SmartScope ZIP and most SmartScope Flash and Quest systems	OGP Benchmark, Pinnacle, and Summit systems
Required Metrology Software	ZONE3	VMS or ZONE3

Probe Model	CL1			CL2			CL3		CL4		CL5		CL6	
Working Distance (mm)	3.3			10.8			12.2		16.5		26.6		20	
Measuring Range	150 μm			400 μm			1.4 mm		4 mm		12 mm		24 mm	
Accuracy ² (μm)	0.02			0.06			0.2		0.4		0.9		3	
Numerical Aperture	0.71			0.46			0.41		0.32		0.20		0.12	
Max Data Rate (samples/sec)	1000													
Max Object Slope ³ (deg)	± 42			± 28			± 25		± 21		± 14		± 8.5	
Magnifier Model	MG140	MG210	MG420	MG70	MG140	MG210	MG70	MG140	MG20	MG35	MG20	MG35	MG20	MG35
Spot Size Diameter (μm)	3.5	2.7	1.8	8.8	5.2	4	11.9	6.8	19.9	12.3	40	24.3	43	26.8
Axial Resolution ⁴ (μm)	0.048	0.042	0.036	0.15	0.12	0.12	0.36	0.3	0.81	0.66	2.55	2.22	4.8	4.5
Lateral Resolution (μm)	1.3	1.1	0.8	3.7	1.8	1.7	4.5	2.6	7	4.6	14	11	18	11
Min Measurable Thickness (μm)	9	7.5	5	22	14	14	40	38	120	110	550	350	725	590
Probe Length (mm)	209.4	243.8	270	176.1	208.9	143.3	176.1	208.9	130	145.4	130	145.4	155.6	171
Probe Diameter (mm)	27													

¹Includes CCS PRIMA control box.

²In distance measuring mode. In thickness measuring mode, the accuracy depends on sample characteristics (material, thickness). System performance varies depending on machine type. Rainbow Probe calibration certificate included for each sensor, with test protocol.

³For specular (perfectly reflecting) samples. For diffuse objects, the maximum object slope can reach 87°.

⁴In distance measuring mode. In thickness measuring mode, the axial resolution is given by: $R_{th} = n \cdot R_d$ (R_d = axial resolution in distance mode, R_{th} = axial resolution in thickness mode, n = refractive index of the sample).



Confidence. When Results Matter.™

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