Technical Specifications ConoProbe

Lens assembly type														
		Standard										High Definition		
Lens focal length	mm	**16**	**25**	**50**	**50ext**	**75**	**100**	**125ext**	**150**	**200**	**250**	**16**	**25**	**50**
Z (vertical) axis														
Static resolution	µm	<0.1					0.1	0.25	0.35	0.75	1.5	<0.1		
Precision	µm	<2	<3	<6	<6	<10	<15	<20	<35	<40	<50	<0.5	<1	<2.5
Reproducibility	µm	<0.15	<0.4	<1	<1	<2	<4	<8	<15	<15	<15	<0.1	<0.2	<0.5
Working range	mm	0.6	1.8	8	8	18	35	45	70	125	180	0.2	0.6	2
Standoff	mm	12	15	42	85	65	90	240	140	185	240	11	14	40
X (lateral) axis														
Laser spot size	µm	11	22	45	60	65	75	100	120	170	250	3.5	6	15
Lateral resolution	µm	5	12	15	20	25	35	50	50	-	-	2	4	10
Angle measurement		170 deg.												
Data handling														
Data rate		1000 pps												
Export data formats		Excel · ASCII · text file · BMP · JPEG · UBM · VRML												
Weight & general														
Lens	g	450	30	35	400	25	25	400	25	25	25	450	30	25
Probe	g	670										750		
Control box	g	1100												
Operating temperature	°C	18°C - 35°C												
Continuous shock resistance		> 6000 shocks in 6 directions (245 m/s² - 25g-6ms)												
Supply voltage		85 - 265 VAC 50-60 Hz												

ConoProbe Accessories

Periscope

Extension unit for conducting bore measurements - „bends“ laser beam 90° for bore wall inspection.

Video Camera

Specially designed for rapid setup to view a larger area of the object to be measured. Assists in monitoring the scanned area.

Other Optimet Products

ConoLine

Using the same patented technology, the ConLine is a line sensor with all of the benefits of the ConoProbe product.
Changeable lenses vary line length & working range from 5 mm @ 10 mm to 30 mm @ 150 mm.
The ConoLine provides a 2D surface area profile in a single run and a full 3D surface area in a single surface scan.

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OPTIMET
Optical Metrology Ltd.

ConoProbe

True 3D Free-Form
Absolute Measurement
With µm Resolution

- Large measuring range - 5-10x greater than other optical systems
- Variable working distance and field of view via lens change w/o recalibration
- Reliable data from sharp slopes ≤ 85° and blind holes
- Absolute measurement
- Fast - 1000 points/second
- Very high quality of raw data
- Mounts at any angle
- OEM system

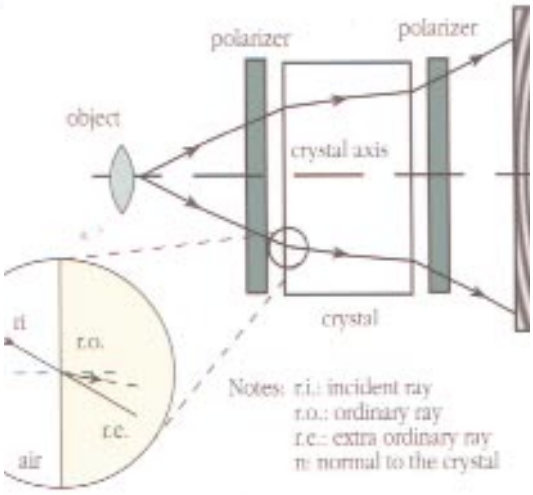
OPTIMET
Optical Metrology Ltd.

ConoScopic Holography - The Digitizing Revolution

Extremely Precise & Fast

We have developed a revolutionary new non-contact measuring system, protected by 11 patents, based on the optical principles of Conoscopic Holography.

This method allows the creation of extremely precise 3D digital images of virtually any surface at high speeds and at stand-off distances once considered impossible.



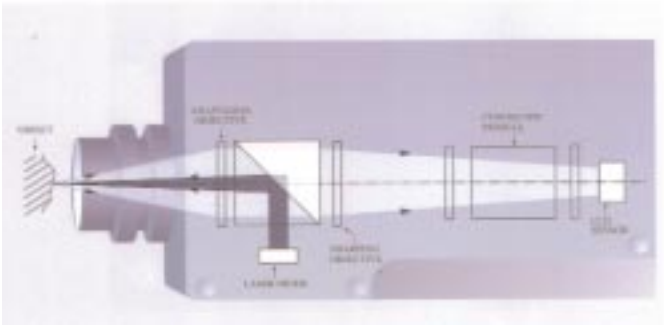
Interferometric basic set-up

State-of-the-art Technology

Based on the principle of optical fields, the system measures light arriving from each point on an object at different angles.

The ConoScope produces holograms with fringe periods that can be measured precisely and calibrated to determine the exact distance to the point measured.

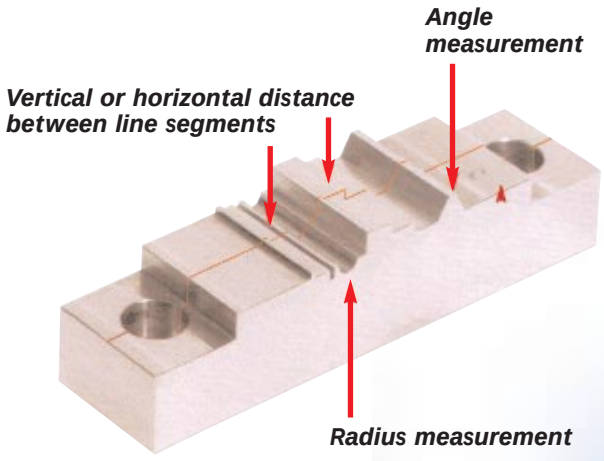
The light patterns generated can be scaled to varying size objects by simply changing the front lens, a user operation even between measurements if required.



ConoProbe

Scanning Flexibility

With the measurement object placed on a precision x-y table, a 3D scan can be generated at customer defined resolution by varying step distance and frequency.



Software & Drivers

ConoProbe is delivered with Optimet software for a wide range of sophisticated measurements. An OEM package including Windows-drivers allows rapid integration into customer systems.

ConoScopic Holography - Protected by 11 Optimet Patents

Markets and Applications

QC for Machined Parts

Precise monitoring of dimensions of manufactured parts - including machined metallic surfaces e.g. cutting tools.

Machined part

Plastic and Rubber Industry Molds

Rapid, precise measurement of all dimensions of molds, dies and molded products including small radii and steep angle measurements.

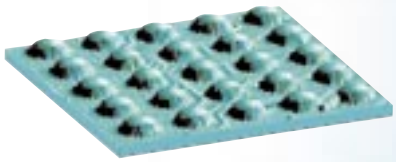
Plastic mold

Automotive & Aerospace Industries

Fast and accurate measurement of deep grooves, sharp and internal angles, complex curved forms on metallic, plastic and painted parts.

Electronic Components

Sub-micron precision in of miniature parts such as BGA arrays, high density PCBs and solder paste.



BGA

Small Complex Forms

High accuracy digitizing and measurement of small parts for quality control or reverse engineering.

Turbine blade

User Benefits

- Soft materials
- Blind hole inspection
- Digital & analog outputs
- Complex geometries - steep angles to 85°
- Robust for industrial applications - no moving parts
- Flexible - can operate through relay and customer optics
- Additional data quality information with every measured point
- Detailed OEM software package for customer system integration
- User lens changes enable versatility in working range and stand-off
- Independent of surface structure and color without need for dusting or painting