Interferometer OptoTL-60

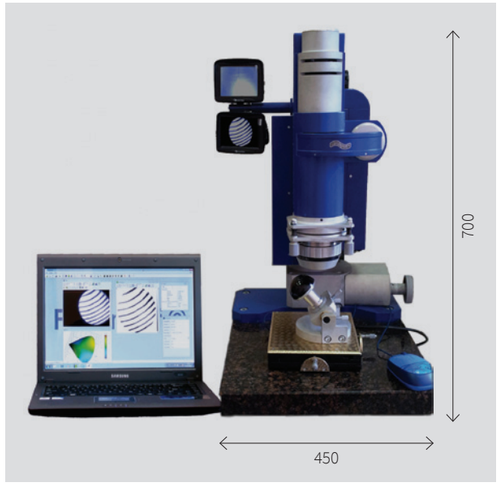
Altechna
instruments

Optical surface accuracy and radii testing

Interferometer OptoTL-60 is used for contactless measurement of accuracy (Power/Irregularity) of polished flat and spherical surfaces as well as surfaces' radii.

Main product advantages:

- Compact size allowing comfortable placement close to machines
- Software for simple and fast measuring procedure in production conditions
- Two nearby located monitors for quick adjustment and interferometric picture visualization
- Large set of transmission spheres (see following table)
- The modular design allows to reconfigure the interferometer quickly
- Centering test for single lens as well as lenses in housing
- Rigid design and passive anti-vibration system to reduce vibration effect
- Radii measuring device based on high accuracy Renishaw scale allows to classify OptoTL-60 as a digital test plate



Technical parameters

Optical scheme	Fizeau
Arrangement of systems' optical axis	Vertical
Range of tested surface radii	900CX-3CX mm 3CC-1100CC mm
Range of tested radii	200CX-200CC mm
Refraction coefficient of tested surface	2-80%
Maximum value of measured error	3 λ
Collimator clear aperture	60 mm
Light source	HeNe low noise 633 nm
Accuracy of radii test (depends on environment)	2-10 μm
Testing accuracy P-V	≤λ/10
Weight	≤30 kg
Dimensions (L x W x H)	≤500 x 500 x 800mm

Set of transmission spheres

Reference surfaces are tested with Zygo interferometer. Transmission spheres are calibrated with CaliBall™ (interferometer calibration device) by using the Random Ball Test.

Transmission spheres according to customers' requirements can be manufactured.

Type of mouthpiece with transmission sphere	Output F#	Standard surface radius, mm	Standard surface diameter, mm	Region of tested radii (optimal for max F#), mm	Region of tested radii (feasible), mm
Optotl-60-Pl	flat	infinity	60		
Optotl-60/120Pl	flat	infinity	120		
Optotl-60-1:0.67CX	1:0.67	24CC	36	200CC-23CX	225CC-19CX
Optotl-60-1:0.8CX	1:0.8	39CC	49	23CX-38CX	200CC-38CX
Optotl-60-1:1.2CX	1:1.2	70CC	58	38CX-69CX	150CC-69CX
Optotl-60-1:1.8CX	1:1.8	110CC	59	69CX-105CX	110CC-105CX
Optotl-60-1:2.7CX	1:2.7	162CC	60	105CX-161CX	50CC-161CX
Optotl-60-1:4CX	1:4	240CC	60	161CX-239CX	30CX-239CX
Optotl-60-1:6CX	1:6	360CC	60	239CX-359CX	150CX-359CX
Optotl-60-1:9CX	1:9	540CC	60	359CX-540CX	330CX-540CX
Optotl-60-1:12CX	1:12	720CC	60	540CX-719CX	510CX-719CX
Optotl-60-1:15CX	1:15	901CC	60	719CX-900CX	690CX-900CX
Optotl-60-1:3.3CC	1:3.3	200CX	60	201CC-401CC	201CC-410CC
Optotl-60-1:6.6CC	1:6.6	400CX	60	401CC-601CC	401CC-610CC
Optotl-60-1:10CC	1:10	600CX	60	601CC-811CC	601CC-811CC
Optotl-60-1:13.5CC	1:13.5	810CX	60	811CC-1020CC	811CC-1020CC

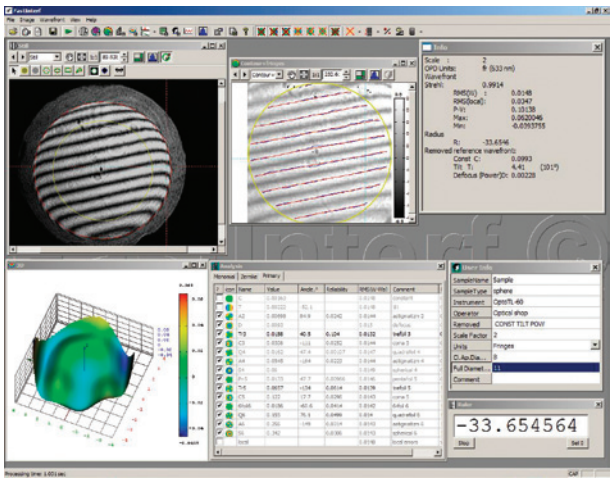
Fast Interfsoftware

Calculation time - several sec.

Calculation of all standard errors corresponding to optical surface and through-passing wavefront:

- (P-V) error
- (RMS) error
- Defocus (power)
- 3rd order aberrations
- Zernike polynomial coefficients
- Calculation results are presented in various forms, including 3D surface topography
- Computer generated interferometric pattern for results' authenticity visual evaluation

Software modernization of the in accordance with customers' requirements available.



To meet your specific needs OptoTL-60 upgrades are available.

Product by Opto-Technological Laboratory JSC

For more information visit
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