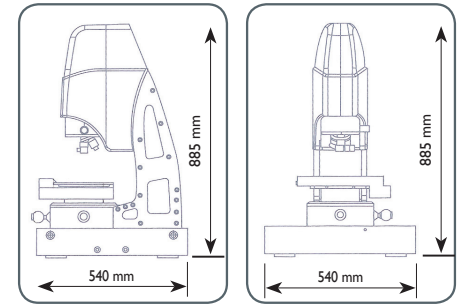


## CCI Optics system specifications

System	CCI Optics RM	CCI Optics AD	CCI Optics TF
Measurement type	3D non-contact		
Measurement mode	Coherence Correlation Interferometry (CCI)		
Z scanner	Ultra high precision closed loop piezoless scanner		
Objective mount	3 position turret		



Performance	CCI Optics RM	CCI Optics AD	CCI Optics TF
Single scan range (Z)	2.2 mm as standard (closed loop)		
Z -stitching range	Greater than 50 mm (closed loop)		
Z-resolution (max)	0.01 nm		
Noise floor (Z) <sup>1</sup>	<0.08 nm [0.8 Å]	<0.08 nm [0.8 Å]	<0.02 nm [0.2 Å]
Repeatability of surface RMS <sup>2</sup>	<0.02 nm [0.2 Å]	<0.02 nm [0.2 Å]	<0.02 nm [0.2 Å]
Number of measurement points	1024 x 1024	1024 x 1024	2048 x 2048
Step height repeatability <sup>3</sup>	<0.1%	<0.1%	>0.05%
Surface reflectivity	<0.3% - 100%	<0.3% - 100%	<0.3% - 100%

Software	CCI Optics RM	CCI Optics AD	CCI Optics TF
Roughness	Yes	Yes	Yes
Step height analysis	Optional	Optional	Optional
Super smooth surface analysis	Yes	Optional	Optional
Thick film analysis (> 1.5 microns)	No	No	Optional
Film thickness (>50 nm)	No	No	Optional
Stitching	Optional	Optional	Optional
Multi-site	Optional	Optional	Optional
Aspheric analysis software	No	Yes	Optional
Aspheric diffractive software	No	Optional	Optional

Stages	CCI Optics RM	CCI Optics AD	CCI Optics TF
Component weight (max)	10 Kg		
Automated X-Y stage (medium)	125 mm x 75 mm		
Automated X-Y stage (large)	150 mm x 150 mm		
Manual tip/tilt (standard)	4 degrees		

System dimensions	CCI Optics RM	CCI Optics AD	CCI Optics TF
Full system dimensions (floor space)	540 mm wide x 540 mm deep x 885 mm high		
Temperature (storage)	10 - 50°C		
Temperature (operating)	10 - 30°C		
Temperature gradient	< 1°C/hour ( best performance)		
Humidity	< 70% non-condensing		
Internal anti-vibration	Advanced pneumatic anti vibration mounts supplied as standard		
External active anti-vibration	Optional	Optional	Optional

<sup>1</sup> As demonstrated by multiple measurements on a levelled fused silica optical flat

<sup>2</sup> As demonstrated by 1 sigma standard deviation of 20 Sq (RMS) measurements on SiC flat

<sup>3</sup> As demonstrated by 1 sigma standard deviation of 20 measurements on a 5 µm step height standard

Other configurations are available upon request –  
please contact your local Taylor Hobson representative.  
**Specifications subject to change without prior notice.**

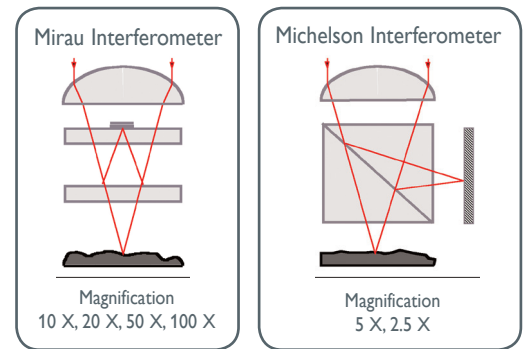
## CCI Optics objective lens specifications

A range of objectives lenses are available, the choice of lens will depend on the application. The key parameters are:

- **Field of view** determines the measurement area
- **Optical resolution** defines the smallest features that can be distinguished
- **Slope** is an important consideration for curved and rough samples, a rougher surface will contain steeper slopes.

All objective lenses are supplied with a protective storage.

Magnification	Magnification power of the objective lens
Field of view	Area of the sample measured by a given objective
Optical resolution	The ability to distinguish adjacent heights
Pixel size	Sample resolution, pixel pitch (spatial sampling interval)
Slope	Maximum specular slope, restricted by pixel size and the numerical aperture. Steeper slopes can be measured on non-specular surfaces
Working distance	Distance between sample and lens
NA	Numerical aperture, expresses the angular aperture of the lens
Design	Type of interferometer used, Michelson or Mirau



### CCI Optics RM

Magnification	Field of view (mm)	Optical resolution (um)	Pixel size (um)	Slope (max) (deg)	Working distance (mm)	NA	Design
2.5x	6.92 x 6.92	4.07	6.92	2	10.3	0.075	Michelson
5x	3.46 x 3.46	2.35	3.46	4	9.3	0.13	Michelson
10x	1.73 x 1.73	1.02	1.73	7.7	7.4	0.3	Mirau
20x	0.865 x 0.865	0.76	0.865	14.6	4.7	0.4	Mirau
50x	0.346 x 0.346	0.4 - 0.6	0.346	27.7	3.4	0.55	Mirau
100x	0.173 x 0.173	0.3 - 0.5	0.173	33.3	2	0.7	Mirau

### CCI Optics AD

Magnification	Field of view (mm)	Optical resolution (um)	Pixel size (um)	Slope (max) (deg)	Working distance (mm)	NA	Design
2.5x	6.92 x 6.92	4.07	6.92	2	10.3	0.075	Michelson
5x	3.46 x 3.46	2.35	3.46	4	9.3	0.13	Michelson
10x	1.73 x 1.73	1.02	1.73	7.7	7.4	0.3	Mirau
20x	0.865 x 0.865	0.76	0.865	14.6	4.7	0.4	Mirau
50x	0.346 x 0.346	0.4 - 0.6	0.346	27.7	3.4	0.55	Mirau
100x	0.173 x 0.173	0.3 - 0.5	0.173	33.3	2	0.7	Mirau

### CCI Optics TF

Magnification	Field of view (mm)	Optical resolution (um)	Pixel size (um)	Slope (max) (deg)	Working distance (mm)	NA	Design
2.5x	6.6 x 6.6	4.07	3.3	3.5	10.3	0.075	Michelson
5x	3.3 x 3.3	2.35	1.65	6	9.3	0.13	Michelson
10x	1.65 x 1.65	1.02	0.83	14	7.4	0.3	Mirau
20x	0.825 x 0.825	0.76	0.415	19	4.7	0.4	Mirau
50x	0.33 x 0.33	0.4 - 0.6	0.165	27.7	3.4	0.55	Mirau
100x	0.165 x 0.165	0.3 - 0.5	0.0823	33.3	2	0.7	Mirau

Other objective lenses are available upon request – please contact your local Taylor Hobson representative.

**Specifications subject to change without prior notice.**