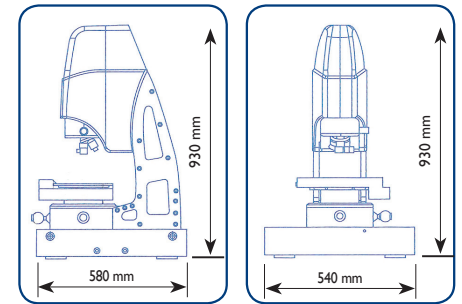


## CCI XL system specifications



System	CCI MP XL	CCI MP-HS XL	CCI HD XL
Measurement type	3D non-contact		
Measurement mode	Coherence Correlation Interferometry (CCI)		
Z scanner	Ultra high precision closed loop piezoless scanner (100 mm)		
Objective mount	3 position turret		
Performance	CCI MP XL	CCI MP-HS XL	CCI HD XL
Single scan range (Z)	2.2 mm as standard (closed loop)		
Z-stitching range	Up to 40 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]	<0.04 nm [0.4 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%
Z-Stitch repeatability	<0.01%	<0.01%	< 0.05%
Surface reflectivity	<0.3% - 100%	<0.3% - 100%	<0.3% - 100%
Software	CCI MP XL	CCI MP-HS XL	CCI HD XL
Roughness	Yes	Yes	Yes
Step height analysis	Yes	Yes	Yes
Super smooth surface analysis	Yes	Yes	Yes
Thick film analysis (> 1.5 microns)	Optional	Optional	Yes
Film thickness (>50 nm)	No	No	Optional
Stitching	Yes	Yes	Yes
Multi-site	Yes	Yes	Yes
Aspheric analysis	Optional	Optional	Optional
Asphero-diffractive analysis	Optional	Optional	Optional
Stages	CCI MP XL	CCI MP-HS XL	CCI HD XL
Component weight (max)	10 Kg		
Sample height ( max )	200 mm		
Automated X-Y stage (medium)	125 mm x 75 mm		
Automated X-Y stage (large)	150 mm x 150 mm		
Manual tip/tilt	degrees		
System dimensions	CCI MP XL	CCI MP-HS XL	CCI HD XL
Full system dimensions (floor space)	550 mm wide x 600 mm deep x 950 mm high		
Temperature (storage)	10°C - 50°C		
Temperature (operating)	10°C - 30°C		
Temperature gradient	< 1°C/hour ( best performance)		
Humidity	< 70% non-condensing		
Internal anti-vibration	Supplied as standard		
External active anti-vibration	Optional	Optional	Optional

<sup>1</sup> As demonstrated by multiple measurements on SiC flat

<sup>2</sup> Standard deviation of 20 Sq (RMS) measurements on SiC flat

<sup>3</sup> 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.**

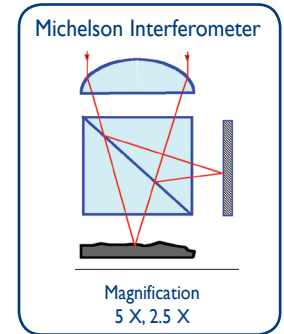
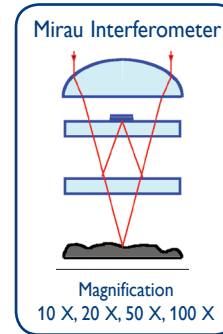
## CCI objective lens specifications

A range of objective 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 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 MP XL

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	5.4	6.8	2.2	10.3	0.075	Michelson
5x	3.46 x 3.46	3.1	3.4	4.5	9.3	0.13	Michelson
5x LWD	3.46 x 3.46	3.1	3.4	4.5	26	0.13	Michelson
10x	1.73 x 1.73	1.3	1.7	8.6	7.4	0.3	Mirau
20x	0.865 x 0.865	1.0	0.85	16.5	4.7	0.4	Mirau
50x	0.346 x 0.346	0.4 - 0.6	0.34	27.5	3.4	0.55	Mirau
100x	0.173 x 0.173	0.3 - 0.5	0.17	38	2	0.7	Mirau

### CCI MP-HS XL

Magnification	Field of view (mm)	Optical resolution (um)	Pixel size (um)	Slope (max) (deg)	Working distance (mm)	NA	Design
2.5x	6.4 x 6.4	5.4	6.3	2.7	10.3	0.075	Michelson
5x	3.2 x 3.2	3.1	3.1	5.3	9.3	0.13	Michelson
5x LWD	3.2 x 3.2	3.1	3.1	5.3	26	0.13	Michelson
10x	1.6 x 1.6	1.3	1.6	10.5	7.4	0.3	Mirau
20x	0.8 x 0.8	1.0	0.79	17	4.7	0.4	Mirau
50x	0.32 x 0.32	0.4 - 0.6	0.31	27.5	3.4	0.55	Mirau
100x	0.16 x 0.16	0.3 - 0.5	0.16	38	2	0.7	Mirau

### CCI HD XL

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	5.4	3.3	3.5	10.3	0.075	Michelson
5x	3.3 x 3.3	3.1	1.65	6.4	9.3	0.13	Michelson
5x LWD	3.3 x 3.3	3.1	1.65	6.4	26	0.13	Michelson
10x	1.65 x 1.65	1.3	0.83	14	7.4	0.3	Mirau
20x	0.825 x 0.825	1.0	0.415	19.5	4.7	0.4	Mirau
50x	0.33 x 0.33	0.4 - 0.6	0.165	27.5	3.4	0.55	Mirau
100x	0.165 x 0.165	0.3 - 0.5	0.0823	38	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.**