

# Technical data ImageMaster® Universal

	ImageMaster® Universal*
Optical set up	Finite, infinite or afocal
Max. off-axis angle	±180
Spectral range	UV: 250 nm ... 450 nm VIS: 450 nm ... 700 nm NIR: 700 nm ... 1.000 nm SWIR: 1.000 nm ... 2500 nm MWIR: 3 µm ... 5 µm LWIR: 7 µm ... 13 µm
Azimuth range	360°
Max. image height	±50 mm
Spatial frequency (in specification)	UV: 100 lp/mm VIS/NIR: 200 lp/mm SWIR: 120 lp/mm MWIR: 80 lp/mm LWIR: 60 lp/mm
Max. spatial frequency	
Accuracy** (MTF on-axis and off-axis)	UV-NIR: ±2 % MTF on-axis, ±3 % MTF off-axis SWIR-LWIR: ±3 % MTF on-axis, ±3 % MTF off-axis
Repeatability (MTF on-axis and off-axis)	UV-NIR: ±1 % MTF SWIR-LWIR: ±2 % MTF
EFL (Effective Focal Length) Accuracy	±0.2 %
Distortion	
Accuracy (without / with encoder)	±0.7 % / ±0.25 %
Repeatability (without / with encoder)	±0.3 % / ±0.1 %
Lateral chromatic aberration	
Accuracy	±0.5 µm
Repeatability	±0.3 µm
Longitudinal chromatic aberration	
Accuracy	±1 µm
Repeatability	0.2 µm
CRA	
Accuracy	±1°
Repeatability	±0.4°
FFL (relative)	
Accuracy	±2 µm
Repeatability	±1 µm
Astigmatism	
Accuracy	±4 µm
Repeatability	±1 µm
Field curvature	
Accuracy	±2 µm
Repeatability	±1 µm

\*All specifications can vary with wavelength and sample characteristics.

\*\* MTF accuracy is verified with TRIOPTICS reference samples.