Telecentric lens for Large Sensors

Telecentric design

For 1” industrial camera

DOF can be increased by decreasing F#

1.Designed for 1” industrial camera (diagonal=16mm).

2.Telecentric design, with better telecentricity and lower optical distortion；

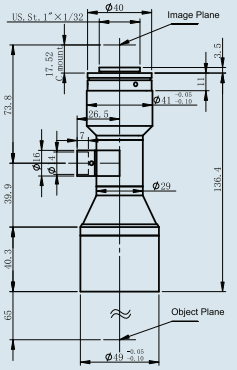
3.All lenses mount are default C-Mount, can be replaced with F-Mount for special requirements.

4.The listed lens F# data is designed maximum F#, it can be decreased to increase DOF (depth of focus) if customer requires.

5.Depth of focus is calculated by permissive circle radius of confusion <20μm on the image side, we can also provide customer DOF data at specific resolution and contrast requirements.

Model	Coax	Mag	WD (mm)	Telecentricity (degree)	Distortion (%)	DOF (mm)	F#	MTF>0.3 (LP/mm)	Mount (17.526mm)	FOV FOV for different Sensor size (mm x mm)	
										2/3inch 8.8×6.6	1inch 12.8×9.6
XF-5MDT1X65-1C	N	1X	65	0.05	0.08%	0.75	F7	>145	C or F	8.8×6.6	12.8×9.6
XF-5MDT1X65D-1C	Y	1X	65	0.05	0.09%	0.75	F7	>145	C or F	8.8×6.6	12.8×9.6
XF-5MDT0.5X65-1C	N	0.5X	65	0.07	0.02%	2.54	F6	>150	C or F	17.6×13.2	25.6×19.2
XF-5MDT0.5X65D-1C	Y	0.5X	65	0.07	0.03%	2.54	F6	>150	C or F	17.6×13.2	25.6×19.2
XF-5MDT0.275X200-1C	N	0.275X	200	0.1	0.05%	26	F8	>135	C or F	32×24	46.5×34.9

XF-5MDT0.5X65D-1C

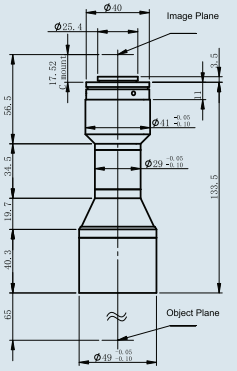


Specifications

Optical structure	Object telecentric
Magnification	0.5
Object FOV	Φ32mm
Image FOV	Φ16mm
W.D.	65mm±3%
Telecentricity	<0.1°
DOF	2.54mm
F#	F6
Resolution	7.95μm
Image side MTF	>0.3@165lp/mm
Optical Distortion	<0.002%

Measurement size:	
1' 12.8×9.6	25.6X19.2mm
2/3' 8.8×6.6	17.6X13.2mm
1/2' 6.4×4.8	12.8X9.6mm
1/3' 4.8×3.6	9.6X7.2mm

XF-5MDT0.5X65-1C

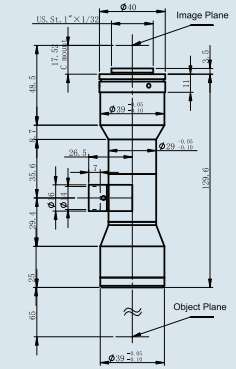


Specifications

Optical structure	Object telecentric
Magnification	0.5
Object FOV	Φ32mm
Image FOV	Φ16mm
W.D.	65mm±3%
Telecentricity	<0.1°
DOF	2.54mm
F#	F6
Resolution	7.95μm
Image side MTF	>0.3@165lp/mm
Optical Distortion	<0.003%

Measurement size:	
1' 12.8×9.6	25.6X19.2mm
2/3' 8.8×6.6	17.6X13.2mm
1/2' 6.4×4.8	12.8X9.6mm
1/3' 4.8×3.6	9.6X7.2mm

XF-5MDT1X65D-1C

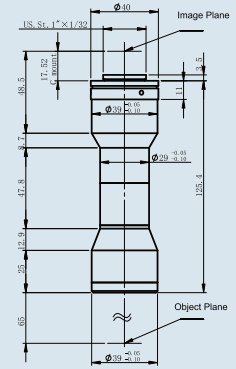


Specifications

Optical structure	Object telecentric
Magnification	0.5
Object FOV	Φ32mm
Image FOV	Φ16mm
W.D.	65mm±3%
Telecentricity	<0.1°
DOF	2.54mm
F#	F6
Resolution	7.95μm
Image side MTF	>0.3@165lp/mm
Optical Distortion	<0.002%

Measurement size:	
1' 12.8×9.6	25.6X19.2mm
2/3' 8.8×6.6	17.6X13.2mm
1/2' 6.4×4.8	12.8X9.6mm
1/3' 4.8×3.6	9.6X7.2mm

XF-5MDT1X65-1C

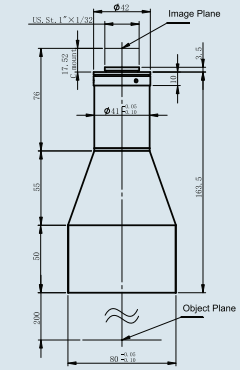


Specifications

Optical structure	Object telecentric
Magnification	1
Object FOV	Φ16mm
Image FOV	Φ16mm
W.D.	65mm±3%
Telecentricity	<0.1°
DOF	0.75mm
F#	F7
Resolution	4.65μm
Image side MTF	>0.3@140lp/mm
Optical Distortion	<0.008%

Measurement size:	
1' 12.8×9.6	12.8×9.6mm
2/3' 8.8×6.6	8.8×6.6mm
1/2' 6.4×4.8	6.4×4.8mm
1/3' 4.8×3.6	4.8×3.6mm

XF-5MDT0.275X200-1C



Specifications

Optical structure	Object telecentric
Magnification	0.275
Object FOV	Φ58.2mm
Image FOV	Φ16mm
W.D.	200mm±3%
Telecentricity	<0.15°
DOF	26mm
F#	F8
Resolution	19.4μm
Image side MTF	>0.3@130lp/mm
Optical Distortion	<0.05%

Measurement size:	
1' 12.8×9.6	46.5×34.9mm
2/3' 8.8×6.6	32×24mm
1/2' 6.4×4.8	23.3×17.5mm
1/3' 4.8×3.6	17.4×13mm