

Lens Catalogue of Chen Hsuan Optics

Version A	Chen Hsuan Technology Co., LTD. 407 Address:No. 56-17, Alley 12, Lane 225, Section 3, Zhongqing Road, Xitun District, Taichung City Tel: +886 424263929 Fax:+886 422569849	CONFIDENTIAL
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A Series of Line Scan Lenses

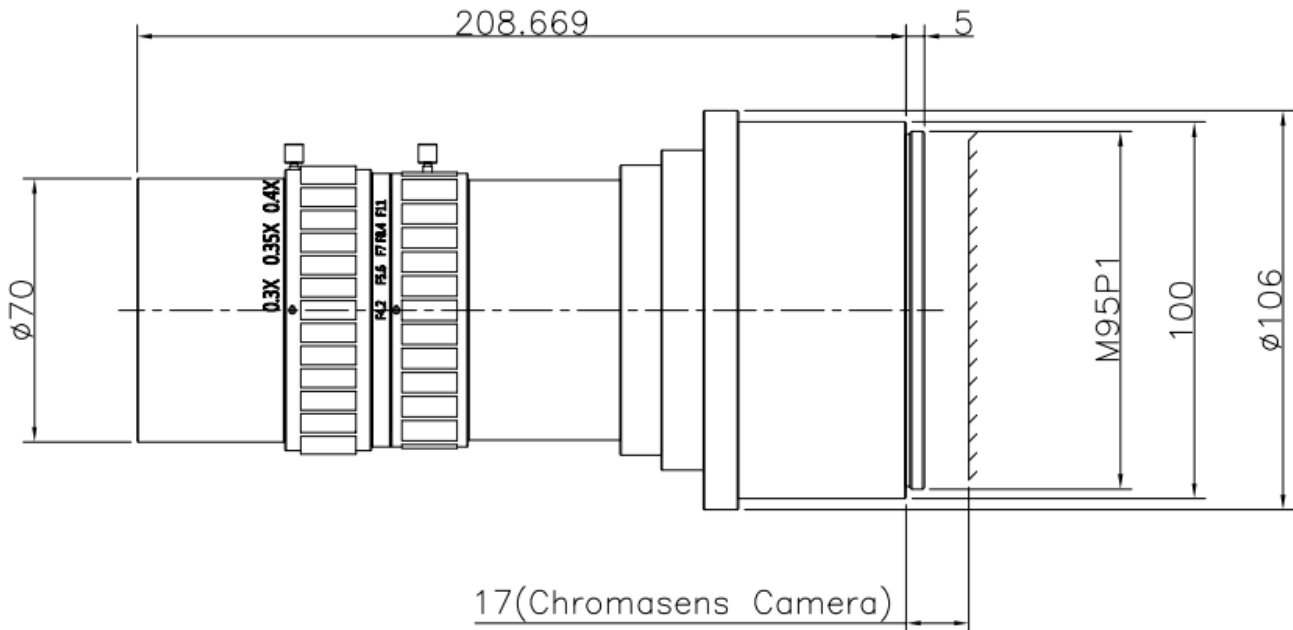
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Magnification: 0.3X~0.4X

1. Optical Specification

No.	Items	Description			
1	Optical Magnification	0.3X~0.4X			
2	Resolution	16K5 μ m/16K5.6 μ m			
3	Working Distance (WD)	Magnification	0.3X	0.35X	0.4X
		WD (mm)	450	400	361
		OI (mm)	650	605.5	573.4
4	Effective F/#	F4.2~F11			
5	Depth of Field (DOF)	± 0.05 mm@60 lp/mm, MTF>0.3 (Image side)			
6	Optical Distortion	<0.1%			
7	Relative Illumination (RI)	>85% @ $\Phi 86$			
8	Modulation Transfer Function (MTF)	>70@ 40lp/mm			
9	Wavelength	450nm~650nm			
10	Mount	M95P1/M90P1			

2. Drawing



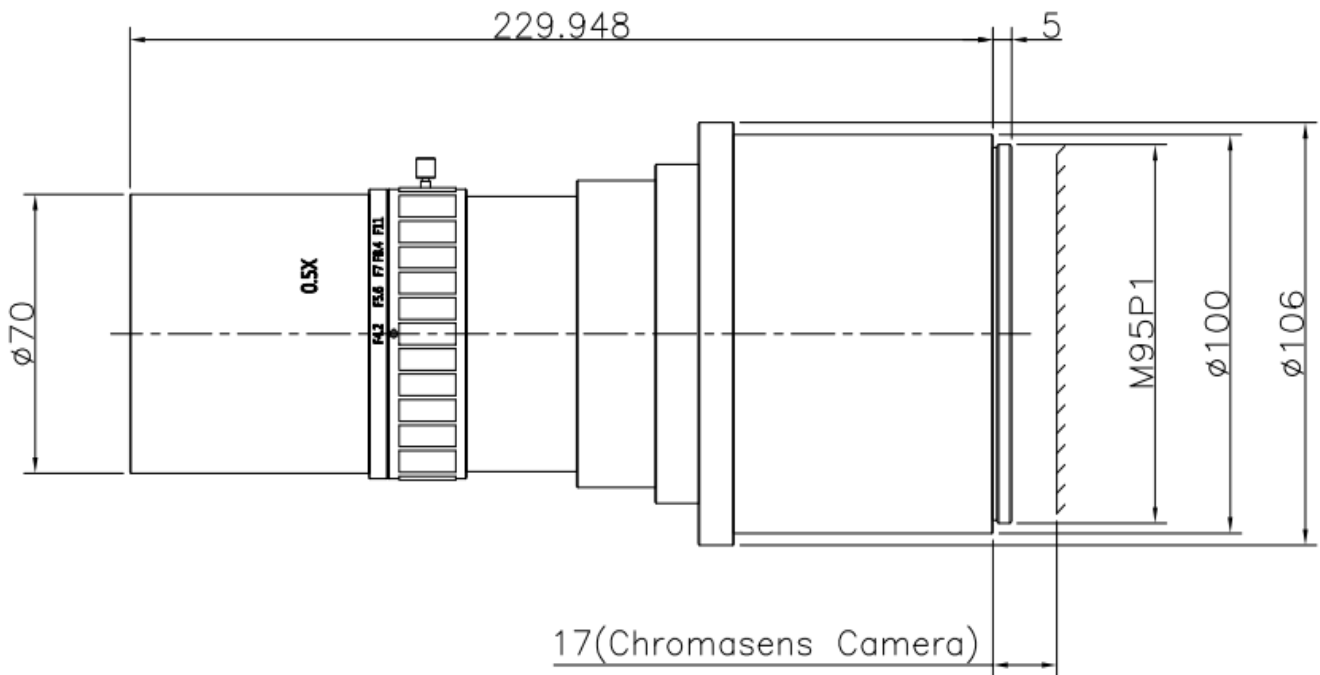
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Magnification: 0.5X

1. Optical Specification

No.	Items	Description	
1	Optical Magnification	0.5X	
2	Resolution	16K5 μ m/16K5.6 μ m	
3	Working Distance (WD)	Magnification	0.5X
		WD (mm)	281.8
		OI (mm)	528.7
4	Effective F/#	F4.2~F11	
5	Depth of Field (DOF)	± 0.05 mm@60 lp/mm, MTF>0.3 (Image side)	
6	Optical Distortion	<0.1%	
7	Relative Illumination (RI)	>85% @ $\Phi 86$	
8	Modulation Transfer Function (MTF)	>70@ 40lp/mm	
9	Wavelength	450nm~650nm	
10	Mount	M95P1/M90P1	

2. Drawing



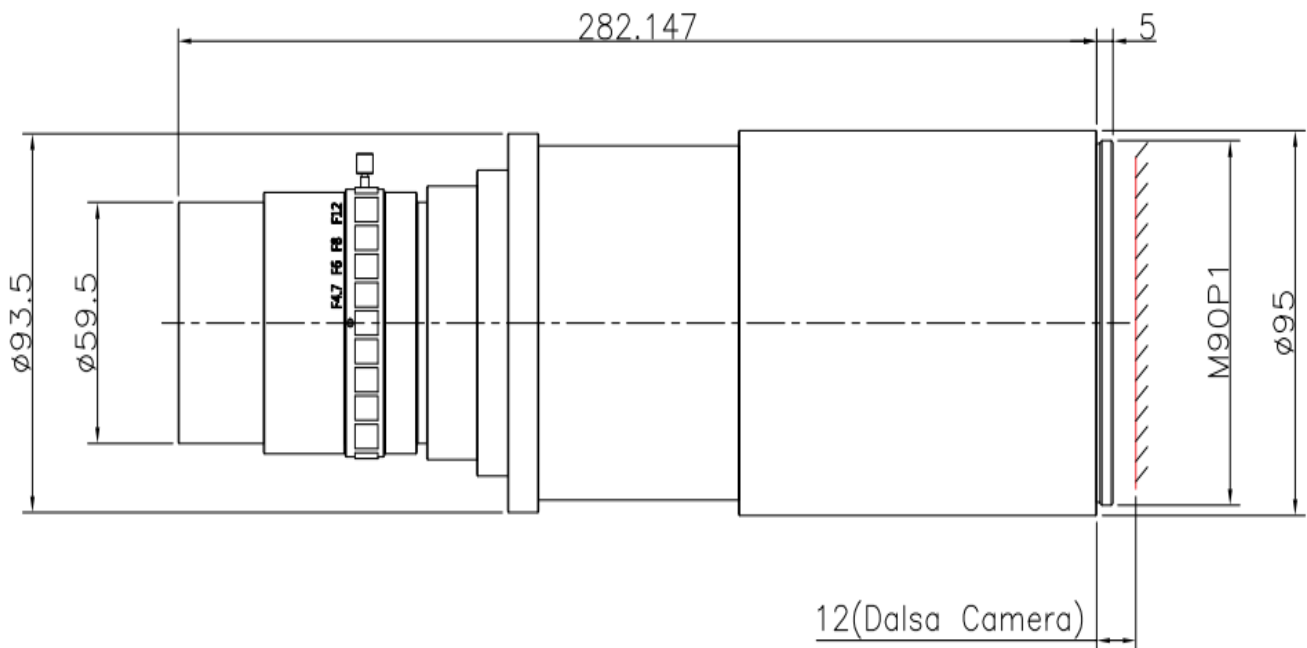
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Magnification: 0.83X~1X

1. Optical Specification

No.	Items	Description			
1	Optical Magnification	0.83X~1X			
2	Resolution	16K5 μ m/16K5.6 μ m			
3	Working Distance (WD)	Magnification	0.87X	0.93X	1X
		WD (mm)	217.7	199.8	186.7
		OI (mm)	511.9	507.7	504.2
4	Effective F/#	F4.7~F16			
5	Depth of Field (DOF)	± 0.06 mm@50lp/mm, MTF>0.4 (Image side)			
6	Optical Distortion	<0.1%			
7	Relative Illumination (RI)	>95% @ $\Phi 86$			
8	Modulation Transfer Function (MTF)	>53@ 45 lp/mm			
9	Wavelength	450nm~650nm			
10	Mount	M95P1/M90P1			

2. Drawing



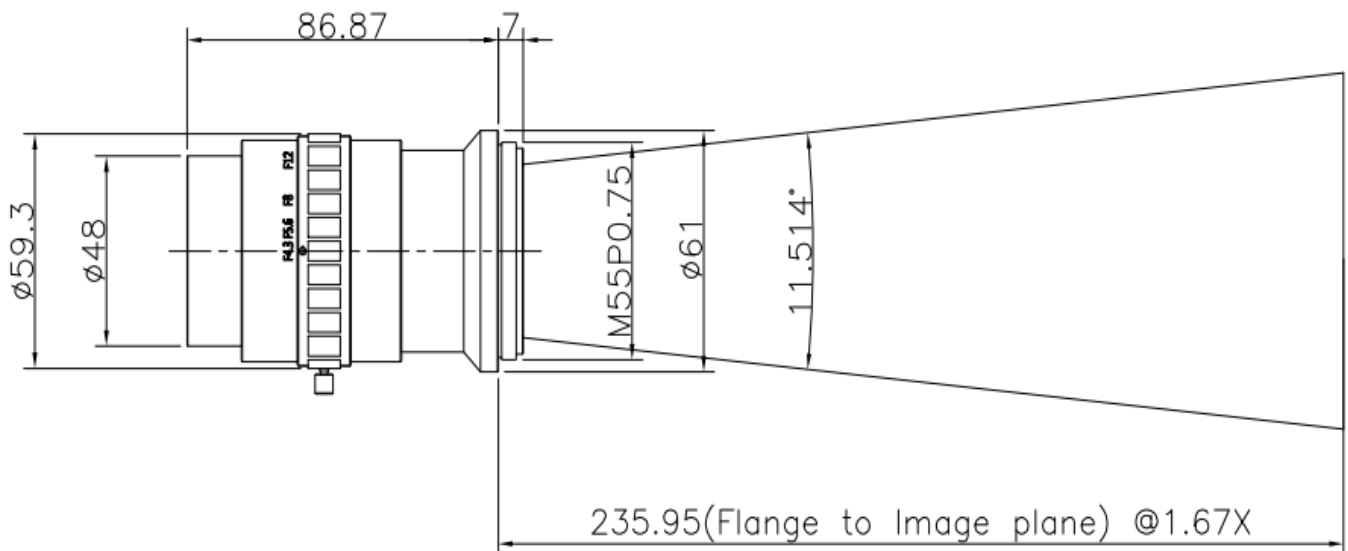
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Magnification: 1.6X~1.75X

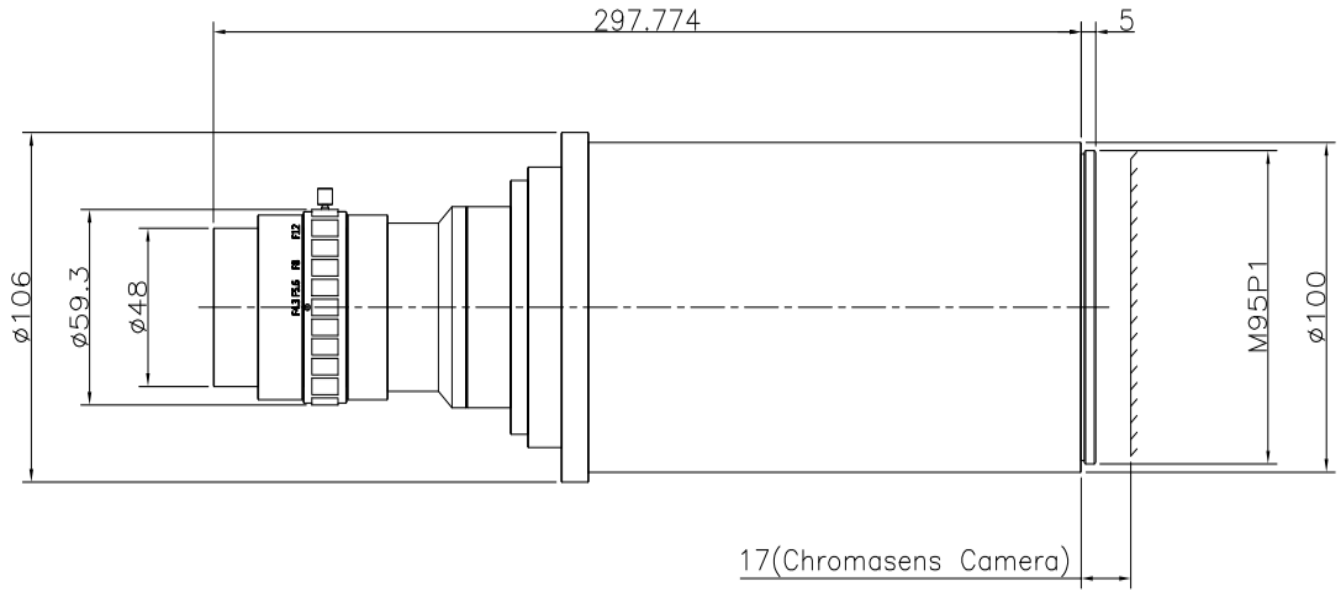
1. Optical Specification

No.	Items	Description			
1	Optical Magnification	1.6X~1.75X			
2	Resolution	16K5 μ m/16K5.6 μ m			
3	Working Distance (WD)	Magnification	1.6X	1.67X	1.75X
		WD (mm)	153	150	147
		OI (mm)	464	469	475
4	Effective F/#	F4.3~F12			
5	Depth of Field (DOF)	± 0.5 mm@COC=40 μ m(Image side)			
6	Optical Distortion	<0.05%			
7	Relative Illumination (RI)	>95% @ $\Phi 86$			
8	Modulation Transfer Function (MTF)	>40@ 40lp/mm			
9	Wavelength	430nm~650nm			
10	Mount	M95P1/M90P1			

2. Drawing



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A Series of Telecentric Lenses

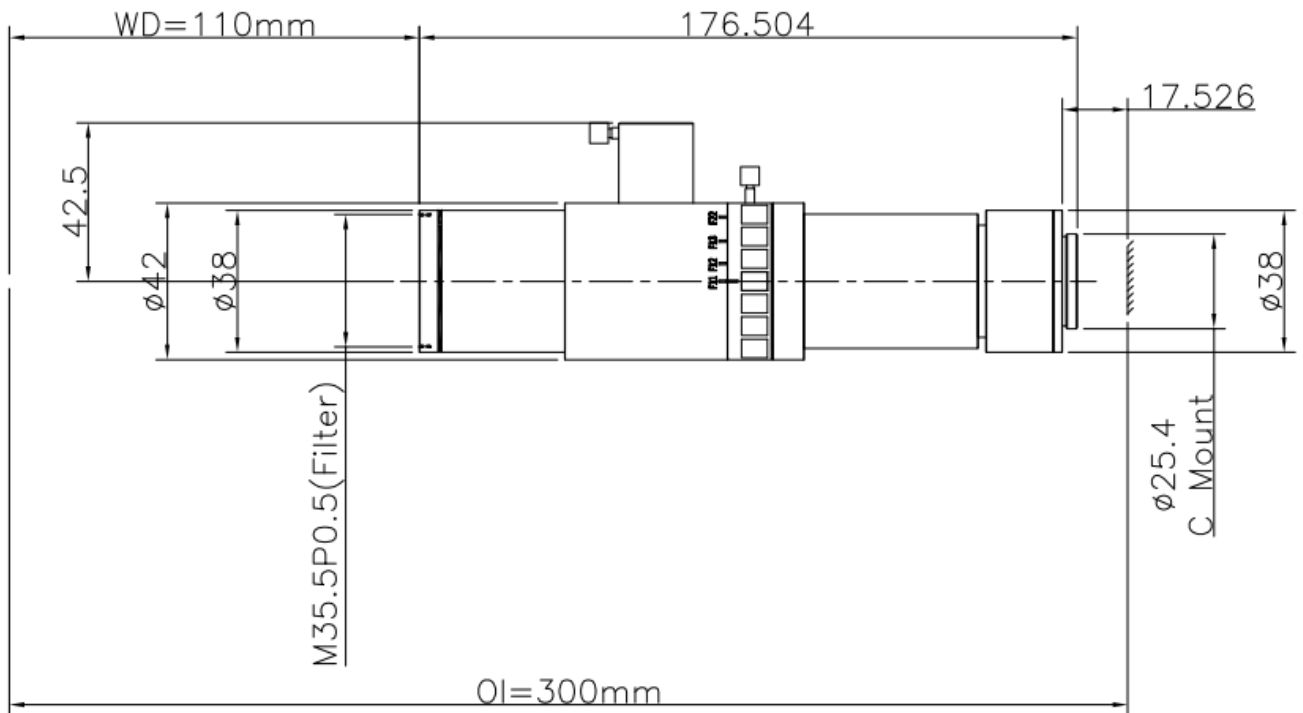
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12M, 1.1”, 2X, Coaxial, Bi-Telecentric Lens

1. Optical Specification

No.	Items	Description	Remark
Camera			
1	Model	IMX253 1.1”	
2	Resolution	12MP	
3	Pixel Size	3.45μm/3.45μm	
4	Mount	C mount	
Lens			
1	Optical Magnification	2.0	
2	Sensor	14.19 mm x 10.34 mm φ17.6	
3	Working Distance	WD = 110mm OI = 300mm	
4	FOV	H=7.0mm * V=5.1mm	
5	Effective F/#	F11~F22	
6	NAO	0.09 @F11 0.083@F12 0.077@F13 0.071@F14	
7	EFL	1334mm	
8	Resolution	3.53μm	
9	Axial color	< 10μm	
10	Lateral color	Max 2.4μm	
11	DOF	220um @F11 240um @F12 260um @F13 280um @F14	COC=0.04mm
12	Optical Distortion	< 0.012%	
13	RI	1.0 field >98	
14	MTF @80lp/mm	>0.3	
15	CRA	< 0.1 degree	
16	Wavelength	465nm ~ 642nm (White light)	

2. Drawing



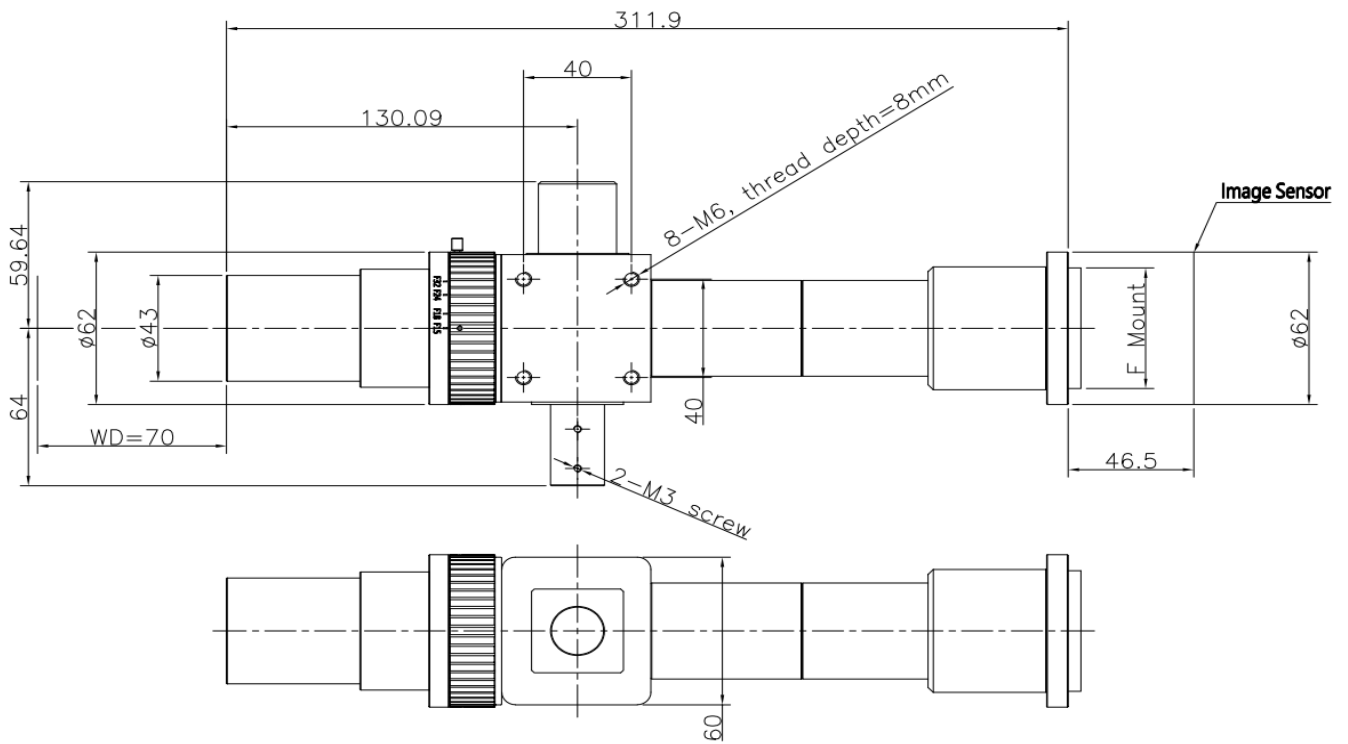
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25M, ϕ 32.5mm, 3.5X, Coaxial, Telecentric Lens

1. Optical Specification

Camera			
1	Model	IMPERX_C5180 (25M, CMOS)	
2	Resolution	5120*5120	
3	Pixel Size	4.5 μ m	
4	Mount	F mount	
Lens			
1	Optical Magnification	3.5X	
2	Sensor	23mm(H)*23mm(V)*32.5mm(D)	
3	Working Distance	WD= 70mm	
4	Effective F/#	15~32	
5	NA	0.1167 - 0.0547	
6	Resolution	<3 μ m	
7	DOF (Image)	0.7mm (COC < 20 μ m)	
	DOF (Object)	0.24mm (COC < 20 μ m)	
8	Distortion	<0.1%	
9	View Area	6.6mm*6.6mm	
10	OI	430mm	

2. Drawing



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