

Fixed Focal Length Lens Introduction

MFA, WWT, SWIR, 360° View Series





FA Lens – MFA Series

- Vibration and Shock-resistance
- Low Distortion
- High Resolution
- High Uniformity

2. Application

Inspection: Appearance, Crack, Edge inspection, etc.

Measurement: Position measurements, Parts sorting, Automated assembly, etc.

Recognition: Text recognition, Barcode scanning, Parcel sorting, etc.



3. Vibration and Shock-resistance Design

Improved Optical Design

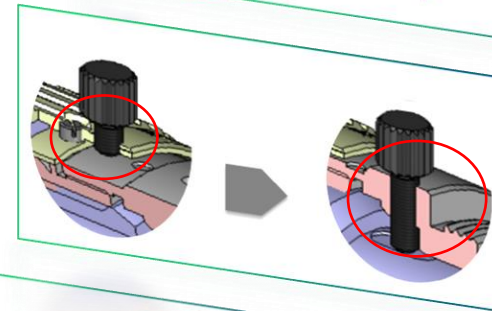
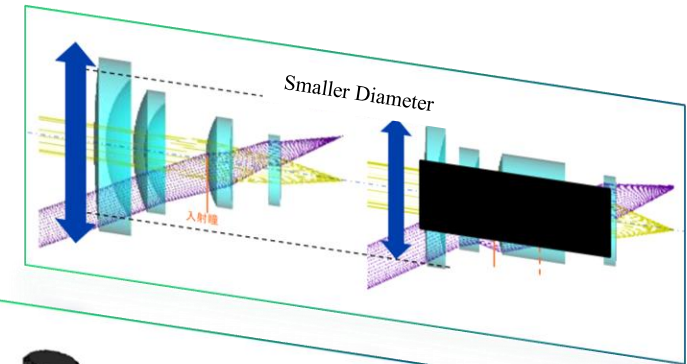
We reduced the product size and arranged the internal lens elements more densely to enhance vibration resistance.

Improved Mechanical Design

By improving the mechanical screw-fixing structure, the lens barrel now moves only horizontally when focusing, eliminating vertical movement and reducing the risk of loose screws or components.

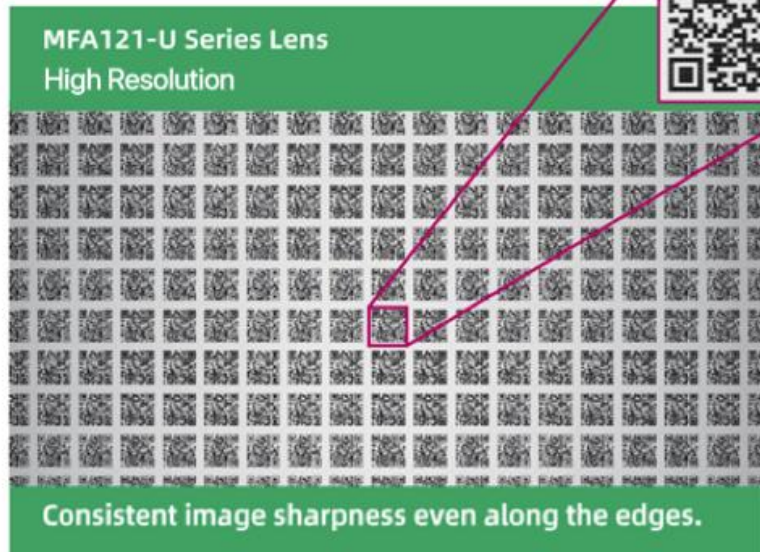
Improved Mounting Method

After adjusting the F#/focus, we use M2 hex socket head screws instead of thumb screws. Additionally, having three screw holes further increases vibration resistance.

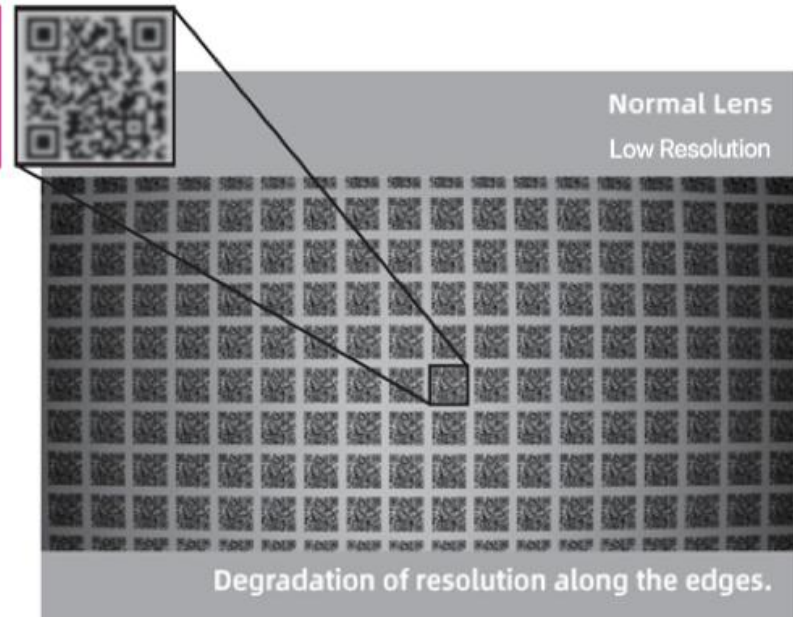


4. Product Comparison 1

≡ Better Performance



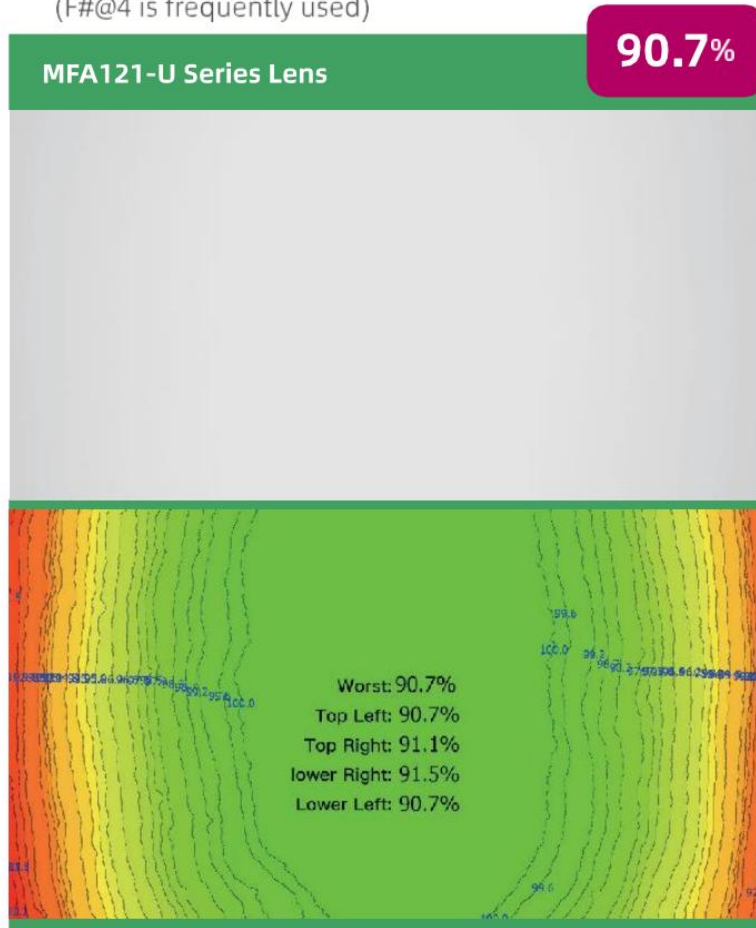
VICO Imaging



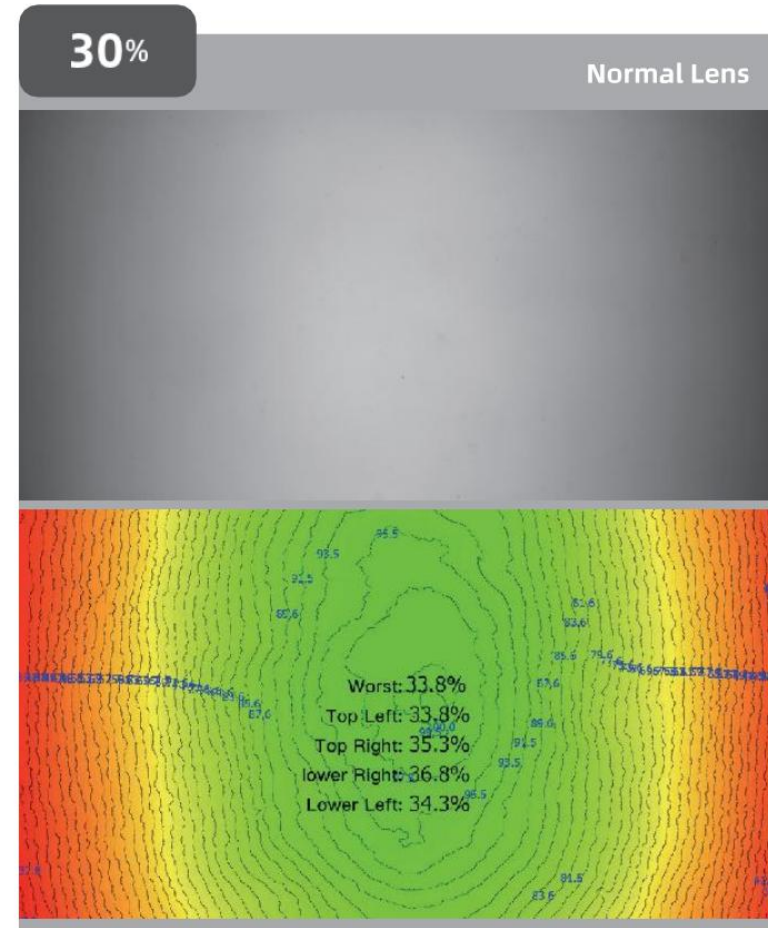
Competitor

4. Product Comparison 2

≡ Relative illumination reaches up to above 90%
(F#4 is frequently used)



VICO Imaging



Competitor

5. Product Comparison 3 – 1/1.8"

Testing Camera	Model	Testing WD (mm)	Best Fno (Testing Fno)	MTF30 lp/mm			TV Distortion(%)		Relative illumination
				Min	Max	Min/Max	H	V	
1.8" 6MP 2.4μm	MFA118-S08	200	4	111.56	163.17	68%	-0.0927%	-0.4976%	84%
	Competitor A	200	5.6	57.29	139.67	41%	0.7378%	0.8566%	74%
	MFA118-S25	700	4	128.52	117.79	109%	0.0208%	0.0380%	92%
	Competitor A	700	5.6	71.73	169.58	42%	-0.0401%	-0.0813%	85%
	MFA118-S35	800	5.6	117.03	149.72	78%	0.0066%	0.0104%	93%
	Chiopt 35mm	800	5.6	65.60	157.26	42%	0.0107%	0.0152%	91%

Comparison Conclusion - VICO Imaging Product Advantages

- High Resolution
- Low Distortion
- High Relative Illumination

*Mono Value: 200

5. Product Comparison 4 – 2/3", 1.1"

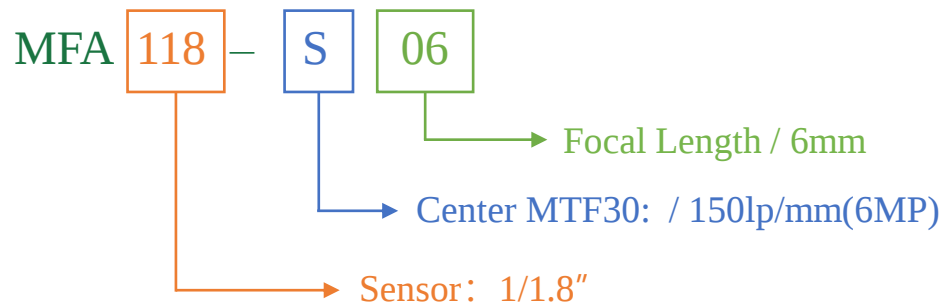
Testing Camera	Model	Testing WD (mm)	Best Fno (Testing Fno)	MTF30 lp/mm			TV Distortion(%)		Relative illumination
				Min	Max	Min/Max	H	V	
1" 20MP, 2.4μm, ROI 2/3"	MFA230-S12	200	4	113.1228	165.8310	68.2%	-0.0065%	-0.0883%	89.1%
	Competitor A	200	4	84.6025	163.8402	51.6%	-0.0110%	-0.0684%	91.5%
	Competitor B	200	4	96.8319	159.0349	60.9%	0.3095%	0.3364%	74.6%
	MFA230-S35	550	5.6	119.4143	142.2291	84.0%	-0.0019%	0.0029%	92.6%
	Competitor A	550	2.8	94.6893	159.1633	59.5%	0.0477%	0.0756%	59.0%
	Competitor B	550	5.6	108.5507	136.0164	79.8%	-0.0151%	-0.0107%	91.0%
1.1" 12MP 3.45μm	MFA121-U35	350	4	128.2699	158.5539	80.9%	-0.0141%	-0.0130%	80.6%
	Competitor A	350	4	90.4206	125.6326	72.0%	-0.1102%	-0.1755%	71.4%
	Competitor B	350	4	75.5698	118.4055	63.8%	0.0096%	0.0015%	62.3%

Comparison Conclusion - VICO Imaging Product Advantages

- High Resolution
- Low Distortion
- High Relative Illumination

*Mono Value: 200

6. Product Model Naming Convention



Sensor Size	1/1.8" 6M	2/3" 10M	1" 20M	1.2" 24M	
Center MTF	H 120lp/mm	S 160lp/mm	U 200lp/mm		
Focal Length	6 25	8 35	12 50	16 70	18 75

6. Lens Spec - 1/1.8"

Model	Focal Length (mm)	F/No:	Sensor Size	Min. WD (mm)	Screw Size	Mount
MFA118-S06V3	6	2.8~16	1/1.8"	80	M27xP0.5	C
MFA118-S08	8	2.8~16	1/1.8"	110	M27xP0.5	C
MFA118-S12V2	12	2.8~16	1/1.8"	110	M27xP0.5	C
MFA118-S16V2	16	2.8~16	1/1.8"	110	M27xP0.5	C
MFA118-S25V2	25	2.8~16	1/1.8"	150	M27xP0.5	C
MFA118-S35V2	35	2.8~16	1/1.8"	200	M27xP0.5	C
MFA118-S50V2	50	2.8~16	1/1.8"	300	M27xP0.5	C

● Product Description

- Supports up to 1/1.8"(6MP), 1/2.3"(10MP), 1/2.5"(5MP)
- Resolution up to 150 lp/mm

6. Lens Spec – 1/1.7"

Model	Focal Length (mm)	F/No:	Sensor Size	Min. WD (mm)	Screw Size	Mount
MFA117-S08	8	2.8~16	1/1.7"	75	M27.0xP0.5	C
MFA117-S12	12	2.8~16	1/1.7"	110	M27.0xP0.5	C
MFA117-S16	16	2.8~16	1/1.7"	110	M27.0xP0.5	C
MFA117-S25	25	2.8~16	1/1.7"	150	M27.0xP0.5	C
MFA117-S35	35	2.8~16	1/1.7"	200	M27.0xP0.5	C
MFA117-S50	50	2.8~16	1/1.7"	300	M25.5xP0.5	C

● Product Description

- Supports up to 1/1.7"(12MP)
- Resolution up to 150 lp/mm

6. Lens Spec – 2/3"

Model	Focal Length (mm)	F/No:	Sensor Size	Min. WD (mm)	Screw Size	Mount
MFA230-S08	8	2.6~16	2/3"	110	×	C
MFA230-S12	12	2.6~17	2/3"	110	M27xP0.5	C
MFA230-S16	16	2.6~18	2/3"	100	M27xP0.5	C
MFA230-S25	25	2.6~19	2/3"	200	M25.5xP0.5	C
MFA230-S35	35	2.6~20	2/3"	200	M25.5xP0.5	C
MFA230-S50	50	2.8-16	2/3"	300	M30.5xP0.5	C
MFA230-S75V2	75	2.0-16	2/3"	400	M44.5xP0.5	C

● Product Description

- Supports up to 2/3"(5MP), 2/3"(10MP)
- Resolution up to 150 lp/mm

6. Lens Spec - 1"

Model	Focal Length (mm)	F/No:	Sensor Size	Min. WD (mm)	Screw Size	Mount
MFA110-H08	8	2.4~22	1"	100	M65 P0.75	C
MFA110-H12	12	2.8~16	1"	100	x	C
MFA110-H16	16	2.8~16	1"	100	M35.5xP0.5	C
MFA110-H25	25	2.8~16	1"	150	M35.5xP0.5	C
MFA110-H35	35	2.8~16	1"	200	M35.5xP0.5	C
MFA110-H50	50	2.8~16	1"	300	M35.5xP0.5	C

● Product Description

- Supports up to 1"(5MP), 1"(20MP)
- Resolution up to 120 lp/mm

6. Lens Spec – 1.1"

Model	Focal Length (mm)	F/No:	Sensor Size	Min. WD (mm)	Screw Size	Mount
MFA111-H12	12	2.8~16	1.1"	100	x	C
MFA111-H16	16	2.8~16	1.1"	100	x	C
MFA111-H25	25	2.8~16	1.1"	150	M30.5xP0.5	C
MFA111-H35	35	2.8~16	1.1"	200	M35.5xP0.5	C
MFA111-H50	50	2.8-16	1.1"	300	M35.5xP0.5	C

● Product Description

- Supports up to 1.1"(26MP)
- Resolution up to 120 lp/mm

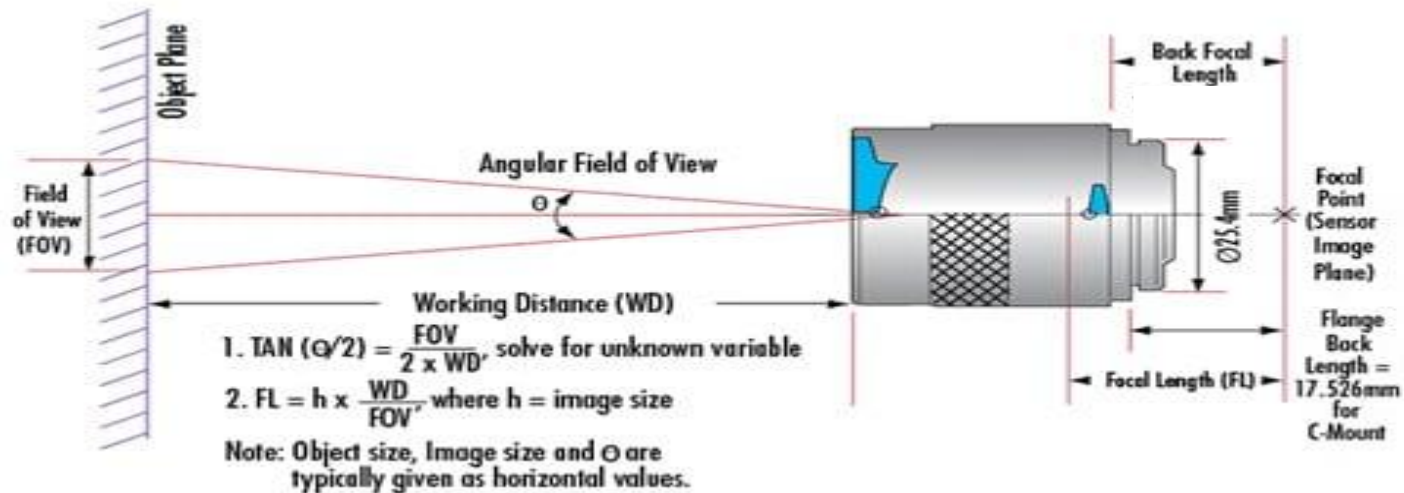
6. Lens Spec – 1.2"

Model	Focal Length (mm)	F/No:	Sensor Size	Min. WD (mm)	Screw Size	Mount
MFA121-U18	18	4.0~16	1.2"	100	M35.5xP0.5	C
MFA121-U20	20	3.5~11	1.2"	200	M35.5xP0.5	C
MFA121-U25	25	4.0~16	1.2"	150	M35.5xP0.5	C
MFA121-U35	35	4.0~16	1.2"	200	M35.5xP0.5	C
MFA121-U50	50	4.0~16	1.2"	300	M35.5xP0.5	C
MFA121-U70	70	4.0~16	1.2"	300	M35.5xP0.5	C
MFA121-U75	75	4.0~16	1.2"	285	M35.5xP0.5	C

● Product Description

- Supports up to 1.2''(24MP), 1.1''(25MP), 1.1''(12MP)
- Resolution up to 200 lp/mm

6. FA Lens Features



① Focal Length Effects

- Smaller focal length → deeper depth of field
- Smaller focal length → greater distortion
- Smaller focal length → more pronounced vignetting

① Aperture Effects

- Larger aperture → brighter image
- Larger aperture → shallower depth of field
- Larger aperture → higher resolution

① Center vs. Edge

- Typically higher resolution at the center
- Typically higher illumination at the center



Fixed Mag Fixed Focal Length Lens – WWT Series

- Derived from the FA lens optical system
- Saves equipment adjustment time
- Screwless design, eliminates risk of screw dropouts, reducing maintenance costs
- High resolution with most models at F#=6

1. Application

Robotics Arm Applications

Anti-Vibration

- Solve screws loosening problems occurring on FA lenses.

Easy to Install

- Fixed aperture, fixed magnification, and fixed focal length.

Excellent Optical Feature

- "Plug and play" for top-notch visual performance.

Compact and Small

- Perfect for seamless robotic arm integration.

WWT Series

2. Product Comparison

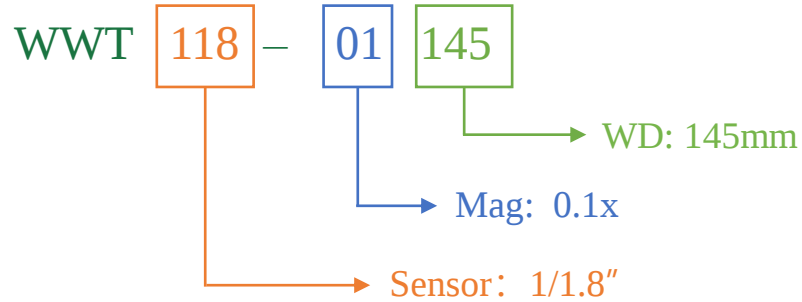
WWT Series **VS** Typical Fixed Focal Length Lens

- Shock-resistant
- Stable image quality with high consistency
- Superior performance
- Reduced setup time
- Lower maintenance costs

WWT Series **VS** Object-size Telecentric Lens

- ✓ High resolution, typically F# 5.6 or 6
- ✓ Compact design, Outer diameter: 26–40 mm; length as short as 22 mm
- ✓ Flexible magnification from 0.1x to 1x
- ✓ Competitive price

3. Product Model Naming Convention



Sensor Size	$\frac{1/1.8''}{6M}$	$\frac{2/3''}{10M}$	$\frac{1''}{20M}$	$\frac{1.2''}{24M}$
Magnification	0.1x~1x			
WD	55~1000mm			

◆ Fixed Mag Fixed Focal Length Lens – WWT Series

4. Lens Spec – 1/1.8"

Model No.	Mag. β (x)	MTF30 (lp/mm)	CCD ($\varnothing$ mm)	Resolution (μ m)	WD (mm)	Focal Length (mm)	DoF (mm)	NA	Distortion (max) (%)	Length (mm)	Filter thread size
WWT118-00979-215	0.0979	158	9(1/1.8")	38.4	215	25.05	46.7	0.00874	0.05	74.1	M30x0.5
WWT118-01-145	0.1	139.0	9.0(1/1.8")	40.3	145	15.87	48.0	0.00833	-0.2077	22.5	M30x0.5
WWT118-01-252	0.1	172.0	9.0(1/1.8")	37.5	252	25.04	44.8	0.00894	-0.015	31.0	M30x0.5
WWT118-015-92	0.15	100	9.0(1/1.8")	41.3	92	15.96	49.0	0.00936	0.8	22.7	M30x0.5
WWT118-02-66	0.2	137.8	9.0(1/1.8")	20.1	66	15.85	12.0	0.01667	-0.2017	23.9	M30x0.5
WWT118-02-130	0.2	152.0	9.0(1/1.8")	18.8	130	24.99	11.2	0.01786	-0.037	30.0	M30x0.5
WWT118-03-39	0.3	119.8	9.0(1/1.8")	13.4	39	15.89	5.3	0.025	-0.2572	25.9	M30x0.5
WWT118-035-161	0.35	106	9.0(1/1.8")	15.5	161	46.07	6.8	0.02694	0.02	59.8	M30x0.5
WWT118-04-26	0.4	116.0	9.0(1/1.8")	10.1	26	15.9	3.0	0.03328	-0.3976	26.6	M30x0.5
WWT118-05-56	0.5	136.0	9.0(1/1.8")	10.8	56	24.89	2.6	0.0312	-0.034	37.0	M30x0.5
WWT118-055-113	0.55	82.0	9.0(1/1.8")	10.4	115	45.37	3.2	0.03942	0.01	68.1	M30x0.5
WWT118-06-106	0.6	140.0	9.0(1/1.8")	8.4	106	45.4	1.7	0.03995	0.0307	70.8	M30x0.5
WWT118-09-81	0.9	117.0	9.0(1/1.8")	6.0	81	45.63	0.8	0.05607	0.0271	84.5	M30x0.5
WWT118-095-78	0.95	56.0	9.0(1/1.8")	7.0	78	45.43	1.8	0.05578	0.02	86.8	M30x0.5
WWT118-10-58	1	78.0	9.0(1/1.8")	5.7	58	45	0.7	0.05841	-0.008	72.3	M30x0.5
WWT118-10-76	1	106.0	9.0(1/1.8")	5.7	76	45.71	0.7	0.05869	-0.0173	89.4	M30x0.5

◆ Fixed Mag Fixed Focal Length Lens – WWT Series

4. Lens Spec – 2/3"

Model No.	Mag. β (x)	MTF30 (lp/mm)	CCD ($\varnothing$ mm)	Resolution (μ m)	WD (mm)	Focal Length (mm)	DoF (mm)	NA	Distortion (max) (%)	Length (mm)	Filter thread size
WWT230-01-360	0.1	116.0	11.0(2/3")	37.6	360	34.83	44.8	0.00893	-0.089	38.3	M30x0.5
WWT230-01-544	0.1	126.8	11.0(2/3")	40.2	544	52.75	48.0	0.00834	-0.0678	54.0	M30x0.5
WWT230-02-192	0.2	124.0	11.0(2/3")	18.9	192	35.52	11.2	0.01777	-0.028	40.7	M30x0.5
WWT230-02-264	0.2	114.0	11.0(2/3")	20.1	264	47.49	12.0	0.01668	0.0443	54.5	M30x0.5
WWT230-03-88	0.3	109.0	11.0(2/3")	14.6	88	24.99	5.8	0.02305	-0.049	33.5	M30x0.5
WWT230-03-135	0.3	121.0	11.0(2/3")	13.5	135	36.61	5.3	0.02493	-0.122	45.5	M30x0.5
WWT230-03-166	0.3	86	11.0(2/3")	112	166	46.28	5.8	0.02313	0.02	74.8	M30x0.5
WWT230-03-183	0.3	101.0	11.0(2/3")	14.5	183	46.28	5.8	0.02313	0.0257	57.8	M30x0.5
WWT230-04-68	0.4	94.0	11.0(2/3")	10.9	68	25.06	3.3	0.03075	-0.068	35.3	M30x0.5
WWT230-04-106	0.4	118.0	11.0(2/3")	10.1	106	37.17	3.0	0.0333	-0.021	49.3	M30x0.5
WWT230-04-144	0.4	104.0	11.0(2/3")	10.9	144	45.81	3.3	0.03077	0.0641	62.3	M30x0.5
WWT230-05-90	0.5	118.0	11.0(2/3")	9.4	90	38.01	2.2	0.03574	0.022	52.2	M30x0.5
WWT230-05-121	0.5	106.0	11.0(2/3")	9.4	121	45.52	2.2	0.0357	0.0364	66.4	M30x0.5
WWT230-06-78	0.6	114.0	11.0(2/3")	7.8	78	39.32	1.6	0.04287	-0.0239	57.8	M30x0.5
WWT230-07-70	0.7	115.0	11.0(2/3")	7.7	70	40.45	1.3	0.04367	-0.029	61.8	M30x0.5
WWT230-07-95	0.7	96.0	11.0(2/3")	7.2	95	45.48	1.2	0.04663	-0.0268	75.5	M30x0.5
WWT230-08-65	0.8	102.0	11.0(2/3")	6.7	65	42.1	1.0	0.04996	-0.0179	65.3	M30x0.5
WWT230-08-87	0.8	93.0	11.0(2/3")	6.3	87	45.47	0.9	0.05317	-0.0353	79.9	M30x0.5
WWT230-09-60	0.9	102.0	11.0(2/3")	6.3	60	43.39	0.8	0.05295	-0.04	69.7	M30x0.5

4. Lens Spec – 1.2”

Model No.	Mag. β (x)	MTF30 (lp/mm)	CCD (ϕ mm)	Resolution (μ m)	WD (mm)	Focal Length (mm)	DoF (mm)	NA	Distortion (max) (%)	Length (mm)	Filter thread size
WWT121-01-238	0.1	120	19.2(1.2")	40.3	238	25.09	48.0	0.0083	0.32	56.4	M30x0.5
WWT121-01-352	0.1	150	19.2(1.2")	80.5	352	34.34	48.0	0.0042	0.03	44.0	M30x0.5
WWT121-01-516	0.1	186	19.2(1.2")	33.5	516	50.07	40.0	0.01001	0.1	52.1	M30x0.5
WWT121-015-154	0.15	116	19.2(1.2")	27.7	154	25.09	22.0	0.0121	0.36	57.7	M30x0.5
WWT121-015-239	0.15	158	19.2(1.2")	26.8	239	36.04	21.3	0.0125	0.01	46.1	M30x0.5
WWT121-015-357	0.15	150	20.0(1.2")	25.1	357	51.22	19.9	0.01339	0.01	54.5	M30x0.5
WWT121-02-113	0.2	112	19.2(1.2")	20.8	113	25.07	12.4	0.0161	0.39	58.8	M30x0.5
WWT121-02-183	0.2	150	19.2(1.2")	20.1	183	36.75	12.0	0.0167	0.01	48.3	M30x0.5
WWT121-02-276	0.2	168	19.2(1.2")	18.7	276	52.34	11.2	0.01791	0.05	57.5	M30x0.5
WWT121-02-413	0.2	124	20.0(1.2")	19.1	413	76.00	11.2	0.0176	0.05	77.0	M30x0.5
WWT121-025-87	0.25	100	19.2(1.2")	17.2	87	25.03	8.2	0.0195	0.4197	50.1	M30x0.5
WWT121-025-148	0.25	144	19.2(1.2")	16.1	148	37.53	7.7	0.0208	0.02	50.5	M30x0.5
WWT121-025-229	0.25	158	19.2(1.2")	15.0	229	53.59	7.2	0.0223	0.02	60.2	M30x0.5
WWT121-03-70	0.3	90	19.2(1.2")	14.7	70	24.97	5.9	0.0228	0.44	61.3	M30x0.5
WWT121-03-125	0.3	134	19.2(1.2")	13.4	125	38.16	5.3	0.0251	0.02	52.3	M30x0.5
WWT121-03-197	0.3	154	19.2(1.2")	13.4	197	54.69	5.3	0.02496	0.05	62.8	M30x0.5
WWT121-035-58	0.35	82	19.2(1.2")	13.0	58	24.92	4.4	0.0257	0.46	62.5	M30x0.5
WWT121-035-109	0.35	136	19.2(1.2")	11.5	109	39.18	3.9	0.0291	0.06	54.8	M30x0.5

4. Lens Spec – 1.2"

Model No.	Mag. β (x)	MTF30 (lp/mm)	CCD (ϕ mm)	Resolution (μ m)	WD (mm)	Focal Length (mm)	DoF (mm)	NA	Distortion (max) (%)	Length (mm)	Filter thread size
WWT121-04-49	0.4	78	19.2(1.2")	12.1	49	24.87	3.6	0.0278	0.46	63.7	M30x0.5
WWT121-04-98	0.4	130	19.2(1.2")	10.0	98	39.75	3.0	0.0334	0.05	56.3	M30x0.5
WWT121-04-157	0.4	144	19.2(1.2")	10.1	157	57.33	3.0	0.03335	0.1	67.7	M30x0.5
WWT121-04-227	0.4	106	19.2(1.2")	11.6	227	78.11	3.5	0.0288	0.27	86.5	M30x0.5
WWT121-045-143	0.45	136	19.2(1.2")	8.9	143	58.76	2.4	0.03759	0.15	70.9	M30x0.5
WWT121-05-37	0.5	70	19.2(1.2")	10.7	37	24.80	2.6	0.0313	0.42	65.7	M30x0.5
WWT121-05-80	0.5	116	19.2(1.2")	8.1	80	39.73	1.9	0.0416	0.01	60.3	M30x0.5
WWT121-05-133	0.5	130	19.2(1.2")	8.1	133	60.23	1.9	0.04166	0.2	73.1	M30x0.5
WWT121-055-124	0.55	120	20.0(1.2")	7.3	124	61.80	1.6	0.04581	0.25	75.8	M30x0.5
WWT121-06-117	0.6	108	19.2(1.2")	6.7	117	63.48	1.3	0.05002	0.3	78.6	M30x0.5
WWT121-065-110	0.65	94	19.2(1.2")	6.1	110	65.45	1.1	0.05463	0.35	81.8	M30x0.5
WWT121-07-106	0.7	88	19.2(1.2")	6.7	106	67.13	1.1	0.04996	0.35	83.6	M30x0.5
WWT121-08-98	0.8	78	19.2(1.2")	6.7	98	71.41	1.0	0.05001	0.4	88.9	M30x0.5
WWT121-085-94	0.85	73	20.0(1.2")	6.3	94	73.66	0.9	0.05316	0.45	91.7	M30x0.5
WWT121-085-130	0.85	73	20.0(1.2")	6.3	130	84.09	1.1	0.0444	0.45	108.3	M30x0.5
WWT121-09-91	0.9	65	19.2(1.2")	6	91	76.09	0.8	0.05619	0.5	94.4	M30x0.5
WWT121-09-106	0.9	66	20.0(1.2")	7.4	106	84.92	1.0	0.0456	0.57	130.2	M30x0.5
WWT121-10-86	1.0	54	19.2(1.2")	5.4	86	81.57	0.6	0.06235	0.5	99.5	M30x0.5



Fixed Focal Length **IR Lens** — SWIR Series

SWIR-MFA Series:

- Design for 900-1700nm
- Robust and anti-vibration
- Excellent imaging quality with high contrast

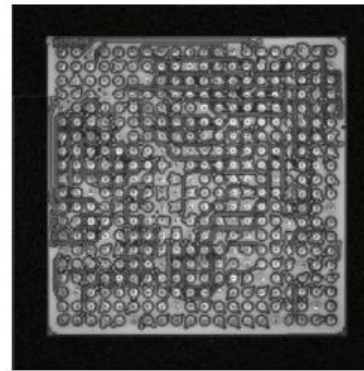
SWIR-WWH, SWIR-WWK Series:

- High telecentricity for more precise measurement data
- Adjustable iris diaphragms available
- Built-in coaxial illumination for more compact design and higher uniformity

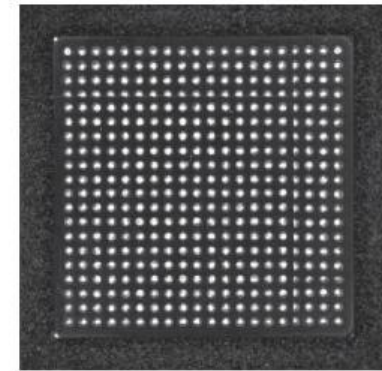
1. Application

- Test bands:

Use multiple light sources at one position to detect varied features. Add focus axis for layered inspection, done at the detection station.



Inspect circuits under IR1300nm



Inspect solder balls under visible light



Inspect module integrity under IR 1300nm coaxial light



Inspect dirt, fingerprints, etc. under white ring light



Recognize dirt under IR 1050nm ring light



Detect surface scratches with white coaxial light

2. Lens Spec – SWIR MFA Series

Model	Focal Length (mm)	F/No:	Sensor Size	Min. WD (mm)	Screw Size	Mount
MFA110-H16IR	16	1.4	1"	200	×	C
MFA110-H16IRV2	16	1.4~11	1"	150	M54.0x0.75	C
MFA110-H25IR	25	1.4~11	1"	250	×	C
MFA110-H35IR	35	1.4~11	1"	200	M43.0x0.75	C
MFA175-H45IR	45	1.4~11	1.75"	200	M43.0x0.75	M42

● Product Description

- Supports up to 1''(5MP), 1''(20MP)
- Resolution up to 120 lp/mm
- Design for 900-1700nm

2. Lens Spec – SWIR-WWH, SWIR-WWK Series

Model No.	Mag. β (x)	WD (mm)	CCD ($\varnothing$ mm)	F/#	MTF30 (lp/mm)	DoF (mm)	Resolution (μ m)	NA	Distortion (max) (%)	Coaxial light	Resolution aperture
SWIR-WWH20-63CT-G	2	63 $\pm$ 3	11.2(2/3")	6.6-32	68-16	0.13-0.63	4.4-21	0.15-0.03	0.02	Y	Optional
SWIR-WWH40-63CT-G	4	63 $\pm$ 3	11.0(2/3")	13.2-32	32-16	0.07-0.17	4.4-10.6	0.15-0.06201	0.02	Y	Optional
SWIR-WWH60-63CT-G	6	63 $\pm$ 3	11.0(2/3")	20-32	23-16	0.04-0.06	4.4-7	0.15-0.09375	0.08	Y	Optional
SWIR-WWH80-63CT-G	8	63 $\pm$ 3	11.0(2/3")	26.4-32	11-19	0.03-0.04	4.4-5.3	0.15-0.124	0.07	Y	Optional

Model No.	Mag. β (x)	WD (mm)	CCD ($\varnothing$ mm)	F/#	MTF30 (lp/mm)	DoF (mm)	Resolution (μ m)	NA	Distortion (max) (%)	Coaxial light	Resolution aperture
SWIR-WWK10-110CT	1	110 $\pm$ 2	18.4(1.1")	7	72@1050nm	0.56	8.97@1050nm	0.07143	0.1	Y	N
SWIR-WWK15-110CT	1.5	110 $\pm$ 2	18.4(1.1")	8	61	0.28	7.48@1150nm	0.094	0.04	Y	N
SWIR-WWK20-110CT-G	2	110 $\pm$ 2	18.4(1.1")	10-32	66-38	0.2-0.64	4.9-9.2	0.1-0.044	0.06	Y	optional

● Product Description

- Supports up to 2/3"(5MP), 2/3"(10MP) , 1.1"(25MP)
- Specially designed for IC AOI positioning and inspection
- Design for 900-1400nm



Multi-View Inspection Lens – 360° View Series

360° **Outer** Wall Inspection Lenses:

- Simultaneous clear imaging of top and side walls of the object
- High resolution

360° **Inner** Wall Inspection Lenses:

- Simultaneous clear imaging of bottom and inner walls of the object
- Small size, compact design

1. Application – Pharmaceutical Packaging

PRO230-C270-230-S16

360° Outer Wall Inspection Lenses

Simultaneous clear imaging of top and side walls, concise and efficient imaging solution.

One-shot imaging area



PRHI230-82

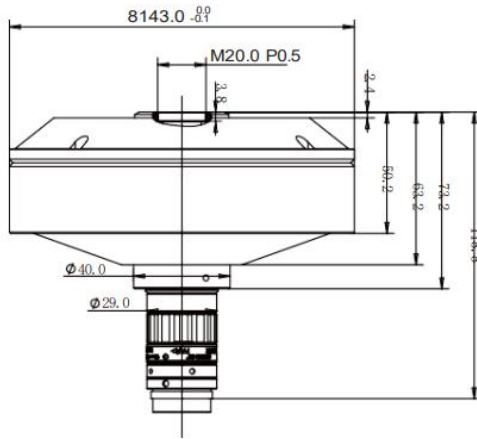
360° Inner Wall Inspection Lenses

Simultaneous clear imaging of bottom and inner walls, concise and efficient imaging solution.

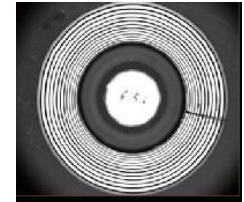
One-shot imaging area



2. Lens Spec – 360° **Outer** Wall Inspection Lenses, Model: PRO230-C270-230-S16



Max Sensor Size	2/3"
Image Circle (φmm)	7.07
Imaging	One-shot Outer Wall Inspection
Compatible with FA Lens Focal Length (mm)	16
Mount	C
Wavelength (nm)	450-640
Object Diameter (mm)	5-30



Only Outer Wall Imaging

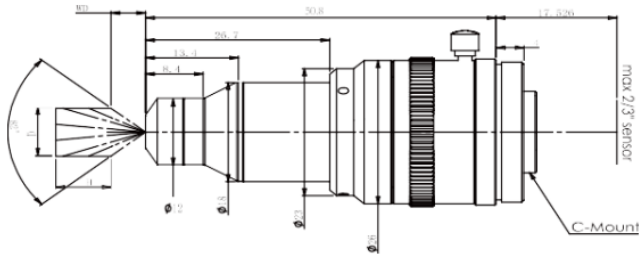


Simultaneous Outer Wall and Top Imaging

● Product Description

- Catadioptric lenses for 360° side and top simultaneous imaging of small objects.
- Innovative lens design utilizes mirror reflection to capture side surface imaging.
- Compact structure seamlessly adapts to any optical imaging system.
- High-resolution imaging for exceptional results.
- Ideal for inspecting visual defects in product appearance.

2. Lens Spec – 360° **Inner** Wall Inspection Lenses, Model: PRHI230-82



Supported Camera	2/3"
Image Circle (φmm)	6.6mm
Wavelength	Visible Light
WD (mm)	5-65
Mount	C

Diameter (mm)	Height (mm)	WD (mm)
5	4	5
10	6	7
20	20	13
30	30	17
40	40	24
50	50	27
60	60	33
80	80	44
100	100	55
120	120	65



● Product Description

- Excellent imaging quality.
- Compact design with 50mm length.
- Suitable for inspecting inner holes with 5mm-120mm diameter and 4mm-120mm depth.

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Why Choose Us?



High Quality
and Diverse Products



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industry in China since 2008.

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THANKS

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