

1.1" 12MP
MPY



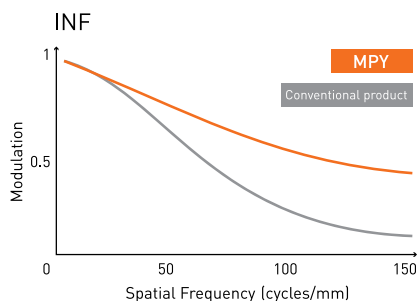
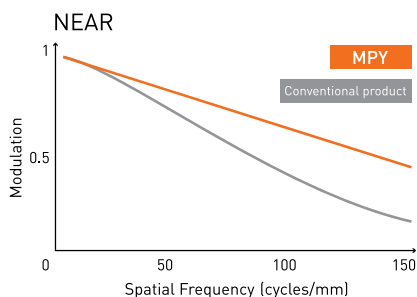
- ✓ Ultra-high resolution lens, suitable for 1.1" 12 megapixel sensor
- ✓ Enlarged image circle up to Ø17.6mm (1.1" sensor). The most compact, lightweight lens design on the machine vision market
- ✓ Floating design achieves ultra-high resolution in the whole range of near focus to infinity
- ✓ Vibration resistance up to 5G

MPY Series

1.1" 12 MEGAPIXEL Machine Vision Lens

Model No.	Format	Focal Length	F No.	Working Distance	Weight
V0828-MPY2	1.1"	8mm	F2.8-F16	0.2m-Inf.	155g
V1228-MPY2		12mm		0.3m-Inf.	98g
V1628-MPY2		16mm		0.3m-Inf.	91g
V2528-MPY		25mm		0.3m-Inf.	78g
V3528-MPY		35mm		0.3m-Inf.	103g
V5028-MPY		50mm		0.5m-Inf.	107g

MPY Series Corner Resolution



V0828-MPY2

- 1.1"
- 12MP
- FIX
- MANUAL
- FLOATING



Focal Length	8mm			
Max. Aperture Ratio	1:2.8			
Max. Image Format	14.2mm x 10.4mm (φ 17.6mm)			
Operation Range	Iris	F2.8 - F16.0		
	Focus	0.2m - Inf.		
Control	Iris	Manual		
	Focus	Manual		
Angle of View	D	93.9°	89.3°	69.0°
	H	1.1" 83.0°	1" 77.3°	2/3" 57.3°
	V	66.0°	61.7°	44.2°
Operating Temperature	-10°C ~ +50°C			

Optical Distortion	1.1" -0.6%(γ=8.8)	1" -1.7%(γ=8.0)	2/3" -2.6%(γ=5.5)
Back Focal Length	8.6mm		
Flange Back Length	17.526mm		
Mount	C-Mount		
Filter Size	M72 P=0.75mm (with VM0811)*		
	M67 P=0.75mm (with VM0810)*		
Dimensions	φ 75mm x 54mm		
Weight	157g		

*There is no filter mount on the top of the lens.
For using filters, please attach either VM0811 or VM0810.
For more detail, please refer to P40.

Working Distance (mm)	Optical Magnification	Extension Ring (mm)	Field of View (mm)					
			1.1"		1"		2/3"	
			H	V	H	V	H	V
1000	0.008	-	1790.8	1310.2	1617.6	1206.7	1103.1	820.5
950	0.009	-	1702.4	1245.4	1537.7	1147.0	1048.6	780.0
900	0.009	-	1614.2	1180.9	1458.0	1087.5	994.2	739.5
850	0.010	-	1525.9	1116.2	1378.2	1027.9	939.7	699.0
800	0.010	-	1437.5	1051.4	1298.3	968.3	885.2	658.4
750	0.011	-	1348.8	986.4	1218.0	908.3	830.4	617.6
700	0.012	-	1260.1	921.4	1137.9	848.5	775.7	576.9
650	0.013	-	1172.0	856.8	1058.2	789.0	721.3	536.5
600	0.014	-	1083.5	792.0	978.3	729.3	666.7	495.9
550	0.015	-	995.2	727.3	898.5	669.7	612.2	455.3
500	0.016	-	906.4	662.2	818.2	609.8	557.4	414.6
450	0.018	-	817.8	597.3	738.1	550.0	502.8	373.9
400	0.020	-	729.5	532.6	658.3	490.4	448.3	333.3
350	0.023	-	641.0	467.7	578.3	430.7	393.6	292.7
300	0.027	-	552.1	402.6	497.9	370.6	338.8	251.9
250	0.032	-	463.7	337.9	418.0	311.0	284.3	211.3
200	0.039	-	375.6	273.3	338.4	251.6	229.9	170.9
150	0.051	0.2	287.1	208.5	258.4	191.9	175.3	130.3
100	0.075	0.2	198.5	143.7	178.4	132.2	120.8	89.7

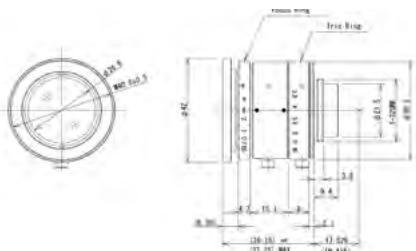
Field of View = CCD Size / Optical Magnification

1.1" 12 MEGA PIXEL FIXED FOCAL LENS (MPY Series)

1.1" 12MP
MPY

V1228-MPY2

- 1.1"
- 12MP
- FIX
- MANUAL
- FLOATING



Focal Length	12mm	
Max. Aperture Ratio	1:2.8	
Max. Image Format	14.2mm x 10.4mm (φ 17.6mm)	
Operation Range	Iris	F2.8 - F16.0
	Focus	0.3m - Inf.
Control	Iris	Manual
	Focus	Manual
Angle of View	D	71.1°
	H	60.5°
	V	46.2°
Operating Temperature	-10°C ~ +50°C	

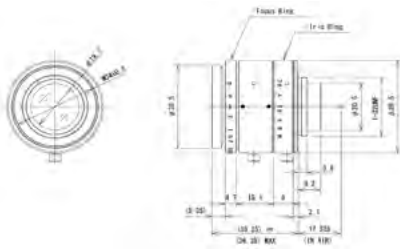
Optical Distortion	1.1" -0.5%(y=8.8)	1" -1.0%(y=8.0)	2/3" -1.4%(y=5.5)
Back Focal Length	8.4mm		
Flange Back Length	17.526mm		
Mount	C-Mount		
Filter Size	M40.5 P=0.5mm		
Dimensions	φ 42.0mm x 36.1mm		
Weight	97g		

Working Distance (mm)	Optical Magnification	Extension Ring (mm)	Field of View (mm)					
			1.1"		1"		2/3"	
			H	V	H	V	H	V
1000	0.012	-	1167.9	854.2	1053.4	787.5	720.9	538.6
950	0.013	-	1109.5	811.4	1000.7	748.1	684.8	511.6
900	0.014	-	1051.2	768.8	948.2	708.8	648.9	484.8
850	0.015	-	992.9	726.1	895.5	669.4	612.8	457.8
800	0.015	-	934.6	683.4	842.9	630.1	576.8	430.9
750	0.016	-	876.4	640.9	790.4	590.9	540.9	404.1
700	0.018	-	818.0	598.1	737.7	551.5	504.8	377.1
650	0.019	-	759.7	555.5	685.1	512.2	468.8	350.3
600	0.021	-	701.5	512.9	632.7	472.9	432.9	323.4
550	0.022	-	643.0	470.2	579.9	433.5	396.8	296.5
500	0.025	-	584.7	427.5	527.3	394.2	360.8	269.6
450	0.027	-	526.5	384.9	474.8	354.9	324.9	242.7
400	0.031	-	468.2	342.3	422.2	315.6	288.9	215.8
350	0.035	-	409.9	299.7	369.6	276.3	252.9	189.0
300	0.041	-	351.6	257.0	317.0	237.0	216.9	162.1
250	0.048	0.5	303.1	221.0	273.0	203.7	186.4	139.2
200	0.060	0.5	242.7	177.0	218.6	163.1	149.3	111.5
150	0.079	0.5	182.5	133.1	164.3	122.6	112.2	83.8
100	0.115	1.0	126.3	91.9	113.6	84.7	77.5	57.8

Field of View = CCD Size / Optical Magnification

V1628-MPY2

- 1.1"
- 12MP
- FIX
- MANUAL
- FLOATING



Focal Length	16mm	
Max. Aperture Ratio	1:2.8	
Max. Image Format	14.2mm x 10.4mm (φ 17.6mm)	
Operation Range	Iris	F2.8 - F16.0
	Focus	0.3m - Inf.
Control	Iris	Manual
	Focus	Manual
Angle of View	D	57.9°
	H	48.2°
	V	36.2°
Operating Temperature	-10°C ~ +50°C	

Optical Distortion	1.1" -0.5%(y=8.8)	1" -0.6%(y=8.0)	2/3" -0.6%(y=5.5)
Back Focal Length	9.4mm		
Flange Back Length	17.526mm		
Mount	C-Mount		
Filter Size	M34.0 P=0.5mm		
Dimensions	φ 39.5mm x 35.2mm		
Weight	89g		

Working Distance (mm)	Optical Magnification	Extension Ring (mm)	Field of View (mm)					
			1.1"		1"		2/3"	
			H	V	H	V	H	V
1000	0.016	-	890.1	651.4	802.4	601.0	550.7	412.4
950	0.017	-	845.4	618.7	762.1	570.9	523.0	391.7
900	0.018	-	800.7	586.0	721.8	540.7	495.4	371.0
850	0.019	-	756.2	553.5	681.7	510.7	467.9	350.5
800	0.020	-	711.5	520.8	641.5	480.5	440.3	329.8
750	0.021	-	666.9	488.1	601.2	450.4	412.7	309.1
700	0.023	-	622.2	455.4	560.9	420.2	385.0	288.4
650	0.025	-	577.4	422.7	520.6	390.0	357.4	267.7
600	0.027	-	532.7	390.0	480.3	359.9	329.7	247.0
550	0.029	-	488.1	357.3	440.0	329.7	302.1	226.3
500	0.032	-	443.4	324.6	399.8	299.6	274.5	205.6
450	0.036	-	398.7	291.9	359.5	269.4	246.9	184.9
400	0.040	-	353.9	259.2	319.2	239.2	219.2	164.2
350	0.046	-	309.3	226.5	278.9	209.1	191.6	143.5
300	0.054	-	264.6	193.8	238.6	178.9	163.9	122.8
250	0.063	1.0	227.8	166.3	205.1	153.3	140.5	105.1
200	0.079	1.0	181.4	132.5	163.4	122.2	111.9	83.8
150	0.106	1.0	135.1	98.8	121.7	91.1	83.5	62.5
100	0.156	2.0	92.1	67.2	82.9	61.9	56.7	42.5

Field of View = CCD Size / Optical Magnification

1.1" 12MP
MPY

1.1" 12 MEGAPIXEL FIXED FOCAL LENS (MPY Series)

- 8, 12, 16, 25, 35, 50mm 6 lens series
- Compatible with 1.1" (φ 17.6mm) large format sensor
- Vibration resistance up to 5G
- Ultra-high resolution 12MP
- Compact 1.1" design (smallest 12MP lens in the industry)

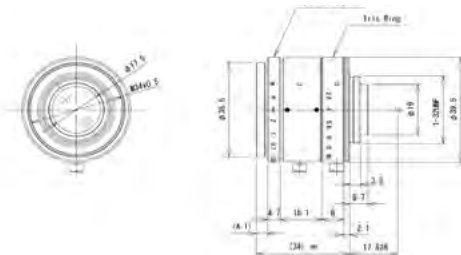
V2528-MPY

- 1.1"
- 12MP
- FIX
- MANUAL
- FLOATING



Focal Length	25mm			
Max. Aperture Ratio	1:2.8			
Max. Image Format	14.2mm x 10.4mm (φ 17.6mm)			
Operation Range	Iris	F2.8 - F16.0		
	Focus	0.3m - Inf.		
Control	Iris	Manual		
	Focus	Manual		
Angle of View	D	38.7°	35.4°	24.8°
	H	1.1" 31.7°	1" 28.7°	2/3" 20.0°
	V	23.5°	21.7°	15.0°
Operating Temperature	-10°C ~ +50°C			

Optical Distortion	1.1" 0.3%(y=8.8)	1" 0.2%(y=8.0)	2/3" 0.1%(y=5.5)
Back Focal Length	11.3mm		
Flange Back Length	17.526mm		
Mount	C-Mount		
Filter Size	M34.0 P=0.5mm		
Dimensions	φ 39.5mm x 34mm		
Weight	78g		



Working Distance (mm)	Optical Magnification	Extension Ring (mm)	Field of View (mm)					
			1.1"		1"		2/3"	
			H	V	H	V	H	V
1000	0.026	-	555.5	407.0	500.8	375.7	344.4	258.3
950	0.027	-	527.3	386.3	475.4	356.6	326.9	245.2
900	0.028	-	499.0	365.6	449.9	337.5	309.3	232.0
850	0.030	-	470.7	344.8	424.4	318.3	291.8	218.9
800	0.032	-	442.4	324.1	398.8	299.1	274.2	205.7
750	0.034	-	414.1	303.3	373.3	280.0	256.6	192.5
700	0.037	-	385.7	282.5	347.7	260.8	239.0	179.3
650	0.040	-	357.4	261.7	322.1	241.6	221.5	166.1
600	0.043	-	329.0	240.9	296.6	222.4	203.9	152.9
550	0.047	-	300.7	220.2	271.0	203.2	186.3	139.7
500	0.052	-	272.2	199.3	245.3	184.0	168.6	126.5
450	0.058	-	243.9	178.5	219.8	164.8	151.1	113.3
400	0.066	-	215.5	157.7	194.2	145.6	133.4	100.1
350	0.076	-	187.1	136.9	168.6	126.4	115.8	86.9
300	0.090	-	158.7	116.2	143.0	107.2	98.3	73.7
250	0.108	0.5	131.9	96.5	118.8	89.0	81.6	61.2
200	0.135	1.5	105.6	77.2	95.1	71.3	65.3	48.9
150	0.183	2.5	78.0	57.0	70.3	52.6	48.2	36.1
100	0.281	5.0	50.9	37.2	45.8	34.3	31.4	23.5

Field of View = CCD Size / Optical Magnification

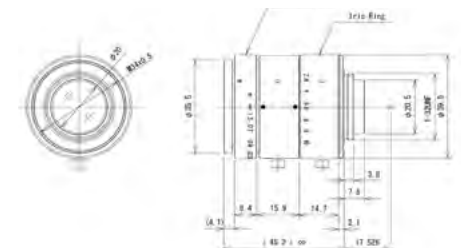
V3528-MPY

- 1.1"
- 12MP
- FIX
- MANUAL
- FLOATING



Focal Length	35mm			
Max. Aperture Ratio	1:2.8			
Max. Image Format	14.2mm x 10.4mm (φ 17.6mm)			
Operation Range	Iris	F2.8 - F16.0		
	Focus	0.3m - Inf.		
Control	Iris	Manual		
	Focus	Manual		
Angle of View	D	28.2°	25.8°	17.9°
	H	1.1" 22.9°	1" 20.7°	2/3" 14.3°
	V	16.9°	15.6°	10.8°
Operating Temperature	-10°C ~ +50°C			

Optical Distortion	1.1" -0.1%(y=8.8)	1" 0.0%(y=8.0)	2/3" 0.0%(y=5.5)
Back Focal Length	11.9mm		
Flange Back Length	17.526mm		
Mount	C-Mount		
Filter Size	M34.0 P=0.5mm		
Dimensions	φ 39.5mm x 45.2mm		
Weight	103g		



Working Distance (mm)	Optical Magnification	Extension Ring (mm)	Field of View (mm)					
			1.1"		1"		2/3"	
			H	V	H	V	H	V
1000	0.036	-	393.4	288.2	354.6	266.0	243.9	182.9
950	0.038	-	373.0	273.2	336.2	252.2	231.2	173.4
900	0.040	-	352.7	258.4	317.9	238.5	218.6	164.0
850	0.043	-	332.4	243.5	299.6	224.7	206.0	154.5
800	0.046	-	312.1	228.6	281.3	211.0	193.5	145.1
750	0.049	-	291.8	213.8	263.1	197.3	180.9	135.7
700	0.052	-	271.6	198.9	244.8	183.6	168.3	126.3
650	0.057	-	251.3	184.1	226.5	169.9	155.8	116.8
600	0.061	-	231.0	169.2	208.2	156.2	143.2	107.4
550	0.067	-	210.7	154.3	189.9	142.5	130.6	98.0
500	0.075	-	190.4	139.5	171.6	128.8	118.0	88.6
450	0.083	-	170.1	124.6	153.4	115.1	105.5	79.1
400	0.095	-	149.8	109.8	135.1	101.3	92.9	69.7
350	0.110	-	129.5	94.9	116.8	87.6	80.3	60.3
300	0.130	-	109.3	80.1	98.5	73.9	67.8	50.8
250	0.157	1.5	90.4	66.2	81.5	61.1	56.0	42.0
200	0.201	3.0	70.9	51.9	63.9	47.9	43.9	32.9
150	0.277	6.0	51.6	37.7	46.5	34.8	31.9	23.9
100	0.435	15.0	32.9	24.0	29.6	22.2	20.3	15.2

Field of View = CCD Size / Optical Magnification

1.1" 12 MEGA PIXEL FIXED FOCAL LENS (MPY Series)

1.1" 12MP
MPY

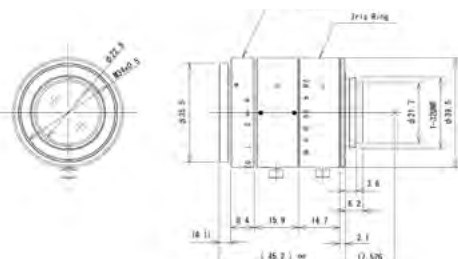
V5028-MPY

- 1.1"
- 12MP
- FIX
- MANUAL
- FLOATING



Focal Length		50mm			
Max. Aperture Ratio		1:2.8			
Max. Image Format		14.2mm x 10.4mm (φ 17.6mm)			
Operation Range	Iris	F2.8 - F16.0			
	Focus	0.5m - Inf.			
Control	Iris	Manual			
	Focus	Manual			
Angle of View	D	20.0°	18.2°	12.6°	
	H	1.1" 16.2°	1" 14.6°	2/3" 10.1°	
	V	11.9°	11.0°	7.6°	
Operating Temperature		-10° C ~ +50° C			

Optical Distortion	1.1" 0.1% (γ=8.8)	1" 0.1% (γ=8.0)	2/3" 0.1% (γ=5.5)
Back Focal Length	11.9mm		
Flange Back Length	17.526mm		
Mount	C-Mount		
Filter Size	M34.0 P=0.5mm		
Dimensions	φ 39.5mm x 45.1mm		
Weight	107g		



Working Distance (mm)	Optical Magnification	Extension Ring (mm)	Field of View (mm)					
			1.1"		1"		2/3"	
			H	V	H	V	H	V
1000	0.055	-	257.9	188.9	232.5	174.4	159.8	119.9
950	0.058	-	243.7	178.5	219.7	164.7	151.0	113.3
900	0.062	-	229.5	168.1	206.9	155.1	142.2	106.7
850	0.066	-	215.3	157.6	194.0	145.5	133.4	100.0
800	0.071	-	201.1	147.2	181.2	135.9	124.6	93.4
750	0.076	-	186.9	136.8	168.4	126.3	115.8	86.8
700	0.082	-	172.7	126.4	155.6	116.7	107.0	80.2
650	0.090	-	158.5	116.0	142.8	107.1	98.2	73.6
600	0.099	-	144.2	105.6	130.0	97.5	89.4	67.0
550	0.109	-	130.0	95.2	117.2	87.9	80.6	60.4
500	0.123	-	115.9	84.8	104.4	78.3	71.8	53.8
450	0.138	1.0	103.1	75.4	92.9	69.6	63.8	47.9
400	0.158	2.0	89.9	65.8	81.0	60.7	55.7	41.7
350	0.181	5.0	78.5	57.4	70.7	53.0	48.6	36.4
300	0.222	6.0	64.2	47.0	57.8	43.3	39.7	29.8
250	0.276	10.0	51.7	37.8	46.6	34.9	32.0	24.0
200	0.373	15.0	38.2	27.9	34.4	25.8	23.6	17.7
150	0.583	25.0	24.5	17.9	22.1	16.5	15.1	11.3
100	1.255	61.5	11.3	8.3	10.2	7.7	7.0	5.3

Field of View = CCD Size / Optical Magnification

This lens is designed with a curvature of field, designed to show the best performance at a certain working distance and can be modified by a method called Floating. Floating makes several lens element groups move differently and controls aberration. It can provide stable picture quality from short object distances to infinity.

*Curvature of field: Phenomenon caused by the gap of the focal point between center and corner

