

1" 20MP
MPZ

1" 20 MEGAPIXEL FIXED FOCAL LENS (MPZ Series)



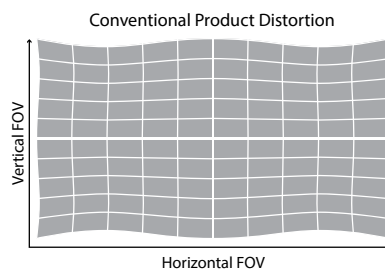
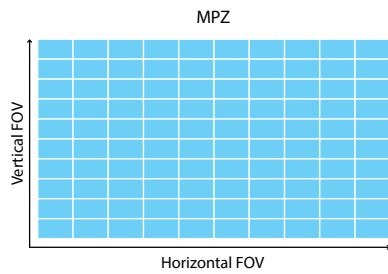
MPZ Series

1" 20 MEGAPIXEL Machine Vision Lens

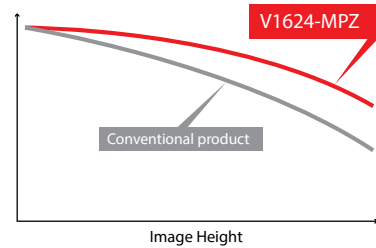
- ✓ Ultra-high resolution lens, suitable for 1" 20 megapixel sensor
- ✓ Much lower distortion design for all models is beneficial for variety of machine vision applications
- ✓ The newest optical design, much higher relative illuminance compared to conventional models in spite of large format 1" sensor (Ø16mm)
- ✓ Vibration resistance up to 5G

Model No.	Format	Focal Length	F No.	Working Distance	Weight
V0826-MPZ	1"	8mm	F2.6-F16	0.1m-Inf.	203g
V1226-MPZ		12mm	F2.6-F16	0.1m-Inf.	98g
V1624-MPZ		16mm	F2.4-F16	0.1m-Inf.	108g
V2520-MPZ		25mm	F2.0-F16	0.15m-Inf.	73g
V3522-MPZ		35mm	F2.2-F16	0.2m-Inf.	118g
V5024-MPZ		50mm	F2.4-F16	0.2m-Inf.	138g
V7531-MPZ		75mm	F3.1-F16	0.25m-Inf.	176g

Distortion Comparison

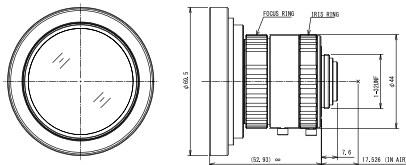


V1624-MPZ Relative Illumination



NEW V0826-MPZ

- 1"
- 20MP
- FIX
- MANUAL
- FLOATING



Focal Length	8mm						
Max. Aperture Ratio	1:2.6						
Max. Image Format	12.8mm x 9.6mm (φ 16mm)						
Operation Range	Iris	F2.6 - F16.0					
	Focus	0.1m - Inf.					
Control	Iris	Manual					
	Focus	Manual					
Angle of View	D	1"	88.8°	2/3"	68.6°	1/1.8"	58.2°
	H		76.9°		57.1°		47.8°
	V		61.5°		44.2°		36.6°
Operating Temperature	-10°C ~ +50°C						

Optical Distortion	1"	-0.8%(y=8.0)	2/3"	-2.1%(y=5.5)	1/1.8"	-1.9%(y=4.5)
Back Focal Length	10.6mm					
Flange Back Length	17.526mm					
Mount	C-Mount					
Filter Size	M82 P=0.75mm*					
Dimensions	φ 69.5mm x 52.93mm					
	φ 85.0mm x 53.83mm (with ZM0810)					
Weight	203g					

*There is no filter mount on the top of the lens.
For using filters, please attach ZM0810.
For more detail, please refer to P40.

Working Distance (mm)	Optical Magnification	Extension Ring (mm)	Field of View (mm)					
			1"		2/3"		1/1.8"	
			H	V	H	V	H	V
1000	0.009	-	1619.6	1211.4	1108.2	825.6	902.4	672.9
950	0.009	-	1540.2	1151.9	1053.8	785.0	858.0	639.8
900	0.009	-	1460.8	1092.4	999.3	744.4	813.6	606.7
850	0.010	-	1381.4	1032.9	944.9	703.8	769.3	573.6
800	0.011	-	1302.0	973.4	890.4	663.2	724.9	540.5
750	0.011	-	1222.7	913.9	835.9	622.6	680.5	507.4
700	0.012	-	1143.3	854.4	781.5	582.0	636.2	474.3
650	0.013	-	1063.9	794.9	727.0	541.4	591.8	441.3
600	0.014	-	984.5	735.4	672.6	500.8	547.5	408.2
550	0.015	-	905.1	675.9	618.1	460.2	503.1	375.1
500	0.016	-	825.7	616.3	563.7	419.6	458.7	342.0
450	0.018	-	746.3	556.8	509.2	379.0	414.4	308.9
400	0.020	-	666.9	497.3	454.7	338.4	370.0	275.8
350	0.023	-	587.5	437.8	400.3	297.8	325.6	242.7
300	0.027	-	508.0	378.3	345.8	257.2	281.2	209.6
250	0.031	-	428.6	318.7	291.3	216.6	236.9	176.5
200	0.039	-	349.1	259.2	236.8	176.0	192.5	143.4
150	0.050	-	269.6	199.6	182.3	135.4	148.1	110.3
100	0.071	-	189.9	140.0	127.8	94.8	103.7	77.2

Field of View = CCD Size / Optical Magnification

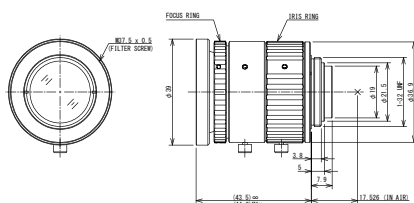
1" 20 MEGA PIXEL FIXED FOCAL LENS (MPZ Series)

1" 20MP
MPZ

NEW

V1226-MPZ

- 1"
- 20MP
- FIX
- MANUAL
- FLOATING



Focal Length	12mm				
Max. Aperture Ratio	1:2.6				
Max. Image Format	12.8mm x 9.6mm (φ 16mm)				
Operation Range	Iris	F2.6 - F16.0			
	Focus	0.1m - Inf.			
Control	Iris	Manual			
	Focus	Manual			
Angle of View	D	67.4°	49.8°	41.5°	
	H	56.7°	40.7°	33.7°	1/1.8"
	V	44.1°	31.0°	25.5°	
Operating Temperature	-10°C ~ +50°C				

Optical Distortion	1"	0.0%(y=8.0)	2/3"	-1.1%(y=5.5)	1/1.8"	-1.0%(y=4.5)
Back Focal Length	10.6mm					
Flange Back Length	17.526mm					
Mount	C-Mount					
Filter Size	M37.5 P=0.5mm					
Dimensions	φ 39mm x 43.5mm					
Weight	98g					

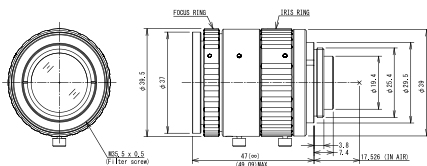
Working Distance (mm)	Optical Magnification	Extension Ring (mm)	Field of View (mm)					
			1"		2/3"		1/1.8"	
			H	V	H	V	H	V
1000	0.012	-	1093.8	819.7	750.6	561.0	612.6	458.2
950	0.013	-	1039.9	779.2	713.6	533.3	582.4	435.6
900	0.014	-	986.0	738.8	676.5	505.7	552.2	413.0
850	0.014	-	932.1	698.4	639.5	478.0	522.0	390.3
800	0.015	-	878.1	658.0	602.5	450.3	491.7	367.7
750	0.016	-	824.2	617.5	565.5	422.6	461.5	345.1
700	0.017	-	770.3	577.1	528.5	395.0	431.3	322.5
650	0.019	-	716.4	536.7	491.4	367.3	401.1	299.9
600	0.020	-	662.5	496.3	454.4	339.6	370.8	277.3
550	0.022	-	608.5	455.8	417.4	311.9	340.6	254.7
500	0.024	-	554.6	415.4	380.4	284.3	310.4	232.1
450	0.026	-	500.7	375.0	343.3	256.6	280.2	209.5
400	0.029	-	446.8	334.6	306.3	228.9	250.0	186.9
350	0.033	-	392.9	294.1	269.3	201.2	219.7	164.3
300	0.039	-	338.9	253.7	232.3	173.5	189.5	141.7
250	0.046	-	285.0	213.3	195.3	145.9	159.3	119.1
200	0.057	-	231.1	172.9	158.2	118.2	129.1	96.5
150	0.074	-	177.2	132.4	121.2	90.5	98.9	73.9
100	0.106	-	123.2	92.0	84.2	62.8	68.6	51.3

Field of View = CCD Size / Optical Magnification

NEW

V1624-MPZ

- 1"
- 20MP
- FIX
- MANUAL
- FLOATING



Focal Length	16mm				
Max. Aperture Ratio	1:2.4				
Max. Image Format	12.8mm x 9.6mm (φ 16mm)				
Operation Range	Iris	F2.4 - F16.0			
	Focus	0.1m - Inf.			
Control	Iris	Manual			
	Focus	Manual			
Angle of View	D	53.2°	38.1°	31.6°	
	H	43.8°	30.9°	25.5°	1/1.8"
	V	33.6°	23.4°	19.2°	
Operating Temperature	-10°C ~ +50°C				

Optical Distortion	1"	0.0%(y=8.0)	2/3"	-0.4%(y=5.5)	1/1.8"	-0.4%(y=4.5)
Back Focal Length	10.7mm					
Flange Back Length	17.526mm					
Mount	C-Mount					
Filter Size	M35.5 P=0.5mm					
Dimensions	φ 39.5mm x 47mm					
Weight	108g					

Working Distance (mm)	Optical Magnification	Extension Ring (mm)	Field of View (mm)					
			1"		2/3"		1/1.8"	
			H	V	H	V	H	V
1000	0.016	-	811.4	608.4	557.5	417.6	455.7	341.5
950	0.017	-	771.2	578.2	529.9	396.9	433.2	324.6
900	0.018	-	761.1	548.1	502.3	376.6	410.6	370.7
850	0.019	-	690.9	518.0	474.7	355.6	388.0	290.7
800	0.020	-	650.8	487.9	447.1	334.9	365.5	273.8
750	0.022	-	610.6	457.8	419.5	314.2	342.9	256.9
700	0.023	-	570.5	427.7	391.9	293.6	320.4	240.0
650	0.025	-	530.3	397.6	364.3	272.9	297.8	223.1
600	0.027	-	490.2	367.4	336.7	252.2	275.2	206.2
550	0.029	-	450.0	337.3	309.1	231.5	252.7	189.3
500	0.032	-	409.8	307.2	281.5	210.9	230.1	172.4
450	0.035	-	369.7	277.1	253.9	190.2	207.6	155.5
400	0.039	-	329.5	247.0	226.3	169.5	185.0	138.6
350	0.045	-	289.4	216.9	198.7	148.8	162.4	121.7
300	0.052	-	249.2	186.8	171.1	128.2	139.9	104.8
250	0.062	-	209.1	156.6	143.5	107.5	117.3	87.9
200	0.077	-	168.9	126.5	115.9	86.8	94.8	71.0
150	0.101	-	128.7	96.4	88.3	66.2	72.2	54.1
100	0.146	-	88.6	66.3	60.7	45.5	49.6	37.2

Field of View = CCD Size / Optical Magnification

1" 20MP
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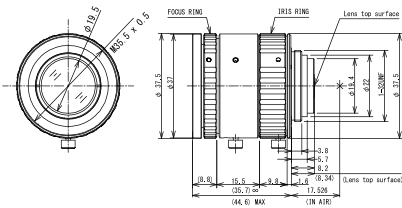
- 8, 12, 16, 25, 35, 50, 75mm 7 lens series
- Compatible with 1" (φ 16mm) large format sensor
- Vibration resistance up to 5G

- Ultra-high resolution 20MP
- Ultra-low distortion design

NEW

V2520-MPZ

- 1"
- 20MP
- FIX
- MANUAL
- FLOATING



Focal Length	25mm						
Max. Aperture Ratio	1:2.0						
Max. Image Format	12.8mm x 9.6mm (φ 16mm)						
Operation Range	Iris	F2.0 - F16.0					
	Focus	0.15m - Inf.					
Control	Iris	Manual					
	Focus	Manual					
Angle of View	D	35.5°	24.9°	20.5°			
	H	1" 28.8°	2/3" 20.0°	1/1.8" 16.4°			
	V	21.8°	15.1°	12.4°			
Operating Temperature	-10°C ~ +50°C						
Optical Distortion	1"	0.0%(y)=8.0)	2/3"	0.0%(y)=5.5)	1/1.8"	0.0%(y)=4.5)	
Back Focal Length	9.1mm						
Flange Back Length	17.526mm						
Mount	C-Mount						
Filter Size	M35.5 P=0.5mm						
Dimensions	φ 37.5mm x 35.5mm						
Weight	73g						

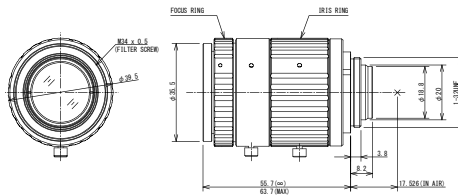
Working Distance (mm)	Optical Magnification	Extension Ring (mm)	Field of View (mm)					
			1"		2/3"		1/1.8"	
			H	V	H	V	H	V
1000	0.026	-	502.6	376.9	345.4	259.0	282.6	211.9
950	0.027	-	476.9	357.6	327.8	245.8	264.1	201.1
900	0.028	-	451.3	338.4	310.1	232.6	253.7	190.3
850	0.030	-	425.7	319.2	292.5	219.4	239.3	179.5
800	0.032	-	400.1	300.0	274.9	206.2	224.9	168.7
750	0.034	-	374.5	280.7	257.3	193.0	210.5	157.9
700	0.037	-	348.9	261.5	239.7	179.7	196.1	147.1
650	0.040	-	323.3	242.3	222.1	166.5	181.7	136.3
600	0.043	-	297.7	223.1	204.5	153.3	167.3	125.5
550	0.047	-	272.1	203.9	186.9	140.1	152.9	114.6
500	0.052	-	246.4	184.7	169.3	126.9	138.5	103.8
450	0.058	-	220.8	165.5	151.7	113.7	124.1	93.0
400	0.066	-	195.2	146.3	134.1	100.5	109.7	82.2
350	0.076	-	169.6	127.1	116.5	87.3	95.3	71.4
300	0.089	-	143.9	107.8	98.8	74.1	80.8	60.6
250	0.109	-	118.3	88.6	81.2	60.9	66.4	49.8
200	0.139	-	92.7	69.4	63.6	47.7	52.0	39.0
150	0.192	-	67.0	50.2	46.0	34.5	37.6	28.2
100	0.312	5.0	41.4	31.0	28.4	21.3	23.2	17.4

Field of View = CCD Size / Optical Magnification

NEW

V3522-MPZ

- 1"
- 20MP
- FIX
- MANUAL
- FLOATING



Focal Length	35mm						
Max. Aperture Ratio	1:2.2						
Max. Image Format	12.8mm x 9.6mm (φ 16mm)						
Operation Range	Iris	F2.2 - F16.0					
	Focus	0.2m - Inf.					
Control	Iris	Manual					
	Focus	Manual					
Angle of View	D	25.8°	17.9°	14.7°			
	H	1" 20.8°	2/3" 14.4°	1/1.8" 11.8°			
	V	15.7°	10.8°	8.9°			
Operating Temperature	-10°C ~ +50°C						
Optical Distortion	1"	0.0%(y)=8.0)	2/3"	0.0%(y)=5.5)	1/1.8"	0.0%(y)=4.5)	
Back Focal Length	9.7mm						
Flange Back Length	17.526mm						
Mount	C-Mount						
Filter Size	M34 P=0.5mm						
Dimensions	φ 39.5mm x 55.7mm						
Weight	118g						

Working Distance (mm)	Optical Magnification	Extension Ring (mm)	Field of View (mm)					
			1"		2/3"		1/1.8"	
			H	V	H	V	H	V
1000	0.035	-	362.4	271.8	249.1	186.8	203.8	152.9
950	0.037	-	344.1	258.1	236.6	177.4	193.5	145.1
900	0.039	-	325.8	244.3	224.0	168.0	183.2	137.4
850	0.042	-	307.6	230.6	211.4	158.5	173.0	129.7
800	0.044	-	289.3	216.9	198.8	149.1	162.7	122.0
750	0.047	-	271.0	203.2	186.3	139.7	152.4	114.3
700	0.051	-	252.7	189.5	173.7	130.3	142.1	106.6
650	0.055	-	234.4	175.8	161.1	120.8	131.8	98.9
600	0.059	-	216.1	162.1	148.5	111.4	121.5	91.1
550	0.065	-	197.8	148.3	136.0	102.0	111.2	83.4
500	0.071	-	179.5	134.6	123.4	92.5	101.0	75.7
450	0.080	-	161.2	120.9	110.8	83.1	90.7	68.0
400	0.090	-	142.9	107.2	98.2	73.7	80.4	60.3
350	0.103	-	124.7	93.5	85.7	64.3	80.1	52.6
300	0.121	-	106.4	79.7	73.1	54.8	59.8	44.9
250	0.146	-	88.1	66.0	60.5	45.4	49.5	37.1
200	0.184	-	69.9	52.4	48.0	36.0	39.3	29.5
150	0.249	2.5	51.7	38.7	35.5	26.6	29.0	21.8
100	0.385	7.0	33.5	25.1	23.0	17.2	18.8	14.1

Field of View = CCD Size / Optical Magnification

1" 20 MEGA PIXEL FIXED FOCAL LENS (MPZ Series)

1" 20MP
MPZ

NEW

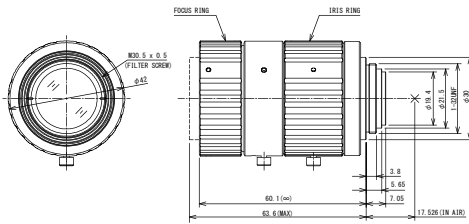
V5024-MPZ

- 1"
- 20MP
- FIX
- MANUAL
- FLOATING



Focal Length	50mm			
Max. Aperture Ratio	1:2.4			
Max. Image Format	12.8mm x 9.6mm (φ 16mm)			
Operation Range	Iris	F2.4 - F16.0		
	Focus	0.2m - Inf.		
Control	Iris	Manual		
	Focus	Manual		
Angle of View	D	18.2°	12.6°	10.3°
	H	1" 14.6°	2/3" 10.1°	1/1.8" 8.3°
	V	11.0°	7.6°	6.2°
Operating Temperature	-10°C ~ +50°C			

Optical Distortion	1"	0.0%(y=8.0)	2/3"	0.0%(y=5.5)	1/1.8"	0.0%(y=4.5)
Back Focal Length	11.1mm					
Flange Back Length	17.526mm					
Mount	C-Mount					
Filter Size	M30.5 P=0.5mm					
Dimensions	φ 69.5mm x 52.93mm					
Weight	138g					



Working Distance (mm)	Optical Magnification	Extension Ring (mm)	Field of View (mm)					
			1"		2/3"		1/1.8"	
			H	V	H	V	H	V
1000	0.053	-	245.9	184.4	169.0	126.8	138.3	103.8
950	0.055	-	233.1	174.8	160.2	120.2	131.1	98.4
900	0.059	-	220.3	165.2	151.4	113.6	123.9	93.0
850	0.062	-	207.5	155.6	142.6	107.0	116.7	87.5
800	0.066	-	194.7	146.0	133.8	100.4	109.5	82.1
750	0.071	-	181.9	136.4	125.0	93.8	102.3	76.7
700	0.076	-	169.2	126.9	116.3	87.2	95.1	71.4
650	0.082	-	156.3	117.2	107.4	80.6	87.9	65.9
600	0.090	-	143.5	107.6	98.6	74.0	80.7	60.5
550	0.098	-	130.7	98.0	89.8	67.4	735.0	55.1
500	0.109	-	118.0	88.5	81.1	60.8	66.4	49.8
450	0.122	-	105.1	78.8	72.2	54.2	59.1	44.3
400	0.139	-	92.3	69.2	63.4	47.6	51.9	38.9
350	0.162	-	79.5	59.6	54.6	41.0	44.7	33.5
300	0.193	-	66.7	50.0	45.8	34.4	37.5	28.1
250	0.239	-	53.8	40.4	37.0	27.8	30.3	22.7
200	0.313	-	41.0	30.8	28.2	21.2	23.1	17.3
150	0.455	8.5	28.2	21.2	19.4	14.6	15.9	11.9
100	0.835	30.0	15.4	11.6	10.6	8.0	8.7	6.5

Field of View = CCD Size / Optical Magnification

NEW

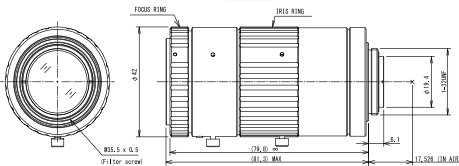
V7531-MPZ

- 1"
- 20MP
- FIX
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Focal Length	75mm			
Max. Aperture Ratio	1:3.1			
Max. Image Format	12.8mm x 9.6mm (φ 16mm)			
Operation Range	Iris	F3.1 - F16.0		
	Focus	0.25m - Inf.		
Control	Iris	Manual		
	Focus	Manual		
Angle of View	D	12.2°	8.4°	6.9°
	H	1" 9.8°	2/3" 6.7°	1/1.8" 5.5°
	V	7.3°	5.0°	4.1°
Operating Temperature	-10°C ~ +50°C			

Optical Distortion	1"	0.0%(y=8.0)	2/3"	0.0%(y=5.5)	1/1.8"	0.0%(y=4.5)
Back Focal Length	12.0mm					
Flange Back Length	17.526mm					
Mount	C-Mount					
Filter Size	M30.5 P=0.5mm					
Dimensions	φ 42.0mm x 79.8mm					
Weight	176g					



Working Distance (mm)	Optical Magnification	Extension Ring (mm)	Field of View (mm)					
			1"		2/3"		1/1.8"	
			H	V	H	V	H	V
1000	0.077	-	166.9	125	114.8	86.1	93.9	70.4
950	0.081	-	158.4	118.8	108.9	81.7	89.1	66.8
900	0.086	-	149.8	112.4	103.0	77.3	84.3	63.2
850	0.091	-	141.3	106.0	97.2	72.9	79.5	59.6
800	0.097	-	132.8	99.6	91.3	68.5	74.7	56.0
750	0.104	-	124.2	93.2	85.4	64.1	69.9	52.4
700	0.111	-	115.7	86.8	79.6	59.7	65.1	48.8
650	0.120	-	107.2	80.4	73.7	55.3	60.3	45.2
600	0.130	-	98.6	74.0	67.8	50.9	55.5	41.6
550	0.143	-	90.1	67.6	62.0	46.5	50.7	38.0
500	0.158	-	81.6	61.2	56.1	42.1	45.9	34.4
450	0.176	-	73.0	54.8	50.2	37.7	41.1	30.8
400	0.199	-	64.5	48.4	44.4	33.3	36.3	27.2
350	0.229	-	56.0	42.0	38.5	28.9	31.5	23.6
300	0.271	-	47.4	35.6	32.6	24.5	26.7	20.0
250	0.330	-	38.9	29.2	26.8	20.1	21.9	16.4
200	0.425	7.0	30.2	22.7	20.8	15.6	17.0	12.8
150	0.598	19.5	21.5	16.1	14.8	11.1	12.1	9.1
100	1.009	50.0	12.8	9.6	8.8	6.6	7.2	5.4

Field of View = CCD Size / Optical Magnification