

1" 20MP
MPZ



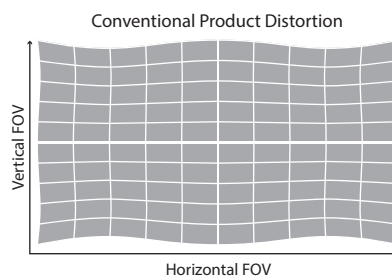
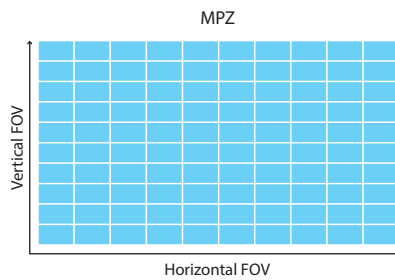
- ✓ Ultra-high resolution lens, suitable for 1" 20 megapixel sensor
- ✓ Much lower distortion design for all models is beneficial for variety of machine vision applications
- ✓ The newest optical design, much higher relative illuminance compared to conventional models in spite of large format 1" sensor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

MPZ Series

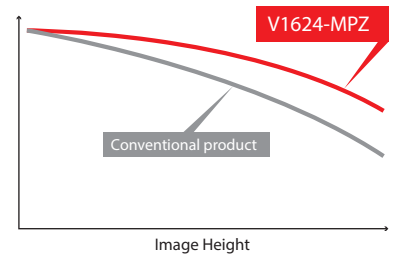
1" 20 MEGAPIXEL Machine Vision Lens

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

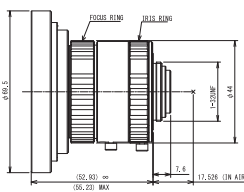
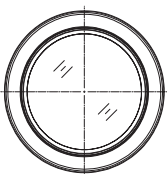
- 1"
- 20MP
- FIX
- MANUAL
- FLOATING



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	88.8°	68.6°	58.2°	
	H	1" 76.9°	2/3" 57.1°	1/1.8" 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					

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



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

Field of View = CCD Size / Optical Magnification

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

1" 20MP
MPZ

NEW

V1226-MPZ

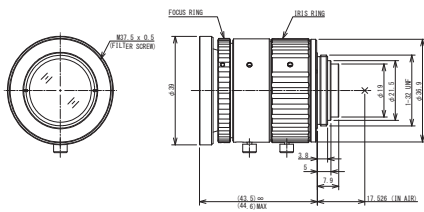
1"

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°
	H	56.7°
	V	44.1°
Operating Temperature	1"	49.8°
	2/3"	40.7°
	1/1.8"	31.0°
		41.5°
		33.7°
		25.5°

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

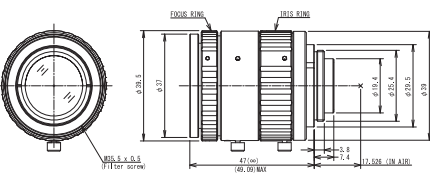
1"

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°
	H	43.8°
	V	33.6°
Operating Temperature	1"	38.1°
	2/3"	30.9°
	1/1.8"	23.4°
		31.6°
		25.5°
		19.2°

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
MPZ

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

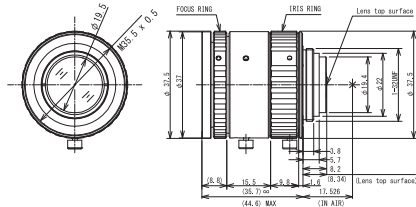
- 8, 12, 16, 25, 35, 50, 75mm 7 lens series
- Compatible with 1" (φ 16mm) large format sensor
- Vibration resistance up to 5G

- 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					

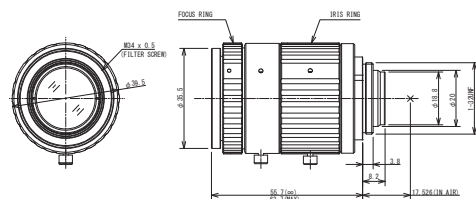
Working Distance (mm)	Optical Magnification	Extension Ring (mm)	Field of View (mm)					
			1"		2/3"		1/1.8"	
			H	V	H	V	H	V
1000	0.026	-	502.6	376.9	345.4	259.0	282.6	211.9
950	0.027	-	476.9	357.6	327.8	245.8	264.1	201.1
900	0.028	-	451.3	338.4	310.1	232.6	253.7	190.3
850	0.030	-	425.7	319.2	292.5	219.4	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

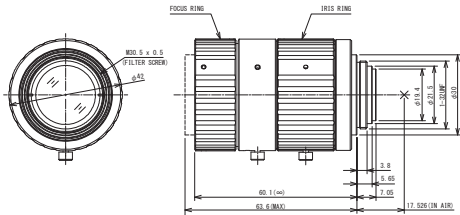
MANUAL

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

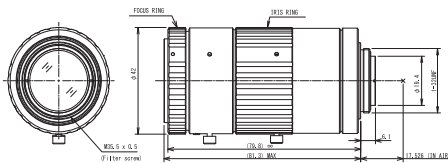
MANUAL

FLOATING



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	12.5	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