

1. Calculation of Working Distance (WD)

Distance from lens to object (WD) is calculated by putting the size of a camera's imaging device, focal length, and an object size into the following formula.

<Formula>

$$WD = H1 + y \times f / y'$$

[Ex]

When 2/3" camera with M2514-MP2 films an object whose vertical size is 120 mm.

f : 25 mm

H1 : 23.8mm

y : 120mm

y' : 6.6mm

Distance from lens to object=

$$WD = 23.8 + 120 \times 25 / 6.6 = 478.35\text{mm}$$

2. Calculation of Focal Length

When choosing size of a camera's imaging device, the object size and WD are fixed, focal length can be calculated by the following formula. You can select appropriate lens from the focal length.

<Formula>

$$f = y' \times WD / y$$

f : focal length of lens

WD : distance from lens to object

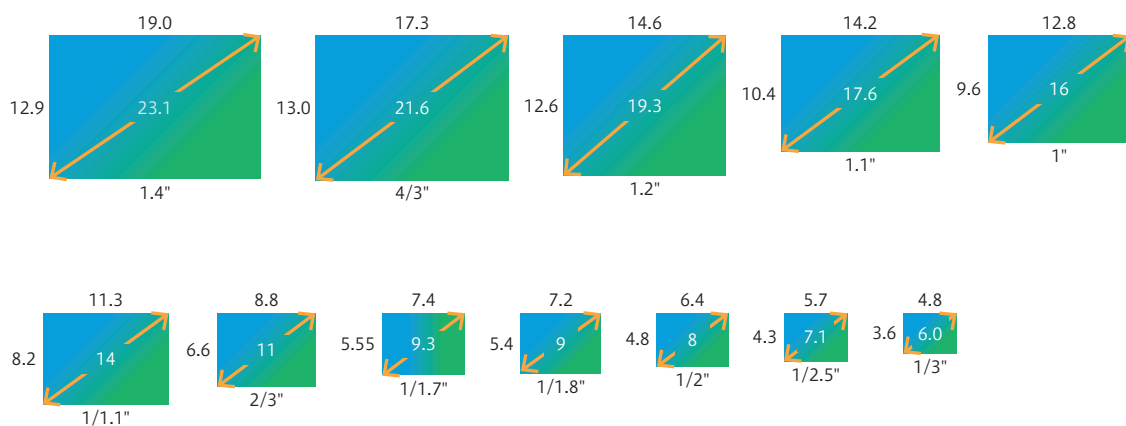
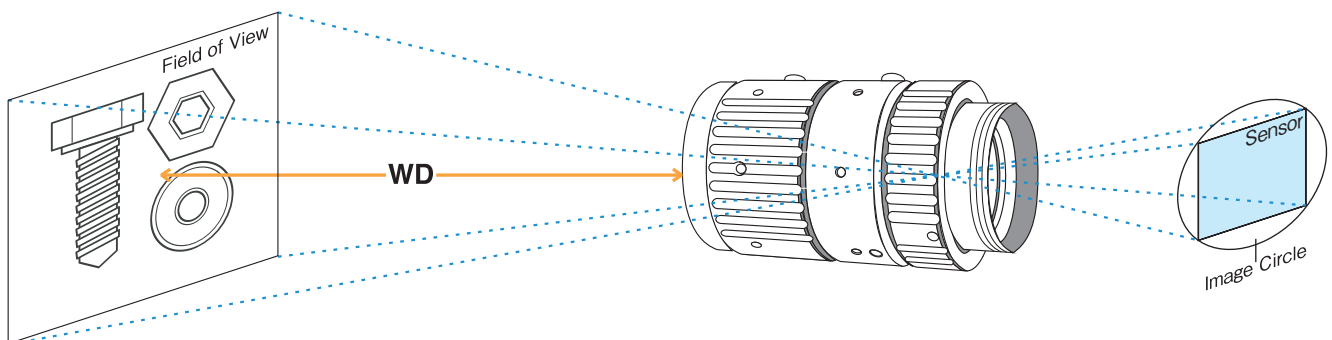
H1 : first principal point

y : vertical size of object

y' : vertical size of camera's imaging device

CAMERA FORMAT

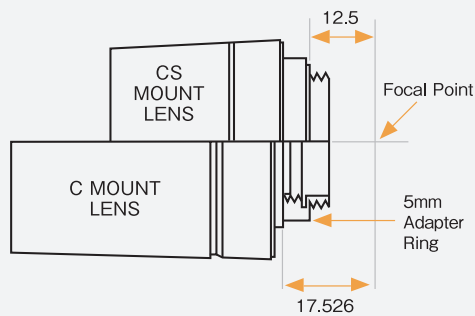
The size of the camera's imaging device also affects the angle of view, with the smaller devices creating narrower angles of view when used on the same lens. The format of the lens, however, is irrelevant to the angle of view; it merely needs to project an image that will cover the device, e.g., the same format as the camera or larger. This also means that 1/3" cameras can utilize the entire range of lenses from 1/3" to 2/3", with a 1/3" 8mm lens giving the same angle as a 2/3" 8mm lens. The latter combination also provides increased resolution and picture quality as only the center of the lens is being utilized, where the optics can be ground more accurately.



* This specification is subject to change without any notice.

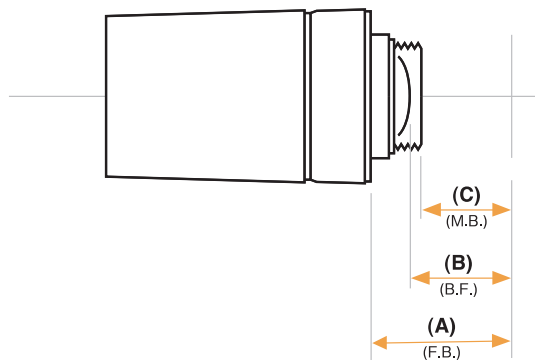
C or CS MOUNT

Modern cameras and lenses are generally CS mount. With CS mount cameras, both types of lenses can be used, but the C mount lens requires a 5mm ring (VM400) to be fitted between the camera and lens to achieve a focused image. With C mount cameras, it is impossible to use CS mount lenses as it is not physically possible to get the lens close enough to the sensor to achieve a focused image.



	C mount lens	CS mount lens
C mount camera	○	×
CS mount camera	needs 5mm ring	○

FLANGE BACK, BACK FOCAL LENGTH, AND MECHANICAL BACK FOCAL LENGTH



(A) Flange Back

Distance between the lens flange and focal plane

(B) Back Focal Length

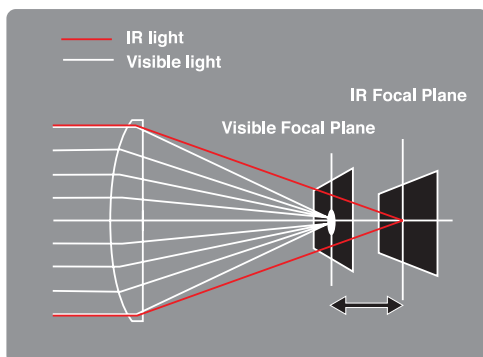
Distance between the surface of the rear lens element and focal plane

(C) Mechanical Back Focal Length

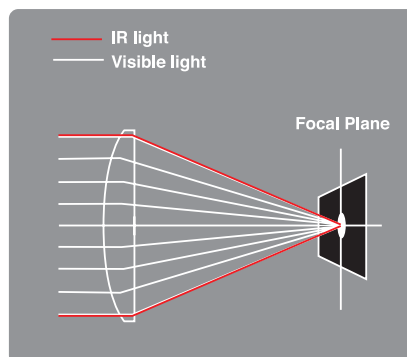
Distance between the surface of the lens frame and focal plane

MECHANISM AND ADVANTAGEOUS EFFECT OF IR LENS

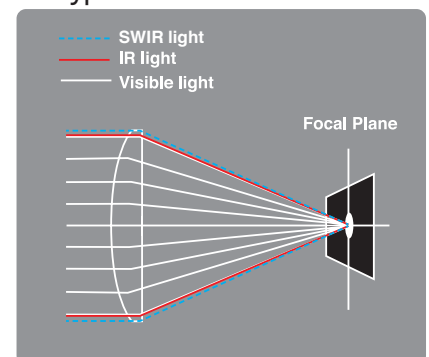
■ VISIBLE LENS



■ IR LENS



■ Hyper-APO LENS



Day/Night cameras typically operate in the near-infrared/infrared zones at night, making the image "out of focus" and unsuitable if used with a conventional lens. Computer has developed IR Lenses that utilize a unique optical glass material that minimizes light dispersion. As a result, refocusing is not required when used with infrared lighting. The lens is manufactured with a special ED glass (extra dispersion) which does not widely disperse light of different wavelengths and has a "special coating." This combination allows the lens to deliver perfect focus under normal and IR illumination by transmitting more light to the infrared region.

FIELD OF VIEW

LensConnect I²C/USB DL-MPY Series

DL0828UC/SC-MPY (f=8mm)

Working Distance (mm)	Optical Magnification	Extension Ring (mm)	Field of View (mm)					
			1/1"		2/3"		1/18"	
			H	V	H	V	H	V
1000	0.008	-	1399.5	1023.8	1097.3	818.7	894.6	667.5
900	0.009	-	1261.0	922.4	988.5	737.5	805.9	601.3
800	0.010	-	1122.5	820.9	879.9	656.4	717.3	535.2
700	0.012	-	984.1	719.5	771.2	575.3	628.6	469.0
600	0.014	-	845.6	618.1	662.5	494.1	540.0	402.9
500	0.016	-	707.1	516.7	553.8	413.0	451.3	336.7
450	0.018	-	637.9	466.0	499.5	372.4	407.0	303.6
400	0.020	-	568.6	415.2	445.1	331.9	362.7	270.5
350	0.023	-	499.3	364.5	390.8	291.3	318.4	237.4
300	0.027	-	430.1	313.8	336.4	250.7	274.0	204.4
250	0.032	-	360.8	263.0	282.0	210.1	229.7	171.3
200	0.040	-	291.4	212.3	227.6	169.5	185.3	138.2
150	0.052	-	222.0	161.5	173.2	128.9	140.9	105.0
100	0.076	-	152.4	110.6	118.7	88.2	96.5	71.9

DL1224UC/SC-MPY (f=12mm)

Working Distance (mm)	Optical Magnification	Extension Ring (mm)	Field of View (mm)					
			1/1"		2/3"		1/18"	
			H	V	H	V	H	V
1000	0.012	-	950.2	695.0	744.6	556.6	607.8	454.5
900	0.013	-	855.6	625.8	670.4	501.1	547.2	409.2
800	0.015	-	761.2	556.6	596.3	445.7	486.7	363.9
700	0.017	-	666.7	487.4	522.2	390.3	426.2	318.7
600	0.020	-	572.2	418.2	448.1	334.9	365.7	273.4
500	0.024	-	477.7	349.0	374.0	279.4	305.2	228.1
450	0.026	-	430.4	314.4	336.9	251.7	274.9	205.5
400	0.030	-	383.1	279.8	299.8	224.0	244.6	182.8
350	0.034	-	335.8	245.2	262.7	196.2	214.3	160.2
300	0.040	-	288.5	210.5	225.6	168.5	184.0	137.5
250	0.047	-	241.2	175.9	188.5	140.7	153.7	114.9
200	0.059	-	193.8	141.2	151.4	113.0	123.4	92.2
150	0.078	-	146.3	106.4	114.1	85.1	93.0	69.5
100	0.117	-	98.5	71.5	76.7	57.1	62.4	46.6

DL1623UC/SC-MPY (f=16mm)

Working Distance (mm)	Optical Magnification	Extension Ring (mm)	Field of View (mm)					
			1/1"		2/3"		1/18"	
			H	V	H	V	H	V
1000	0.016	-	712.8	521.6	558.7	418.0	456.3	341.5
900	0.018	-	642.0	469.8	503.2	376.5	411.0	307.6
800	0.020	-	571.3	418.0	447.8	335.0	365.7	273.7
700	0.023	-	500.6	366.3	392.3	293.5	320.5	239.8
600	0.026	-	429.9	314.5	336.9	252.0	275.1	205.9
500	0.032	-	359.1	262.7	281.4	210.5	229.8	172.0
450	0.035	-	323.7	236.8	253.6	189.7	207.1	155.0
400	0.039	-	288.3	210.9	225.9	169.0	184.5	138.0
350	0.045	-	252.9	184.9	198.1	148.2	161.8	121.0
300	0.052	-	217.4	158.9	170.3	127.3	139.0	104.0
250	0.062	-	181.8	132.9	142.4	106.5	116.3	87.0
200	0.078	-	146.2	106.8	114.4	85.6	93.4	69.9
150	0.103	-	110.2	80.5	86.3	64.5	70.4	52.7
110	0.140	-	81.0	59.2	63.4	47.4	51.8	38.8

DL2523UC/SC-MPY (f=25mm)

Working Distance (mm)	Optical Magnification	Extension Ring (mm)	Field of View (mm)					
			1/1"		2/3"		1/18"	
			H	V	H	V	H	V
1000	0.025	-	454.9	333.3	356.8	267.5	291.8	218.8
900	0.027	-	409.9	300.3	321.5	241.0	263.0	197.2
800	0.031	-	364.9	267.3	286.2	214.6	234.1	175.5
700	0.035	-	319.9	234.4	250.9	188.1	205.2	153.9
600	0.041	-	274.9	201.4	215.6	161.6	176.4	132.2
500	0.049	-	229.9	168.4	180.3	135.2	147.5	110.5
450	0.054	-	207.3	151.9	162.6	121.9	133.0	99.7
400	0.061	-	184.8	135.3	144.9	108.6	118.5	88.9
350	0.069	-	162.2	118.8	127.2	95.3	104.0	78.0
300	0.081	-	139.5	102.2	109.4	82.0	89.5	67.1
250	0.096	-	116.8	85.6	91.6	68.7	74.9	56.2
200	0.120	-	94.0	68.9	73.7	55.3	60.3	45.2
150	0.158	-	71.0	52.0	55.7	41.7	45.5	34.1
120	0.198	-	56.9	41.7	44.6	33.5	36.5	27.4

DL3525UC/SC-MPY (f=35mm)

Working Distance (mm)	Optical Magnification	Extension Ring (mm)	Field of View (mm)					
			1/1"		2/3"		1/18"	
			H	V	H	V	H	V
1000	0.034	-	332.1	243.0	260.2	195.0	212.8	159.5
900	0.038	-	299.9	219.4	234.9	176.0	192.1	144.0
800	0.042	-	267.6	195.7	209.6	157.1	171.4	128.5
700	0.048	-	235.3	172.1	184.3	138.1	150.6	112.9
600	0.056	-	202.9	148.3	158.9	119.0	129.9	97.3
500	0.066	-	170.4	124.5	133.4	99.9	109.0	81.7
450	0.073	-	154.1	112.6	120.6	90.3	98.6	73.8
400	0.082	-	137.7	100.6	107.7	80.7	88.1	66.0
350	0.093	-	121.2	88.5	94.8	71.0	77.5	58.1
300	0.108	-	104.6	76.4	81.8	61.3	66.9	50.1
250	0.129	-	87.8	64.1	68.7	51.4	56.1	42.0
200	0.160	-	70.8	51.7	55.3	41.4	45.2	33.9
160	0.200	-	56.7	41.4	44.3	33.2	36.2	27.1

DL5028UC/SC-MPY (f=50mm)

Working Distance (mm)	Optical Magnification	Extension Ring (mm)	Field of View (mm)					
			1/1"		2/3"		1/18"	
			H	V	H	V	H	V
1000	0.046	-	246.7	180.5	193.3	144.9	158.1	118.5
900	0.050	-	223.3	163.4	175.0	131.1	143.1	107.3
800	0.056	-	199.9	146.2	156.6	117.4	128.1	96.0
700	0.064	-	176.4	129.0	138.2	103.5	113.0	84.7
600	0.074	-	152.8	111.7	119.6	89.6	97.8	73.3
500	0.087	-	129.0	94.3	101.0	75.7	82.6	61.9
450	0.096	-	117.0	85.6	91.6	68.6	74.9	56.1
400	0.107	-	105.0	76.7	82.2	61.6	67.2	50.4
350	0.122	-	92.8	67.9	72.7	54.4	59.4	44.5
300	0.140	-	80.5	58.9	63.0	47.2	51.5	38.6
250	0.166	-	68.0	49.7	53.2	39.9	43.5	32.6
200	0.205	-	55.2	40.3	43.2	32.3	35.3	26.5

Lens Connect I²C/USB Vari focal Series

ML3Z1226UC/SC-MPW

Working Distance (mm)	Optical Magnification	Extension Ring (mm)	Field of View (mm)								
			2/3"			1/2"			1/3"		
			D	H	V	D	H	V	D	H	V
1000	WIDE	0.012	-	974.9	773.8	574.8	701.0	556.9	415.2	521.3	310.3
	TELE	0.034	-	320.0	257.4	193.8	234.4	188.0	141.2	176.3	106.0
	WIDE	0.013	-	880.7	698.9	519.1	633.1	502.9	374.9	470.7	280.2
900	TELE	0.038	-	290.0	233.2	175.5	212.3	170.2	127.8	159.6	95.9
	WIDE	0.015	-	786.6	623.9	463.3	565.1	448.9	334.6	420.1	250.0
800	TELE	0.042	-	260.0	208.9	157.1	190.1	152.3	114.4	142.9	85.8
	WIDE	0.016	-	692.5	549.0	407.6	497.2	394.9	294.3	369.6	219.9
700	TELE	0.048	-	230.0	184.6	138.7	167.9	134.5	101.0	126.1	75.8
	WIDE	0.019	-	598.3	474.1	351.8	429.3	340.8	254.0	319.0	189.8
600	TELE	0.055	-	199.7	160.0	120.1	145.6	116.5	87.4	109.2	65.6
	WIDE	0.023	-	504.0	399.0	296.0	361.2	286.7	213.6	268.3	159.6
500	TELE	0.065	-	168.9	135.1	101.3	122.8	98.2	73.7	92.1	55.2
	WIDE	0.028	-	409.9	324.1	240.2	293.3	232.7	173.4	217.8	129.5
400	TELE	0.080	-	137.7	109.9	82.3	99.8	79.8	59.8	74.8	44.8
	WIDE	0.036	-	315.6	249.1	184.4	225.3	178.7	133.0	167.2	99.3
300	TELE	0.103	0.500	108.1	86.0	64.2	78.0	62.3	46.6	58.3	34.9
	WIDE	0.052	-	221.2	174.0	128.6	157.3	124.5	92.6	116.5	69.2
200	TELE	0.139	2.000	81.1	64.2	47.8	58.2	46.4	34.7	43.4	25.9
	WIDE	0.093	-	126.4	98.6	72.6	89.0	70.3	52.2	65.7	38.9
100	TELE	0.213	5.000	54.0	42.4	31.4	38.4	30.5	22.7	28.5	17.0

ML2Z0525UC/SC-MPWIR

Working Distance (mm)		Optical Magnification	Extension Ring (mm)	Field of View (mm)								
				2/3"			1/2"			1/3"		
				D	H	V	D	H	V	D	H	V
1000	WIDE	0.006	-	105.42	86.26	65.74	88.06	71.44	54.13	59.97	48.24	36.33
	TELE	0.012	-	49.78	40.26	30.43	41.14	33.14	24.98	27.72	22.24	16.72
900	WIDE	0.006	-	105.46	86.29	65.76	88.09	71.47	54.15	59.99	48.26	36.35
	TELE	0.014	-	49.80	40.28	30.45	41.16	33.16	25.00	27.73	22.25	16.73
800	WIDE	0.007	-	105.50	86.33	65.80	88.13	71.50	54.18	60.02	48.28	36.37
	TELE	0.015	-	49.84	40.31	30.47	41.19	33.18	25.02	27.75	22.27	16.74
700	WIDE	0.008	-	105.56	86.38	65.83	88.18	71.55	54.21	60.05	48.31	36.39
	TELE	0.017	-	49.88	40.35	30.50	41.23	33.21	25.04	27.78	22.29	16.75
600	WIDE	0.009	-	105.64	86.44	65.89	88.25	71.60	54.25	60.10	48.35	36.42
	TELE	0.020	-	49.94	40.39	30.54	41.28	33.25	25.07	27.81	22.31	16.77
500	WIDE	0.011	-	105.72	86.51	65.94	88.32	71.66	54.30	60.15	48.39	36.45
	TELE	0.024	-	50.03	40.46	30.59	41.35	33.31	25.11	27.86	22.35	16.80
400	WIDE	0.030	-	105.91	86.67	66.07	88.48	71.80	54.40	60.26	48.49	36.52
	TELE	0.030	-	50.15	40.56	30.66	41.44	33.39	25.17	27.93	22.41	16.84
300	WIDE	0.018	-	106.12	86.86	66.21	88.67	71.95	54.52	60.40	48.59	36.60
	TELE	0.039	-	50.36	40.73	30.80	41.62	33.53	25.28	28.05	22.50	16.92
200	WIDE	0.027	-	106.68	87.33	66.58	89.15	72.35	54.83	60.74	48.87	36.81
	TELE	0.058	-	50.73	41.03	31.03	41.93	33.78	25.47	28.25	22.67	17.04
100	WIDE	0.050	-	107.68	88.19	67.25	90.02	73.08	55.39	61.35	49.37	37.19
	TELE	0.108	-	51.77	41.89	31.67	42.80	34.48	26.00	28.84	23.15	17.40

F1228-MPT (f=12mm)

Working Distance (mm)	Optical Magnification	Extension Ring (mm)	Field of View (mm)					
			14"		12"		11"	
			H	V	H	V	H	V
1000	0.012	-	1582.7	1081.4	1213.1	1047.7	1178.8	858.7
900	0.014	-	1426.7	974.6	1093.4	944.3	1062.4	773.9
800	0.015	-	1270.8	867.9	973.7	840.9	946.1	689.1
700	0.017	-	1114.8	761.1	854.0	737.4	829.8	604.3
600	0.020	-	958.8	654.4	734.3	634.0	713.4	519.5
500	0.024	-	802.9	547.6	614.6	530.6	597.1	434.7
450	0.027	-	724.9	494.3	554.7	478.9	538.9	392.3
400	0.030	-	646.9	440.9	494.8	427.1	480.8	349.9
350	0.034	-	568.9	387.5	435.0	375.4	422.6	307.5
300	0.040	-	490.9	334.1	375.1	323.7	364.4	265.1
250	0.047	-	412.8	280.7	315.2	272.0	306.2	222.7
200	0.058	-	334.8	227.3	255.3	220.2	248.0	180.3
150	0.076	-	256.7	173.9	195.4	168.5	189.8	137.8
100	0.109	0.4	180.7	121.2	137.7	118.3	133.8	97.1

F1628-MPT (f=16mm)

Working Distance (mm)	Optical Magnification	Extension Ring (mm)	Field of View (mm)					
			14"		12"		11"	
			H	V	H	V	H	V
1000	0.016	-	1183.6	808.5	906.4	783.5	880.9	643.1
900	0.018	-	1067.2	729.0	817.2	706.4	794.2	579.8
800	0.020	-	950.9	649.4	728.1	629.3	707.5	516.5
700	0.023	-	834.5	569.8	638.9	552.2	620.9	453.2
600	0.027	-	718.1	490.3	549.7	475.1	534.2	389.9
500	0.032	-	601.8	410.7	460.5	398.0	447.5	326.7
450	0.035	-	543.6	371.0	416.0	359.5	404.2	295.0
400	0.040	-	485.4	331.2	371.4	320.9	360.9	263.4
350	0.045	-	427.2	291.4	326.8	282.4	317.5	231.7
300	0.052	-	369.0	251.6	282.2	243.8	274.2	200.1
250	0.062	-	310.8	211.8	237.6	205.3	230.9	168.4
200	0.076	-	252.6	172.1	193.0	166.7	187.5	136.8
150	0.099	-	194.4	132.3	148.4	128.2	144.2	105.1
100	0.141	0.7	136.6	92.2	104.5	90.0	101.6	74.1

F2524-MPT (f=25mm)

Working Distance (mm)	Optical Magnification	Extension Ring (mm)	Field of View (mm)					
			14"		12"		11"	
			H	V	H	V	H	V
1000	0.025	-	771.4	526.8	590.5	510.6	573.9	419.3
900	0.028	-	694.9	474.5	531.9	459.9	516.9	377.7
800	0.031	-	618.3	422.2	473.3	409.2	460.0	336.1
700	0.035	-	541.7	369.9	414.7	358.5	403.0	294.4
600	0.041	-	465.1	317.6	356.0	307.9	346.0	252.8
500	0.049	-	388.5	265.3	297.4	257.2	289.1	211.2
450	0.055	-	350.2	239.2	268.1	231.8	260.6	190.4
400	0.061	-	312.0	213.1	238.8	206.5	232.1	169.6
350	0.070	-	273.7	186.9	209.5	181.1	203.6	148.8
300	0.081	-	235.4	160.8	180.2	155.8	175.1	128.0
250	0.097	-	197.1	134.6	150.9	130.5	146.6	107.2
200	0.121	-	158.8	108.5	121.6	105.1	118.1	86.3
150	0.159	-	120.5	82.3	92.3	79.8	89.7	65.5
100	0.235	1.8	80.9	55.0	62.2	53.7	60.5	44.3

F3526-MPT (f=35mm)

Working Distance (mm)	Optical Magnification	Extension Ring (mm)	Field of View (mm)					
			14"		12"		11"	
			H	V	H	V	H	V
1000	0.035	-	540.3	369.0	413.5	357.6	401.8	293.9
900	0.039	-	485.7	331.7	371.7	321.5	361.3	264.2
800	0.044	-	431.1	294.5	330.0	285.4	320.7	234.5
700	0.051	-	376.6	257.2	288.2	249.3	280.1	204.9
600	0.059	-	322.0	219.9	246.5	213.2	239.5	175.2
500	0.071	-	267.5	182.7	204.7	177.1	199.0	145.5
450	0.080	-	240.2	164.1	183.8	159.0	178.7	130.7
400	0.090	-	212.9	145.4	163.0	141.0	158.4	115.8
350	0.103	-	185.6	126.8	142.1	122.9	138.1	101.0
300	0.121	-	158.3	108.2	121.2	104.9	117.8	86.2
250	0.146	-	131.1	89.5	100.3	86.8	97.5	71.3
200	0.184	-	103.8	70.9	79.5	68.7	77.2	56.5
150	0.249	-	76.5	52.3	58.6	50.7	56.9	41.7
100	0.387	2.6	49.3	33.7	37.7	32.7	36.7	26.9

F5026-MPT (f=50mm)

Working Distance (mm)	Optical Magnification	Extension Ring (mm)	Field of View (mm)					
			14"		12"		11"	
			H	V	H	V	H	V
1000	0.052	-	369.2	252.1	282.5	244.4	274.6	200.8
900	0.058	-	331.0	226.0	253.3	219.1	246.2	180.1
800	0.065	-	292.8	200.0	224.1	193.8	217.8	159.3
700	0.075	-	254.6	173.9	194.9	168.6	189.4	138.5
600	0.088	-	216.4	147.8	165.6	143.3	161.0	117.8
500	0.107	-	178.3	121.8	136.4	118.0	132.6	97.0
450	0.120	-	159.2	108.7	121.8	105.4	118.4	86.6
400	0.136	-	140.1	95.7	107.2	92.7	104.2	76.2
350	0.158	-	121.0	82.6	92.6	80.1	90.0	65.8
300	0.187	-	101.9	69.6	78.0	67.5	75.8	55.5
250	0.230	-	82.8	56.6	63.4	54.8	61.6	45.1
200	0.299	3.50	63.2	42.9	48.6	34.6	47.3	34.6
150	0.433	10.00	43.8	29.8	33.8	24.1	32.8	24.1
100	0.773	26.50	24.6	16.7	18.9	13.5	18.4	13.5

V0828-MPY2 (f=8mm)

Working Distance (mm)	Optical Magnification	Extension Ring (mm)	Field of View (mm)					
			11"		1"		2/3"	
			H	V	H	V	H	V
1000	0.008	-	1790.8	1310.2	1617.6	1206.7	1103.1	820.5
900	0.009	-	1614.2	1180.9	1458.0	1087.5	994.2	739.5
800	0.010	-	1437.5	1051.4	1298.3	968.3	885.2	658.4
700	0.012	-	1260.1	921.4	1137.9	848.5	775.7	576.9
600	0.014	-	1083.5	792.0	978.3	729.3	666.7	495.9
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

V1228-MPY2 (f=12mm)

Working Distance (mm)	Optical Magnification	Extension Ring (mm)	Field of View (mm)					
			11"		1"		2/3"	
			H	V	H	V	H	V
1000	0.012	-	1167.9	854.2	1053.4	787.5	720.9	538.6
900	0.014	-	1051.2	768.8	948.2	708.8	648.9	484.8
800	0.015	-	934.6	683.4	842.9	630.1	576.8	430.9
700	0.018	-	818.0	598.1	737.7	551.5	504.8	377.1
600	0.021	-	701.5	512.9	632.7	472.9	432.9	323.4
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

V1628-MPY2 (f=16mm)

Working Distance	Optical Magnification	Extension Ring	Field of View (mm)					
			1"		1"		2/3"	
(mm)		(mm)	H	V	H	V	H	V
1000	0.016	-	890.1	651.4	802.4	601.0	550.7	412.4
900	0.018	-	800.7	586.0	721.8	540.7	495.4	371.0
800	0.020	-	711.5	520.8	641.5	480.5	440.3	329.8
700	0.023	-	622.2	455.4	560.9	420.2	385.0	288.4
600	0.027	-	532.7	390.0	480.3	359.9	329.7	247.0
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	164.4
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	82.5
150	0.106	1.0	135.1	98.8	121.7	91.1	83.5	63.8
100	0.156	2.0	92.1	67.2	82.9	61.9	56.7	42.5

FIELD OF VIEW

Lens Connect I²C/USB VL-MPZ / MPZ Series

V3528-MPY (f=35mm)

Working Distance (mm)	Optical Magnification	Extension Ring (mm)	Field of View (mm)					
			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
900	0.040	-	352.7	258.4	317.9	238.5	218.6	164.0
800	0.046	-	312.1	228.6	281.3	211.0	193.5	145.1
700	0.052	-	271.6	198.9	244.8	183.6	168.3	126.3
600	0.061	-	231.0	169.2	208.2	156.2	143.2	107.4
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

V5028-MPY (f=50mm)

Working Distance (mm)	Optical Magnification	Extension Ring (mm)	Field of View (mm)					
			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
900	0.062	-	229.5	168.1	206.9	155.1	142.2	106.7
800	0.071	-	201.1	147.2	181.2	135.9	124.6	93.4
700	0.082	-	172.7	126.4	155.6	116.7	107.0	80.2
600	0.099	-	144.2	105.6	130.0	97.5	89.4	67.0
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

VL0826U/S-MPZ V0826-MPZ (f=8mm)

Working Distance (mm)	Optical Magnification	Extension Ring (mm)	Field of View (mm)					
			1"		2/3"		1/18"	
			H	V	H	V	H	V
1000	0.009	-	1619.6	1211.4	1108.2	825.6	902.4	672.9
900	0.009	-	1460.8	1092.4	999.3	744.4	813.6	606.7
800	0.011	-	1302.0	973.4	890.4	663.2	724.9	540.5
700	0.012	-	1143.3	854.4	781.5	582.0	636.2	474.3
600	0.014	-	984.5	735.4	672.6	500.8	547.5	408.2
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

VL1226U/S-MPZ V1226-MPZ (f=12mm)

Working Distance (mm)	Optical Magnification	Extension Ring (mm)	Field of View (mm)					
			1"		2/3"		1/18"	
			H	V	H	V	H	V
1000	0.012	-	1093.8	819.7	750.6	561.0	612.6	458.2
900	0.014	-	986.0	738.8	676.5	505.7	552.2	413.0
800	0.015	-	878.1	658.0	602.5	450.3	491.7	367.7
700	0.017	-	770.3	577.1	528.5	395.0	431.3	322.5
600	0.020	-	662.5	496.3	454.4	339.6	370.8	277.3
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

VL1624U/S-MPZ V1624-MPZ (f=16mm)

Working Distance (mm)	Optical Magnification	Extension Ring (mm)	Field of View (mm)					
			1"		2/3"		1/18"	
			H	V	H	V	H	V
1000	0.016	-	811.4	608.4	557.5	417.6	455.7	341.5
900	0.018	-	761.1	548.1	502.3	376.6	410.6	307.7
800	0.020	-	650.8	487.9	447.1	334.9	365.5	273.8
700	0.023	-	570.5	427.7	391.9	293.6	320.4	240.0
600	0.027	-	490.2	367.4	336.7	252.2	275.2	206.2
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

VL2520U/S-MPZ V2520-MPZ (f=25mm)

Working Distance (mm)	Optical Magnification	Extension Ring (mm)	Field of View (mm)					
			1"		2/3"		1/18"	
			H	V	H	V	H	V
1000	0.026	-	502.6	376.9	345.4	259.0	282.6	211.9
900	0.028	-	451.3	338.4	310.1	232.6	253.7	190.3
800	0.032	-	400.1	300.0	274.9	206.2	224.9	168.7
700	0.037	-	348.9	261.5	239.7	179.7	196.1	147.1
600	0.043	-	297.7	223.1	204.5	153.3	167.3	125.5
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

VL3522U/S-MPZ V3522-MPZ (f=35mm)

Working Distance (mm)	Optical Magnification	Extension Ring (mm)	Field of View (mm)					
			1"		2/3"		1/18"	
			H	V	H	V	H	V
1000	0.035	-	362.4	271.8	249.1	186.8	203.8	152.9
900	0.039	-	325.8	244.3	224.0	168.0	183.2	137.4
800	0.044	-	289.3	216.9	198.8	149.1	162.7	122.0
700	0.051	-	252.7	189.5	173.7	130.3	142.1	106.6
600	0.059	-	216.1	162.1	148.5	111.4	121.5	91.1
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

VL5024U/S-MPZ V5024-MPZ (f=50mm)

Working Distance	Optical Magnification	Extension Ring	Field of View (mm)					
			1"		2/3"		1/18"	
(mm)		(mm)	H	V	H	V	H	V
1000	0.053	-	245.9	184.4	169.0	126.8	138.3	103.8
900	0.059	-	220.3	165.2	151.4	113.6	123.9	93.0
800	0.066	-	194.7	146.0	133.8	100.4	109.5	82.1
700	0.076	-	169.2	126.9	116.3	87.2	95.1	71.4
600	0.090	-	143.5	107.6	98.6	74.0	80.7	60.5
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

M0528-MPX (f = 5.5mm)

Working Distance (mm)	Optical Magnification	Extension Ring (mm)	Field of View (mm)					
			2/3"		1/2"		1/3"	
			H	V	H	V	H	V
1000	0.005	-	1665.4	1247.2	1208.5	899.3	899.3	670.2
900	0.006	-	1499.8	1122.7	1087.9	809.5	809.5	603.3
800	0.007	-	1335.5	999.4	968.4	720.5	720.5	536.9
700	0.008	-	1171.0	876.1	848.8	631.5	631.5	470.6
600	0.009	-	1006.8	752.9	729.4	542.6	542.6	404.3
500	0.011	-	842.8	629.9	610.3	453.8	453.8	338.1
450	0.012	-	760.8	568.4	550.6	409.4	409.4	305.0
400	0.013	-	678.2	506.4	490.6	364.7	364.7	271.7
350	0.015	-	596.2	444.9	431.0	320.3	320.3	238.6
300	0.018	-	513.9	383.1	371.1	275.8	275.8	205.4
250	0.021	-	431.5	321.3	311.2	231.1	231.1	172.1
200	0.026	-	348.6	259.0	250.9	186.2	186.2	138.6
150	0.035	-	266.0	197.1	190.9	141.5	141.5	105.3
100	0.051	-	183.7	135.4	131.1	97.0	97.0	72.1

M0828-MPX (f = 8mm)

Working Distance (mm)	Optical Magnification	Extension Ring (mm)	Field of View (mm)					
			2/3"		1/2"		1/3"	
			H	V	H	V	H	V
1000	0.008	-	1082.8	812.2	787.5	589.8	589.8	441.8
900	0.009	-	975.6	731.7	709.4	531.3	531.3	398.0
800	0.010	-	868.4	651.2	631.4	472.9	472.9	354.2
700	0.012	-	761.1	570.7	553.4	414.4	414.4	310.4
600	0.014	-	653.9	490.2	475.3	355.9	355.9	266.6
500	0.016	-	546.7	409.8	397.3	297.5	297.5	222.8
450	0.018	-	493.1	369.5	358.3	268.2	268.2	200.9
400	0.020	-	439.4	329.3	319.2	239.0	239.0	179.0
350	0.023	-	385.8	289.0	280.2	209.8	209.8	157.1
300	0.027	-	332.2	248.8	241.2	180.5	180.5	135.2
250	0.032	-	278.6	208.5	202.2	151.3	151.3	113.3
200	0.040	-	225.0	168.3	163.2	122.1	122.1	91.4
150	0.052	-	171.3	128.1	124.1	92.8	92.8	69.5
100	0.076	-	117.7	87.8	85.1	63.6	63.6	47.6

M1228-MPX (f = 12mm)

Working Distance (mm)	Optical Magnification	Extension Ring (mm)	Field of View (mm)					
			2/3"		1/2"		1/3"	
			H	V	H	V	H	V
1000	0.012	-	739.0	554.5	537.7	403.2	403.2	302.3
900	0.013	-	665.6	499.4	484.3	363.2	363.2	272.3
800	0.015	-	592.2	444.3	430.9	323.1	323.1	242.3
700	0.017	-	518.8	389.3	377.5	283.1	283.1	212.3
600	0.020	-	445.4	334.2	324.1	243.0	243.0	182.2
500	0.024	-	372.1	279.1	270.7	203.0	203.0	152.2
450	0.026	-	335.4	251.6	244.0	183.0	183.0	137.2
400	0.030	-	298.7	224.1	217.3	162.9	162.9	122.2
350	0.034	-	262.0	196.5	190.6	142.9	142.9	107.2
300	0.039	-	225.3	169.0	163.9	122.9	122.9	92.1
250	0.047	-	188.6	141.5	137.2	102.9	102.9	77.1
200	0.058	-	151.9	113.9	110.5	82.8	82.8	62.1
150	0.077	-	115.2	86.4	83.8	62.8	62.8	47.1
100	0.112	-	78.5	58.9	57.1	42.8	42.8	32.1

M1628-MPX (f = 16mm)

Working Distance (mm)	Optical Magnification	Extension Ring (mm)	Field of View (mm)					
			2/3"		1/2"		1/3"	
			H	V	H	V	H	V
1000	0.016	-	558.1	418.7	406.0	304.5	304.5	228.3
900	0.018	-	503.1	377.4	366.0	274.5	274.5	205.8
800	0.020	-	448.0	336.2	326.0	244.4	244.4	183.3
700	0.022	-	393.0	294.9	285.9	214.4	214.4	160.8
600	0.026	-	338.0	253.6	245.9	184.4	184.4	138.3
500	0.031	-	283.0	212.3	205.9	154.4	154.4	115.7
450	0.035	-	255.5	191.7	185.8	139.3	139.3	104.5
400	0.039	-	228.0	171.0	165.8	124.3	124.3	93.2
350	0.044	-	200.5	150.4	145.8	109.3	109.3	82.0
300	0.051	-	173.0	129.7	125.8	94.3	94.3	70.7
250	0.061	-	145.5	109.1	105.8	79.3	79.3	59.5
200	0.075	-	118.0	88.4	85.8	64.3	64.3	48.2
150	0.098	-	90.5	67.8	65.7	49.3	49.3	36.9
100	0.140	-	62.9	47.1	45.7	34.3	34.3	25.7

M2528-MPX (f = 25mm)

Working Distance (mm)	Optical Magnification	Extension Ring (mm)	Field of View (mm)					
			2/3"		1/2"		1/3"	
			H	V	H	V	H	V
1000	0.025	-	346.9	260.2	252.3	189.2	189.2	141.9
900	0.028	-	311.6	233.7	226.6	169.9	169.9	127.5
800	0.032	-	276.4	207.3	201.0	150.7	150.7	113.1
700	0.037	-	241.2	180.9	175.4	131.5	131.5	98.7
600	0.043	-	206.0	154.5	149.8	112.3	112.3	84.3
500	0.052	-	170.8	128.1	124.2	93.2	93.2	69.9
450	0.058	-	153.2	114.9	111.4	83.6	83.6	62.7
400	0.065	-	135.6	101.7	98.6	74.0	74.0	55.5
350	0.075	-	118.0	88.5	85.8	64.4	64.4	48.3
300	0.088	-	100.4	75.3	73.0	54.8	54.8	41.1
250	0.106	-	82.8	62.1	60.2	45.1	45.1	33.9
200	0.135	-	65.2	48.9	47.4	35.5	35.5	26.7
150	0.185	-	47.6	35.7	34.6	26.0	26.0	19.5
100	0.294	-	30.0	22.5	21.8	16.4	16.4	12.3

M3528-MPX (f = 35mm)

Working Distance (mm)	Optical Magnification	Extension Ring (mm)	Field of View (mm)					
			2/3"		1/2"		1/3"	
			H	V	H	V	H	V
1000	0.036	-	242.6	182.0	176.5	132.4	132.4	99.3
900	0.040	-	217.8	163.4	158.5	118.9	118.9	89.2
800	0.046	-	192.7	144.6	140.2	105.2	105.2	78.9
700	0.053	-	167.6	125.7	121.9	91.5	91.5	68.6
600	0.062	-	142.6	107.0	103.7	77.8	77.8	58.4
500	0.075	-	117.1	87.9	85.2	63.9	63.9	48.0
450	0.084	-	104.6	78.5	76.1	57.1	57.1	42.8
400	0.095	-	92.2	69.1	67.1	50.3	50.3	37.7
350	0.111	-	79.5	59.7	57.9	43.4	43.4	32.6
300	0.131	-	67.0	50.3	48.7	36.6	36.6	27.4
250	0.162	-	54.4	40.8	39.6	29.7	29.7	22.3
200	0.210	-	41.8	31.4	30.4	22.8	22.8	17.1
150	0.300	-	29.3	22.0	21.3	16.0	16.0	12.0
100	0.459	10.0	19.3	14.4	14.0	10.5	10.5	7.8

M5028-MPX (f = 50mm)

Working Distance (mm)	Optical Magnification	Extension Ring (mm)	Field of View (mm)					
			2/3"		1/2"		1/3"	
			H	V	H	V	H	V
1000	0.053	-	167.4	125.6	121.8	91.3	91.3	68.5
900	0.059	-	149.8	112.4	109.0	81.8	81.8	61.3
800	0.067	-	132.3	99.3	96.3	72.2	72.2	54.2
700	0.077	-	114.5	85.9	83.3	62.5	62.5	46.9
600	0.091	-	97.0	72.8	70.6	53.0	53.0	39.7
500	0.111	-	79.3	59.5	57.7	43.3	43.3	32.5
450	0.125	-	70.5	52.9	51.3	38.5	38.5	28.9
400	0.142	-	61.8	46.4	44.9	33.7	33.7	25.3
350	0.166	-	53.0	39.8	38.6	29.0	29.0	21.7
300	0.199	-	44.3	33.2	32.2	24.2	24.2	18.1
250	0.248	-	35.4	26.6	25.8	19.3	19.3	14.5
200	0.330	-	26.6	20.0	19.4	14.5	14.5	10.9
150	0.444	10.0	20.1	15.0	14.5	10.9	10.9	8.1
100	0.722	25.0	12.4	9.2	8.9	6.7	6.7	5.0

M7538-MPX (f = 75mm)

Working Distance	Optical Magnification	Extension Ring	Field of View (mm)					
			2/3"		1/2"		1/3"	
(mm)		(mm)	H	V	H	V	H	V
1000	0.076	-	115.8	86.8	84.2	63.2	63.2	47.4
900	0.085	-	103.6	77.7	75.4	56.6	56.6	42.4
800	0.096	-	91.6	68.7	66.6	50.0	50.0	37.5
700	0.111	-	79.5	59.7	57.9	43.4	43.4	32.6
600	0.130	-	67.4	50.6	49.1	36.8	36.8	27.6
500	0.159	-	55.3	41.5	40.2	30.2	30.2	22.7
450	0.179	-	49.2	36.9	35.8	26.9	26.9	20.2
400	0.204	-	43.2	32.4	31.4	23.6	23.6	17.7
350	0.236	-	37.2	27.9	27.0	20.3	20.3	15.2
300	0.283	-	31.1	23.3	22.6	17.0	17.0	12.7
250	0.350	-	25.1	18.8	18.3	13.7	13.7	10.3
200	0.504	10.0	17.7	13.2	12.8	9.6	9.6	7.2
150	0.865	30.0	10.3	7.7	7.5	5.6	5.6	4.2

FIELD OF VIEW

MPW3 Series

M0528-MPW3 (f=5mm)

Working Distance (mm)	Optical Magnification	Extension Ring (mm)	Field of View (mm)					
			2/3"		1/18"		1/25"	
			H	V	H	V	H	V
1000	0.005	-	1811.6	1361.5	1487.1	1108.3	1171.7	876.9
900	0.006	-	1634.3	1228.1	1341.4	999.6	1056.8	790.8
800	0.006	-	1457.0	1094.6	1195.7	890.9	941.9	704.8
700	0.007	-	1279.8	961.2	1050.0	782.2	827.0	618.8
600	0.008	-	1102.5	827.7	904.2	673.5	712.1	532.8
500	0.010	-	925.2	694.2	758.5	564.8	597.2	446.7
450	0.011	-	836.6	627.5	685.7	510.5	539.7	403.7
400	0.012	-	747.9	560.8	612.8	456.1	482.3	360.7
350	0.014	-	659.3	494.0	539.9	401.8	424.8	317.7
300	0.016	-	570.6	427.3	467.1	347.4	367.4	274.7
250	0.019	-	482.0	360.6	394.2	293.1	309.9	231.7
200	0.023	-	393.3	293.8	321.3	238.7	252.5	188.7
150	0.030	-	304.7	227.1	248.5	184.4	195.0	145.7
100	0.043	-	216.0	160.4	175.6	130.0	137.6	102.6

M0828-MPW3 (f=8mm)

Working Distance (mm)	Optical Magnification	Extension Ring (mm)	Field of View (mm)					
			2/3"		1/18"		1/25"	
			H	V	H	V	H	V
1000	0.008	-	1099.4	820.0	896.0	668.7	706.4	530.9
900	0.009	-	990.8	739.0	807.5	602.6	636.6	478.4
800	0.010	-	882.2	657.9	719.0	536.5	566.8	425.9
700	0.012	-	773.7	576.9	630.4	470.4	497.0	373.5
600	0.014	-	665.1	495.9	541.9	404.3	427.1	321.0
500	0.016	-	556.5	414.9	453.4	338.2	357.3	268.5
450	0.018	-	502.3	374.4	409.2	305.2	322.4	242.3
400	0.020	-	448.0	333.9	364.9	272.2	287.6	216.1
350	0.023	-	393.7	293.3	320.6	239.1	252.6	189.8
300	0.027	-	339.4	252.8	276.3	206.0	217.7	163.5
250	0.032	-	285.1	212.3	232.1	173.0	182.8	137.3
200	0.039	-	230.8	171.8	187.8	139.9	147.9	111.1
150	0.051	-	176.5	131.3	143.5	106.9	113.0	84.8
100	0.074	-	122.2	90.7	99.3	73.9	78.1	58.6

M1228-MPW3 (f=12mm)

Working Distance (mm)	Optical Magnification	Extension Ring (mm)	Field of View (mm)					
			2/3"		1/18"		1/25"	
			H	V	H	V	H	V
1000	0.012	-	743.1	557.3	607.9	455.9	481.3	363.0
900	0.013	-	669.7	502.3	547.9	410.9	433.7	327.1
800	0.015	-	596.4	447.2	487.9	365.9	386.2	291.3
700	0.017	-	523.1	392.2	427.9	320.8	338.7	255.4
600	0.020	-	449.8	337.2	367.9	275.8	291.1	219.6
500	0.023	-	376.4	282.1	307.8	230.8	243.6	183.7
450	0.026	-	339.8	254.6	277.8	208.3	219.8	165.8
400	0.029	-	303.1	227.1	247.8	185.7	196.1	147.8
350	0.033	-	266.4	199.6	217.8	163.2	172.3	129.9
300	0.038	-	229.7	172.1	187.8	140.7	148.6	112.0
250	0.046	-	193.1	144.6	157.8	118.2	124.8	94.1
200	0.057	-	156.4	117.1	127.8	95.7	101.0	76.1
150	0.074	-	119.7	89.5	97.7	73.2	77.3	58.2
100	0.107	-	83.0	62.0	67.7	50.6	53.5	40.3

M1628-MPW3 (f=16mm)

Working Distance (mm)	Optical Magnification	Extension Ring (mm)	Field of View (mm)					
			2/3"		1/18"		1/25"	
			H	V	H	V	H	V
1000	0.016	-	552.5	414.6	452.3	339.2	358.1	270.1
900	0.018	-	497.6	373.4	407.3	305.5	322.5	243.2
800	0.020	-	442.7	332.1	362.3	271.7	286.8	216.4
700	0.023	-	387.7	290.9	317.4	238.0	251.2	189.5
600	0.026	-	332.8	249.7	272.4	204.3	215.6	162.6
500	0.032	-	277.9	208.5	227.4	170.5	180.0	135.8
450	0.035	-	250.5	187.8	204.9	153.6	162.2	122.3
400	0.040	-	223.0	167.2	182.5	136.8	144.4	108.9
350	0.045	-	195.5	146.6	160.0	119.9	126.6	95.4
300	0.052	-	168.1	126.0	137.5	103.0	108.8	82.0
250	0.063	-	140.6	105.4	115.0	86.2	91.0	68.6
200	0.078	0.3	113.2	84.8	92.5	69.3	73.2	55.1
150	0.103	0.6	85.7	64.1	70.0	52.4	55.3	41.7
100	0.153	1.5	58.2	43.5	47.5	35.5	37.5	28.3

M2528-MPW3 (f=25mm)

Working Distance (mm)	Optical Magnification	Extension Ring (mm)	Field of View (mm)					
			2/3"		1/18"		1/25"	
			H	V	H	V	H	V
1000	0.025	-	351.1	263.7	287.6	215.9	227.8	171.9
900	0.028	-	316.1	237.3	258.8	194.3	205.1	154.8
800	0.031	-	281.0	211.0	230.1	172.7	182.3	137.6
700	0.036	-	246.0	184.7	201.4	151.2	159.5	120.4
600	0.042	-	210.9	158.3	172.7	129.6	136.8	103.2
500	0.050	-	175.9	132.0	144.0	108.0	114.0	86.0
450	0.056	-	158.4	118.8	129.6	97.2	102.6	77.4
400	0.062	-	140.8	105.7	115.3	86.5	91.3	68.9
350	0.071	-	123.3	92.5	100.9	75.7	79.9	60.3
300	0.083	-	105.8	79.3	86.5	64.9	68.5	51.7
250	0.100	-	88.2	66.1	72.2	54.1	57.1	43.1
200	0.125	-	70.7	53.0	57.8	43.3	45.7	34.5
150	0.166	1.0	53.1	39.8	43.4	32.5	34.3	25.9
100	0.249	3.0	35.6	26.6	29.0	21.7	22.9	17.3

M3528-MPW3 (f=35mm)

Working Distance (mm)	Optical Magnification	Extension Ring (mm)	Field of View (mm)					
			2/3"		1/18"		1/25"	
			H	V	H	V	H	V
1000	0.036	-	247.9	185.9	202.8	152.1	160.5	121.1
900	0.040	-	222.8	167.1	182.3	136.7	144.3	108.8
800	0.045	-	197.6	148.2	161.7	121.2	128.0	96.5
700	0.051	-	172.5	129.3	141.1	105.8	111.7	84.3
600	0.060	-	147.3	110.5	120.5	90.4	95.4	72.0
500	0.072	-	122.2	91.6	100.0	74.9	79.1	59.7
450	0.080	-	109.6	82.2	89.7	67.2	71.0	53.5
400	0.091	-	97.0	72.8	79.4	59.5	62.8	47.4
350	0.104	-	84.5	63.3	69.1	51.8	54.7	41.3
300	0.123	-	71.9	53.9	58.8	44.1	46.5	35.1
250	0.149	-	59.3	44.5	48.5	36.4	38.4	29.0
200	0.189	1.5	46.7	35.0	38.2	28.6	30.2	22.8
150	0.259	4.0	34.1	25.6	27.9	20.9	22.1	16.6
100	0.412	9.5	21.5	16.1	17.6	13.2	13.9	10.5

M5028-MPW3 (f=50mm)

Working Distance (mm)	Optical Magnification	Extension Ring (mm)	Field of View (mm)					
			2/3"		1/18"		1/25"	
			H	V	H	V	H	V
1000	0.052	-	168.9	126.8	138.3	103.7	109.5	82.6
900	0.058	-	151.4	113.6	123.9	93.0	98.1	74.0
800	0.066	-	133.8	100.4	109.6	82.2	86.8	65.5
700	0.075	-	116.3	87.3	95.2	71.4	75.4	56.9
600	0.089	-	98.8	74.1	80.8	60.6	64.0	48.3
500	0.108	-	81.2	60.9	66.5	49.9	52.6	39.7
450	0.121	-	72.4	54.3	59.3	44.5	46.9	35.4
400	0.138	-	63.7	47.8	52.1	39.1	41.3	31.1
350	0.160	-	54.9	41.2	44.9	33.7	35.6	26.8
300	0.191	-	46.1	34.6	37.7	28.3	29.9	22.5
250	0.236	2.2	37.3	28.0	30.5	22.9	24.2	18.2
200	0.308	6.0	28.5	21.4	23.4	17.5	18.5	14.0
150	0.445	13.0	19.8	14.8	16.2	12.1	12.8	9.7
100	0.802	30.5	11.0	8.2	9.0	6.7	7.1	5.4

M7528-MPW3 (f=75mm)

Working Distance (mm)	Optical Magnification	Extension Ring (mm)	Field of View (mm)					
			2/3"		1/18"		1/25"	
			H	V	H	V	H	V
1000	0.071	-	123.1	92.3	100.7	75.5	79.7	60.1
900	0.079	-	111.4	83.5	91.1	68.3	72.1	54.4
800	0.088	-	99.7	74.7	81.5	61.1	64.5	48.7
700	0.100	-	87.9	65.9	71.9	53.9	56.9	43.0
600	0.116	-	76.2	57.1	62.4	46.7	49.3	37.2
500	0.137	-	64.5	48.4	52.8	39.6	41.8	31.5
450	0.150	-	58.7	44.0	48.0	36.0	38.0	28.6
400	0.167	-	52.8	39.6	43.2	32.4	34.2	25.8
350	0.188	1.5	46.9	35.2	38.4	28.8	30.4	22.

H0514-MP2/H0514-VSW (f=5mm) M0814-MP2/M0814-VSW (f=8mm) M1214-MP2/M1214-VSW (f=12mm)

Working Distance (mm)	Optical Magnification	EXTension Ring (mm)	Field of View (mm)			
			1/2"		1/3"	
			H	V	H	V
900	0.006	-	1179.8	882.3	882.3	657.2
800	0.006	-	1051.0	786.0	786.0	585.4
700	0.007	-	922.3	689.6	689.6	513.6
600	0.008	-	793.5	593.2	593.2	441.8
500	0.010	-	664.7	496.9	496.9	370.0
450	0.011	-	600.3	448.7	448.7	334.1
400	0.012	-	535.9	400.5	400.5	298.2
350	0.014	-	471.5	352.3	352.3	262.3
300	0.016	-	407.1	304.1	304.1	226.4
250	0.019	-	342.7	255.9	255.9	190.5
200	0.024	-	278.4	207.8	207.8	154.6
150	0.031	-	214.0	159.6	159.6	118.7
100	0.044	-	149.6	111.4	111.4	82.8

Working Distance (mm)	Optical Magnification	EXTension Ring (mm)	Field of View (mm)			
			2/3"		1/2"	
			H	V	H	V
900	0.009	-	976.8	731.5	709.1	530.1
800	0.010	-	869.8	651.3	631.4	471.9
700	0.012	-	762.8	571.1	553.6	413.8
600	0.014	-	655.8	490.9	475.8	355.6
500	0.016	-	548.8	410.7	398.1	297.5
450	0.018	-	495.3	370.6	359.2	268.4
400	0.020	-	441.8	330.5	320.3	239.3
350	0.023	-	388.3	290.4	281.4	210.2
300	0.027	-	334.8	250.3	242.6	181.2
250	0.032	-	281.2	210.2	203.7	152.1
200	0.039	-	227.7	170.0	164.8	123.0
150	0.052	-	174.2	129.9	125.9	93.9
100	0.075	-	120.7	89.8	87.0	64.9

Working Distance (mm)	Optical Magnification	EXTension Ring (mm)	Field of View (mm)			
			2/3"		1/2"	
			H	V	H	V
900	0.013	-	672.7	504.0	488.7	366.0
800	0.015	-	599.1	448.9	435.2	325.9
700	0.017	-	525.6	393.7	381.7	285.8
600	0.020	-	452.1	338.5	328.2	245.7
500	0.023	-	378.5	283.4	274.7	205.7
450	0.026	-	341.7	255.8	248.0	185.6
400	0.029	-	305.0	228.2	221.2	165.6
350	0.033	-	268.2	200.6	194.5	145.6
300	0.038	-	231.4	173.0	167.7	125.5
250	0.046	-	194.7	145.5	141.0	105.5
200	0.056	-	157.9	117.9	114.3	85.4
150	0.074	-	121.1	90.3	87.5	65.4
100	0.106	0.5	84.3	62.7	60.8	45.4

M1614-MP2/M1614-VSW (f=16mm) M2514-MP2/M2514-VSW (f=25mm) M3514-MP/M3514-VSW (f=35mm)

Working Distance (mm)	Optical Magnification	EXTension Ring (mm)	Field of View (mm)			
			2/3"		1/2"	
			H	V	H	V
900	0.018	-	503.2	376.8	365.4	273.7
800	0.020	-	448.0	335.5	325.3	243.6
700	0.023	-	392.8	294.1	285.2	213.6
600	0.026	-	337.6	252.8	245.1	183.5
500	0.031	-	282.5	211.4	204.9	153.5
450	0.035	-	254.9	190.7	184.9	138.4
400	0.039	-	227.3	170.0	164.8	123.4
350	0.044	-	199.7	149.4	144.8	108.4
300	0.052	-	172.1	128.7	124.7	93.4
250	0.061	-	144.5	108.0	104.7	78.3
200	0.076	-	116.9	87.3	84.6	63.3
150	0.100	0.5	89.3	66.6	64.6	48.3
100	0.145	1.0	61.7	45.9	44.5	33.2

Working Distance (mm)	Optical Magnification	EXTension Ring (mm)	Field of View (mm)			
			2/3"		1/2"	
			H	V	H	V
900	0.028	-	317.5	237.7	230.5	172.7
800	0.031	-	282.3	211.3	204.8	153.5
700	0.036	-	247.0	184.9	179.2	134.3
600	0.042	-	211.8	158.4	153.6	115.1
500	0.050	-	176.5	132.0	128.0	95.9
450	0.056	-	158.9	118.8	115.2	86.3
400	0.063	-	141.2	105.6	102.4	76.7
350	0.072	-	123.6	92.4	89.6	67.1
300	0.084	-	106.0	79.2	76.8	57.5
250	0.100	-	88.3	66.0	63.9	47.9
200	0.126	-	70.7	52.7	51.1	38.3
150	0.168	-	53.0	39.5	38.3	28.7
100	0.253	1.5	35.3	26.3	25.5	19.0

Working Distance (mm)	Optical Magnification	EXTension Ring (mm)	Field of View (mm)			
			2/3"		1/2"	
			H	V	H	V
900	0.037	-	236.2	176.9	171.5	128.6
800	0.042	-	210.3	157.5	152.7	114.5
700	0.048	-	184.3	138.1	133.9	100.3
600	0.056	-	158.4	118.6	115.0	86.2
500	0.067	-	132.5	99.2	96.2	72.1
450	0.074	-	119.6	89.5	86.8	65.0
400	0.083	-	106.6	79.8	77.4	58.0
350	0.094	-	93.7	70.1	67.9	50.9
300	0.110	-	80.7	60.4	58.5	43.8
250	0.131	1.0	67.7	50.6	49.1	36.8
200	0.162	2.0	54.7	40.9	39.7	29.7
150	0.213	5.0	41.8	31.2	30.2	22.6
100	0.310	7.0	28.7	21.4	20.8	15.5

M5018-MP2/M5018-VSW (f=50mm) M7528-MP (f=75mm)

Working Distance (mm)	Optical Magnification	EXTension Ring (mm)	Field of View (mm)			
			2/3"		1/2"	
			H	V	H	V
900	0.055	-	160.8	120.4	116.7	87.5
800	0.062	-	142.4	106.6	103.4	77.5
700	0.071	-	124.0	92.9	90.0	67.5
600	0.084	-	105.6	79.1	76.7	57.5
500	0.101	-	87.3	65.3	63.3	47.5
450	0.113	0.5	78.1	58.4	56.7	42.5
400	0.128	1.5	68.9	51.6	50.0	37.5
350	0.148	2.5	59.7	44.7	43.3	32.5
300	0.175	3.5	50.5	37.8	36.6	27.4
250	0.214	5.5	41.3	30.9	30.0	22.4
200	0.276	8.5	32.1	24.0	23.3	17.4
150	0.387	14.0	22.9	17.1	16.6	12.4
100	0.647	26.5	13.6	10.2	9.9	7.4

Working Distance (mm)	Optical Magnification	EXTension Ring (mm)	Field of View (mm)			
			2/3"		1/2"	
			H	V	H	V
900	0.077	-	113.8	85.4	82.8	62.1
800	0.086	-	101.7	76.3	74.0	55.5
700	0.098	-	89.6	67.2	65.2	48.9
600	0.114	-	77.6	58.1	56.4	42.3
500	0.135	-	65.5	49.1	47.6	35.7
450	0.148	-	59.4	44.5	43.2	32.4
400	0.165	-	53.4	40.0	38.8	29.1
350	0.187	-	47.3	35.4	34.4	25.8
300	0.214	-	41.3	30.9	30.0	22.5
250	0.251	5.0	35.2	26.4	25.6	19.1
200	0.304	7.0	29.2	21.8	21.2	15.8
150	0.384	13.0	23.1	17.3	16.8	12.5
100	0.522	23.0	17.1	12.7	12.3	9.2

FIELD OF VIEW

ViSWIR Hyper APO Series

M0818-APVSW2

Working Distance (mm)	Optical Magnification	Field of View (mm)					
		IMX992		IMX990		IMX991	
		H	V	H	V	H	V
1000	0.008	1122	882.6	795.4	635.4	396.2	316.8
900	0.009	1003.0	795.8	717.3	573.0	357.3	285.7
800	0.010	894.0	709.2	639.2	510.6	318.4	254.5
700	0.012	784.8	622.6	561.1	448.2	279.4	223.4
600	0.013	675.8	535.9	483.0	385.8	240.5	192.3
500	0.016	566.7	449.3	404.9	323.4	201.5	161.1
450	0.018	512.2	406.0	365.9	292.1	182.1	145.5
400	0.020	457.7	362.7	326.8	260.9	162.6	130.0
350	0.022	403.1	319.3	287.8	229.7	143.1	114.4
300	0.026	348.6	276.0	248.7	198.5	123.7	98.8
250	0.031	294.1	232.7	209.6	167.3	104.2	83.3
200	0.038	239.5	189.3	170.6	136.1	84.7	67.7
190	0.040	228.6	180.7	162.8	129.8	80.8	64.6
180	0.042	217.7	172.0	155.0	123.6	76.9	61.5
170	0.044	206.8	163.3	147.1	117.3	73.0	58.4
160	0.046	195.8	154.7	139.3	111.1	69.1	55.2
150	0.049	184.9	146.0	131.5	104.8	65.2	52.1
140	0.052	174.0	137.3	123.7	98.6	61.3	49.0
130	0.056	163.1	128.6	115.9	92.3	57.4	45.9
120	0.060	152.1	120.0	108.1	86.1	53.5	42.8
110	0.065	141.2	111.3	100.2	79.9	49.6	39.7
100	0.070	130.3	102.6	92.3	73.5	45.7	36.5

M1218-APVSW3

Working Distance (mm)	Optical Magnification	Field of View (mm)					
		IMX992		IMX990		IMX991	
		H	V	H	V	H	V
1000	0.012	764.4	605.9	545.7	436.3	272.4	217.8
900	0.013	689.6	546.5	492.4	393.6	245.7	196.5
800	0.015	614.8	487.2	439.0	350.9	219.0	175.2
700	0.017	540.0	427.9	385.7	308.2	192.4	153.9
600	0.019	465.1	368.5	332.2	265.5	165.7	132.5
500	0.023	390.2	309.1	278.7	222.7	139.0	111.1
450	0.026	352.7	279.5	252.0	201.3	125.6	100.5
400	0.029	315.2	249.8	225.2	179.9	112.3	89.8
350	0.032	277.8	220.1	198.4	158.5	98.9	79.1
300	0.038	240.3	190.3	171.6	137.1	85.5	68.4
250	0.044	202.9	160.7	144.8	115.7	72.2	57.7
200	0.055	165.5	131.0	118.0	94.3	58.8	47.0
190	0.057	158.0	125.0	112.7	90.0	56.1	44.9
180	0.060	150.5	119.1	107.3	85.7	53.5	42.8
170	0.063	143.0	113.2	102.0	81.4	50.8	40.6
160	0.067	135.5	107.2	96.6	77.1	48.1	38.5
150	0.071	128.0	101.3	91.2	72.9	45.4	36.3
140	0.075	120.4	95.3	85.9	68.6	42.8	34.2
130	0.080	112.9	89.3	80.5	64.3	40.1	32.0
120	0.086	105.4	83.4	75.1	60.0	37.4	29.9
110	0.092	97.9	77.4	69.8	55.7	34.7	27.8
100	0.100	90.4	71.5	64.4	51.4	32.0	25.6

M1618-APVSW2

Working Distance (mm)	Optical Magnification	Field of View (mm)					
		IMX992		IMX990		IMX991	
		H	V	H	V	H	V
1000	0.016	573.5	454.3	410.2	327.7	204.5	163.5
900	0.017	517.4	409.8	369.7	295.4	184.3	147.4
800	0.020	461.4	365.4	329.3	263.1	164.1	131.2
700	0.022	405.4	321.0	289.2	231.1	144.2	115.3
600	0.026	349.3	276.5	249.2	199.1	124.2	99.3
500	0.031	293.3	232.1	209.1	167.0	104.2	83.3
450	0.034	265.2	209.8	189.1	151.0	94.2	75.3
400	0.038	237.2	187.6	169.0	135.0	84.2	67.3
350	0.043	209.2	165.4	148.9	118.9	74.1	59.3
300	0.050	181.1	143.1	129.1	103.1	64.3	51.4
250	0.059	153.1	120.9	109.5	87.4	54.5	43.6
200	0.072	125.0	98.7	89.2	71.1	44.3	35.4
190	0.076	119.4	94.2	85.1	67.9	42.3	33.8
180	0.080	113.9	89.8	81.1	64.7	40.3	32.2
170	0.084	108.3	85.4	77.1	61.5	38.3	30.6
160	0.089	102.7	81.0	73.0	58.3	36.3	29.0
150	0.094	97.1	76.5	69.0	55.0	34.3	27.4
140	0.100	91.5	72.1	65.0	51.8	32.3	25.8
130	0.106	85.9	67.7	61.0	48.6	30.2	24.2
120	0.114	80.4	63.3	56.9	45.4	28.2	22.6
110	0.122	74.8	58.8	52.9	42.2	26.2	21.0
100	0.133	69.2	54.4	48.9	39.0	24.2	19.4

M2518-APVSW2

Working Distance (mm)	Optical Magnification	Field of View (mm)					
		IMX992		IMX990		IMX991	
		H	V	H	V	H	V
1000	0.025	361.9	286.9	258.5	206.7	129.1	103.3
900	0.028	326.1	258.5	232.7	186.1	116.3	93.0
800	0.031	290.3	230.1	207.1	165.6	103.5	82.8
700	0.035	254.5	201.7	181.3	145.0	90.6	72.5
600	0.041	218.6	173.3	155.7	124.5	77.8	62.2
500	0.049	182.8	144.9	130.1	104.0	65.0	52.0
450	0.055	164.9	130.7	117.3	93.8	58.6	46.9
400	0.061	147.0	116.5	104.5	83.6	52.2	41.8
350	0.070	128.6	102.0	91.8	73.4	45.8	36.7
300	0.081	110.8	87.8	79.0	63.2	39.5	31.6
250	0.097	92.9	73.6	66.3	53.0	33.1	26.5
200	0.120	75.1	59.5	53.6	42.8	26.8	21.4
190	0.126	71.5	56.7	51.1	40.8	25.5	20.4
180	0.132	68.0	53.9	48.5	38.8	24.2	19.4
170	0.140	64.4	51.0	46.0	36.7	22.9	18.3
160	0.148	60.9	48.2	43.4	34.7	21.7	17.3
150	0.157	57.3	45.4	40.9	32.7	20.4	16.3
140	0.168	53.8	42.6	38.4	30.6	19.1	15.3
130	0.179	50.2	39.8	35.8	28.6	17.9	14.3
120	0.193	46.7	37.0	33.3	26.6	16.6	13.3
110	0.209	43.2	34.2	30.8	24.6	15.3	12.3
100	0.228	39.6	31.4	28.2	22.6	14.1	11.3

M3518-APVSW

Working Distance (mm)	Optical Magnification	Field of View (mm)					
		IMX992		IMX990		IMX991	
		H	V	H	V	H	V
1000	0.036	260.0	206.2	181.1	144.2	91.7	72.7
900	0.040	220.3	174.7	162.5	129.4	82.3	65.2
800	0.045	204.7	162.4	144.0	114.7	72.9	57.8
700	0.052	168.8	133.9	125.4	99.9	63.5	50.4
600	0.061	151.2	120.0	107.0	85.2	54.2	42.9
500	0.073	120.1	95.2	88.4	70.4	44.8	35.5
450	0.082	111.0	88.0	79.2	63.1	40.1	31.8
400	0.093	96.4	76.5	70.0	55.7	35.4	28.1
350	0.107	82.9	65.7	60.8	48.4	30.8	24.4
300	0.126	71.0	56.3	51.6	41.1	26.1	20.7
250	0.153	58.5	46.4	42.4	33.8	21.5	17.0
200	0.195	46.1	36.5	33.3	26.5	16.9	13.4
190	0.206	43.5	34.5	31.5	25.1	16.0	12.7
180	0.219	41.1	32.6	29.7	23.7	15.1	11.9
170	0.233	38.6	30.6	27.9	22.2	14.1	11.2
160	0.249	35.9	28.5	26.1	20.8	13.2	10.5
150	0.268	33.6	26.7	24.3	19.4	12.3	9.8

M5018-APVSW

Working Distance (mm)	Optical Magnification	Field of View (mm)					
		IMX992		IMX990		IMX991	
		H	V	H	V	H	V
1000	0.051	176.0	139.7	126.0	100.9	63.1	50.5
900	0.057	158.1	125.4	113.1	90.5	56.6	45.3
800	0.064	140.0	111.1	100.4	80.3	50.2	40.2
700	0.073	121.9	96.7	87.4	70.0	43.8	35.0
600	0.086	103.9	82.5	74.5	59.6	37.3	29.8
500	0.104	85.8	68.1	61.5	49.2	30.8	24.6
450	0.116	76.8	61.0	55.1	44.1	27.6	22.0
400	0.132	67.8	53.8	48.6	38.9	24.3	19.5
350	0.152	58.7	46.6	42.1	33.7	21.1	16.9
300	0.180	49.7	39.5	35.6	28.5	17.8	14.3
250	0.220	40.7	32.3	29.2	23.4	14.6	11.7
200	0.282	31.7	25.2	22.7	18.2	11.4	9.1

LensConnect I²C/USB SWIR Series

ML2Z0525UC/SC-MPWIR

Working Distance (mm)		Optical Magnification	EXtension Ring	Field of View (mm)					
				IMX992		IMX990		IMX991	
				H	V	H	V	H	V
1000	WIDE	0.006	-	1928.21	1422.04	1273.58	599.79	599.79	471.20
	TELE	0.012	-	763.20	599.52	546.15	432.62	273.48	216.48
900	WIDE	0.006	-	1738.52	1282.07	1148.21	540.72	540.72	424.79
	TELE	0.013	-	688.06	540.49	492.37	390.02	246.55	195.16
800	WIDE	0.007	-	1544.50	1139.32	1020.43	480.68	480.68	377.63
	TELE	0.015	-	612.88	481.42	438.57	347.39	219.60	173.83
700	WIDE	0.008	-	1354.91	999.42	895.12	421.63	421.63	331.24
	TELE	0.017	-	537.84	422.47	384.86	304.85	192.70	152.54
600	WIDE	0.009	-	1165.84	859.85	770.10	362.71	362.71	284.95
	TELE	0.020	-	462.46	363.25	330.92	262.12	165.69	131.15
500	WIDE	0.011	-	976.49	720.11	644.92	303.72	303.72	238.60
	TELE	0.024	-	387.26	304.18	277.10	219.48	138.74	109.82
400	WIDE	0.014	-	787.14	580.36	519.74	244.73	244.73	192.25
	TELE	0.029	-	312.05	245.09	223.27	176.85	111.79	88.48
300	WIDE	0.018	-	597.79	440.62	394.56	185.74	185.74	145.91
	TELE	0.039	-	236.84	186.01	169.45	134.21	84.83	67.15
200	WIDE	0.027	-	408.43	300.87	269.38	126.75	126.75	99.56
	TELE	0.057	-	161.64	126.93	115.62	91.57	57.88	45.81
100	WIDE	0.050	-	219.02	161.08	144.17	67.74	67.74	53.21
	TELE	0.106	-	86.43	67.85	61.80	48.94	30.92	24.48

ML3Z1226UC/SC-MPW

Working Distance (mm)		Optical Magnification	EXtension Ring	Field of View (mm)					
				IMX992		IMX990		IMX991	
				H	V	H	V	H	V
1000	WIDE	0.012	-	772.25	607.09	553.08	438.07	276.85	553.08
	TELE	0.032	-	278.96	221.61	202.53	161.37	102.63	81.36
900	WIDE	0.013	-	697.52	548.27	499.48	395.59	250.00	499.48
	TELE	0.025	-	340.00	281.22	258.86	208.12	132.98	105.48
800	WIDE	0.015	-	622.70	489.38	445.81	353.07	223.11	445.81
	TELE	0.038	-	233.63	185.42	169.41	134.92	85.77	67.99
700	WIDE	0.017	-	547.88	430.49	392.14	310.54	196.22	392.14
	TELE	0.043	-	206.00	163.41	149.28	118.86	75.54	59.88
600	WIDE	0.019	-	473.06	371.60	338.47	268.01	169.33	338.47
	TELE	0.050	-	178.25	141.31	129.06	102.73	65.27	51.73
500	WIDE	0.023	-	398.23	312.70	284.80	225.47	142.43	284.80
	TELE	0.060	-	150.28	119.03	108.69	86.48	54.92	43.53
400	WIDE	0.029	-	323.37	253.78	231.11	182.93	115.53	231.11
	TELE	0.074	-	121.79	96.36	87.96	69.95	44.40	35.19
300	WIDE	0.037	-	248.48	194.85	177.40	140.37	88.62	177.40
	TELE	0.093	0.500	96.76	76.44	69.76	55.44	35.17	27.87
200	WIDE	0.053	-	173.52	135.85	123.64	97.77	61.69	123.64
	TELE	0.127	2.000	71.67	56.50	51.53	40.91	25.92	20.53
100	WIDE	0.095	-	98.25	76.66	69.71	55.04	34.68	69.71
	TELE	0.213	5.000	46.56	36.54	33.29	26.37	16.68	13.20

FIELD OF VIEW

MACRO ZOOM LENS / TELECENTRIC MACRO LENS

TEC-V7X

Working Distance (mm)	Optical Magnification	Field of View (mm)									
		1"			1"			2/3"			
		D	H	V	D	H	V	D	H	V	
182	WIDE	0.2525	69.12	48.74	48.74	63.28	50.32	38.06	43.6	34.88	26.16
	TELE	0.5	34.75	24.6	24.6	31.88	25.4	19.246	22	17.65	13.26
200	WIDE	0.2258	76.94	54.52	54.62	70.84	56.3	42.56	48.76	39	29.24
	TELE	0.4451	38.68	27.5	27.5	35.64	28.38	21.51	24.62	19.72	14.81
300	WIDE	0.1413	124.06	87.48	87.48	114.1	90.34	68.18	78.178	62.46	46.8
	TELE	0.2784	61.94	44	44	57.46	45.42	34.3	39.38	31.55	23.69
400	WIDE	0.1037	169.98	119.47	119.47	156.05	123.4	93.02	106.71	85.2	63.82
	TELE	0.2042	84.52	59.99	59.99	77.82	61.92	46.89	53.7	43	32.28
500	WIDE	0.082	215.44	151.25	151.25	197.8	156.25	117.67	135.04	107.78	80.68
	TELE	0.1617	106.89	75.84	75.84	98.4	78.29	59.28	67.88	54.36	40.8
577.5	WIDE	0.0708	250.66	175.21	175.21	229.82	181.4	136.35	156.76	125.08	93.62
	TELE	0.1398	124.04	87.99	87.99	114.16	90.8	68.75	78.74	63.06	47.32

MLH-10X

Working Distance (mm)	Optical Magnification	Field of View (mm)												
		1/2"				1/3"				1/4"				
		D	H	V	Magnification on Monitor	D	H	V	Magnification on Monitor	D	H	V	Magnification on Monitor	
150	WIDE	0.084	95.2	76.2	57.1	3.73X	71.4	57.1	42.9	4.98X	53.6	42.9	32.1	6.64X
	TELE	0.84	9.5	7.6	5.7	37.34X	7.1	5.7	4.3	49.78X	5.4	4.3	3.2	66.38X
200	WIDE	0.06	133.3	106.7	80.0	2.67X	100.0	80.0	60.0	3.56X	75.0	60.0	45.0	4.74X
	TELE	0.60	13.3	10.7	8.0	26.67X	10.0	8.0	6.0	35.56X	7.5	6.0	4.5	47.41X
250	WIDE	0.045	177.8	142.2	106.7	2.00X	133.3	106.7	80.0	2.67X	100.0	80.0	60.0	3.56X
	TELE	0.45	17.8	14.2	10.7	20.00X	13.3	10.7	8.0	26.67X	10.0	8.0	6.0	35.56X
300	WIDE	0.036	222.2	177.8	133.3	1.60X	166.7	133.3	100.0	2.13X	125.0	100.0	75.0	2.84X
	TELE	0.36	22.2	17.8	13.3	16.00X	16.7	13.3	10.0	21.34X	12.5	10.0	7.5	28.45X
350	WIDE	0.03	266.7	213.3	160.0	1.33X	200.0	160.0	120.0	1.78X	150.0	120.0	90.0	2.37X
	TELE	0.30	26.7	21.3	16.0	13.34X	20.0	16.0	12.0	17.78X	15.0	12.0	9.0	23.71X
400	WIDE	0.025	320.0	256.0	192.0	1.11X	240.0	192.0	144.0	1.48X	180.0	144.0	108.0	1.98X
	TELE	0.25	32.0	25.6	19.2	11.11X	24.0	19.2	14.4	14.82X	18.0	14.4	10.8	19.76X
450	WIDE	0.022	363.6	290.9	218.2	0.98X	272.7	218.2	163.6	1.30X	204.5	163.6	122.7	1.74X
	TELE	0.22	36.4	29.1	21.8	9.78X	27.3	21.8	16.4	13.04X	20.5	16.4	12.3	17.38X

TEC-M55MPW

Working Distance (mm)	Optical Magnification	Field of View (mm)					
		2/3"		1/2"		1/3"	
		H	V	H	V	H	V
1000	0.057	154.4	115.8	112.3	84.2	84.2	63.2
950	0.060	146.7	110.0	106.7	80.0	80.0	60.0
900	0.064	137.5	103.1	100.0	75.0	75.0	56.3
850	0.067	131.3	98.5	95.5	71.6	71.6	53.7
800	0.072	122.2	91.7	88.9	66.7	66.7	50.0
750	0.077	114.3	85.7	83.1	62.3	62.3	46.8
700	0.083	106.0	79.5	77.1	57.8	57.8	43.4
650	0.089	98.9	74.2	71.9	53.9	53.9	40.4
600	0.097	90.7	68.0	66.0	49.5	49.5	37.1
550	0.106	83.0	62.3	60.4	45.3	45.3	34.0
500	0.118	74.6	55.9	54.2	40.7	40.7	30.5
450	0.132	66.7	50.0	48.5	36.4	36.4	27.3
400	0.150	58.7	44.0	42.7	32.0	32.0	24.0
350	0.173	50.9	38.2	37.0	27.7	27.7	20.8
300	0.204	43.1	32.4	31.4	23.5	23.5	17.6
250	0.251	35.1	26.3	25.5	19.1	19.1	14.3
200	0.323	27.2	20.4	19.8	14.9	14.9	11.1
150	0.456	19.3	14.5	14.0	10.5	10.5	7.9
140	0.504	17.5	13.1	12.7	9.5	9.5	7.1

MLM-3XMP

Optical Magnification	Field of View (mm)											
	2/3"				1/2"				1/3"			
	D	H	V	Magnification on Monitor	D	H	V	Magnification on Monitor	D	H	V	Magnification on Monitor
0.3	36.7	29.3	22.0	9.7X	26.7	21.3	16.0	13.3X	20.0	16.0	12.0	17.8X
0.4	27.5	22.0	16.5	12.9X	20.0	16.0	12.0	17.8X	15.0	12.0	9.0	23.7X
0.5	22.0	17.6	13.2	16.2X	16.0	12.8	9.6	22.2X	12.0	9.6	7.2	29.6X
0.6	18.3	14.7	11.0	19.4X	13.3	10.7	8.0	26.7X	10.0	8.0	6.0	35.6X
0.7	15.7	12.6	9.4	22.6X	11.4	9.1	6.9	31.1X	8.6	6.9	5.1	41.5X
0.8	13.8	11.0	8.3	25.9X	10.0	8.0	6.0	35.6X	7.5	6.0	4.5	47.4X
0.9	12.2	9.8	7.3	29.1X	8.9	7.1	5.3	40.0X	6.7	5.3	4.0	53.3X
1.0	11.0	8.8	6.6	32.3X	8.0	6.4	4.8	44.5X	6.0	4.8	3.6	59.3X

TEC-M55

TEC-M55

Working Distance (mm)	Optical Magnification	Field of View (mm)					
		2/3"		1/2"		1/3"	
		H	V	H	V	H	V
5000	0.011	796.2	597.8	579.7	435.0	435.0	326.3
4000	0.014	636.1	477.6	463.1	347.5	347.5	260.7
3000	0.018	476.0	357.4	346.6	260.1	260.1	195.1
2000	0.028	315.9	237.2	230.0	172.6	172.6	129.5
1500	0.037	235.9	177.1	177.1	128.9	128.9	96.7
1000	0.056	155.8	117.0	113.4	85.1	85.1	63.9
950	0.059	147.8	111.0	107.6	80.7	80.7	60.6
900	0.063	139.8	105.0	101.8	76.4	76.4	57.3
850	0.067	131.8	99.0	96.0	72.0	72.0	54.0
800	0.071	123.8	92.9	90.1	67.6	67.6	50.7
750	0.076	115.8	86.9	84.3	63.2	63.2	47.4
700	0.081	107.8	80.9	78.5	58.9	58.9	44.2
650	0.088	99.8	74.9	72.6	55.5	55.5	40.9
600	0.096	91.8	68.9	66.8	50.1	50.1	37.6
550	0.105	83.8	62.9	61.0	45.8	45.8	34.3
500	0.116	75.8	56.9	55.2	41.4	41.4	31.0
450	0.130	67.8	50.9	49.3	37.0	37.0	27.8
400	0.147	59.8	44.9	43.5	32.6	32.6	24.5
350	0.170	51.8	38.8	37.7	28.3	28.3	21.2
300	0.201	43.8	32.8	31.8	23.9	23.9	17.9
250	0.246	35.7	26.8	26.0	19.5	19.5	14.6
200	0.317	27.7	20.8	20.2	15.1	15.1	11.4
150	0.446	19.7	14.8	14.3	10.8	10.8	8.1
140	0.486	18.1	13.6	13.2	9.9	9.9	7.4

TEC-M55 with 0.75X Converter

Working Distance (mm)	Optical Magnification	Field of View (mm)					
		2/3"		1/2"		1/3"	
		H	V	H	V	H	V
5000	0.008	1066.2	797.6	773.3	579.2	579.2	434.0
4000	0.010	851.9	637.3	617.8	462.7	462.7	346.8
3000	0.014	637.6	476.9	462.4	346.3	346.3	259.5
2000	0.021	423.2	316.6	306.9	229.9	229.9	172.3
1500	0.028	316.1	236.4	229.2	171.7	171.7	128.6
1000	0.423	208.9	156.2	151.5	113.4	113.4	85.0
950	0.045	198.2	148.2	143.7	107.6	107.6	80.6
900	0.047	187.4	140.2	135.9	101.8	101.8	76.3
850	0.050	176.7	132.2	128.1	96.0	96.0	71.9
800	0.053	166.0	124.2	120.4	90.1	90.1	67.5
750	0.057	155.3	116.1	112.6	84.3	84.3	63.2
700	0.061	144.6	108.1	104.8	78.5	78.5	58.8
650	0.066	133.8	100.1	97.0	72.7	72.7	54.5
600	0.072	123.1	92.1	89.3	66.8	66.8	50.1
550	0.079	112.4	84.1	81.5	61.0	61.0	45.7
500	0.087	101.7	76.0	73.7	55.2	55.2	41.4
450	0.097	90.9	68.0	65.9	49.4	49.4	37.0
400	0.110	80.2	60.0	58.2	43.6	43.6	32.6
350	0.127	69.5	52.0	50.4	37.7	37.7	28.3
300	0.151	58.7	43.9	42.6	31.9	31.9	23.9
250	0.184	48.0	35.9	34.8	26.1	26.1	19.5
200	0.238	37.3	27.9	27.0	20.2	20.2	15.2
150	0.334	26.5	19.8	19.2	14.4	14.4	10.8
140	0.363	24.4	18.2	17.7	13.2	13.2	9.9

TEC-M55 with 2X Converter

Working Distance (mm)	Optical Magnification	Field of View (mm)					
		2/3"		1/2"		1/3"	

TEC-V Series / TEC-M Series
TEC-V0345165MPY-WI

Field of View	
1.1"	41.1 × 30.1mm
1"	38.3 × 25.2mm
2/3"	25.5 × 19.1mm
1/1.8"	20.9 × 15.4mm
1/2"	18.6 × 13.9mm

TEC-V0565MPW

Field of View	
1"	25.6 × 19.2mm
2/3"	17.6 × 13.2mm
1/1.8"	14.4 × 10.8mm
1/2"	12.8 × 9.6mm

TEC-V1065MPW

Field of View	
1"	12.8 × 9.6mm
2/3"	8.8 × 6.6mm
1/1.8"	7.2 × 5.4mm
1/2"	6.4 × 4.8mm

TEC-V05110MPW

Field of View	
1"	25.6 × 19.2mm
2/3"	17.6 × 13.2mm
1/1.8"	14.4 × 10.8mm
1/2"	12.8 × 9.6mm

TEC-V10110MPW

Field of View	
1"	12.8 × 9.6mm
2/3"	8.8 × 6.6mm
1/1.8"	7.2 × 5.4mm
1/2"	6.4 × 4.8mm

**TEC-M0565MPC /
TEC-M0565MP**

Field of View	
2/3"	17.6 × 13.2mm
1/1.8"	14.35 × 10.64mm
1/2"	12.8 × 9.6mm
1/3"	9.6 × 7.2mm

**TEC-M0865MPC /
TEC-M0865MP**

Field of View	
2/3"	11 × 8.25mm
1/1.8"	8.97 × 6.65mm
1/2"	8 × 6mm
1/3"	6 × 4.5mm

**TEC-M1065MPC /
TEC-M1065MP**

Field of View	
2/3"	8.8 × 6.6mm
1/1.8"	7.18 × 5.32mm
1/2"	6.4 × 4.8mm
1/3"	4.8 × 3.6mm

**TEC-M2065MPC /
TEC-M2065MP**

Field of View	
2/3"	4.4 × 3.3mm
1/1.8"	3.59 × 2.66mm
1/2"	3.2 × 2.4mm
1/3"	2.4 × 1.8mm

**TEC-M03110MPC /
TEC-M03110MP**

Field of View	
2/3"	29.3 × 22mm
1/1.8"	23.9 × 17.7mm
1/2"	21.3 × 16mm
1/3"	16 × 12mm

**TEC-M05110MPC /
TEC-M05110MP**

Field of View	
2/3"	17.6 × 13.2mm
1/1.8"	14.35 × 10.64mm
1/2"	12.8 × 9.6mm
1/3"	9.6 × 7.2mm

**TEC-M08110MPC /
TEC-M08110MP**

Field of View	
2/3"	11 × 8.25mm
1/1.8"	8.97 × 6.65mm
1/2"	8 × 6mm
1/3"	6 × 4.5mm

**TEC-M10110MPC /
TEC-M10110MP**

Field of View	
2/3"	8.8 × 6.6mm
1/1.8"	7.18 × 5.32mm
1/2"	6.4 × 4.8mm
1/3"	4.8 × 3.6mm

**TEC-M15110MPC /
TEC-M15110MP**

Field of View	
2/3"	5.87 × 4.4mm
1/1.8"	4.79 × 3.55mm
1/2"	4.27 × 3.2mm
1/3"	3.2 × 2.4mm

**TEC-M20110MPC /
TEC-M20110MP**

Field of View	
2/3"	4.4 × 3.3mm
1/1.8"	3.59 × 2.66mm
1/2"	3.2 × 2.4mm
1/3"	2.4 × 1.8mm

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