

DVL-L Series 4/3" 1.1" 1" 1/1.2"

The DVL-L series' distortionless design, in combination with a Floating System of internal lens elements, allows it to deliver high resolution performance at any magnification. With 4/3" sensor support it is a great selection to use for any application using a large sensor format that needs a distortionless image.

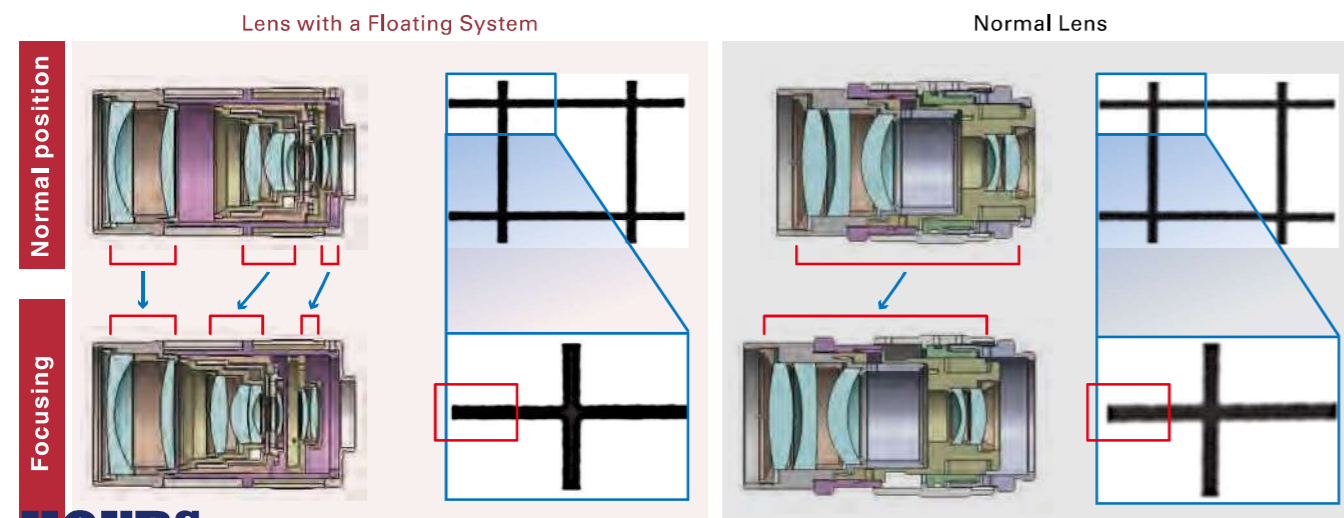
Features

- 4/3" sensor support
- 9 models available
- Focal length 10 - 50mm
- Distortionless
- High Resolution
- Floating System

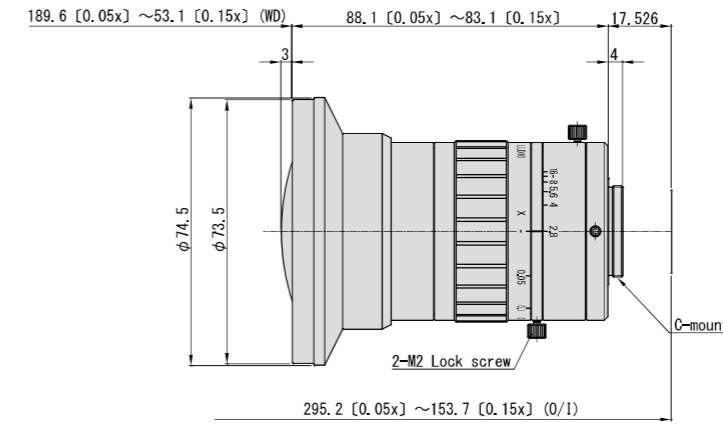


What is a Floating System?

Normally lenses shift just a single group of elements internally when focusing. Having additional floating elements (see picture below) can significantly improve the close-focus performance. Due to the floating component being separate from the group of focusing lens elements, aberrations caused by lens extensions are significantly reduced. Macro lenses make exceptionally great use of this system because they cover a wide range of focus distances in a wide-angle.

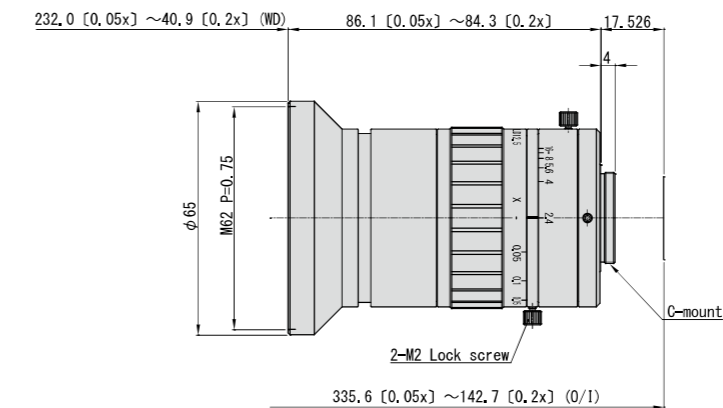


DVL-10L Floating System



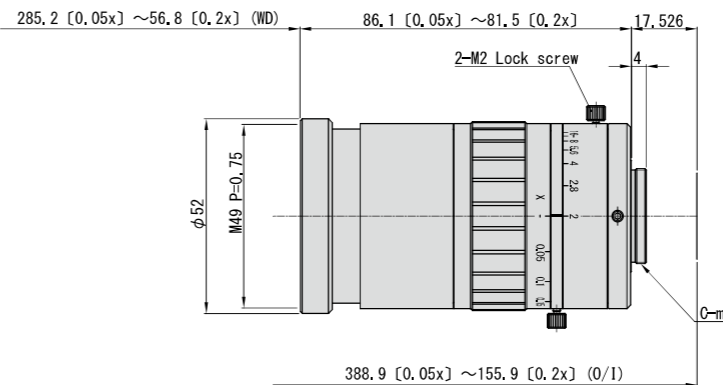
Focal Length (f)	10 mm		
Maximum Aperture Ratio	1:2.8		
Optical Mag. Range	(∞) 0.05x ~ 0.15x		
Optical Mag.	0.05x	0.1x	0.15x
FOV (V x H)	4/3"	272.0 x 362.0 mm / 136.0 x 181.0 mm	90.7 x 120.7 mm
	1"	225.2 x 225.2 mm / 112.6 x 112.6 mm	75.1 x 75.1 mm
	2/3"	142.0 x 168.0 mm / 71.0 x 84.0 mm	47.3 x 56.0 mm
WD	189.6 mm	87.2 mm	53.1 mm
O/I (Object & Imager Distance)	295.2 mm	190.1 mm	153.7 mm
Working F/# *Value at Iris Open	2.9	3.0	3.1
TV Distortion (4/3")	-0.33 %	-0.68 %	-0.92 %
Operation	Manual (Lock Screw M2)		
Wavelength	Visible		
Mount	C-Mount		
Flange Back	17526 mm		
Sensor Size (max.)	4/3"		
Weight (approx.)	450 g		
Dimension	φ74.5(max.) x L = 88.1 ~ 83.1 mm		

DVL-12.5L Floating System



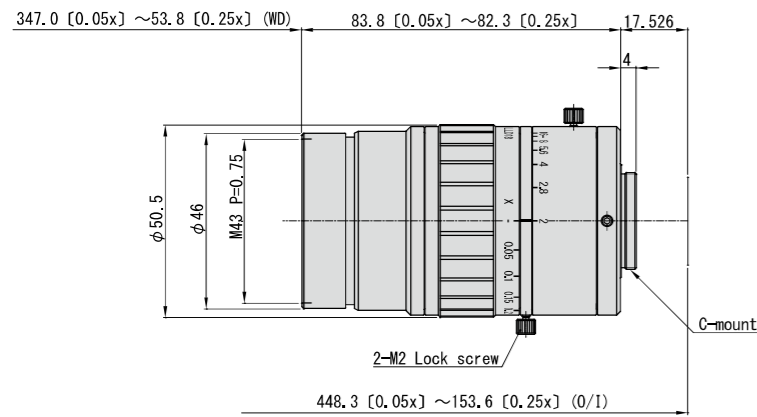
Focal Length (f)	12.5 mm		
Maximum Aperture Ratio	1:2.4		
Optical Mag. Range	(∞) 0.05x ~ 0.2x		
Optical Mag.	0.05x	0.1x	0.2x
FOV (V x H)	4/3"	272.0 x 362.0 mm / 136.0 x 181.0 mm	68.0 x 90.5 mm
	1"	225.2 x 225.2 mm / 112.6 x 112.6 mm	56.3 x 56.3 mm
	2/3"	142.0 x 168.0 mm / 71.0 x 84.0 mm	35.5 x 42.0 mm
WD	232.0 mm	104.3 mm	40.9 mm
O/I (Object & Imager Distance)	335.6 mm	207.2 mm	142.7 mm
Working F/# *Value at Iris Open	2.5	2.6	2.7
TV Distortion (4/3")	0.33 %	0.05 %	-0.40 %
Operation	Manual (Lock Screw M2)		
Wavelength	Visible		
Mount	C-Mount		
Flange Back	17526 mm		
Sensor Size (max.)	4/3"		
Filter Thread	M 62 P = 0.75		
Weight (approx.)	380 g		
Dimension	φ65(max.) x L = 86.1 ~ 84.3 mm		

DVL-15L Floating System



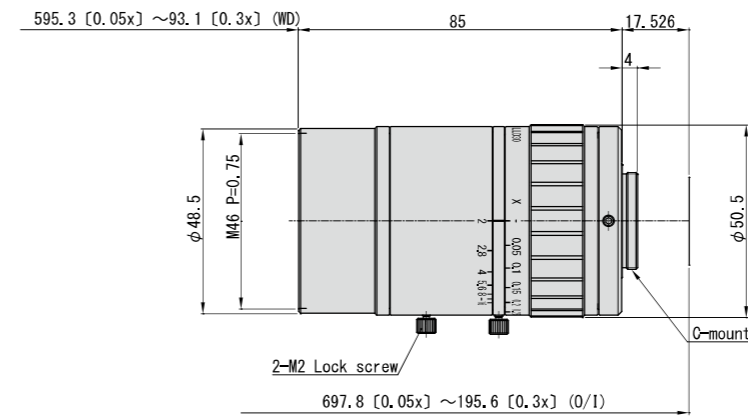
Focal Length (f)	15 mm		
Maximum Aperture Ratio	1:2.0		
Optical Mag. Range	(∞) 0.05x ~ 0.2x		
Optical Mag.	0.05x	0.1x	0.2x
FOV (V x H)	4/3"	272.0 x 362.0 mm / 136.0 x 181.0 mm	68.0 x 90.5 mm
	1"	225.2 x 225.2 mm / 112.6 x 112.6 mm	56.3 x 56.3 mm
	2/3"	142.0 x 168.0 mm / 71.0 x 84.0 mm	35.5 x 42.0 mm
WD	285.2 mm	132.5 mm	56.8 mm
O/I (Object & Imager Distance)	388.9 mm	234.2 mm	155.9 mm
Working F/# *Value at Iris Open	2.1	2.2	2.3
TV Distortion (4/3")	-0.14 %	-0.36 %	-0.64 %
Operation	Manual (Lock Screw M2)		
Wavelength	Visible		
Mount	C-Mount		
Flange Back	17526 mm		
Sensor Size (max.)	4/3"		
Filter Thread	M 49 P = 0.75		
Weight (approx.)	330 g		
Dimension	φ52(max.) x L = 86.1 ~ 81.5 mm		

DVL-18L Floating System



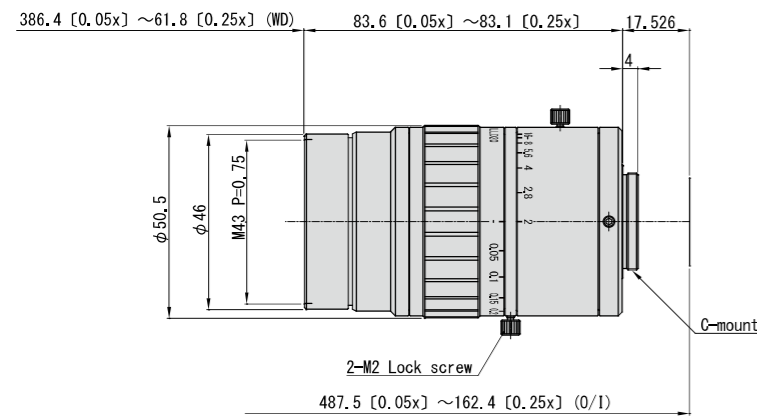
Focal Length (f)	18 mm		
Maximum Aperture Ratio	1:2.0		
Optical Mag. Range	(∞) 0.05x ~ 0.25x		
Optical Mag.	0.05x	0.15x	0.25x
FOV (VxH)	4/3"	272.0 x 362.0 mm	90.7 x 120.7 mm
	1"	225.2 x 225.2 mm	75.1 x 75.1 mm
	2/3"	142.0 x 168.0 mm	47.3 x 56.0 mm
WD	347.0 mm	102.2 mm	53.8 mm
O/I (Object & Imager Distance)	448.3 mm	202.5 mm	153.6 mm
Working F/# *Value at Iris Open	2.1	2.2	2.3
TV Distortion (4/3")	-0.28 %	-0.40 %	-0.49 %
Operation	Manual (Lock Screw M2)		
Wavelength	Visible		
Mount	C-Mount		
Flange Back	17526 mm		
Sensor Size (max.)	4/3"		
Filter Thread	M 43 P = 0.75		
Weight (approx.)	320 g		
Dimension	φ50.5(max.) x L = 83.8 ~ 82.3 mm		

DVL-30L Floating System



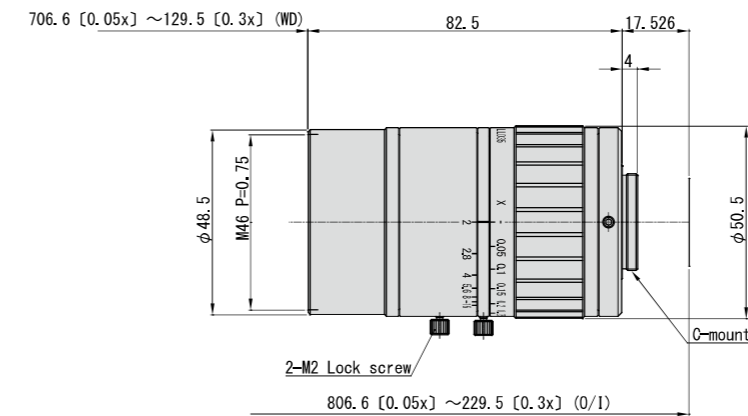
Focal Length(f)	30 mm		
Maximum Aperture Ratio	1:2.0		
Optical Mag. Range	(∞) 0.05x ~ 0.3x		
Optical Mag.	0.05x	0.15x	0.3x
FOV(VxH)	4/3"	272.0 x 362.0 mm	90.7 x 120.7 mm
	1"	225.2 x 225.2 mm	75.1 x 75.1 mm
	2/3"	142.0 x 168.0 mm	47.3 x 56.0 mm
WD	595.3 mm	191.8 mm	93.1 mm
O/I (Object & Imager Distance)	697.8 mm	294.3 mm	195.6 mm
Working F/# *Value at Iris Open	2.2	2.4	2.7
TV Distortion (4/3")	-0.08 %	-0.04 %	-0.04 %
Operation	Manual (Lock Screw M2)		
Wavelength	Visible		
Mount	C-Mount		
Flange Back	17526 mm		
Sensor Size (max.)	4/3"		
Filter Thread	M 46 P = 0.75		
Weight (approx.)	310 g		
Dimension	φ50.5(max.) x L = 85 mm		

DVL-20L Floating System



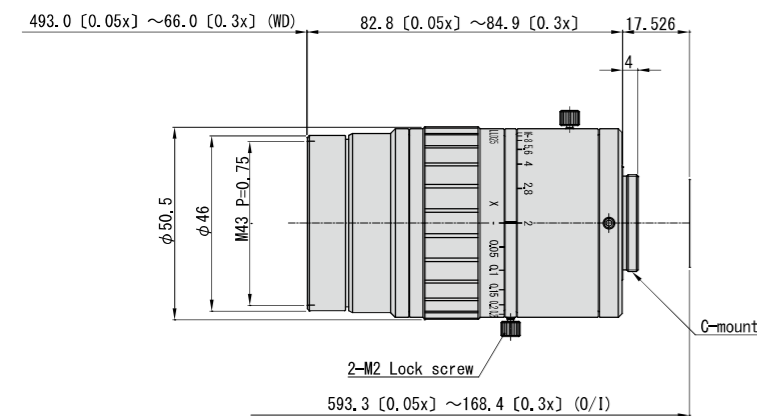
Focal Length (f)	20 mm		
Maximum Aperture Ratio	1:2.0		
Optical Mag. Range	(∞) 0.05x ~ 0.25x		
Optical Mag.	0.05x	0.15x	0.25x
FOV (VxH)	4/3"	272.0 x 362.0 mm	90.7 x 120.7 mm
	1"	225.2 x 225.2 mm	75.1 x 75.1 mm
	2/3"	142.0 x 168.0 mm	47.3 x 56.0 mm
WD	386.4 mm	115.4 mm	61.8 mm
O/I (Object & Imager Distance)	487.5 mm	216.1 mm	162.4 mm
Working F/# *Value at Iris Open	2.1	2.2	2.3
TV Distortion (4/3")	-0.10 %	-0.22 %	-0.30 %
Operation	Manual (Lock Screw M2)		
Wavelength	Visible		
Mount	C-Mount		
Flange Back	17526 mm		
Sensor Size (max.)	4/3"		
Filter Thread	M 43 P = 0.75		
Weight (approx.)	310 g		
Dimension	φ50.5(max.) x L = 83.6 ~ 83.1 mm		

DVL-35L Floating System



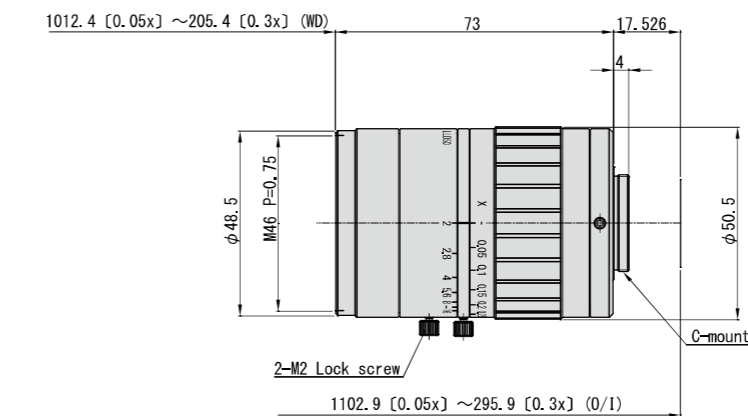
Focal Length(f)	35 mm		
Maximum Aperture Ratio	1:2.0		
Optical Mag. Range	(∞) 0.05x ~ 0.3x		
Optical Mag.	0.05x	0.15x	0.3x
FOV(VxH)	4/3"	272.0 x 362.0 mm	90.7 x 120.7 mm
	1"	225.2 x 225.2 mm	75.1 x 75.1 mm
	2/3"	142.0 x 168.0 mm	47.3 x 56.0 mm
WD	706.6 mm	239.2 mm	129.5 mm
O/I (Object & Imager Distance)	806.6 mm	339.2 mm	229.5 mm
Working F/# *Value at Iris Open	2.2	2.5	3.0
TV Distortion (4/3")	-0.15 %	-0.14 %	-0.10 %
Operation	Manual (Lock Screw M2)		
Wavelength	Visible		
Mount	C-Mount		
Flange Back	17526 mm		
Sensor Size (max.)	4/3"		
Filter Thread	M 46 P = 0.75		
Weight (approx.)	295 g		
Dimension	φ50.5(max.) x L = 82.5 mm		

DVL-25L Floating System



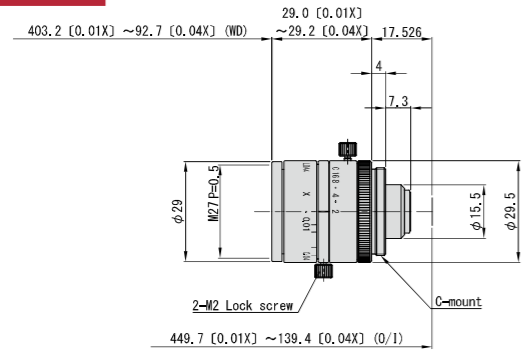
Focal Length (f)	25 mm		
Maximum Aperture Ratio	1:2.0		
Optical Mag. Range	(∞) 0.05x ~ 0.3x		
Optical Mag.	0.05x	0.15x	0.3x
FOV (VxH)	4/3"	272.0 x 362.0 mm	90.7 x 120.7 mm
	1"	225.2 x 225.2 mm	75.1 x 75.1 mm
	2/3"	142.0 x 168.0 mm	47.3 x 56.0 mm
WD	493.0 mm	150.7 mm	66.0 mm
O/I (Object & Imager Distance)	593.3 mm	251.7 mm	168.4 mm
Working F/# *Value at Iris Open	2.1	2.3	2.5
TV Distortion (4/3")	-0.13 %	-0.19 %	-0.24 %
Operation	Manual (Lock Screw M2)		
Wavelength	Visible		
Mount	C-Mount		
Flange Back	17526 mm		
Sensor Size (max.)	4/3"		
Filter Thread	M 43 P = 0.75		
Weight (approx.)	285 g		
Dimension	φ50.5(max.) x L = 82.8 ~ 84.9 mm		

DVL-50L Floating System



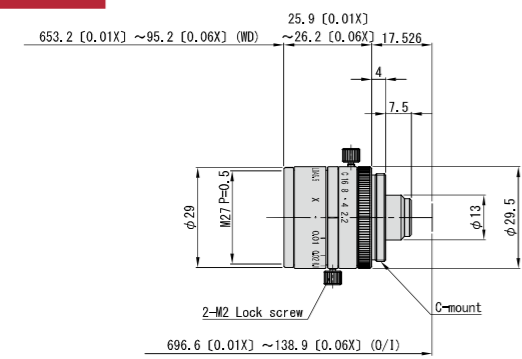
Focal Length(f)	50 mm		
Maximum Aperture Ratio	1:2.0		
Optical Mag. Range	(∞) 0.05x ~ 0.3x		
Optical Mag.	0.05x	0.15x	0.3x
FOV(VxH)	4/3"	272.0 x 362.0 mm	90.7 x 120.7 mm
	1"	225.2 x 225.2 mm	75.1 x 75.1 mm
	2/3"	142.0 x 168.0 mm	47.3 x 56.0 mm
WD	1012.4 mm	356.5 mm	205.4 mm
O/I (Object & Imager Distance)	1102.9 mm	447.0 mm	295.9 mm
Working F/# *Value at Iris Open	2.2	2.6	3.2
TV Distortion (4/3")	-0.01 %	-0.08 %	-0.09 %
Operation	Manual (Lock Screw M2)		
Wavelength	Visible		
Mount	C-Mount		
Flange Back	17526 mm		
Sensor Size (max.)	4/3"		
Filter Thread	M 46 P = 0.75		
Weight (approx.)	250 g		
Dimension	φ50.5(max.) x L = 73 mm		

DVL-4LA



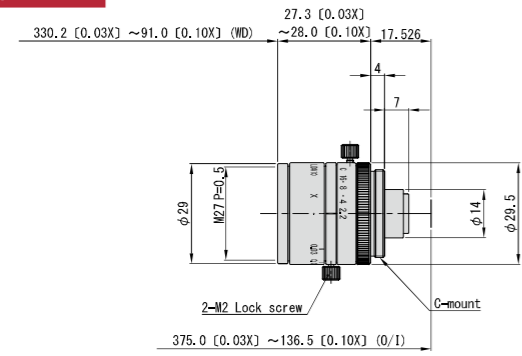
Focal Length(f)	4			
Maximum Aperture Ratio	1:2.0			
Optical Mag. Range	(∞) 0.01x ~ 0.04x			
Optical Mag.	0.01x	0.016x	0.03x	0.04x
FOV(VxH)	2/3"	—		
	1/2"	480.0 x 640.0	300.0 x 400.0	160.0 x 213.3
	1/3"	360.0 x 480.0	225.0 x 300.0	120.0 x 160.0
WD		403.2 mm	247.9 mm	127.2 mm
O/I (Object & Imager distance)		449.7 mm	294.5 mm	173.9 mm
Working F/# *Value at Iris open		2.1	2.1	2.1
TV Distortion (1/2")		-0.23 %	-0.23 %	-0.24 %
Operation of Iris & Zoom	Manual (Lock Screw M2)			
Wavelength	Visible			
Mount	C-Mount			
Flange Back	17526 mm			
Sensor Size (max.)	1/2"			
Filter Thread	M 27 P = 0.5			
Weight (approx.)	49 g			
Dimension	φ29.5(max.) x L = 29.0 ~ 29.2 mm			

DVL-6.5LA



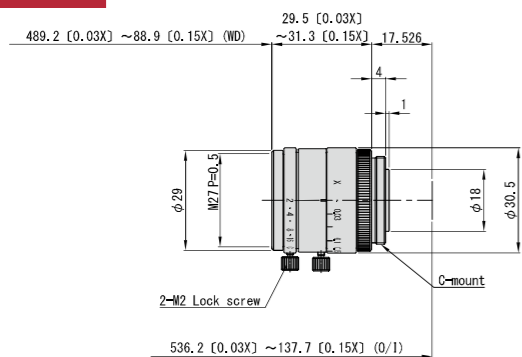
Focal Length(f)	6.5			
Maximum Aperture Ratio	1:2.2			
Optical Mag. Range	(∞) 0.01x ~ 0.06x			
Optical Mag.	0.01x	0.02x	0.04x	0.06x
FOV(VxH)	2/3"	—		
	1/2"	480.0 x 640.0	240.0 x 320.0	120.0 x 160.0
	1/3"	360.0 x 480.0	180.0 x 240.0	90.0 x 120.0
WD		653.2 mm	318.4 mm	151.0 mm
O/I (Object & Imager distance)		696.6 mm	361.9 mm	194.6 mm
Working F/# *Value at Iris open		2.3	2.3	2.3
TV Distortion (1/2")		0.16 %	0.09 %	-0.05 %
Operation of Iris & Zoom	Manual (Lock Screw M2)			
Wavelength	Visible			
Mount	C-Mount			
Flange Back	17526 mm			
Sensor Size (max.)	1/2"			
Filter Thread	M 27 P = 0.5			
Weight (approx.)	40 g			
Dimension	φ29.5(max.) x L = 25.9 ~ 26.2 mm			

DVL-10LA



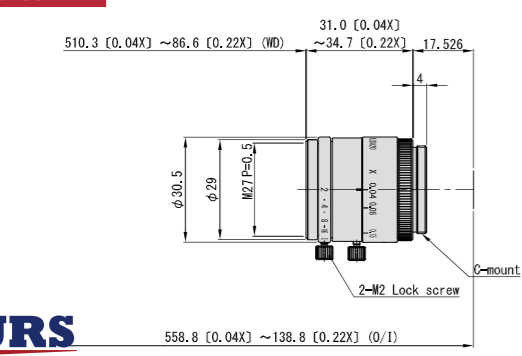
Focal Length(f)	10			
Maximum Aperture Ratio	1:2.2			
Optical Mag. Range	(∞) 0.03x ~ 0.10x			
Optical Mag.	0.03x	0.05x	0.08x	0.10x
FOV(VxH)	2/3"	—		
	1/2"	160.0 x 213.3	96.0 x 128.0	60.0 x 80.0
	1/3"	120.0 x 160.0	72.0 x 96.0	45.0 x 60.0
WD		330.2 mm	193.5 mm	116.7 mm
O/I (Object & Imager distance)		375.0 mm	238.5 mm	162.0 mm
Working F/# *Value at Iris open		2.3	2.3	2.4
TV Distortion (1/2")		0.03 %	0.01 %	-0.02 %
Operation of Iris & Zoom	Manual (Lock Screw M2)			
Wavelength	Visible			
Mount	C-Mount			
Flange Back	17526 mm			
Sensor Size (max.)	1/2"			
Filter Thread	M 27 P = 0.5			
Weight (approx.)	42 g			
Dimension	φ29.5(max.) x L = 27.3 ~ 28.0 mm			

DVL-15LA



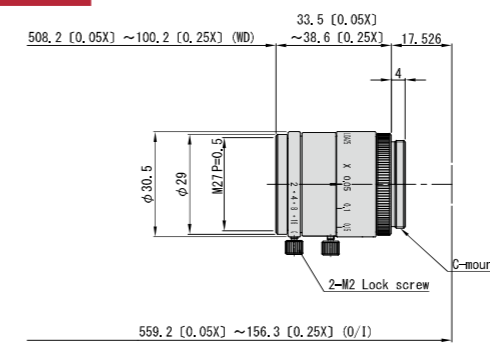
Focal Length(f)	15			
Maximum Aperture Ratio	1:2.0			
Optical Mag. Range	(∞) 0.03x ~ 0.15x			
Optical Mag.	0.03x	0.06x	0.10x	0.15x
FOV(VxH)	2/3"	236.7 x 280.0	118.3 x 140.0	71.0 x 84.0
	1/2"	160.0 x 213.3	80.0 x 106.7	48.0 x 64.0
	1/3"	120.0 x 160.0	60.0 x 80.0	36.0 x 48.0
WD		489.2 mm	239.0 mm	138.9 mm
O/I (Object & Imager distance)		536.2 mm	286.4 mm	186.9 mm
Working F/# *Value at Iris open		2.1	2.1	2.1
TV Distortion (2/3")		-0.01 %	-0.02 %	-0.05 %
Operation of Iris & Zoom	Manual (Lock Screw M2)			
Wavelength	Visible			
Mount	C-Mount			
Flange Back	17526 mm			
Sensor Size (max.)	2/3"			
Filter Thread	M 27 P = 0.5			
Weight (approx.)	46 g			
Dimension	φ30.5(max.) x L = 29.5 ~ 31.3 mm			

DVL-20LA



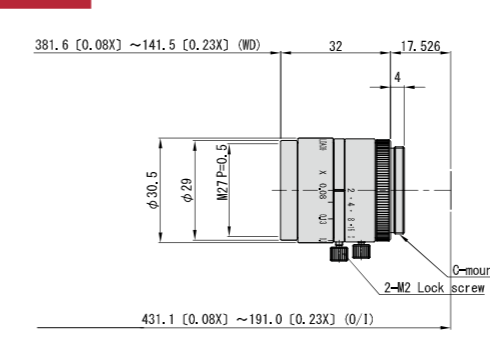
Focal Length(f)	20			
Maximum Aperture Ratio	1:2.0			
Optical Mag. Range	0.04x ~ 0.22x			
Optical Mag.	0.04x	0.08x	0.15x	0.22x
FOV(VxH)	2/3"	177.5 x 210.0	88.8 x 105.0	47.3 x 56.0
	1/2"	120.0 x 160.0	60.0 x 80.0	32.0 x 42.7
	1/3"	90.0 x 120.0	45.0 x 60.0	24.0 x 32.0
WD		510.3 mm	251.3 mm	130.5 mm
O/I (Object & Imager distance)		558.8 mm	300.6 mm	181.3 mm
Working F/# *Value at Iris open		2.1	2.2	2.3
TV Distortion (2/3")		-0.01 %	-0.05 %	-0.12 %
Operation of Iris & Zoom	Manual (Lock Screw M2)			
Wavelength	Visible			
Mount	C-Mount			
Flange Back	17526 mm			
Sensor Size (max.)	2/3"			
Filter Thread	M 27 P = 0.5			
Weight (approx.)	47 g			
Dimension	φ30.5(max.) x L = 31.0 ~ 34.7 mm			

DVL-25LA



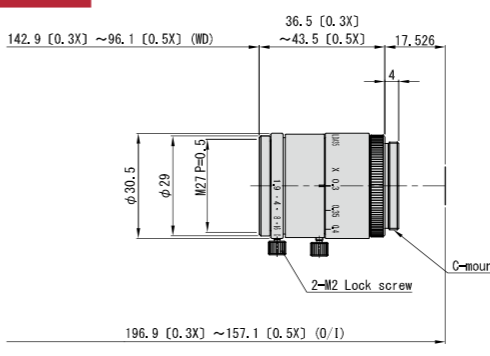
Focal Length(f)	25			
Maximum Aperture Ratio	1:2.0			
Optical Mag. Range	0.05x ~ 0.25x			
Optical Mag.	0.05x	0.1x	0.20x	0.25x
FOV(VxH)	2/3"	142.0 x 168.0	71.0 x 84.0	35.5 x 42.0
	1/2"	96.0 x 128.0	48.0 x 64.0	24.0 x 32.0
	1/3"	72.0 x 96.0	36.0 x 48.0	18.0 x 24.0
WD		508.2 mm	253.2 mm	125.7 mm
O/I (Object & Imager Distance)		559.2 mm	305.5 mm	180.5 mm
Working F/# *Value at Iris Open		2.1	2.2	2.4
DOF at PCoC φ0.04mm		672 mm	176 mm	4.8 mm
TV Distortion (2/3")		0.06 %	0.02 %	-0.04 %
Operation of Iris & Zoom	Manual (Lock Screw M2)			
Wavelength	Visible			
Mount	C-Mount			
Flange Back	17526 mm			
Sensor Size (max.)	2/3"			
Filter Thread	M 27 P = 0.5			
Weight (approx.)	49 g			
Dimension	φ30.5(max.) x L = 33.5 ~ 38.6 mm			

DVL-30LA



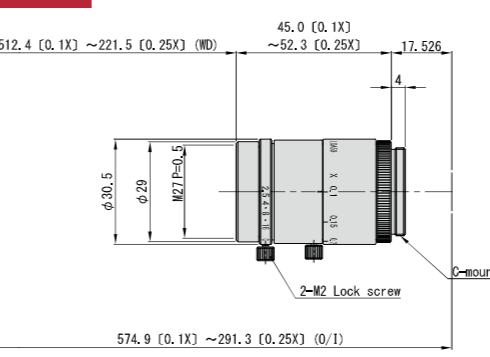
Focal Length(f)	30			
Maximum Aperture Ratio	1:2.0			
Optical Mag. Range	0.08x ~ 0.23x			
Optical Mag.	0.08x	0.10x	0.20x	0.23x
FOV(VxH)	2/3"	88.8 x 105.0	71.0 x 84.0	35.5 x 42.0
	1/2"	60.0 x 80.0	48.0 x 64.0	24.0 x 32.0
	1/3"	45.0 x 60.0	36.0 x 48.0	18.0 x 24.0
WD		381.6 mm	302.2 mm	160.2 mm
O/I (Object & Imager Distance)		431.1 mm	356.7 mm	209.7 mm
Working F/# *Value at Iris Open		2.4	2.4	2.7
TV Distortion (2/3")		0.08 %	0.05 %	-0.04 %
Operation of Iris & Zoom	Manual (Lock Screw M2)			
Wavelength	Visible			
Mount	C-Mount			
Flange Back	17526 mm			
Sensor Size (max.)	2/3"			
Filter Thread	M 27 P = 0.5			
Weight (approx.)	47 g			
Dimension	φ30.5(max.) x L = 32 mm			

DVL-35LA



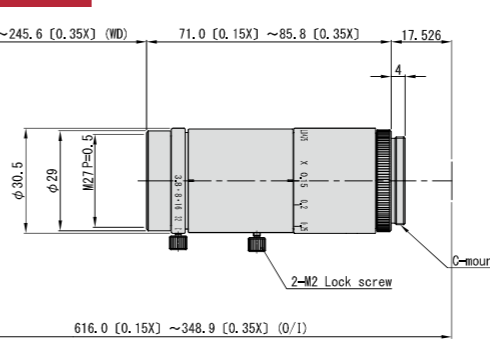
Focal Length(f)	35			
Maximum Aperture Ratio	1:1.9			
Optical Mag. Range	0.3x ~ 0.5x			
Optical Mag.	0.30x	0.35x	0.40x	0.50x
FOV(VxH)	2/3"	23.7 x 28.0	20.3 x 24.0	17.8 x 21.0
	1/2"	16.0 x 21.3	13.7 x 18.3	12.0 x 16.0
	1/3"	12.0 x 16.0	10.3 x 13.7	9.0 x 12.0
WD		142.9 mm	126.2 mm	113.7 mm
O/I (Object & Imager Distance)		196.9 mm	182.0 mm	171.2 mm
Working F/# *Value at Iris Open		2.5	2.6	2.7
DOF at PCoC φ0.04mm		2.2 mm	1.7 mm	1.4 mm
TV Distortion (2/3")		0.02 %	0.01 %	0.01 %
Operation of Iris & Zoom	Manual (Lock Screw M2)			
Wavelength	Visible			
Mount	C-Mount			
Flange Back	17526 mm			
Sensor Size (max.)	2/3"			
Filter Thread	M 27 P = 0.5			
Weight (approx.)	58 g			
Dimension	φ30.5(max.) x L = 36.5 ~ 43.5 mm			

DVL-50LA



Focal Length(f)	50			
Maximum Aperture Ratio	1:2.5			
Optical Mag. Range	0.1x ~ 0.25x			
Optical Mag.	0.10x	0.15x	0.20x	0.25x
FOV(VxH)	2/3"	71.0 x 84.0	47.3 x 56.0	35.5 x 42.0
	1/2"	48.0 x 64.0	32.0 x 42.7	24.0 x 32.0
	1/3"	36.0 x 48.0	24.0 x 32.0	18.0 x 24.0
WD		512.4 mm	350.8 mm	270.0 mm
O/I (Object & Imager Distance)		574.9 mm	415.7 mm	337.4 mm
Working F/# *Value at Iris Open		2.7	2.8	2.9
TV Distortion (2/3")		0.03 %	0.02 %	0.01 %
Operation of Iris & Zoom	Manual (Lock Screw M2)			
Wavelength	Visible			
Mount	C-Mount			
Flange Back	17526 mm			
Sensor Size (max.)	2/3"			
Filter Thread	M 27 P = 0.5			
Weight (approx.)	76 g			
Dimension	φ30.5(max.) x L = 45.0 ~ 52.3 mm			

DVL-75LA



Focal Length(f)	75			
Maximum Aperture Ratio	1:3.8			
Optical Mag. Range	0.15x ~ 0.35x			
Optical Mag.	0.15x	0.20x	0.30x	0.35x
FOV(VxH)	2/3"	47.3 x 56.0	35.5 x 42.0	23.7 x 28.0
	1/2"	32.0 x 42.7	24.0 x 32.0	16.0 x 21.3
	1/3"	24.0 x 32.0	18.0 x 24.0	12.0 x 16.0
WD		527.5 mm	404.2 mm	280.9 mm
O/I (Object & Imager Distance)		616.0 mm	496.4 mm	380.5 mm
Working F/# *Value at Iris Open		4.1	4.2	4.4
TV Distortion (2/3")		0.03 %	0.02 %	0.00 %
Operation of Iris & Zoom	Manual (Lock Screw M2)			
Wavelength	Visible			
Mount	C-Mount			
Flange Back	17526 mm			
Sensor Size (max.)	2/3"			
Filter Thread	M 27 P = 0.5			
Weight (approx.)	92 g			
Dimension	φ30.5(max.) x L = 71.0 ~ 85.8 mm			

Ruggedized Distortionless Macro Lens

DVL-MC Series 2/3" 1/1.8"

Especially designed to stay in focus regardless of vibration or shock. With a fixed iris and a screw lock mechanism it is able to not only deliver a high quality image, but also maintain it through the vision systems use.

- Features**
- 10 models available
 - Focal length 4 - 75mm
 - Open iris, 5,6 and 8,0 versions
 - Ruggedized and Vibrations resistant
 - Torque body for easy mounting control



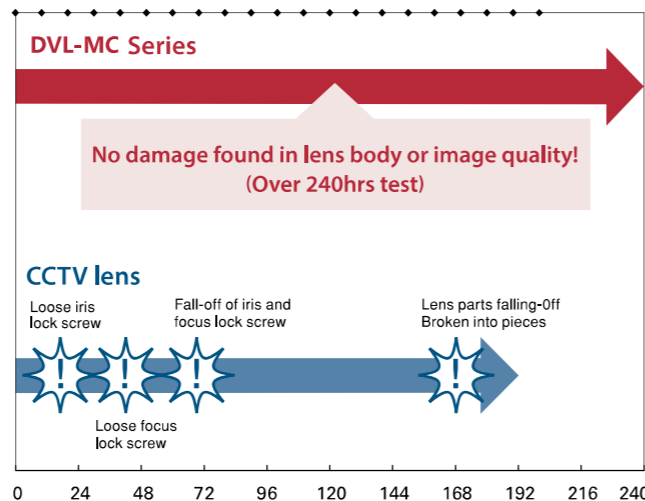
Improvement of Vibration Resistance

Focus locking system has been changed from point fixing to surface fixing utilizing a ring and internal mechanical structure designed for high vibration resistance.



Vibration test result by high speed vibration machine

Condition: Acceleration=57.7m/s²(*1G=9.8m/s²)
From 9.9Hz to 1000Hz (approx.3 minutes interval)



*The test result was caused by the harsh testing for destructive purpose.



By setting the torque value, it becomes possible to eliminate "difference" by people. In addition, vibration can be managed including the camera by using torque wrench.
※ If the torque wrench does not enter, there are two incisions in the edge of the lens so that it can be fixed with a crab eye wrench.

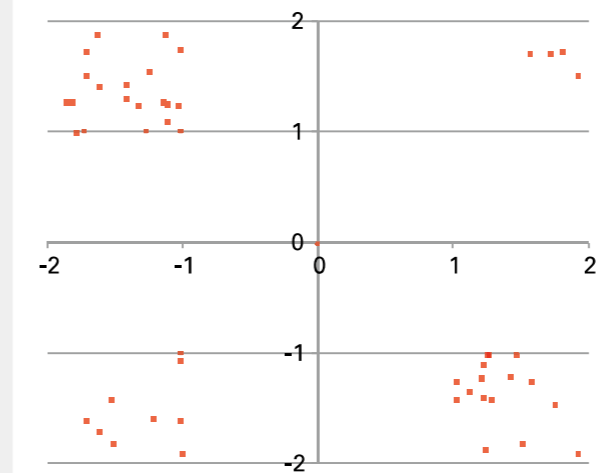
Standard Lens Vibration and Shock Test Result

Condition

Sweep test.
Acceleration 5G
Frequency 5-500HZ
Time 10min × 3axis
Amplitude 1.0-2.0mm

Fixed frequency test.
Acceleration 5G
Frequency 5-500HZ
Time 10min × 3axis
Amplitude 1.0mm

Shock impact test.
Acceleration 30G
Pulse width 8mm
Time 20min × 3axis



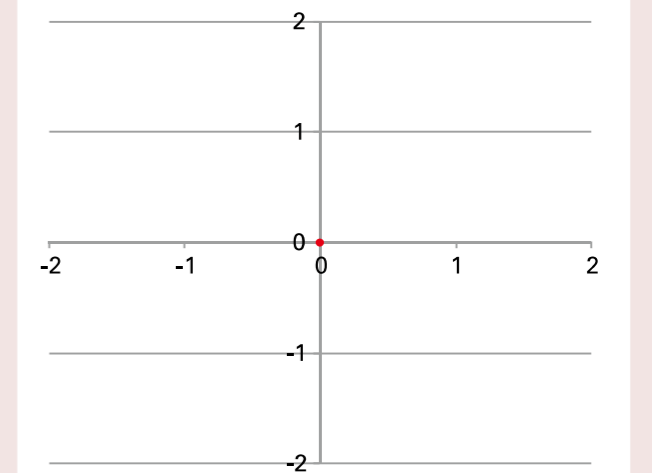
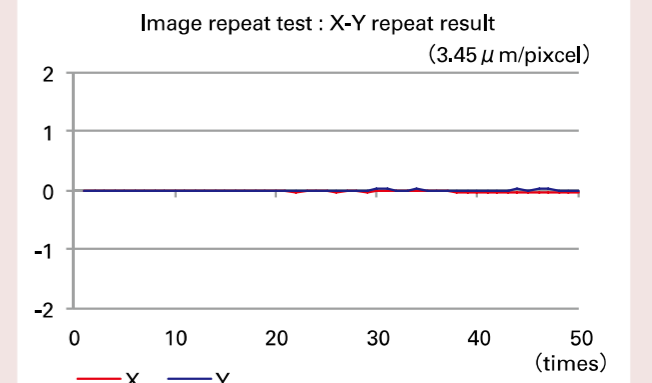
DVL-MC Series Vibration and Shock Test Result

Condition

Sweep test.
Acceleration 20G
Frequency 5-500HZ
Time 32min × 3axis
Amplitude 1.0-2.0mm

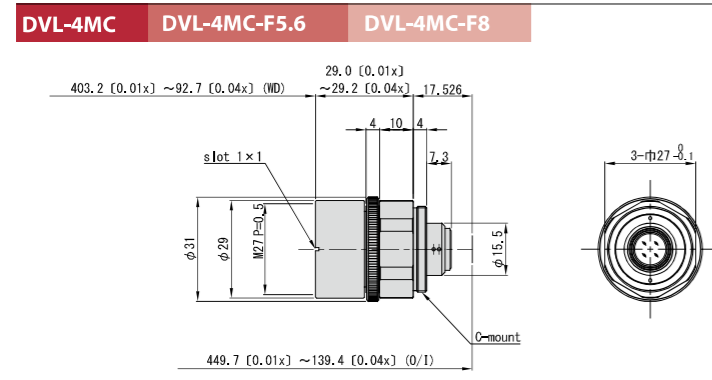
Fixed frequency test.
Acceleration 20G
Frequency 2000HZ
Time 32min × 3axis
Amplitude 4.0mm

Shock impact test.
Acceleration 75G
Pulse width 8mm
Time 90min × 3axis

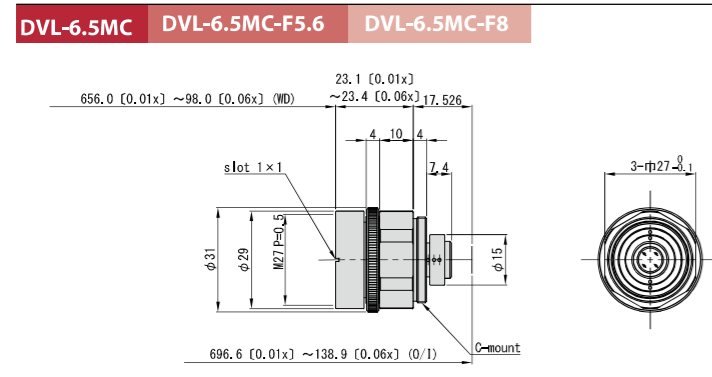


*Internal Testing Data

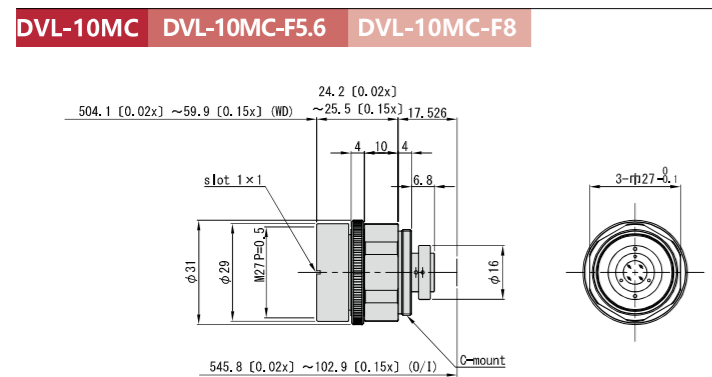
Variable Magnification Model (FNO options-Open/5.6/8)



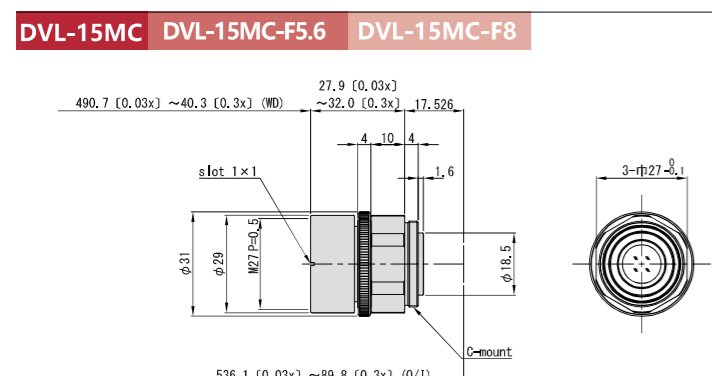
Focal Length(f)	4 mm		
Maximum Aperture Ratio	1:2.0		
Optical Mag. Range	(∞)0.01x ~ 0.04x		
Optical Mag.	0.01x	0.02x	0.04x
FOV(VxH)	2/3"	—	
	1/2"	480.0 x 640.0mm	240.0 x 320.0mm
	1/3"	360.0 x 480.0mm	180.0 x 240.0mm
WD	403.2 mm	196.2 mm	92.7 mm
O/I (Object & Imager Distance)	449.7 mm	242.8 mm	139.4 mm
Aperture	2 5.6 8	2 5.6 8	2 5.6 8
Working F/#	2.1 5.7 8.1	2.1 5.7 8.2	2.2 5.8 8.3
TV Distortion (1/2")	-0.23 %	-0.23 %	-0.24 %
Operation	Manual		
Wavelength	Visible		
Mount	C-Mount		
Flange Back	17526 mm		
Sensor Size (max.)	1/2"		
Filter Thread	M 27 P = 0.5		
Weight (approx.)	44 g		
Dimension	φ31 (max.) x L = 29 ~ 29.2 mm		



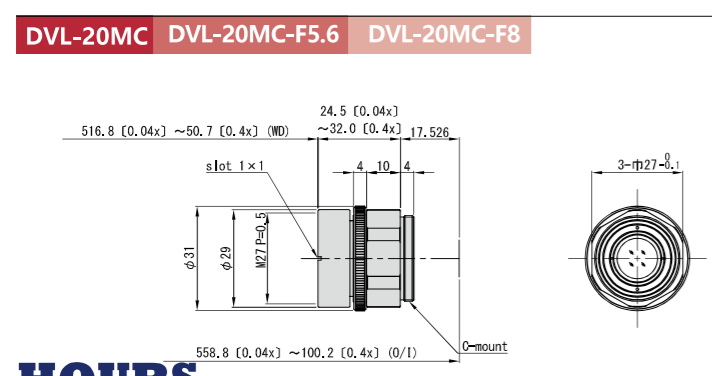
Focal Length(f)	6.5 mm		
Maximum Aperture Ratio	1:2.2		
Optical Mag. Range	(∞)0.01x ~ 0.06x		
Optical Mag.	0.01x	0.03x	0.06x
FOV(VxH)	2/3"	—	
	1/2"	480.0 x 640.0mm	160.0 x 213.3mm
	1/3"	360.0 x 480.0mm	120.0 x 160.0mm
WD	656.0 mm	209.6 mm	98.0 mm
O/I (Object & Imager Distance)	696.6 mm	250.3 mm	138.9 mm
Aperture	2 5.6 8	2 5.6 8	2 5.6 8
Working F/#	2.3 5.7 8.1	2.3 5.8 8.2	2.3 5.9 8.5
TV Distortion (1/2")	0.16 %	0.02 %	-0.18 %
Operation	Manual		
Wavelength	Visible		
Mount	C-Mount		
Flange Back	17526 mm		
Sensor Size (max.)	1/2"		
Filter Thread	M 27 P = 0.5		
Weight (approx.)	36 g		
Dimension	φ31 (max.) x L = 23.1 ~ 23.4 mm		



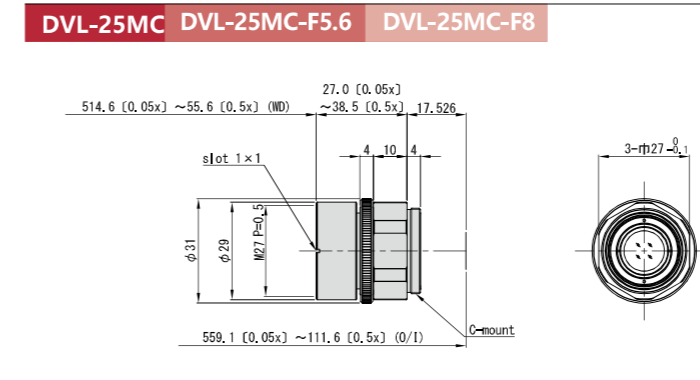
Focal Length(f)	10 mm		
Maximum Aperture Ratio	1:2.2		
Optical Mag. Range	(∞)0.02x ~ 0.15x		
Optical Mag.	0.02x	0.1x	0.15x
FOV(VxH)	2/3"	—	
	1/2"	240.0 x 320.0mm	48.0 x 64.0mm
	1/3"	180.0 x 240.0mm	36.0 x 48.0mm
WD	504.1 mm	94.0 mm	59.9 mm
O/I (Object & Imager Distance)	545.8 mm	136.5 mm	102.9 mm
Aperture	2 5.6 8	2 5.6 8	2 5.6 8
Working F/#	2.3 5.7 8.2	2.4 6.2 8.8	2.6 6.4 9.2
TV Distortion (1/2")	0.04 %	-0.04 %	-0.07 %
Operation	Manual		
Wavelength	Visible		
Mount	C-Mount		
Flange Back	17526 mm		
Sensor Size (max.)	1/2"		
Filter Thread	M 27 P = 0.5		
Weight (approx.)	40 g		
Dimension	φ31 (max.) x L = 24.2 ~ 25.5 mm		



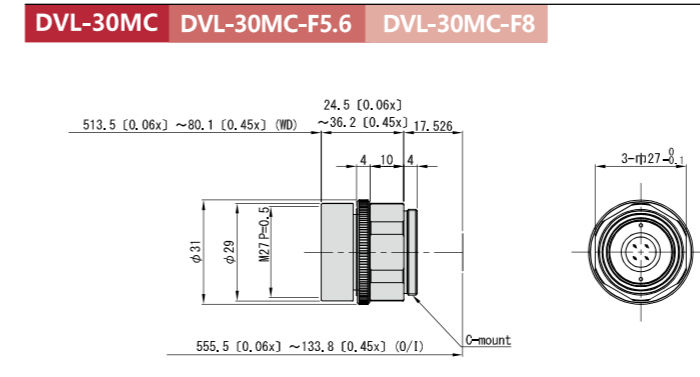
Focal Length(f)	15 mm		
Maximum Aperture Ratio	1:2.0		
Optical Mag. Range	(∞)0.03x ~ 0.3x		
Optical Mag.	0.03x	0.2x	0.3x
FOV(VxH)	2/3"	236.7 x 280.0mm	35.5 x 42.0mm
	1/2"	160.0 x 213.3mm	24.0 x 32.0mm
	1/3"	120.0 x 160.0mm	18.0 x 24.0mm
WD	490.7 mm	65.4 mm	40.3 mm
O/I (Object & Imager Distance)	536.1 mm	113.4 mm	89.8 mm
Aperture	2 5.6 8	2 5.6 8	2 5.6 8
Working F/#	2.1 5.8 8.2	2.4 6.7 9.6	2.6 7.3 10.4
TV Distortion (2/3")	-0.01 %	-0.13 %	-0.22 %
Operation	Manual		
Wavelength	Visible		
Mount	C-Mount		
Flange Back	17526 mm		
Sensor Size (max.)	2/3"		
Filter Thread	M 27 P = 0.5		
Weight (approx.)	42 g		
Dimension	φ31 (max.) x L = 27.9 ~ 32 mm		



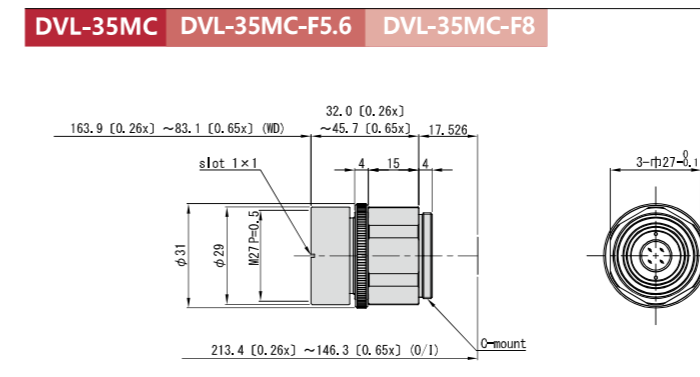
Focal Length(f)	20 mm		
Maximum Aperture Ratio	1:2.0		
Optical Mag. Range	0.04x ~ 0.4x		
Optical Mag.	0.04x	0.25x	0.4x
FOV(VxH)	2/3"	177.5 x 210.0 mm	28.4 x 33.6 mm
	1/2"	120.0 x 160.0 mm	19.2 x 25.6 mm
	1/3"	90.0 x 120.0 mm	14.4 x 19.2 mm
WD	516.8 mm	81.8 mm	50.7 mm
O/I (Object & Imager Distance)	558.8 mm	128.2 mm	100.2 mm
Aperture	2 5.6 8	2 5.6 8	2 5.6 8
Working F/#	2.1 5.8 8.3	2.5 7.0 10.0	2.9 7.8 11.2
TV Distortion (2/3")	-0.01 %	-0.19 %	-0.25 %
Operation	Manual		
Wavelength	Visible		
Mount	C-Mount		
Flange Back	17526 mm		
Sensor Size (max.)	2/3"		
Filter Thread	M 27 P = 0.5		
Weight (approx.)	36 g		
Dimension	φ31 (max.) x L = 24.5 ~ 32 mm		



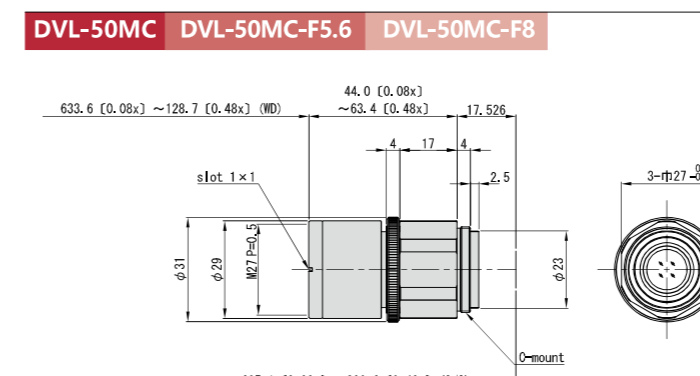
Focal Length(f)	25 mm		
Maximum Aperture Ratio	1:2.0		
Optical Mag. Range	0.05x ~ 0.5x		
Optical Mag.	0.05x	0.25x	0.5x
FOV(VxH)	2/3"	142.0 x 168.0mm	28.4 x 33.6mm
	1/2"	96.0 x 128.0mm	19.2 x 25.6mm
	1/3"	72.0 x 96.0mm	14.4 x 19.2mm
WD	514.6 mm	106.6 mm	55.6 mm
O/I (Object & Imager Distance)	559.1 mm	156.3 mm	111.6 mm
Aperture	2 5.6 8	2 5.6 8	2 5.6 8
Working F/#	2.1 5.9 8.4	2.5 7.0 10.0	3.0 8.4 12.0
TV Distortion (2/3")	0.06 %	-0.06 %	-0.12 %
Operation	Manual		
Wavelength	Visible		
Mount	C-Mount		
Flange Back	17526 mm		
Sensor Size (max.)	2/3"		
Filter Thread	M 27 P = 0.5		
Weight (approx.)	38 g		
Dimension	φ31 (max.) x L = 27 ~ 38.5 mm		



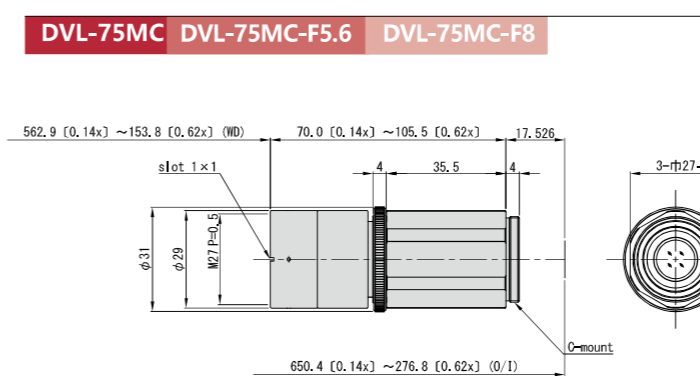
Focal Length(f)	30 mm		
Maximum Aperture Ratio	1:2.0		
Optical Mag. Range	0.06x ~ 0.45x		
Optical Mag.	0.06x	0.25x	0.45x
FOV(VxH)	2/3"	118.3 x 140.0mm	28.4 x 33.6mm
	1/2"	80.0 x 106.7mm	19.2 x 25.6mm
	1/3"	60.0 x 80.0mm	14.4 x 19.2mm
WD	513.5 mm	133.5 mm	80.1 mm
O/I (Object & Imager Distance)	555.5 mm	181.2 mm	133.8 mm
Aperture	2 5.6 8	2 5.6 8	2 5.6 8
Working F/#	2.4 5.9 8.5	2.5 7.0 10.0	3.3 8.1 11.6
TV Distortion (2/3")	0.11 %	-0.07 %	-0.09 %
Operation	Manual		
Wavelength	Visible		
Mount	C-Mount		
Flange Back	17526 mm		
Sensor Size (max.)	2/3"		
Filter Thread	M 27 P = 0.5		
Weight (approx.)	39 g		
Dimension	φ31 (max.) x L = 24.5 ~ 36.2 mm		



Focal Length(f)	35 mm		
Maximum Aperture Ratio	1:1.9		
Optical Mag. Range	0.26x ~ 0.65x		
Optical Mag.	0.26x	0.45x	0.65x
FOV(VxH)	2/3"	27.3 x 32.3mm	15.8 x 18.7mm
	1/2"	18.5 x 24.6mm	10.7 x 14.2mm
	1/3"	13.9 x 18.5mm	8.0 x 10.7mm
WD	163.9 mm	107.0 mm	83.1 mm
O/I (Object & Imager Distance)	213.4 mm	163.2 mm	146.3 mm
Aperture	1.9 5.6 8	1.9 5.6 8	1.9 5.6 8
Working F/#	2.5 7.1 10.1	3.0 8.1 11.6	3.5 9.2 13.2
TV Distortion (2/3")	0.03 %	0.00 %	0.01 %
Operation	Manual		
Wavelength	Visible		
Mount	C-Mount		
Flange Back	17526 mm		
Sensor Size (max.)	2/3"		
Filter Thread	M 27 P = 0.5		
Weight (approx.)	43 g		
Dimension	φ31 (max.) x L = 32 ~ 45.7 mm		



Focal Length(f)	50 mm		
Maximum Aperture Ratio	1:2.5		
Optical Mag. Range	0.08x ~ 0.48x		
Optical Mag.	0.08x	0.3x	0.48x
FOV(VxH)	2/3"	88.8 x 105.0mm	23.7 x 28.0mm
	1/2"	60.0 x 80.0mm	16.0 x 21.3mm
	1/3"	45.0 x 60.0mm	12.0 x 16.0mm
WD	633.6 mm	189.3 mm	128.7 mm
O/I (Object & Imager Distance)	695.1 mm	261.5 mm	209.6 mm
Aperture	2.5 5.6 8	2.5 5.6 8	2.5 5.6 8
Working F/#	2.6 6.0 8.6	3.2 7.3 10.4	3.6 8.3 11.8
TV Distortion (2/3")	0.04 %	-0.01 %	-0.01 %
Operation	Manual		
Wavelength	Visible		
Mount	C-Mount		
Flange Back	17526 mm		
Sensor Size (max.)	2/3"		
Filter Thread	M 27 P = 0.5		
Weight (approx.)	60 g		
Dimension	φ31 (max.) x L = 45 ~ 63.4 mm		



Focal Length(f)	75 mm		
Maximum Aperture Ratio	1:3.8		
Optical Mag. Range	0.14x ~ 0.62x		
Optical Mag.	0.14x	0.4x	0.62x
FOV(VxH)	2/3"	50.7 x 60.0mm	17.8 x 21.0mm
	1/2"	34.3 x 45.7mm	12.0 x 16.0mm
	1/3"	25.7 x 34.3mm	9.0 x 12.0mm
WD	562.9 mm	219.5 mm	153.8 mm
O/I (Object & Imager Distance)	650.4 mm	326.2 mm	276.8 mm
Aperture	3.8 5.6 8	3.8 5.6 8	3.8 5.6 8
Working F/#	4.1 7.0 10.1	4.8 9.7 13.9	6.2 12.0 17.2
TV Distortion (2/3")	0.03 %	-0.01 %	-0.02 %
Operation	Manual		
Wavelength	Visible		
Mount	C-Mount		
Flange Back	17526 mm		
Sensor Size (max.)	2/3"		
Filter Thread	M 27 P = 0.5		
Weight (approx.)	80 g		
Dimension	φ31 (max.) x L = 70 ~ 105.5 mm		

1" Ruggedized Macro Lenses

DVL-MH Series 1" 1/1.2"

Torque body for easy mounting control.

Threaded iris plate system to lock the iris in place and avoid dust generation.

Features

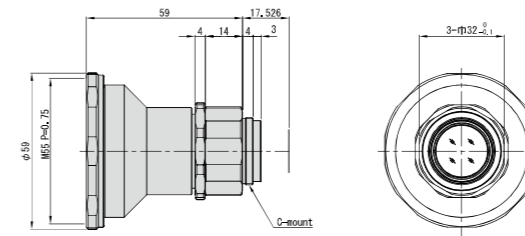
- 1" sensor support
- 6 models available
- Focal length 8-50
- Changeable Iris plate system from Fno 1.4/5.6/8
- Torque body for easy mounting control
- Threaded iris plate system to lock the iris in place and avoid dust generation from vibration



Threaded iris plate system to lock the iris in place (F1.4/ F5.6/ F8)



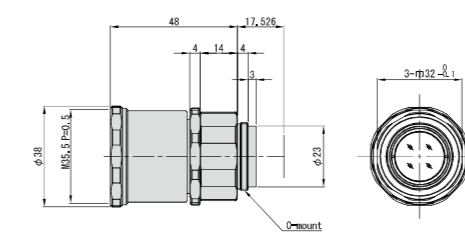
DVL-08MH1



Focal Length (f)	8 mm
Maximum Aperture Ratio	1:1.4
Angle of View (1")	72.7° x 72.7°
M.O.D	100 mm
TV Distortion (1")	-0.35 %
Operation	Manual
Wavelength	Visible
Mount	C-Mount
Flange Back	17.526 mm
Sensor Size (max.)	1"
Filter Thread	M 55 P = 0.75
Weight (approx.)	- g
Dimension	φ59(max.) x L = 59 mm

※Changeable Iris plate system from Fno 1.4/5.6/8

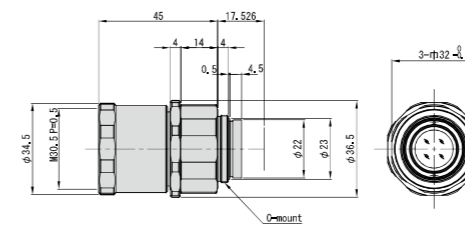
DVL-12MH1



Focal Length (f)	12 mm
Maximum Aperture Ratio	1:1.4
Angle of View (1")	50.8° x 50.8°
M.O.D	300 mm
TV Distortion (1")	-0.32 %
Operation	Manual
Wavelength	Visible
Mount	C-Mount
Flange Back	17.526 mm
Sensor Size (max.)	1"
Filter Thread	M 35.5 P = 0.5
Weight (approx.)	- g
Dimension	φ38(max.) x L = 48 mm

※Changeable Iris plate system from Fno 1.4/5.6/8

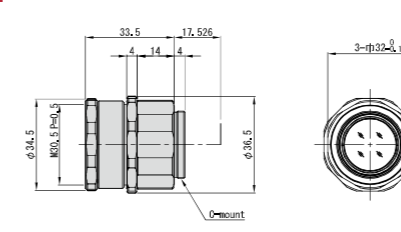
DVL-16MH1



Focal Length (f)	16 mm
Maximum Aperture Ratio	1:1.4
Angle of View (1")	38.6° x 38.6°
M.O.D	300 mm
TV Distortion (1")	-0.65 %
Operation	Manual
Wavelength	Visible
Mount	C-Mount
Flange Back	17.526 mm
Sensor Size (max.)	1"
Filter Thread	M 30.5 P = 0.5
Weight (approx.)	- g
Dimension	φ36.5(max.) x L = 45 mm

※Changeable Iris plate system from Fno 1.4/5.6/8

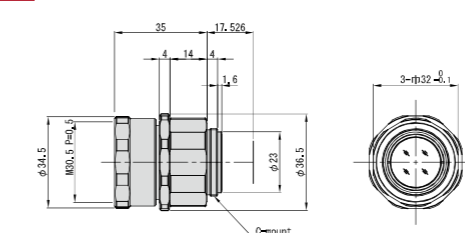
DVL-25MH1



Focal Length (f)	25 mm
Maximum Aperture Ratio	1:1.4
Angle of View (1")	25.1° x 25.1°
M.O.D	300 mm
TV Distortion (1")	-0.46 %
Operation	Manual
Wavelength	Visible
Mount	C-Mount
Flange Back	17.526 mm
Sensor Size (max.)	1"
Filter Thread	M 30.5 P = 0.5
Weight (approx.)	66 g
Dimension	φ36.5(max.) x L = 33.5 mm

※Changeable Iris plate system from Fno 1.4/5.6/8

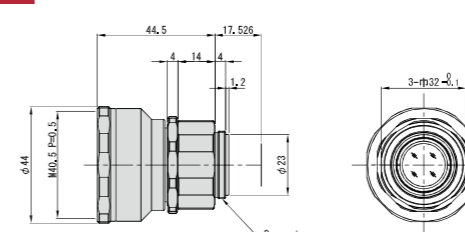
DVL-35MH1



Focal Length (f)	35 mm
Maximum Aperture Ratio	1:1.4
Angle of View (1")	18.3° x 18.3°
M.O.D	300 mm
TV Distortion (1")	-0.31 %
Operation	Manual
Wavelength	Visible
Mount	C-Mount
Flange Back	17.526 mm
Sensor Size (max.)	1"
Filter Thread	M 30.5 P = 0.5
Weight (approx.)	- g
Dimension	φ36.5(max.) x L = 35 mm

※Changeable Iris plate system from Fno 1.4/5.6/8

DVL-50MH1



Focal Length (f)	50 mm
Maximum Aperture Ratio	1:1.8
Angle of View (1")	12.8° x 12.8°
M.O.D	500 mm
TV Distortion (1")	-0.01 %
Operation	Manual
Wavelength	Visible
Mount	C-Mount
Flange Back	17.526 mm
Sensor Size (max.)	1"
Filter Thread	M 40.5 P = 0.5
Weight (approx.)	- g
Dimension	φ44(max.) x L = 44.5 mm

※Changeable Iris plate system from Fno 1.4/5.6/8

Fixed Magnification Distortionless Macro Lenses

DMC Series 2/3" 1/1.8"

Applications needing a fixed magnification can take advantage of this iteration of the DMC series made to cover a reasonably wide magnification range with almost 0% distortion. Its compact size, in combination with an optical mirror or prism, effectively allows you to place your camera in a convenient location for your application.

Features

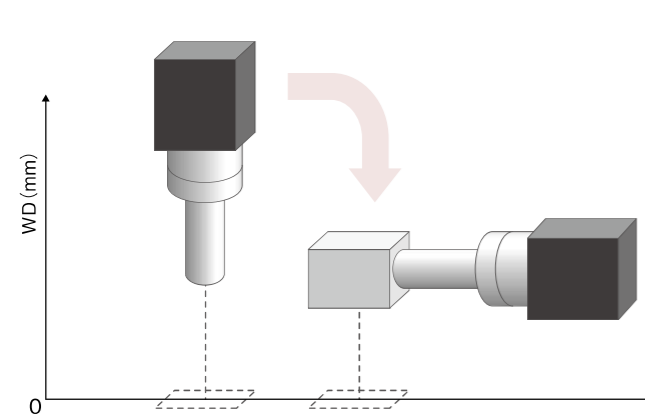
- 2/3" sensor support
- Slim $\phi 16$ mm body
- Distortionless
- Optical Prism ready
- Optical Mirror ready



Application example

■ Optional prism / mirror unit.

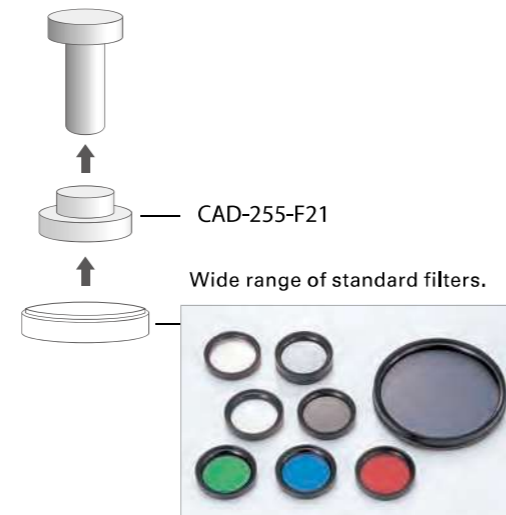
CPZ16-1



*Shading or Vignetting may occur, please inquire for more details.

■ Filter adapter

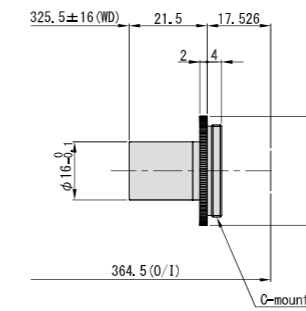
CAD-255-F21



Wide range of standard filters.

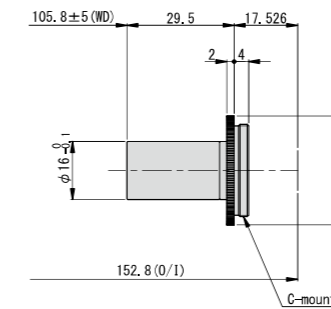
Fixed Magnification Model

DMC-01-330



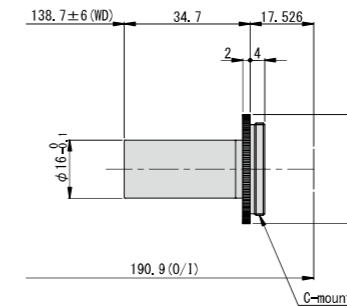
Optical Mag.	0.1x ± 5 %	
Focal Length (f)	30.0 mm	
FOV(VxH)	2/3"	71.0 x 84.0 mm
	1/2"	48.0 x 64.0 mm
	1/3"	36.0 x 48.0 mm
WD	325.5 mm ± 16	
O/I (Object & Imager Distance)	364.5 mm	
Working F/#	4.4	
NA	0.011	
DOF at PCoC $\phi 0.04$ mm	35.2 mm	
TV Distortion (2/3")	0.01 %	
Relative Illuminance (Y=5.5)	80 %	
Wavelength	Visible	
Mount	C-Mount	
Flange Back	17526 mm	
Sensor Size (max.)	2/3"	
Weight (approx.)	14 g	
Dimension	$\phi 30$ (max.) x L = 21.5 mm	

DMC-03-100



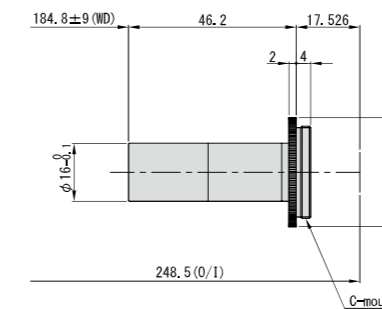
Optical Mag.	0.3x ± 5 %	
Focal Length (f)	27.5 mm	
FOV(VxH)	2/3"	23.7 x 28.0 mm
	1/2"	16.0 x 21.3 mm
	1/3"	12.0 x 16.0 mm
WD	105.8 mm ± 5	
O/I (Object & Imager Distance)	152.8 mm	
Working F/#	5.2	
NA	0.029	
DOF at PCoC $\phi 0.04$ mm	4.6 mm	
TV Distortion (2/3")	0.00 %	
Relative Illuminance (Y=5.5)	94 %	
Wavelength	Visible	
Mount	C-Mount	
Flange Back	17526 mm	
Sensor Size (max.)	2/3"	
Weight (approx.)	16 g	
Dimension	$\phi 30$ (max.) x L = 29.5 mm	

DMC-03-135



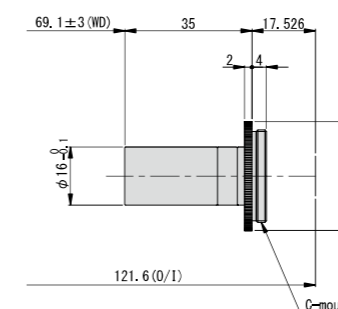
Optical Mag.	0.3x ± 5 %	
Focal Length (f)	33.7 mm	
FOV(VxH)	2/3"	23.7 x 28.0 mm
	1/2"	16.0 x 21.3 mm
	1/3"	12.0 x 16.0 mm
WD	138.7 mm ± 6	
O/I (Object & Imager Distance)	190.9 mm	
Working F/#	5.3	
NA	0.028	
DOF at PCoC $\phi 0.04$ mm	4.7 mm	
TV Distortion (2/3")	0.00 %	
Relative Illuminance (Y=5.5)	93 %	
Wavelength	Visible	
Mount	C-Mount	
Flange Back	17526 mm	
Sensor Size (max.)	2/3"	
Weight (approx.)	16 g	
Dimension	$\phi 30$ (max.) x L = 34.7 mm	

DMC-03-180



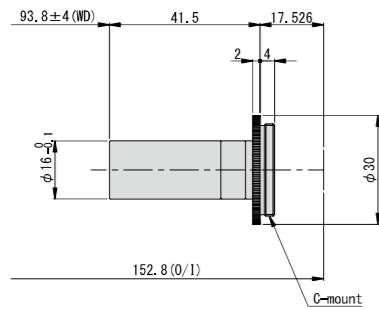
Optical Mag.	0.3x ± 5 %	
Focal Length (f)	43.9 mm	
FOV(VxH)	2/3"	23.7 x 28.0 mm
	1/2"	16.0 x 21.3 mm
	1/3"	12.0 x 16.0 mm
WD	184.8 mm ± 9	
O/I (Object & Imager Distance)	248.5 mm	
Working F/#	5.3	
NA	0.028	
DOF at PCoC $\phi 0.04$ mm	4.7 mm	
TV Distortion (2/3")	0.00 %	
Relative Illuminance (Y=5.5)	94 %	
Wavelength	Visible	
Mount	C-Mount	
Flange Back	17526 mm	
Sensor Size (max.)	2/3"	
Weight (approx.)	19 g	
Dimension	$\phi 30$ (max.) x L = 46.2 mm	

DMC-05-65



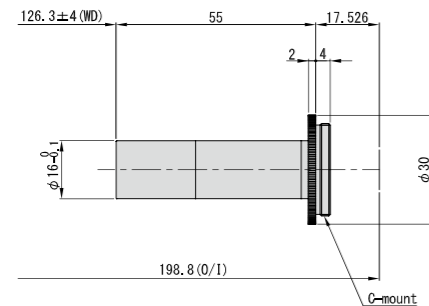
Optical Mag.	0.5x ± 5 %	
Focal Length (f)	27.5 mm	
FOV(VxH)	2/3"	14.2 x 16.8 mm
	1/2"	9.6 x 12.8 mm
	1/3"	7.2 x 9.6 mm
WD	69.1 mm ± 3	
O/I (Object & Imager Distance)	121.6 mm	
Working F/#	6.0	
NA	0.042	
DOF at PCoC $\phi 0.04$ mm	1.9 mm	
TV Distortion (2/3")	-0.02 %	
Relative Illuminance (Y=5.5)	98 %	
Wavelength	Visible	
Mount	C-Mount	
Flange Back	17526 mm	
Sensor Size (max.)	2/3"	
Weight (approx.)	17 g	
Dimension	$\phi 30$ (max.) x L = 35 mm	

DMC-05-90



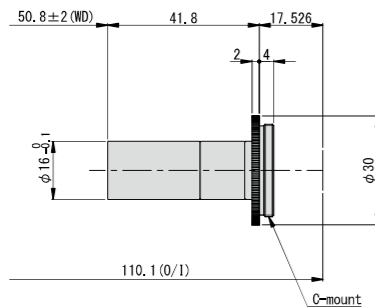
Optical Mag.	0.5x ± 5 %
Focal Length (f)	33.7 mm
FOV (VxH)	2/3" 14.2 x 16.8 mm 1/2" 9.6 x 12.8 mm 1/3" 7.2 x 9.6 mm
WD	93.8 mm ± 4
O/I (Object & Imager Distance)	152.8 mm
Working F/#	6.1
NA	0.041
DOF at PCoC φ0.04mm	2.0 mm
TV Distortion (2/3")	0.00 %
Relative Illuminance (Y=5.5)	95 %
Wavelength	Visible
Mount	C-Mount
Flange Back	17526 mm
Sensor Size (max.)	2/3"
Weight (approx.)	18 g
Dimension	φ30(max.) x L = 41.5 mm

DMC-05-130



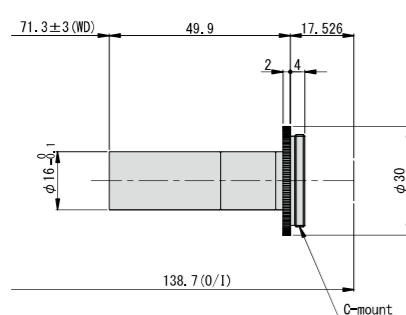
Optical Mag.	0.5x ± 5 %
Focal Length (f)	43.9 mm
FOV (VxH)	2/3" 14.2 x 16.8 mm 1/2" 9.6 x 12.8 mm 1/3" 7.2 x 9.6 mm
WD	126.3 mm ± 4
O/I (Object & Imager Distance)	198.8 mm
Working F/#	6.1
NA	0.041
DOF at PCoC φ0.04mm	2.0 mm
TV Distortion (2/3")	0.00 %
Relative Illuminance (Y=5.5)	96 %
Wavelength	Visible
Mount	C-Mount
Flange Back	17526 mm
Sensor Size (max.)	2/3"
Weight (approx.)	21 g
Dimension	φ30(max.) x L = 55 mm

DMC-075-50



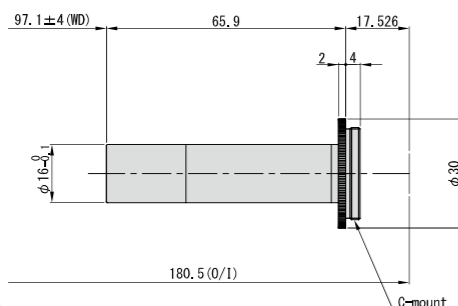
Optical Mag.	0.75x ± 5 %
Focal Length (f)	27.5 mm
FOV (VxH)	2/3" 9.5 x 11.2 mm 1/2" 6.4 x 8.5 mm 1/3" 4.8 x 6.4 mm
WD	50.8 mm ± 2
O/I (Object & Imager Distance)	110.1 mm
Working F/#	5.8
NA	0.065
DOF at PCoC φ0.04mm	0.8 mm
TV Distortion (2/3")	-0.03 %
Relative Illuminance (Y=5.5)	98 %
Wavelength	Visible
Mount	C-Mount
Flange Back	17526 mm
Sensor Size (max.)	2/3"
Weight (approx.)	18.5 g
Dimension	φ30(max.) x L = 41.8 mm

DMC-075-70



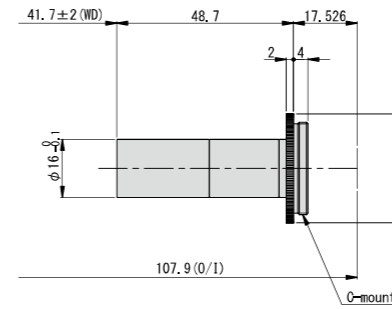
Optical Mag.	0.75x ± 5 %
Focal Length (f)	33.7 mm
FOV (VxH)	2/3" 9.5 x 11.2 mm 1/2" 6.4 x 8.5 mm 1/3" 4.8 x 6.4 mm
WD	71.3 mm ± 3
O/I (Object & Imager Distance)	138.7 mm
Working F/#	6.8
NA	0.055
DOF at PCoC φ0.04mm	1.0 mm
TV Distortion (2/3")	0.00 %
Relative Illuminance (Y=5.5)	96 %
Wavelength	Visible
Mount	C-Mount
Flange Back	17526 mm
Sensor Size (max.)	2/3"
Weight (approx.)	19 g
Dimension	φ30(max.) x L = 49.9 mm

DMC-075-100



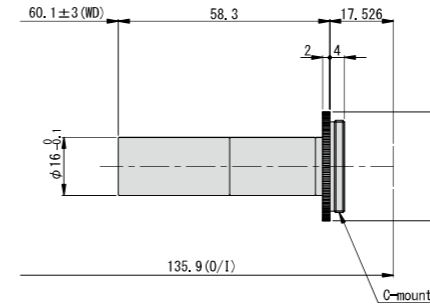
Optical Mag.	0.75x ± 5 %
Focal Length (f)	43.9 mm
FOV (VxH)	2/3" 9.5 x 11.2 mm 1/2" 6.4 x 8.5 mm 1/3" 4.8 x 6.4 mm
WD	97.1 mm ± 4
O/I (Object & Imager Distance)	180.5 mm
Working F/#	7.1
NA	0.053
DOF at PCoC φ0.04mm	1.0 mm
TV Distortion (2/3")	0.00 %
Relative Illuminance (Y=5.5)	97 %
Wavelength	Visible
Mount	C-Mount
Flange Back	17526 mm
Sensor Size (max.)	2/3"
Weight (approx.)	23 g
Dimension	φ30(max.) x L = 65.9 mm

DMC-1-40



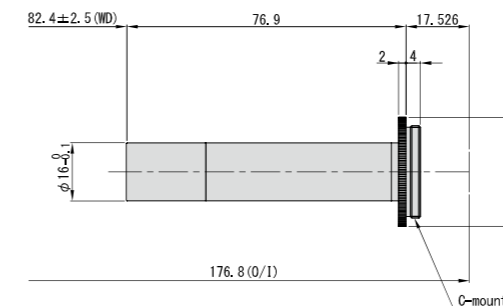
Optical Mag.	1x ± 5 %
Focal Length (f)	27.5 mm
FOV (VxH)	2/3" 7.1 x 8.4 mm 1/2" 4.8 x 6.4 mm 1/3" 3.6 x 4.8 mm
WD	41.7 mm ± 2
O/I (Object & Imager Distance)	107.9 mm
Working F/#	6.6
NA	0.076
DOF at PCoC φ0.04mm	0.5 mm
TV Distortion (2/3")	-0.04 %
Relative Illuminance (Y=5.5)	98 %
Wavelength	Visible
Mount	C-Mount
Flange Back	17526 mm
Sensor Size (max.)	2/3"
Weight (approx.)	19.5 g
Dimension	φ30(max.) x L = 48.7 mm

DMC-1-60



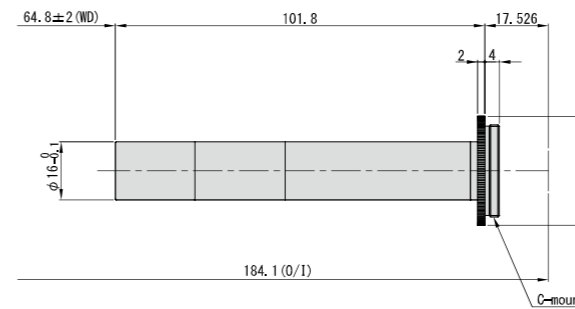
Optical Mag.	1x ± 5 %
Focal Length (f)	33.7 mm
FOV (VxH)	2/3" 7.1 x 8.4 mm 1/2" 4.8 x 6.4 mm 1/3" 3.6 x 4.8 mm
WD	60.1 mm ± 3
O/I (Object & Imager Distance)	135.9 mm
Working F/#	7.8
NA	0.064
DOF at PCoC φ0.04mm	0.6 mm
TV Distortion (2/3")	0.00 %
Relative Illuminance (Y=5.5)	97 %
Wavelength	Visible
Mount	C-Mount
Flange Back	17526 mm
Sensor Size (max.)	2/3"
Weight (approx.)	21 g
Dimension	φ30(max.) x L = 58.3 mm

DMC-1-80



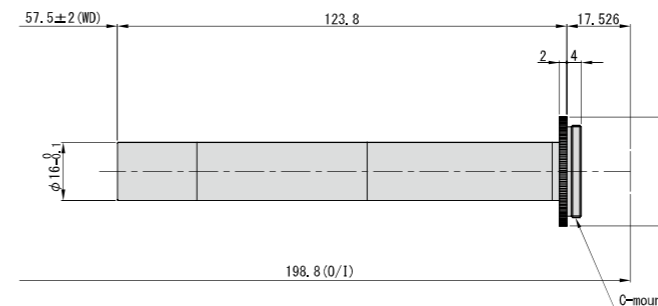
Optical Mag.	1x ± 5 %
Focal Length (f)	43.9 mm
FOV (VxH)	2/3" 7.1 x 8.4 mm 1/2" 4.8 x 6.4 mm 1/3" 3.6 x 4.8 mm
WD	82.4 mm ± 2.5
O/I (Object & Imager Distance)	176.8 mm
Working F/#	8.1
NA	0.061
DOF at PCoC φ0.04mm	0.6 mm
TV Distortion (2/3")	0.00 %
Relative Illuminance (Y=5.5)	99 %
Wavelength	Visible
Mount	C-Mount
Flange Back	17526 mm
Sensor Size (max.)	2/3"
Weight (approx.)	25 g
Dimension	φ30(max.) x L = 76.9 mm

DMC-1.5-65



Optical Mag.	1.5x ± 5 %
Focal Length (f)	43.9 mm
FOV (VxH)	2/3" 4.7 x 5.6 mm 1/2" 3.2 x 4.3 mm 1/3" 2.4 x 3.2 mm
WD	64.8 mm ± 2
O/I (Object & Imager Distance)	184.1 mm
Working F/#	10.0
NA	0.075
DOF at PCoC φ0.04mm	0.4 mm
TV Distortion (2/3")	0.00 %
Relative Illuminance (Y=5.5)	99 %
Wavelength	Visible
Mount	C-Mount
Flange Back	17526 mm
Sensor Size (max.)	2/3"
Weight (approx.)	29 g
Dimension	φ30(max.) x L = 101.8 mm

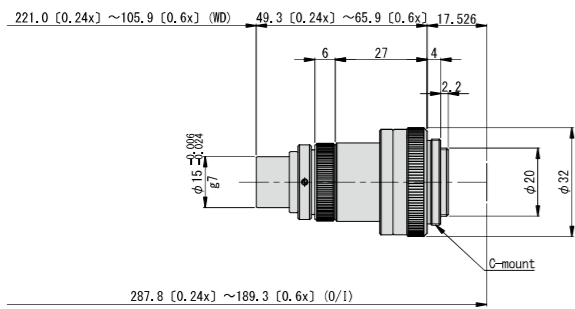
DMC-2-60



Optical Mag.	2x ± 5 %
Focal Length (f)	43.9 mm
FOV (VxH)	2/3" 3.6 x 4.2 mm 1/2" 2.4 x 3.2 mm 1/3" 1.8 x 2.4 mm
WD	57.5 mm ± 2
O/I (Object & Imager Distance)	198.8 mm
Working F/#	12.1
NA	0.083
DOF at PCoC φ0.04mm	0.2 mm
TV Distortion (2/3")	0.00 %
Relative Illuminance (Y=5.5)	99 %
Wavelength	Visible
Mount	C-Mount
Flange Back	17526 mm
Sensor Size (max.)	2/3"
Weight (approx.)	34 g
Dimension	φ30(max.) x L = 123.8 mm

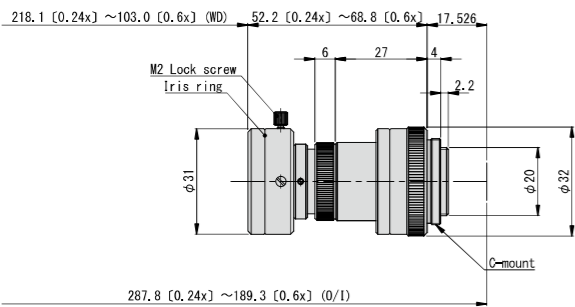
Variable Magnification Model

DMZL-02406



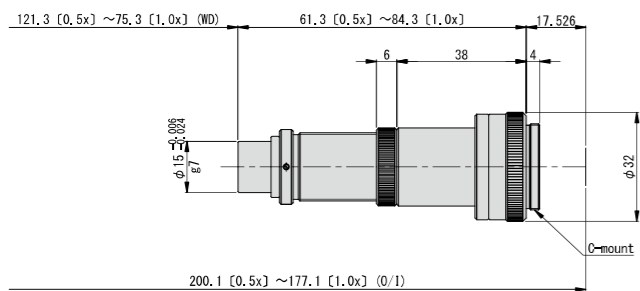
Optical Mag. Range	0.24x ~ 0.6x		
Optical Mag.	0.24x	0.4x	0.6x
FOV(VxH)	2/3"	29.6 x 35.0mm	17.8 x 21.0mm
	1/2"	20.0 x 26.7mm	12.0 x 16.0mm
	1/3"	15.0 x 20.0mm	9.0 x 12.0mm
WD	221.0 mm	144.3 mm	105.9 mm
O/I (Object & Imager Distance)	287.8 mm	218.5 mm	189.3 mm
Working F/#	4.1	4.6	5.1
DOF at PCoC ϕ 0.04mm	5.7 mm	2.3 mm	1.1 mm
TV Distortion (2/3")	0.01 %		
Relative Illuminance (Y=5.5)	80 %		
Operation	Manual		
Wavelength	Visible		
Mount	C-Mount		
Flange Back	17526 mm		
Sensor Size (max.)	2/3"		
Weight (approx.)	52 g		
Dimension	ϕ 32(max.) x L = 49.3 ~ 65.9 mm		

DMZL-02406S



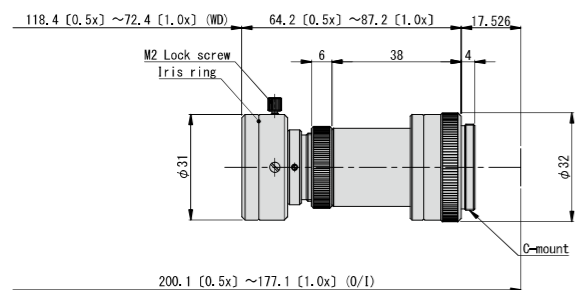
Optical Mag. Range	0.24x ~ 0.6x		
Optical Mag.	0.24x	0.4x	0.6x
FOV(VxH)	2/3"	29.6 x 35.0mm	17.8 x 21.0mm
	1/2"	20.0 x 26.7mm	12.0 x 16.0mm
	1/3"	15.0 x 20.0mm	9.0 x 12.0mm
WD	218.1 mm	141.4 mm	103.0 mm
O/I (Object & Imager Distance)	287.8 mm	218.5 mm	189.3 mm
Working F/#	4.1	4.6	5.1
DOF at PCoC ϕ 0.04mm	5.7 mm	2.3 mm	1.1 mm
TV Distortion (2/3")	0.01 %		
Relative Illuminance (Y=5.5)	80 %		
Operation	Manual(Lock Screw M2)		
Wavelength	Visible		
Mount	C-Mount		
Flange Back	17526 mm		
Sensor Size (max.)	2/3"		
Weight (approx.)	68 g		
Dimension	ϕ 32(max.) x L = 52.2 ~ 68.8 mm		

DMZL-0510



Optical Mag. Range	0.5x ~ 1.0x		
Optical Mag.	0.5x	0.75x	1.0x
FOV(VxH)	2/3"	14.2 x 16.8mm	9.5 x 11.2mm
	1/2"	9.6 x 12.8mm	6.4 x 8.5mm
	1/3"	7.2 x 9.6mm	4.8 x 6.4mm
WD	121.3 mm	90.6 mm	75.3 mm
O/I (Object & Imager Distance)	200.1 mm	180.9 mm	172.1 mm
Working F/#	4.8	5.9	6.4
DOF at PCoC ϕ 0.04mm	1.5 mm	0.8 mm	0.5 mm
TV Distortion (2/3")	0.00 %		
Relative Illuminance (Y=5.5)	88 %		
Operation	Manual		
Wavelength	Visible		
Mount	C-Mount		
Flange Back	17526 mm		
Sensor Size (max.)	2/3"		
Weight (approx.)	52 g		
Dimension	ϕ 32(max.) x L = 61.3 ~ 84.3 mm		

DMZL-0510S



Optical Mag. Range	0.5x ~ 1.0x		
Optical Mag.	0.5x	0.75x	1.0x
FOV(VxH)	2/3"	14.2 x 16.8mm	9.5 x 11.2mm
	1/2"	9.6 x 12.8mm	6.4 x 8.5mm
	1/3"	7.2 x 9.6mm	4.8 x 6.4mm
WD	118.4 mm	87.6 mm	72.4 mm
O/I (Object & Imager Distance)	200.1 mm	180.9 mm	172.1 mm
Working F/#	4.8	5.9	6.4
DOF at PCoC ϕ 0.04mm	1.5 mm	0.8 mm	0.5 mm
TV Distortion (2/3")	0.00 %		
Relative Illuminance (Y=5.5)	88 %		
Operation	Manual(Lock Screw M2)		
Wavelength	Visible		
Mount	C-Mount		
Flange Back	17526 mm		
Sensor Size (max.)	2/3"		
Weight (approx.)	66 g		
Dimension	ϕ 32(max.) x L = 64.2 ~ 87.2 mm		

Super Compact Distortionless Macro Lenses

DMZL/DMSL Series (Compact)

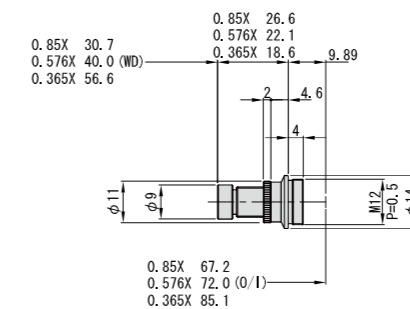
This very compact series of macro lenses, camera and lighting is ideal to use in a space constrained environment.

Features

- 1/6" sensor support
- M10.5 P=0.5 mount
- Super Compact

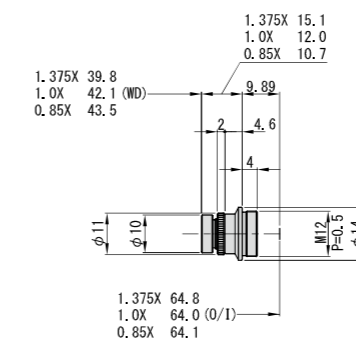


DMSL-03685



Optical Mag. Range	0.365x ~ 0.85x		
Optical Mag.	0.365x	0.576x	0.85x
FOV(VxH)	1/2"	-	
	1/3"	-	
	1/6"	4.7 x 6.3 mm	3.0 x 4.0 mm
WD	56.6 mm	40.0 mm	30.7 mm
O/I (Object & Imager Distance)	85.1 mm	72.0 mm	62.2 mm
Working F/#	9.5	11.0	12.8
NA	0.019	0.026	0.033
DOF at PCoC ϕ 0.04mm	5.7 mm	2.7 mm	1.4 mm
TV Distortion (1/6")	-0.01 %	0.00 %	0.00 %
Wavelength	Visible		
Mount	M 12 P = 0.5		
Flange Back	9.89 mm		
Sensor Size (max.)	1/6"		
Image Circle	ϕ 3.7 mm		
Weight (approx.)	4 g		
Dimension	ϕ 14(max.) x L = 18.6 ~ 26.6 mm		

DMSL-08513



Optical Mag. Range	0.85x ~ 1.375x		
Optical Mag.	0.85x	1.0x	1.375x
FOV(VxH)	1/2"	-	
	1/3"	-	
	1/6"	2.0 x 2.7 mm	1.7 x 2.3 mm
WD	43.5 mm	42.1 mm	39.8 mm
O/I (Object & Imager Distance)	64.1 mm	64.0 mm	64.8 mm
Working F/#	7.4	8.5	11.0
NA	0.057	0.059	0.063
DOF at PCoC ϕ 0.04mm	0.8 mm	0.7 mm	0.5 mm
TV Distortion (1/6")	0.53 %	0.44 %	0.30 %
Wavelength	Visible		
Mount	M 12 P = 0.5		
Flange Back	9.89 mm		
Sensor Size (max.)	1/6"		
Image Circle	ϕ 3.7 mm		
Weight (approx.)	2.5 g		
Dimension	ϕ 14(max.) x L = 10.7 ~ 15.1 mm		

DVL-UV Series 1" 2/3" 1/1.8"

The **DVL-UV** & SWIR series were designed especially for varying wavelength spectrums. Applications utilizing IR are able to do see or omit certain aspects of the objects that are being inspected. The lenses in this lineup allow for just that, as well as being compact and low in distortion.

Features

- 1/2" - 1" sensor support
- Visible & IR design
- Compact design
- Low Distortion



Visible Lens + Visible Lighting

IR Lens + IR Lighting



Near-UV Changeable Magnification

DVL-HC00303NS-UV & DVL-HC00510S-UV

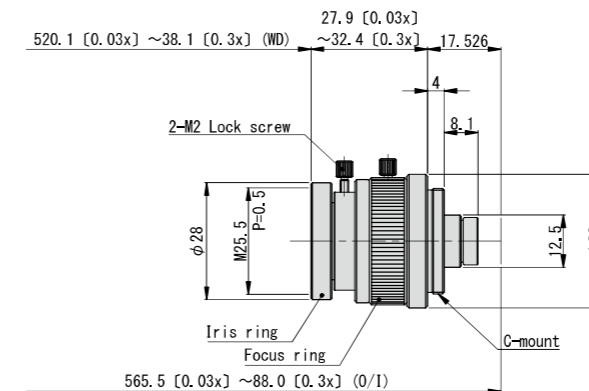
These models are macro lenses specially designed for Near Ultraviolet (NUV) wavelengths with a peak transmittance of 365nm. Magnification at x0.03~x0.3 (MC0030NS-UV) and x0.4~x1.0 (MC0510-UV) with a low distortion of -0.05~-0.1%

Features

- High resolution and reduced shading
- Simple and robust mechanical design for vibration resistance
- Special coating to eliminate unnecessary wavelengths
- Adjustable iris for contrast and brightness control

DVL-HC00303NS-UV

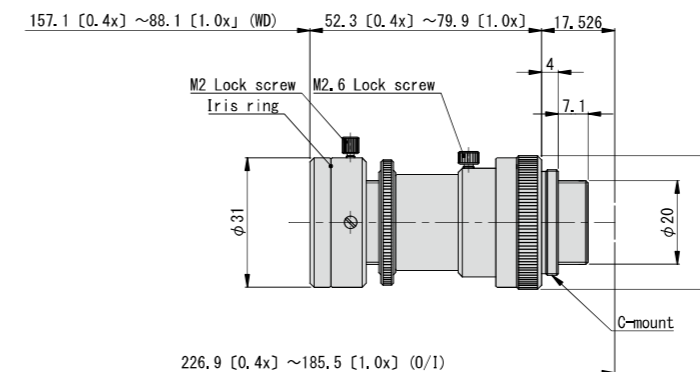
BTO



Optical Mag. Range	0.03x ~ 0.3x		
Optical Mag.	0.03x	0.1x	0.3x
FOV(VxH)	2/3"	—	
	1/2"	160.0 x 213.3 mm	48.0 x 64.0 mm
	1/3"	120.0 x 160.0 mm	36.0 x 48.0 mm
WD		520.1 mm	144.1 mm
O/I (Object & Imager Distance)		565.5 mm	190.6 mm
Working F/# *Value at Iris Open		4.1	4.4
NA		0.004	0.012
DOF at PCoC ϕ 0.04mm		373.3 mm	33.6 mm
TV Distortion (1/2")		0.00 %	
Relative Illuminance (Y=4)		92 %	
Wavelength		Ultraviolet	
Mount		C-Mount	
Flange Back		17.526 mm	
Sensor Size (max.)		1/2"	
Filter Thread		M 25.5 P = 0.5	
Weight (approx.)		41 g	
Dimension		ϕ 32 (max.) x L = 27.9 ~ 32.4 mm	

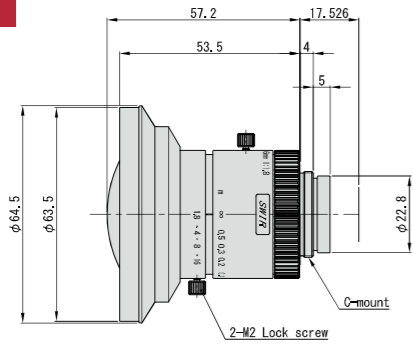
DVL-HC00510S-UV

BTO



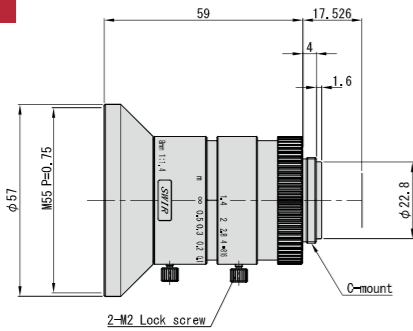
Optical Mag. Range	0.4x ~ 1.0x		
Optical Mag.	0.4x	0.75x	1.0x
FOV(VxH)	2/3"	—	
	1/2"	12.0 x 16.0 mm	6.4 x 8.5 mm
	1/3"	9.0 x 12.0 mm	4.8 x 6.4 mm
WD		157.1 mm	103.4 mm
O/I (Object & Imager Distance)		226.9 mm	189.3 mm
Working F/# *Value at Iris Open		4.8	5.6
NA		0.052	0.067
DOF at PCoC ϕ 0.04mm		1.5 mm	0.8 mm
TV Distortion (1/2")		0.00 %	
Relative Illuminance (Y=4)		89 %	
Wavelength		Ultraviolet	
Mount		C-Mount	
Flange Back		17.526 mm	
Sensor Size (max.)		1/2"	
Weight (approx.)		76 g	
Dimension		ϕ 32 (max.) x L = 52.3 ~ 79.9 mm	

CVL-0618SWIR



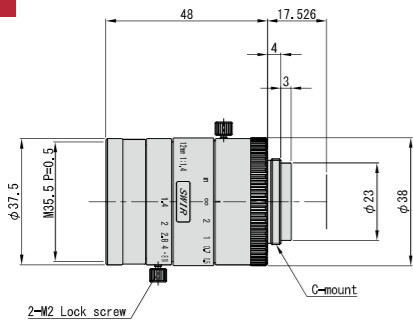
Focal Length (f)	6 mm
Maximum Aperture Ratio	1:1.8
Aperture	F1.8 ~ 16
Angle of View (1")	87.3° x 87.3°
M.O.D	100 mm
TV Distortion (1")	-0.61 %
Operation	Manual (Lock screw M2)
Wavelength	Short Wave IR
Mount	C-Mount
Flange Back	17.526 mm
Sensor Size (max.)	1"
Weight (approx.)	205 g
Dimension	φ64.5(max.) x L = 57.2 mm

CVL-0814SWIR



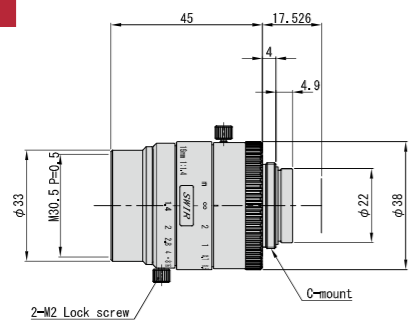
Focal Length (f)	8 mm
Maximum Aperture Ratio	1:1.4
Aperture	F1.4 ~ 16
Angle of View (1")	71.8° x 71.8°
M.O.D	100 mm
TV Distortion (1")	-0.54 %
Operation	Manual (Lock screw M2)
Wavelength	Short Wave IR
Mount	C-Mount
Flange Back	17.526 mm
Sensor Size (max.)	1"
Filter Thread	M55 P = 0.75
Weight (approx.)	175 g
Dimension	φ57(max.) x L = 59 mm

CVL-1214SWIR



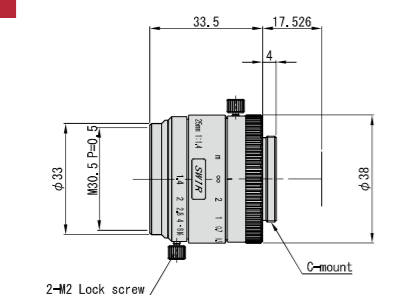
Focal Length (f)	12 mm
Maximum Aperture Ratio	1:1.4
Aperture	F1.4 ~ 16
Angle of View (1")	50.8° x 50.8°
M.O.D	300 mm
TV Distortion (1")	-0.32 %
Operation	Manual (Lock screw M2)
Wavelength	Short Wave IR
Mount	C-Mount
Flange Back	17.526 mm
Sensor Size (max.)	1"
Filter Thread	M35.5 P = 0.5
Weight (approx.)	130 g
Dimension	φ38(max.) x L = 48 mm

CVL-1614SWIR



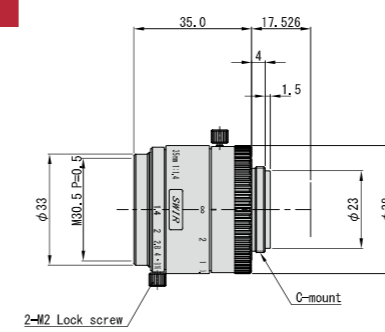
Focal Length (f)	16 mm
Maximum Aperture Ratio	1:1.4
Aperture	F1.4 ~ 16
Angle of View (1")	38.6° x 38.6°
M.O.D	300 mm
TV Distortion (1")	-0.65 %
Operation	Manual (Lock screw M2)
Wavelength	Short Wave IR
Mount	C-Mount
Flange Back	17.526 mm
Sensor Size (max.)	1"
Filter Thread	M30.5 P = 0.5
Weight (approx.)	120 g
Dimension	φ38(max.) x L = 45 mm

CVL-2514SWIR



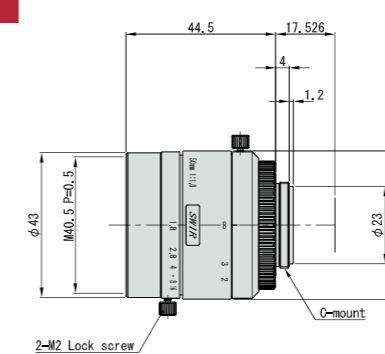
Focal Length (f)	25 mm
Maximum Aperture Ratio	1:1.4
Aperture	F1.4 ~ 16
Angle of View (1")	25.1° x 25.1°
M.O.D	300 mm
TV Distortion (1")	-0.46 %
Operation	Manual (Lock screw M2)
Wavelength	Short Wave IR
Mount	C-Mount
Flange Back	17.526 mm
Sensor Size (max.)	1"
Filter Thread	M30.5 P = 0.5
Weight (approx.)	84 g
Dimension	φ38(max.) x L = 33.5 mm

CVL-3514SWIR



Focal Length (f)	35 mm
Maximum Aperture Ratio	1:1.4
Aperture	F1.4 ~ 16
Angle of View (1")	18.3° x 18.3°
M.O.D	300 mm
TV Distortion (1")	-0.31 %
Operation	Manual (Lock screw M2)
Wavelength	Short Wave IR
Mount	C-Mount
Flange Back	17.526 mm
Sensor Size (max.)	1"
Filter Thread	M30.5 P = 0.5
Weight (approx.)	92 g
Dimension	φ38(max.) x L = 35 mm

CVL-5018SWIR



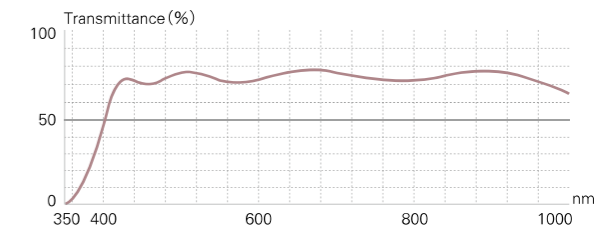
Focal Length (f)	50 mm
Maximum Aperture Ratio	1:1.8
Aperture	F1.8 ~ 16
Angle of View (1")	12.8° x 12.8°
M.O.D	500 mm
TV Distortion (1")	-0.01 %
Operation	Manual (Lock screw M2)
Wavelength	Short Wave IR
Mount	C-Mount
Flange Back	17.526 mm
Sensor Size (max.)	1"
Filter Thread	M40.5 P = 0.5
Weight (approx.)	128 g
Dimension	φ44(max.) x L = 44.5 mm

Visible~Near IR (IR Corrected design) Changeable Magnification

DVL-HC01303IR Features

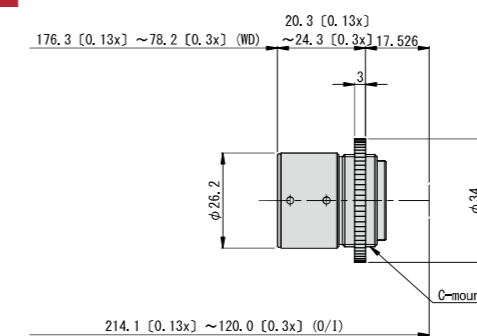
DVL-HC01303IR has optically corrected the focusing difference between Visible and Near-IR range (400~950nm). If not optically corrected, WD needs to be changed between visible and NIR, which also requires a machine design change.

DVL-HC01303IR will fit in any application. This lens also has a large image circle of φ22mm and is suitable for large format sensors.



DVL-HC01303IR

BTO



Optical Mag. Range	0.13x~0.3x		
Optical Mag.	0.13x	0.2x	0.3x
FOV (V x H)	1"	86.6x86.6mm 56.3x56.3mm	37.5x37.5mm
	2/3"	54.6x64.6mm 35.5x42.0mm	23.7x28.0mm
	1/2"	36.9x49.2mm 24.0x32.0mm	16.0x21.3mm
WD	176.3mm	115.7mm	78.2mm
O/I (Object & Imager Distance)	214.1mm	156.3mm	120.0mm
Working F/# *Value at Iris Open	4.0	4.2	4.6
NA	0.016	0.024	0.033
DOF at PCoC φ0.04mm	18.9mm	8.4mm	4.1mm
TV Distortion (1")	0.10%		
Wavelength	Visible ~ Near IR		
Mount	C-Mount		
Flange Back	17.526 mm		
Image Circle	φ22 mm		
Weight (approx.)	40 g		
Dimension	φ34(max.) x L = 20.3 ~ 24.3 mm		