

CCTV (Closed Circuit Television) Lenses



CCTV (Closed Circuit Television) lenses were developed to recognize images in a wide area. All models' iris and focus are adjustable and you can set them as you like. *1 (They come with locking screws.) Using optional close-up ring and converter allows for macro photographing. *2

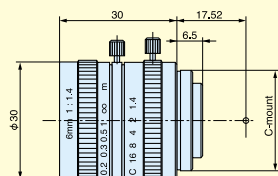
*1 Not designed to be vibration proof.

*2 Tolerances of lenses may increase and image quality may worsen as a result.

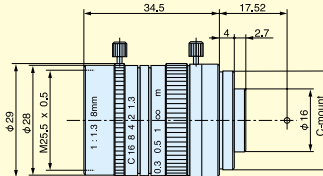
Features

- A wide range of products from f=6mm to 100mm.
- Focus and iris are adjustable using attached locking screws.

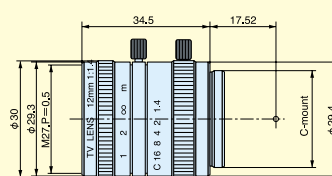
ML-0614



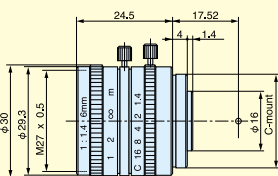
ML-0813



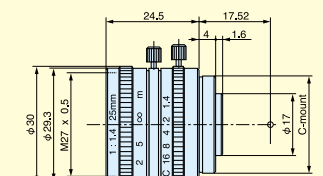
ML-1214



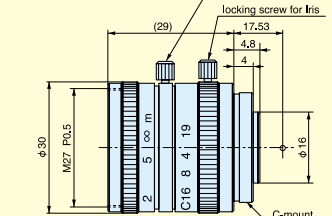
ML-1614



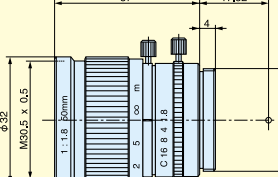
ML-2514



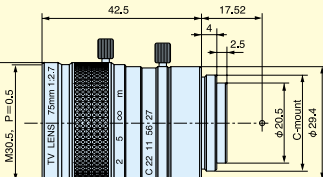
ML-3519



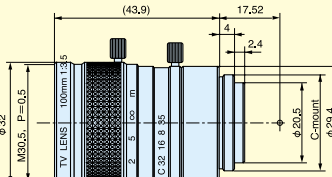
ML-5018



ML-7527



ML-10035



CCTV specifications

Model / item	Focal distance	Focus (F No.)	Field of view (VxH)	Closest distance	Filter screw	Weight (g)	Maximum compatible camera size	Mount
ML-0614	6mm	F1.4 to close	42.3° x 54.6°	0.2m	M27 P0.5	60	1/2"	C-mount
ML-0813	8mm	F1.3 to close	45.0° x 57.8°	0.2m	M25.5 P0.5	60	2/3"	C-mount
ML-1214	12mm	F1.4 to close	21.9° x 29.0°	0.3m	M27 P0.5	60	1/2"	C-mount
ML-1614	16mm	F1.4 to close	23.0° x 30.4°	0.4m	M27 P0.5	40	2/3"	C-mount
ML-2514	25mm	F1.4 to close	21.6° x 28.5°	0.5m	M27 P0.5	45	1"	C-mount
ML-3519	35mm	F1.9 to close	10.8° x 14.4°	0.5m	M27 P0.5	50	2/3"	C-mount
ML-5018	50mm	F1.8 to close	7.9° x 10.5°	1m	M30.5 P0.5	60	2/3"	C-mount
ML-7527	75mm	F2.7 to close	4.9° x 6.5°	1m	M30.5 P0.5	65	2/3"	C-mount
ML-10035	100mm	F3.5 to close	3.8° x 5.1°	1m	M30.5 P0.5	65	2/3"	C-mount

Field, WD, and magnification when a close-up ring is used

Close-up ring (mm)	ML-0614				ML-0813				ML-1214			
	Field of view(length x width)	Field of view(length x width)	WD (mm)	Magnification	Field of view(length x width)	Field of view(length x width)	WD (mm)	Magnification	Field of view(length x width)	Field of view(length x width)	WD (mm)	Magnification
	1/2"	1/3"			1/2"	1/3"			1/2"	1/3"		
0	165 x 221	124 x 165	200	0.03	96 x 128	72 x 96	148	0.05	103 x 137	77 x 103	248	0.05
0.5	44 x 58	33 x 44	43	0.11	43 x 57	32 x 43	59	0.11	55 x 73	41 x 55	125	0.09
	60 x 79	45 x 60	63	0.08	77 x 102	57 x 77	115	0.06	119 x 159	89 x 119	289	0.04
1	25 x 34	19 x 25	19	0.19	27 x 37	21 x 27	34	0.18	38 x 50	28 x 38	80	0.13
	30 x 40	22 x 30	25	0.16	38 x 51	29 x 38	52	0.13	59 x 79	45 x 59	136	0.08
1.5					20 x 27	15 x 20	22	0.24	29 x 38	21 x 29	57	0.17
					26 x 34	19 x 26	31	0.19	40 x 53	30 x 40	85	0.12
2									23 x 31	17 x 23	42	0.21
									30 x 40	22 x 30	59	0.16

Close-up ring (mm)	ML-1614				ML-2514				ML-3519			
	Field of view(length x width)	Field of view(length x width)	WD (mm)	Magnification	Field of view(length x width)	Field of view(length x width)	WD (mm)	Magnification	Field of view(length x width)	Field of view(length x width)	WD (mm)	Magnification
	1/2"	1/3"			1/2"	1/3"			1/2"	1/3"		
0	109 x 145	82 x 109	358	x 0.04	87 x 115	65 x 87	458	x 0.06	66 x 87	49 x 66	500	x 0.07
0.5	64 x 86	48 x 64	206	x 0.07	64 x 85	48 x 64	338	x 0.08	55 x 73	41 x 55	422	x 0.09
	156 x 208	117 x 156	515	x 0.03	242 x 322	181 x 242	1270	x 0.02	335 x 447	251 x 335	2459	x 0.01
1	45 x 61	34 x 45	143	x 0.11	50 x 67	38 x 50	269	x 0.10	47 x 63	35 x 47	366	x 0.10
	78 x 104	58 x 78	252	x 0.06	121 x 161	91 x 121	637	x 0.04	168 x 223	126 x 168	1240	x 0.03
1.5	35 x 47	26 x 35	108	x 0.14	42 x 56	31 x 42	223	x 0.12	41 x 55	31 x 41	324	x 0.12
	52 x 69	39 x 52	164	x 0.09	81 x 107	60 x 81	425	x 0.06	112 x 149	84 x 112	834	x 0.04
2	29 x 38	22 x 29	86	x 0.17	36 x 47	27 x 36	191	x 0.13	37 x 49	28 x 37	291	x 0.13
	39 x 52	29 x 39	120	x 0.12	60 x 81	45 x 60	320	x 0.08	84 x 112	63 x 84	631	x 0.06
5	14 x 18	10 x 14	35	x 0.35	19 x 25	14 x 19	103	x 0.25	22 x 30	17 x 22	185	x 0.22
	16 x 21	12 x 16	42	x 0.31	24 x 32	18 x 24	130	x 0.20	34 x 45	25 x 34	265	x 0.14
10	7.3 x 9.7	5.4 x 7.3	14	x 0.66	11 x 14	8.0 x 11	60	x 0.45	13 x 18	10 x 13	121	x 0.36
	7.8 x 10	5.8 x 7.8	15	x 0.62	12 x 16	9.1 x 12	66	x 0.40	17 x 22	13 x 17	143	x 0.29
15					7.4 x 9.8	5.5 x 7.4	43	x 0.65	9.5 x 13	7.2 x 9.5	93	x 0.50
					8.1 x 11	6.0 x 8.1	45	x 0.60	11 x 15	8.4 x 11	103	x 0.43
20					5.6 x 7.5	4.2 x 5.6	34	x 0.85	7.4 x 9.9	5.6 x 7.4	78	x 0.65
					6.0 x 8.1	4.5 x 6.0	35	x 0.79	8.4 x 11	6.3 x 8.4	82	x 0.57
25									6.1 x 8.1	4.6 x 6.1	68	x 0.79
									6.7 x 8.9	5.0 x 6.7	70	x 0.72

Close-up ring (mm)	ML-5018				ML-7527				ML-10035			
	Field of view(length x width)	Field of view(length x width)	WD (mm)	Magnification	Field of view(length x width)	Field of view(length x width)	WD (mm)	Magnification	Field of view(length x width)	Field of view(length x width)	WD (mm)	Magnification
	1/2"	1/3"			1/2"	1/3"			1/2"	1/3"		
0	90 x 120	68 x 90	943	x 0.05	60 x 80	45 x 60	1000	x 0.08	46 x 62	35 x 46	1000	x 0.10
1.5	57 x 76	43 x 57	610	x 0.08								
	154 x 205	115 x 154	1577	x 0.03								
2	51 x 67	38 x 51	548	x 0.10	43 x 57	32 x 43	776	x 0.11				
	115 x 154	86 x 115	1193	x 0.04	184 x 246	138 x 184	3189	x 0.03				
5	31 x 41	23 x 31	347	x 0.16	30 x 40	23 x 30	607	x 0.16	27 x 37	21 x 27	724	x 0.18
	46 x 61	35 x 46	503	x 0.10	74 x 98	55 x 74	1422	x 0.07	95 x 127	71 x 95	2413	x 0.05
10	18 x 25	14 x 18	226	x 0.26	20 x 27	15 x 20	475	x 0.24	19 x 26	15 x 19	609	x 0.25
	23 x 31	17 x 23	273	x 0.21	37 x 49	28 x 37	833	x 0.13	48 x 63	36 x 48	1432	x 0.10
15	13 x 18	10 x 13	174	x 0.37	15 x 20	11 x 15	408	x 0.32	15 x 20	11 x 15	546	x 0.32
	15 x 21	12 x 15	196	x 0.31	25 x 33	18 x 25	636	x 0.20	32 x 42	24 x 32	1105	x 0.15
20	10 x 14	7.7 x 10	145	x 0.47	12 x 16	9 x 12	369	x 0.40	12 x 16	9 x 12	505	x 0.39
	12 x 15	8.6 x 12	158	x 0.42	18 x 25	14 x 18	538	x 0.26	24 x 32	18 x 24	941	x 0.20
25	8.4 x 11	6.3 x 8.4	126	x 0.57	10 x 14	7.6 x 10	342	x 0.47	10 x 14	8 x 10	478	x 0.46
	9.2 x 12	6.9 x 9.2	134	x 0.52	15 x 20	11 x 15	479	x 0.33	19 x 25	14 x 19	843	x 0.25
30	7.1 x 9.4	5.3 x 7.1	113	x 0.68	8.7 x 12	6.5 x 8.7	323	x 0.55	9.0 x 12	6.7 x 9.0	458	x 0.54
	7.7 x 10	5.8 x 7.7	119	x 0.63	12 x 16	9.2 x 12	440	x 0.39	16 x 21	12 x 16	778	x 0.30
35	6.1 x 8.2	4.6 x 6.1	104	x 0.78	7.6 x 10	5.7 x 7.6	309	x 0.63	7.9 x 11	5.9 x 7.9	443	x 0.61
	6.6 x 8.8	4.9 x 6.6	108	x 0.73	11 x 14	7.9 x 11	412	x 0.46	14 x 18	10 x 14	731	x 0.35
40	5.4 x 7.2	4.1 x 5.4	97	x 0.89	6.7 x 9.0	5.1 x 6.7	297	x 0.71	7.1 x 9.4	5.3 x 7.1	430	x 0.68
	5.8 x 7.7	4.3 x 5.8	100	x 0.83	9.2 x 12	6.9 x 9.2	391	x 0.52	12 x 16	8.9 x 12	696	x 0.40
45					6.1 x 8.1	4.6 x 6.1	289	x 0.79	6.4 x 8.5	4.8 x 6.4	421	x 0.75
					8.2 x 11	6.1 x 8.2	375	x 0.59	11 x 14	7.9 x 11	669	x 0.45
50					5.5 x 7.4	4.1 x 5.5	281	x 0.87	5.8 x 7.8	4.4 x 5.8	412	x 0.82
					7.4 x 9.8	5.5 x 7.4	361	x 0.65	9.5 x 13	7.1 x 9.5	647	x 0.50
60									5.0 x 6.6	3.7 x 5.0	400	x 0.97
									7.9 x 11	5.9 x 7.9	614	x 0.61

- Indicated values are based on calculations and actual measurements may be different. Use the values as a reference.
- Products' accuracy is guaranteed only when themselves use them. Please note that WD, distortion, and image quality may vary when a close-up ring or other equipment is used because tolerances of lenses increase.

Filters and adapters for CCTV lenses

Close-up ring



- **ML-EXR** 7-piece set (0.5, 1, 2, 5, 10, 20, 40)

- **ML-EXR** ☐

- **ML-EXR1520** Adjustable type (15 to 20mm)

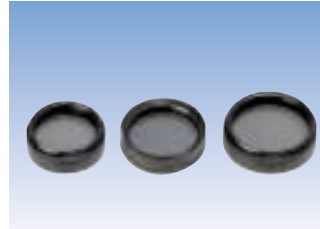
- **ML-EXR3042** Adjustable type (30 to 42mm)

Glass cover **ML-GA**



Glass lens protection cover prevents lens from getting dirty and damage from dust and airborne particles.

Polarizing filter **ML-PL**



Polarizing filter that can be rotated. Using the filter with a polarizing light reduces the grainy look of objects and localized halation.

Ring light mounting adapter **ML-FL**



Adapters to mount a ring light of inner diameter of 31. Fiber optic ring light MRG31 series: P.40 LED light MRL series: P.54

CCTV model	Glass cover model
ML-0614	ML-GA270
ML-0813	ML-GA255
ML-1214	ML-GA270
ML-1614	ML-GA270
ML-2514	ML-GA270
ML-3519	ML-GA270
ML-5018	ML-GA305
ML-7527	ML-GA305
ML-10035	ML-GA305

CCTV model	Polarizing filter model
ML-0614	ML-PL270
ML-0813	ML-PL255
ML-1214	ML-PL270
ML-1614	ML-PL270
ML-2514	ML-PL270
ML-3519	ML-PL270
ML-5018	ML-PL305
ML-7527	ML-PL305
ML-10035	ML-PL305

CCTV model	Ring light mounting adapter model
ML-0614	ML-FL270
ML-0813	ML-FL255
ML-1214	ML-FL270
ML-1614	ML-FL270
ML-2514	ML-FL270
ML-3519	ML-FL270
ML-5018	ML-FL305
ML-7527	ML-FL305
ML-10035	ML-FL305

Telecentric system CCTV lens

MTE-55



MTE-55 lens uses F2.8, f=55mm telecentric optical system that reduces angle and magnification errors when observing objects. Accurate telecentric performance is achieved when the magnification combined with the optional lens MTE2 is 0.4X to 0.9X. Although there is no telecentric effect at the magnification of infinite to 0.4X, aberrations are corrected well as compared to regular lenses.

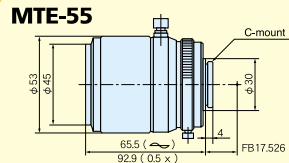
Applications

Medical purposes: Eyeball inspection, physical and chemical research
 FA-related: Large-size substrate recognition
 Other: Laboratories

Model / item	MTE-55
Magnification	Infinite to 0.5X (when a special converter is used: 1.0X at max)
Focal distance	F=55mm
FNO	2.8 to close
Photographing distance	Infinite to 140mm
Distortion	0.6% at max
Marginal ray amount	78.50%
Maximum outside diameter	53mm
Length	65.5mm (infinite) to 92.9mm (when the lens is fully-extended)
Mount	C-mount
Filter size	M43 P=0.5
Maximum compatible camera size	2/3"
Weight (g)	320g

Field of view by CCD camera size

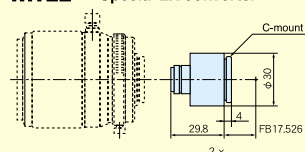
MTE-55



WD (mm)	MTE-55			
	2/3" (length x width)	1/2" (length x width)	1/3" (length x width)	Optical magnification
5000	550 x 733	415 x 550	300 x 400	x 0.012
3000	330 x 440	240 x 320	170 x 220	x 0.02
1000	132 x 176	90 x 120	61 x 82	x 0.05
500	55 x 73	40 x 53	30 x 40	x 0.12
300	31 x 41	24 x 32	17 x 22	x 0.21
200	22 x 29	15 x 20	11 x 15	x 0.3
140	13 x 18	10 x 13	7 x 10	x 0.48

MTE2

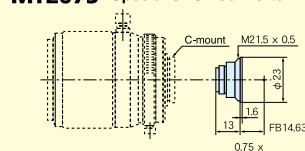
Special 2X converter



WD (mm)	MTE-55 +Special 2X converter			(MTE2)
	2/3" (length x width)	1/2" (length x width)	1/3" (length x width)	
5000	275 x 366	207 x 275	150 x 200	x 0.024
3000	165 x 220	120 x 160	85 x 110	x 0.04
1000	66 x 88	45 x 60	30 x 41	x 0.1
500	27 x 36	20 x 26	15 x 20	x 0.24
300	15 x 20	12 x 16	8 x 11	x 0.42
200	11 x 14	7 x 10	5 x 7	x 0.6
140	6 x 9	5 x 6	3 x 5	x 0.9

MTE075

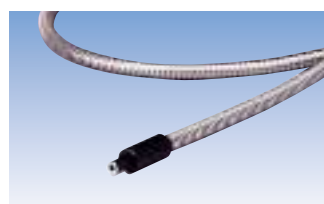
Special 0.75X converter



WD (mm)	MTE-55+Special 0.75X converter			(MTE075)
	2/3" (length x width)	1/2" (length x width)	1/3" (length x width)	Optical magnification
5000	733 x 977	553 x 733	400 x 533	x 0.009
3000	440 x 586	320 x 426	226 x 293	x 0.015
1000	176 x 234	120 x 160	81 x 109	x 0.03
500	73 x 97	53 x 70	40 x 53	x 0.09
300	41 x 54	32 x 42	22 x 29	x 0.15
200	29 x 38	20 x 26	14 x 20	x 0.22
140	17 x 24	13 x 17	9 x 13	x 0.36

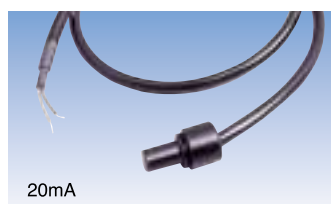
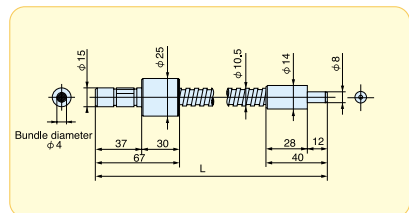
Coaxial episcopic illumination

(Halogen, tungsten, LED)



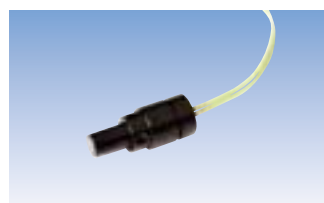
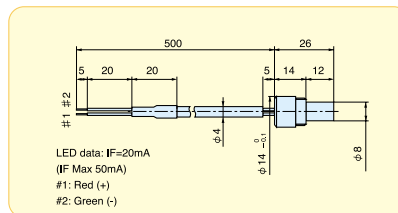
MSG series → P42

Combination with halogen type light source creates powerful lighting in a wide visible range. Multiple-purpose light suitable for all types of objects.



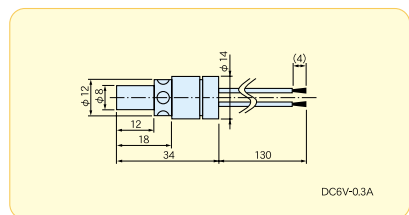
MML-AD-LED

Blight red LED illumination. Highly responsive and long life. The cable end is not processed. Supply IF=20mA (Max 50mA) externally.



MML-AD-TL

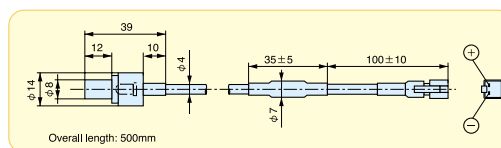
A small, lightweight tungsten lamp is used. The cable end is not processed. Supply DC6V-0.3A externally.



MML-AD-LED-CR12

Terminal connector that can be connected to a special LED light source. Colors can be selected according to objects.

MML-AD-LED-CR-12	Red	Power consumption 0.26W
MML-AD-LED-W-CR12	White	0.21W
MML-AD-LED-B-CR12	Blue	0.21W
MML-AD-LED-G-CR12	Green	0.22W



*1. Refer to P.59 for power source and trunk cable.
*2. Cannot be used when adjusting the light or under low light.

Rear converter lens

Attach between the lens and CCD camera. They allow for magnification adjustment without changing the working distance of the lens.

* Note that using them lowers the resolution.

