

2MP Fixed Focal Length Lenses



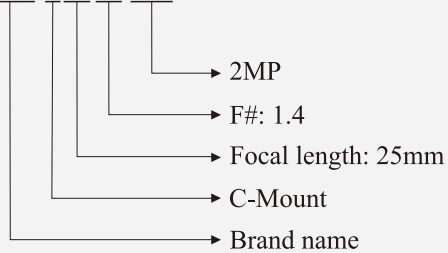
Product Features

- **Compact, light weight and stable**
- **High resolution**
Compatible with 2MP industrial cameras^[1] which pixel $\geq 5.5\mu\text{m}$ and max. 2/3" sensor
- **High uniformity**
Minimized vignetting

[1] OPT-C0420-2M and OPT-C0620-2M: Max. compatible with 1/2" sensor

Selection Guide

OPT-C2514-2M



Resolution Comparison

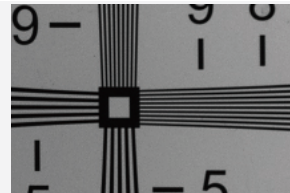


Image taken by
OPT 2MP Lens

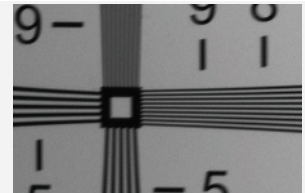
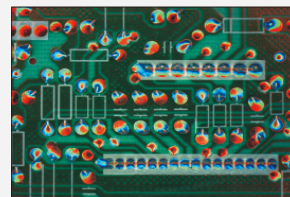


Image taken by other lens

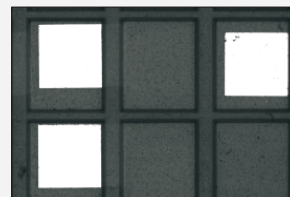
Application Cases



PCB soldering inspection



OCR for plastic parts



Lenses on plate detection



Connector pins inspection

Model Table

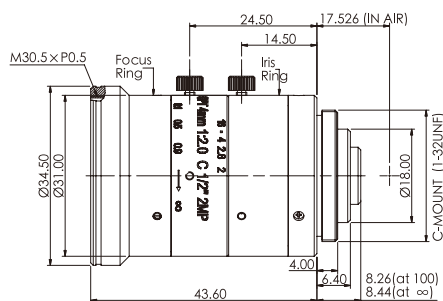
No.	Model	Focal length (mm)	Aperture range	WD (mm)	Filter thread (mm)	Distortion	Back focal length (mm)	Weight (kg)	Sensor format	FOV angle (H×V×D)		
1	OPT-C0420-2M	4	F2.0~F1.6	100~∞	M30.5*P0.5	<1.6%	9.14	0.08	1/3"	62.2°	48.6°	74.0°
									1/2.5"	71.4°	56.3°	83.7°
									1/2"	76.2°	61.6°	89.0°
2	OPT-C0620-2M	6	F2.0~F1.6	100~∞	M27*P0.5	<1.2%	9.15	0.06	1/3"	42.4°	32.1°	51.5°
									1/2.5"	49.0°	37.4°	59.2°
									1/2"	52.8°	40.6°	64.0°
3	OPT-C0814-2M	8	F1.4~F1.6	100~∞	M27*P0.5	<2.4%	8.95	0.07	1/3"	33.8°	24.7°	41.0°
									1/2.5"	38.3°	29.0°	46.8°
									1/1.8"	47.5°	36.9°	57.8°
									2/3"	55.4°	47.1°	68.6°

Model Table

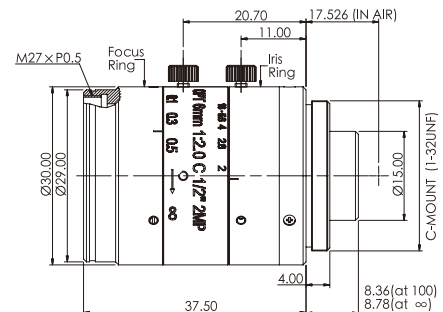
No.	Model	Focal length (mm)	Aperture range	WD (mm)	Filter thread (mm)	Distortion	Back focal length (mm)	Weight (kg)	Sensor format	FOV angle (H×V×D)		
4	OPT-C1214-2M	12	F1.4~F16	100-∞	M27*P0.5	<2.8%	9.33	0.06	1/3"	23.0°	17.3°	28.6°
									1/2.5"	27.4°	20.4°	33.7°
									1/1.8"	34.2°	26.2°	42.2°
									2/3"	40.1°	33.7°	50.7°
5	OPT-C1614-2M	16	F1.4~F16	100-∞	M27*P0.5	<2.4%	9.53	0.05	1/3"	17.6°	13.3°	21.9°
									1/2.5"	20.8°	15.7°	25.9°
									1/1.8"	26.2°	20.0°	32.5°
									2/3"	30.8°	25.8°	39.4°
6	OPT-C2514-2M	25	F1.4~F16	180-∞	M27*P0.5	<0.45%	11.54	0.05	1/3"	11.1°	8.3°	13.8°
									1/2.5"	13.2°	9.9°	16.5°
									1/1.8"	16.5°	12.2°	20.4°
									2/3"	20.1°	15.1°	25.0°
7	OPT-C3516-2M	35	F1.6~F16	250-∞	M27*P0.5	<0.25%	11	0.05	1/3"	7.3°	6.0°	9.4°
									1/2.5"	9.6°	7.2°	11.9°
									1/1.8"	12.0°	9.0°	15.0°
									2/3"	14.1°	11.8°	18.3°
8	OPT-C5024-2M	50	F2.4~F22	500-∞	M27*P0.5	<0.1%	15	0.06	1/3"	5.4°	3.9°	6.6°
									1/2.5"	6.3°	4.7°	7.9°
									1/1.8"	7.9°	6.0°	9.9°
									2/3"	9.6°	8.0°	12.5°
9	OPT-C7528-2M	75	F2.8~F32	700-∞	M30.5*P0.5	<0.02%	18	0.16	1/3"	3.2°	2.4°	3.9°
									1/2.5"	3.9°	2.9°	4.8°
									1/1.8"	4.7°	3.6°	5.9°
									2/3"	5.7°	4.9°	7.5°
10	OPT-C10028-2M	100	F2.8~F16	2700-∞	M37.5*P0.5	<0.05%	19.95	0.13	1/3"	2.0°	1.5°	2.5°
									1/2.5"	2.4°	1.8°	3.0°
									1/1.8"	3.0°	2.3°	3.7°
									2/3"	3.7°	2.8°	4.6°

Dimensions (mm)

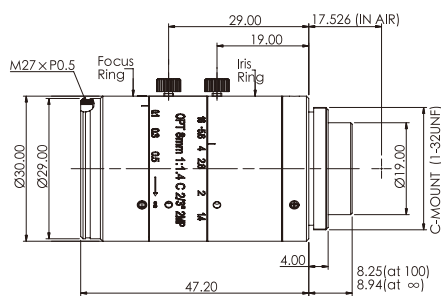
1.OPT-C0420-2M



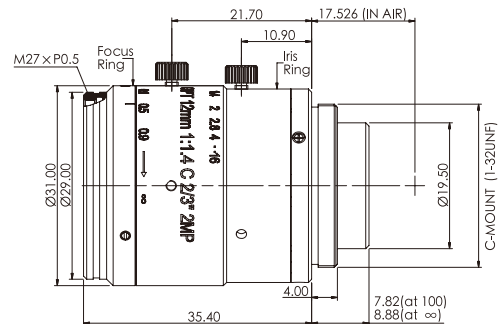
2.OPT-C0620-2M



3.OPT-C0814-2M

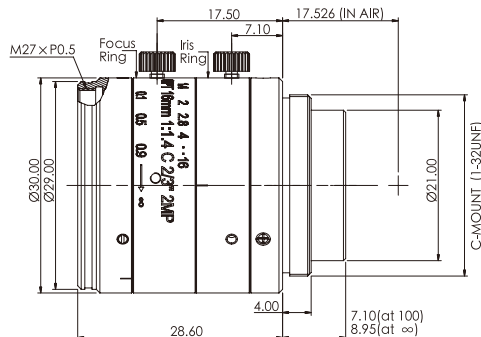


4.OPT-C1214-2M

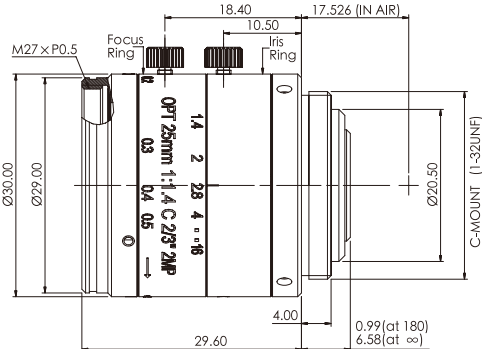


Dimensions (mm)

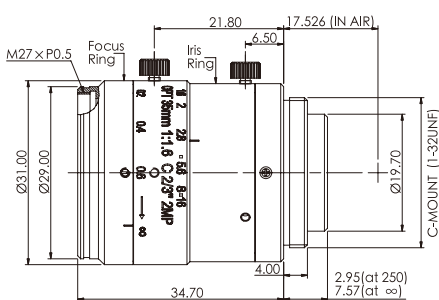
5.OPT-C1614-2M



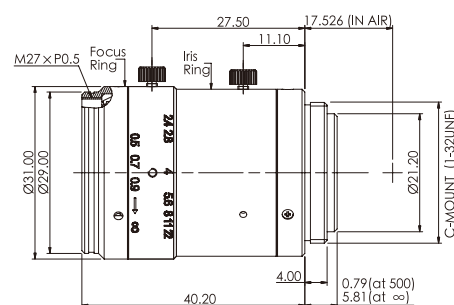
6.OPT-C2514-2M



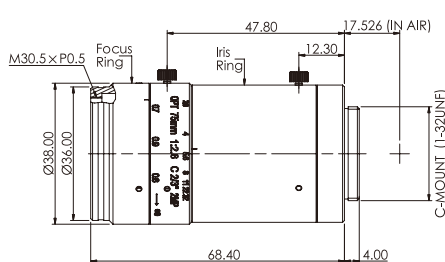
7.OPT-C3516-2M



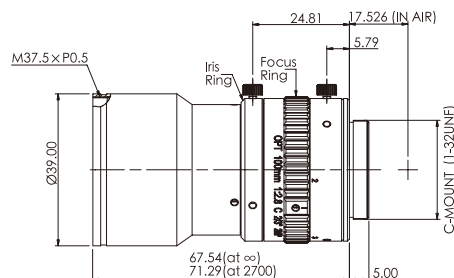
8.OPT-C5024-2M



9.OPT-C7528-2M



10.OPT-C10028-2M



Selection Guide of Extension Tube for 2MP Lenses Object size (mm×mm)

Extension tube	Model	OPT-C0420-2M		OPT-C0620-2M		OPT-C0814-2M		OPT-C1214-2M		OPT-C1614-2M	
	WD of lens	0.1m-∞		0.1m-∞		0.1m-∞		0.1m-∞		0.1mm-∞	
0mm	WD(mm)	100		100		100		100		100	
	1/3"	128.0×96.0		80.7×60.5		61.4×46.0		45.1×33.8		32.4×24.3	
	1/2.5"	153.6×113.4		96.8×72.1		73.7×54.9		54.1×40.3		38.8×28.9	
	1/1.8"	-		-		91.8×68.0		67.4×49.9		48.4×35.9	
	2/3"	-		-		112.5×84.4		82.6×62.0		59.3×44.5	
	Mag.	0.0375X		0.0595X		0.0782X		0.1065X		0.1483X	
0.5mm	WD(mm)	9	21	26	41	41	56	62	76	75	85
	1/3"	24.0×18.0	38.4×28.8	28.5×21.4	40.7×30.5	30.1×22.5	39.3×29.5	29.8×22.4	35.3×26.5	25.4×19.0	28.2×21.1
	1/2.5"	28.8×21.4	46.0×34.3	34.3×25.5	48.8×36.4	36.1×26.9	47.2×35.1	35.8×26.7	42.4×31.6	30.4×22.7	33.8×25.2
	1/1.8"	-	-	-	-	45.0×33.3	58.8×43.6	44.6×33.1	52.8×39.2	37.9×28.1	42.1×31.2
	2/3"	-	-	-	-	55.1×41.3	72.1×54.1	54.7×41.0	64.8×48.6	46.5×34.9	51.7×38.7
	Mag.	0.2X	0.125X	0.1678X	0.1178X	0.1595X	0.122X	0.1607X	0.1357X	0.1889X	0.1702X
1mm	WD(mm)	-	-	14	20	27	34	47	55	63	70
	1/3"	-	-	19.1×14.3	23.8×17.8	21.6×16.2	26.0×19.5	23.7×17.7	27×20.3	21.8×16.3	23.8×17.8
	1/2.5"	-	-	22.9×17.0	28.6×21.3	25.9×19.3	31.2×23.2	28.4×21.2	32.4×24.1	26.1×19.4	28.5×21.2
	1/1.8"	-	-	-	-	32.3×23.9	38.9×28.8	35.4×26.2	40.4×29.9	32.5×24.1	35.6×26.4
	2/3"	-	-	-	-	39.6×29.7	47.7×35.7	43.4×32.6	49.6×37.2	39.9×29.9	43.6×32.7
	Mag.	-	-	0.2512X	0.2012X	0.222X	0.1845X	0.2023X	0.1773X	0.2202X	0.2014X

Selection Guide of Extension Tube for 2MP Lenses Object size (mm×mm)

Extension tube	Model	OPT-C0420-2M		OPT-C0620-2M		OPT-C0814-2M		OPT-C1214-2M		OPT-C1614-2M	
	WD of lens	0.1m-∞		0.1m-∞		0.1m-∞		0.1m-∞		0.1mm-∞	
1.5mm	WD(mm)	-	-	-	-	19	23	37	42	54	59
	1/3"	-	-	-	-	16.8×12.6	19.4×14.5	19.6×14.7	21.9×16.4	19.0×14.3	20.6×15.4
	1/2.5"	-	-	-	-	20.2×15.0	23.3×17.3	23.6×17.5	26.3×17.5	22.9×17	24.7×18.4
	1/1.8"	-	-	-	-	25.2×18.6	29.0×21.5	29.4×21.7	29.4×21.7	28.5×21.1	30.8×22.9
	2/3"	-	-	-	-	30.9×23.2	35.6×26.7	36.0×27.0	36.0×27.0	35.0×26.2	37.8×28.3
	Mag.	-	-	-	-	0.2845X	0.247X	0.244X	0.244X	0.2514X	0.2327X
2mm	WD(mm)	-	-	-	-	-	-	-	-	47	51
	1/3"	-	-	-	-	-	-	-	-	16.9×12.7	18.1×13.6
	1/2.5"	-	-	-	-	-	-	-	-	20.3×15.1	21.8×16.2
	1/1.8"	-	-	-	-	-	-	-	-	25.3×18.8	27.1×20.1
	2/3"	-	-	-	-	-	-	-	-	31.1×23.3	33.3×25.0
	Mag.	-	-	-	-	-	-	-	-	0.2827X	0.2639X
5mm	WD(mm)	-	-	-	-	-	-	-	-	25	26
	1/3"	-	-	-	-	-	-	-	-	10.2×7.6	10.6×7.9
	1/2.5"	-	-	-	-	-	-	-	-	12.2×9.1	12.7×9.5
	1/1.8"	-	-	-	-	-	-	-	-	15.2×11.3	15.8×11.7
	2/3"	-	-	-	-	-	-	-	-	18.7×14.0	19.4×14.6
	Mag.	-	-	-	-	-	-	-	-	0.4702X	0.4514X

Extension tube	Model	OPT-C2514-2M		OPT-C3516-2M		OPT-C5024-2M		OPT-C7528-2M		OPT-C10028-2M	
	WD of lens	0.18m-∞		0.25m-∞		0.5m-∞		0.7m-∞		2.7m-∞	
0mm	WD(mm)	180		250		500		700		2700	
	1/3"	35.2×26.4		34.7×26		46.8×35.1		40.8×30.6		124.7×93.5	
	1/2.5"	42.2×31.4		41.7×31		56.2×41.9		49×36.5		149.6×111.4	
	1/1.8"	52.6×39		51.9×38.5		70×51.9		61×45.2		186.4×138.2	
	2/3"	64.5×48.4		63.7×47.8		85.9×64.4		74.8×56.1		228.6×171.4	
	Mag.	0.1365X		0.1382X		0.1025X		0.1176X		0.0385X	
0.5mm	WD(mm)	152	164	223	236	448	472	658	677	2322	2481
	1/3"	29.5×22.1	31.8×23.9	30.6×22.9	32.3×24.2	41.5×31.1	43.8×32.8	38.0×28.5	39.2×29.4	106.6×80.0	114.2×85.7
	1/2.5"	35.4×26.4	38.2×28.5	36.7×27.3	38.8×28.9	49.8×37.1	52.6×39.1	45.6×33.9	47.1×35.0	128.0×95.3	137.1×102.1
	1/1.8"	44.1×32.7	47.6×35.3	45.7×33.9	48.4×35.8	62.1×46.0	65.5×48.5	56.8×42.1	58.6×43.5	159.4×118.2	170.8×126.6
	2/3"	54.1×40.6	58.4×43.8	56.1×42.0	59.3×44.5	76.1×57.1	80.3×60.2	69.6×52.2	71.9×53.9	195.6×146.6	209.5×157.1
	Mag.	0.1625X	0.1505X	0.1568X	0.1482X	0.1155X	0.1095X	0.1263X	0.1223X	0.045X	0.042X
1mm	WD(mm)	135	145	205	215	413	433	628	646	2100	2228
	1/3"	26.3×19.7	28.1×21.1	28.0×21.0	29.5×22.1	38.2×28.6	40.1×30.1	36.1×27.0	37.2×27.9	96.0×72.0	102.1×76.5
	1/2.5"	31.5×23.5	33.7×25.1	33.6×25.0	35.4×26.4	45.8×34.1	48.2×35.8	43.3×32.2	44.6×33.2	115.2×85.8	122.5×91.2
	1/1.8"	39.3×29.1	42.0×31.1	41.9×31.0	44.1×32.7	57.1×42.3	60.0×44.5	53.9×40.0	55.6×41.2	143.5×106.3	152.6×113.1
	2/3"	48.2×36.1	51.6×38.7	51.4×38.5	54.1×40.6	70.1×52.5	73.6×55.2	66.1×49.6	68.2×51.1	176.0×132.0	187.2×140.4
	Mag.	0.1825X	0.1705X	0.1711X	0.1625X	0.1255X	0.1195X	0.1329X	0.1289X	0.05X	0.047X
1.5mm	WD(mm)	122	130	189	198	384	401	601	617	1918	2023
	1/3"	23.7×17.7	25.1×18.8	25.8×19.4	27.1×20.3	35.4×26.5	37×27.7	34.3×25.7	35.3×26.5	87.2×65.4	92.3×69.2
	1/2.5"	28.4×21.1	30.2×22.5	31.0×23.1	32.5×24.2	42.5×31.6	44.4×33.1	41.2×30.7	42.4×31.6	104.7×78.0	110.7×82.5
	1/1.8"	35.4×26.2	37.6×27.9	38.7×28.6	40.5×30.0	52.9×39.2	55.4×41.0	51.4×38.1	52.9×39.2	130.4×96.7	138.0×102.2
	2/3"	43.4×32.5	46.1×34.6	47.4×35.6	49.7×37.3	64.9×48.7	67.9×50.9	63.0×47.2	64.8×48.6	160.0×120.0	169.2×126.9
	Mag.	0.2025X	0.1905X	0.1853X	0.1768X	0.1355X	0.1195X	0.1396X	0.1356X	0.055X	0.052X
2mm	WD(mm)	111	117	175	183	359	373	577	591	1767	1854
	1/3"	21.6×16.1	22.8×17.1	24.0×18.0	25.1×18.8	32.9×24.7	34.4×25.8	32.8×24.6	33.7×25.3	80.0×60.0	84.2×63.1
	1/2.5"	25.8×19.2	27.3×20.3	28.8×21.4	30.1×22.4	39.5×29.4	41.2×30.7	39.3×29.3	40.4×30.1	96×71.5	101.0×75.2
	1/1.8"	32.2×23.9	34.0×25.2	35.9×26.6	37.5×27.8	49.3×36.5	51.4×38.1	49.0×36.3	50.4×37.3	119.6×88.6	125.8×93.3
	2/3"	39.5×29.6	41.8×31.3	44.0×33.0	46.0×34.5	60.4×45.3	63.0×47.3	60.1×45.1	61.8×46.3	146.6×110	154.3×115.7
	Mag.	0.2225X	0.2105X	0.1996X	0.1911X	0.1455X	0.1395X	0.1463X	0.1423X	0.06X	0.057X
5mm	WD(mm)	71	74	123	126	258	266	467	475	1211	1249
	1/3"	14.0×10.5	14.5×10.8	16.8×12.6	17.3×13.0	23.3×17.5	24.0×18.0	25.7×19.3	26.3×19.7	53.3×40.0	55.1×41.3
	1/2.5"	16.8×12.5	17.4×12.9	20.1×15.0	20.8×15.5	28.0×20.8	28.8×21.5	30.9×23.0	31.6×23.5	64.0×47.6	66.2×49.3
	1/1.8"	20.9×15.5	21.7×16.0	25.1×18.6	25.9×19.2	34.9×25.8	35.9×26.6	38.5×28.5	39.3×29.1	79.7×59.1	82.4×61.1
	2/3"	25.6×19.2	26.6×19.9	30.8×23.1	31.7×23.8	42.8×32.1	44.1×33.0	47.2×35.4	48.2×36.2	97.7×73.3	101.1×75.8
	Mag.	0.3425X	0.3305X	0.2853X	0.2768X	0.2055X	0.1995X	0.1863X	0.1823X	0.09X	0.087X
10mm	WD(mm)	44	45	82	83	179	182	361	365	814	830
	1/3"	8.8×6.6	9.0×6.7	11.2×8.4	11.4×8.5	15.7×11.7	16.0×12.0	18.9×14.2	19.2×14.4	34.2×25.7	35.0×26.2
	1/2.5"	10.6×7.9	10.8×8.0	13.4×10.0	13.7×10.2	18.8×14.0	19.2×14.3	22.7×16.9	23.1×17.2	41.1×30.6	42.0×31.3
	1/1.8"	13.2×9.8	13.5×10.0	16.7×12.4	17.1×12.6	23.4×17.4	23.9×17.7	28.3×21.0	28.8×21.3	51.2×37.9	52.3×38.8
	2/3"	16.2×12.1	16.5×12.4	20.5×15.4	20.9×15.7	28.8×21.6	29.3×22	34.7×26.0	35.3×26.5	62.8×47.1	64.2×48.1
	Mag.	0.5425X	0.5305X	0.4282X	0.4196X	0.3055X	0.2995X	0.2529X	0.2489X	0.14X	0.137X

Extension tube	Model	OPT-C2514-2M		OPT-C3516-2M		OPT-C5024-2M		OPT-C7528-2M		OPT-C10028-2M	
	WD of lens	0.18m-∞		0.25m-∞		0.5m-∞		0.7m-∞		2.7m-∞	
15mm	WD(mm)	-	-	-	-	138	140	299	302	626	635
	1/3"	-	-	-	-	11.8×8.8	12.0×9.0	15.0×11.2	15.2×11.4	25.2×18.9	25.6×19.2
	1/2.5"	-	-	-	-	14.2×10.5	14.4×10.7	18.0×13.4	18.2×13.5	30.3×22.5	30.8×22.9
	1/1.8"	-	-	-	-	17.6×13.1	17.9×13.3	22.4×16.6	22.7×16.8	37.7×27.9	38.3×28.4
	2/3"	-	-	-	-	21.7×16.2	22.0×16.5	27.5×20.6	27.8×20.9	46.3×34.7	47.0×35.2
	Mag.	-	-	-	-	0.4055X	0.3995X	0.3196X	0.3156X	0.19X	0.187X
20mm	WD(mm)	-	-	-	-	114	115	258	260	517	522
	1/3"	-	-	-	-	9.4×7.1	9.6×7.2	12.4×9.3	12.5×9.4	20.0×15.0	20.2×15.1
	1/2.5"	-	-	-	-	11.3×8.4	11.5×8.5	14.9×11.1	15.0×11.2	24.0×17.8	24.3×18.1
	1/1.8"	-	-	-	-	14.1×10.5	14.3×10.6	18.5×13.7	18.7×13.9	29.9×22.1	30.2×22.4
	2/3"	-	-	-	-	17.4×13.0	17.6×13.2	22.7×17.0	23.0×17.2	36.6×27.5	37.1×27.8
	Mag.	-	-	-	-	0.5055X	0.4995X	0.3863X	0.3823X	0.24X	0.237X
25mm	WD(mm)	-	-	-	-	-	-	230	231	445	448
	1/3"	-	-	-	-	-	-	10.5×7.9	10.6×8.0	16.5×12.4	16.7×12.5
	1/2.5"	-	-	-	-	-	-	12.7×9.4	12.8×9.5	19.8×14.7	20.0×14.9
	1/1.8"	-	-	-	-	-	-	15.8×11.7	15.9×11.8	21.1×15.6	21.2×15.7
	2/3"	-	-	-	-	-	-	19.4×14.5	19.6×14.7	30.3×22.7	30.6×22.9
	Mag.	-	-	-	-	-	-	0.4529X	0.4489X	0.29X	0.287X
30mm	WD(mm)	-	-	-	-	-	-	208	209	394	397
	1/3"	-	-	-	-	-	-	9.2×6.9	9.3×6.9	14.1×10.5	14.2×10.6
	1/2.5"	-	-	-	-	-	-	11.0×8.2	11.1×8.3	16.9×12.6	17.0×12.7
	1/1.8"	-	-	-	-	-	-	13.8×10.2	13.9×10.3	24.7×18.3	25.0×18.5
	2/3"	-	-	-	-	-	-	16.9×12.7	17.0×12.8	25.8×19.4	26.1×19.5
	Mag.	-	-	-	-	-	-	0.5196X	0.5156X	0.34X	0.337X
35mm	WD(mm)	-	-	-	-	-	-	192	193	356	358
	1/3"	-	-	-	-	-	-	8.1×6.1	8.2×6.1	12.3×9.2	12.4×9.3
	1/2.5"	-	-	-	-	-	-	9.8×7.3	9.8×7.3	14.7×11.0	14.8×11.0
	1/1.8"	-	-	-	-	-	-	12.2×9.0	12.3×9.1	18.4×13.6	18.5×13.7
	2/3"	-	-	-	-	-	-	15.0×11.2	15.1×11.3	22.5×16.9	22.7×17.0
	Mag.	-	-	-	-	-	-	0.5863X	0.5823X	0.39X	0.387X
40mm	WD(mm)	-	-	-	-	-	-	179	180	327	329
	1/3"	-	-	-	-	-	-	7.3×5.5	7.3×5.5	10.9×8.1	10.9×8.2
	1/2.5"	-	-	-	-	-	-	8.8×6.5	8.8×6.6	13.0×9.7	13.1×9.8
	1/1.8"	-	-	-	-	-	-	10.9×8.1	11.0×8.1	16.3×12	16.4×12.1
	2/3"	-	-	-	-	-	-	13.4×10.1	13.5×10.1	20.0×15	20.1×15.1
	Mag.	-	-	-	-	-	-	0.6529X	0.6489X	0.44X	0.437X
45mm	WD(mm)	-	-	-	-	-	-	168	169	304	305
	1/3"	-	-	-	-	-	-	6.6×5.0	6.7×5.0	9.7×7.3	9.8×7.3
	1/2.5"	-	-	-	-	-	-	8.0×5.9	8.0×5.9	11.7×8.7	11.8×8.8
	1/1.8"	-	-	-	-	-	-	9.9×7.3	10.0×7.4	14.6×10.8	14.7×10.9
	2/3"	-	-	-	-	-	-	12.2×9.1	12.2×9.2	17.9×13.4	18.0×13.5
	Mag.	-	-	-	-	-	-	0.7196X	0.7156X	0.49X	0.487X
50mm	WD(mm)	-	-	-	-	-	-	-	-	285	286
	1/3"	-	-	-	-	-	-	-	-	8.8×6.6	8.9×6.7
	1/2.5"	-	-	-	-	-	-	-	-	10.6×7.9	10.7×7.9
	1/1.8"	-	-	-	-	-	-	-	-	13.2×9.8	13.3×9.9
	2/3"	-	-	-	-	-	-	-	-	16.2×12.2	16.3×12.2
	Mag.	-	-	-	-	-	-	-	-	0.54X	0.537X