

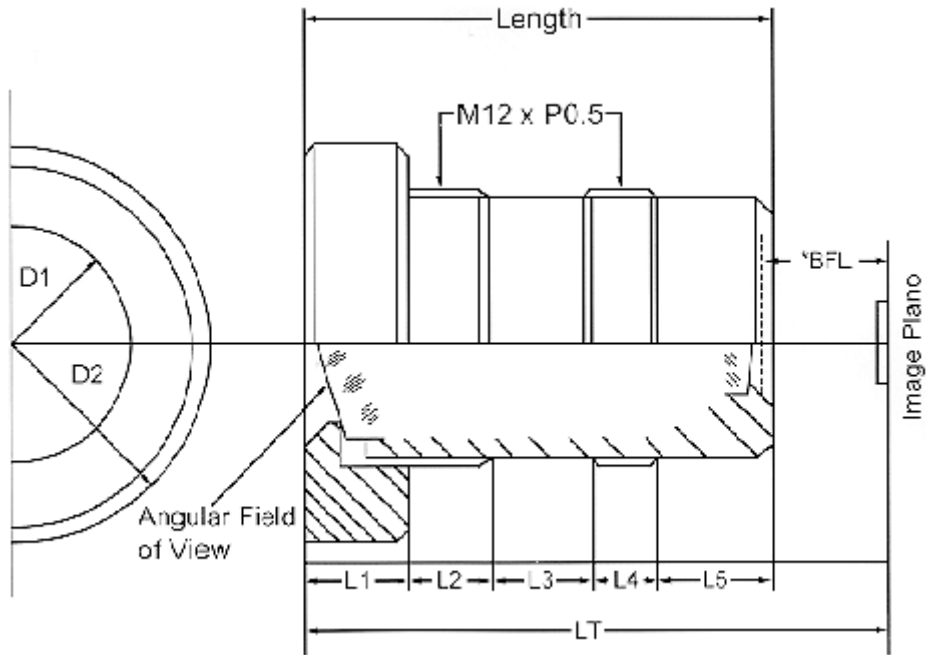
High Resolution Miniature Fixed Focal Lenses

These lenses have been designed and manufactured with the utmost precision. They have improved image quality to maximize the capability and performance for a variety of applications. This series have M12 x 0.5 barrel thread. Custom designed metal or plastic lens holders are available to meet any requirement for OEM applications.

Focal Length	Relative Aperture	Sensing Area	Back Focal Length	# of Elements	Angular Field of View						D1 (mm)	D2 (mm)	Min. Object Distance	Weight	Length (mm)	L1 (mm)	L2 (mm)	L3 (mm)	L4 (mm)	L5 (mm)	LT (mm)
					1/3" CCD			1/4" CCD													
					(H)	(V)	(D)	(H)	(V)	(D)											
2.1mm	2.5	1/3"	4.251	6	132.3°	102.0°	165.7°	-	-	-	ø13.2	ø17.0	40cm-∞	6.1g	18.3	(1.8) 3.8	12.7	-	-	-	22.3
2.3mm	2.5	1/3"	5.2	6	125.8°	97.3°	158.3°	91.9°	69.1°	117.1°	ø12.2	ø17.0	40cm-∞	6.3g	16.3	1.2	4.0 (0.6)	4	2.5	3.0 (1.0)	21.2
2.5mm	2.5	1/3"	5.04	6	113.4°	85.9°	142.7°	83.3°	62.3°	103.9°	ø13.8	ø17.0	40cm-∞	6.8g	20	(2.3) 3.7	5.5	3	2	3.5	24.6
2.75mm	2.0	1/3"	6.07	5	113.7°	82.3°	153.0°	82.3°	61.9°	104.0°	ø11.6	ø15.0	30cm-∞	5.0g	18.1	(0.79) 3.4	3.5	10.4	-	-	24
3.0mm	2.0	1/3"	5.67	4	94.4°	69.5°	126.0°	69.9°	51.7°	88.2°	ø9.8	ø14.0	30cm-∞	5.9g	15.1	3.9	2.6	3.0	2.0	3.6	20.4
4.3mm	1.8	1/3"	6.16	4	73.7°	47.3°	83.1°	49.2°	36.0°	61.1°	ø7.6	ø15.0	30cm-∞	4.0g	15.8	3.3	4.7	3	2.2	2.6	21.6
5.6mm	2.0	1/3"	8.07	4	51.4°	36.9°	65.3°	38.8°	28.9°	48.5°	ø8.4	ø14.0	40cm-∞	4.0g	17.6	4.8	3.2	3.0	42.0	(1) 1.6	25.2
8.0mm	2.0	1/3"	7.6	4	33.8°	25.7°	43.0°	24.8°	18.2°	31.35°	ø9.0	ø15.0	40cm-∞	6.0g	13.3	4.0	3.6	2.5	2.0	1.2	19.9
12mm	2.0	1/3"	6.7	4	22.2°	16.3°	28.0°	17.1°	12.6°	21.2°	ø7.4	ø14.0	80cm-∞	4.5g	12.1	3.0	3.1	2.5	3.5	-	18.1
16mm	1.2	1/3"	7.2	4	17.2°	13.0°	21.0°	-	-	-	ø16.0	ø22.0	30cm-∞	15.0g	19.3	9.0	3.5	7.9	-	-	24.3

Miniature Glass Lenses For Board Cameras

These lenses use a M12 x 0.5 threads and are compatible with various bullet size and board cameras. Custom designed metal or plastic lens holders are available to meet any requirement.



Focal Length	Relative Aperture	Sensing Area	Back Focal Length	# of Elements	Angular Field of View						D1 (mm)	D2 (mm)	Min. Object Distance	Weight	Length (mm)	L1 (mm)	L2 (mm)	L3 (mm)	L4 (mm)	L5 (mm)	LT (mm)
					1/3" CCD			1/4" CCD													
					(H)	(V)	(D)	(H)	(V)	(D)											
1.68mm	2.5	1/4"	3.48	5	-	-	-	132.9°	101.1°	170°	ø12.0	ø15.0	40cm-∞	6.4g	15.1	1.9	2.8	0.2	9.4	1	18.4
1.9mm	2	1/4"	4.5	5	-	-	-	118°	91°	150°	ø11.0	ø15.0	40cm-∞	4.5g	15.1	4.5	9.1	1.5	-	-	18.8
2.1mm	2	1/3"	5.6	6	131°	101°	155°	99.5°	74.8°	122°	ø12.5	ø17.0	40cm-∞	6.5g	19.1	4.5	6.1	3	2	3.5	24.1
2.9mm	2	1/3"	5.88	6	94°	69.9°	129°	71.7°	53.1°	88.4°	ø10.8	ø15.0	40cm-∞	5.5g	15.5	4.5	5.5	3	2.5	-	20.9
2.9mm	2	1/3"	5.85	6	94°	69.9°	129°	71.7°	53.1°	88.4°	ø10.8	ø15.0	40cm-∞	6.2g	18	6.4	3.3	3	2.8	2.5	23.2
3.0mm	2	1/3"	5.75	4	97.8°	70.2°	126°	71.4°	52.1°	90.3°	ø8.8	ø14.0	30cm-∞	5.9g	15.1	3.9	2.6	3	2	3.6	20.4
3.0mm	2	1/3"	5.75	4	97.8°	70.2°	126°	71.4°	52.1°	90.3°	ø8.8	ø14.0	30cm-∞	5.9g	15.1	3.9	8.2	-	-	3	20.4
3.6mm	2	1/3"	4.55	5	78.6°	59.3°	104°	58.8°	44°	72.7°	ø8.0	ø14.0	40cm-∞	5.0g	16.1	3.7	5.3	2.5	2	2.6	19.8
3.6mm	2	1/3"	4.55	5	78.6°	59.3°	104°	58.8°	44°	72.7°	ø8.8	ø14.0	40cm-∞	5.0g	16.1	3.7	5.3	2.5	2	2.6	19.8

3.6mm	1.8	1/3"	4.7	4	78.6°	59.3°	104°	58.8°	44°	72.7°	ø8.6	ø14.0	40cm-∞	5.5g	15.6	3.7	3.3	3	2	3.4	20.3
3.6mm	2	1/3"	5.6	4	78.6°	59.3°	104°	58.8°	44°	72.7°	ø8.6	ø14.0	40cm-∞	5.5g	15.6	3.7	3.3	3	2	3.6	20.7
4.0mm	2	1/3"	6.7	4	70.1°	52°	98°	52°	38°	64.6°	ø8.0	ø14.0	40cm-∞	5.0g	16.2	3.7	4.5	3	2	3	22.4
4.3mm	2	1/3"	6.4	4	65.7°	48.6°	85°	49°	36.7°	61.2°	ø8.0	ø15.0	40cm-∞	6.0g	15.6	3.3	4.2	3	2	3	21.4
5.7mm	2	1/3"	7.7	5	47.1°	36.2°	57°	35.5°	26.8°	44.8°	ø8.0	ø15.0	40cm-∞	4.2g	12.9	3.3	3.4	3	2	1.2	20.1
5.7mm	1.4	1/3"	5.2	5	47.1°	36.2°	57°	35.5°	26.8°	44.8°	ø8.0	ø15.0	40cm-∞	5g	15	3.3	3.2	3	2	3.52	20
6.5mm	1.5	1/3"	6.5	4	44.8°	33°	56°	29.9°	24.8°	41.6°	ø5.0	ø15.0	40cm-∞	4.5g	12.8	3	2.8	2.5	2	2.5	18.6
6.5mm	1.8	1/3"	6.5	4	44.8°	33°	56°	29.9°	24.8°	41.6°	ø5.0	ø15.0	40cm-∞	4.5g	12.8	3	2.8	2.5	2	2.5	18.6
6.5mm	2	1/3"	6.5	4	44.8°	33°	56°	29.9°	24.8°	41.6°	ø5.0	ø15.0	40cm-∞	4.5g	12.8	3.7	7.6	-	-	1.5	18.6
8.0mm	2	1/3"	9.53	5	28°	20.9°	39°	21.6°	16°	26.6°	ø8.0	ø15.0	40cm-∞	5.7g	19.3	3.3	8.8	3	4	-	25.3
8.0mm	2.5	1/3"	6.33	3	28°	20.9°	39°	21.6°	16°	26.6°	ø4.2	ø15.0	80cm-∞	3.4g	13.5	3	3	2.5	2	3	19.4
8.0mm	2.5	1/3"	6.33	3	28°	20.9°	39°	21.6°	16°	26.6°	ø4.2	ø15.0	80cm-∞	3.4g	13.5	3	7.5	-	-	3	19.4
12.0mm	2	1/3"	9.4	3	22.2°	16.6°	27.9°	16.9°	12.5°	20.9°	ø6.0	ø15.0	80cm-∞	3.2g	12	4	2	2.5	3.5	-	18.4
12.0mm	2	1/3"	10	3	22.2°	16.6°	27.9°	16.9°	12.5°	20.9°	ø6.0	ø15.0	80cm-∞	4.0g	12	4	6	-	-	2	19
16.0mm	2	1/3", 1/2"	12	3	16°	12.4°	21°	°	°	°	ø9.6	ø15.0	80cm-∞	5.0g	14.4	4.5	-	4.1	3	2.5	22.4
16.0mm	2.5	1/3", 1/2"	12	3	16°	12.4°	21°	°	°	°	ø9.6	ø15.0	80cm-∞	5.0g	14.4	4.5	-	4.1	3	2.5	22.4
25.0mm	2.5	1/3", 1/4", 1/2"	8	4	10.7°	7.8°	13.5°	°	°	°	ø15.0	ø25.0	20cm-∞	19g	23.5	6.7	-	9.5	7.3	-	31.5
35.0mm	2	1/3", 2/3", 1/2"	18.9	4	7.3°	5.4°	9.8°	°	°	°	ø15.9	ø25.0	20cm-∞	15.4g	23.5	6	-	10.5	7	-	39.3
50.0mm	2.5	1/3", 1/2"	33.78	4	5.1°	3.7°	6.8°	°	°	°	ø20.3	ø27.0	40cm-∞	38.0g	48.8	8	16	-	17.8	7	56.77