



NAVITAR®

Low Magnification Video Lenses



Machine Vision Lenses

Navitar's Machine Vision/ factory automation lenses are the benchmark for which all low magnification machine vision video lenses should be measured. Quality constructed with all metal/glass design coupled with precision engineering and manufacturing results in optically precise video lenses for your most demanding application. Short M.O.D.'s (minimum object distance) and compact design are ideally suited for your most challenging industrial and robotic image processing application. Navitar offers a complete selection of MV quality video lenses from wide angle to telephoto all with high resolution, low distortion and even illumination across the image plane of your camera.

Lens formats include:

- 1.1" Format 12MP C-Mount Lenses
- 4/3" Format 8MP C-Mount Lenses
- 1" and 2/3" Format Megapixel C-Mount Lenses (up to 10MP)
- 1/2" Format High Resolution C-Mount Lenses
- Large Format F-Mount Lenses (43.3mm diag.)
- Large Format F-Mount NIR Broad Band Coated Lens (400nm to 1200nm)
- SWIR 1" Format C-Mount Lenses (800nm to 1900nm)

Manual focus and iris control with locking screws are standard on all lens models

Part #	Focal Length (mm)	F-Stop	M.O.D.	Object Area at M.O.D. 4/3" (mm)	Object Area at M.O.D. 1" (mm)	Object Area at M.O.D. 2/3" (mm)	Lens Dimensions (mm)	Filter Diameter
4/3" MP C-Mount Fixed Focal Length Lenses (23mm diag.)								
Resolution (Center - Edge) 160 lp/mm - 80 lp/mm								
1-24719	8	2.8 - 22	0.1 m	239.0 x 179.0	179.3 x 134.3	119.5 x 89.5	100 x 74	Ø72 P=0.75
1-19910	12	2.0 - 22	0.1 m	182.0 x 136.0	126.6 x 94.6	87.0 x 65.0	57 x 85	Ø55 P=0.75
1-19911	16	2.0 - 22	0.1 m	135.0 x 101.0	93.9 x 70.2	64.5 x 48.3	45 x 79.5	Ø40.5 P=0.5
1-19912	25	2.0 - 16	0.15 m	125.0 x 93.0	86.9 x 64.7	59.8 x 44.5	45 x 89	Ø40.5 P=0.5
1-19913	35	2.0 - 16	0.2 m	100.0 x 75.0	69.6 x 52.2	47.8 x 35.9	45 x 74	Ø37.5 P=0.5
1-19914	50	2.0 - 22	0.3 m	100.0 x 75.0	69.6 x 52.2	47.8 x 35.9	45 x 78	Ø37.5 P=0.5

Part #	Focal Length (mm)	F-Stop	M.O.D.	Object Area at M.O.D. 1.1" (mm)	Object Area at M.O.D. 1" (mm)	Object Area at M.O.D. 2/3" (mm)	Lens Dimensions (mm)	Filter Diameter
1.1" 12 MP C-Mount Fixed Focal Length Lenses				Compatible Pixelink Cameras PL-D7512 & PL-D7912				
Resolution (Center - Edge) 160 lp/mm - 100 lp/mm								
NMV-6M1.1	6.5	2.5 - 16	0.1 m	256.0 x 190.0	231.0 x 172.5	157.0 x 117.0	84.0 x 79.1	Ø82 P=0.75
NMV-8M1.1	8.5	2.5 - 16	0.1 m	184.0 x 138.0	167.0 x 125.0	115.0 x 86.0	64.0 x 73.36	Ø62 P=0.75
NMV-12M1.1	12	1.8 - 16	0.1 m	135.0 x 101.0	123.0 x 92.0	84.0 x 63.0	54.0 x 73.8	Ø52 P=0.75
NMV-16M1.1	16	1.8 - 16	0.1 m	102.0 x 77.0	93.0 x 70.0	64.0 x 48.0	43.0 x 65.7	Ø35.5 P=0.5
NMV-25M1.1	25	1.8 - 16	0.1 m	64.0 x 48.0	58.0 x 44.0	40.0 x 30.0	45.0 x 69.4	Ø35.5 P=0.5
NMV-35M1.1	35	1.8 - 16	0.2 m	84.0 x 63.0	76.0 x 57.0	52.0 x 39.0	45.0 x 66.0	Ø40.5 P=0.5
NMV-50M1.1	50	1.8 - 16	0.2 m	59.0 x 44.0	54.0 x 40.0	37.0 x 28.0	45.0 x 74.5	Ø40.5 P=0.5

Part #	Focal Length (mm)	F-Stop	M.O.D.	Object Area at M.O.D. 1" (mm)	Object Area at M.O.D. 2/3" (mm)	Object Area at M.O.D. 1/2" (mm)	Lens Dimensions (mm)	Filter Diameter
1" 6 MP C-Mount Fixed Focal Length Lenses				Compatible Pixelink Cameras PL-D759 & PL-D799				
Resolution (Center - Edge) 160 lp/mm - 120 lp/mm								
1-24420	12	1.8 - 16	0.1 m	125.0 x 93.0	85.9 x 63.9	62.5 x 46.5	43 x 82	Ø40.5 P=0.5
1-24421	16	1.8 - 16	0.1 m	93.5 x 69.9	64.3 x 48.1	46.8 x 34.9	43 x 80	Ø34 P=0.5
1-24422	25	1.8 - 16	0.15 m	86.0 x 64.0	59.1 x 44.0	43.0 x 32.0	43 x 88.9	Ø34 P=0.5
1-24423	35	2.0 - 16	0.2 m	70.0 x 52.5	48.1 x 36.1	35.0 x 26.3	43 x 74	Ø34 P=0.5
1-24424	50	2.0 - 16	0.3 m	70.0 x 52.5	48.1 x 36.1	35.0 x 26.3	43 x 78.5	Ø34 P=0.5
1" MP C-Mount Fixed Focal Length Lenses				Compatible Pixelink Cameras PL-D759, PL-D799 & PL-D725				
Resolution (Center - Edge) 120 lp/mm - 80 lp/mm								
NMV-6M1	6	1.8 - 16	0.1 m	267.4 x 196.3	183.8 x 134.9	133.7 x 98.1	54 x 56.2	none
NMV-8M1	8	1.4 - 16	0.1 m	147.0 x 110.5	101.2 x 75.9	73.6 x 55.2	57 x 58	Ø55 P=0.75
NMV-12M1	12.5	1.4 - 16	0.3 m	307.5 x 230.5	211.2 x 158.4	153.6 x 115.2	42 x 52	Ø35.5 P=0.5
NMV-16M1	16	1.4 - 16	0.3 m	227.0 x 170.5	156.2 x 117.1	113.6 x 85.2	42 x 52.9	Ø35.5 P=0.5
NMV-25M1	25	1.4 - 16	0.3 m	140.8 x 105.6	96.8 x 72.6	70.4 x 52.8	42 x 43	Ø35.5 P=0.5
NMV-35M1	35	1.4 - 16	0.3 m	96.9 x 72.7	66.6 x 50.0	48.5 x 36.4	42 x 43	Ø35.5 P=0.5
NMV-50M1	50	1.4 - 16	0.5 m	115.2 x 86.4	79.2 x 59.4	57.6 x 43.1	47.5 x 48	Ø40.5 P=0.5
NMV-75M1	75	1.8 - 16	1.0 m	157.9 x 118.4	108.6 x 81.4	78.9 x 59.2	48 x 57	Ø46 P=0.75

Part #	Focal Length (mm)	F-Stop	M.O.D.	Object Area at M.O.D. 2/3" (mm)	Object Area at M.O.D. 1/2" (mm)	Object Area at M.O.D. 1/3" (mm)	Lens Dimensions (mm)	Filter Diameter
2/3" 10 MP C-Mount Fixed Focal Length Lenses						Compatible Pixelink Cameras PL-D755 & PL-D795		
Resolution (Center - Edge) 200 lp/mm - 160 lp/mm								
1-19552	5	1.8 - 16	0.1 m	197.0 x 147.0	143.2 x 107.0	107.4 x 80.2	48 x 59.4	Ø46 P=0.75
1-19553	8.5	1.8 - 22	0.1 m	133.2 x 99.6	96.9 x 72.4	72.7 x 54.3	36 x 56	Ø34 P=0.5
1-19554	12	1.8 - 11	0.1 m	80.7 x 60.2	58.7 x 43.8	44.0 x 32.8	33 x 52.5	Ø25.5 P=0.5
1-19555	16	1.8 - 16	0.1 m	61.1 x 45.7	44.4 x 33.2	33.2 x 24.9	33 x 47.5	Ø25.5 P=0.5
1-19556	25	1.8 - 16	0.1 m	36.7 x 27.5	26.7 x 20.0	20.0 x 15.0	33 x 45.5	Ø25.5 P=0.5
1-19557	35	2.0 - 16	0.1 m	23.4 x 17.6	17.0 x 12.8	12.8 x 9.6	43 x 49	Ø34 P=0.5
1-19558	50	2.8 - 16	0.1 m	19.1 x 14.3	13.9 x 10.4	10.4 x 7.8	38 x 77	Ø30.5 P=0.5
2/3" 5 MP C-Mount Fixed Focal Length Lenses						Compatible Pixelink Cameras PL-D755 & PL-D795		
Resolution (Center - Edge) 160lp/mm - 125 lp/mm								
1-24830	12.5	1.4 - 16	0.1 m	81.4 x 60.9	59.2 x 44.3	44.4 x 33.2	38.5 x 52.0	Ø30.5 P=0.5
1-24831	16	1.4 - 16	0.1 m	64.6 x 48.4	47.0 x 35.2	35.2 x 26.4	38.5 x 52.0	Ø30.5 P=0.5
1-24832	25	1.6 - 16	0.1 m	35.1 x 26.3	25.5 x 19.1	19.1 x 14.3	38.5 x 45.5	Ø30.5 P=0.5
1-24833	35	1.6 - 16	0.18 m	42.1 x 31.6	30.6 x 23.0	23.0 x 17.2	38.5 x 48.0	Ø30.5 P=0.5
2/3" MP C-Mount Fixed Focal Length Lenses						Compatible Pixelink Cameras PL-D755, PL-D795 & PL-D753		
Resolution (Center - Edge) 120lp/mm - 100 lp/mm								
NMV-5M23	5	2.8 - 16	0.15 m	196.8 x 147.6	110.0 x 105.0	82.0 x 78.0	42.0 x 38.7	Ø40.5 P=0.5
NMV-8M23	8	1.4 - close	0.12 m	117.3 x 88.0	84.0 x 63.0	63.0 x 47.0	34.0 x 41.6	Ø27 P=0.5
NMV-12M23	12	1.4 - close	0.15 m	110.0 x 82.5	79.0 x 59.0	59.0 x 44.0	34.0 x 37.0	Ø27 P=0.5
NMV-16M23	16	1.4 - 16	0.2 m	112.8 x 84.4	80.0 x 60.0	60.0 x 45.0	33.0 x 36.5	Ø25.5 P=0.5
NMV-25M23	25	1.4 - 16	0.2 m	71.1 x 53.3	51.0 x 38.0	38.0 x 28.0	33.0 x 39.5	Ø27 P=0.5
NMV-35M23	35	2.0 - 16	0.2 m	47.9 x 35.8	33.0 x 26.0	25.0 x 19.0	34.0 x 36.5	Ø27 P=0.5
NMV-50M23	50	2.8 - 22	0.2 m	29.3 x 21.9	21.0 x 16.0	16.0 x 12.0	34.0 x 55.0	Ø27 P=0.5
2/3" High Resolution C-Mount Fixed Focal Length Lenses						Compatible Pixelink Cameras PL-D753 & PL-D752		
Resolution (Center - Edge) 100lp/mm - 60 lp/mm								
NMV-6	6	1.4 - 16	0.1 m	367 x 251	264 x 181	198 x 136	30 x 32.8	none
NMV-8	8	1.4 - 16	0.1 m	260 x 184	187 x 132	140 x 99	30 x 30	Ø27 P=0.5
NMV-12	12	1.4 - 16	0.1 m	237 x 173	170 x 125	127 x 93	30 x 31.5	Ø27 P=0.5
NMV-16	16	1.4 - 16	0.2 m	112 x 83	80 x 60	60 x 45	30 x 28	Ø27 P=0.5
NMV-25	25	1.6 - 16	0.2 m	119 x 89	86 x 64	64 x 48	30 x 28.5	Ø27 P=0.5
NMV-35	35	1.6 - 16	0.35 m	127 x 95	91 x 68	68 x 51	32 x 36.5	Ø30.5 P=0.5
NMV-50	50	2.0 - 22	0.5 m	85 x 64	61 x 46	46 x 34	32 x 39.5	Ø30.5 P=0.5
NMV-75	75	2.5 - 22	1.2 m	51 x 38	37 x 27	28 x 20	36 x 51	Ø34 P=0.5
NMV-100	100	2.8 - 32	2.0 m	37 x 27	27 x 20	20 x 15	42 x 70	Ø40.5 P=0.5

Part #	Focal Length (mm)	F-Stop	M.O.D.	Object Area at M.O.D. 1/2" (mm)	Object Area at M.O.D. 1/3" (mm)	Object Area at M.O.D. 1/4" (mm)	Lens Dimensions (mm)	Filter Diameter
1/2" High Resolution C-Mount Wide-Angle Fixed Focal Length Lenses						Compatible Pixelink Cameras PL-D721 & PL-D721P		
Resolution (Center - Edge) 100 lp/mm - 60 lp/mm								
NMV-4WA	3.5	1.4 - 16	0.2 m	396.0 x 247.0	297.0 x 185.0	198.0 x 123.0	31 x 30.5	none
NMV-5WA	4.5	1.4 - 16	0.2 m	260.0 x 180.0	195.0 x 135.0	130.0 x 90.0	31 x 29.5	none
NMV-6WA	6	1.4 - 16	0.2 m	174.0 x 128.0	130.0 x 96.0	87.0 x 64.0	31 x 34	Ø25.5 P=0.5
NMV-12WA	12	2.8 - 32	0.3 m	167.0 x 123.0	125.0 x 92.0	83.0 x 61.0	31 x 29.5	Ø30.5 P=0.5

Part #	Focal Length (mm)	F-Stop	M.O.D.	Object Area at M.O.D. 1/2" (mm)	Object Area at M.O.D. 1/3" (mm)	Object Area at M.O.D. 1/4" (mm)	Lens Dimensions (mm)	Filter Diameter
SWIR 1" MP C-Mount Fixed Focal Length Lenses 800nm to 1900nm Transmission								
Resolution (Center - Edge) 100 lp/mm - 60 lp/mm								
SWIR-8	8	1.4 - 16	0.1 m	147.0 x 110.5	101.2 x 75.9	73.6 x 55.2	57 x 58	Ø55 P=0.75
SWIR-12	12.5	1.4 - 16	0.3 m	307.5 x 230.5	211.2 x 158.4	153.6 x 115.2	43 x 51.5	Ø35.5 P=0.5
SWIR-16	16	1.4 - 16	0.3 m	227.0 x 170.5	156.2 x 117.1	113.6 x 85.2	43 x 52.9	Ø35.5 P=0.5
SWIR-25	25	1.4 - 16	0.4 m	192.0 x 144.0	132.0 x 99.0	96.0 x 72.0	43 x 43	Ø35.5 P=0.5
SWIR-35	35	1.4 - 16	0.4 m	133.5 x 100.1	91.8 x 68.8	66.7 x 50.0	43 x 43	Ø35.5 P=0.5
SWIR-50	50	1.4 - 16	0.6 m	140.8 x 105.6	96.8 x 72.6	70.4 x 52.8	49 x 48	Ø40.5 P=0.5

Large Format 43.3mm Diagonal Sensor Coverage

Part #	Focal Length (mm)	F-Stop	M.O.D.	Lens Dimensions (mm)	Filter Diameter
F-Mount Fixed Focal Length Lenses					
Resolution (Center - Edge) 200 lp/mm - 63 lp/mm (M48 x 0.75 Mount – Call for More Info)					
1-19711	28	2.8 - 16	0.30 m	75 x 98	Ø72 P=0.75
1-19712	35	2.8 - 16	0.26 m	57.5 x 71	Ø52 P=0.75
1-19713	50	2.8 - 16	0.26 m	57.5 x 77	Ø52 P=0.75
F-Mount Fixed Focal Length Lens - NIR Broad Band Coated (400-1200nm)					
Resolution (Center - Edge) 160 lp/mm - 64 lp/mm (M42 x 1 P-Mount – Call for More Info)					
1-19909	50	1.9 - 16	0.5 m	58.5 x 105.2	Ø52 P=0.75

Ruggedized Lens Series

Part #	Focal Length (mm)	F-Stop	M.O.D.	Object Area at M.O.D. 1" (mm)	Object Area at M.O.D. 2/3" (mm)	Lens Dimensions (mm)	Filter Diameter
1" C-Mount Fixed Focal Length Lenses						Compatible Pixelink Cameras PL-D759 & PL-D799	
Resolution (Center - Edge) 120 lp/mm - 80 lp/mm							
1-26382	8	F1.4/F2.8/F4/F8	0.1 m	79.7 x 63.0	58.3 x 44.7	58 x 58	Ø55 P=0.75
1-26383	12.5	F1.4/F2.8/F4/F8	0.3 m	55.6 x 42.5	39.1 x 29.5	44 x 51.5	Ø35.5 P=0.5
1-26384	16	F1.4/F2.8/F4/F8	0.3 m	44.3 x 33.6	30.8 x 23.2	43 x 53	Ø35.5 P=0.5
1-26385	25	F1.4/F2.8/F4/F8	0.3 m	29.3 x 22.0	20.2 x 15.1	43 x 43	Ø35.5 P=0.5
1-26386	35	F1.4/F2.8/F4/F8	0.3 m	20.9 x 15.8	14.4 x 10.8	46 x 44	Ø35.5 P=0.5
1-26387	50	F1.4/F2.8/F4/F8	0.5 m	14.5 x 10.8	10.0 x 7.5	50 x 48	Ø40.5 P=0.5
2/3" C-Mount Fixed Focal Length Lenses						Compatible Pixelink Cameras PL-D755 & PL-D795	
Resolution (Center - Edge) 120 lp/mm - 100 lp/mm							
Part #	Focal Length (mm)	F-Stop	M.O.D.	Object Area at M.O.D. 2/3" (mm)	Object Area at M.O.D. 1/2" (mm)	Lens Dimensions (mm)	Filter Diameter
1-25551	8	F1.4/F4/F8/F16	0.1 m	56.5 x 43.9	42.6 x 32.5	33.0 x 41.6	Ø27 P=0.5
1-25552	12	F1.4/F4/F8/F16	0.15 m	38.3 x 29.1	28.3 x 21.4	33.0 x 37.0	Ø27 P=0.5
1-25553	16	F1.4/F4/F8/F16	0.2 m	30.0 x 22.7	21.8 x 16.4	33.0 x 36.5	Ø27 P=0.5
1-25554	25	F1.4/F4/F8/F16	0.2 m	19.6 x 14.8	14.0 x 10.5	33.0 x 39.5	Ø27 P=0.5
1-25555	35	F1.4/F4/F8/F16	0.2 m	14.4 x 10.8	10.5 x 7.9	33.0 x 37.8	Ø27 P=0.5
1-25556	50	F1.4/F4/F8/F16	0.2 m	9.6 x 7.2	7.0 x 5.2	33.0 x 56.2	Ø27 P=0.5



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