

EHD IMAGING GMBH

NIR Zoom70XL

Fixed Magnification Near Infrared Optical System
630nm—2000nm



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OPTEM[®]
NIR 70XL
 OPTICAL SYSTEM
7:1 zoom range

630nm—2000nm

The NIR Zoom70XL Optical System is specially designed to meet the machine vision, inspection and R&D needs of specialized near-infrared imaging applications.

Chromatically corrected for optical performance across the 630nm—2000nm spectral band, the NIR Zoom70XL incorporates a revolutionary antireflection coating for increased transmission and exceptional image quality and contrast.

The advanced optical design maintains parafocality and delivers 0.012—0.16 nominal numerical aperture across the entire zoom range.

Applications include laser diode inspection, fiber alignment, backside viewing through silicon thin sections and even counterfeit and forgery detection.... to name a few.

- Excellent Image Quality
- High Quality Optics
- Modular System
- Working Distance from 35mm to 181mm
- Resolution up to 480lp/mm
- N.A. max. 0.6
- F.O.V. from min. 0.13 x 0.17 mm to max. 26,30 x 35,10 mm

OPTICAL PERFORMANCE

AUXILIARY LENS	N.A. MAG.	0.5X TV TUBE		0.67X TV TUBE		1.0X TV TUBE		1.5X TV TUBE		2.0X TV TUBE	
		Low	High	Low	High	Low	High	Low	High	Low	High
0.5X 49-20-11		0.012 0.19	0.040 1.3	0.012 0.25	0.040 1.7	0.012 0.38	0.040 2.6	0.012 0.56	0.040 3.9	0.012 0.75	0.040 5.2
181mm WORKING DISTANCE	FO.V. (mm) camera format	1/4" 13"	14.5x19.4 2.0x2.7	10.9x14.5 1.5x2.0	7.2x9.7 1.0x1.3	4.8x6.4 0.69x0.92	3.6x4.8 0.52x0.69	2.4x3.2 0.34x0.46	1.6x2.1 0.23x0.30	1.2x1.6 0.17x0.23	0.90x1.2 0.13x0.17
		1/3"	19.1x25.5 2.7x3.6	14.3x19.1 2.0x2.7	9.5x12.7 1.3x1.8	6.3x8.5 0.91x1.2	4.7x6.3 0.68x0.91	3.1x4.2 0.45x0.61	2.1x2.8 0.30x0.40	1.5x2.1 0.22x0.30	1.1x1.5 0.17x0.22
		1/2"	25.5x34.0 3.6x4.8	19.1x25.5 2.7x3.6	12.7x17.0 1.8x2.4	8.5x11.3 1.2x1.6	5.6x7.5 0.81x1.0	4.2x5.6 0.61x0.81	2.8x3.7 0.40x0.54	2.1x2.8 0.30x0.40	1.5x2.1 0.22x0.30
		2/3"	—	26.3x35.1 3.7x5.0	17.5x23.4 2.5x3.3	11.7x15.6 1.6x2.2	7.8x10.4 1.1x1.4	5.6x7.8 0.84x1.1	3.9x5.2 0.56x0.74	2.9x3.9 0.42x0.56	2.1x2.9 0.31x0.42
0.75X 49-20-12		0.018 0.28	0.060 2.0	0.018 0.38	0.060 2.6	0.018 0.56	0.060 3.9	0.018 0.84	0.060 5.9	0.018 1.1	0.060 7.9
110mm WORKING DISTANCE	FO.V. (mm) camera format	1/4"	9.6x12.9 1.3x1.8	7.2x9.7 1.0x1.3	4.8x6.4 0.69x0.92	3.2x4.3 0.46x0.61	2.4x3.2 0.34x0.46	1.6x2.1 0.23x0.30	1.2x1.6 0.17x0.23	0.90x1.2 0.13x0.17	0.66x0.88
		1/3"	12.7x17.0 1.8x2.4	9.5x12.7 1.3x1.8	6.3x8.5 0.91x1.2	4.2x5.6 0.61x0.81	3.1x4.2 0.45x0.61	2.1x2.8 0.30x0.40	1.5x2.1 0.22x0.30	1.1x1.5 0.17x0.22	0.84x1.1
		1/2"	17.0x22.7 2.4x3.2	12.7x17.0 1.8x2.4	8.5x11.3 1.2x1.6	5.6x7.5 0.81x1.0	4.2x5.6 0.61x0.81	2.8x3.7 0.40x0.54	2.1x2.8 0.30x0.40	1.5x2.1 0.22x0.30	1.1x1.5 0.17x0.22
		2/3"	—	17.5x23.4 2.5x3.3	11.7x15.6 1.6x2.2	7.8x10.4 1.1x1.4	5.6x7.8 0.84x1.1	3.9x5.2 0.56x0.74	2.9x3.9 0.42x0.56	2.1x2.9 0.31x0.42	1.5x2.1 0.22x0.30
1.0X no aux. lens		0.024 0.38	0.080 2.6	0.024 0.50	0.080 3.5	0.024 0.75	0.080 5.2	0.024 1.1	0.080 7.9	0.024 1.5	0.080 10.5
89mm WORKING DISTANCE	FO.V. (mm) camera format	1/4"	7.2x9.7 1.0x1.3	5.4x7.2 0.78x1.0	3.6x4.8 0.52x0.69	2.4x3.2 0.34x0.46	1.6x2.1 0.23x0.30	1.2x1.6 0.17x0.23	0.90x1.2 0.13x0.17	0.66x0.88	0.52x0.69
		1/3"	9.5x12.7 1.3x1.8	7.1x9.5 1.0x1.3	4.7x6.3 0.68x0.91	3.1x4.2 0.45x0.61	2.1x2.8 0.30x0.40	1.5x2.1 0.22x0.30	1.1x1.5 0.17x0.22	0.84x1.1	0.63x0.84
		1/2"	12.7x17.0 1.8x2.4	9.5x12.7 1.3x1.8	6.3x8.5 0.91x1.2	4.2x5.6 0.61x0.81	2.8x3.7 0.40x0.54	2.1x2.8 0.30x0.40	1.5x2.1 0.22x0.30	1.1x1.5 0.17x0.22	0.84x1.1
		2/3"	—	13.1x17.5 1.8x2.5	8.7x11.7 1.2x1.6	5.8x7.8 0.84x1.1	3.9x5.2 0.56x0.74	2.9x3.9 0.42x0.56	2.1x2.9 0.31x0.42	1.5x2.1 0.22x0.30	1.1x1.5 0.17x0.22
1.5X 49-20-13		0.036 0.56	0.12 3.9	0.036 0.75	0.12 5.2	0.036 1.1	0.12 7.9	0.036 1.7	0.12 11.8	0.036 2.3	0.12 15.7
53mm WORKING DISTANCE	FO.V. (mm) camera format	1/4"	4.8x6.4 0.69x0.92	3.6x4.8 0.52x0.69	2.4x3.2 0.34x0.46	1.6x2.1 0.23x0.30	1.2x1.6 0.17x0.23	0.90x1.2 0.13x0.17	0.66x0.88	0.52x0.69	0.39x0.52
		1/3"	6.3x8.5 0.91x1.2	4.7x6.3 0.68x0.91	3.1x4.2 0.45x0.61	2.1x2.8 0.30x0.40	1.5x2.1 0.22x0.30	1.1x1.5 0.17x0.22	0.84x1.1	0.63x0.84	0.47x6.3
		1/2"	8.5x11.3 1.2x1.6	6.3x8.5 0.91x1.2	4.2x5.6 0.61x0.81	2.8x3.7 0.40x0.54	2.1x2.8 0.30x0.40	1.5x2.1 0.22x0.30	1.1x1.5 0.17x0.22	0.84x1.1	0.63x0.84
		2/3"	—	8.7x11.7 1.2x1.6	5.8x7.8 0.84x1.1	3.9x5.2 0.56x0.74	2.9x3.9 0.42x0.56	2.1x2.9 0.31x0.42	1.5x2.1 0.22x0.30	1.1x1.5 0.17x0.22	0.84x1.1
2.0X 49-20-14		0.048 0.75	0.16 5.2	0.048 1.0	0.16 7.0	0.048 1.5	0.16 10.5	0.048 2.3	0.16 15.7	0.048 3.0	0.16 21.0
35mm WORKING DISTANCE	FO.V. (mm) camera format	1/4"	3.6x4.8 0.52x0.69	2.7x3.6 0.39x0.52	1.8x2.4 0.26x0.34	1.2x1.6 0.17x0.23	0.90x1.2 0.13x0.17	0.66x0.88	0.52x0.69	0.39x0.52	0.27x3.6
		1/3"	4.7x6.3 0.68x0.91	3.5x4.7 0.51x0.68	2.3x3.1 0.34x0.45	1.5x2.1 0.22x0.30	1.1x1.5 0.17x0.22	0.84x1.1	0.63x0.84	0.47x6.3	0.35x4.7
		1/2"	6.3x8.5 0.91x1.2	4.7x6.3 0.68x0.91	3.1x4.2 0.45x0.61	2.1x2.8 0.30x0.40	1.5x2.1 0.22x0.30	1.1x1.5 0.17x0.22	0.84x1.1	0.63x0.84	0.47x6.3
		2/3"	—	6.5x8.7 0.94x1.2	4.3x5.8 0.63x0.84	2.9x3.9 0.42x0.56	2.1x2.9 0.31x0.42	1.5x2.1 0.22x0.30	1.1x1.5 0.17x0.22	0.84x1.1	0.63x0.84

N.A. = Numical Aperture MAG. = Magnification FO.V. = Field-of-View "—" Indicates limited zoom range due to vignetting

NOMINAL DIMENSIONS

