



Hyperion Optics hold sophisticated algorithm for optics design optimization process back-up by powerful workstations. The unique optimization allows reduced complexity in the optical element/system spec, which finally will insure the manufacturing feasibility. It also allows higher yields with almost no performance degradation. In addition, Hyperion Optics has extensive experience in mechanical and Opto-Mechanical design which includes tolerance, thermal and stray light analysis.

With the great assistance of our IR components manufacturing capability, we are confident to provide our customer the most affordable design solution without performance compromise. Please refer to our IR components fabrication capability (IR components link here) for further information. We provide 6 weeks typical prototyping lead time for custom IR lens design, including assembly and testing, Trioptics MTF chart provided. For complicated asphere/DOE involved system, please contact our optical engineer to discuss your specification for helpful and informative consultation section.

Off-the-shelf IR lenses

Hyperion Optics off-the-shelf IR lenses feature cooled technology, which offers very high sensitivity and better transmission. We have our standard design but we also offer customized design to meet our customer needs.

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 In House Metrology

 Custom Design & Assembly

 Laser Precision Components

 Opto-Mechanical Solutions


Cooled System Series

	HYPA00512160-17	HYPA00710400-17	HYPA07.510640-17	HYPA08.510640-17	HYPA01110640-17	HYPA012.810384-17	HYPA01310384-17
Focal Length	5mm	7mm	7.5mm	8.5mm	11mm	12.8mm	13mm
F/#	1.2	1.0	1.0	1.0	1.0	1.0	1.0
Circular FOV	30.4°(H)X23°(V)	51.8°(H)X40°(V)	72°(H)X57°(V)	65.2°(H)X51.2°(V)	49.9°(H)X38.4°(V)	28°(H)X21°(V)	28.1°(H)X21.3°(V)
Spectral Range	8-12um	8-12um	8-12um	8-12um	8-12um	8-12um	8-12um
Focus Type	Manual Focus	Manual Focus	Manual Focus	Manual Focus	Manual Focus	Manual Focus	Manual Focus
BFL	13.5mm	15.5mm	17.7mm	15.47mm	16mm	13.5mm	16.68mm
Mount Type	M18XD.5	M17XD.75	M34XD.5	M34XD.75	M34XD.75	M18XD.5	M18XD.5
Detector	160X120-17um	400X300-17um	640X480-17um	640X480-17um	640X480-17um	384X288-17um	384X288-17um
	HYPA01310640-17	HYPA013.512640-12	HYPA013.510640-12	HYPA01912640-17	HYPA01910640-17	HYPA02510384-17	HYPA02512640-12
Focal Length	13mm	13.5mm	13.5mm	19mm	19mm	25mm	25mm
F/#	1.0	1.2	1.0	1.2	1.0	1.0	1.2
Circular FOV	45.4°(H)X34.8°(V)	31.7°(H)X25.6°(V)	31.7°(H)X25.6°(V)	34.9°(H)X24.2°(V)	34.9°(H)X24.2°(V)	14.8°(H)X11.1°(V)	17°(H)X14°(V)
Spectral Range	8-12um	8-12um	8-12um	8-12um	8-12um	8-12um	8-12um
Focus Type	Fixed Focus	Manual Focus	Manual Focus	Manual Focus	Fixed Focus	Fixed Focus	Manual Focus
BFL	16mm	22.4mm	23.4mm	16mm	16mm	13.5mm	25mm
Mount Type	M18XD.5	M20XD.5	M23XD.5	M34XD.75	M34XD.75/M25XD.5	M28XD.5	M25XD.5
Detector	640X480-17um	640X480-12um	640X480-12um	640X480-17um	640X480-17um	640X480-17um	640X480-12um
	HYPA02510640-17	HYPA02512640-17	HYPA03510800-17	HYPA03512640-17	HYPA05010640-17	HYPA060125640-17	HYPA06010640-17
Focal Length	25mm	25mm	35mm	35mm	50mm	60mm	60mm
F/#	1.0	1.2	1.0	1.2	1.0	1.3	1.0
Circular FOV	24.5°(H)X18.5°(V)	24.5°(H)X18.5°(V)	21.9°(H)X16.5°(V)	17.6°(H)X13.2°(V)	12.4°(H)X9.3°(V)	10.3°(H)X7.7°(V)	10.3°(H)X7.7°(V)
Spectral Range	8-12um	8-12um	8-12um	8-12um	8-12um	8-12um	8-12um
Focus Type	Manual Focus	Manual Focus	Fixed Focus	Manual Focus	Fixed Focus	Manual Focus	Manual Focus
BFL	13.5mm	16mm	13.5mm	16mm	13.5mm	15.47mm	17.7mm
Mount Type	M34XD.75	M34XD.75	M34XD.75	M34XD.75	M34XD.75	M34XD.5	M34XD.5
Detector	640X480-17um	640X480-17um	800X600-17um	640X480-17um	640X480-17um	640X480-17um	640X480-17um
	HYPA07510640-17	HYPA10015640-17	HYPA10012640-17				
Focal Length	75mm	100mm	100mm				
F/#	1.0	1.5	1.2				
Circular FOV	8.2°(H)X6.2°(V)	6.2°(H)X4.6°(V)	6.2°(H)X4.6°(V)				
Spectral Range	8-12um	8-12um	8-12um				
Focus Type	Fixed Focus	Manual Focus	Fixed Focus				
BFL	15.5mm	15.47mm	13.5mm				
Mount Type	M34XD.75	M34XD.5	M34XD.75				
Detector	640X480-17um	640X480-17um	640X480-17um				




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LWIR Surveillance Series

	HYP07.510640-17	HYP08.510640-17	HYP01010384-17	HYP01110160-17	HYP01110640-17	HYP01312320-17	HYP01510640-17
Focal Length	7.5mm	8.5mm	10mm	11mm	11mm	13mm	15mm
F/#	1.0	1.0	1.0	1.0	1.0	1.2	1.0
Circular FOV	71.9°(H)X57°(V)	65.2°(H)X51.2°(V)	36°(H)X27.5°(V)	20°(H)X15°(V)	49.9°(H)X38.4°(V)	23.6°(H)X17.8°(V)	39.8°(H)X30.4°(V)
Spectral Range	8-12um	8-12um	8-12um	8-12um	8-12um	8-12um	8-12um
Focus Type	Fixed Focus	Fixed Focus	Fixed Focus	Fixed Focus	Fixed Focus	Fixed Focus	Fixed Focus
BFL	16mm	17.6mm	13.5mm	17.5mm	13.5mm	17.6mm	11mm
Mount Type	M34X0.75	M34X0.5	M34X0.75	M30X0.75	M34X0.75	M34X0.5	M34X0.75
Detector	640X480-17um	640X480-17um	384X288-17um	160X120-25um	640X480-17um	320X240-17um	640X480-17um
	HYP01810640-17	HYP01910640-17	HYP02010640-17	HYP022.610384-17	HYP02510640-17	HYP02511640-17	HYP02612320-17
Focal Length	18mm	19mm	20mm	22.6mm	25mm	25mm	26mm
F/#	1.0	1.0	1.0	1.0	1.0	1.1	1.2
Circular FOV	33.6°(H)X25.5°(V)	31.9°(H)X24°(V)	30.4°(H)X23°(V)	16.4°(H)X12.3°(V)	24.5°(H)X18.5°(V)	24.5°(H)X18.5°(V)	11.9°(H)X8.9°(V)
Spectral Range	8-12um	8-12um	8-12um	8-12um	8-12um	8-12um	8-12um
Focus Type	Fixed Focus	Fixed Focus	Fixed Focus	Fixed Focus	Manual /Motorized	Fixed Focus	Manual /Motorized
BFL	16mm	16mm	13.3mm	13.5mm	16mm	16mm	17.6mm/17.3mm
Mount Type	M34X0.75	M34X0.75	M34X0.75	M34X0.75	M34X0.75/M45X1	M34X0.75	M34X0.5/Flange
Detector	640X480-17um	640X480-17um	640X480-17um	384X288-17um	640X480-17um	640X480-17um	320X240-17um
	HYP03010640-17	HYP03510640-17	HYP04010640-17	HYP04210640-17	HYP05010640-17	HYP0500.81024-17	HYP06010640-17
Focal Length	30mm	35mm	40mm	42mm	50mm	50mm	60mm
F/#	1.0	1.0	1.0	1.0	1.0	0.8	1.0
Circular FOV	20.5°(H)X15.4°(V)	17.6°(H)X13.2°(V)	15.4°(H)X11.6°(V)	14.7°(H)X11°(V)	12.4°(H)X9.3°(V)	19.7°(H)X14.8°(V)	10.3°(H)X7.7°(V)
Spectral Range	8-12um	8-12um	8-12um	8-12um	8-12um	8-12um	8-12um
Focus Type	Manual /Motorized	Fixed Focus	Manual /Motorized	Fixed Focus	Manual /Motorized	Fixed Focus	Fixed Focus
BFL	18.22mm	16mm	18.22mm	17.4mm	18.22mm	20mm	16mm
Mount Type	M34X0.5	M34X0.75	M34X0.5	M38X1	M34X0.5/M45X1	M55X1	M34X0.75
Detector	640X480-17um	640X480-17um	640X480-17um	640X480-17um	640X480-17um	1024X768-17um	640X480-17um
	HYP07010640-17	HYP07510640-17	HYP10010640-17	HYP15010640-17			
Focal Length	70mm	75mm	100mm	150mm			
F/#	1.0	1.0	1.0	1.0			
Circular FOV	8.8°(H)X6.6°(V)	8.2°(H)X6.2°(V)	6.2°(H)X4.6°(V)	4.1°(H)X3.1°(V)			
Spectral Range	8-12um	8-12um	8-12um	8-12um			
Focus Type	Manual/Motorized	Manual/Motorized	Manual/Motorized	Motorized			
BFL	18.22mm	16mm	16mm	20mm			
Mount Type	M34X0.5	M34X0.75/M45X1	M34X0.75/M45X1	M60X1			
Detector	640X480-17um	640X480-17um	640X480-17um	640X480-17um			

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SWIR - MWIR Series

	HYP-SW0123.0-15	HYP-SW232.0-30	HYP-SW252.5-30	HYP-SW0123.0-15	HYP-SW232.0-30	HYP-SW252.5-30	HYP-SW253.0-17
Focal Length	12mm	23mm	25mm	12mm	23mm	25mm	25mm
F/#	3.0	2.0	2.5	3.0	2.0	2.5	3.0
Circular FOV	54°(D)	30°(D)	26°(D)	54°(D)	30°(D)	26°(D)	47°(D)
Spectral Range	1.5-5um	900-2300um	900-2500um	1.5-5um	900-2300um	900-2500um	1.5-5um
Focus Type	Manual Focus	Manual Focus	Manual Focus	Manual Focus	Manual Focus	Manual Focus	Manual Focus
BFL	39.4mm	C-Mount	C-Mount	39.4mm	C-Mount	C-Mount	39.4mm
Mount Type	Bayonet			Bayonet			
Detector	640X512-15um	320X256-30um	320X256-30um	640X512-15um	320X256-30um	320X256-30um	1024X768-17um
	HYP-SW352.0-30	HYP-SW352.4-30	HYP-SW502.0-30	HYP-SW502.3-17	HYP-SW1002.3-17		
Focal Length	35mm	35mm	50mm	50mm	100mm		
F/#	2.0	2.4	2.0	2.3	2.3		
Circular FOV	20°(D)	20°(D)	14°(D)	24.5°(D)	12.4°(D)		
Spectral Range	900-2500nm	900-2300nm	900-2500nm	1.5-5um	1.5-5um		
Focus Type	Manual Focus	Manual Focus	Manual Focus	Manual Focus	Manual Focus		
BFL	C-Mount	C-Mount	C-Mount	39.4mm	39.4mm		
Mount Type				Bayonet	Bayonet		
Detector	320X256-30um	320X256-30um	320X256-30um	1024X768-17um	1024X768-17um		

	HYP-SW12.514	HYP-SW017206000	HYP-SW05014640	HYP-SW07515640	HYP-SW10020640	HYP-SW20020640	HYP-SW1002.3-17
Focal Length	12.5mm	17mm	50mm	75mm	100mm	100mm	100mm
F/#	1.4-16	2.0	1.4	1.5	2.0	2.0	2.3
Circular FOV	37°(D)	79.2°(D)	22.6°(D)	15.2°(D)	11.4°(D)	5.7°(D)	12.4°(D)
Spectral Range	900-1700nm	900-1700nm	900-1700nm	900-1700nm	900-1700nm	900-1700nm	1.5-5um
Focus Type	Manual Focus	Manual Focus	Fixed Focus	Manual Focus	Manual Focus	Manual Focus	Manual Focus
BFL	C-Mount	F-Bayonet	21.76	C-Mount	C-Mount	17.526	39.4mm
Mount Type			M37X0.5			M30X1	Bayonet
Detector	CCD-12.5um	6000X4000-3.9um	640X480-25um	640X480-25um	640X480-25um	640X480-25um	1024X768-17um

MWIR Series

	HYP-MW252.0-15	HYP-MW502.0-15	HYP-MW752.0-15	HYP-MW1002.0-15	HYP-MW1002.0-24	HYP-MW2002.0-15C	HYP-MW2502.3-15
Focal Length	25mm	50mm	75mm	100mm	100mm	200mm	250mm
F/#	2.0	2.0	2.0	2.0	2.0	2.0	2.3
Circular FOV	27.6°(D)	14°(D)	9.3°(D)	7°(D)	11°(D)	3.5°(D)	5.6°(D)
Spectral Range	3-5um	3-5um	3.7-4.8um	3-5um	3-5um	3-5um	3-5um
Cold Stop Size	10.05mm	9.7mm	14mm	9.7mm	12.9mm	9.7mm	8.65mm
Cold Stop Positio	19.45mm	19.45mm	19.4mm	19.45mm	25.47mm	19.45mm	19.4mm
Focus Type	Manual Focus	Manual Focus	Manual Focus	Manual Focus	Manual Focus	Manual Focus	Manual Focus
BFL	29.6mm	28.4mm	47.5mm	30.64mm	55.74mm	C-Mount	C-Mount
Mount Type	M32X1	M36X1	M60X1 /Flange	M50x1	Flange		
Detector	640X512-15um	640X512-15um	640X512-15um	640X512-15um	640X512-24um	640X512-15um	640X512-15um

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