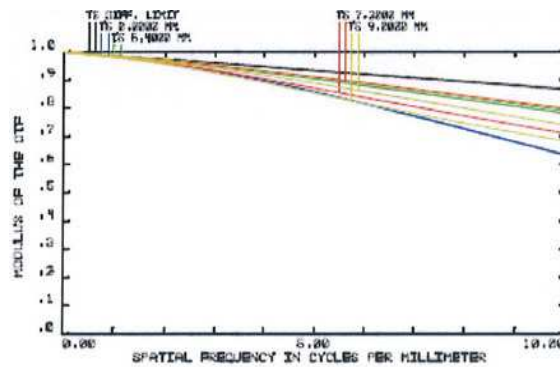


IR Zoom Lens

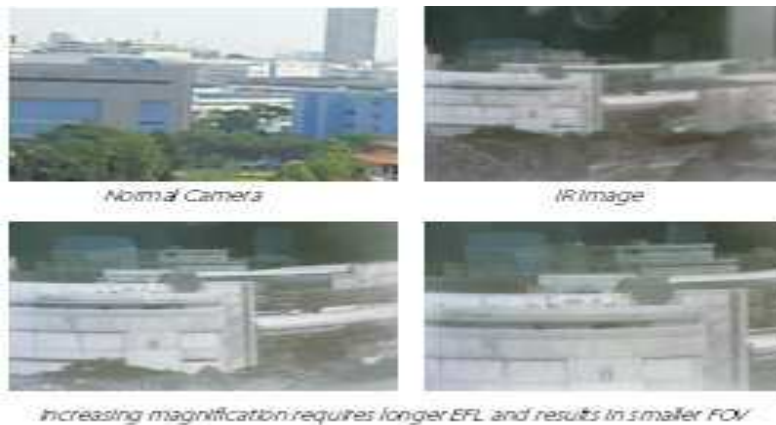
In order to cater the need of continuous zooming rather than two distinct magnifications, Wavelength Technology delivers the IR Zoom Lens. The design is developed for long IR range (8-12um) with zoom ratio of 1 to 3 times continuously.

The system EFL is between 33 to 100mm. The F number is 1 with FOV 30.5 to 10.3 degrees. The following is its MTF performance



MTF Diagram

A picture shown below used the IRZ10010320 zoom lens.



Applications:

IR Zoom Lens are used in commercial, medical and surveillance applications. It is extensively used in aerial platforms, both for targeting systems and infrared search and track.

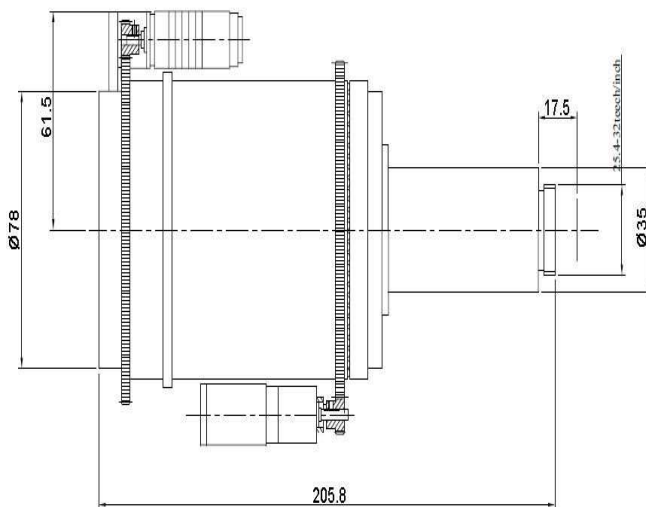
IR Zoom Lens



Part no.: IRZ88176830

Opto-Mechanic Property	Specification	Remarks
Focal Length	88mm—176mm	
F#	5.0	
Wavelength	830nm-1000nm	
Image Diagonal	17.38mm	
Average Transmission	>91%	
Circular FOV	11.3°-5.65°	
Back Focus Distance	17.5mm	
Back Working Distance	-	
Dimensions	Length205.8mm, Φ 78mm	
Focus Type	Motorized Focus	
Focus Range	-	
Mount Type	25.4-32teeth/inch	
Detector	512*512pixels,24 μ m	
Weight	-	
Environmental		
Operating Temperature	-20°C to +60°C	
Storage Temperature	-40°C to +80°C	
External Coating	DLC	Diamond like coating
Humidity	100%RH at 26°C and 74%RH at 35°C for 24 hours	

Drawing



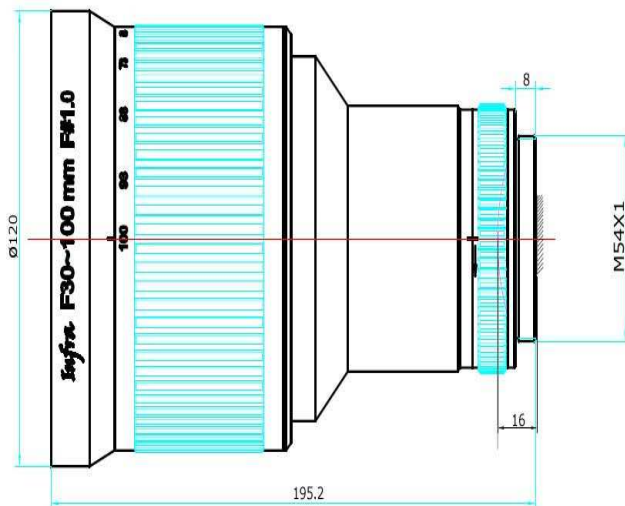
IR Zoom Lens

IR Zoom Lens

Part no.: IRZ10010320

Opto-Mechanic Property	Specification	Remarks
Focal Length	33mm—100mm	
F#	1.0	
Wavelength	8μm—12μm	
Image Diagonal	7mm	
Average Transmission	>91%	
Circular FOV	30.5°--10.3°	
Back Focus Distance	13.56mm	
Back Working Distance	5.56mm	
Dimensions	Length195.2mm, Φ120mm	
Focus Type	Manual Focus	
Focus Range	1m to infinity	384*288pixels, 35μm
Mount Type	M54*1	320*240pixels, 45μm
Detector	160*120pixels,35μm	
Weight	-	
Environmental		
Operating Temperature	-20°C to +60°C	
Storage Temperature	-40°C to +80°C	
External Coating	DLC	Diamond like coating
Humidity	100%RH at 26°C and 74%RH at 35°C for 24 hours	

Drawing



IR Zoom Lens

IR Zoom Lens

Part no.: IRZ25110320

Optical Property	Specification		Remarks
Focal Length	25mm	110mm	Continuous Zoom Lens
F#	1.0		
Wavelength	7μm—14μm		
Image Format	320*240, 38μm; 384*288,25μm, 320*240,25μm		
Transmission	>80% (DLC)		Average
HFOV	28.2° (12.16mm)	6.3° (12.16mm)	
Distortion	<5%	<1%	
BFL	20.3mm		Including 1mm Ge window
Focus Type	Motorized Focus		
Focus Range	Min. 3m	Min. 15min	
Mechanical			
Mount Type	Flange		(See Drawing)
Dimension	Length218.15mm, Φ160mm		
Weight	2980g		
Focus Time	<4s		
Zoom Time	<6s		
Electrical			
Focus Motor	12V DC	6~15V	
Zoom Motor	6V DC	4~12V	
Potentiometer			Upon Request
Environmental			
Sealing	IP67		Front lens
Operating Temperature	-20°C to +60°C		
Storage Temperature	-40°C to +70°C		
External Coating	DLC		Diamond Like Coating
Humidity	100%RH at 26°C and 74%RH at 35°C for 24 hours		

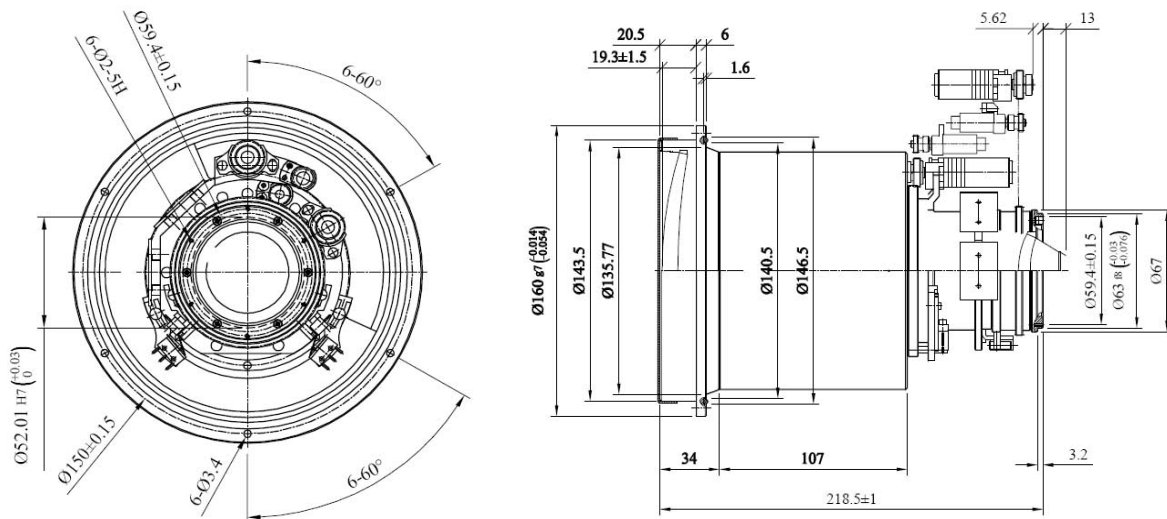
IR Zoom Lens

IR Zoom Lens

Part no.: IRZ25110320

	HFOV	160x120	320x240	384x288	640x480
WFOV (25mm)	38μm	14.1°	28.2°		
	30μm	11.1°	22.2°		
	25μm	9.2°	18.4°	22.2°	
NFOV (110mm)	38μm	3.2°	6.3°		
	30μm	2.5°	5.0°		
	25μm	2.1°	4.2°	5.0°	

Drawing



IR Zoom Lens

IR Zoom Lens

Part no.: IRZ44176320

Optical Property	Specification		Remarks
Focal Length	44mm	176mm	Continuous Zoom Lens
F#	1.0	1.2	
Wavelength	7μm—14μm		
Image Format	320*240, 38μm; 384*288,25μm, 320*240,25μm		
Transmission	>80% (DLC)		Average
HFOV	15.8° (12.16mm)	4.0° (12.16mm)	
Distortion	<5%	<2%	
BFL	22.92mm		Including 1mm Ge Window
Focus Type	Motorized Focus		
Focus Range	Min. 5m	Min. 30min	
Mechanical			
Mount Type	Flange		(See Drawing)
Dimension	Length378mm, Φ194mm		
Weight	3800g		
Focus Time	<4s		
Zoom Time	<6s		
Electrical			
Focus Motor	12V DC	9~15V	
Zoom Motor	12V DC	9~12V	
Environmental			
Sealing	IP67		
Operating Temperature	-20°C to +60°C		
Storage Temperature	-40°C to +70°C		
External Coating	DLC		Diamond Like Coating
Humidity	100%RH at 26°C and 74%RH at 35°C for 24 hours		

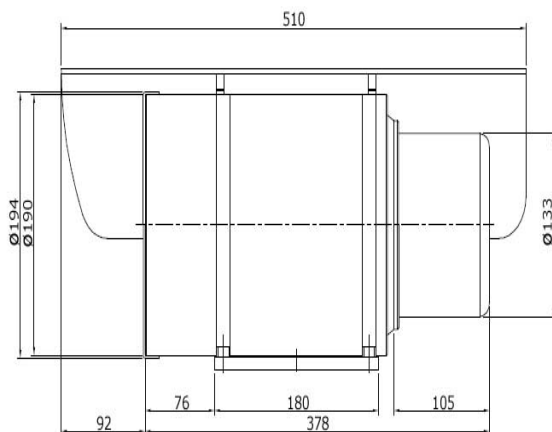
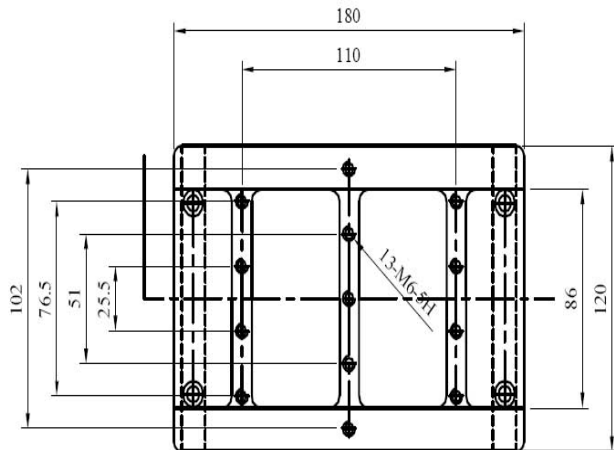
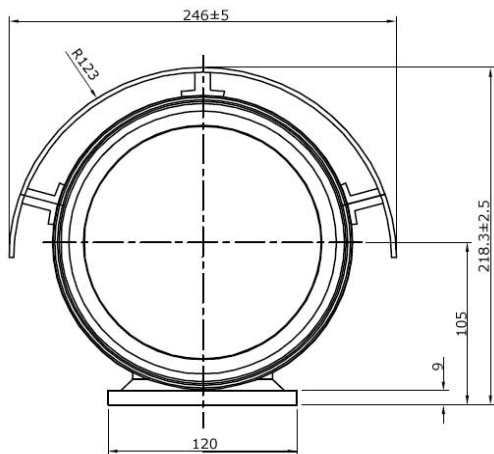
IR Zoom Lens

IR Zoom Lens

Part no.: IRZ44176320

	HFOV	160x120	320x240	384x288	640x480
WFOV (44mm)	38μm	7.9°	15.8°		
	30μm	6.2°	12.5°		
	25μm	5.2°	10.4°	12.5°	
NFOV (176mm)	38μm	2.4°	4.9°		
	30μm	1.9°	3.8°		
	25μm	1.6°	3.2°	3.8°	

Drawing



IR Zoom Lens

IR Zoom Lens

Part no.: IRZ331004500

Optical Property	Specification		Remarks
Focal Length	33mm	100mm	Continuous Zoom Lens
F#	1.0		
Wavelength	7μm—14μm		
Image Format	320*240, 388μm; 384*288,25μm, 320*240,25μm		
Transmission	>80% (DLC)		Average
HFOV	21.1° (12.16mm)	7.0° (12.16mm)	
Distortion	<5%	<1%	
BFL	20.6mm		Including 1mm Ge window
Focus Type	Motorized Focus		
Focus Range	Min. 3m	Min. 15min	
Mechanical			
Mount Type	Flange		(See Drawing)
Dimension	Length188.4mm, Φ140mm		
Weight	2250g		
Focus Time	<4s		
Zoom Time	<7s		
Electrical			
Focus Motor	12V DC	6~15V	
Zoom Motor	6V DC	4~12V	
Potentiometer			Upon Request
Environmental			
Sealing	IP67		Front lens
Operating Temperature	-20°C to +60°C		
Storage Temperature	-40°C to +70°C		
External Coating	DLC		Diamond Like Coating
Humidity	100%RH at 26°C and 74%RH at 35°C for 24 hours		

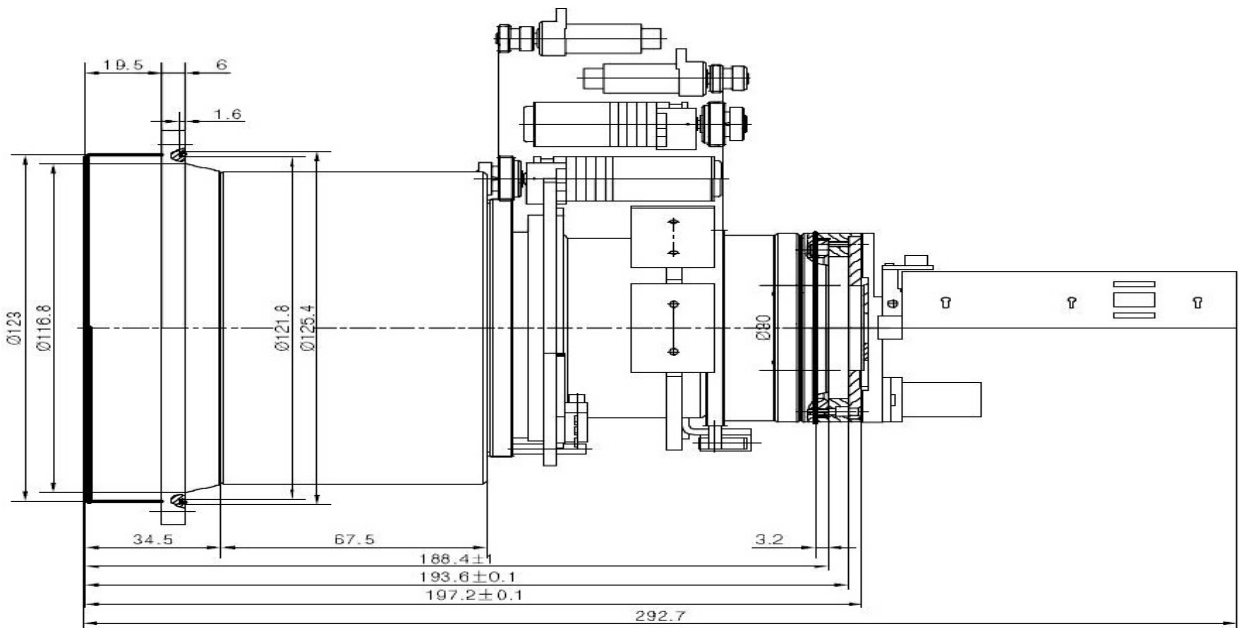
IR Zoom Lens

IR Zoom Lens

Part no.: IRZ331004500

	HFOV	160x120	320x240	384x288	640x480
WFOV (33mm)	38μm	10.5°	21.1°		
	30μm	8.3°	16.6°		
	25μm	6.9°	13.8°	16.6°	
NFOV (100mm)	38μm	3.5°	7.0°		
	30μm	2.7°	5.5°		
	25μm	2.3°	4.6°	5.5°	

Drawing



IR Zoom Lens