





## With valuable lenses...

Value in CCTV lenses sought by the next generation - they should be more sophisticated and reliable.

Lenses from SPACE inc. have been recognized by various customers as providing good value and meeting any needs throughout the world with Made-In-Japan quality and global-standard prices.

The company is represented by numerous ‘star-related names’ related to key products in its line-up.

Our products are ever-reliable, shining with stellar quality, and we will continue our research to keep providing such products.

**With valuable lenses ... We are SPACE inc.**





SPACE inc. is a dedicated manufacturing company for CCTV lenses founded in 1984. All processes, from designing to processing (polishing, coring), coating, processing of metallic parts, mold building, printed circuit board mounting, and product assembly, are carried out in-house, in a fully-integrated environment.

The headquarters in Mitaka City, Tokyo, is the centre for development, production management, quality assurance, sales and marketing and mold building, while a factory in Ootawara City, Tochigi Prefecture, takes care of lens processing, coating, print circuit board mounting and product assembly functions.

SPACE inc. offers approximately 170 types of CCTV lenses; for example, megapixel day and night lenses for IP cameras, day and night vari-focal lenses for commodity facilities, Super telephoto motorized zoom lenses for national border monitoring, motorized zoom lenses for car number recognition, motorized zoom lenses for street surveillance, 5 megapixel lenses for machine vision, and 3.6 megapixel motorized zoom lenses.

Our policy is 'Quality First', so we design, process, assemble, and manage our products making quality our first priority. We focus completely on our 'core manufacturing technology', maintaining performance and durability into the future.

## [Perspective]

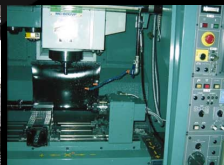
- Both security cameras and machine vision FA cameras are evolving toward "better picture" capabilities. As for lenses, the 'input gate' for the picture, "higher definition" is always required. SPACE inc. aims to be a 'lens maker for high image quality' based on our original abrasive and AR multicoating technology, leveraging ED glass, aspheric lens, etc.
- We make the most of our advantages as an integrated manufacturer that gives us the agility and flexibility to handle special lenses and custom-made products specific to our customers.
- We will continue to enhance our line-up of affordable, easy-to-use, high performance motorized zoom lenses to meet market needs.



Ootawara Factory



Molding



Mold building



Grinding



Grinding



Coating



P.C.B. Mounting



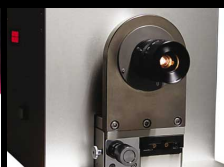
Measuring Equipment



Coating



Inspection



Measuring Equipment























Mechanical Parts



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TRAURUS	
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## ICON

 1/3inch	 Zoom ratio 2X	 Vibration Proof-Structure
 1/2inch	 Zoom ratio 2.1X	 Motorized Zoom
 2/3inch	 Zoom ratio 2.5X	 Focal Length Scale
 1/1.8inch	 Zoom ratio 2.6X	 Iris click
 1inch	 Zoom ratio 2.7X	 AR multi layer coating
 C-Mount	 Zoom ratio 4X	 Fish Eye
 CS-Mount	 Zoom ratio 4.4X	 ED-Glass
 Day&Night	 Zoom ratio 6X	 Aspherical Lens
 1Megapixel	 Zoom ratio 10X	 Pin-Hole Lens
 1.3Megapixel	 Zoom ratio 11X	 Super Telephoto 700mm
 1.5Megapixel	 Zoom ratio 16X	 Large Aperture. F0.95
 2Megapixel	 Zoom ratio 17X	 Large Aperture. F1.0
 3Megapixel	 Zoom ratio 20X	 Large Aperture. F1.2
 3.1Megapixel	 Zoom ratio 21X	 Large Aperture. F1.4
 3.6Megapixel	 Zoom ratio 25X	 Large Aperture. F1.5
 5Megapixel	 Zoom ratio 31X	
 DC Iris	 Zoom ratio 35X	
 VIDEO Iris	 Enabled-Potentiometer	



## Ultra High Definition and Day & Night function value added

**new REGURUS**

**HD338DCIR**

1/3" 3.3-8mm F1.4

1.3 Megapixel Day&Night



REGURUS support 1.3Megapixel high definition image from center to the corner. For 24 hours continuous surveillance, REGURUS is corresponding Day & Night which minimize the focus shift to the utmost.

Try our REGURUS which demanded thoroughly on accuracy of glass process, tolerance of spare parts, centering, assembling and professional evaluation for function.

**1.3  
MEGA**



**REGURUS**



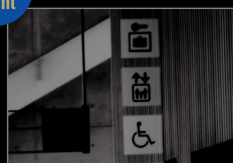
The image of conventional VGA class lens

### 400% higher definition

Enable 400% higher definition compared to that of conventional lens with VGA class.  
The magnified view with digital zoom keep high definition image



**Day &  
Night**



**REGURUS**



The image of conventional VGA class lens

### Day&Night correspondence





## REGURUS ALTAIR

Megapixel Vari-Focal Lenses  
with Day&Night optical system

### HD338DCIR



1.3Mega



### HD880MIR



1.5Mega



### HV880DCIR-MP



1.5Mega

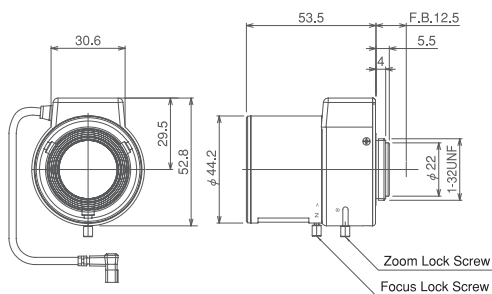


## SPECIFICATIONS

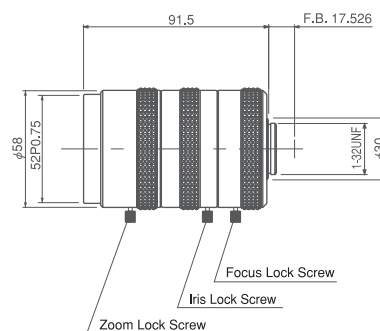
Part NO.	Image Size	Mount	Focal Length f=	Iris Range	Angle of View	M.O.D.	Operation			F.B.	Filter Size	Size (mm)	Weight
							Focus	Zoom	Iris				
HD338DCIR	1/3"	CS	3.3-8mm	F1.4-360	87.9×64.5°~35.0×26.2°	0.5m	Manual	Manual	DC	12.5mm	—	φ44.2×53.5×52.8	85g
HD880MIR	1/2"	C	8-80mm	F1.6-Close	46.6×34.3°~4.7×3.6°	0.1~0.7m	Manual	Manual	Manual	17.526mm	52mm	φ58×91.5	400g
HV880DCIR-MP	1/2"	C	8-80mm	F1.6-360	46.6×34.3°~4.7×3.6°	0.1~0.7m	Manual	Manual	DC	17.526mm	52mm	φ54×91.0	198g

## DIMENSIONS

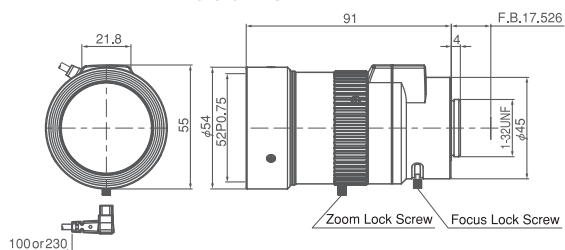
### HD338DCIR



### HD880MIR



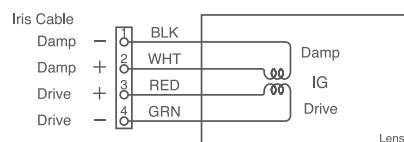
### HV880DCIR-MP



Unit:mm

## CIRCUIT DIAGRAM

### HD338DCIR / HV880DCIR-MP



SUBJECT TO CHANGE WITHOUT NOTICE.



### HD410M



### HD410DC

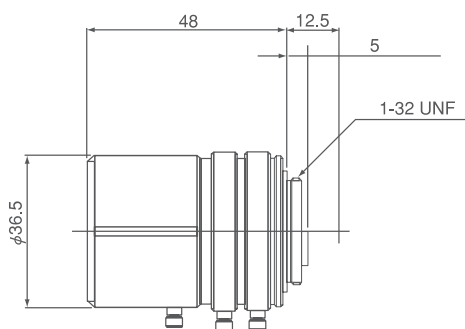


## SPECIFICATIONS

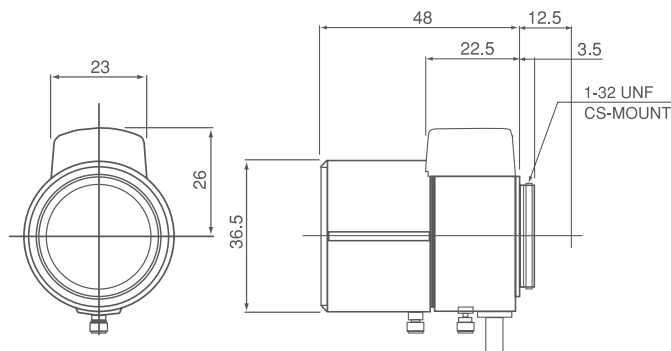
Part NO.	Image Size	Mount	Focal Length f=	Iris Range	Angle of View	M.O.D.	Operation			F.B.	Filter Size	Size (mm)	Weight
							Focus	Zoom	Iris				
<b>HD410M</b>	1/2"	CS	4-10mm	F1.8-Close	94.8×69.0°~37.3×28.0°	0.3-0.8m	Manual	Manual	Manual	12.5mm	—	φ36.5×48.0	90g
<b>HD410DC</b>	1/2"	CS	4-10mm	F1.8-360	94.8×69.0°~37.3×28.0°	0.3-0.8m	Manual	Manual	DC	12.5mm	—	44.3×36.5×48.0	94g

## DIMENSIONS

### HD410M



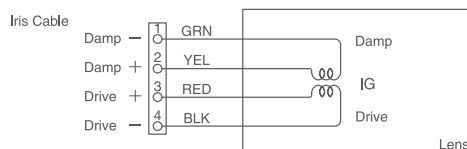
### HD410DC



Unit:mm

## CIRCUIT DIAGRAM

### HD410DC



SUBJECT TO CHANGE WITHOUT NOTICE.



## 3.6Megapixel Motorized Zoom Lenses

NEW

# CAPELLA

HD1166R/RDC/RAI/DC

2/3" C f=11-66mm F1.8 3.6Megapixel



**3.6MP**

**NON  
F-DROP**

**LOW DIST**

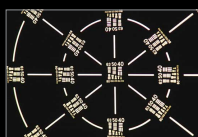
**AR  
COATING**

**MULTI  
CONTROL**

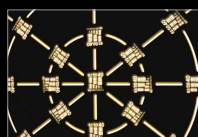
**3.6MP**

High Resolution Power 3.6Megapixel

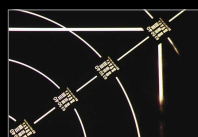
CAPELLA has achieved over 125 lp/mm resolution ( $4.0\mu\text{m}$ ) around the periphery as well as in the center.



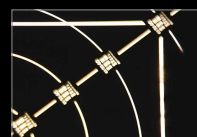
CAPELLA WIDE



Conventional lens WIDE



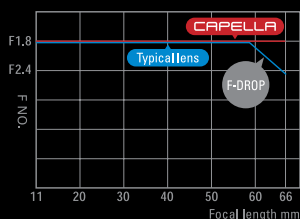
CAPELLA TELE



Conventional lens TELE

**NON  
F-DROP**

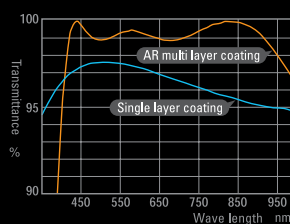
Maintaining F-number



The entrance pupil of a zoom lens changes in diameter as the focal length is changed. As you zoom toward the telephoto end, the entrance pupil gradually enlarges. When the entrance pupil diameter is equal to the diameter of focusing lens group, it cannot become any larger, so the F-number drops. To eliminate F drop completely, the focusing group has to be larger than the entrance pupil at the telephoto end of the zoom. It has to be at least equal to the focal length at the telephoto end divided by the F-number.

**AR  
COATING**

Adopting AR multi layer coating

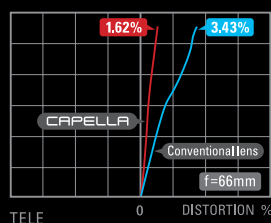
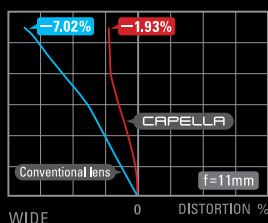


AR multi layer coating assists to reduce a harmful flare and ghosting, which can deteriorate the image. CAPELLA has succeeded in completion of an AR multi layer coating which realizes high transmittance at wide wavebands from a visible ray to a near IR ray through unique improvements of our own in addition to the change from conventional single layer coating to multilayer coating.

**LOW DIST**

Controlling distortion at low levels.

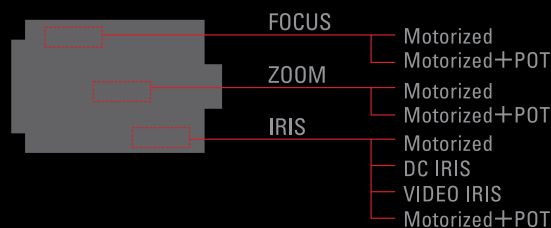
CAPELLA has controlled distortion at low levels.



**MULTI  
CONTROL**

Various control methods

Various control methods are implemented for the new lens, allowing for system expansion.





#### HD1166R



#### HD1166RDC



#### HD1166RAI

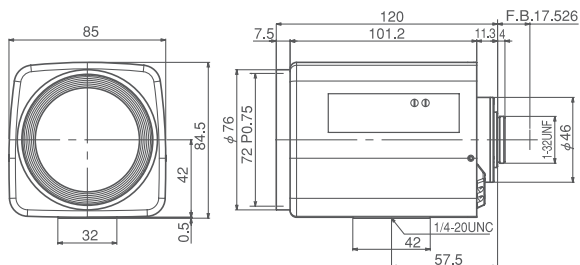


### SPECIFICATIONS

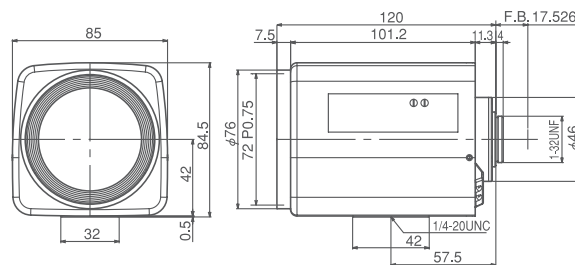
Part NO.	Image Size	Mount	Focal Length f=	Iris Range	Angle of View	M.O.D.	Operation			F.B.	Filter Size	Size (mm)	Weight
							Focus	Zoom	Iris				
HD1166R	2/3"	C	11-66mm	F1.8-Close	43.3X33.0°~7.7X5.8°	1.4m	Motorized	Motorized	Motorized	17.526mm	72mm	84.5X85X120	700g
HD1166RDC	2/3"	C	11-66mm	F1.8-360	43.3X33.0°~7.7X5.8°	1.4m	Motorized	Motorized	DC	17.526mm	72mm	84.5X85X120	700g
HD1166RAI	2/3"	C	11-66mm	F1.8-1200	43.3X33.0°~7.7X5.8°	1.4m	Motorized	Motorized	VIDEO	17.526mm	72mm	84.5X85X120	700g

### DIMENSIONS

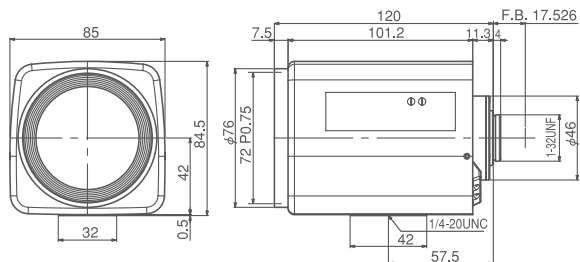
#### HD1166R



#### HD1166RDC



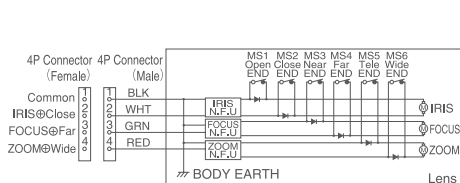
#### HD1166RAI



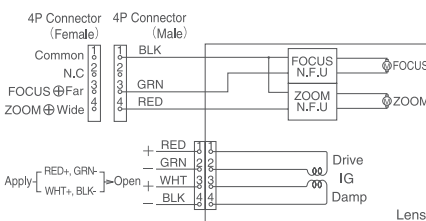
Unit:mm

### CIRCUIT DIAGRAM

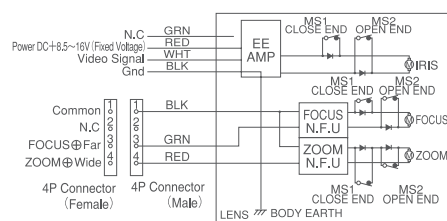
#### HD1166R



#### HD1166RDC



#### HD1166RAI



SUBJECT TO CHANGE WITHOUT NOTICE.



# 5 Megapixel Lenses

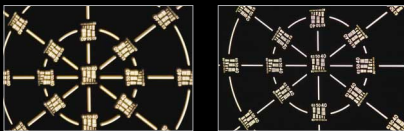


## Resolution Power / 5 Megapixel



PYXIS has achieved over 145 lp/mm resolution around the periphery as well as in the center.

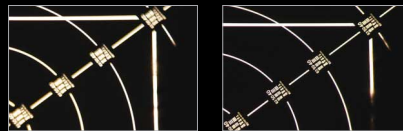
Resolution Power of center



Typical lens

PYXIS

Resolution Power of corner



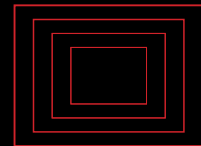
Typical lens

PYXIS

## Low Distortion



PYXIS has controlled distortion at low levels.

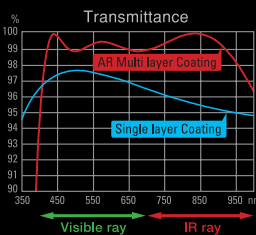


PYXIS25: -0.01%

## AR Multi layer coating



PYXIS has succeeded in completion of an AR Multi-layer Coating which realizes high transmittance at wide wavebands from a visible ray to a near IR ray through unique improvements of our own in addition to the change from conventional Single layer Coating to Multi layer Coating.



## Lock Screw



It provides a Lock Screw fitted as the standard equipment in Focus and Iris, and 3 taps at every 120°.



It provides a Lock Screw for both the Focus and Iris.

## Mount Slip mechanism



It is possible to control the lens position freely by using the Slip mechanism.



## Click Iris mechanism



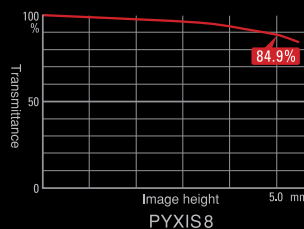
The Iris adjustment is accurate and easy to handle.



## High light volume rate



The light volume rate is high from the center to the periphery of the lens.



## Multi IRIS structure



Multi IRIS structure has more diaphragms than the conventional IRIS and the form of the diaphragm is similar to a circle. Compared to the conventional IRIS, more accurate and even uniform control is possible.



Conventional Lens



PYXIS

## Excellent vibration-proof structure



The excellent vibration-proof structure proves its true strength in a vibrating environment.



**PYXIS 8**  
[JHF8M-5MP]



**PYXIS 12**  
[JHF12M-5MP]



**PYXIS 16**  
[JHF16M-5MP]



**PYXIS 25**  
[JHF25M-5MP]



**PYXIS 35**  
[JHF35M-5MP]

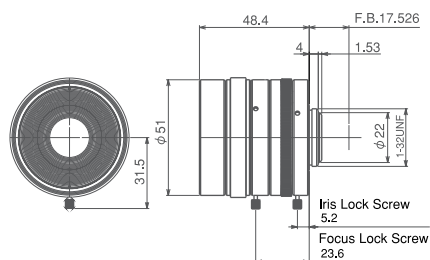


### SPECIFICATIONS

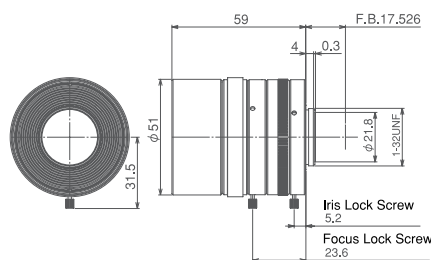
Part NO.	Image Size	Mount	Focal Length f=	Iris Range	Angle of View	M.O.D.	Operation			F.B.	Filter Size	Size (mm)	Weight
							Focus	Zoom	Iris				
PYXIS 8 [JHF8M-5MP]	2/3"	C	8mm	F2.8-22	57.9×45.0°	0.1m	Manual	—	Manual	17.526mm	49mm	φ51×48.4	210g
PYXIS 12 [JHF12M-5MP]	2/3"	C	12mm	F1.8-22	40.3×30.8°	0.15m	Manual	—	Manual	17.526mm	49mm	φ51×59	200g
PYXIS 16 [JHF16M-5MP]	2/3"	C	16mm	F1.4-22	30.8×23.3°	0.2m	Manual	—	Manual	17.526mm	49mm	φ51×62.5	200g
PYXIS 25 [JHF25M-5MP]	2/3"	C	25mm	F1.4-22	20.0×15.0°	0.2m	Manual	—	Manual	17.526mm	49mm	φ51×48	190g
PYXIS 35 [JHF35M-5MP]	2/3"	C	35mm	F1.4-22	14.3×10.8°	0.25m	Manual	—	Manual	17.526mm	49mm	φ51×62	230g

### DIMENSIONS

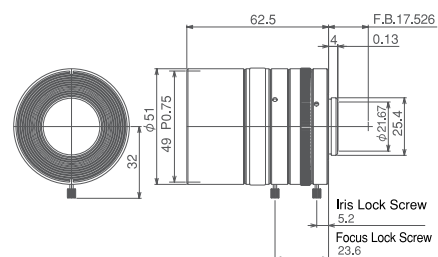
**PYXIS 8**  
[JHF8M-5MP]



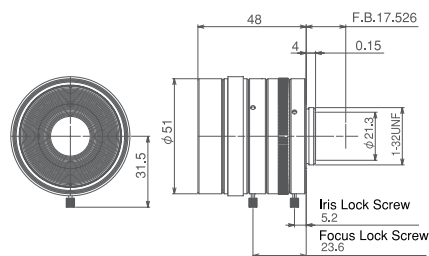
**PYXIS 12**  
[JHF12M-5MP]



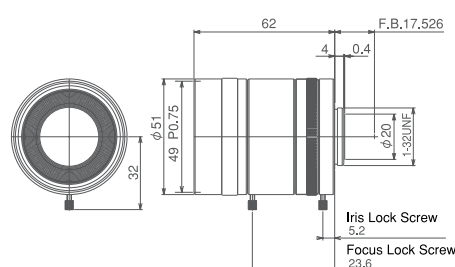
**PYXIS 16**  
[JHF16M-5MP]



**PYXIS 25**  
[JHF25M-5MP]



**PYXIS 35**  
[JHF35M-5MP]



Unit:mm

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## PLEIADES

3.1Megapixel lenses for 1"

**PLEIADES 8**  
[VHF8MK]



3.1 Mega



**PLEIADES 12.5**  
[VHF12.5MK]



3.1 Mega



**PLEIADES 16**  
[VHF16MK]



3.1 Mega



**PLEIADES 25**  
[VHF25MK]



3.1 Mega



**PLEIADES 35**  
[VHF35MK]



3.1 Mega



**PLEIADES 50**  
[VHF50MK]



3.1 Mega



**PLEIADES 75**  
[VHF75MK]



3.1 Mega

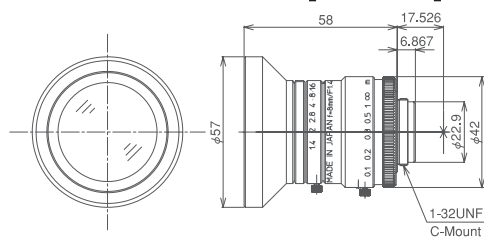


### SPECIFICATIONS

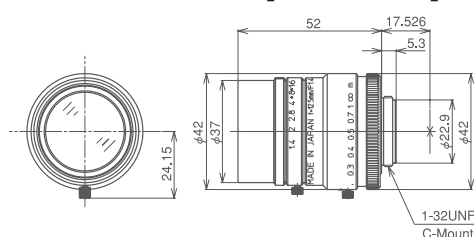
Part NO.	Image Size	Mount	Focal Length f=	Iris Range	Angle of View	M.O.D.	Operation			F.B.	Filter Size	Size (mm)	Weight
							Focus	Zoom	Iris				
PLEIADES8 [VHF8MK]	1"	C	8mm	F1.4-16	79.7×63.0°	0.1m	Manual	—	Manual	17.526mm	55mm	φ57×58	200g
PLEIADES 12.5 [VHF12.5MK]	1"	C	12.5mm	F1.4-16	55.6×42.5°	0.3m	Manual	—	Manual	17.526mm	27mm	φ42×52	150g
PLEIADES 16 [VHF16MK]	1"	C	16mm	F1.4-16	44.3×33.6°	0.3m	Manual	—	Manual	17.526mm	35.5mm	φ42×52.9	140g
PLEIADES25 [VHF25MK]	1"	C	25mm	F1.4-16	29.3×22.0°	0.3m	Manual	—	Manual	17.526mm	35.5mm	φ42×43	130g
PLEIADES35 [VHF35MK]	1"	C	35mm	F1.4-16	20.9×15.8°	0.3m	Manual	—	Manual	17.526mm	35.5mm	φ42×43	130g
PLEIADES50 [VHF50MK]	1"	C	50mm	F1.4-16	14.5×10.8°	0.5m	Manual	—	Manual	17.526mm	40.5mm	φ47.5×48	200g
PLEIADES 75 [VHF75MK]	1"	C	75mm	F1.8-16	9.7×7.3°	1.0m	Manual	—	Manual	17.526mm	46mm	φ48×57	180g

### DIMENSIONS

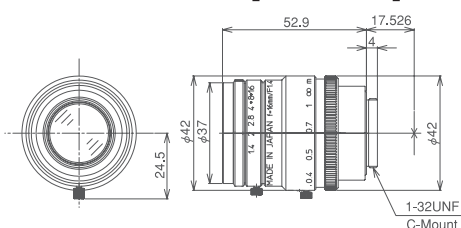
**PLEIADES 8 [VHF8MK]**



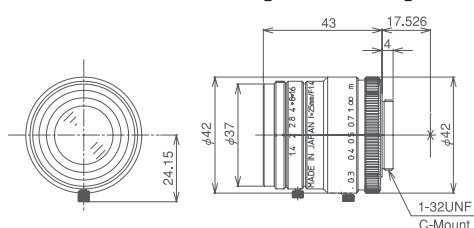
**PLEIADES 12.5 [VHF12.5MK]**



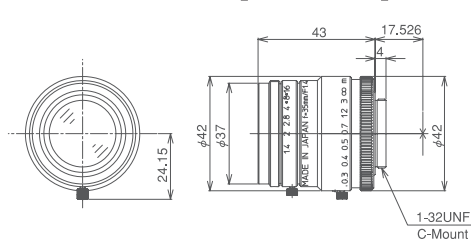
**PLEIADES 16 [VHF16MK]**



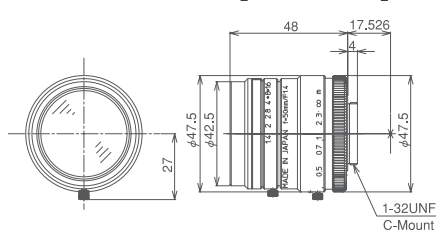
**PLEIADES 25 [VHF25MK]**



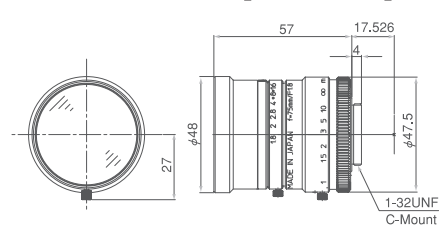
**PLEIADES 35 [VHF35MK]**



**PLEIADES 50 [VHF50MK]**



**PLEIADES 75 [VHF75MK]**



Unit:mm

SUBJECT TO CHANGE WITHOUT NOTICE.



## MIMOSA MIRA VEGA SPICA POLARIS

**MIMOSA**  
[HHF6M]

1.5Mega



**MIRA**  
[EHF16M]

3Mega



**VEGA**  
[JHF25M]

3Mega



**SPICA**  
[JHF35M]

3Mega



**POLARIS**  
[JHF50M]

3Mega

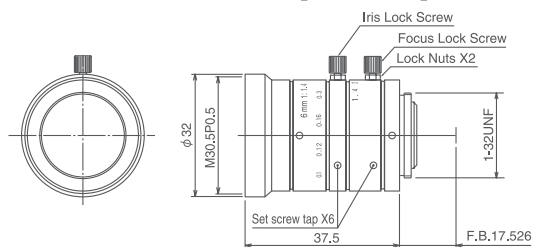


### SPECIFICATIONS

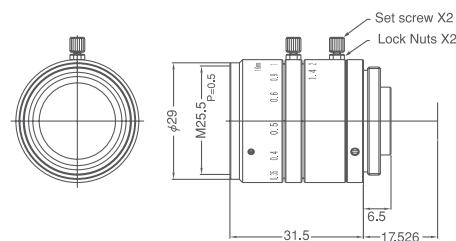
Part NO.	Image Size	Mount	Focal Length f=	Iris Range	Angle of View	M.O.D.	Operation			F.B.	Filter Size	Size (mm)	Weight
							Focus	Zoom	Iris				
<b>MIMOSA [HHF6M]</b>	1/2"	C	6mm	F1.4-16	57.4×44.3°	0.2m	Manual	—	Manual	17.526mm	30.5mm	φ32×37.5	66g
<b>MIRA [EHF16M]</b>	1/1.8"	C	16mm	F1.4-16	24×18°	0.3m	Manual	—	Manual	17.526mm	25.5mm	φ29×31.5	45g
<b>VEGA [JHF25M]</b>	2/3"	C	25mm	F1.4-16	20.1×15.1°	0.25m	Manual	—	Manual	17.526mm	25.5mm	φ29×31.5	45g
<b>SPICA [JHF35M]</b>	2/3"	C	35mm	F2.0-22	14.33×10.45°	0.25m	Manual	—	Manual	17.526mm	25.5mm	φ29×38.5	55g
<b>POLARIS [JHF50M]</b>	2/3"	C	50mm	F2.8-22	9.98×7.49°	0.5m	Manual	—	Manual	17.526mm	25.5mm	φ29×38.5	55g

### DIMENSIONS

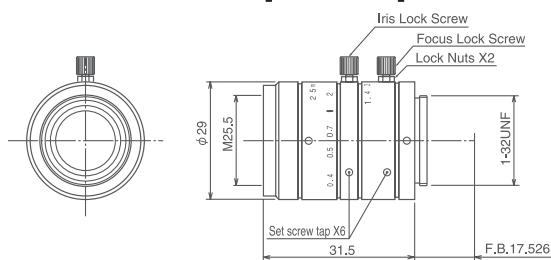
**MIMOSA [HHF6M]**



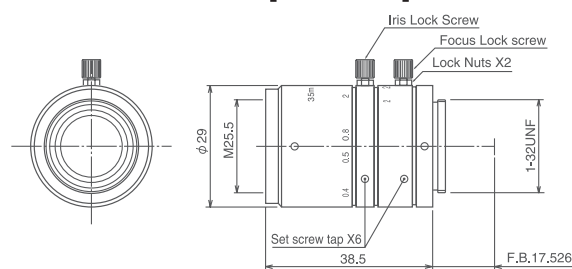
**MIRA [EHF16M]**



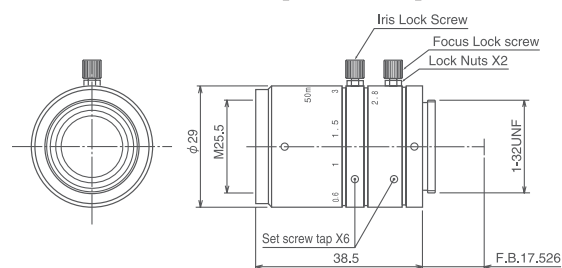
**VEGA [JHF25M]**



**SPICA [JHF35M]**



**POLARIS [JHF50M]**



Unit:mm

SUBJECT TO CHANGE WITHOUT NOTICE.



## Low Distortion

Low Distortion 3Megapixel Lenses for 2/3"

JHF8M-MP



3Mega



JHF12M-MP



3Mega

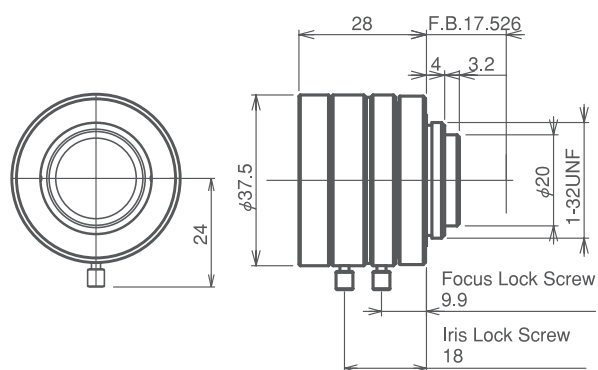


## SPECIFICATIONS

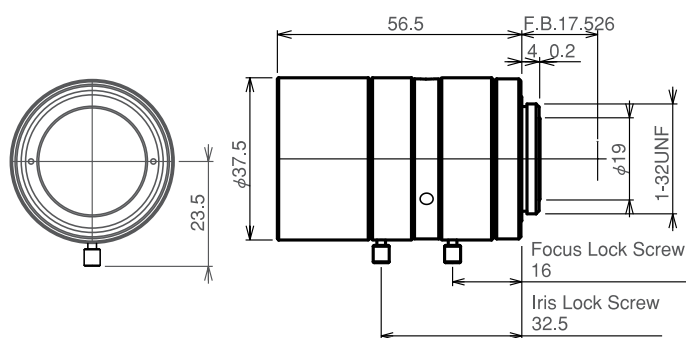
Part NO.	Image Size	Mount	Focal Length f=	Iris Range	Angle of View	M.O.D.	Operation			F.B.	Filter Size	Size (mm)	Weight
							Focus	Zoom	Iris				
JHF8M-MP	2/3"	C	8mm	F1.4-22	56.7×43.8°	0.1m	Manual	—	Manual	17.526mm	35.5mm	φ37.5×28.0	—
JHF12M-MP	2/3"	C	12mm	F1.8-Close	40.3×30.8°	0.15m	Manual	—	Manual	17.526mm	35.5mm	φ37.5×56.5	—

## DIMENSIONS

JHF8M-MP



JHF12M-MP



Unit:mm

SUBJECT TO CHANGE WITHOUT NOTICE.



## Low Distortion

Low Distortion 3Megapixel Lenses for 2/3"

**JHF16M-MP**



3Mega



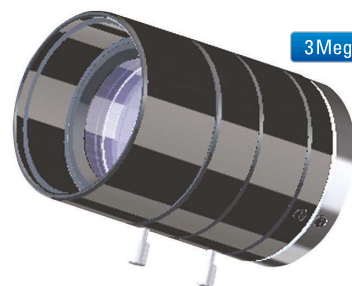
**JHF25M-MP**



3Mega



**JHF35M-MP**



3Mega

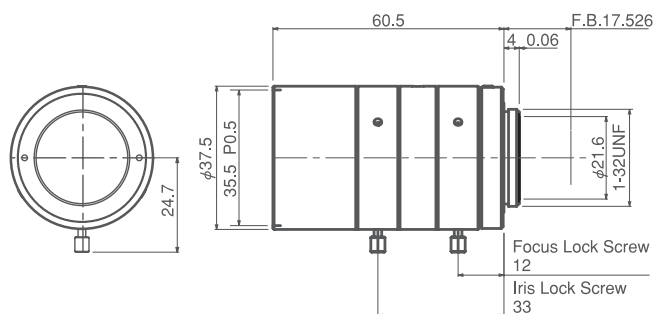


### SPECIFICATIONS

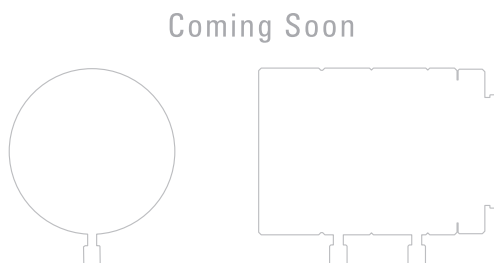
Part NO.	Image Size	Mount	Focal Length f=	Iris Range	Angle of View	M.O.D.	Operation			F.B.	Filter Size	Size (mm)	Weight
							Focus	Zoom	Iris				
<b>JHF16M-MP</b>	2/3"	C	16mm	F1.4-22	30.8×23.3°	0.2m	Manual	—	Manual	17.526mm	35.5mm	φ37.5×60.5	—
<b>JHF25M-MP</b>	2/3"	C	25mm	F1.4-22	20.0×15.0°	0.2m	Manual	—	Manual	17.526mm			
<b>JHF35M-MP</b>	2/3"	C	35mm	F1.4-22	14.3×10.8°	0.2m	Manual	—	Manual	17.526mm	35.5mm	φ37.5×56.3	—

### DIMENSIONS

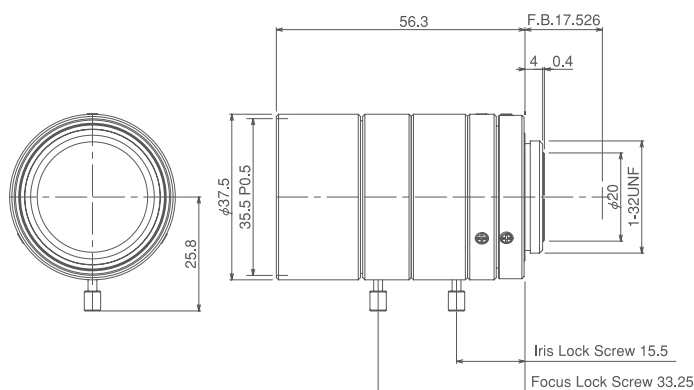
**JHF16M-MP**



**JHF25M-MP**



**JHF35M-MP**



Unit:mm

SUBJECT TO CHANGE WITHOUT NOTICE.



## High Speed

Megapixel Lenses with High Speed F0.95

JF17095M



VF25095M



VF50095M

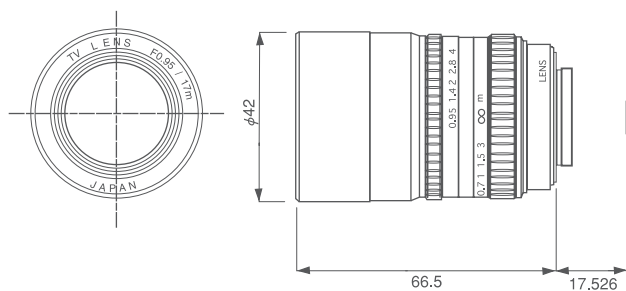


## SPECIFICATIONS

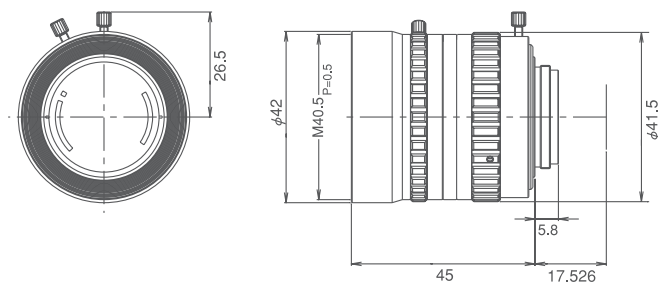
Part NO.	Image Size	Mount	Focal Length f=	Iris Range	Angle of View	M.O.D.	Operation			F.B.	Filter Size	Size (mm)	Weight
							Focus	Zoom	Iris				
JF17095M	2/3"	C	17mm	F0.95-16	30.4×22.6°	0.42m	Manual	—	Manual	17.526mm	40.5mm	φ42×66.5	165g
VF25095M	1"	C	25mm	F0.95-16	28.48×21.20°	0.45m	Manual	—	Manual	17.526mm	40.5mm	φ42×45	125g
VF50095M	1"	C	50mm	F0.95-16	14.6×11.0°	0.6m	Manual	—	Manual	17.526mm	62mm	φ65×74.1	470g

## DIMENSIONS

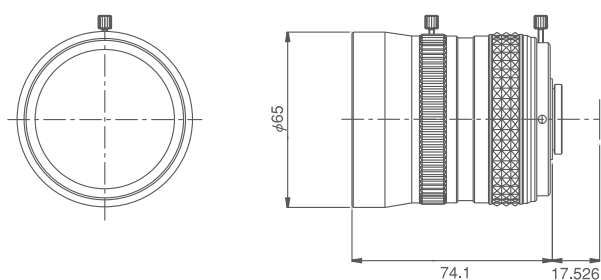
JF17095M



VF25095M



VF50095M



Unit:mm

SUBJECT TO CHANGE WITHOUT NOTICE.



**Cassiopeia4**  
[HHF4MK-3C]



**Cassiopeia6**  
[HHF6MK-3C]



**Cassiopeia12**  
[HHF12MK-3C]



**Cassiopeia25**  
[HHF25MK-3C]



**Cassiopeia50**  
[HHF50MK-3C]

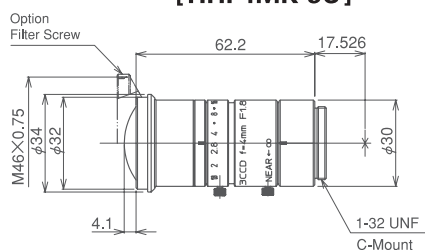


## SPECIFICATIONS

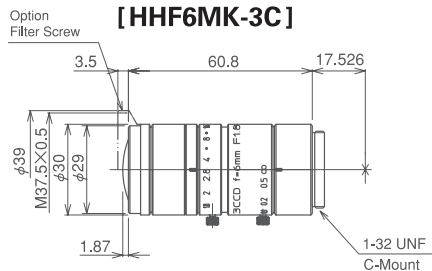
Part NO.	Image Size	Mount	Focal Length f=	Iris Range	Angle of View	M.O.D.	Operation			F.B.	Filter Size	Size (mm)	Weight
							Focus	Zoom	Iris				
Cassiopeia4	1/2"	C	4mm	F1.8-16	83.4×64.5°	0.1m	Manual	—	Manual	17.526mm	46mm	φ48×62.2	111g
Cassiopeia6	1/2"	C	6mm	F1.8-16	58.8×44.9°	0.1m	Manual	—	Manual	17.526mm	37.5mm	φ39×60.8	99g
Cassiopeia12	1/2"	C	12mm	F1.8-16	30.4×22.8°	0.15m	Manual	—	Manual	17.526mm	27mm	φ30×58.8	90g
Cassiopeia25	1/2"	C	25mm	F1.8-16	14.6×11.0°	0.2m	Manual	—	Manual	17.526mm	27mm	φ30×47	75g
Cassiopeia50	1/2"	C	50mm	F1.8-16	7.0×5.3°	0.3m	Manual	—	Manual	17.526mm	35.5mm	φ40×66	155g

## DIMENSIONS

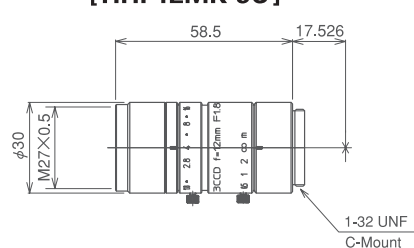
**Cassiopeia4**  
[HHF4MK-3C]



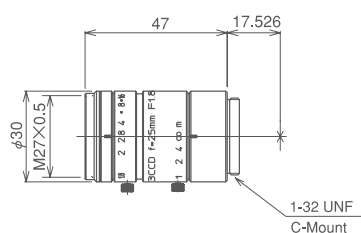
**Cassiopeia6**  
[HHF6MK-3C]



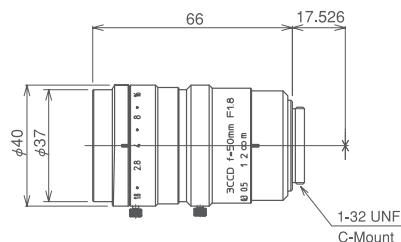
**Cassiopeia12**  
[HHF12MK-3C]



**Cassiopeia25**  
[HHF25MK-3C]



**Cassiopeia50**  
[HHF50MK-3C]



Unit:mm

SUBJECT TO CHANGE WITHOUT NOTICE.



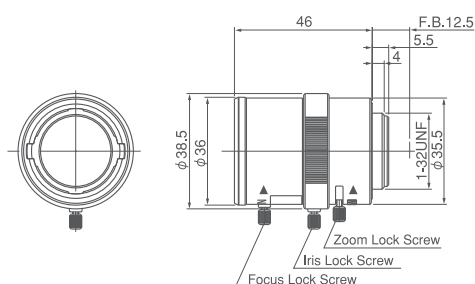


# TV308DC-2

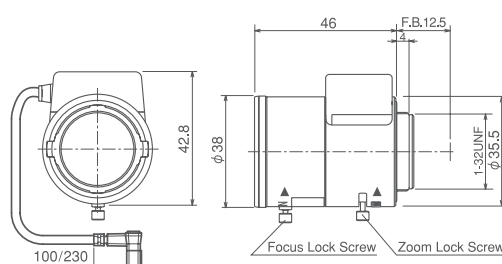
**TV308AI-2**

Part NO.	Image Size	Mount	Focal Length f=	Iris Range	Angle of View	M.O.D.	Operation			F.B.	Filter Size	Size (mm)	Weight
							Focus	Zoom	Iris				
TV308M-2	1/3"	CS	3-8mm	F1.2-Close	92.5×68.5°~35.6×26.7°	0.3m	Manual	Manual	Manual	12.5mm	—	φ38.5×46	43g
TV308DC-2	1/3"	CS	3-8mm	F1.2-360	92.5×68.5°~35.6×26.7°	0.3m	Manual	Manual	DC	12.5mm	—	36×42.8×46	63g
TV308AI-2	1/3"	CS	3-8mm	F1.2-360	92.5×68.5°~35.6×26.7°	0.3m	Manual	Manual	VIDEO	12.5mm	—	36×46×46	65g

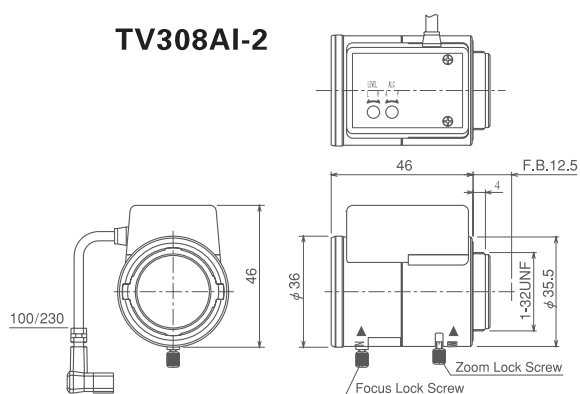
## TV308M-2



## TV308DC-2

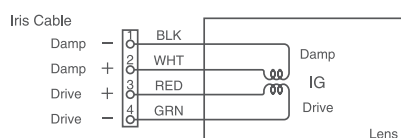


## TV308AI-2

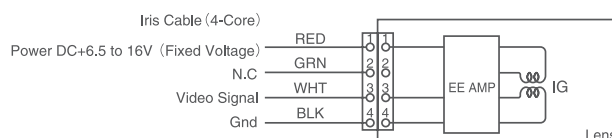


### CIRCUIT DIAGRAM

# TV308DC-2



**TV308AI-2**

18 Day & Night Vari-Focal Lenses  
PHOENIX



#### TAV308M



#### TAV308DC



#### TAV308AI

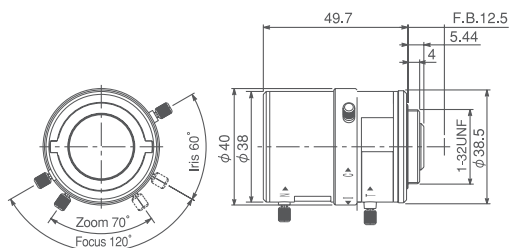


### SPECIFICATIONS

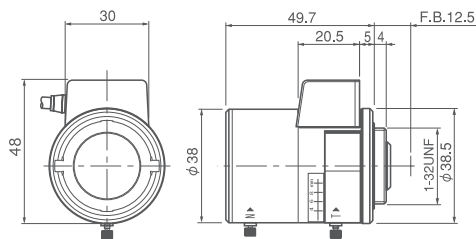
Part NO.	Image Size	Mount	Focal Length f=	Iris Range	Angle of View	M.O.D.	Operation			F.B.	Filter Size	Size (mm)	Weight
							Focus	Zoom	Iris				
TAV308M	1/3"	CS	3-8mm	F0.95-Close	94.3×68.9°~36.0×26.9°	0.3m	Manual	Manual	Manual	12.5mm	—	38×49.7	60g
TAV308DC	1/3"	CS	3-8mm	F0.95-360	94.3×68.9°~36.0×26.9°	0.3m	Manual	Manual	DC	12.5mm	—	48×38×49.7	64g
TAV308AI	1/3"	CS	3-8mm	F0.95-360	94.3×68.9°~36.0×26.9°	0.3m	Manual	Manual	VIDEO	12.5mm	—	50×38×49.7	74g

### DIMENSIONS

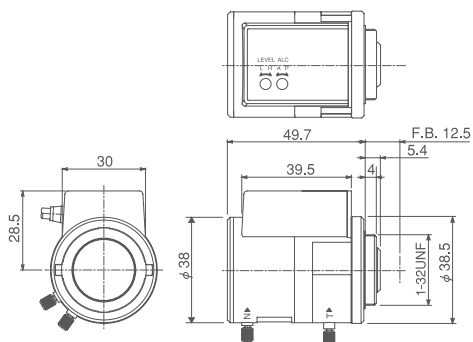
#### TAV308M



#### TAV308DC



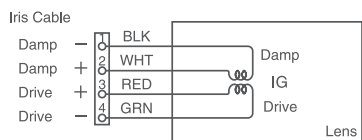
#### TAV308AI



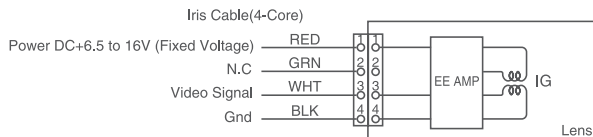
Unit:mm

### CIRCUIT DIAGRAM

#### TAV308DC



#### TAV308AI



SUBJECT TO CHANGE WITHOUT NOTICE.



#### TAV2712M



#### TAV2712DC



#### TAV2712AI

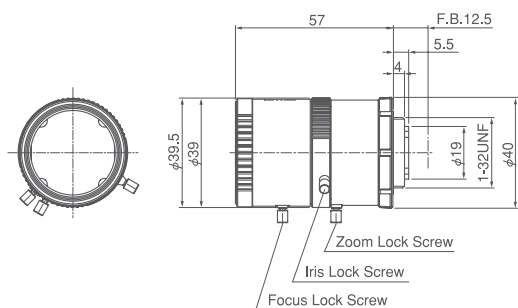


### SPECIFICATIONS

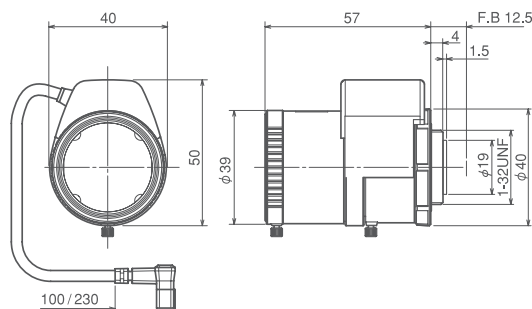
Part NO.	Image Size	Mount	Focal Length f=	Iris Range	Angle of View	M.O.D.	Operation			F.B.	Filter Size	Size (mm)	Weight
							Focus	Zoom	Iris				
<b>TAV2712M</b>	1/3"	CS	2.7-12mm	F1.2-Close	97.4×72.4°~23.8×17.8°	0.3m	Manual	Manual	Manual	12.5mm	—	φ39.5×57	65g
<b>TAV2712DC</b>	1/3"	CS	2.7-12mm	F1.2-360	97.4×72.4°~23.8×17.8°	0.3m	Manual	Manual	DC	12.5mm	—	40×50×57	72g
<b>TAV2712AI</b>	1/3"	CS	2.7-12mm	F1.2-360	97.4×72.4°~23.8×17.8°	0.3m	Manual	Manual	VIDEO	12.5mm	—	43.5×50×57	80g

### DIMENSIONS

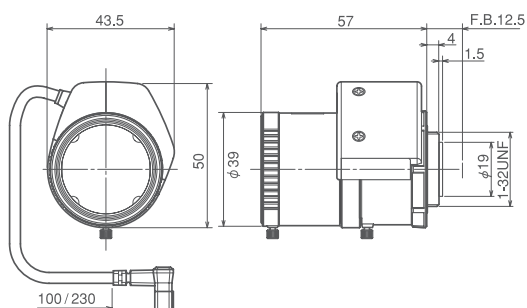
#### TAV2712M



#### TAV2712DC



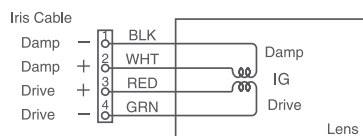
#### TAV2712AI



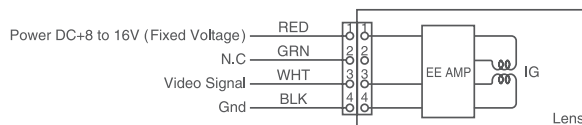
Unit:mm

### CIRCUIT DIAGRAM

#### TAV2712DC



#### TAV2712AI



SUBJECT TO CHANGE WITHOUT NOTICE.



### TV555M IR



### TV555DC IR

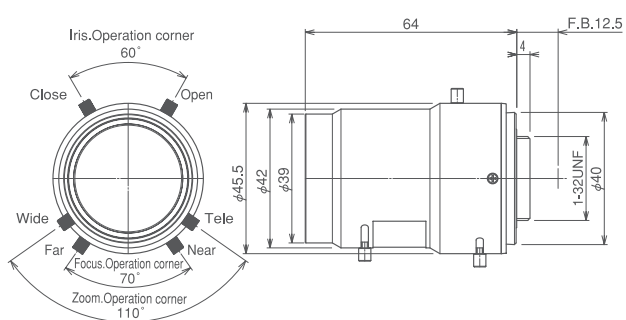


### SPECIFICATIONS

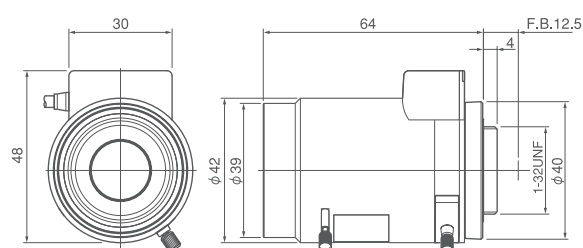
Part NO.	Image Size	Mount	Focal Length f=	Iris Range	Angle of View	M.O.D.	Operation			F.B.	Filter Size	Size (mm)	Weight
							Focus	Zoom	Iris				
TV555M IR	1/3"	CS	5-55mm	F1.4-Close	53.1×40.0°~4.8×3.6°	0.3-0.8m	Manual	Manual	Manual	12.5mm	—	45.5×42×64	73g
TV555DC IR	1/3"	CS	5-55mm	F1.4-360	53.1×40.0°~4.8×3.6°	0.3-0.8m	Manual	Manual	DC	12.5mm	—	48×42×64	93g

### DIMENSIONS

#### TV555M IR



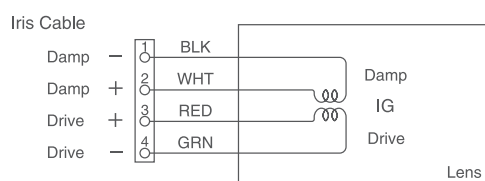
#### TV555DC IR



Unit:mm

### CIRCUIT DIAGRAM

#### TV555DC IR





HV880M IR

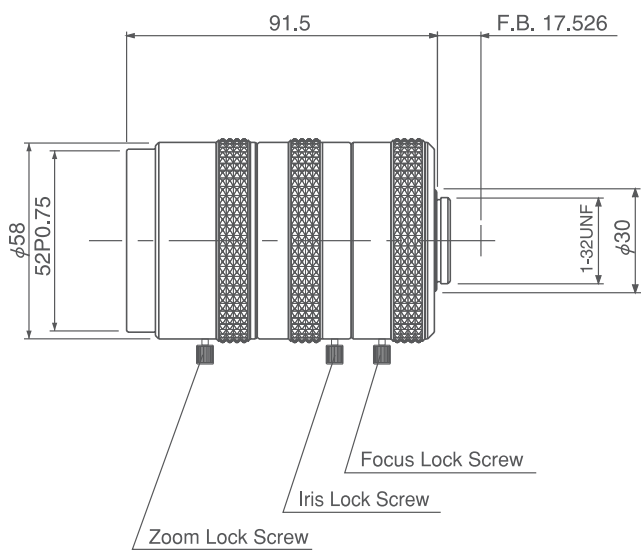


SPECIFICATIONS

Part NO.	Image Size	Mount	Focal Length f=	Iris Range	Angle of View	M.O.D.	Operation			F.B.	Filter Size	Size (mm)	Weight
							Focus	Zoom	Iris				
HV880M IR	1/2"	C	8-80mm	F1.6-Close	46.6×34.3°~4.7×3.6°	0.1-0.7m	Manual	Manual	Manual	17.526mm	52mm	φ58×91.5	400g

DIMENSIONS

HV880M IR



Unit:mm

SUBJECT TO CHANGE WITHOUT NOTICE.



TV1634M



TV1634DC

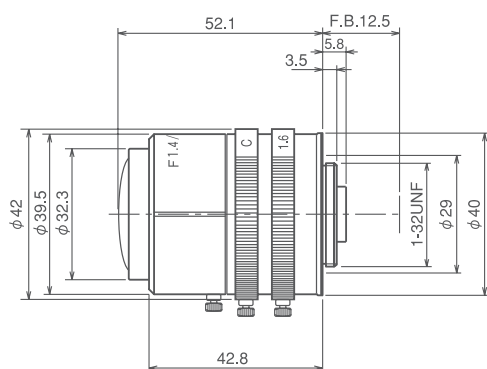


#### SPECIFICATIONS

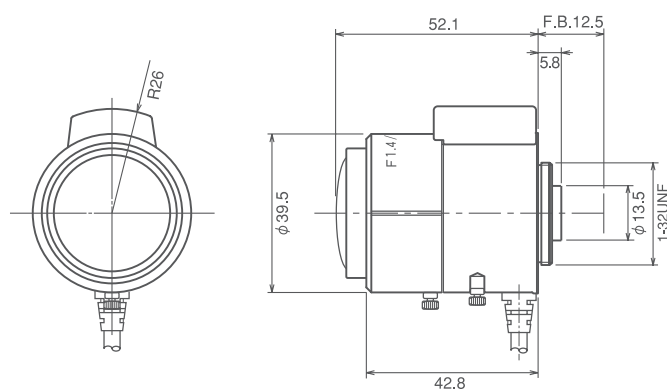
Part NO.	Image Size	Mount	Focal Length f=	Iris Range	Angle of View	M.O.D.	Operation			F.B.	Filter Size	Size (mm)	Weight
							Focus	Zoom	Iris				
TV1634M	1/3"	CS	1.6-3.4mm	F1.4-Close	180×114.1°~84.3×55.8°	0.2m	Manual	Manual	Manual	12.5mm	—	φ42×52.1	98g
TV1634DC	1/3"	CS	1.6-3.4mm	F1.4-360	180×114.1°~84.3×55.8°	0.2m	Manual	Manual	DC	12.5mm	—	45.8×39.5×52.1	105g

#### DIMENSIONS

TV1634M



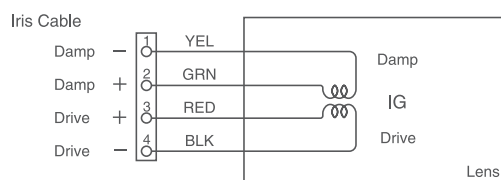
TV1634DC



Unit:mm

#### CIRCUIT DIAGRAM

TV1634DC





Wide Aspherical Vari-Focal

2.6X Super Wide Vari-Focal Lenses  
with Aspherical Lens

TAV236DC

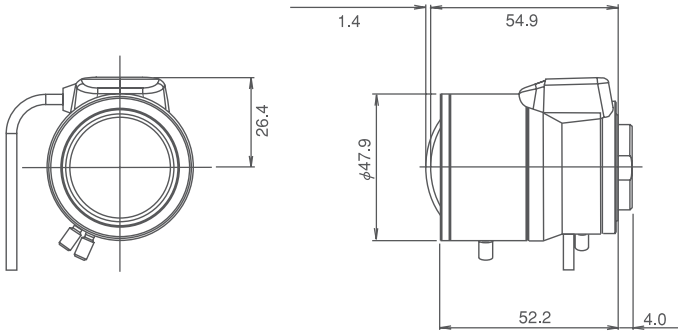


SPECIFICATIONS

Part NO.	Image Size	Mount	Focal Length f=	Iris Range	Angle of View	M.O.D.	Operation			F.B.	Filter Size	Size (mm)	Weight
							Focus	Zoom	Iris				
TAV236DC	1/3"	CS	2.3-6mm	F1.4-360	114.75×86.25°~48.15×36.09°	0.2m	Manual	Manual	DC	12.5mm	—	φ47.9×54.9	110g

DIMENSIONS

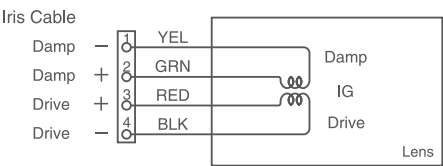
TAV236DC



Unit:mm

CIRCUIT DIAGRAM

TAV236DC



SUBJECT TO CHANGE WITHOUT NOTICE.



# 11X High-Resolution

11X Vari-Focal Lenses

TV555M



TV555DC

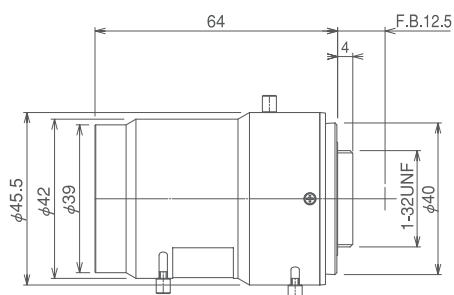


## SPECIFICATIONS

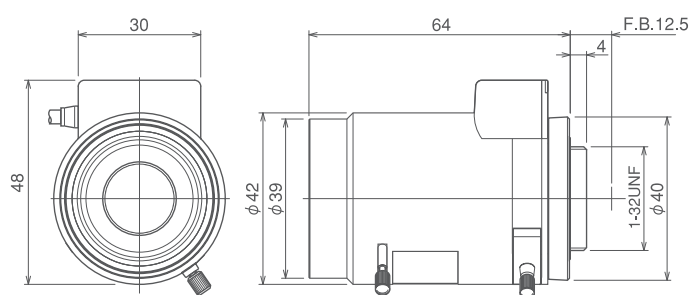
Part NO.	Image Size	Mount	Focal Length f=	Iris Range	Angle of View	M.O.D.	Operation			F.B.	Filter Size	Size (mm)	Weight
							Focus	Zoom	Iris				
TV555M	1/3"	CS	5-55mm	F1.4-Close	53.1×40.0°~4.8×3.6°	0.3-0.8m	Manual	Manual	Manual	12.5mm	—	45.5×42×64	73g
TV555DC	1/3"	CS	5-55mm	F1.4-360	53.1×40.0°~4.8×3.6°	0.3-0.8m	Manual	Manual	DC	12.5mm	—	48×42×64	93g

## DIMENSIONS

TV555M



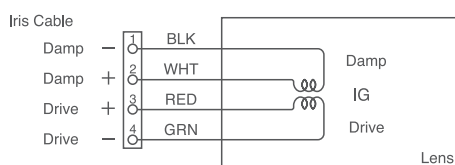
TV555DC



Unit:mm

## CIRCUIT DIAGRAM

TV555DC



SUBJECT TO CHANGE WITHOUT NOTICE.



## 1/2" Standard

2× Vari-Focal Lenses for 1/2"

HV612M



HV612DC



HV612AI

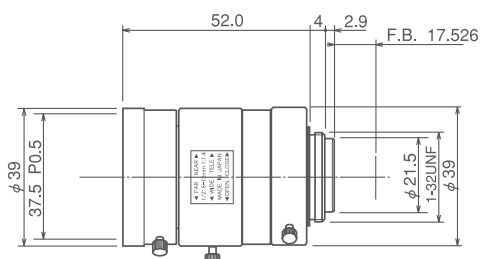


### SPECIFICATIONS

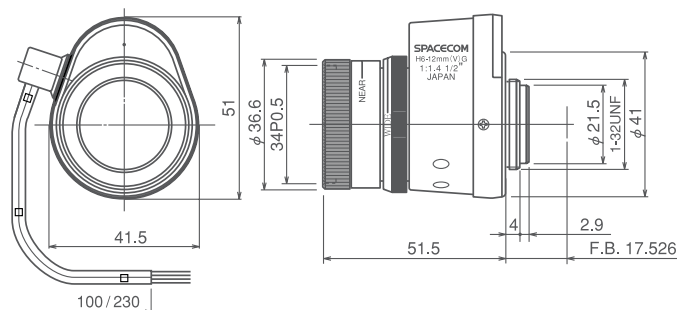
Part NO.	Image Size	Mount	Focal Length f=	Iris Range	Angle of View	M.O.D.	Operation			F.B.	Filter Size	Size (mm)	Weight
							Focus	Zoom	Iris				
HV612M	1/2"	C	6-12mm	F1.4-Close	56.1×43.6°~29.9×22.6°	0.25m	Manual	Manual	Manual	17.526mm	37.5mm	φ39×52	80g
HV612DC	1/2"	C	6-12mm	F1.4-360	56.1×43.6°~29.9×22.6°	0.25m	Manual	Manual	DC	17.526mm	34mm	51×41.5×51.5	65g
HV612AI	1/2"	C	6-12mm	F1.4-360	56.1×43.6°~29.9×22.6°	0.25m	Manual	Manual	VIDEO	17.526mm	34mm	51×41.5×51.5	70g

### DIMENSIONS

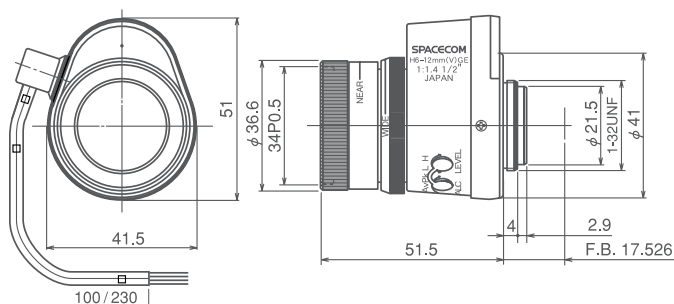
HV612M



HV612DC



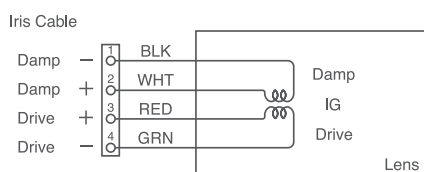
HV612AI



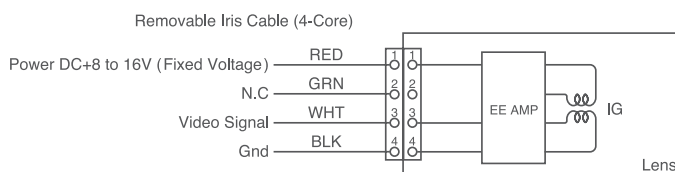
Unit:mm

### CIRCUIT DIAGRAM

HV612DC



HV612AI



SUBJECT TO CHANGE WITHOUT NOTICE.



## 6X Vari-Zoom

6X Vari-Zoom Lenses for 1/3"

**TZ6539M**



**TZ6539DC**



**TZ6539AI**

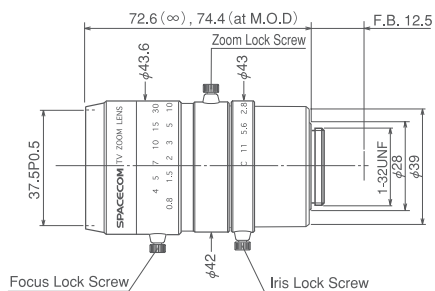


### SPECIFICATIONS

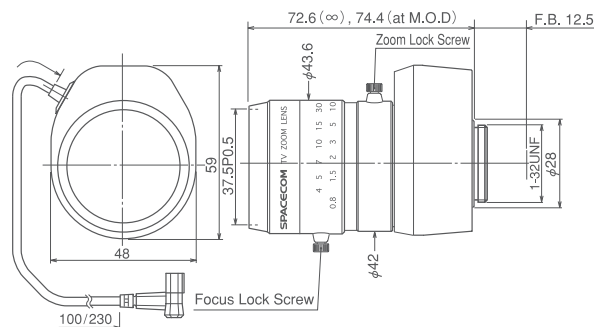
Part NO.	Image Size	Mount	Focal Length f=	Iris Range	Angle of View	M.O.D.	Operation			F.B.	Filter Size	Size (mm)	Weight
							Focus	Zoom	Iris				
<b>TZ6539M</b>	1/3"	CS	6.5-39mm	F1.4-Close	40.5×31.0°~7.0×5.3°	0.8m	Manual	Manual	Manual	12.5mm	37.5mm	φ43.6×72.6	120g
<b>TZ6539DC</b>	1/3"	CS	6.5-39mm	F1.4-360	40.5×31.0°~7.0×5.3°	0.8m	Manual	Manual	DC	12.5mm	37.5mm	59×48×72.6	130g
<b>TZ6539AI</b>	1/3"	CS	6.5-39mm	F1.4-360	40.5×31.0°~7.0×5.3°	0.8m	Manual	Manual	VIDEO	12.5mm	37.5mm	59×48×72.6	140g

### DIMENSIONS

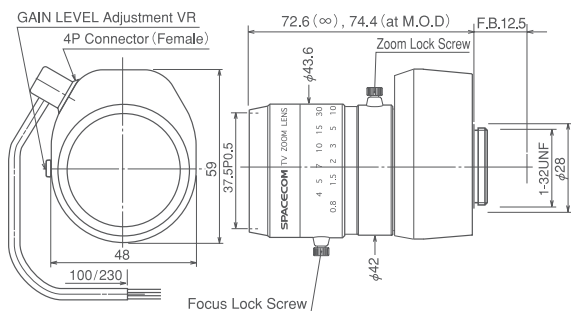
**TZ6539M**



**TZ6539DC**



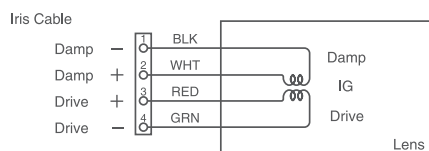
**TZ6539AI**



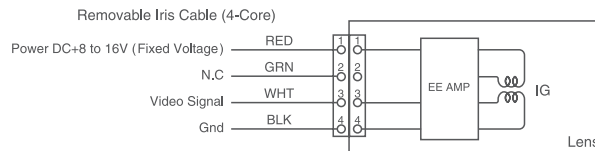
Unit:mm

### CIRCUIT DIAGRAM

**TZ6539DC**



**TZ6539AI**



SUBJECT TO CHANGE WITHOUT NOTICE.



## 6X Vari-Zoom

6X Vari-Zoom Lenses for 1/2"

HZ8551M



HZ8551DC



HZ8551AI

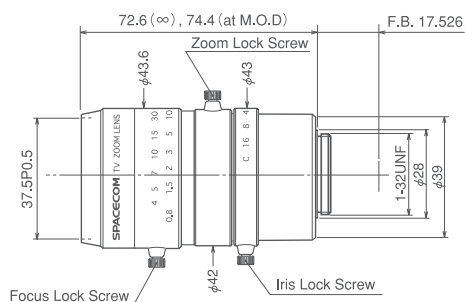


### SPECIFICATIONS

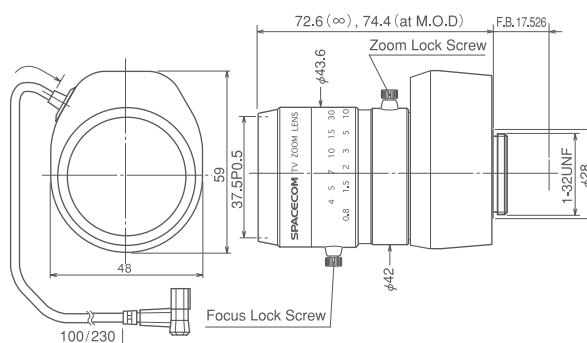
Part NO.	Image Size	Mount	Focal Length f=	Iris Range	Angle of View	M.O.D.	Operation			F.B.	Filter Size	Size (mm)	Weight
							Focus	Zoom	Iris				
HZ8551M	1/2"	C	8.5-51mm	F1.6-Close	41.3×31.5°~7.2×5.4°	0.8m	Manual	Manual	Manual	17.526mm	37.5mm	φ43.6×72.6	120g
HZ8551DC	1/2"	C	8.5-51mm	F1.6-360	41.3×31.5°~7.2×5.4°	0.8m	Manual	Manual	DC	17.526mm	37.5mm	59×48×72.6	130g
HZ8551AI	1/2"	C	8.5-51mm	F1.6-360	41.3×31.5°~7.2×5.4°	0.8m	Manual	Manual	VIDEO	17.526mm	37.5mm	59×48×72.6	140g

### DIMENSIONS

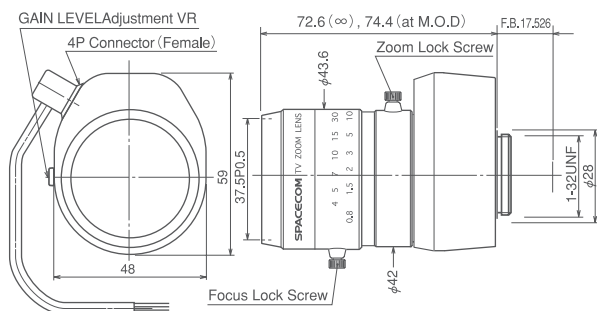
HZ8551M



HZ8551DC



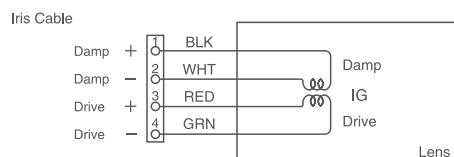
HZ8551AI



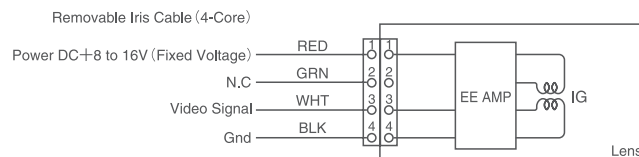
Unit:mm

### CIRCUIT DIAGRAM

HZ8551DC



HZ8551AI



SUBJECT TO CHANGE WITHOUT NOTICE.



## 10X Vari-Zoom

10X Vari-Zoom Lenses for 1/2"

**HZ8585M**



**HZ8585DC**



**HZ8585AI**

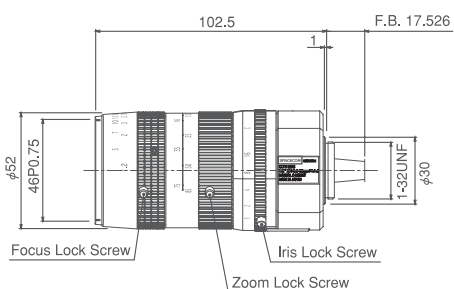


### SPECIFICATIONS

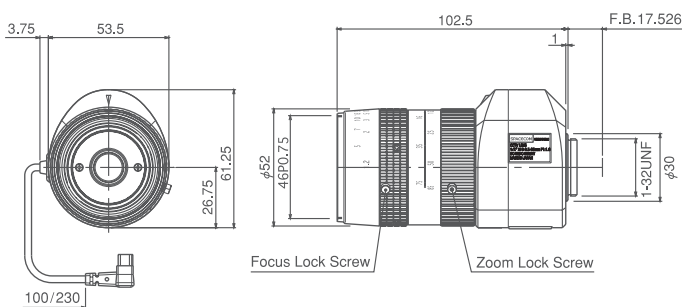
Part NO.	Image Size	Mount	Focal Length f=	Iris Range	Angle of View	M.O.D.	Operation			F.B.	Filter Size	Size (mm)	Weight
							Focus	Zoom	Iris				
<b>HZ8585M</b>	1/2"	C	8.5-85mm	F1.6-Close	41.3×31.5°~4.3×3.2°	1.2m	Manual	Manual	Manual	17.526mm	46mm	φ53.5×102.5	200g
<b>HZ8585DC</b>	1/2"	C	8.5-85mm	F1.6-360	41.3×31.5°~4.3×3.2°	1.2m	Manual	Manual	DC	17.526mm	46mm	61.2×53.5×102.5	200g
<b>HZ8585AI</b>	1/2"	C	8.5-85mm	F1.6-360	41.3×31.5°~4.3×3.2°	1.2m	Manual	Manual	VIDEO	17.526mm	46mm	61.2×53.5×102.5	200g

### DIMENSIONS

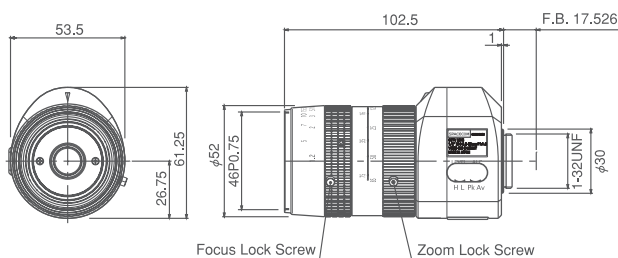
**HZ8585M**



**HZ8585DC**



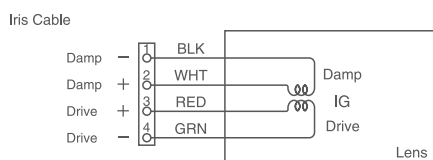
**HZ8585AI**



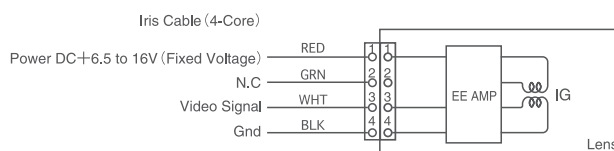
Unit:mm

### CIRCUIT DIAGRAM

**HZ8585DC**



**HZ8585AI**



SUBJECT TO CHANGE WITHOUT NOTICE.



## Ultra Super Wide

Ultra-Super Wide  
Fixed Focal Lenses for 1/3"

TF2.3M



TF2.3DC

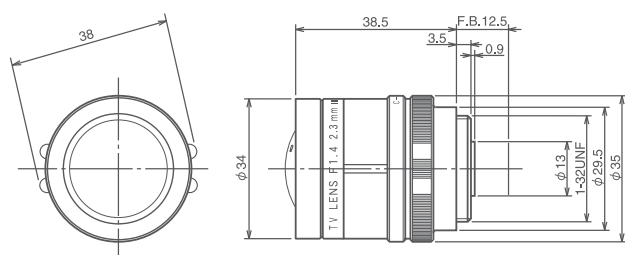


## SPECIFICATIONS

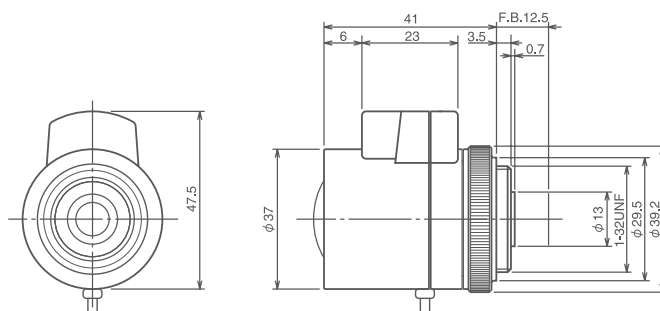
Part NO.	Image Size	Mount	Focal Length f=	Iris Range	Angle of View	M.O.D.	Operation			F.B.	Filter Size	Size (mm)	Weight
							Focus	Zoom	Iris				
TF2.3M	1/3"	CS	2.3mm	F1.4-Close	116.1°×87.4°	0.2m	Manual	—	Manual	12.5mm	—	38×38.5	67g
TF2.3DC	1/3"	CS	2.3mm	F1.4-360	116.1°×87.4°	0.2m	Manual	—	DC	12.5mm	—	47.5×41	80g

## DIMENSIONS

TF2.3M



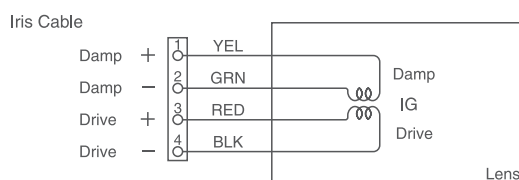
TF2.3DC



Unit:mm

## CIRCUIT DIAGRAM

TF2.3DC



SUBJECT TO CHANGE WITHOUT NOTICE.



## Super Wide

Super Wide Fixed Focal Lenses for 1/3"

TF2.8M



TF2.8DC



TF2.8AI

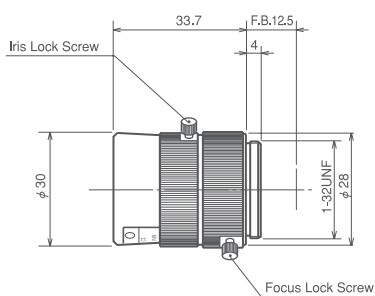


## SPECIFICATIONS

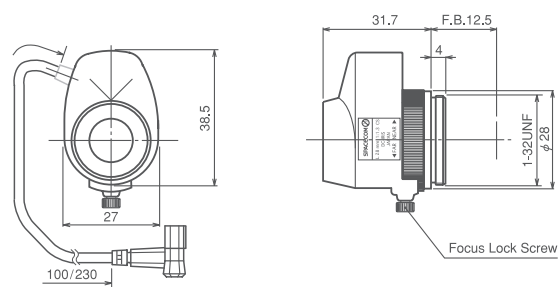
Part NO.	Image Size	Mount	Focal Length f=	Iris Range	Angle of View	M.O.D.	Operation			F.B.	Filter Size	Size (mm)	Weight
							Focus	Zoom	Iris				
TF2.8M	1/3"	CS	2.8mm	F1.3-Close	92.0×71.7°	0.1m	Manual	—	Manual	12.5mm	—	φ30×33.7	35g
TF2.8DC	1/3"	CS	2.8mm	F1.3-360	92.0×71.7°	0.1m	Manual	—	DC	12.5mm	—	38.5×27×31.7	35g
TF2.8AI	1/3"	CS	2.8mm	F1.3-360	92.0×71.7°	0.2m	Manual	—	VIDEO	12.5mm	30.5mm	51×41.5×35.5	50g

## DIMENSIONS

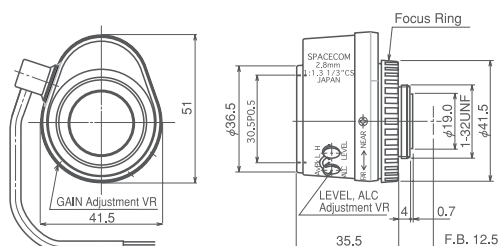
TF2.8M



TF2.8DC



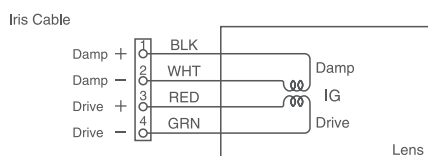
TF2.8AI



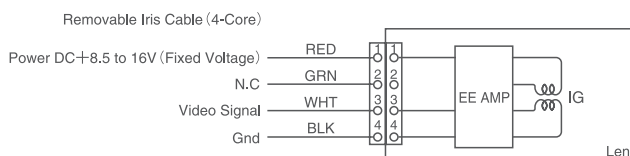
Unit:mm

## CIRCUIT DIAGRAM

TF2.8DC



TF2.8AI



SUBJECT TO CHANGE WITHOUT NOTICE.



Wide

Wide Fixed Focal Lenses for 1/3"

TF4M



TF4DC



TF4AI

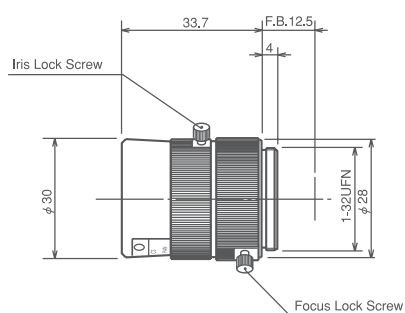


## SPECIFICATIONS

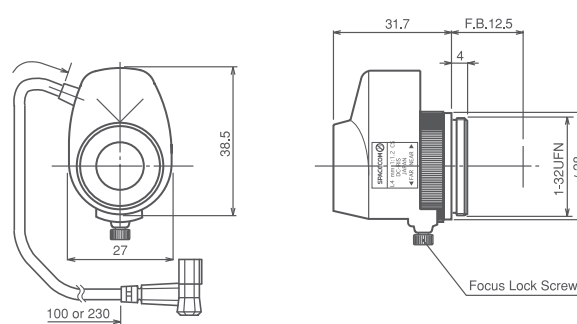
Part NO.	Image Size	Mount	Focal Length f=	Iris Range	Angle of View	M.O.D.	Operation			F.B.	Filter Size	Size (mm)	Weight
							Focus	Zoom	Iris				
TF4M	1/3"	CS	4mm	F1.2-Close	70.7°×53.4°	0.1m	Manual	—	Manual	12.5mm	—	φ30×33.7	35g
TF4DC	1/3"	CS	4mm	F1.2-360	70.7°×53.4°	0.1m	Manual	—	DC	12.5mm	—	38.5×27×31.7	35g
TF4AI	1/3"	CS	4mm	F1.2-360	70.7°×53.4°	0.2m	Manual	—	VIDEO	12.5mm	30.5mm	51×41.5×36.1	50g

## DIMENSIONS

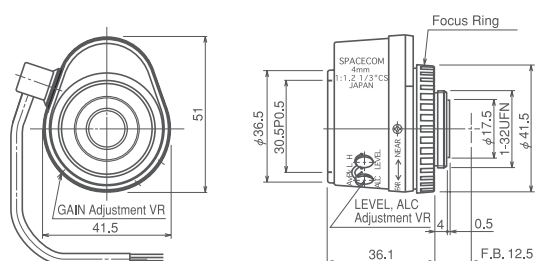
TF4M



TF4DC



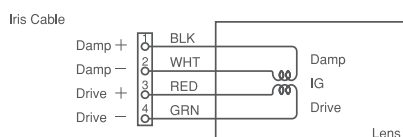
TF4AI



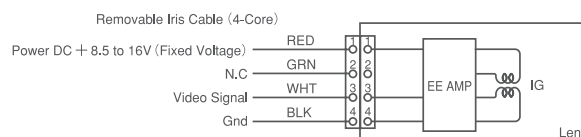
Unit:mm

## CIRCUIT DIAGRAM

TF4DC



TF4AI



SUBJECT TO CHANGE WITHOUT NOTICE.



## Standard

Standard Fixed Focal Lenses for 1/3"

TF8M



TF8DC



TF8AI

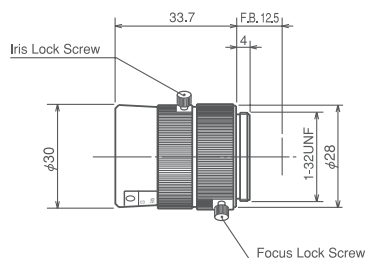


## SPECIFICATIONS

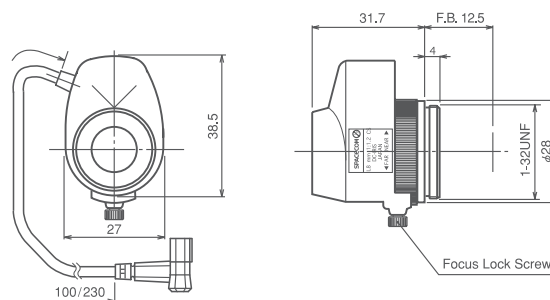
Part NO.	Image Size	Mount	Focal Length f=	Iris Range	Angle of View	M.O.D.	Operation			F.B.	Filter Size	Size (mm)	Weight
							Focus	Zoom	Iris				
TF8M	1/3"	CS	8mm	F1.2-Close	37.5×27.7°	0.1m	Manual	—	Manual	12.5mm	—	φ30×33.7	35g
TF8DC	1/3"	CS	8mm	F1.2-360	37.5×27.7°	0.1m	Manual	—	DC	12.5mm	—	38.5×27×31.7	35g
TF8AI	1/3"	CS	8mm	F1.2-360	37.5×27.7°	0.2m	Manual	—	VIDEO	12.5mm	30.5mm	51×41.5×41.6	50g

## DIMENSIONS

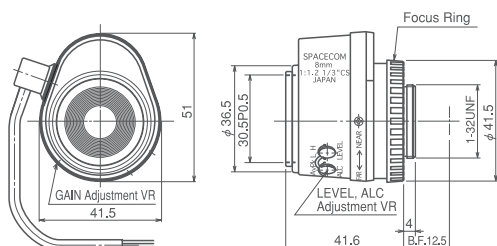
TF8M



TF8DC



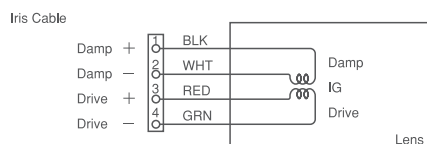
TF8AI



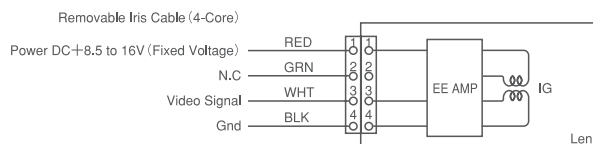
Unit:mm

## CIRCUIT DIAGRAM

TF8DC



TF8AI



SUBJECT TO CHANGE WITHOUT NOTICE.



## 1/2" Super Wide

Super Wide Fixed Focal Lenses for 1/2"

HF3.5DC



HF3.5AI



HF6DC



HF6AI

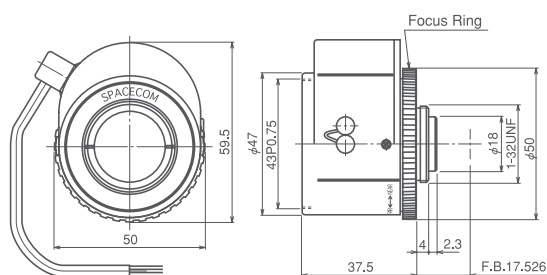


## SPECIFICATIONS

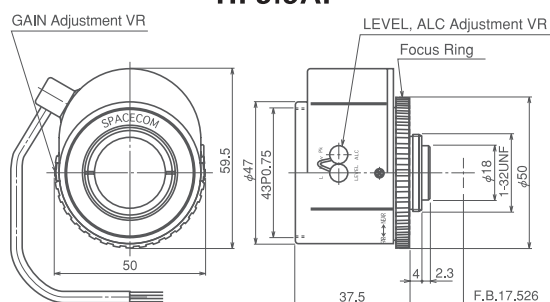
Part NO.	Image Size	Mount	Focal Length f=	Iris Range	Angle of View	M.O.D.	Operation			F.B.	Filter Size	Size (mm)	Weight
							Focus	Zoom	Iris				
HF3.5DC	1/2"	C	3.5mm	F1.6-360	84.9°×68.9°	0.1m	Manual	—	DC	17.526mm	43mm	59.5×50×37.5	80g
HF3.5AI	1/2"	C	3.5mm	F1.6-360	84.9°×68.9°	0.1m	Manual	—	VIDEO	17.526mm	43mm	59.5×50×37.5	85g
HF6DC	1/2"	C	6mm	F1.4-360	56.1°×43.6°	0.2m	Manual	—	DC	17.526mm	30.5mm	51×41.5×37	55g
HF6AI	1/2"	C	6mm	F1.4-360	56.1°×43.6°	0.2m	Manual	—	VIDEO	17.526mm	30.5mm	51×41.5×37	55g

## DIMENSIONS

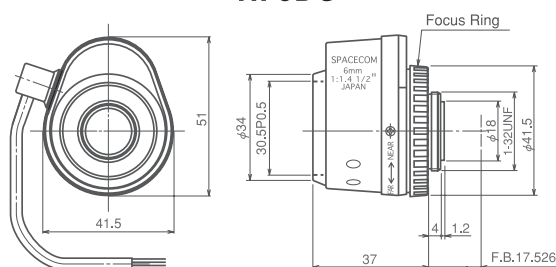
HF3.5DC



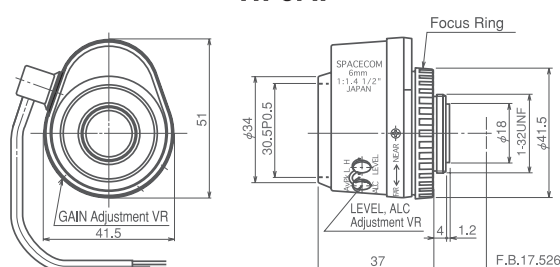
HF3.5AI



HF6DC



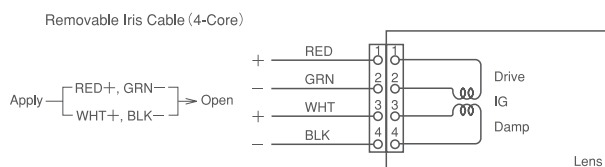
HF6AI



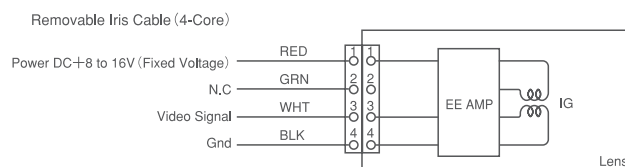
Unit:mm

## CIRCUIT DIAGRAM

HF3.5DC / HF6DC



HF3.5AI / HF6AI



SUBJECT TO CHANGE WITHOUT NOTICE.



## 1/2" Standard

Standard Fixed Focal Lenses for 1/2"

HF12DC



HF12AI



HF35DC-2



HF35AI-2

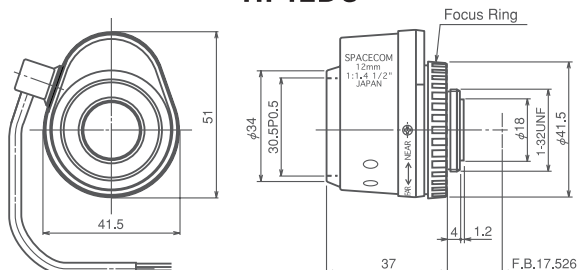


## SPECIFICATIONS

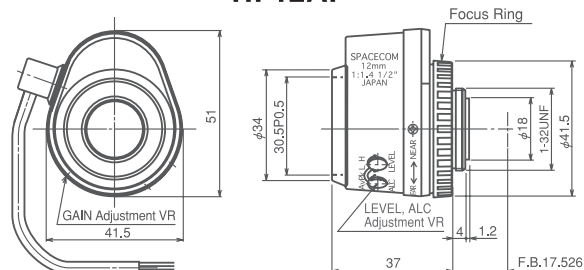
Part NO.	Image Size	Mount	Focal Length f=	Iris Range	Angle of View	M.O.D.	Operation			F.B.	Filter Size	Size (mm)	Weight
							Focus	Zoom	Iris				
HF12DC	1/2"	C	12mm	F1.4-360	29.9°×22.6°	0.3m	Manual	—	DC	17.526mm	30.5mm	51×41.5×37	55g
HF12AI	1/2"	C	12mm	F1.4-360	29.9°×22.6°	0.3m	Manual	—	VIDEO	17.526mm	30.5mm	51×41.5×37	55g
HF35DC-2	1/2"	C	35mm	F1.2-360	10.4°×7.8°	1.0m	Manual	—	DC	17.526mm	43mm	62.5×57×39	150g
HF35AI-2	1/2"	C	35mm	F1.2-360	10.4°×7.8°	1.0m	Manual	—	VIDEO	17.526mm	43mm	62.5×57×39	150g

## DIMENSIONS

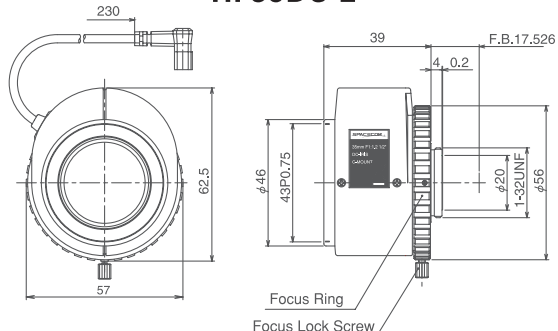
HF12DC



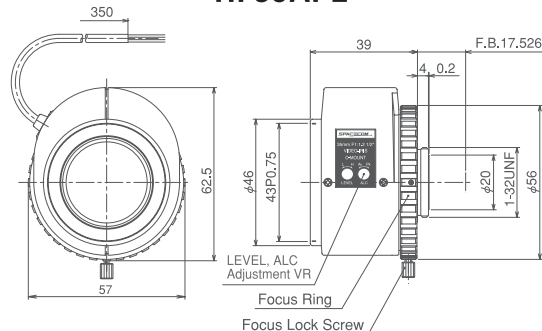
HF12AI



HF35DC-2



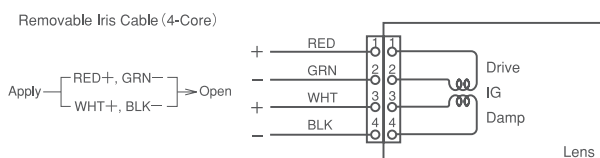
HF35AI-2



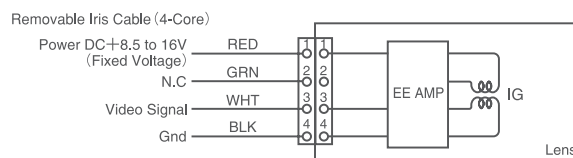
Unit:mm

## CIRCUIT DIAGRAM

HF12DC / HF35DC-2



HF12AI / HF35AI-2



SUBJECT TO CHANGE WITHOUT NOTICE.



JF4.8M



JF4.8DC



JF4.8AI



JF7.5AI



JF16AI

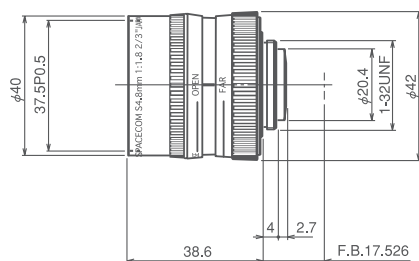


## SPECIFICATIONS

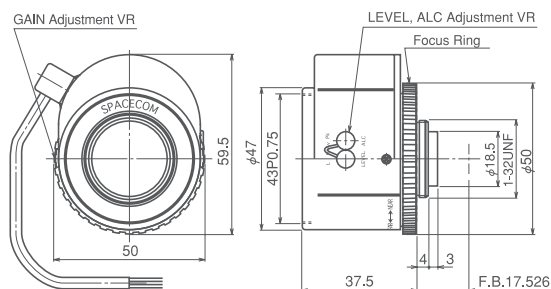
Part NO.	Image Size	Mount	Focal Length f=	Iris Range	Angle of View	M.O.D.	Operation			F.B.	Filter Size	Size (mm)	Weight
							Focus	Zoom	Iris				
JF4.8M	2/3"	C	4.8mm	F1.8-Close	85.0×69.0°	0.2m	Manual	—	Manual	17.526mm	37.5mm	φ42×38.6	75g
JF4.8DC	2/3"	C	4.8mm	F1.8-360	85.0×69.0°	0.2m	Manual	—	DC	17.526mm	43mm	59.5×50×37.5	90g
JF4.8AI	2/3"	C	4.8mm	F1.8-360	85.0×69.0°	0.2m	Manual	—	VIDEO	17.526mm	43mm	59.5×50×37.5	95g
JF7.5AI	2/3"	C	7.5mm	F1.4-360	60.8×47.5°	0.2m	Manual	—	VIDEO	17.526mm	43mm	59.5×50×38.9	90g
JF16AI	2/3"	C	16mm	F1.4-360	30.7×23.3°	0.4m	Manual	—	VIDEO	17.526mm	43mm	59.5×50×38.9	80g

## DIMENSIONS

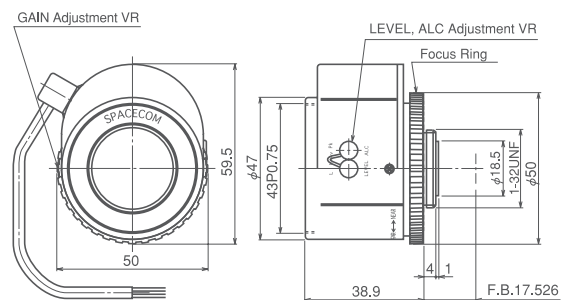
JF4.8M



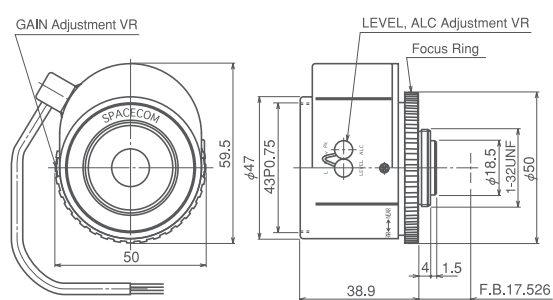
JF4.8DC / JF4.8AI



JF7.5AI



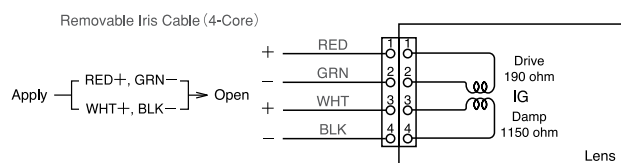
JF16AI



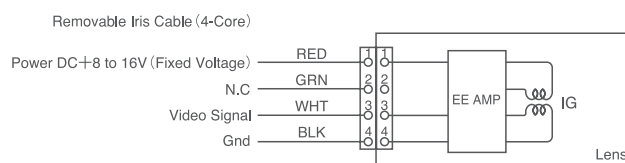
Unit:mm

## CIRCUIT DIAGRAM

JF4.8DC



JF4.8AI / JF7.5AI / JF16AI



SUBJECT TO CHANGE WITHOUT NOTICE.



VF25DC



VF25AI



VF50DC-2

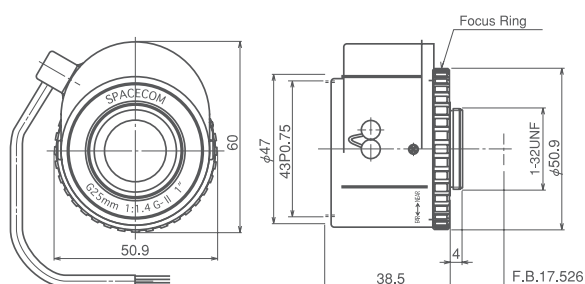


## SPECIFICATIONS

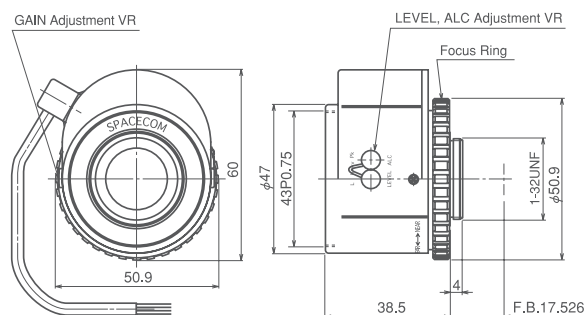
Part NO.	Image Size	Mount	Focal Length f=	Iris Range	Angle of View	M.O.D.	Operation			F.B.	Filter Size	Size (mm)	Weight
							Focus	Zoom	Iris				
VF25DC	1"	C	25mm	F1.4-360	28.7×21.7°	0.5m	Manual	—	DC	17.526mm	43mm	60×50.9×38.5	90g
VF25AI	1"	C	25mm	F1.4-360	28.7×21.7°	0.5m	Manual	—	VIDEO	17.526mm	43mm	60×50.9×38.5	95g
VF50DC-2	1"	C	50mm	F1.8-360	14.5×10.9°	0.7m	Manual	—	DC	17.526mm	43mm	62.5×57×39	120g

## DIMENSIONS

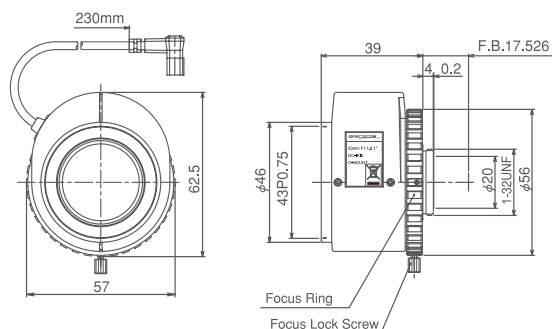
VF25DC



VF25AI



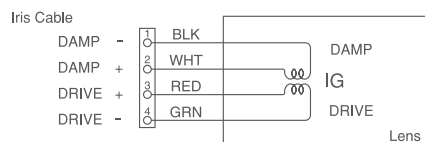
VF50DC-2



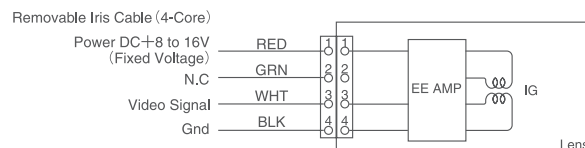
Unit:mm

## CIRCUIT DIAGRAM

VF25DC / VF50DC-2



VF25AI



SUBJECT TO CHANGE WITHOUT NOTICE.



VF50AI-2



VF75DC-2



VF75AI-2

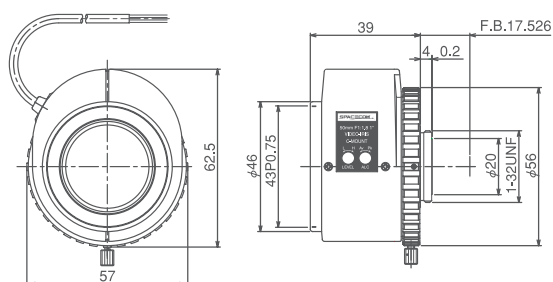


## SPECIFICATIONS

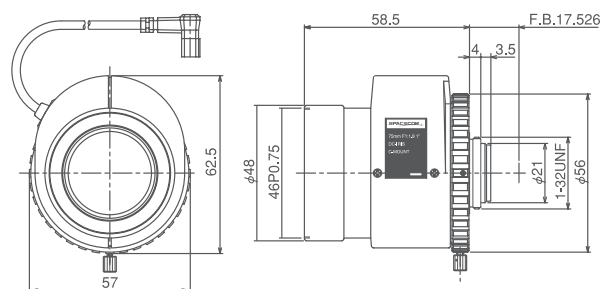
Part NO.	Image Size	Mount	Focal Length f=	Iris Range	Angle of View	M.O.D.	Operation			F.B.	Filter Size	Size (mm)	Weight
							Focus	Zoom	Iris				
VF50AI-2	1"	C	50mm	F1.8-360	14.5×10.9°	0.7m	Manual	—	VIDEO	17.526mm	43mm	62.5×57×39	125g
VF75DC-2	1"	C	75mm	F1.8-360	9.7×7.3°	0.8m	Manual	—	DC	17.526mm	46mm	62.5×57×58.5	190g
VF75AI-2	1"	C	75mm	F1.8-360	9.7×7.3°	0.8m	Manual	—	VIDEO	17.526mm	46mm	62.5×57×58.5	195g

## DIMENSIONS

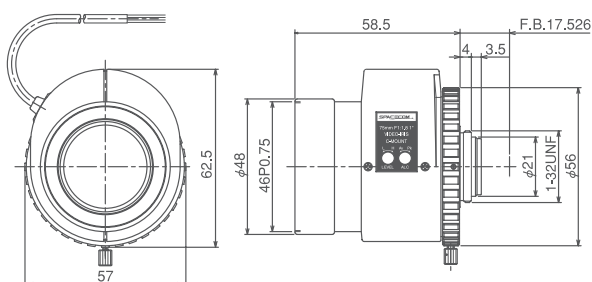
VF50AI-2



VF75DC-2



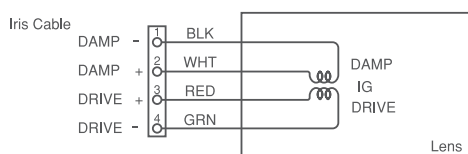
VF75AI-2



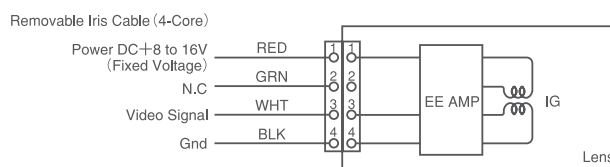
Unit:mm

## CIRCUIT DIAGRAM

VF75DC-2



VF50AI-2 / VF75AI-2



SUBJECT TO CHANGE WITHOUT NOTICE.



## Pin-Hole Lenses

Pin-Hole Lenses for 1/2" and 1/3"

TP3.8M



TP3.8DC



HP3.8M



HP3.8AI

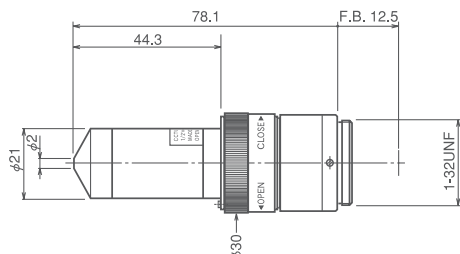


### SPECIFICATIONS

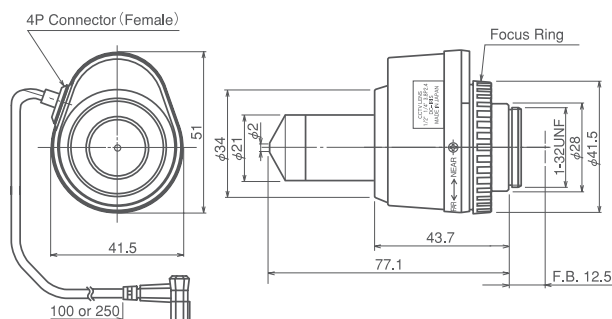
Part NO.	Image Size	Mount	Focal Length f=	Iris Range	Angle of View	M.O.D.	Operation			F.B.	Filter Size	Size (mm)	Weight
							Focus	Zoom	Iris				
TP3.8M	1/3"	CS	3.8mm	F2.4-Close	64.6×50.7°	1.0m	—	—	Manual	12.5mm	—	φ30×78.1	75g
TP3.8DC	1/3"	CS	3.8mm	F2.4-360	64.6×50.7°	1.0m	Manual	—	DC	12.5mm	—	51×41.5×77.1	75g
HP3.8M	1/2"	C	3.8mm	F2.4-360	80.2×64.6°	1.0m	Manual	—	VIDEO	17.526mm	—	51×41.5×72.9	75g
HP3.8AI	1/2"	C	3.8mm	F2.4-Close	80.2×64.6°	1.0m	—	—	Manual	17.526mm	—	φ30×72.9	75g

### DIMENSIONS

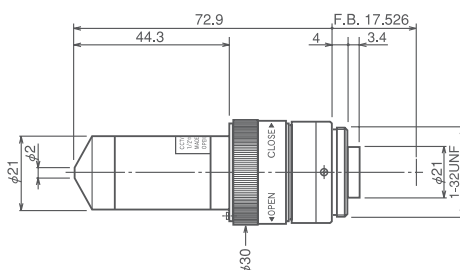
TP3.8M



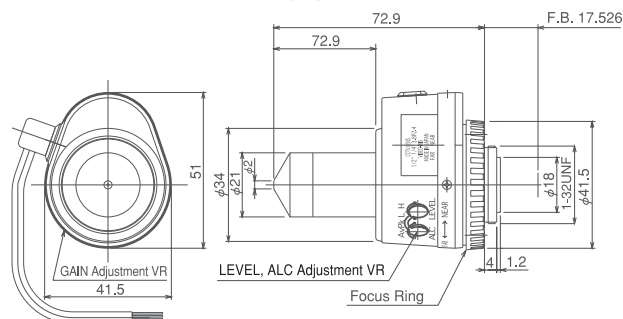
TP3.8DC



HP3.8M



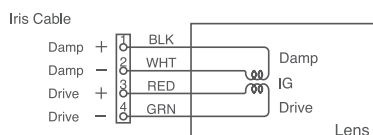
HP3.8AI



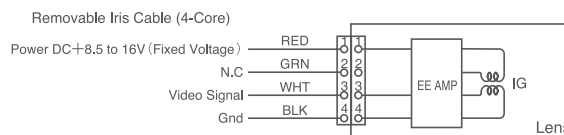
Unit:mm

### CIRCUIT DIAGRAM

TP3.8DC



HP3.8AI



SUBJECT TO CHANGE WITHOUT NOTICE.



## 1/2" Machine Vision

Super Wide, Wide, Standard and  
Telephoto Lenses for 1/2"

HF3.5M-2



HF6M-2



HF12M-2



HF35M

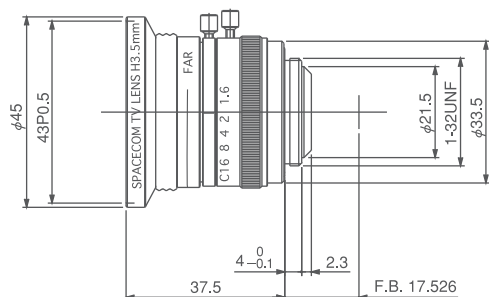


## SPECIFICATIONS

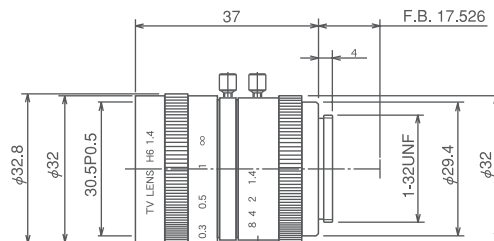
Part NO.	Image Size	Mount	Focal Length f=	Iris Range	Angle of View	M.O.D.	Operation			F.B.	Filter Size	Size (mm)	Weight
							Focus	Zoom	Iris				
HF3.5M-2	1/2"	C	3.5mm	F1.6-Close	84.9×68.9°	0.1m	Manual	—	Manual	17.526mm	43mm	φ45×37.5	90g
HF6M-2	1/2"	C	6mm	F1.4-Close	56.1×43.6°	0.2m	Manual	—	Manual	17.526mm	30.5mm	φ32.8×37.0	70g
HF12M-2	1/2"	C	12mm	F1.4-Close	29.9×22.6°	0.3m	Manual	—	Manual	17.526mm	30.5mm	φ32.8×37.0	65g
HF35M	1/2"	C	35mm	F1.2-Close	10.4×7.8°	1.0m	Manual	—	Manual	17.526mm	40.5mm	φ46.0×42.5	145g

## DIMENSIONS

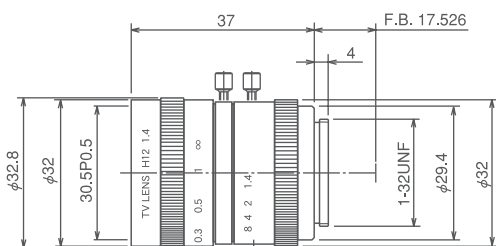
HF3.5M-2



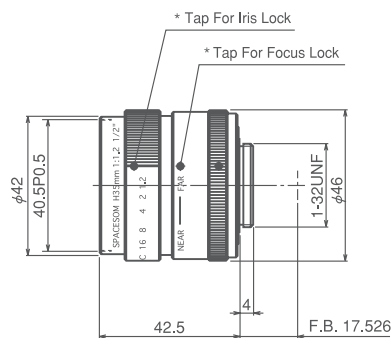
HF6M-2



HF12M-2



HF35M



NOTE)\* Please Ask If You Need Iris/Focus Lock Screw

Unit:mm

SUBJECT TO CHANGE WITHOUT NOTICE.



## 2/3" Machine Vision

Wide, Standard and Telephoto Lenses for 2/3"

JF7.5M-2



JF8M-2



JF16M-2



JF50M

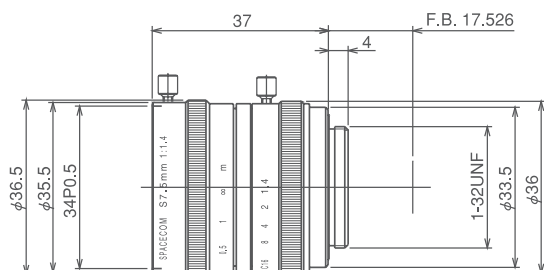


## SPECIFICATIONS

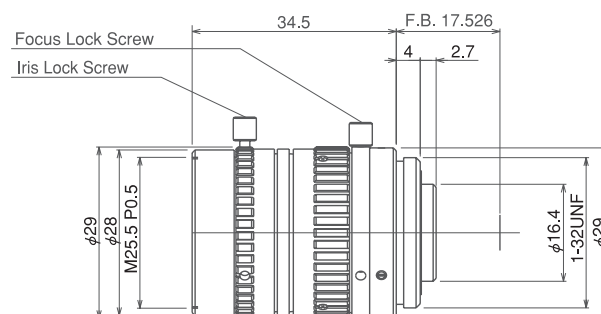
Part NO.	Image Size	Mount	Focal Length f=	Iris Range	Angle of View	M.O.D.	Operation			F.B.	Filter Size	Size (mm)	Weight
							Focus	Zoom	Iris				
JF7.5M-2	2/3"	C	7.5mm	F1.4-Close	60.8×47.5°	0.2m	Manual	—	Manual	17.526mm	34mm	φ36.5×37.0	90g
JF8M-2	2/3"	C	8mm	F1.3-Close	62.0×46.8°	0.2m	Manual	—	Manual	17.526mm	25.5mm	φ29.0×34.5	60g
JF16M-2	2/3"	C	16mm	F1.4-Close	30.7×23.3°	0.4m	Manual	—	Manual	17.526mm	27mm	φ30.0×30.0	45g
JF50M	2/3"	C	50mm	F1.8-Close	11.0×8.3°	0.7m	Manual	—	Manual	17.526mm	30.5mm	φ32.0×34.0	50g

## DIMENSIONS

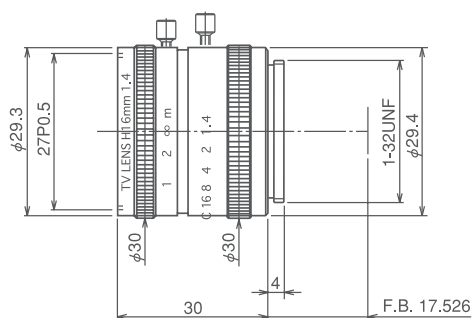
JF7.5M-2



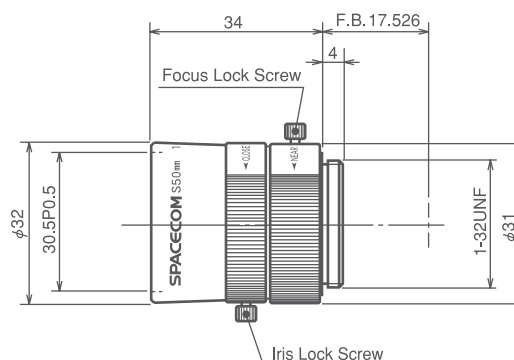
JF8M-2



JF16M-2



JF50M



Unit:mm

SUBJECT TO CHANGE WITHOUT NOTICE.



## 1" Machine Vision

Standard and Telephoto Lenses for 1"

VF25M-2



VF50M



VF75M

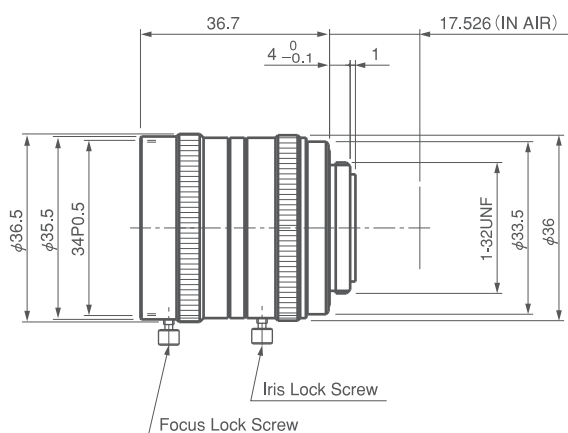


## SPECIFICATIONS

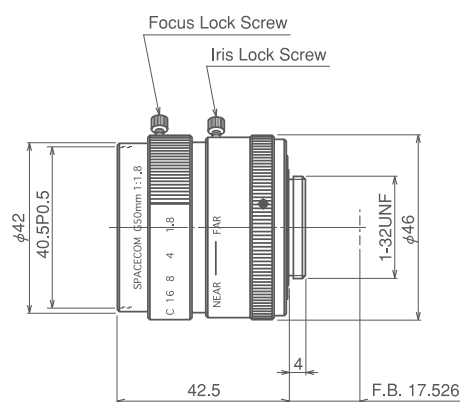
Part NO.	Image Size	Mount	Focal Length f=	Iris Range	Angle of View	M.O.D.	Operation			F.B.	Filter Size	Size (mm)	Weight
							Focus	Zoom	Iris				
VF25M-2	1"	C	25mm	F1.4-Close	28.7×21.7°	0.5m	Manual	—	Manual	17.526mm	34mm	φ36.5×36.7	85g
VF50M	1"	C	50mm	F1.8-Close	14.5×10.9°	0.7m	Manual	—	Manual	17.526mm	40.5mm	φ46.0×42.5	140g
VF75M	1"	C	75mm	F1.8-Close	9.7×7.3°	0.8m	Manual	—	Manual	17.526mm	46mm	φ48.0×58.5	245g

## DIMENSIONS

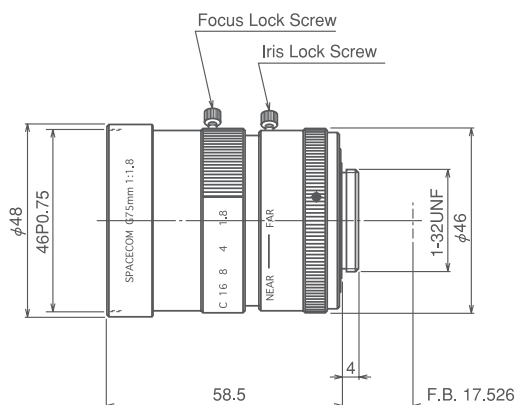
VF25M-2



VF50M



VF75M



Unit:mm

SUBJECT TO CHANGE WITHOUT NOTICE.



### HZ848M



### HZ848M mold



### HZ848DC



### HZ848AI

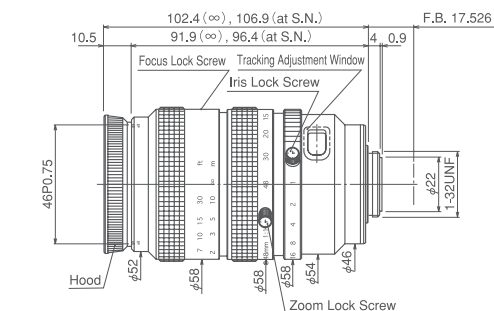


## SPECIFICATIONS

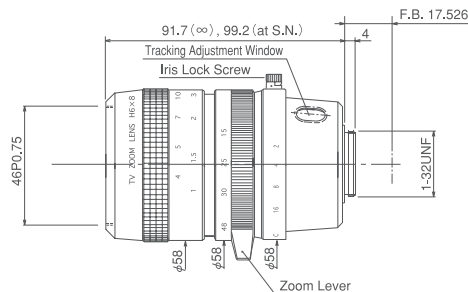
Part NO.	Image Size	Mount	Focal Length f=	Iris Range	Angle of View	M.O.D.	Operation			F.B.	Filter Size	Size (mm)	Weight
							Focus	Zoom	Iris				
<b>HZ848M</b>	1/2"	C	8-48mm	F1.0-Close	43.6×33.4°~7.7×5.7°	0.5m	Manual	Manual	Manual	17.526mm	46mm	φ58×102.4	395g
<b>HZ848M mold</b>	1/2"	C	8-48mm	F1.0-Close	43.6×33.4°~7.7×5.7°	0.3m	Manual	Manual	Manual	17.526mm	46mm	φ58×91.7	380g
<b>HZ848DC</b>	1/2"	C	8-48mm	F1.0-360	43.6×33.4°~7.7×5.7°	0.5m	Manual	Manual	DC	17.526mm	46mm	66.5×58×92	400g
<b>HZ848AI</b>	1/2"	C	8-48mm	F1.0-360	43.6×33.4°~7.7×5.7°	0.5m	Manual	Manual	VIDEO	17.526mm	46mm	66.5×58×92	400g

## DIMENSIONS

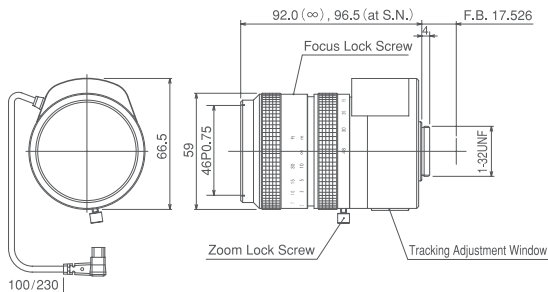
### HZ848M



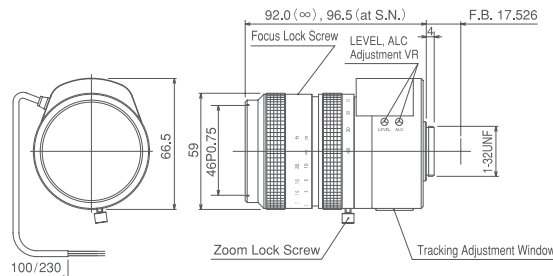
### HZ848M mold



### HZ848DC



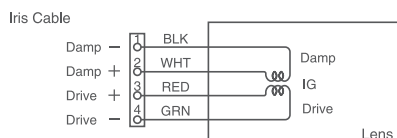
### HZ848AI



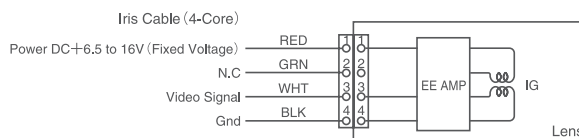
Unit:mm

## CIRCUIT DIAGRAM

### HZ848DC



### HZ848AI



SUBJECT TO CHANGE WITHOUT NOTICE.



## 6X 2/3"

6X Manual Zoom Lenses with macro function for 2/3"

**JZ1169M**



**JZ1169M mold**



**JZ1169DC**



**JZ1169AI**

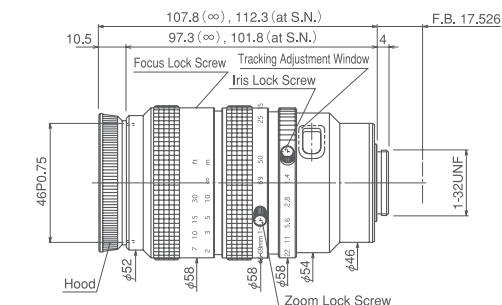


### SPECIFICATIONS

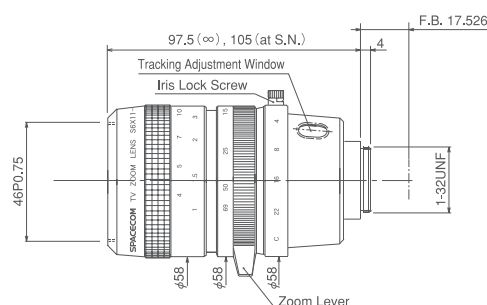
Part NO.	Image Size	Mount	Focal Length f=	Iris Range	Angle of View	M.O.D.	Operation			F.B.	Filter Size	Size (mm)	Weight
							Focus	Zoom	Iris				
<b>JZ1169M</b>	2/3"	C	11.5-69mm	F1.4-Close	41.9×32.0°~7.3×5.5°	0.5m	Manual	Manual	Manual	17.526mm	46mm	φ58×107.8	410g
<b>JZ1169M mold</b>	2/3"	C	11.5-69mm	F1.4-Close	41.9×32.0°~7.3×5.5°	0.3m	Manual	Manual	Manual	17.526mm	46mm	φ58×97.5	395g
<b>JZ1169DC</b>	2/3"	C	11.5-69mm	F1.4-360	41.9×32.0°~7.3×5.5°	0.5m	Manual	Manual	DC	17.526mm	46mm	63×58×107.8	415g
<b>JZ1169AI</b>	2/3"	C	11.5-69mm	F1.4-360	41.9×32.0°~7.3×5.5°	0.5m	Manual	Manual	VIDEO	17.526mm	46mm	63×58×107.8	415g

### DIMENSIONS

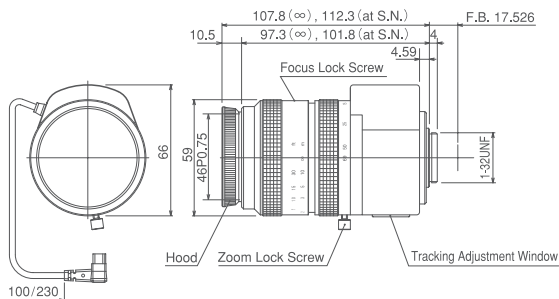
**JZ1169M**



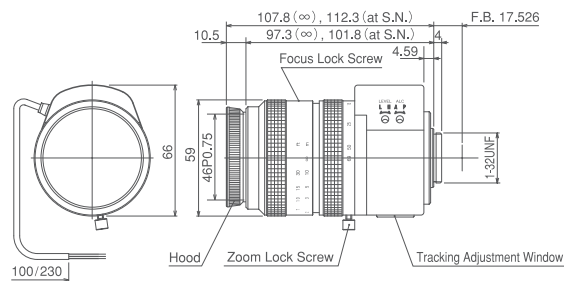
**JZ1169M mold**



**JZ1169DC**



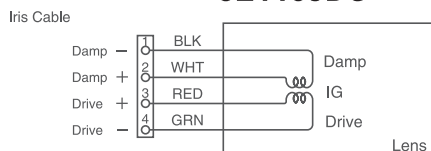
**JZ1169AI**



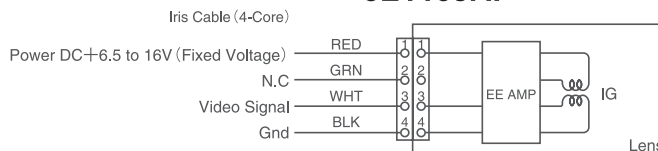
Unit:mm

### CIRCUIT DIAGRAM

**JZ1169DC**



**JZ1169AI**



SUBJECT TO CHANGE WITHOUT NOTICE.



VZ16100M

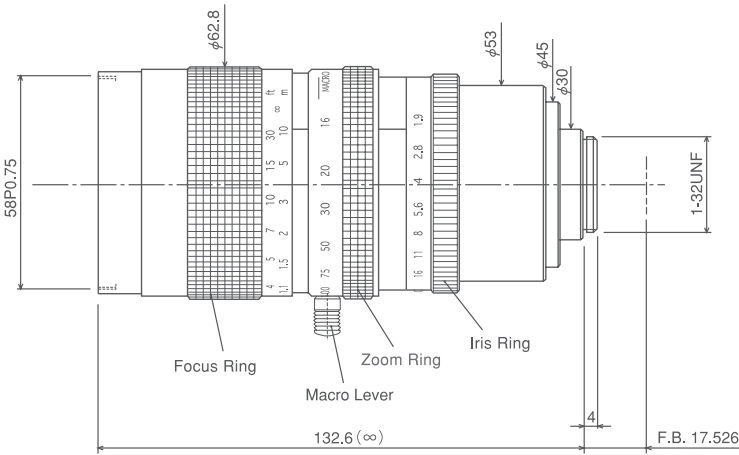


SPECIFICATIONS

Part NO.	Image Size	Mount	Focal Length f=	Iris Range	Angle of View	M.O.D.	Operation			F.B.	Filter Size	Size (mm)	Weight
							Focus	Zoom	Iris				
VZ16100M	1"	C	16-100mm	F1.9-Close	43.6×33.4°~7.3×5.5°	1.1m	Manual	Manual	Manual	17.526mm	58mm	φ62.8×132.6mm	620g

DIMENSIONS

VZ16100M



Unit:mm

SUBJECT TO CHANGE WITHOUT NOTICE.



## 6X F1.0

## 6X High Speed F1.0 Motorized Zoom Lenses for 1/3"

### TZ6539R



### TZ6539RAI

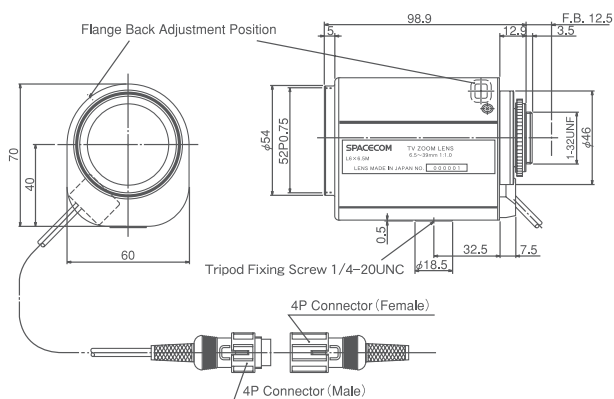


### SPECIFICATIONS

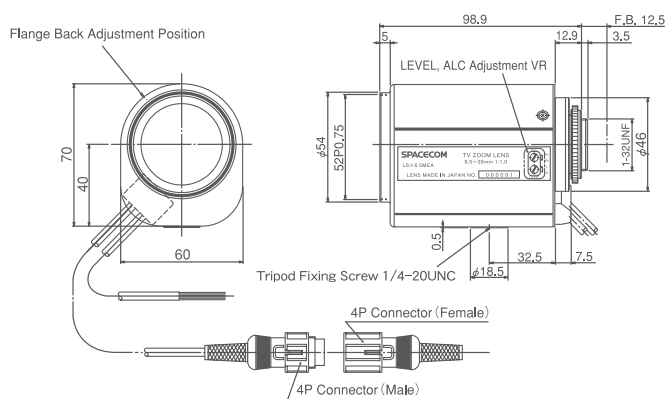
Part NO.	Image Size	Mount	Focal Length f=	Iris Range	Angle of View	M.O.D.	Operation			F.B.	Filter Size	Size (mm)	Weight
							Focus	Zoom	Iris				
<b>TZ6539R</b>	1/3"	CS	6.5-39mm	F1.0-Close	40.5×31.0°~7.0×5.3°	1.0m	Motorized	Motorized	Motorized	12.5mm	52mm	70×60×98.9	500g
<b>TZ6539RAI</b>	1/3"	CS	6.5-39mm	F1.0-1200	40.5×31.0°~7.0×5.3°	1.0m	Motorized	Motorized	VIDEO	12.5mm	52mm	70×60×98.9	500g

### DIMENSIONS

#### TZ6539R



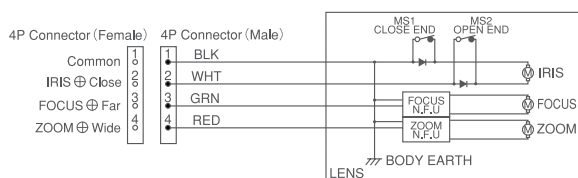
#### TZ6539RAI



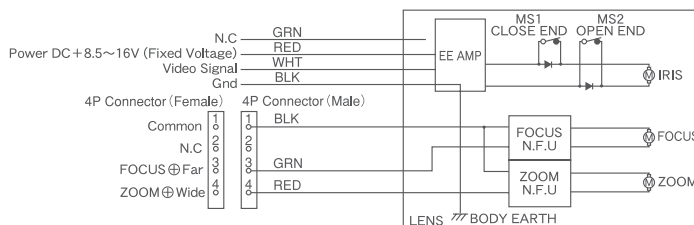
Unit:mm

### CIRCUIT DIAGRAM

#### TZ6539R



#### TZ6539RAI



SUBJECT TO CHANGE WITHOUT NOTICE.



### TEZ6565R



### TEZ6565RDC



### TEZ6565RAI

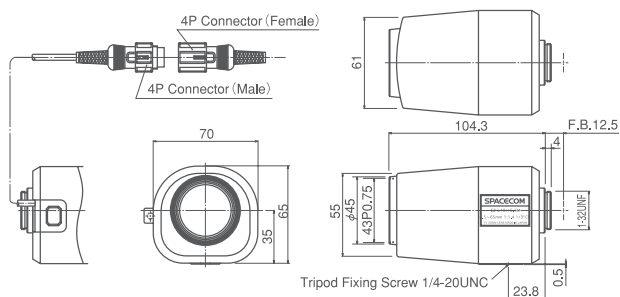


### SPECIFICATIONS

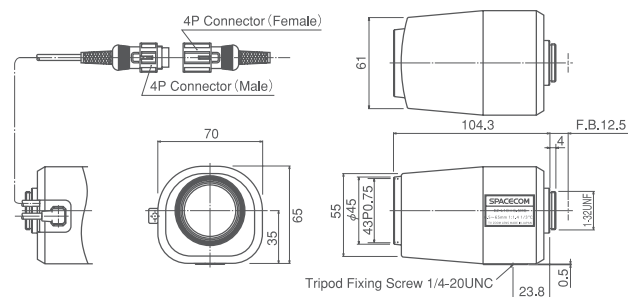
Part NO.	Image Size	Mount	Focal Length f=	Iris Range	Angle of View	M.O.D.	Operation			F.B.	Filter Size	Size (mm)	Weight
							Focus	Zoom	Iris				
TEZ6565R	1/3"	CS	6.5-65mm	F1.4-Close	40.5X31.0°~4.2X3.2°	1.2m	Motorized	Motorized	Motorized	12.5mm	43mm	65X70X104.3	285g
TEZ6565RDC	1/3"	CS	6.5-65mm	F1.4-360	40.5X31.0°~4.2X3.2°	1.2m	Motorized	Motorized	DC	12.5mm	43mm	65X70X104.3	285g
TEZ6565RAI	1/3"	CS	6.5-65mm	F1.4-360	40.5X31.0°~4.2X3.2°	1.2m	Motorized	Motorized	VIDEO	12.5mm	43mm	65X70X104.3	285g

### DIMENSIONS

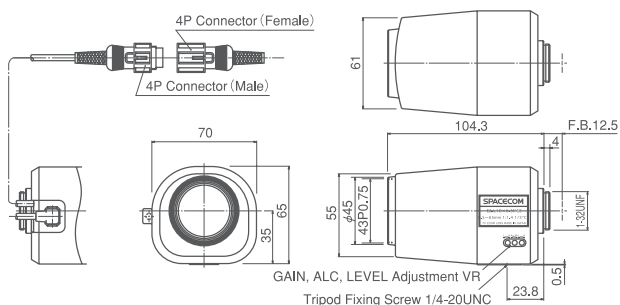
#### TEZ6565R



#### TEZ6565RDC



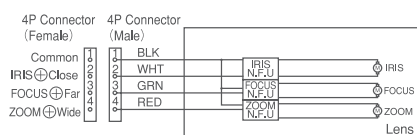
#### TEZ6565RAI



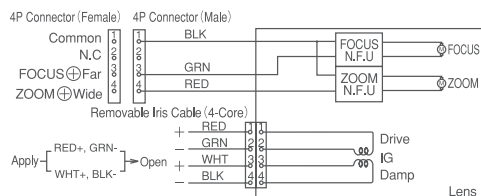
Unit:mm

### CIRCUIT DIAGRAM

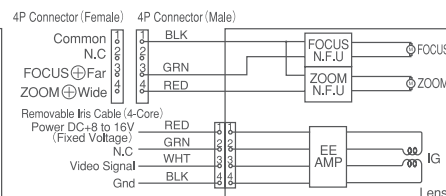
#### TEZ6565R



#### TEZ6565RDC



#### TEZ6565RAI



SUBJECT TO CHANGE WITHOUT NOTICE.



## 10X F1.0

10X High Speed F1.0 Motorized Zoom Lenses for 1/3"

**TZ660R**



**TZ660RAI**

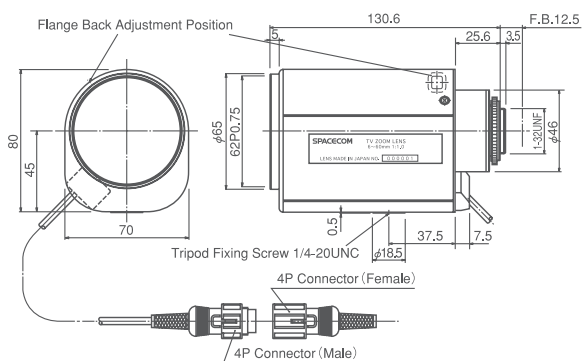


### SPECIFICATIONS

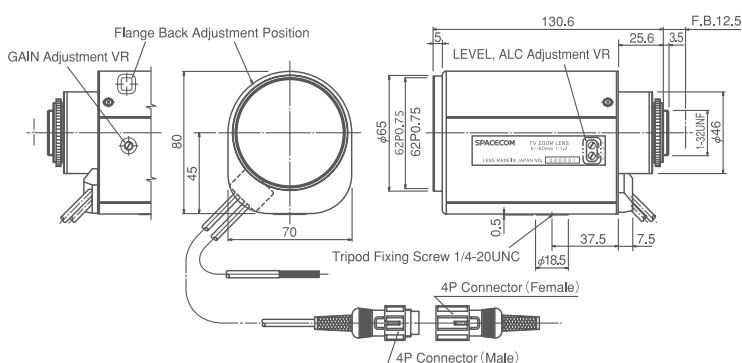
Part NO.	Image Size	Mount	Focal Length f=	Iris Range	Angle of View	M.O.D.	Operation			F.B.	Filter Size	Size (mm)	Weight
							Focus	Zoom	Iris				
<b>TZ660R</b>	1/3"	CS	6-60mm	F1.0-Close	43.6×33.4°~4.6×3.4°	1.2m	Motorized	Motorized	Motorized	12.5mm	62mm	80×70×130.6	700g
<b>TZ660RAI</b>	1/3"	CS	6-60mm	F1.0-1200	43.6×33.4°~4.6×3.4°	1.2m	Motorized	Motorized	VIDEO	12.5mm	62mm	80×70×130.6	700g

### DIMENSIONS

**TZ660R**



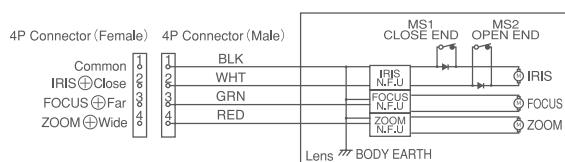
**TZ660RAI**



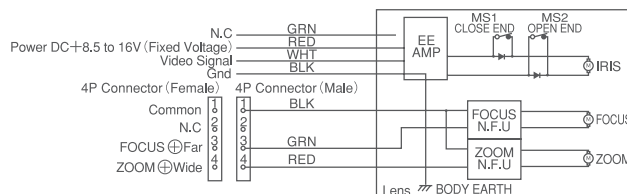
Unit:mm

### CIRCUIT DIAGRAM

**TZ660R**



**TZ660RAI**



SUBJECT TO CHANGE WITHOUT NOTICE.



## 6X F1.0

6X High Speed F1.0 Motorized Zoom Lenses for 1/2"

**HZ848R**



**HZ848RAI**

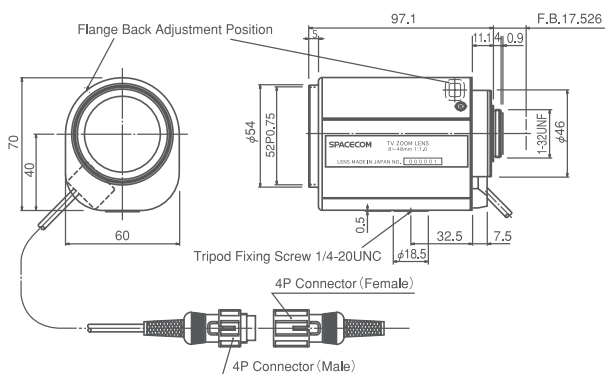


### SPECIFICATIONS

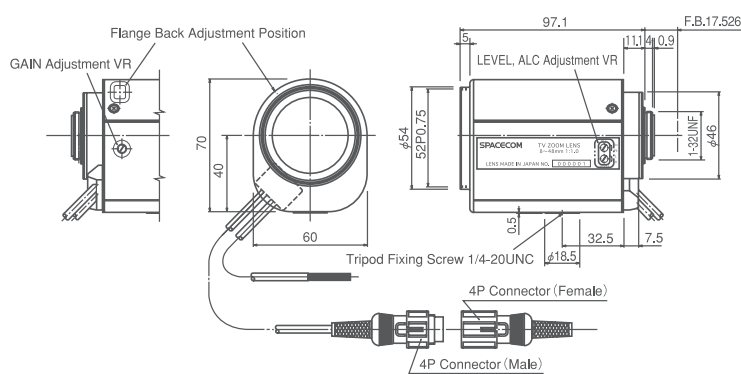
Part NO.	Image Size	Mount	Focal Length f=	Iris Range	Angle of View	M.O.D.	Operation			F.B.	Filter Size	Size (mm)	Weight
							Focus	Zoom	Iris				
<b>HZ848R</b>	1/2"	C	8-48mm	F1.0-Close	43.6×33.4°~7.7×5.7°	1.0m	Motorized	Motorized	Motorized	17.526mm	52mm	70×60×97.1	500g
<b>HZ848RAI</b>	1/2"	C	8-48mm	F1.0-1200	43.6×33.4°~7.7×5.7°	1.0m	Motorized	Motorized	VIDEO	17.526mm	52mm	70×60×97.1	500g

### DIMENSIONS

**HZ848R**



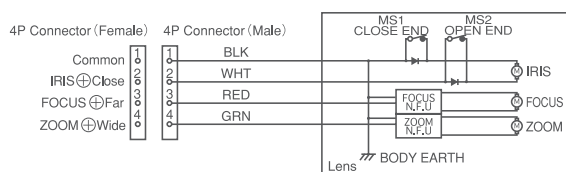
**HZ848RAI**



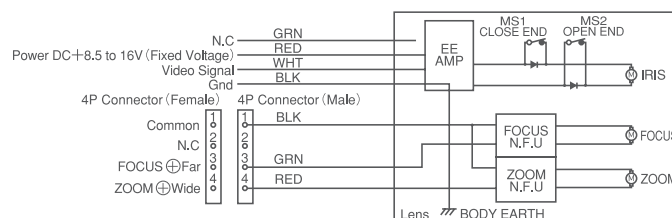
Unit:mm

### CIRCUIT DIAGRAM

**HZ848R**



**HZ848RAI**



SUBJECT TO CHANGE WITHOUT NOTICE.



### HEZ8585R



### HEZ8585RDC



### HEZ8585RAI

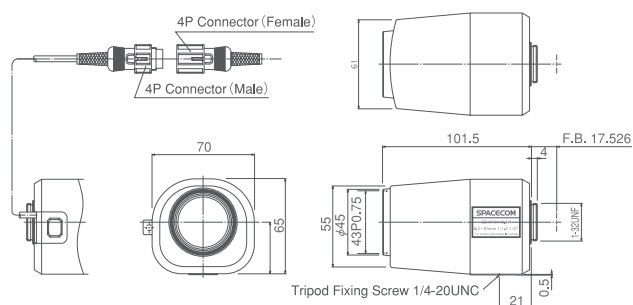


## SPECIFICATIONS

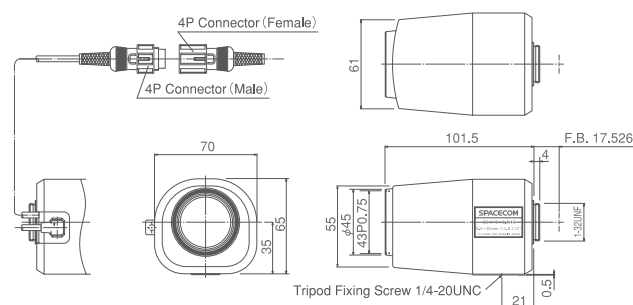
Part NO.	Image Size	Mount	Focal Length f=	Iris Range	Angle of View	M.O.D.	Operation			F.B.	Filter Size	Size (mm)	Weight
							Focus	Zoom	Iris				
HEZ8585R	1/2"	C	8.5-85mm	F1.6-Close	41.3×31.5°~4.3×3.2°	1.2m	Motorized	Motorized	Motorized	17.526mm	43mm	65×70×101.5	285g
HEZ8585RDC	1/2"	C	8.5-85mm	F1.6-360	41.3×31.5°~4.3×3.2°	1.2m	Motorized	Motorized	DC	17.526mm	43mm	65×70×101.5	285g
HEZ8585RAI	1/2"	C	8.5-85mm	F1.6-360	41.3×31.5°~4.3×3.2°	1.2m	Motorized	Motorized	VIDEO	17.526mm	43mm	65×70×101.5	285g

## DIMENSIONS

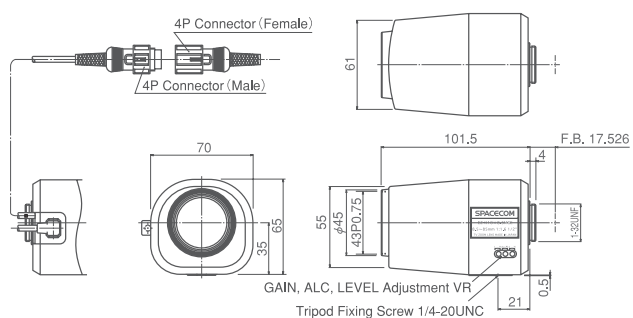
### HEZ8585R



### HEZ8585RDC



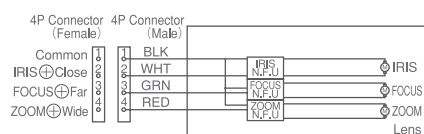
### HEZ8585RAI



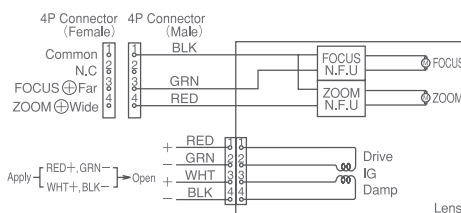
Unit:mm

## CIRCUIT DIAGRAM

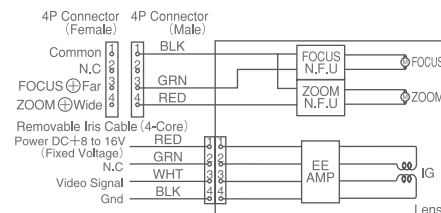
### HEZ8585R



### HEZ8585RDC



### HEZ8585RAI



SUBJECT TO CHANGE WITHOUT NOTICE.



## 10X F1.2

10X High Speed F1.2 Motorized Zoom Lenses for 1/2"

HZ880R



HZ880RAI

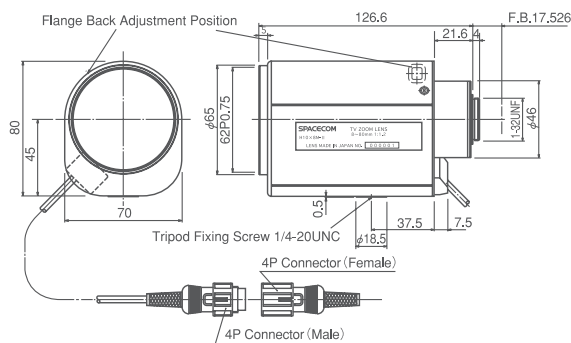


### SPECIFICATIONS

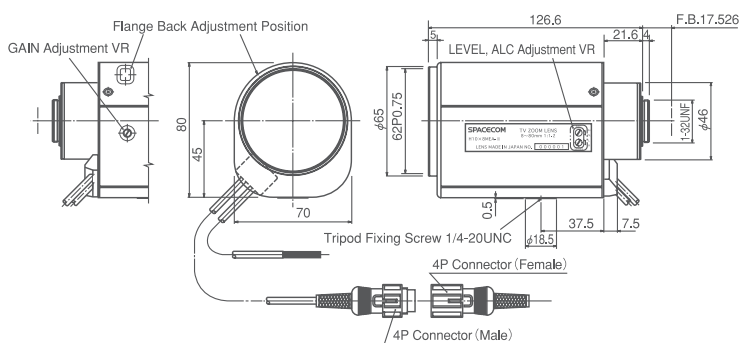
Part NO.	Image Size	Mount	Focal Length f=	Iris Range	Angle of View	M.O.D.	Operation			F.B.	Filter Size	Size (mm)	Weight
							Focus	Zoom	Iris				
HZ880R	1/2"	C	8-80mm	F1.2-Close	43.6×33.4°~4.6×3.4°	1.2m	Motorized	Motorized	Motorized	17.526mm	62mm	80×70×126.6	700g
HZ880RAI	1/2"	C	8-80mm	F1.2-1200	43.6×33.4°~4.6×3.4°	1.2m	Motorized	Motorized	VIDEO	17.526mm	62mm	80×70×126.6	700g

### DIMENSIONS

HZ880R



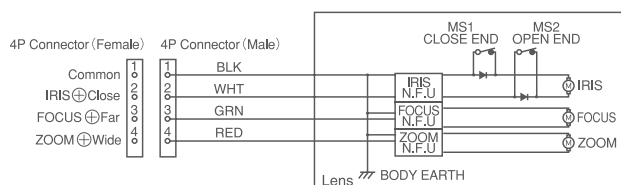
HZ880RAI



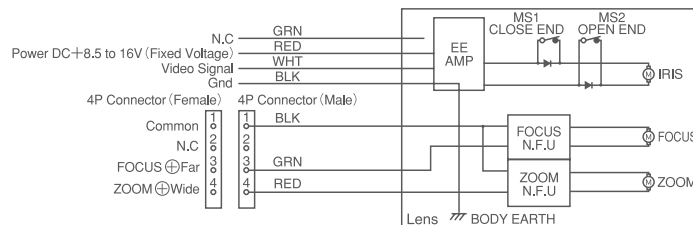
Unit:mm

### CIRCUIT DIAGRAM

HZ880R



HZ880RAI



SUBJECT TO CHANGE WITHOUT NOTICE.



## 16X High-Resolution

16X High Resolution  
Motorized Zoom Lenses for 1/2"

HZ65104R



HZ65104RAI

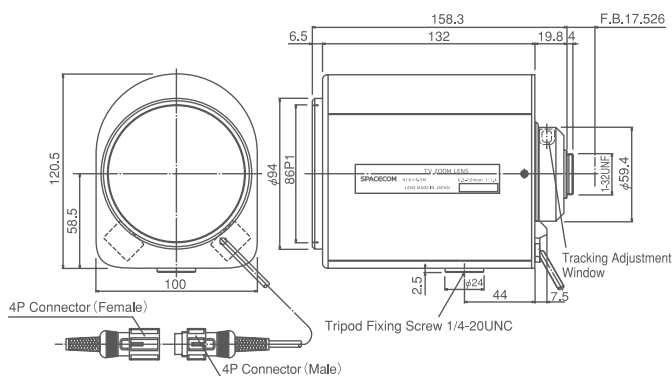


### SPECIFICATIONS

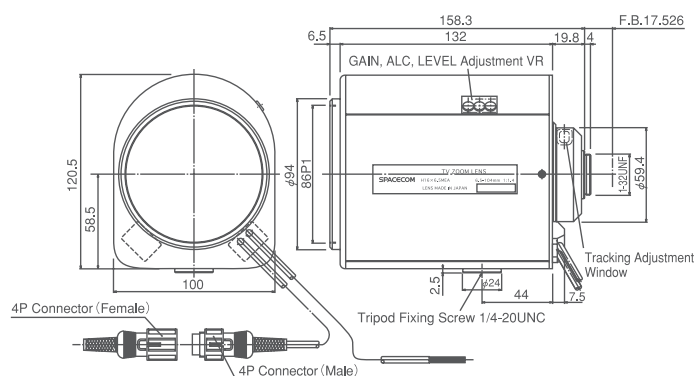
Part NO.	Image Size	Mount	Focal Length f=	Iris Range	Angle of View	M.O.D.	Operation			F.B.	Filter Size	Size (mm)	Weight
							Focus	Zoom	Iris				
HZ65104R	1/2"	C	6.5-104mm	F1.4-Close	52.4×40.5°~3.5×2.6°	1.5m	Motorized	Motorized	Motorized	17.526mm	86mm	120.5×100×158.3	1500g
HZ65104RAI	1/2"	C	6.5-104mm	F1.4-360	52.4×40.5°~3.5×2.6°	1.5m	Motorized	Motorized	VIDEO	17.526mm	86mm	120.5×100×158.3	1500g

### DIMENSIONS

HZ65104R



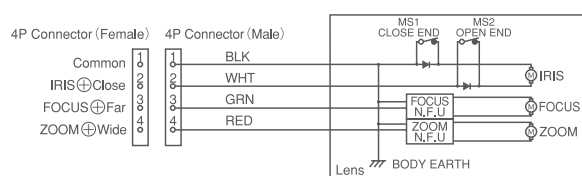
HZ65104RAI



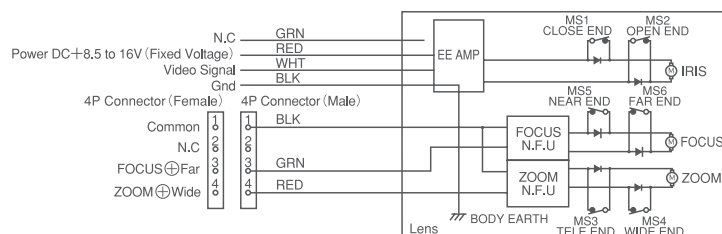
Unit:mm

### CIRCUIT DIAGRAM

HZ65104R



HZ65104RAI



SUBJECT TO CHANGE WITHOUT NOTICE.



### HZ8136R-2



### HZ8136RDC-2



### HZ8136RAI-2

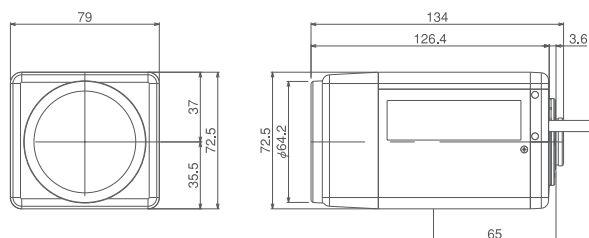


## SPECIFICATIONS

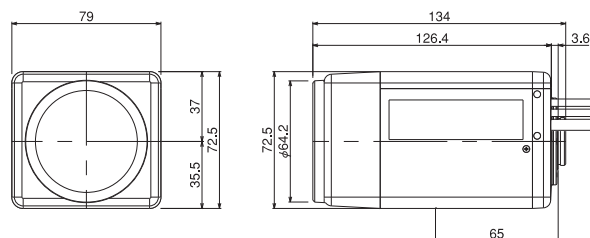
Part NO.	Image Size	Mount	Focal Length f=	Iris Range	Angle of View	M.O.D.	Operation			F.B.	Filter Size	Size (mm)	Weight
							Focus	Zoom	Iris				
HZ8136R-2	1/2"	C	8-136mm	F1.6-Close	43.6×33.4°~2.7×2.2°	1.8m	Motorized	Motorized	Motorized	17.526mm	58mm	82×94×136	700g
HZ8136RDC-2	1/2"	C	8-136mm	F1.6-360	43.6×33.4°~2.7×2.2°	1.8m	Motorized	Motorized	DC	17.526mm	58mm	82×94×136	620g
HZ8136RAI-2	1/2"	C	8-136mm	F1.6-360	43.6×33.4°~2.7×2.2°	1.8m	Motorized	Motorized	VIDEO	17.526mm	58mm	82×94×136	700g

## DIMENSIONS

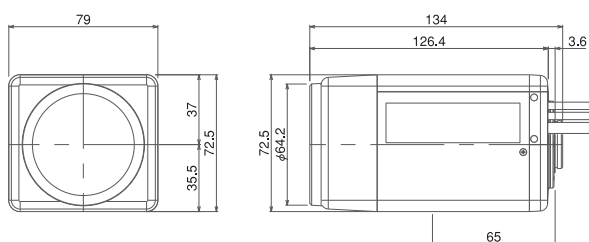
### HZ8136R-2



### HZ8136RDC-2



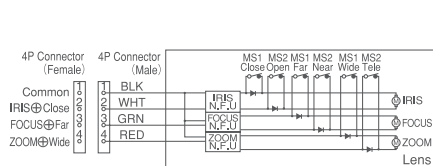
### HZ8136RAI-2



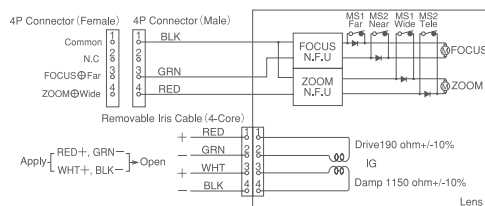
Unit:mm

## CIRCUIT DIAGRAM

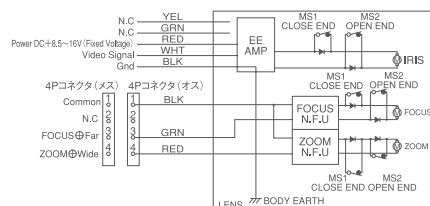
### HZ8136R-2



### HZ8136RDC-2



### HZ8136RAI-2



SUBJECT TO CHANGE WITHOUT NOTICE.



#### HZ8160R IR



#### HZ8160RAI IR

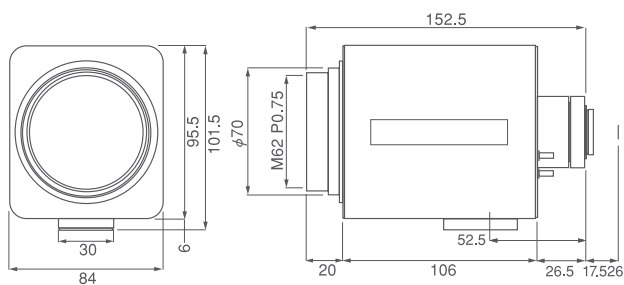


### SPECIFICATIONS

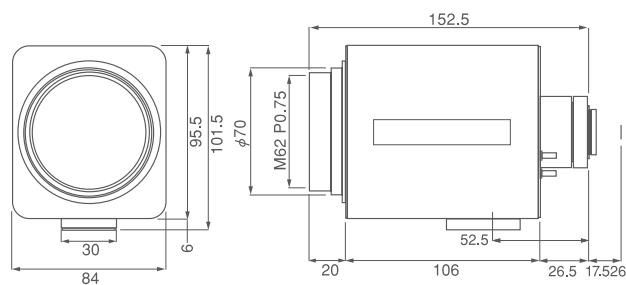
Part NO.	Image Size	Mount	Focal Length f=	Iris Range	Angle of View	M.O.D.	Operation			F.B.	Filter Size	Size (mm)	Weight
							Focus	Zoom	Iris				
HZ8160R IR	1/2"	C	8-160mm	F1.6-1000	42.7×32.7°~2.3×1.7°	1.5m	Motorized	Motorized	Motorized	17.526mm	86mm	95.5×84×152.5	1400g
HZ8160RAI IR	1/2"	C	8-160mm	F1.6-1000	42.7×32.7°~2.3×1.7°	1.5m	Motorized	Motorized	VIDEO	17.526mm	86mm	95.5×84×152.5	1400g

### DIMENSIONS

#### HZ8160R IR



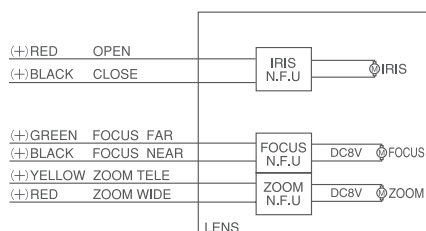
#### HZ8160RAI IR



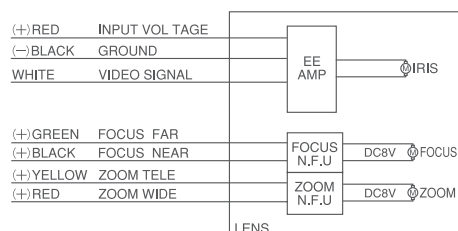
Unit:mm

### CIRCUIT DIAGRAM

#### HZ8160R IR



#### HZ8160RAI IR



SUBJECT TO CHANGE WITHOUT NOTICE.



### HZ10250R-2



### HZ10250RDC-2



### HZ10250RAI-2

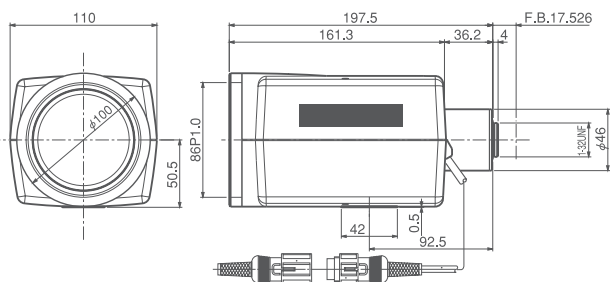


## SPECIFICATIONS

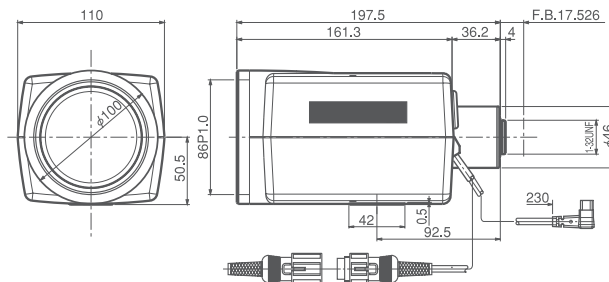
Part NO.	Image Size	Mount	Focal Length f=	Iris Range	Angle of View	M.O.D.	Operation			F.B.	Filter Size	Size (mm)	Weight
							Focus	Zoom	Iris				
HZ10250R-2	1/2"	C	10-250mm	F1.6-Close	37.3X27.7°~1.5X1.1°	2.5m	Motorized	Motorized	Motorized	17.526mm	86mm	110X100X197.5	1,470g
HZ10250RDC-2	1/2"	C	10-250mm	F1.6-360	37.3X27.7°~1.5X1.1°	2.5m	Motorized	Motorized	DC	17.526mm	86mm	110X100X197.5	1,470g
HZ10250RAI-2	1/2"	C	10-250mm	F1.6-360	37.3X27.7°~1.5X1.1°	2.5m	Motorized	Motorized	VIDEO	17.526mm	86mm	110X100X197.5	1,470g

## DIMENSIONS

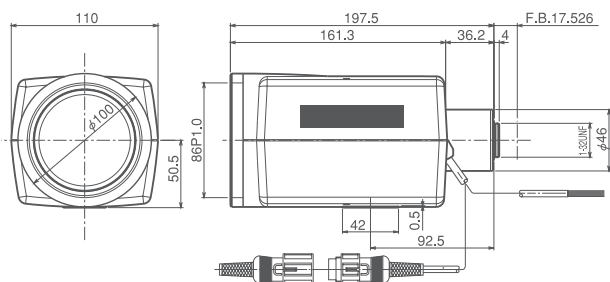
### HZ10250R-2



### HZ10250RDC-2



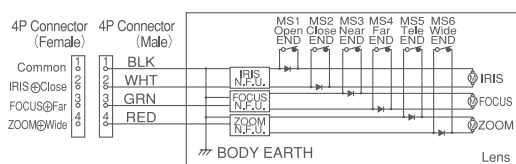
### HZ10250RAI-2



Unit:mm

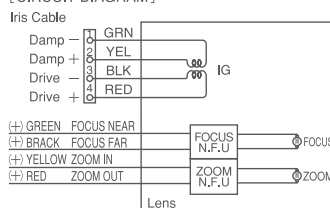
## CIRCUIT DIAGRAM

### HZ10250R-2

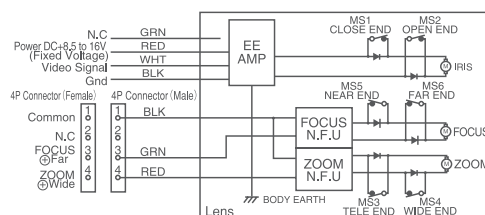


### HZ10250RDC-2

[CIRCUIT DIAGRAM]



### HZ10250RAI-2



SUBJECT TO CHANGE WITHOUT NOTICE.



#### HZ10210R



#### HZ10210RAI

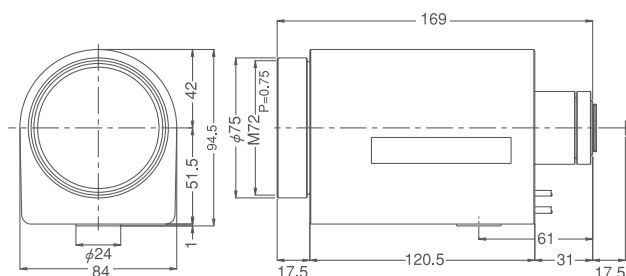


### SPECIFICATIONS

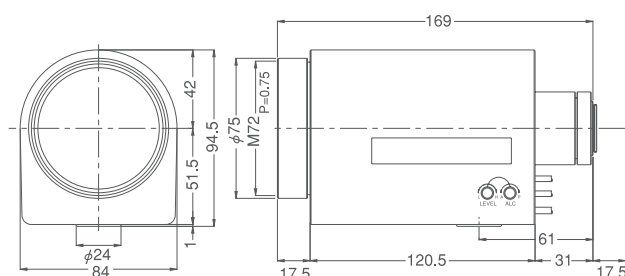
Part NO.	Image Size	Mount	Focal Length f=	Iris Range	Angle of View	M.O.D.	Operation			F.B.	Filter Size	Size (mm)	Weight
							Focus	Zoom	Iris				
<b>HZ10210R</b>	1/2"	C	10-210mm	F1.5-1000	35.6×26.8°~1.8×1.4°	2.0m	Motorized	Motorized	Motorized	17.526mm	72mm	94.5×82×169	1350g
<b>HZ10210RAI</b>	1/2"	C	10-210mm	F1.5-1000	35.6×26.8°~1.8×1.4°	2.0m	Motorized	Motorized	VIDEO	17.526mm	72mm	94.5×82×169	1350g

### DIMENSIONS

#### HZ10210R



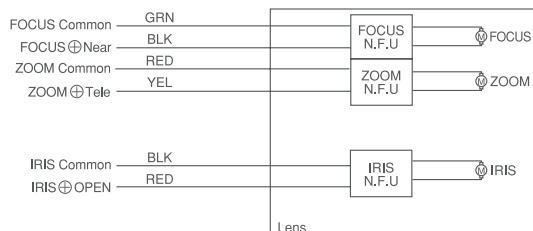
#### HZ10210RAI



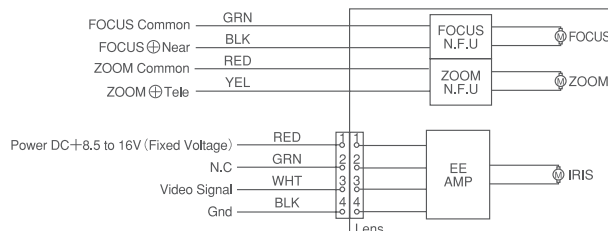
Unit:mm

### CIRCUIT DIAGRAM

#### HZ10210R



#### HZ10210RAI



SUBJECT TO CHANGE WITHOUT NOTICE.



#### HZ10310R



#### HZ10310RAI

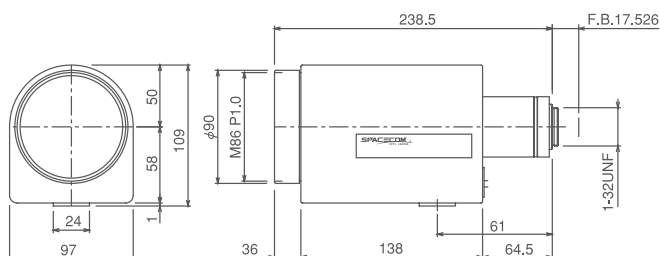


### SPECIFICATIONS

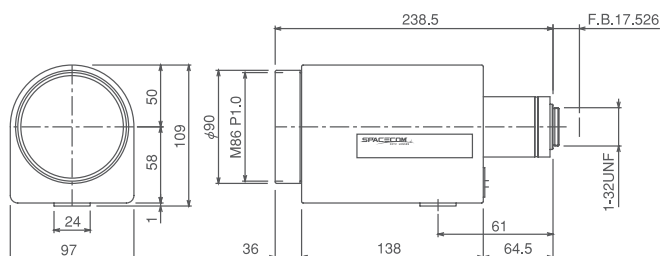
Part NO.	Image Size	Mount	Focal Length f=	Iris Range	Angle of View	M.O.D.	Operation			F.B.	Filter Size	Size (mm)	Weight
							Focus	Zoom	Iris				
<b>HZ10310R</b>	1/2"	C	10-310mm	F1.5-1000	35.3×26.7°~1.3×0.9°	2.8m	Motorized	Motorized	Motorized	17.526mm	86mm	109×97×238.5	2045g
<b>HZ10310RAI</b>	1/2"	C	10-310mm	F1.5-1000	35.3×26.7°~1.3×0.9°	2.8m	Motorized	Motorized	VIDEO	17.526mm	86mm	109×97×238.5	2045g

### DIMENSIONS

#### HZ10310R



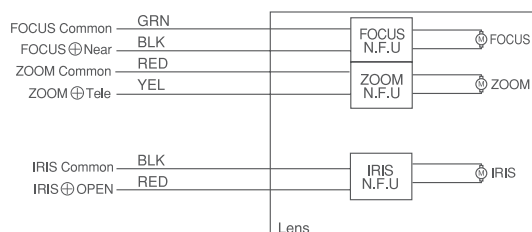
#### HZ10310RAI



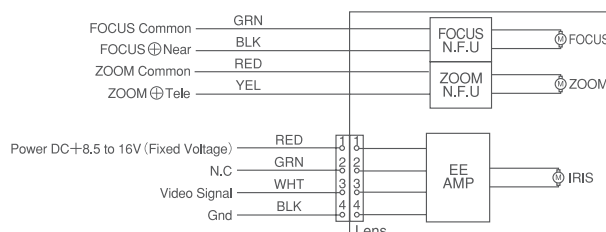
Unit:mm

### CIRCUIT DIAGRAM

#### HZ10310R



#### HZ10310RAI



SUBJECT TO CHANGE WITHOUT NOTICE.



#### HZ10350R



#### HZ10350RAI

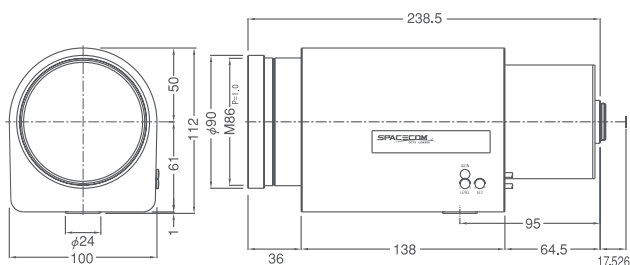


### SPECIFICATIONS

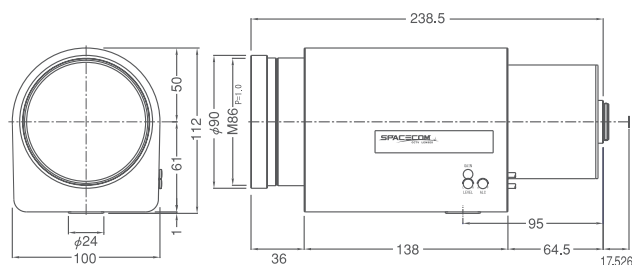
Part NO.	Image Size	Mount	Focal Length f=	Iris Range	Angle of View	M.O.D.	Operation			F.B.	Filter Size	Size (mm)	Weight
							Focus	Zoom	Iris				
<b>HZ10350R</b>	1/2"	C	10-350mm	F1.5-1000	35.3×26.7~1.05×0.79°	2.5m	Motorized	Motorized	Motorized	17.526mm	86mm	112.0×100.0×238.5	1950g
<b>HZ10350RAI</b>	1/2"	C	10-350mm	F1.5-1000	35.3×26.7~1.05×0.79°	2.5m	Motorized	Motorized	VIDEO	17.526mm	86mm	112.0×100.0×238.5	1950g

### DIMENSIONS

#### HZ10350R



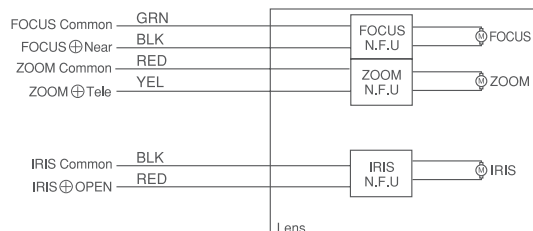
#### HZ10350RAI



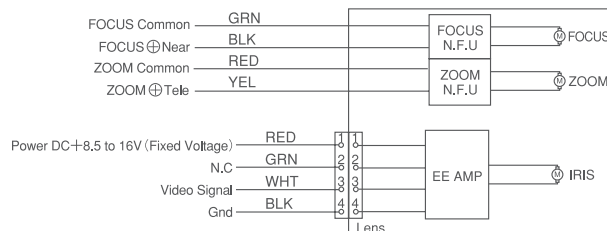
Unit:mm

### CIRCUIT DIAGRAM

#### HZ10350R



#### HZ10350RAI



SUBJECT TO CHANGE WITHOUT NOTICE.



#### HZ20700R



#### HZ20700RAI

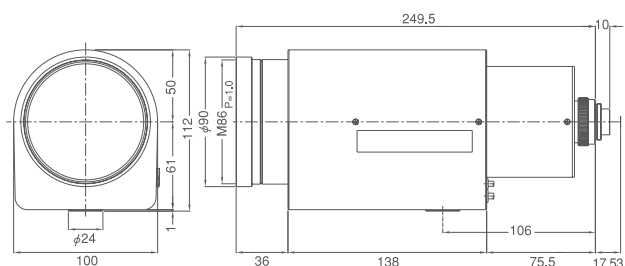


### SPECIFICATIONS

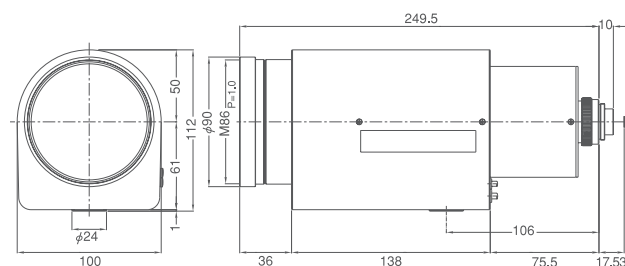
Part NO.	Image Size	Mount	Focal Length f=	Iris Range	Angle of View	M.O.D.	Operation			F.B.	Filter Size	Size (mm)	Weight
							Focus	Zoom	Iris				
HZ20700R	1/2"	C	20-700mm	F3.0-1000	17.66°×13.24'~0.53°×0.4'	3m	Motorized	Motorized	Motorized	17.526mm	86mm	100×112×249.5	2000g
HZ20700RAI	1/2"	C	20-700mm	F3.0-1000	17.66°×13.24'~0.53°×0.4'	3m	Motorized	Motorized	VIDEO	17.526mm	86mm	100×112×249.5	2000g

### DIMENSIONS

#### HZ20700R



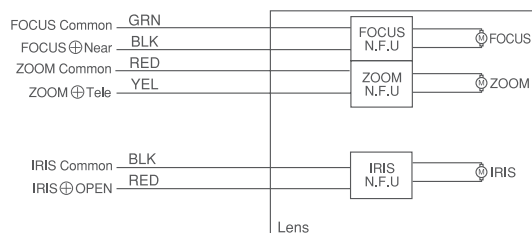
#### HZ20700RAI



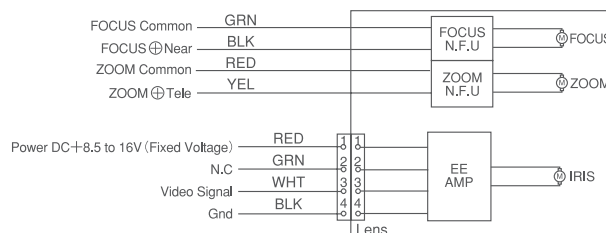
Unit:mm

### CIRCUIT DIAGRAM

#### HZ20700R



#### HZ20700RAI



SUBJECT TO CHANGE WITHOUT NOTICE.



## 6X 2/3"

## 6X Motorized Zoom Lenses for 2/3"

### JZ1169R



### JZ1169RAI

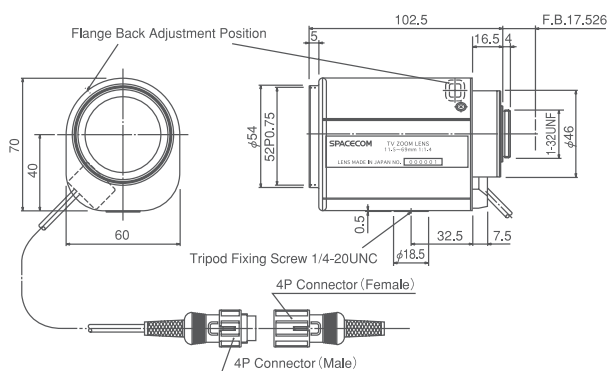


## SPECIFICATIONS

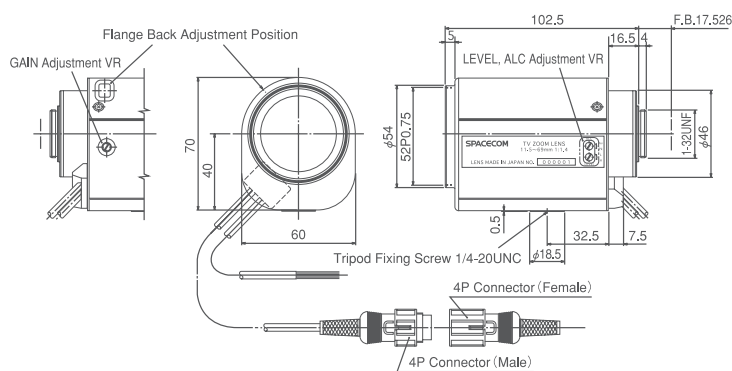
Part NO.	Image Size	Mount	Focal Length f=	Iris Range	Angle of View	M.O.D.	Operation			F.B.	Filter Size	Size (mm)	Weight
							Focus	Zoom	Iris				
<b>JZ1169R</b>	2/3"	C	11.5-69mm	F1.4-Close	41.9×32.0°~7.3×5.5°	1.0m	Motorized	Motorized	Motorized	17.526mm	52mm	70×60×102.5	500g
<b>JZ1169RAI</b>	2/3"	C	11.5-69mm	F1.4-1200	41.9×32.0°~7.3×5.5°	1.0m	Motorized	Motorized	VIDEO	17.526mm	52mm	70×60×102.5	500g

## DIMENSIONS

### JZ1169R



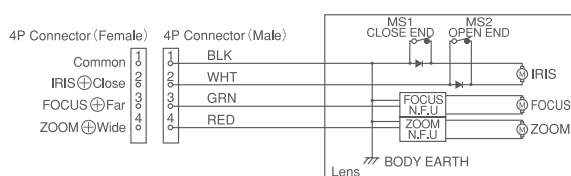
### JZ1169RAI



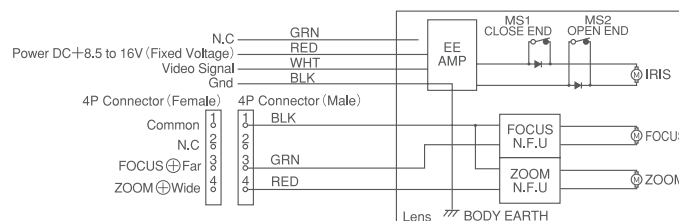
Unit:mm

## CIRCUIT DIAGRAM

### JZ1169R



### JZ1169RAI



SUBJECT TO CHANGE WITHOUT NOTICE.



### JZ10100R



### JZ10100RAI

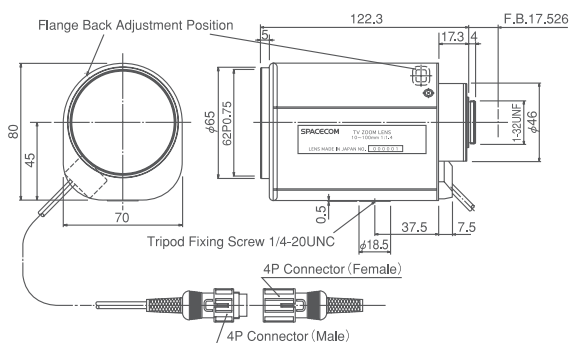


## SPECIFICATIONS

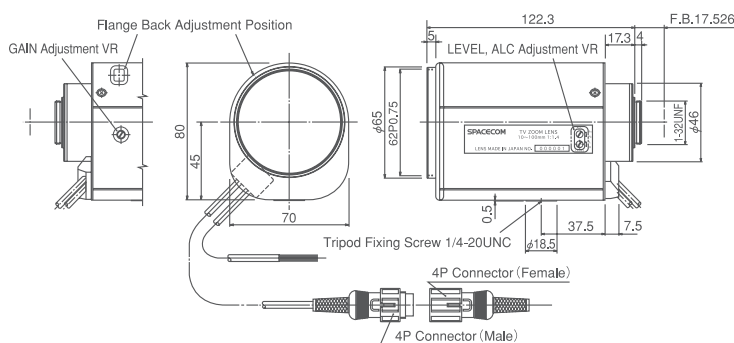
Part NO.	Image Size	Mount	Focal Length f=	Iris Range	Angle of View	M.O.D.	Operation			F.B.	Filter Size	Size (mm)	Weight
							Focus	Zoom	Iris				
<b>JZ10100R</b>	2/3"	C	10-100mm	F1.4-Close	47.5×36.5°~5.0×3.8°	1.2m	Motorized	Motorized	Motorized	17.526mm	62mm	80×70×122.3	700g
<b>JZ10100RAI</b>	2/3"	C	10-100mm	F1.4-1200	47.5×36.5°~5.0×3.8°	1.2m	Motorized	Motorized	VIDEO	17.526mm	62mm	80×70×122.3	700g

## DIMENSIONS

### JZ10100R



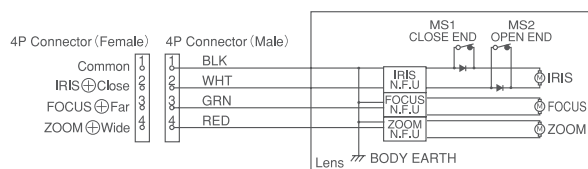
### JZ10100RAI



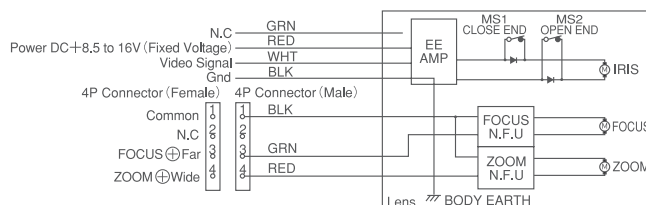
Unit:mm

## CIRCUIT DIAGRAM

### JZ10100R



### JZ10100RAI



SUBJECT TO CHANGE WITHOUT NOTICE.



## 16X High-Resolution

16X High Resolution Motorized Zoom Lenses for 2/3"

**JZ95152R**



**JZ95152RAI**

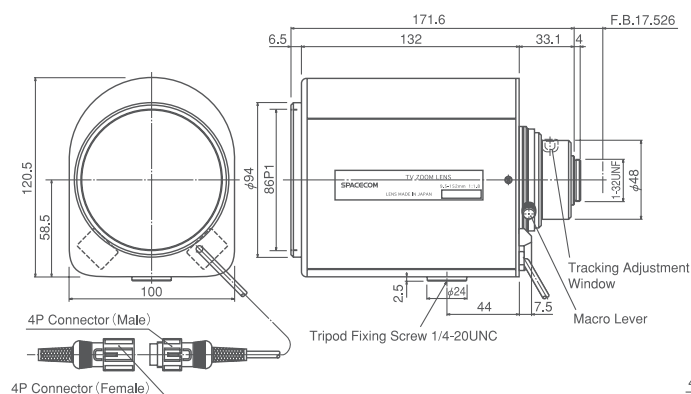


### SPECIFICATIONS

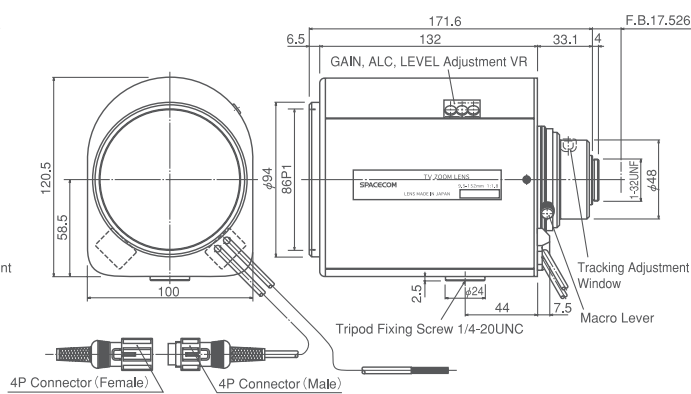
Part NO.	Image Size	Mount	Focal Length f=	Iris Range	Angle of View	M.O.D.	Operation			F.B.	Filter Size	Size (mm)	Weight
							Focus	Zoom	Iris				
<b>JZ95152R</b>	2/3"	C	9.5-152mm	F1.8-Close	49.7×38.3°~3.3×2.5°	1.5m	Motorized	Motorized	Motorized	17.526mm	86mm	120.5×100×171.6	1500g
<b>JZ95152RAI</b>	2/3"	C	9.5-152mm	F1.8-360	49.7×38.3°~3.3×2.5°	1.5m	Motorized	Motorized	VIDEO	17.526mm	86mm	120.5×100×171.6	1500g

### DIMENSIONS

**JZ95152R**



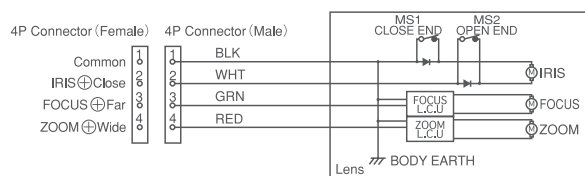
**JZ95152RAI**



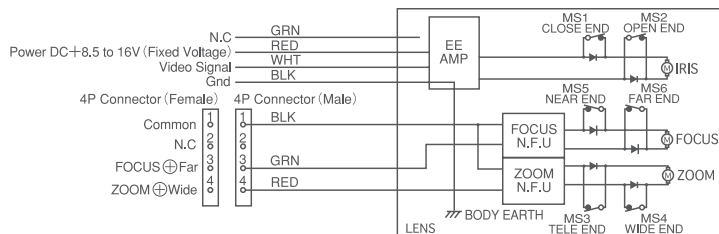
Unit:mm

### CIRCUIT DIAGRAM

**JZ95152R**



**JZ95152RAI**



SUBJECT TO CHANGE WITHOUT NOTICE.



10X 1"  
16X 3CCD

10X Motorized Zoom Lenses for 1"  
16X Motorized Zoom Lenses for 1/2" or 2/3"3CCD

VZ16160R



VZ16160RAI



HZ7112BR



JZ95152BR

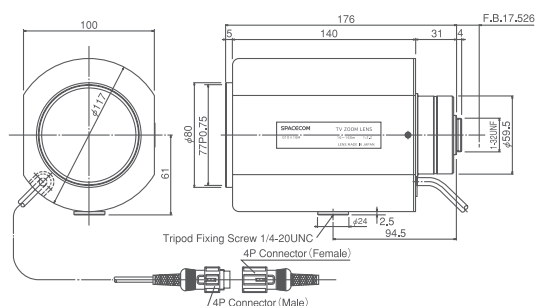


## SPECIFICATIONS

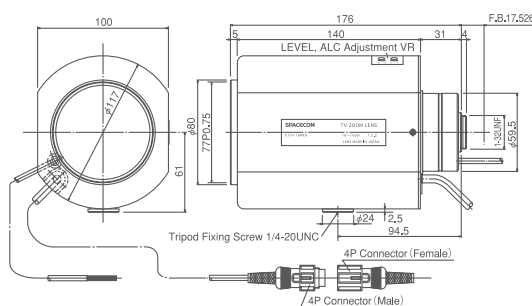
Part NO.	Image Size	Mount	Focal Length f=	Iris Range	Angle of View	M.O.D.	Operation			F.B.	Filter Size	Size (mm)	Weight
							Focus	Zoom	Iris				
VZ16160R	1"	C	16-160mm	F2.2-Close	43.6×33.4°~4.6×3.4°	1.1m	Motorized	Motorized	Motorized	17.526mm	77mm	100×120×176	1400g
VZ16160RAI	1"	C	16-160mm	F2.2-1200	43.6×33.4°~4.6×3.4°	1.1m	Motorized	Motorized	VIDEO	17.526mm	77mm	100×120×176	1400g
HZ7112BR	1/2"	B	7-112mm	F1.4-Close	49.1×37.8°~3.3×2.5°	1.0m	Motorized	Motorized	Motorized	35.74mm	86mm	120.5×100×175.7	1500g
JZ95152BR	2/3"	B4	9.5-152mm	F1.8-Close	49.7×38.3°~3.2×2.5°	1.0m	Motorized	Motorized	Motorized	48mm	86mm	120.5×100×166.7	1500g

## DIMENSIONS

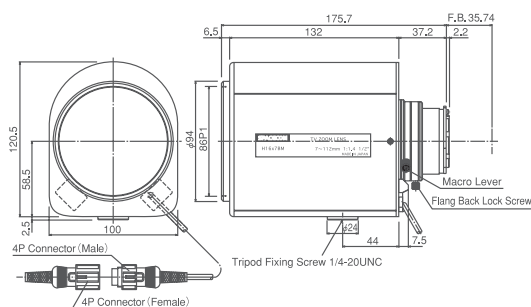
VZ16160R



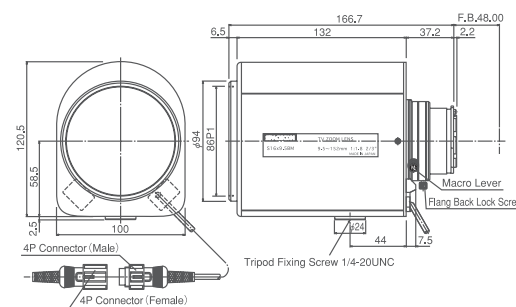
VZ16160RAI



HZ7112BR



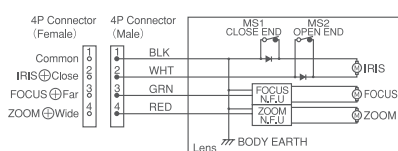
JZ95152BR



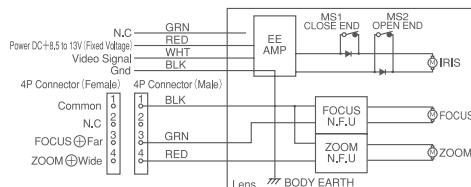
Unit:mm

## CIRCUIT DIAGRAM

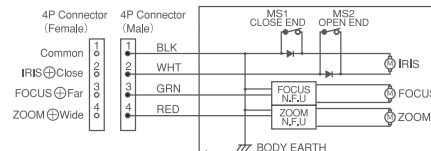
VZ16160R



VZ16160RAI



HZ7112BR / JZ95152BR



SUBJECT TO CHANGE WITHOUT NOTICE.

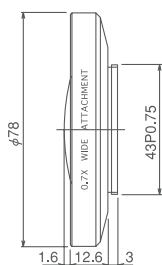




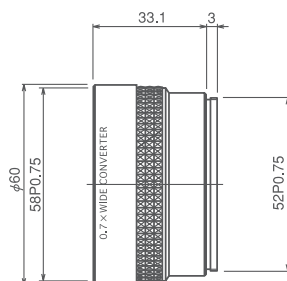
<b>0.7xWideAttachment</b>	Fixed focal lens private 0.7 times wide attachment of filter screw diameter 43mm. Focal length of the master lens reaches 0.7 times, becomes wide.
<b>0.7xWideConverter</b>	Zoom lens private 0.7 times wide converter of filter screw diameter 52mm. Focal length of the master lens reaches 0.7 times, becomes wide. It becomes usable also for HEZ and TEZ zoom lens series by using the step-up ring 43→52.
<b>Extender2XHE</b>	C mount lens private 2 times extender. You install in the lens mount section and focal length reaches 2 times. However, also F number it reaches 2 times and becomes dark, chromatic aberration increases, optical performance deteriorate.
<b>CS-C Adaptor</b>	It is a conversion adapter in the case of using C mount lens for CS mount camera.
<b>Extension Tube</b>	Ring sets (for the fixed focal lens) to adjust the focal point for the close-up application (0.5mm/1mm/5mm/10mm/22mm). This accessories for closer than minimum object distance.
<b>Controller CB-3</b>	Remote control box for motorized zoom lens. Focusing, zoom and the iris can be operated remotely.

## DIMENSIONS

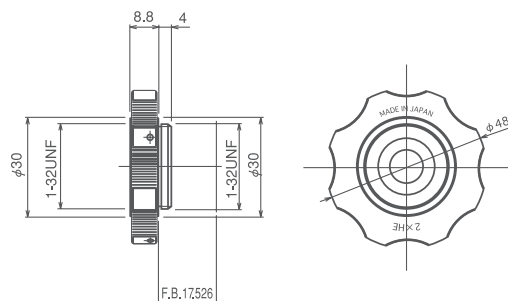
**0.7xWideAttachment**



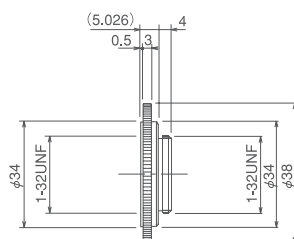
**0.7xWideConverter**



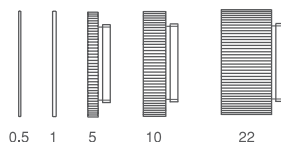
**Extender2XHE**



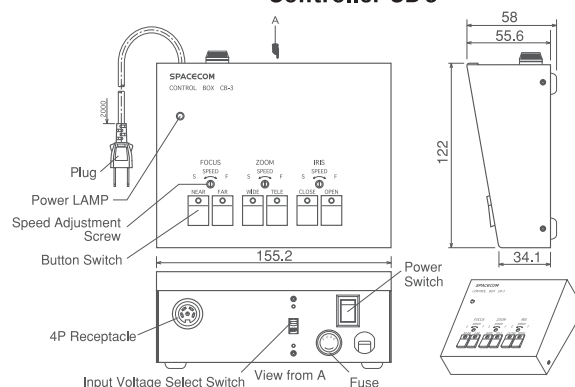
**CS-C Adaptor**



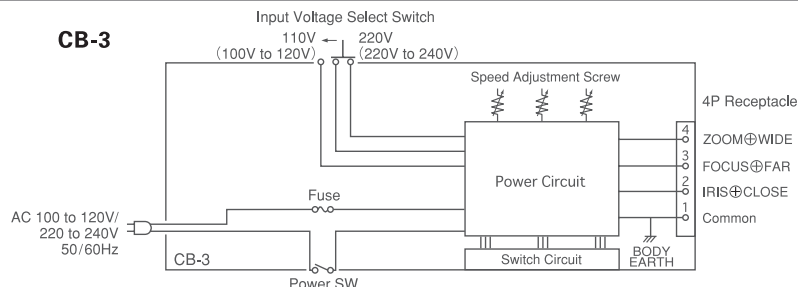
**Extension Tube**



**Controller CB-3**



## CIRCUIT DIAGRAM



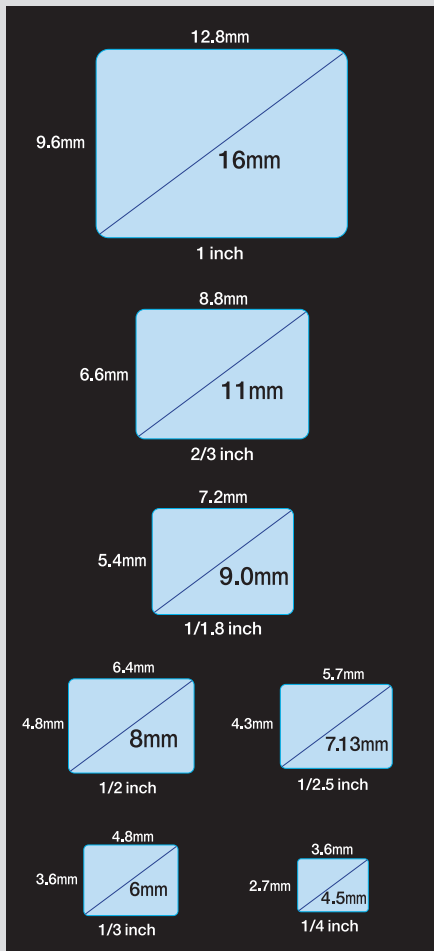
Unit:mm

SUBJECT TO CHANGE WITHOUT NOTICE.



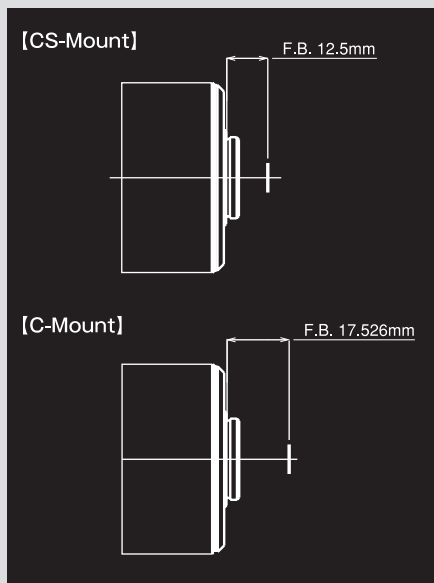
## IMAGE SIZE

Image size of lens. Check the image sensor of the camera you use.



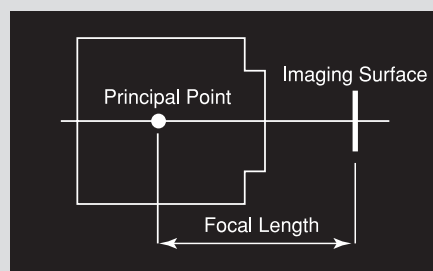
## MOUNT

Lens mount is broken into 2 categories: C Mount and CS Mount. The flange backs of them are different as shown in the picture below. Loading CS-C adaptor (sold separately) onto C Mount lens enables the C Mount lens to be used for CS Mount camera.



## FOCAL LENGTH

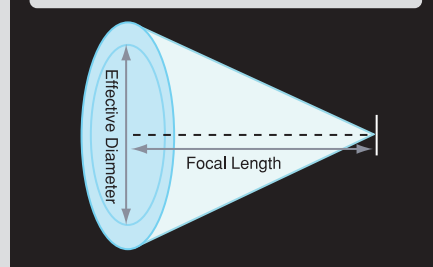
The distance from the principal point to the imaging surface is called "focal length". The larger value makes it telescopic while the smaller value makes it wide-angle. In other words, the focal length is linked with the field angle.



## F No.

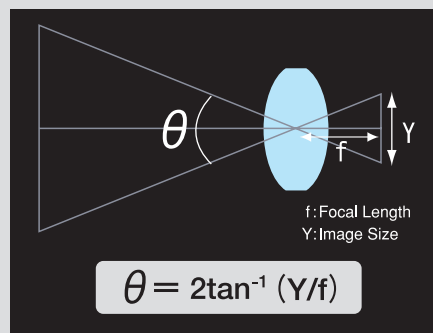
F No. is a unit representing the luminance of a lens. The smaller the F No. means the lens is more luminous. F No. is determined by the ratio calculated with the effective diameter of the lens (the size of the window) and the focal length (the depth of the room). A room in which the window is larger and the depth is shallower is more luminous than a room in which the window is smaller and the depth is deeper.

$$F \text{ No.} = \text{Focal Length} / \text{Effective Diameter}$$

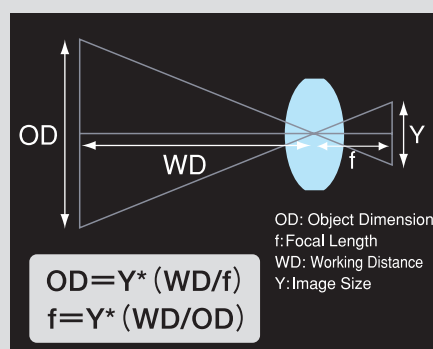


## ANGLE OF VIEW

The angle of view is the maximum range where the lens can project its image and is displayed by a degree. The longer the focal length becomes, the narrower the angle becomes; while the shorter the focal length becomes, the wider the angle becomes.



## OBJECT DIMENSION AND CALCULATION OF FOCAL LENGTH



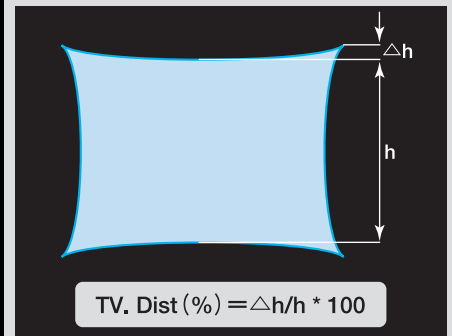
Example: When a 1/3 inch camera has a lens for which the focal length is 20 mm and the object dimension is 5m, how much range can be shot?  $Y=4.8\text{mm}$  (horizontal direction) Substitute  $WD=5*1000\text{mm}=20\text{ mm}$  into above formula.  $OD=4.8*(5*1000/20)=1200\text{mm}$  Answer: A range of 1200 mm (1.2m) can be shot filling the entire screen of the monitor.

Example 2: If you want to shoot a car including its full width (approximately 2m) from a distance of 20m by using a 1/3 inch camera, which lens should you choose?

Substitute  $Y=4.8\text{mm}$ ,  $WD=20*1000\text{mm}$ ,  $OD=2*1000\text{mm}$  into above formula.  $f=4.8*(20*1000/2*1000)=48\text{mm}$

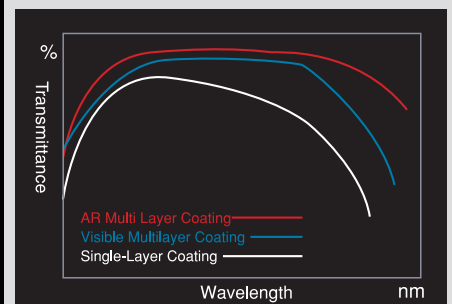
## DISTORTION

The subject may go out from the ideal image point and the scaling relationship can be broken. A rectangle may be distorted into a barrel or pincushion form, this phenomenon is called "distortion".



## COATING

A lens excites a reflex by 4 —10% on its surface. Therefore, a zoom lens or Vari-Focal lens, which consists of a number of lenses, has a huge loss when the ray passes. Moreover, the reflected ray, when hitting another lens surface and reflecting on the complicated inside, causes flare and ghost, which ultimately deteriorates the image. Coating makes it possible to reduce the reflection and protect the lens surface.



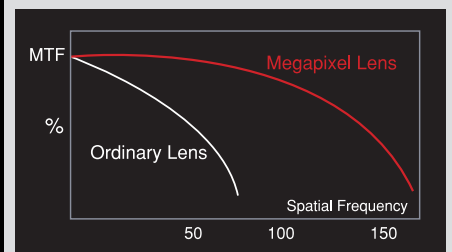
SPACECOM employs AR multi layer coating for part of its lenses and implements coating which has high transmittance for a wide range of wavelengths between visible ray and near-infrared ray.

## RESOLUTION

There is an evaluation for resolution to access the performance of the image formation. A dedicated projector is used to measure how many lines per 1mm this can be resolved. A combination of white and black lines is regarded as a pair for this resolution. It is important that a constant resolution is kept from the centre of the screen to the edge.

## MTF

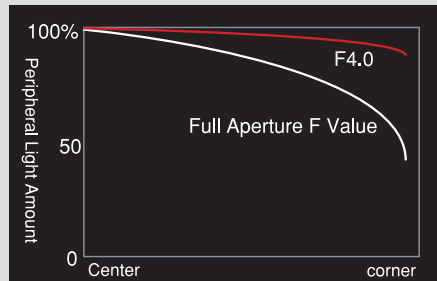
This is the acronym for Modulation Transfer Function. This is a method to evaluate the performance of image formation, as well as for what the resolution does. While the resolution evaluates "the limit of resolution", MTF quantifies the contrast of image formation electrically, for which a black and white pattern chart is used. The larger the contrast ratio becomes the higher the MTF percent becomes.





## RELATIVE ILLUMINATION

F No. represents the amount of light aggregating into the centre of the lens. The entrance pupil of the lens is a circle in the centre and oval at the edge because part of the peripheral light is trimmed due to the lens tube. (This phenomenon is called "vignetting".) Also, obeying the cosine fourth law, the amount of peripheral light decreases in proportion to the fourth power of the cosine of the field angle, the edge becomes darker compared to the centre of the lens.

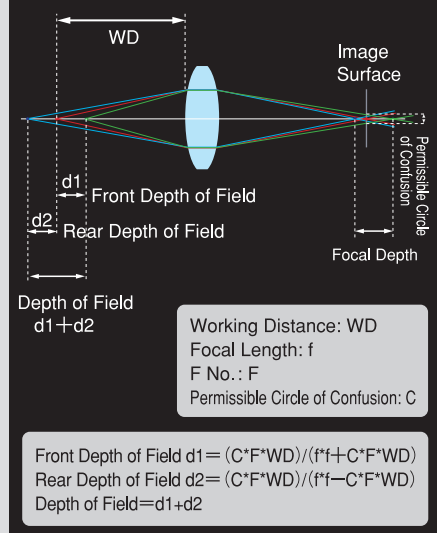


The more you narrow down the iris the stronger the peripheral light becomes due to decreased influence of the vignetting

## DEPTH OF FIELD

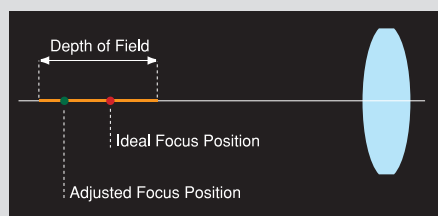
As long as the size of the blur does not exceed a certain size, we cannot recognize that the image is blurring. It seems to be visually in focus though it's a blur, is called the "permissible circle of confusion". The permissible circle of confusion is not constant and depends on image sensors, monitors, shooting conditions, etc. However, the following table can be used as a guide.

Image Size	Permissible Circle of Confusion
1 inch	0.03mm
2/3 inch	0.021mm
1/2 inch	0.016mm
1/3 inch	0.011mm
1/4 inch	0.008mm

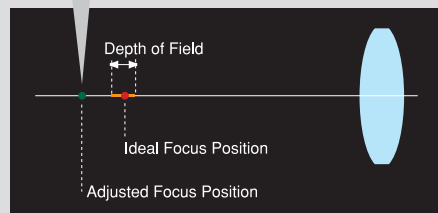


## FOCUS ADJUSTMENT

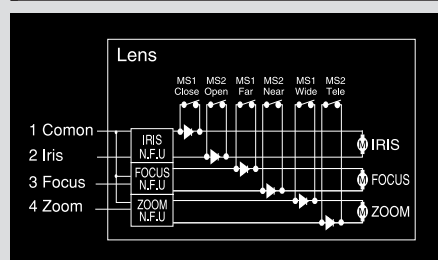
As described in the section DEPTH OF FIELD, the smaller the F No. of the lens becomes (the more the iris opens), the narrower the depth of field becomes. If a lens is installed and the focus is adjusted when there is daylight, it means it's adjusted at a certain position in the wide range of depth of field. Especially, in case of auto iris lens, the iris will operate to open in the evening and the depth of field will be decreased. If the focus was not adjusted at the best point, the blur would be outstanding. To prevent this phenomenon, we recommend you open the iris as much as you can and deliberately narrow the depth of field when you adjust the focus. To open the iris, it is convenient to load an ND filter in front of the lens.



In the evening, the iris is operated to open and the depth of field is narrowed. As a result, it blurred.

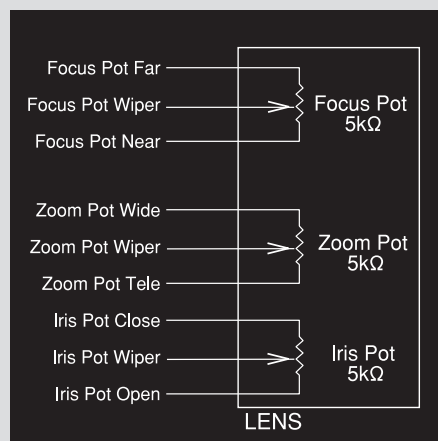


## CONTROL OF ELECTRIC ZOOM LENS



SPACECOM electric zoom employs Common methods as is standard. (It is also possible to handle Independent methods.) In case of Common methods, when DC+6.4V is applied to Terminal 2, the iris will operate to close. Because the motor will continue to revolve as long as the voltage is applied, you should stop applying at the objective position. To operate to open, apply DC-6.4V to Terminal 2. To operate the focus, use Terminal 3. Applying DC+6.4V makes it operate to go FAR (Infinite direction) and applying DC-6.4V makes it operate to go NEAR (proximate direction). To operate the zoom, use Terminal 4. Applying DC+6.4V makes it operate to be wide-angle, while applying DC-6.4V makes it operate to be telescopic.

## POTENTIOMETER



Loading a potentiometer onto the electric zoom lens enables you to know the current positions of focus, zoom and iris. Leveraging this function enables preset control, servo control, and control via computer. The potentiometer has 3 terminals as shown in above picture. If a voltage is input into both ends of the operation range, the current positions will be fed back as the voltage value. For example, suppose you apply 0V to the wide-angle end ( $f=10mm$ ) and 100V to the telescopic end ( $f=100mm$ ) (Both ends of zoom), while applying the zoom motor to the drive. As a result, the current position of the zoom will be fed back with the range between 0V and 10V. Configure the voltage between 0V and 10V, and the corresponding focal length (0V: $f=10mm$  1V: $f=20mm$  2V: $f=30mm$

3V: $f=40mm$  10V: $f=100mm$ ). Establish a system using the relationship between the voltage and the focal length. Then, the system will not only recognize the current positions but also operate the zoom automatically only by inputting the required focal length.

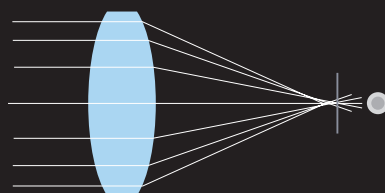
## MEGAPIXEL LENS

SPACECOM's megapixel lens defines the resolution required for a lens based on the pixel pitch of the image sensor of a camera. For example, if it's 2/3 inch 5 megapixel, the pixel pitch of the image sensor is  $3.45\mu m$ . Therefore,  $3.45\mu m$  is required as the resolution of the camera. That is, there are 145 lines/mm.

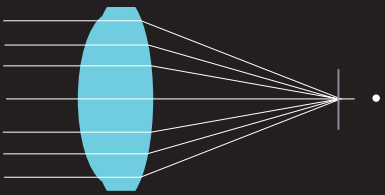
## ASPHERIC LENS

A spherical lens cannot make parallel rays converge into one point perfectly on the optical axis. An aspheric lens is a lens in which the surface is aspheric to allow the rays to converge into one point on the axis. An aspheric lens enables aberration correction, downsizing lens and large diameter.

### Spherical Lens

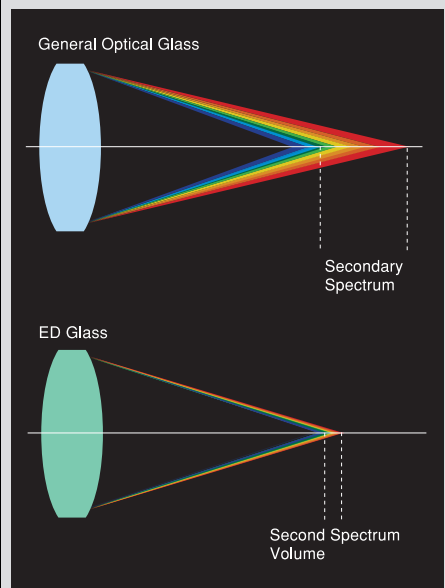


### Aspheric Lens



## ED GLASS

In case of general optical glass, the longer the focal length is the more difficult the colour aberration correction is. The second spectrum volume increases in visible light and near-infrared light ranges, which makes the focal point stray further. In case of ED glass, the second spectrum volume and the divergence are small so that the misalignment is restrained. This is very useful material for a Day & Night lens and a lens which has a longer focal length.







#### ■ Company profile

Foundation: January 1984

President: Katsuaki Takizawa

Capital: JPY25,000,000

Employees: 80



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■ In order for you to use safely

Please read instructions thoroughly to be able to use products properly  
Please use on the displayed right power supply and voltage.

**SPACE inc.**

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