



## HF-XA-5M Series

HF-XA-5M series is compatible with 2/3" ~ 1.1" sensors and provides high performance of 3.45µm pixel pitch for sensors like IMX250.

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## "4D High Resolution" lenses

### HF-XA-5M Series

Compatible with 2/3" to 1.1" (max.)  
large image sensor cameras

FUJINON HF-XA-5M series is designed for "4DHR" and compatible with IMX250 high performance CMOS image sensor (2/3", 5 megapixels, 3.45µm pixel pitch).



### HF-XA-5M series specification sheet

Model	Compatible format sizes								Focal length (mm)
	4/3	1.1	1	1/1.2	2/3	1/1.8	1/2	1/3	
<a href="#">HF6XA-5M</a>	-	-	-	-	●	●	●	●	6
<a href="#">HF8XA-5M</a>	-	-	-	-	●	●	●	●	8
<a href="#">HF12XA-5M</a>	-	-	-	○	●	●	●	●	12
<a href="#">HF16XA-5M</a>	-	-	-	○	●	●	●	●	16
<a href="#">HF25XA-5M</a>	-	-	-	○	●	●	●	●	25

<u>HF35XA-5M</u>	-	-	-	○	●	●	●	●	35
<u>HF50XA-5M</u>	-	○	○	○	●	●	●	●	50

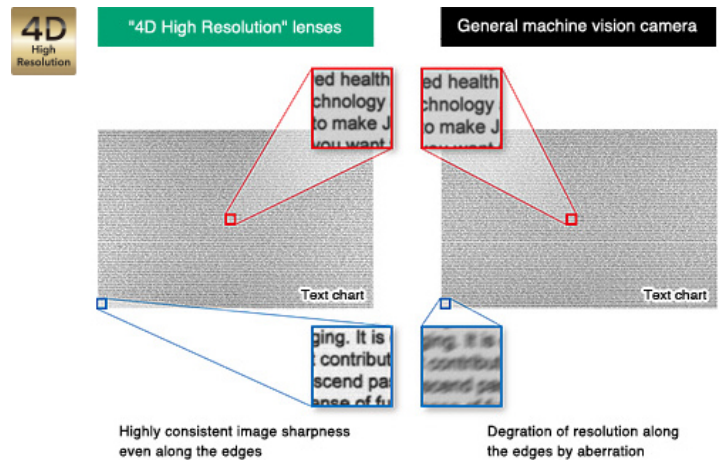
● Compatible sensor size (std.): Ideal size to maximize the target resolution.

○ Compatible sensor size (max.): Adaptable sensor size varies depending on the model. Select a lens after checking the peripheral light amount and resolution.

## Main features

### Minimizing degradation of resolution even when the shooting distance or aperture is changed

General machine vision camera lenses exhibit problematic degradation of resolution when the shooting distance or aperture is changed. FUJINON HF-XA-5M features high performance "4D HR" to minimize such degradation. It maintains a highly consistent image sharpness from the center to the edges, while mitigating degradation of resolution caused by changes in the shooting distance or aperture. This enables consistent delivery of high-resolution images under a wide variety of installation and shooting conditions.



### Anti-shock & vibration design

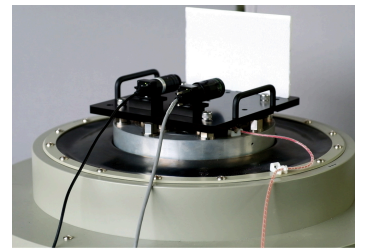
Our unique mechanical design\* realizes anti-shock and vibration performance compatible with various installation environments.

\* Patent Pending

\* Only the HF6XA-5M and HF50XA-5M are equipped with Anti Shock & Vibration.

【Compliant with IEC60068-2-6】

- Vibration frequency of 10-60Hz (amplitude of 0.75mm), 60-500Hz (acceleration of 100m/S<sup>2</sup>)
- Sweep frequency of 50 cycles



Anti Shock & Vibration

## High operability / Unified design

Despite being a high-resolution lens, its compact design makes it ideal for use with small machine vision cameras. The lens diameter is 29.5 mm across all 5 models in the 8mm to 35mm range. The lens barrel has 3 fixed holes for the iris and focus, allowing users to choose the most suitable fixed hole according to the installation conditions. The focus and iris operability is also the same across all models.



## Compact design

Despite being high resolution lenses, the HF-XA-5M series is the best for use with small machine vision cameras.

6mm:  $\phi 39\text{mm}$

8mm/12mm/16mm/25mm/35mm:  $\phi 29.5\text{mm}$

50mm:  $\phi 33\text{mm}$



## Selectable three locking holes

FUJINON HF-XA-5M series comes with three locking holes each for the iris and focus. They are located on the lens barrels, allowing you to select the optimum holes for your needs.

## Lineups

### HF6XA-5M



### HF8XA-5M



Focal length [mm]

6

Focal length [mm]

8

Iris range (F. no)	F1.9-F16
Angle of view(2/3")	74.7°×58.1°
Working Distance* <sup>1</sup> [mm]	∞-100
Operation of focus	Manual
Operation of iris	Manual
Filter thread [mm]	M37.5 x 0.5
Mount	C-mount
Weight (approx.) [g]	100
Sensor size(std.) <sup>*2</sup>	2/3"(3.45μm)
Sensor size (max.) <sup>*3</sup>	2/3"(3.45μm)
TV distortion [%]	-2.88
Dimension [mm]	Φ39×51

Iris range (F. no)	F1.6-F16
Angle of view(2/3")	58.4°×44.6°
Working Distance* <sup>1</sup> [mm]	∞-100
Operation of focus	Manual
Operation of iris	Manual
Filter thread [mm]	M25.5 x 0.5
Mount	C-mount
Weight (approx.) [g]	79
Sensor size(std.) <sup>*2</sup>	2/3"(3.45μm)
Sensor size (max.) <sup>*3</sup>	2/3"(3.45μm)
TV distortion [%]	-1.99
Dimension [mm]	Φ29.5×51.5

## HF12XA-5M



## HF16XA-5M



Focal length [mm]	12
Iris range (F. no)	F1.6-F16
Angle of view(2/3")	40.1°×30.3°
Working Distance* <sup>1</sup> [mm]	∞-100
Operation of focus	Manual
Operation of iris	Manual
Filter thread [mm]	M25.5 x 0.5

Focal length [mm]	16
Iris range (F. no)	F1.6-F16
Angle of view(2/3")	31.4°×23.7°
Working Distance* <sup>1</sup> [mm]	∞-100
Operation of focus	Manual
Operation of iris	Manual
Filter thread [mm]	M25.5 x 0.5

Mount	C-mount
Weight (approx.) [g]	79
Sensor size(std.) <sup>*2</sup>	2/3"(3.45μm)
Sensor size (max.) <sup>*3</sup>	1/1.2"(4.5μm)
TV distortion [%]	-1.26
Dimension [mm]	Φ29.5×51.5

Mount	C-mount
Weight (approx.) [g]	71
Sensor size(std.) <sup>*2</sup>	2/3"(3.45μm)
Sensor size (max.) <sup>*3</sup>	1/1.2"(4.5μm)
TV distortion [%]	-0.60
Dimension [mm]	Φ29.5×46.0

## HF25XA-5M



## HF35XA-5M



Focal length [mm]	25
Iris range (F. no)	F1.6-F16
Angle of view(2/3")	20.0°×15.0°
Working Distance <sup>*1</sup> [mm]	∞-100
Operation of focus	Manual
Operation of iris	Manual
Filter thread [mm]	M25.5 x 0.5
Mount	C-mount
Weight (approx.) [g]	72
Sensor size(std.) <sup>*2</sup>	2/3"(3.45μm)
Sensor size (max.) <sup>*3</sup>	1/1.2"(4.5μm)
TV distortion [%]	-0.07
Dimension [mm]	Φ29.5×46.5

Focal length [mm]	35
Iris range (F. no)	F1.9-F16
Angle of view(2/3")	14.2°×10.7°
Working Distance <sup>*1</sup> [mm]	∞-200
Operation of focus	Manual
Operation of iris	Manual
Filter thread [mm]	M25.5 x 0.5
Mount	C-mount
Weight (approx.) [g]	60
Sensor size(std.) <sup>*2</sup>	2/3"(3.45μm)
Sensor size (max.) <sup>*3</sup>	1/1.2"(4.5μm)
TV distortion [%]	0.10
Dimension [mm]	Φ29.5×41.5

# HF50XA-5M



Focal length [mm]	50
Iris range (F. no)	F2.4-F16
Angle of view(2/3")	10.4°x7.8°
Working Distance* <sup>1</sup> [mm]	∞-200
Operation of focus	Manual
Operation of iris	Manual
Filter thread [mm]	M30.5x0.5
Mount	C-mount
Weight (approx.) [g]	95
Sensor size(std.)* <sup>2</sup>	2/3"(3.45μm)
Sensor size (max.)* <sup>3</sup>	1.1"(4.5μm)
TV distortion [%]	0.01
Dimension [mm]	φ33.0x66.5

\*1 From front of lens barrel

\*2 Sensor size(std.): Ideal size to maximize the target resolution

\*3 Sensor size(max.): Adaptable sensor size varies depending on the model. Select a lens after checking the peripheral light amount and resolution.

# Related Products

## Machine Vision Lenses

FUJINON Machine Vision lenses are evolving technically to meet strict quality control demands and to improve production efficiency.



### CF-ZA-1S Series

CF-ZA-1S series supports large sensor sizes of 1.2" and high-resolutions of 2.74 $\mu$ m pixel pitch but is still small in size.



### HF-12M Series

HF-12M series incorporates low distortion design and offers high resolution of 2.1 $\mu$ m pixel pitch on 2/3" sensors like IMX536 – and others.



### HF-XA-1F Series

HF-XA-1F series offers the same basic specification as HF-XA-5M series with 2/3" sensor size and 3.45 $\mu$ m resolving power. In addition, the -1F lenses are extremely rugged and robust against shocks and vibrations.



### CF-HA Series

CF-HA series is compatible with large 1" image sensor cameras to realize high resolution up to 1.5 megapixels.



### HF-HA-1S Series

HF-HA-1S series is the lens that support 2/3" type\* and 6.2 $\mu$ m pixel pitch.\*DF6HA-1S supports 1/2 type.



### HF-SA Series

HF-SA series is designed to achieve high resolution up to 5 megapixels compatible with 2/3" sensors.



### FE185 Series

Super wide-angle lenses with a 185° field of view compatible with 5-megapixel high resolution sensors.