

5 Mega-Pixel Lens (Manual Iris Lens, compatible with 5 mega-pixel cameras)

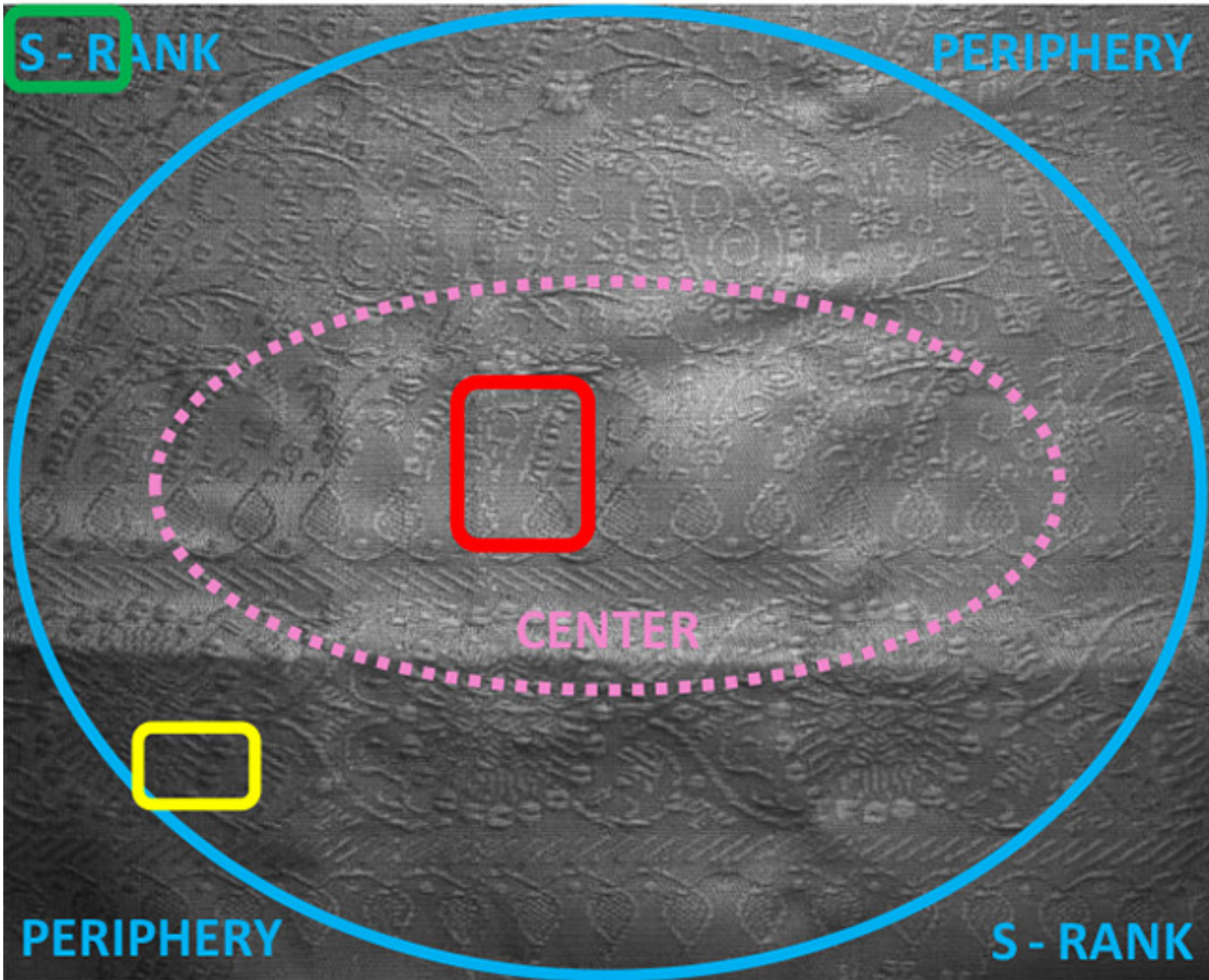
5MX Series

Key Features,

S-RANK (Best Performance Class)

- 5MX Series uses JIIA (Japan Industrial Imaging Association) lens standards and satisfy S-Rank (Best Performance Class) criteria as high-performance lenses for 2/3 5 Megapixel camera. As entire field 5 Megapixel camera lenses, they capture high resolution, distortion images not just from the center to the periphery but over the entire measurement field.

EXCEED 5M



Object: Cotton Scraft

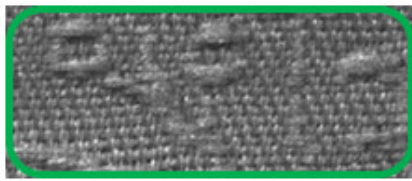
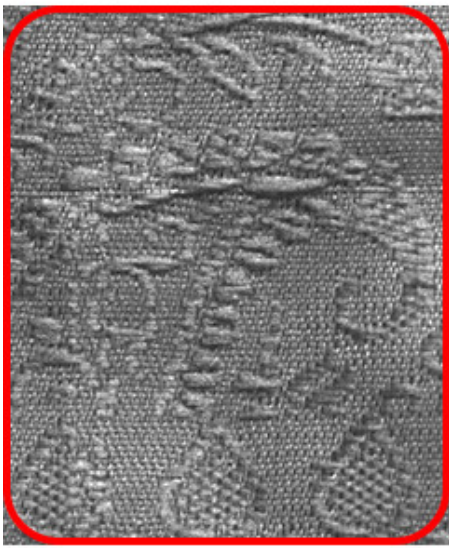
(Chart 1)

5 Mega-pixel at ALL Range

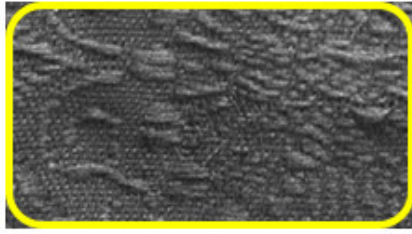
- 5MX Series lenses have a high resolution of over 147 lp/mm.
- 5MX Series keeps TV distortion to less than 0.1%, making them ideal for capturing low distortion images over the entire image measurement.

MX Series

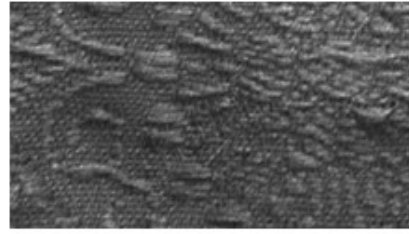
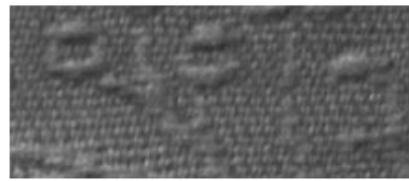
Usual FA lens (5 Mega Pixel)



✓ Keen at periphery



✓ Keen at periphery



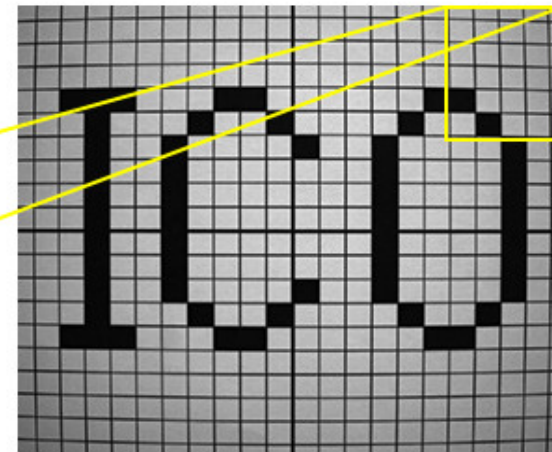
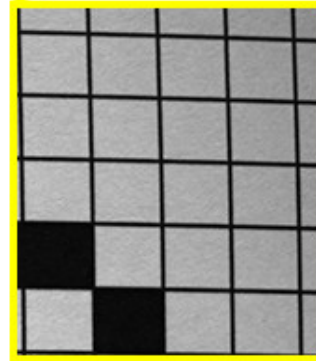
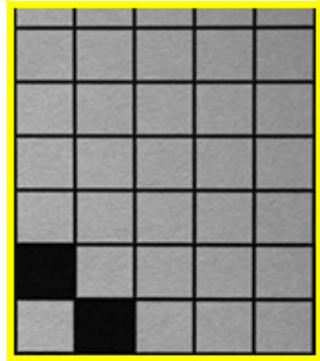
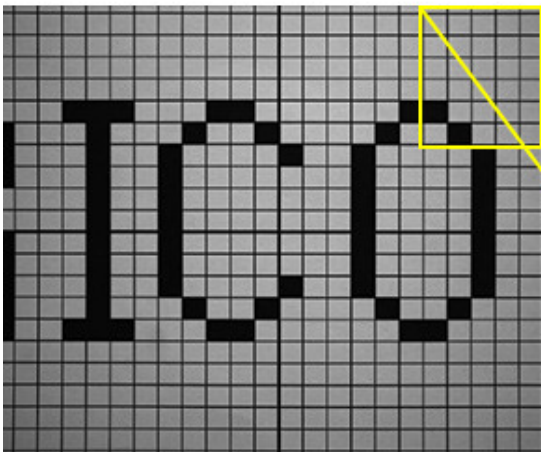
lens: 16mm focal length , Fno 1.8
camera: 2/3 format, (3.45 μ m \times 3.45 μ m)
object: cotton scarf

Object : same scarf as chart 1

(Data 1)

MX Series

Usual FA lens (5Mega-Pixel)



lens: 16mm focal length , F1.8
camera: 2/3 format, (3.45 μ m \times 3.45 μ m)
object: grid paper / W.D.100

(Data 2)

*JIA Technical Report LER-007 : Recommended specifications for high definition camera lenses

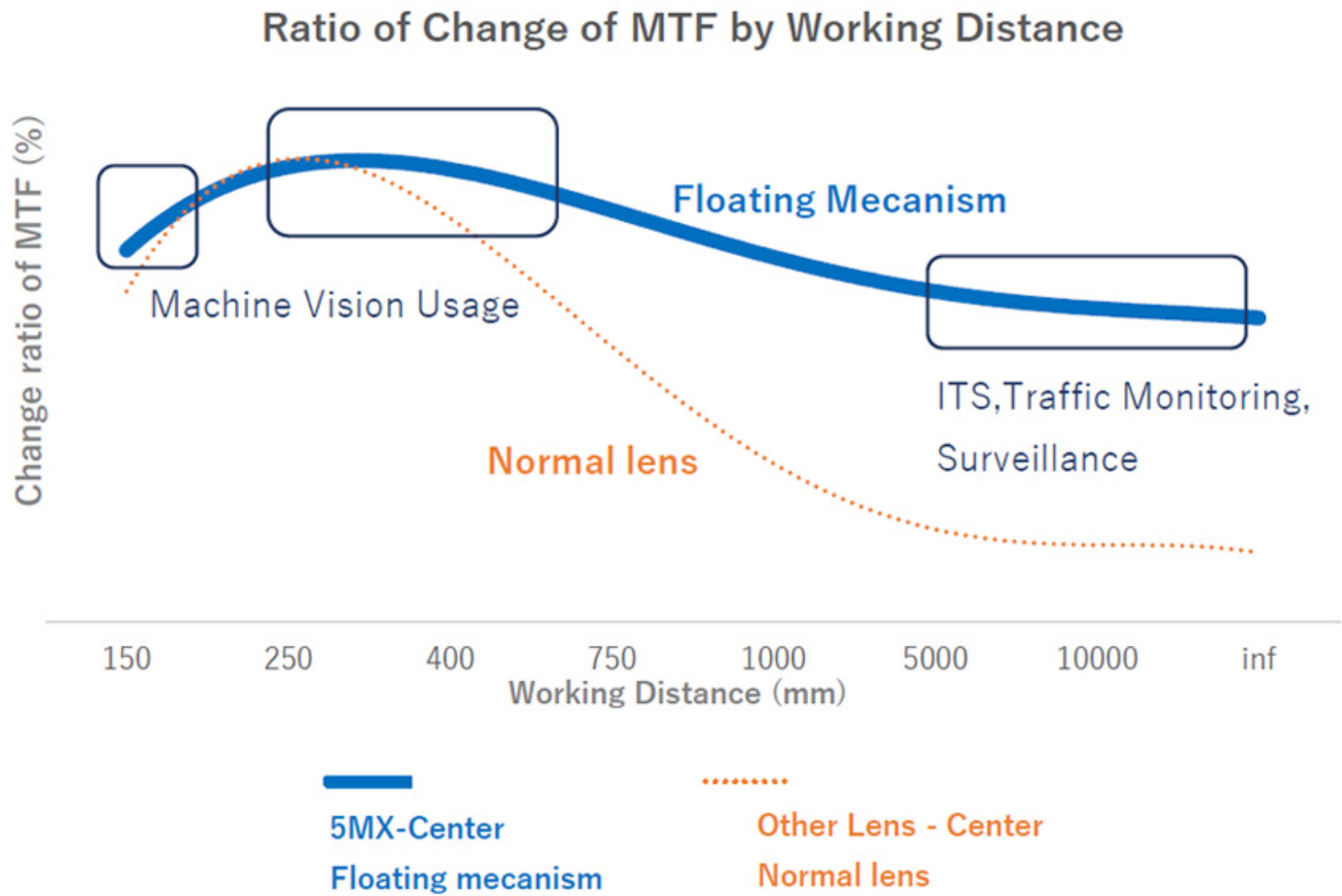
- Application (S-Rank) : For applications requiring higher resolution over the entire image.
- Evaluation Criteria (S-Rank) : Resolving spatial frequency corresponding to the Nyquist frequency over the entire image.

COMPACT DESIGN ϕ 33mm

Despite their 5 Megapixel high resolution, its size, that features ϕ 33mm, allows a high degree of freedom incorporating them into wide range of equipment positions.

FLOATING FOCUSING MECHANISM

The use of a floating mechanism in their focusing systems allows them to capture low-distortion, high resolution images at all distance, from infinity right down to their minimum object distance, demonstrating maximum performance at any magnification.



《PRINCIPAL USE》

5MX Series' line up makes it ideal for from visually inspecting to robot vision application, various demands from our customers.

- checking for missing pixels in LCD monitors, OEL monitor
- surface inspection / metal parts, hairline cracks
- errors and in making detailed inspections / shape, color and surface of food and pharmaceuticals
- visual sensors



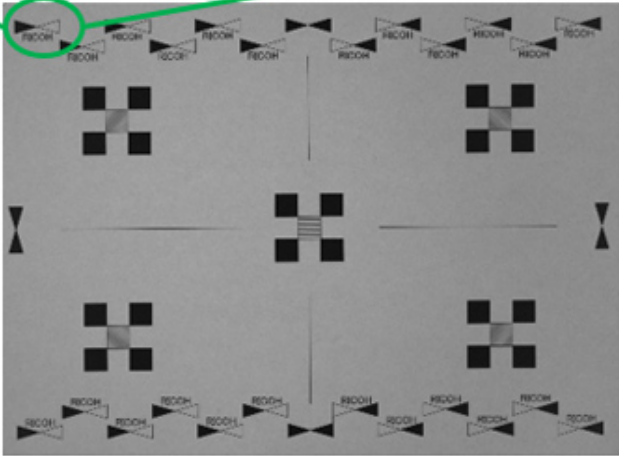
Tips: The Benefit of Replacing 2 Megapixel Lenses with 5 Megapixel

Comparing peripheral resolution of a 2 Megapixel lens with 5 Megapixel



Analytic rate has improved by **15%**
(Investigated by RICOH)

FL-CC2514-2M	FL-CC2518-5MX
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Resolution Chart

(Use : 5 Megapixel Camera W.D. 900mm f2.8)

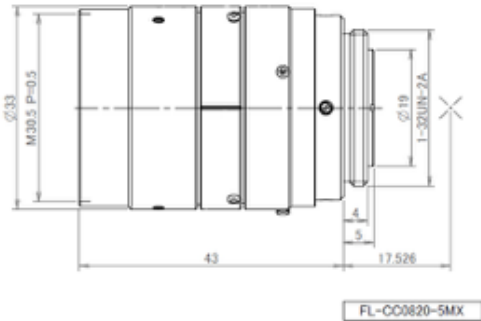
Even if satisfied with a 2 Megapixel lens's performance in the center, replacing them with Ricoh's 5 Megapixel lenses improve inspection stability and processing time owing to the higher performing peripheral images.

Ricoh's FA lenses are value for money in improving the Stability and Efficiency of image

recognition in production.

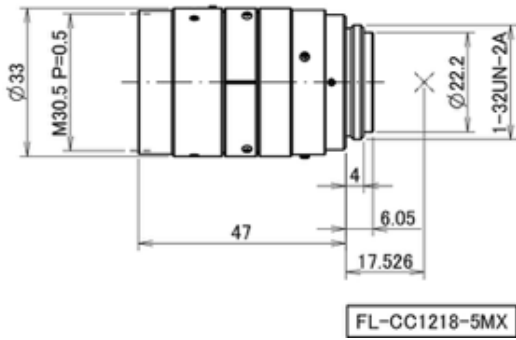
FL-CC0820-5MX

Resolution over 5 Mega-Pixel



Format size		2/3" format
Focal length		8mm
Maximum aperture ratio		1:2.0
Iris range		2.0~16
Mount		C
Horizontal angle of view	1/3" format	33.6°
	1/2" format	44.0°
	1/1.8" format	49.0°
	2/3" format	58.5°
Minimum object distance		0.1m
Back focal length		13.0mm
Filter size		30.5 P=0.5mm
Dimensions		φ33×43mm
Weight		78g
Remarks		Focus & Iris lock screw

FL-CC1218-5MX



Resolution		over 5 Mega-Pixel
Format size		2/3" format
Focal length		12mm
Maximum aperture ratio		1:1.8
Iris range		1.8~16
Mount		C
Horizontal angle of view	1/3" format	22.7°
	1/2" format	30.0°
	1/1.8" format	33.6°
	2/3" format	40.5°
Minimum object distance		0.1m
Back focal length		13.2mm
Filter size		30.5 P=0.5mm
Dimensions		φ33×47mm
Weight		85g
Remarks		Focus & Iris lock screw

FL-CC1618-5MX

Resolution		over 5 Mega-Pixel
Format size		2/3" format
Focal length		16mm
Maximum aperture ratio		1:1.8
Iris range		1.8~16



Mount	C	
Horizontal angle of view	1/3" format	17.1°
	1/2" format	22.7°
	1/1.8" format	25.4°
	2/3" format	30.9°
Minimum object distance	0.1m	
Back focal length	13.4mm	
Filter size	30.5 P=0.5mm	
Dimensions	φ33×47mm	
Weight	80g	
Remarks	Focus & Iris lock screw	

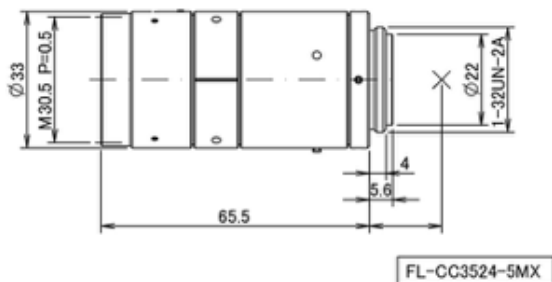
FL-CC2518-5MX



Resolution	over 5 Mega-Pixel	
Format size	2/3" format	
Focal length	25mm	
Maximum aperture ratio	1:1.8	
Iris range	1.8~16	
Mount	C	
Horizontal angle of view	1/3" format	11.0°
	1/2" format	14.6°
	1/1.8" format	16.4°
	2/3" format	20.0°
Minimum object distance	0.1m	

Back focal length	13.6mm
Filter size	30.5 P=0.5mm
Dimensions	φ33×50mm
Weight	68g
Remarks	Focus & Iris lock screw

FL-CC3524-5MX



Resolution	over 5 Mega-Pixel	
Format size	2/3" format	
Focal length	35mm	
Maximum aperture ratio	1:2.4	
Iris range	2.4~16	
Mount	C	
Horizontal angle of view	1/3" format	7.8°
	1/2" format	10.4°
	1/1.8" format	11.7°
	2/3" format	14.3°
Minimum object distance	0.1m	
Back focal length	14.3mm	
Filter size	30.5 P=0.5mm	
Dimensions	φ33×65.5mm	
Weight	100g	
Remarks	Focus & Iris lock screw	