Kowa

Quality of Light

Cameras Lenses

Camera and Lens Catalog

Cameras Lenses

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KC/KL_23070TM-3

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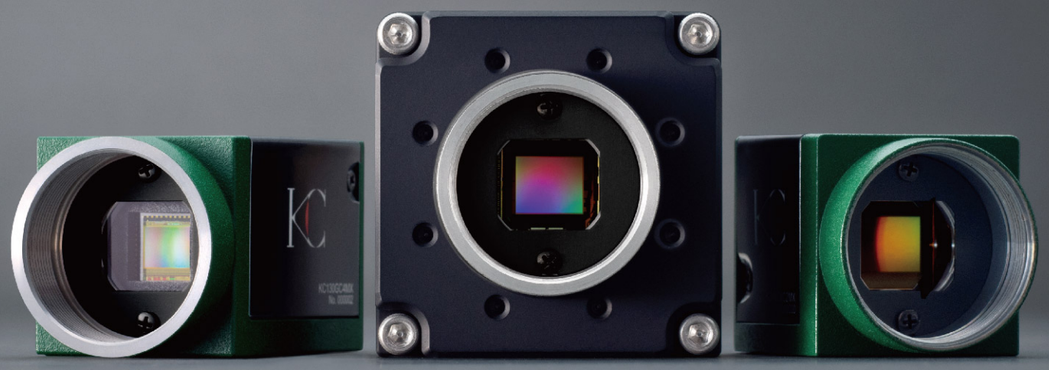
Vision Units

Supporting various applications
High performance and high quality
vision units with KOWA technology

Cameras

Camera lineup supporting the GigE and CoaXPress interfaces and special cameras with harsh environment resistant specifications which can withstand use even in harsh environments



Lenses

Full lens lineup ranging from standard lenses incorporating many years of proven experience and capable of supporting a wide range of applications to ultra-wide angle, miniature, and harsh environment resistant lenses

Quality of Light

About Kowa Optronics

Kowa has been engaged in the development, manufacture and sales of optical equipment since 1946, and has been fostering these technologies over many years. In addition, Koken was established in 1968 as a company consistently conducting activities from the development to manufacture of optical lenses. The two companies have grown together with the optical industry while releasing a variety of pioneering products. While both companies maintained their close cooperative relationship ranging from technical aspects to sales from before, Kowa Optronics was newly established to unify the development, manufacture and sales business of optical equipment based on a purpose to select and concentrate businesses in the Kowa Group. Going forward, we continue to swiftly identify the needs of society and actively develop our business in response to the changing times.


Spotting scopes, binoculars and sightseeing telescopes


Industrial lenses


Industrial cameras


Image processing and AI software


Security lenses and cameras

Professional video equipment

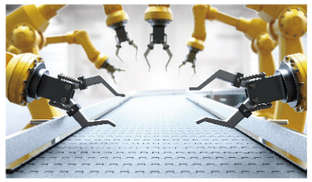

Lighting fixtures

We are constantly seeking to improve the quality based on ISO 9001 to provide our customers with products that they can use with confidence.

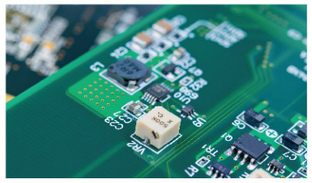
Industrial cameras and lenses are key items for machine vision in a variety of situations including in the manufacturing, processing and logistics industries. It is important to select the most suitable devices according to the usage environment and the types of objects.

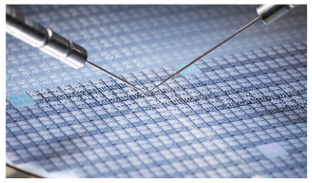

Transportation/ Logistics


Automobile


Robotics


Food


Electronic components


Semiconductor


Security


Retail

[Basic knowledge about cameras and lenses]

Cameras and lenses are the most important products for conducting image processing inspections. The general flow of image processing consists of ① imaging, ② transfer, ③ processing and ④ output, and cameras and lenses are strongly related to ① imaging. Generally, ③ processing tends to be given importance, but it is based on the premise of acquiring precise and stable imaging results. Therefore, the selection of the optimum camera and lens for the object to be imaged will be the shortest way to realize successful image processing inspections.

① Imaging
Cameras, lenses and lighting

② Transfer
Cables

③ Processing
Software

④ Output
External devices

WWW.FALENS.CN

Our Cameras

Color and Monochrome

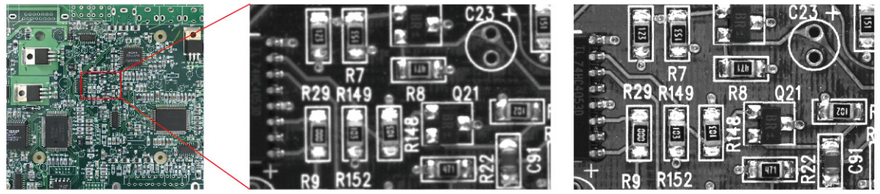
Color cameras should be used when you need to make judgments using color information, and monochrome cameras should be used when color information is not required. Generally, monochrome cameras have higher sensitivities than color cameras, and also offer advantages in shutter speed and focal depth adjustment.

Color

Monochrome

Resolution

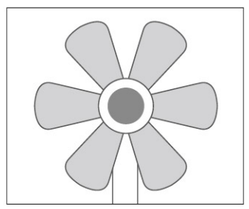
Image sensors are built into the cameras, and the camera resolution is determined by these image sensors. Cameras with high resolutions allow more detailed inspections.



Actual photograph　　Low resolution image　　High resolution image

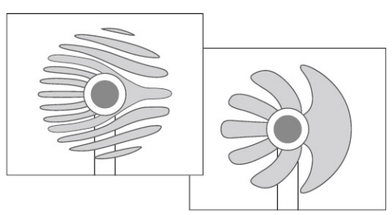
Shutter Systems

There are two types of image sensors, consisting of the global shutter system and rolling shutter system. In the rolling shutter system, because successive exposures are made for each line of the image sensor, the exposure timing for each line is different. If the object is moving, distortion will occur, known as the rolling shutter phenomenon. In contrast, a similar type of distortion does not occur because the entire image is exposed simultaneously in the global shutter system.
In cases where moving objects are to be precisely imaged, it is necessary to use the global shutter system.



Global shutter

Imaging is possible as though moving objects are stopped.



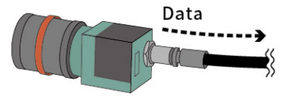
Rolling shutter

Distortion will occur when the target object is moving.

Frame Rate

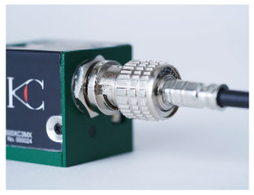
The frame rate is the number of images that can be output in a unit time, and is generally expressed in "fps" or frames per second. Higher fps values in camera specifications indicate shorter data transmission times.
Also, higher frame rates allow many images to be sent in a short time period, and it is possible to conduct continuous imaging of objects which are moving quickly. Further, when the time taken to output one image is short, the time until the start of the next stage of image processing can be shortened, leading to the shortening of cycle times.

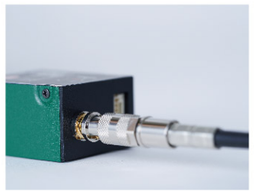
fps = frames per second



Industrial Camera Interfaces

When selecting a camera, the camera interface is one of the most important items. Industrial camera interfaces play the role of connecting the camera to a computer and transferring the imaged data to the image processing software. When the resolution of the image sensor is higher, the amount of data for each single image will be greater. Therefore, cameras with fast frame rates require a camera interface which has a correspondingly wide bandwidth. Camera interfaces which are currently in wide use include GigE, CoaXPress, USB 3.0 and CameraLink. Each of these interfaces differs according to factors such as the transfer speeds, number of connected cameras and cable lengths. In addition to the purpose and application, the installation environment requires consideration when selecting the interface.





Dustproof and Waterproof

Dustproofing and waterproofing are necessary in environments where equipment comes into contact with water and where fine dust is generated from paper or cloth. Our dustproofing and waterproofing standards are based on IP67 and we also offer products that are oilproof. While some products offer dustproofing and waterproofing as single-product cameras and lenses, other products realize dustproofing and waterproofing by utilizing housings.

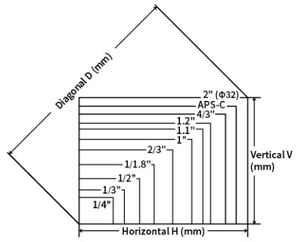
Our Lenses

Image Size

Image sizes are different in each lens series. The image size is the range of the image passing through the lens that can be viewed. Providing that the lens has an image size which is the same or larger than the camera's sensor size (see the figure at right), the lens can be used.

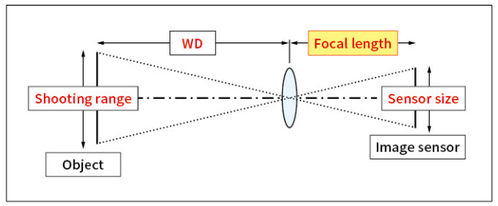
Size of image sensor

Camera	Horizontal H (mm)	Vertical V (mm)	Diagonal D (mm)
1/4''	3.6	2.7	4.5
1/3''	4.8	3.6	6
1/2''	6.4	4.8	8
1/1.8''	7.2	5.4	9
2/3''	8.8	6.6	11
1''	12.8	9.6	16
1.1''	14.1	10.6	17.6
1.2''	15.4	11.5	19.2
4/3''	18.4	13.8	23
APS-C	22.3	16.7	27.9
2(Φ32)''	25.6	19.2	32



Focal Length

The shooting range is determined by the focal length, the sensor size and the working distance (WD) from the lens to the object. As shown in the figure at right, the focal length is the distance from the lens to the image sensor, and when this focal length is short, a wide imaging range is obtained. When the focal length is long, the object can be viewed at an enlargement. When imaging an object, it is possible to choose a lens with a different focal length to match the object size and the WD selection.



F-number (Aperture)

The brightness of a lens is expressed by the numerical value obtained by dividing the focal length by the effective diameter of the lens. This numerical value is the F-number, and this number can be adjusted using the aperture. Lenses that have small F-numbers (bright lenses) can capture images at faster shutter speeds. By making the F-number larger (darkening the lens), the range which appears in focus (the depth of field) will become wider.

F-number (Aperture value) =
Size of the hole that the light passes through

The F-number continues in the sequence 1.4, 2, 2.8, 4, 5.6... When the radius becomes 1/√2x, the amount of light will become half because the area of the lens on which the light is incident will become 1/2x.

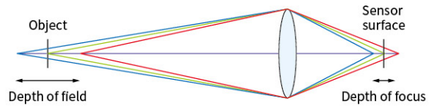
Two times brighter

1 1.4 2 2.8 4 5.6 8 11 16

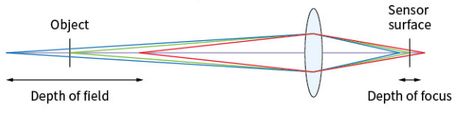
Half as bright

Depth of Field

The depth of field means the range over which the image remains in focus. It is determined by the F-number, the WD and the focal length. The depth of field becomes deeper when the F-number is made larger, when the focal length is increased or when the WD is made longer.

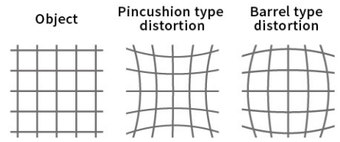


● Situation where the lens aperture has been closed down



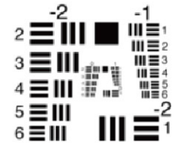
Distortion

Distortion is the phenomenon in which an image becomes warped.
If the captured object image is warped, the imaged object will appear as an image which differs from the actual shape. This means that errors will occur in the position information of the object when conducting inspections or image processing. Therefore, low distortion lenses have high performance.



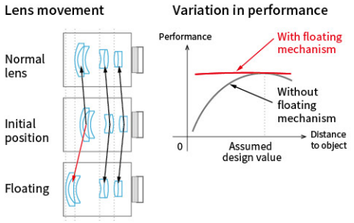
Resolving Power

The resolving power indicates in how much detail the edges and fine details of an object can be recreated. Resolving power is expressed as the number of lines that can be distinguished in a 1mm width of a black and white striped pattern. The striped patterns are expressed according to how detailed the striping is, and are indicated in lp (line pairs)/mm.



Floating

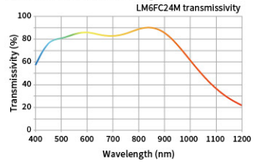
Floating mechanisms are effective for limiting performance degradation. They are also known as close-range aberration compensating mechanisms. When adjusting the focus in a normal lens, all of the lenses are moved. As a result, a phenomena occurs in which the performance changes according to the working distance. In lenses with floating mechanisms, the internal lenses are separated into several groups. By moving these lens groups independently, the performance degradation according to the WD will be limited. These mechanisms can therefore realize performances which are close to the best for every working distance.



Lens Coating

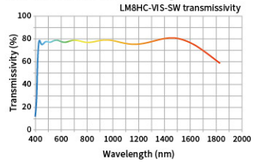
・High transmissivity from the visible range to near infrared
・Can be used in a wide range of applications

Wide-band multi-coating



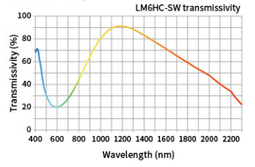
・High transmissivity from the visible range to short wavelength infrared
・A wide range of wavelength bands

EX wide-band multi-coating

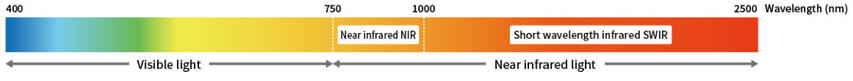


・Coating that has been adjusted to obtain high transmissivity in the short wavelength infrared range.

SWIR coating



Coatings are optimized for each series to meet the needs of different wavelength bands used in different applications.



Icons

WBMC	Wide-Band Multi-Coating	EX-WBMC	EX Wide-Band Multi-Coating	SWIR	SWIR Coating	I R	IR-Corrected
LO-DIS	Low Distortion	FLOAT	Floating Mechanism Design	X D	Extra Low Dispersion		
RUGGED	Ruggedized Lens	WATER	Water Resistance	DUST	Dust Resistance		

Cameras

Camera Contents and Lineup Chart

Camera Lineup Chart

Sensor Size Monochrome (MX) Sensor Size Color (CX)

Resolution (MP)		0.48		1.3	3	5	8	12	16	20	24
Pixel Size (µm)		4.8	5.3	5.3	3.45		2.74				
GigE Vision (Vibration Resistance, Impact Resistance)	KC48GC4	1/3	1/3								
	KC130GC4			1/1.8	1/1.8						
	KC300GC4				1/1.8	1/1.8					
	KC500GC4					2/3	2/3				
	KC800GC4						2/3	2/3			
	KC1200GC4							1/1.1	1/1.1		
Harsh Environment Resistant GigE Vision (Vibration Resistance, Impact Resistance, Dust proof, Water proof, Oil Resistance)	KC48GC3	1/3	1/3								
	KC130GC3			1/1.8	1/1.8						
	KC300GC3				1/1.8	1/1.8					
	KC500GC3					2/3	2/3				
	KC800GC3						2/3	2/3			
	KC1200GC3							1/1.1	1/1.1		
	KC1600GC3								1.1	1.1	
	KC2000GC3									1.1	1.1
	KC2400GC3										1.2 1.2
CoaXPress (Vibration Resistance, Impact Resistance)	KC48XS1	1/3.6									
	KC300XC3			1/1.8	1/1.8						
	KC500XC3					2/3					

Environmental performance icons: Vibration Resistance, Impact Resistance, Dust proof, Water proof, Oil Resistance

GigE Vision Series

◎ Lineup of products from 0.48MP to 12MP

◎ Robust design with vibration and impact resistance for all models

◎ A bundled warranty is offered as a unit together with many high quality lenses

◎ Consistent implementation of development, manufacture, sales and support by Kowa Optronics

0.48MP Camera

Vibration Resistance / Impact Resistance

Recommended Lens Series
JC1MS/JCM-WP/
JCM-V/JC1M

1.3MP Camera

Vibration Resistance / Impact Resistance

Recommended Lens Series
JC1MS/JCM-WP/
JCM-V/JC1M/NC1M

	GigE Vision 0.48MP Camera		GigE Vision 1.3MP Camera	
Model	KC48GC4MX	KC48GC4CX	KC130GC4MX	KC130GC4CX
Monochrome/Color	Monochrome	Color	Monochrome	Color
Interface	GigE Vision(RJ45)		GigE Vision(RJ45)	
Sensor	–		e2v EV76C560	
Sensor Format	1/3"		1/1.8"	
Resolution	0.48MP 800(H)×600(V)		1.3MP 1280(H)×1024(V)	
Pixel Size	5.3µm(H)×5.3µm(V)		5.3µm(H)×5.3µm(V)	
Shutter	Global Shutter		Global Shutter	
Frame Rate	87fps		55fps	
Power Supply	PoE or DC24V		PoE or DC24V	
Power Requirements	4.5W or less		4.5W or less	
Housing Size	29(W)×29(H)×42.9(D)mm(Excluding projections)		29(W)×29(H)×42.9(D)mm(Excluding projections)	
Weight	Approx. 70g		Approx. 70g	
Operating Temperature/Humidity	0°C ~ +45°C*1 / 20% ~ 80%RH(No condensation)		0°C ~ +45°C*1 / 20% ~ 80%RH(No condensation)	
Storage Temperature/Humidity	–30°C ~ +60°C / 20% ~ 90%RH(No condensation)		–30°C ~ +60°C / 20% ~ 90%RH(No condensation)	
Dustproof and Waterproof	–		–	
Vibration Resistance*2	10G		10G	
Impact Resistance*3	75G		75G	

*1: Appropriate heat radiation is required. Please contact Kowa Optronics for more information. *2: Complies with IEC 60068-2-6 (JIS C 60068-2-6).
*3: Complies with MIL-STD-810H.

3MP Camera

Vibration Resistance / Impact Resistance

Recommended Lens Series
JC1MS/JCM-WP/JCM-V/JC1M/
NC1M/JC5MC/JC5MC-WP

5MP Camera

Vibration Resistance / Impact Resistance

Recommended Lens Series
JC5MC/JC5MC-WP/
JC5M2

	GigE Vision 3MP Camera		GigE Vision 5MP Camera	
Model	KC300GC4MX	KC300GC4CX	KC500GC4MX	KC500GC4CX
Monochrome/Color	Monochrome	Color	Monochrome	Color
Interface	GigE Vision(RJ45)		GigE Vision(RJ45)	
Sensor	SONY IMX265		SONY IMX264	
Sensor Format	1/1.8"		2/3"	
Resolution	3MP 2064(H)×1544(V)		5MP 2448(H)×2048(V)	
Pixel Size	3.45µm(H)×3.45µm(V)		3.45µm(H)×3.45µm(V)	
Shutter	Global Shutter		Global Shutter	
Frame Rate	36fps		23fps	
Power Supply	PoE or DC24V		PoE or DC24V	
Power Requirements	4.5W or less		4.5W or less	
Housing Size	29(W)×29(H)×42.9(D)mm(Excluding projections)		29(W)×29(H)×42.9(D)mm(Excluding projections)	
Weight	Approx. 70g		Approx. 70g	
Operating Temperature/Humidity	0°C ~ +45°C*1 / 20% ~ 80%RH(No condensation)		0°C ~ +45°C*1 / 20% ~ 80%RH(No condensation)	
Storage Temperature/Humidity	–30°C ~ +60°C / 20% ~ 90%RH(No condensation)		–30°C ~ +60°C / 20% ~ 90%RH(No condensation)	
Dustproof and Waterproof	–		–	
Vibration Resistance*2	10G		10G	
Impact Resistance*3	75G		75G	

8MP Camera

Vibration Resistance / Impact Resistance

Recommended Lens Series
JC10M

12MP Camera

Vibration Resistance / Impact Resistance

Recommended Lens Series
FC24M/XC2

	GigE Vision 8MP Camera		GigE Vision 12MP Camera	
Model	KC800GC4MX	KC800GC4CX	KC1200GC4MX	KC1200GC4CX
Monochrome/Color	Monochrome	Color	Monochrome	Color
Interface	GigE Vision(RJ45)		GigE Vision(RJ45)	
Sensor	SONY IMX546		SONY IMX545	
Sensor Format	2/3"		1/1.1"	
Resolution	8MP 2856(H)×2848(V)		12MP 4080(H)×3008(V)	
Pixel Size	2.74µm(H)×2.74µm(V)		2.74µm(H)×2.74µm(V)	
Shutter	Global Shutter		Global Shutter	
Frame Rate	13fps		8fps	
Power Supply	PoE or DC24V		PoE or DC24V	
Power Requirements	6W or less		6W or less	
Housing Size	29(W)×29(H)×42.9(D)mm(Excluding projections)		29(W)×29(H)×42.9(D)mm(Excluding projections)	
Weight	Approx. 70g		Approx. 70g	
Operating Temperature/Humidity	0°C ~ +45°C*1 / 20% ~ 80%RH(No condensation)		0°C ~ +45°C*1 / 20% ~ 80%RH(No condensation)	
Storage Temperature/Humidity	–30°C ~ +60°C / 20% ~ 90%RH(No condensation)		–30°C ~ +60°C / 20% ~ 90%RH(No condensation)	
Dustproof and Waterproof	–		–	
Vibration Resistance*2	10G		10G	
Impact Resistance*3	75G		75G	

*1: Appropriate heat radiation is required. Please contact Kowa Optronics for more information. *2: Complies with IEC 60068-2-6 (JIS C 60068-2-6).
*3: Complies with MIL-STD-810H.

* The product specifications and external appearance may be changed for improvement without prior notice.

CoaXPress Series

- Lineup of products from 0.48MP to 5MP
- Robust design with vibration and impact resistance for all models
- A bundled warranty is offered as a unit together with many high quality lenses
- Consistent implementation of development, manufacture, sales and support by Kowa Optronics
- Smallest and lightest weight class S-mount cameras in the industry
- High speed data transfer using a single coaxial cable

CoaXPress

0.48MP Camera

Vibration Resistance / Impact Resistance

Recommended Lens Series
QS

	CoaXPress 0.48MP Camera
Model	KC48XS1MX
Monochrome/Color	Monochrome
Interface	CXP-2(BNC)
Sensor	onsemi PYTHON480
Sensor Format	1/3.6"
Resolution	0.48MP 800(H)×600(V)
Pixel Size	4.8μm(H)×4.8μm(V)
Shutter	Global Shutter
Frame Rate	100fps
Power Supply	PoCXP
Power Requirements	2W or less
Housing Size	29(W)×19(H)×33(D)mm(Excluding projections)
Weight	Approx. 30g
Operating Temperature/Humidity	0°C ~ +45°C*1 / 20% ~ 80%RH(No condensation)
Storage Temperature/Humidity	–30°C ~ +60°C / 20% ~ 90%RH(No condensation)
Dustproof and Waterproof	–
Vibration Resistance*3	10G
Impact Resistance*4	75G

CXP-2

"*1: Appropriate heat radiation is required. Please contact Kowa Optronics for more information.
*2: Please use in an environment where the housing surface temperature is 55°C or less.
*3: Complies with IEC 60068-2-6 (JIS C 60068-2-6). *4: Complies with MIL-STD-810H."

3MP Camera

Vibration Resistance / Impact Resistance

Recommended Lens Series
JC1MS/JCM-WP/JCM-V/ JC1M/NC1M/JC5MC/ JC5MC-WP

	CoaXPress 3MP Camera	
Model	KC300XC3MX	KC300XC3CX
Monochrome/Color	Monochrome	Color
Interface	CXP-6(BNC)	
Sensor	SONY IMX252	
Sensor Format	1/1.8"	
Resolution	3MP 2064(H)×1544(V)	
Pixel Size	3.45μm(H)×3.45μm(V)	
Shutter	Global Shutter	
Frame Rate	149fps	
Power Supply	PoCXP	
Power Requirements	3.6W or less	
Housing Size	29(W)×29(H)×37(D)mm(Excluding projections)	
Weight	Approx. 50g	
Operating Temperature/Humidity	0°C ~ +45°C*1 / 20% ~ 80%RH(No condensation)	
Storage Temperature/Humidity	–30°C ~ +60°C / 20% ~ 90%RH(No condensation)	
Dustproof and Waterproof	–	
Vibration Resistance*3	10G	
Impact Resistance*4	75G	

CXP-6

5MP Camera

Vibration Resistance / Impact Resistance

Recommended Lens Series
JC5MC/JC5MC-WP/ JC5M2

	CoaXPress 5MP Camera
Model	KC500XC3MX
Monochrome/Color	Monochrome
Interface	CXP-6(BNC)
Sensor	SONY IMX250
Sensor Format	2/3"
Resolution	5MP 2464(H)×2056(V)
Pixel Size	3.45μm(H)×3.45μm(V)
Shutter	Global Shutter
Frame Rate	95fps
Power Supply	PoCXP
Power Requirements	3.6W or less
Housing Size	29(W)×29(H)×37(D)mm(Excluding projections)
Weight	Approx. 50g
Operating Temperature/Humidity	0°C ~ +45°C*1 / 20% ~ 80%RH(No condensation)
Storage Temperature/Humidity	–30°C ~ +60°C / 20% ~ 90%RH(No condensation)
Dustproof and Waterproof	–
Vibration Resistance*3	10G
Impact Resistance*4	75G

CXP-6

*1: Appropriate heat radiation is required. Please contact Kowa Optronics for more information.
*2: Please use in an environment where the housing surface temperature is 55°C or less.
*3: Complies with IEC 60068-2-6 (JIS C 60068-2-6). *4: Complies with MIL-STD-810H.

* The product specifications and external appearance may be changed for improvement without prior notice.

Harsh Environment Resistant GigE Vision Series

◎ Full lineup of products from 0.48MP to 24MP

◎ Designs offering vibration and impact resistance together with dustproofing, waterproofing and oilproofing

◎ IP67 protection is realized without requiring housings by combining these cameras with our water-resistant lenses

◎ A bundled warranty is offered as a unit together with many high quality lenses

◎ Consistent implementation of development, manufacture, sales and support by Kowa Optronics

VIBRATION & IMPACT RESISTANCE

Units deliver the best performance even in locations subject to vibration and impact, such as manufacturing sites and distribution warehouses which utilize robots.

DUSTPROOF

Actively utilized in various outdoor, drone, and construction-related sites.

WATERPROOF

Can be used in a wide range of situations, including food-processing plants and clothing factories.

OILPROOF

Units support manufacturing sites by enabling use even in environments including machine tools which utilize oil mist and cutting oil.

0.48MP Camera

Vibration Resistance / Impact Resistance / Oil Resistance / Dust proof / Water proof

Recommended Lens Series
JC1MS/JCM-WP/ JCM-V/JC1M

1.3MP Camera

Vibration Resistance / Impact Resistance / Oil Resistance / Dust proof / Water proof

Recommended Lens Series
JC1MS/JCM-WP/ JCM-V/JC1M/NC1M

3MP Camera

Vibration Resistance / Impact Resistance / Oil Resistance / Dust proof / Water proof

Recommended Lens Series
JC1MS/JCM-WP/JCM-V/JC1M/ NC1M/JC5MC/JC5MC-WP

	Harsh Environment Resistant GigE Vision 0.48MP Camera		Harsh Environment Resistant GigE Vision 1.3MP Camera		Harsh Environment Resistant GigE Vision 3MP Camera	
Model	KC48GC3MX	KC48GC3CX	KC130GC3MX	KC130GC3CX	KC300GC3MX	KC300GC3CX
Monochrome/Color	Monochrome	Color	Monochrome	Color	モノクロ	Color
Interface	GigE Vision(M12 X-code)		GigE Vision(M12 X-code)		GigE Vision(M12 X-code)	
Sensor	–		e2v EV76C560		SONY IMX265	
Sensor Format	1/3"		1/1.8"		1/1.8"	
Resolution	0.48MP 800(H)×600(V)		1.3MP 1280(H)×1024(V)		3MP 2064(H)×1544(V)	
Pixel Size	5.3μm(H)×5.3μm(V)		5.3μm(H)×5.3μm(V)		3.45μm(H)×3.45μm(V)	
Shutter	Global Shutter		Global Shutter		Global Shutter	
Frame Rate	87fps		55fps		36fps	
Power Supply	PoE or DC24V		PoE or DC24V		PoE or DC24V	
Power Requirements	4.5W or less		4.5W or less		4.5W or less	
Housing Size	45(W)×45(H)×30(D)mm (Excluding projections)		45(W)×45(H)×30(D)mm (Excluding projections)		45(W)×45(H)×30(D)mm (Excluding projections)	
Weight	Approx. 120g		Approx. 120g		Approx. 120g	
Operating Temperature /Humidity	0°C ~ +45°C*1 / 20% ~ 80%RH (No condensation)		0°C ~ +45°C*1 / 20% ~ 80%RH (No condensation)		0°C ~ +45°C*1 / 20% ~ 80%RH (No condensation)	
Storage Temperature /Humidity	–30°C ~ +60°C / 20% ~ 90%RH (No condensation)		–30°C ~ +60°C / 20% ~ 90%RH (No condensation)		–30°C ~ +60°C / 20% ~ 90%RH (No condensation)	
Dustproof and Waterproof	IP67		IP67		IP67	
Vibration Resistance*2	10G		10G		10G	
Impact Resistance*3	75G		75G		75G	
Oil Resistance*4	○		○		○	

5MP Camera

Vibration Resistance / Impact Resistance / Oil Resistance / Dust proof / Water proof

Recommended Lens Series
JC5MC/JC5MC-WP/JC5M2

8MP Camera

Vibration Resistance / Impact Resistance / Oil Resistance / Dust proof / Water proof

Recommended Lens Series
JC10M

	Harsh Environment Resistant GigE Vision 5MP Camera		Harsh Environment Resistant GigE Vision 8MP Camera	
Model	KC500GC3MX	KC500GC3CX	KC800GC3MX	KC800GC3CX
Monochrome/Color	Monochrome	Color	Monochrome	Color
Interface	GigE Vision(M12 X-code)		GigE Vision(M12 X-code)	
Sensor	SONY IMX264		SONY IMX546	
Sensor Format	2/3"		2/3"	
Resolution	5MP 2448(H)×2048(V)		8MP 2856(H)×2848(V)	
Pixel Size	3.45μm(H)×3.45μm(V)		2.74μm(H)×2.74μm(V)	
Shutter	Global Shutter		Global Shutter	
Frame Rate	23fps		13fps	
Power Supply	PoE or DC24V		PoE or DC24V	
Power Requirements	4.5W or less		6W or less	
Housing Size	45(W)×45(H)×30(D)mm(Excluding projections)		45(W)×45(H)×38(D)mm(Excluding projections)	
Weight	Approx. 120g		Approx. 140g	
Operating Temperature/Humidity	0°C ~ +45°C*1 / 20% ~ 80%RH(No condensation)		0°C ~ +45°C*1 / 20% ~ 80%RH(No condensation)	
Storage Temperature/Humidity	–30°C ~ +60°C / 20% ~ 90%RH(No condensation)		–30°C ~ +60°C / 20% ~ 90%RH(No condensation)	
Dustproof and Waterproof	IP67		IP67	
Vibration Resistance*2	10G		10G	
Impact Resistance*3	75G		75G	
Oil Resistance*4	○		○	

*1: Appropriate heat radiation is required. Please contact Kowa Optronics for more information. *2: Complies with IEC 60068-2-6 (JIS C 60068-2-6).
*3: Complies with MIL-STD-810H. *4: Complies with Kowa Optronics standards.

* The product specifications and external appearance may be changed for improvement without prior notice.

12MP Camera

Vibration Resistance / Impact Resistance / Oil Resistance / Dust proof / Water proof

Recommended Lens Series
FC24M/XC2

16MP Camera

Vibration Resistance / Impact Resistance / Oil Resistance / Dust proof / Water proof

Recommended Lens Series
FC24M/XC2

	Harsh Environment Resistant GigE Vision 12MP Camera		Harsh Environment Resistant GigE Vision 16MP Camera	
Model	KC1200GC3MX	KC1200GC3CX	KC1600GC3MX	KC1600GC3CX
Monochrome/Color	Monochrome	Color	Monochrome	Color
Interface	GigE Vision(M12 X-code)		GigE Vision(M12 X-code)	
Sensor	SONY IMX545		SONY IMX542	
Sensor Format	1/1.1"		1.1"	
Resolution	12MP 4128(H)×3008(V)		16MP 5328(H)×3040(V)	
Pixel Size	2.74μm(H)×2.74μm(V)		2.74μm(H)×2.74μm(V)	
Shutter	Global Shutter		Global Shutter	
Frame Rate	8fps		6fps	
Power Supply	PoE or DC24V		PoE or DC24V	
Power Requirements	6W or less		6W or less	
Housing Size	45(W)×45(H)×38(D)mm(Excluding projections)		45(W)×45(H)×38(D)mm(Excluding projections)	
Weight	Approx. 140g		Approx. 140g	
Operating Temperature/Humidity	0°C ~ +45°C*1 / 20% ~ 80%RH(No condensation)		0°C ~ +45°C*1 / 20% ~ 80%RH(No condensation)	
Storage Temperature/Humidity	−30°C ~ +60°C / 20% ~ 90%RH(No condensation)		−30°C ~ +60°C / 20% ~ 90%RH(No condensation)	
Dustproof and Waterproof	IP67		IP67	
Vibration Resistance*2	10G		10G	
Impact Resistance*3	75G		75G	
Oil Resistance*4	○		○	

20MP Camera

Vibration Resistance / Impact Resistance / Oil Resistance / Dust proof / Water proof

Recommended Lens Series
FC24M/XC2

24MP Camera

Vibration Resistance / Impact Resistance / Oil Resistance / Dust proof / Water proof

Recommended Lens Series
FC24M/XC2

	Harsh Environment Resistant GigE Vision 20MP Camera		Harsh Environment Resistant GigE Vision 24MP Camera	
Model	KC2000GC3MX	KC2000GC3CX	KC2400GC3MX	KC2400GC3CX
Monochrome/Color	Monochrome	Color	Monochrome	Color
Interface	GigE Vision(M12 X-code)		GigE Vision(M12 X-code)	
Sensor	SONY IMX541		SONY IMX540	
Sensor Format	1.1"		1.2"	
Resolution	20MP 4512(H)×4512(V)		24MP 5328(H)×4608(V)	
Pixel Size	2.74μm(H)×2.74μm(V)		2.74μm(H)×2.74μm(V)	
Shutter	Global Shutter		Global Shutter	
Frame Rate	5fps		4fps	
Power Supply	PoE or DC24V		PoE or DC24V	
Power Requirements	6W or less		6W or less	
Housing Size	45(W)×45(H)×38(D)mm(Excluding projections)		45(W)×45(H)×38(D)mm(Excluding projections)	
Weight	Approx. 140g		Approx. 140g	
Operating Temperature/Humidity	0°C ~ +45°C*1 / 20% ~ 80%RH(No condensation)		0°C ~ +45°C*1 / 20% ~ 80%RH(No condensation)	
Storage Temperature/Humidity	−30°C ~ +60°C / 20% ~ 90%RH(No condensation)		−30°C ~ +60°C / 20% ~ 90%RH(No condensation)	
Dustproof and Waterproof	IP67		IP67	
Vibration Resistance*2	10G		10G	
Impact Resistance*3	75G		75G	
Oil Resistance*4	○		○	

*1: Appropriate heat radiation is required. Please contact Kowa Optronics for more information. *2: Complies with IEC 60068-2-6 (JIS C 60068-2-6).
*3: Complies with MIL-STD-810H. *4: Complies with Kowa Optronics standards.

Dustproof/Waterproof/ Oil Resistant Lens Covers

For use with the Harsh Environment Resistant GigE Vision Series

Three types of covers are available to match the lineup of lenses.
By mounting the covers on lenses other than waterproof lenses, a waterproof unit can be provided (corresponding to IP67).
Further, attaching the waterproof lens cover also improves the waterproofing and oil resistant functions.
It is possible to mount optical filters to lenses inside the covers.
The SC1 Series can be used as a unit with lighting.

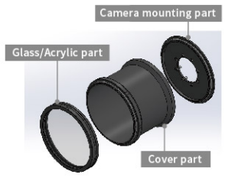
* Select the length of the cover parts according to the lens to be attached.
* The glass and acrylic parts can be selected from waterproof specifications, waterproof/oil resistant specifications and waterproof acrylic specifications.
* The O-ring and packing can be selected from waterproof specifications and waterproof/oil resistent specifications.
* Regarding the supported lenses, please contact Kowa Optronics separately.

TC1series

Tube and Lens Cover (Diameter 45mm)

Model	Product Name
KC-TC1L1	Waterproof glass part Φ45
KC-TC1L2	Waterproof and oilproof glass part Φ45
KC-TC1L3	Waterproof acrylic part Φ45
KC-TC1A	Cover part Φ45(a)
KC-TC1B	Cover part Φ45(b)
KC-TC1C	Cover part Φ45(c)
KC-TC1D	Cover part Φ45(d)
KC-TC1M	Camera mounting part Φ45
KC-TC1P1	Waterproof O-ring Φ45
KC-TC1P2	Waterproof and oilproof O-ring Φ45

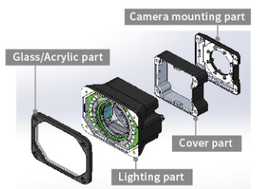
TC2series



Tube and Lens Cover (Diameter 79mm)

Model	Product Name
KC-TC2L1	Waterproof glass part Φ79
KC-TC2L2	Waterproof and oilproof glass part Φ79
KC-TC2L3	Waterproof acrylic part Φ79
KC-TC2A	Cover part Φ79(a)
KC-TC2B	Cover part Φ79(b)
KC-TC2C	Cover part Φ79(c)
KC-TC2D	Cover part Φ79(d)
KC-TC2E	Cover part Φ79(e)
KC-TC2F	Cover part Φ79(f)
KC-TC2M	Camera mounting part Φ79
KC-TC2P1	Waterproof O-ring Φ79
KC-TC2P2	Waterproof and oilproof O-ring Φ79

SC1series

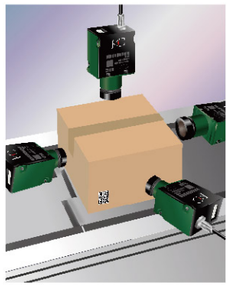


Square Lens Cover (With Lighting)

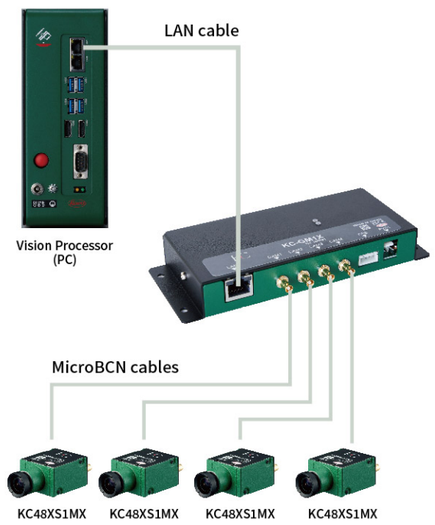
Model	Product Name
KC-SC1L	Square waterproof glass part
KC-SC1L2	Square waterproof and oilproof glass part
KC-SC1L3	Square acrylic waterproof lighting part
KC-SC1LW	Square lighting part (White)
KC-SC1LR	Square lighting part (Red)
KC-SC1B	Square cover part (a)
KC-SC1C	Square cover part(b)
KC-SC1D	Square cover part(c)
KC-SC1M	Square lighting camera mounting part
KC-SC1P1	Square waterproof packing
KC-SC1P2	Square waterproof and oilproof packing

* The product specifications and external appearance may be changed for improvement without prior notice.

4ch CXP to GigE Multiplexer



Connection diagram



4ch CXP to GigE Multiplexer

Model	KC-GM1X
Power Supply	DC24V
Input Interface	CXP (MicroBNC) × 4 supporting PoCXP
Output Interface	GigE Vision(RJ45)
Image Output Signal	1Gbps GigE Vision V2.0 Protocol (According to the settings, it is possible to select 4-unit simultaneous imaging, 2-unit simultaneous imaging or single unit imaging. When conducting multiple-unit simultaneous imaging, these are output as single horizontal images from the camera channels in ascending order from the left side.)
Power Requirements	58W or less (when connecting four camera units and four lighting units)
Operating Temperature /Humidity	0°C ~ +45°C / 20% ~ 80%RH (No condensation)
Storage Temperature /Humidity	–30°C ~ +60°C / 20% ~ 90%RH (No condensation)
Housing Size	161(W)×22.7(H)×64.5(D)mm (Excluding projections)
Weight	Approx. 170g
Vibration Resistance*1	10G
Impact Resistance*2	75G
Supported Cameras	KC48XS1MX
Supported Lenses	QS Series

*1: Complies with IEC 60068-2-6 (JIS C 60068-2-6).
*2: Complies with MIL-STD-810H.

Waterproof Ring-shaped Lighting

Allows the supply of power and control of lighting simply by connecting with the camera.
This environment-resistant lighting can be used even in severe environments due to its vibration and impact resistance and dustproofing and waterproofing performance.

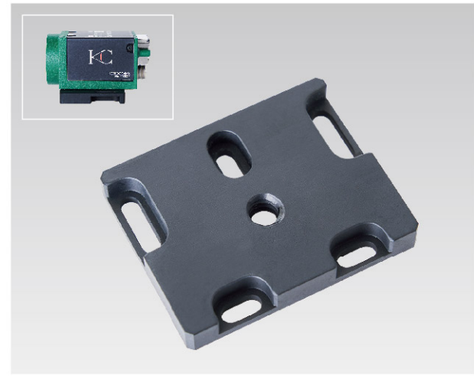
Model	KC-RL1W	KC-RL1R
Product Name	Waterproof Ring-shaped Lighting (White)	Waterproof Ring-shaped Lighting(Red)
Input Voltage	24V	
Maximum Power Consumption	7W	
Control Method	PWM Control	
Interface	M8 8pin A-code	
Operating Temperature /Humidity	0°C ~ +45°C*1 / 35% ~ 85%RH (No condensation)	
Storage Temperature /Humidity	–20°C ~ +65°C / 20% ~ 85%RH (No condensation)	
Housing Size	Outer diameter 70mm x Depth 32mm (Excluding the cable)	
Weight	Approx. 100g	
Vibration Resistance	10G	
Impact Resistance	75G	
Dustproof and Waterproof	IP67	
Supported Camera Series	Harsh Environment Resistant GigE Vision	

*1: Ensure that the housing radiates heat sufficiently. Please contact Kowa Optronics for more information. Additionally, use in such a way that the FPGA temperature of adjacent cameras does not exceed 90°C.

PoE Injector

Model	KP-TL-POE150S
Product Name	PoE Injector
Interface	GigE Vision(RJ45)
Category	Accessories for GigE Vision /Harsh Environment Resistant GigE Vision
Housing Size	81mm×52mm×24mm
Weight	230g

Camera Tripod Adaptor



Model	KC-TA1
Product Name	Camera Tripod Adaptor
Supported Camera Series	Accessories for GigE Vision /Harsh Environment Resistant GigE Vision /CoaXPress

Please read the code for more details of accessories. ▶

* The product specifications and external appearance may be changed for improvement without prior notice.

Various Cables

Interface : GigE Vision

Category	Product Name	
GigE Vision Cables	RJ45-RJ45 Cable 5m	
	RJ45-RJ45 Cable 10m	
	RJ45-RJ45 Cable 20m	
	RJ45-RJ45 Cable 30m	
	RJ45-RJ45 Cable 40m	
	RJ45 to RJ45 Cable 1m with Single-end Locking Screws	
	RJ45 to RJ45 Cable 3m with Single-end Locking Screws	
	RJ45 to RJ45 Cable 5m with Single-end Locking Screws	
	RJ45 to RJ45 Cable 10m with Single-end Locking Screws	
	RJ45 to RJ45 Cable 20m with Single-end Locking Screws	
	RJ45 to RJ45 Cable 30m with Single-end Locking Screws	
	RJ45 to RJ45 Cable 40m with Single-end Locking Screws	

Category	Product Name	
GigE Vision Cables	RJ45 to RJ45 L-type Cable 1m with Single-end Locking Screws	
	RJ45 to RJ45 L-type Cable 3m with Single-end Locking Screws	
	RJ45 to RJ45 L-type Cable 5m with Single-end Locking Screws	
	RJ45 to RJ45 L-type Cable 10m with Single-end Locking Screws	
	RJ45 to RJ45 L-type Cable 20m with Single-end Locking Screws	
	RJ45 to RJ45 L-type Cable 30m with Single-end Locking Screws	
	RJ45 to RJ45 L-type Cable 40m with Single-end Locking Screws	
Harsh Environment Resistant GigE Vision Cables	M12-RJ45 Cable 1m	
	M12-RJ45 Cable 2m	
	M12-RJ45 Cable 5m	
	M12-RJ45 Cable 10m	
	M8-No-connector Cable 5m	
	M8-No-connector Cable 10m	

Interface : CoaXPress

Category	Product Name	
CoaXPress Cables	MicroBNC-MicroBNC Cable 1m	
	MicroBNC-MicroBNC Cable 3m	
	MicroBNC-MicroBNC Cable 4m	
	MicroBNC-MicroBNC Cable 5m	
	MicroBNC-MicroBNC Cable 10m	

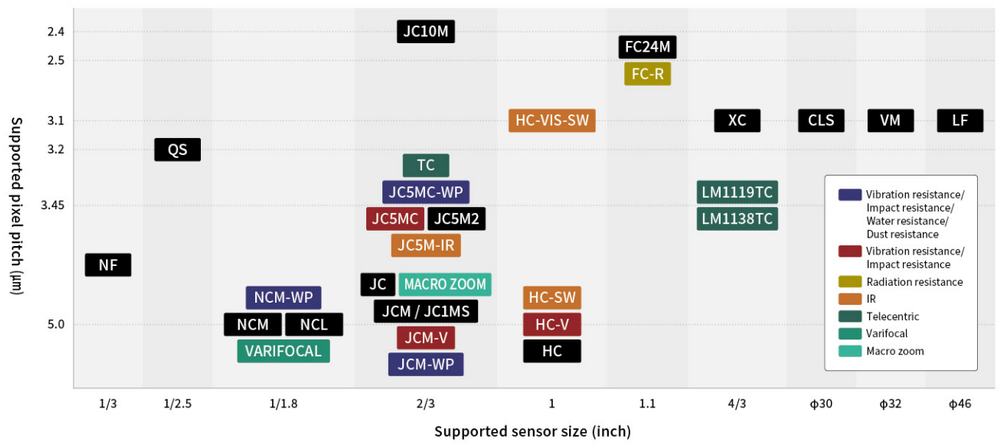
Category	Product Name	
CoaXPress Cables	BNC-MicroBNC Cable 1m	
	BNC-MicroBNC Cable 3m	
	BNC-MicroBNC Cable 5m	
	BNC-MicroBNC Cable 10m	
	BNC-BNC Cable 1m	
	BNC-BNC Cable 2m	
	BNC-BNC Cable 3m	
	BNC-BNC Cable 5m	
	BNC-BNC Cable 10m	

Please read the code for more details of accessories. ▶

* The product specifications and external appearance may be changed for improvement without prior notice.

Lens Contents and Lineup Chart

Lens Lineup Chart



VM Series

Model	Format Size (Inch)							
	2(Φ32)	APS-C	4/3	1.2	1.1	1	1/1.2	2/3
LM18VM42 LM18VM35	●	●	●	●	●	●	●	●
LM25VM42 LM25VM35	●	●	●	●	●	●	●	●
LM35VM42 LM35VM35	●	●	●	●	●	●	●	●

● Compatible ◇ Suitable * Incompatible

- ◎ Large image size of ϕ32mm
- ◎ Optical performance supporting maximum 50MP sensors
- ◎ High resolution lenses suitable for 8K resolution and high resolution cameras
- ◎ Ideal for APS-C sensors.
- ◎ A new mechanism which prevents thumb screws from falling off is employed.
- ◎ M42-mount and TFL-mount are available.
- ◎ The flange back can be changed using options.
- ◎ Floating mechanisms are employed in all models.
- ◎ Wide-band multi-coating is made to increase the transmissivity in the near infrared range.

Optional

The flange back can be changed by using optional mount adaptors.

Standard: M42-mount
17.526mm

Series	Model	Flange Back (mm)	Mount
VM42	FB-1600VM	16	M42-mount
	FB-1148VM	11.48	M42-mount
	FB-1000VM	10	M42-mount
	FB-1200VM	12	M42-mount
	FB-0656VM	6.56	M42-mount
	FB-1750VM	17.5	TFL-II-mount

* The mount adaptor cannot be attached to VM35 series lenses.

■ New mechanism which prevents thumb screws from falling out

In conventional industrial lenses, the thumb screws sometimes become loose and fall off. A mechanism which prevents the screw from falling off by using a fixing screw for switching has been newly employed. The mechanism makes it possible to remove and attach the thumb screw by sliding the switching mechanism.

By sliding the fixing screw to the left, screw removal and attaching is possible.

Applications | ◎ Line Scans ◎ FPD Inspections ◎ Aerial Photography ◎ Lens for sporting event use ◎ Drones

LM18VM42/LM18VM35

WBMC
LO-DIS
FLOAT
X D

Model		LM18VM42	LM18VM35
Focal Length (mm)		18	
Image Size (mm)		25.6×19.2(Φ32.0)	
Iris Range		F2.8～F16	
Focusing Range (m)		0.1～∞	
Control	Iris	Manual	
	Focus	Manual	
Shooting Range at M.O.D. (mm)		172(H)×128(V)	
Angle of View (Degrees)	2 Inch	70.5×56.1	
	APS-C Inch	63.4×49.7	
	4/3 Inch	54.1×41.8	
Resolution (Center, Corner)		160lp/mm, 100lp/mm	
TV Distortion (%)		1.25	
Bask Focus in Air (mm)		15.5	
Flange Focus in Air (mm)		17.526	
Mount		M42-mount	TFL-mount
Filter Thread (mm)		M77×P0.75	
Size (mm) (∞)		Φ79×99.6	
Weight (g)		460	
Temperature Range		−10°C～+50°C	

LM25VM42/LM25VM35

WBMC
LO-DIS
FLOAT
X D

Model		LM25VM42	LM25VM35
Focal Length (mm)		25	
Image Size (mm)		25.6×19.2(Φ32.0)	
Iris Range		F2.8～F16	
Focusing Range (m)		0.1～∞	
Control	Iris	Manual	
	Focus	Manual	
Shooting Range at M.O.D. (mm)		125(H)×93(V)	
Angle of View (Degrees)	2 Inch	54.0×42.0	
	APS-C Inch	48.0×37.0	
	4/3 Inch	40.4×30.9	
Resolution (Center, Corner)		160lp/mm, 100lp/mm	
TV Distortion (%)		0.59	
Bask Focus in Air (mm)		20.3	
Flange Focus in Air (mm)		17.526	
Mount		M42-mount	TFL-mount
Filter Thread (mm)		M55×P0.75	
Size (mm) (∞)		Φ57×101.8	
Weight (g)		400	
Temperature Range		−10°C～+50°C	

LM35VM42/LM35VM35

WBMC
LO-DIS
FLOAT
X D

Model		LM35VM42	LM35VM35
Focal Length (mm)		35	
Image Size (mm)		25.6×19.2(Φ32.0)	
Iris Range		F2.8～F16	
Focusing Range (m)		0.1～∞	
Control	Iris	Manual	
	Focus	Manual	
Shooting Range at M.O.D. (mm)		76(H)×57(V)	
Angle of View (Degrees)	2 Inch	40.2×30.7	
	APS-C Inch	35.4×26.9	
	4/3 Inch	29.5×22.3	
Resolution (Center, Corner)		160lp/mm, 100lp/mm	
TV Distortion (%)		0.12	
Bask Focus in Air (mm)		19.5	
Flange Focus in Air (mm)		17.526	
Mount		M42-mount	TFL-mount
Filter Thread (mm)		M52×P0.75	
Size (mm) (∞)		Φ54×94.3	
Weight (g)		375	
Temperature Range		−10°C～+50°C	

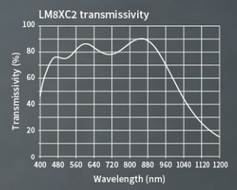
* The specifications described above are the design values. * The product specifications and external appearance may be changed for improvement without prior notice.

XCseries

Model	Format Size (Inch)							
	4/3	1.2	1.1	1	1/1.2	2/3	1/1.8	1/2	1/3
LM8XC	●	●	●	●	●	●	●	●	●
LM12XC	●	●	●	●	●	●	●	●	●
LM16XC	●	●	●	●	●	●	●	●	●
LM25XC	●	●	●	●	●	●	●	●	●
LM35XC	●	●	●	●	●	●	●	●	●
LM50XC	●	●	●	●	●	●	●	●	●

● Compatible ◇ Suitable * Incompatible

- ◎ 4/3" format (ϕ23mm) and 20MP resolution
- ◎ High precision aspherical lenses realize both low distortion and high resolution.
- ◎ Wide-band multi-coating is made to increase the transmissivity in the near infrared range.
- ◎ A 8.5mm focal length model realizing a horizontal angle of 93.5° has been added to the lineup.
- ◎ Floating mechanisms are employed in all models.



LM8XC

WBMC
LO-DIS
FLOAT
X D

Model		LM8XC
Focal Length (mm)		8.5
Image Size (mm)		18.4×13.8(Φ23)
Iris Range		F2.8~F22
Focusing Range (m)		0.1~∞
Control	Iris	Manual
	Focus	Manual
Shooting Range at M.O.D. (mm)		238.4(H)×179.1(V)
Angle of View (Degrees)	4/3 Inch	93.5×77.1
	1.1 Inch	78.2×62.7
	1 Inch	72.9×57.9
	2/3 Inch	53.8×41.6
Resolution (Center, Corner)		160lp/mm, 80lp/mm
TV Distortion (%)		0.12
Bask Focus in Air (mm)		12.9
Mount		C-mount
Filter Thread (mm)		M72×P0.75
Size (mm) (∞)		Φ74×82.5
Weight (g)		245
Temperature Range		−10°C~+50°C

LM12XC

WBMC
LO-DIS
FLOAT
X D

LM16XC

WBMC
LO-DIS
FLOAT
X D

LM25XC

WBMC
LO-DIS
FLOAT
X D

Model		LM12XC	LM16XC	LM25XC
Focal Length (mm)		12	16	25
Image Size (mm)		18.4×13.8(Φ23)	18.4×13.8(Φ23)	18.4×13.8(Φ23)
Iris Range		F2.0~F22	F2.0~F22	F2.0~F16
Focusing Range (m)		0.1~∞	0.1~∞	0.15~∞
Control	Iris	Manual	Manual	Manual
	Focus	Manual	Manual	Manual
Shooting Range at M.O.D. (mm)		181.5(H)×135.5(V)	134.6(H)×100.8(V)	124.8(H)×93.0(V)
Angle of View (Degrees)	4/3 Inch	74.9×59.6	60.6×47.2	40.9×31.1
	1.1 Inch	60.6×47.1	48.0×36.8	31.8×24.0
	1 Inch	55.9×43.1	44.0×33.6	28.9×21.8
	2/3 Inch	39.8×30.2	30.9×23.3	20.1×15.2
Resolution (Center, Corner)		160lp/mm, 80lp/mm	160lp/mm, 80lp/mm	160lp/mm, 80lp/mm
TV Distortion (%)		0.59	0.02	−0.57
Bask Focus in Air (mm)		13.0	13.0	24.3
Mount		C-mount	C-mount	C-mount
Filter Thread (mm)		M55×P0.75	M40.5×P0.5	M40.5×P0.5
Size (mm) (∞)		Φ57×85	Φ45×79.5	Φ45×89
Weight (g)		270	250	255
Temperature Range		−10°C~+50°C	−10°C~+50°C	−10°C~+50°C

LM35XC

WBMC
LO-DIS
FLOAT

LM50XC

WBMC
LO-DIS
FLOAT

Model		LM35XC	LM50XC
Focal Length (mm)		35	50
Image Size (mm)		18.4×13.8(Φ23)	18.4×13.8(Φ23)
Iris Range		F2.0~F16	F2.0~F22
Focusing Range (m)		0.2~∞	0.3~∞
Control	Iris	Manual	Manual
	Focus	Manual	Manual
Shooting Range at M.O.D. (mm)		100.3(H)×75.3(V)	100.2(H)×75.5(V)
Angle of View (Degrees)	4/3 Inch	29.6×22.4	20.6×15.7
	1.1 Inch	22.8×17.2	16.0×12.0
	1 Inch	20.8×15.6	14.6×11.0
	2/3 Inch	14.3×10.8	10.1×7.6
Resolution (Center, Corner)		160lp/mm, 80lp/mm	160lp/mm, 80lp/mm
TV Distortion (%)		−0.17	0.8
Bask Focus in Air (mm)		15.2	21.6
Mount		C-mount	C-mount
Filter Thread (mm)		M37.5×P0.5	M37.5×P0.5
Size (mm) (∞)		Φ45×74	Φ47×78
Weight (g)		210	235
Temperature Range		−10°C~+50°C	−10°C~+50°C

Supported Camera Series

KC1200GC4 
(* See page 14)

KC1200GC3／KC1600GC3／KC2000GC3／KC2400GC3 
(* See page 19)

* The specifications described above are the design values. * The product specifications and external appearance may be changed for improvement without prior notice.

FC24M Series

Model	Format Size (Inch)								
	4/3	1.2	1.1	1	1/1.2	2/3	1/1.8	1/2	1/3
LM6FC24M	-	-	●	●	●	●	●	●	●
LM8FC24M	-	-	●	●	●	●	●	●	●
LM12FC24M	-	◇	●	●	●	●	●	●	●
LM16FC24M	-	◇	●	●	●	●	●	●	●
LM25FC24M	-	◇	●	●	●	●	●	●	●
LM35FC24M	-	◇	●	●	●	●	●	●	●
LM50FC24M	-	◇	●	●	●	●	●	●	●
LM75FC24M	-	◇	●	●	●	●	●	●	●
LM100FC24M	-	◇	●	●	●	●	●	●	●

● Compatible ◇ Suitable * Incompatible

LM6FC24M

WBMC
LO-DIS
FLOAT
X D

LM8FC24M

WBMC
LO-DIS
FLOAT
X D

LM12FC24M

WBMC
LO-DIS
FLOAT
X D

Model		LM6FC24M	LM8FC24M	LM12FC24M
Focal Length (mm)		6.5	8.5	12
Image Size (mm)		14.1×10.6(Φ17.6)	14.1×10.6(Φ17.6)	14.1×10.6(Φ17.6)
Iris Range		F2.5～F16	F2.5～F16	F1.8～F16
Focusing Range (m)		0.1～∞	0.1～∞	0.1～∞
Control	Iris	Manual	Manual	Manual
	Focus	Manual	Manual	Manual
Shooting Range at M.O.D. (mm)		256(H)×190(V)	184(H)×138(V)	135(H)×101(V)
Angle of View (Degrees)	1.1 Inch	95.7×78.7	79.2×63.8	60.0×46.9
	1 Inch	89.9×73.0	73.9×58.8	55.3×42.9
	2/3 Inch	68.1×53.5	54.5×42.1	39.6×30.1
Resolution (Center, Corner)		200lp/mm, 100lp/mm	200lp/mm, 100lp/mm	200lp/mm, 100lp/mm
TV Distortion (%)		−1.51	0.55	0.26
Bask Focus in Air (mm)		10.9	12.9	14.5
Mount		C-mount	C-mount	C-mount
Filter Thread (mm)		M82×P0.75	M62×P0.75	M49×P0.75
Size (mm) (∞)		Φ84×79.1	Φ64×73.3	Φ51×73.8
Weight (g)		300	230	260
Temperature Range		−10°C～+50°C	−10°C～+50°C	−10°C～+50°C

LM16FC24M

WBMC
LO-DIS
FLOAT
X D

LM25FC24M

WBMC
LO-DIS
FLOAT
X D

LM35FC24M

WBMC
LO-DIS
FLOAT

Model		LM16FC24M	LM25FC24M	LM35FC24M
Focal Length (mm)		16	25	35
Image Size (mm)		14.1×10.6(Φ17.6)	14.1×10.6(Φ17.6)	14.1×10.6(Φ17.6)
Iris Range		F1.8～F16	F1.8～F16	F1.8～F16
Focusing Range (m)		0.1～∞	0.1～∞	0.2～∞
Control	Iris	Manual	Manual	Manual
	Focus	Manual	Manual	Manual
Shooting Range at M.O.D. (mm)		102(H)×77(V)	64(H)×48(V)	84(H)×63(V)
Angle of View (Degrees)	1.1 Inch	48.0×36.7	31.5×23.9	22.1×16.7
	1 Inch	43.6×33.4	28.7×21.7	20.2×15.2
	2/3 Inch	30.8×23.3	20.0×15.0	14.0×10.5
Resolution (Center, Corner)		200lp/mm, 100lp/mm	200lp/mm, 100lp/mm	200lp/mm, 100lp/mm
TV Distortion (%)		−0.4	−0.3	0.01
Bask Focus in Air (mm)		11.9	13.3	15.5
Mount		C-mount	C-mount	C-mount
Filter Thread (mm)		M35.5×P0.5	M35.5×P0.5	M40.5×P0.5
Size (mm) (∞)		Φ43×65.7	Φ45×67.9	Φ45×66
Weight (g)		200	220	205
Temperature Range		−10°C～+50°C	−10°C～+50°C	−10°C～+50°C

LM50FC24M

WBMC
LO-DIS
FLOAT
X D

LM75FC24M

WBMC
LO-DIS
FLOAT
X D

LM100FC24M

WBMC
LO-DIS
FLOAT
X D

Model		LM50FC24M	LM75FC24M	LM100FC24M
Focal Length (mm)		50	75	100
Image Size (mm)		14.1×10.6(Φ17.6)	14.1×10.6(Φ17.6)	14.1×10.6(Φ17.6)
Iris Range		F1.8～F16	F2.5～F16	F3.5～F16
Focusing Range (m)		0.2～∞	0.15～∞	0.15～∞
Control	Iris	Manual	Manual	Manual
	Focus	Manual	Manual	Manual
Shooting Range at M.O.D. (mm)		59(H)×44(V)	21(H)×16(V)	19(H)×14(V)
Angle of View (Degrees)	1.1 Inch	16.1×12.1	10.7×8.0	7.9×6.0
	1 Inch	14.6×11.0	9.7×7.3	7.2×5.4
	2/3 Inch	10.1×7.6	6.7×5.0	5.0×3.7
Resolution (Center, Corner)		200lp/mm, 100lp/mm	200lp/mm, 100lp/mm	200lp/mm, 100lp/mm
TV Distortion (%)		−0.03	0.16	0.26
Bask Focus in Air (mm)		14.8	20.8	21.1
Mount		C-mount	C-mount	C-mount
Filter Thread (mm)		M40.5×P0.5	M34.0×P0.5	M34.0×P0.5
Size (mm) (∞)		Φ45×74.5	ϕ45×76.6	Φ45×87.6
Weight (g)		205	225	260
Temperature Range		−10°C～+50°C	−10°C～+50°C	−10°C～+50°C

Supported Camera Series

KC1200GC4 (* See page 14)

KC1200GC3／KC1600GC3／KC2000GC3／KC2400GC3 (* See page 19)

* The specifications described above are the design values. * The product specifications and external appearance may be changed for improvement without prior notice.

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HC series

Model	Format Size (Inch)						
	4/3	1.2	1.1	1	1/1.2	2/3	1/1.8
LM4HC	-	-	-	●	●	●	●
LM6HC	-	-	-	●	●	●	●
LM8HC	-	-	-	●	●	●	●
LM12HC	-	-	◇	●	●	●	●
LM16HC	-	-	◇	●	●	●	●
LM25HC	-	◇	◇	●	●	●	●
LM35HC	-	◇	◇	●	●	●	●
LM50HC	-	-	◇	●	●	●	●
LM75HC	-	-	◇	●	●	●	●

● Compatible ◇ Suitable * Incompatible

LM4HC

LO-DIS
FLOAT
X D

LM6HC

LO-DIS

LM8HC

LO-DIS

Model		LM4HC	LM6HC	LM8HC
Focal Length (mm)		4.7	6	8
Image Size (mm)		12.8×9.6(Φ16)	12.8×9.6(Φ16)	12.8×9.6(Φ16)
Iris Range		F2.4～F11	F1.8～F11	F1.4～F16
Focusing Range (m)		0.1～∞	0.1～∞	0.1～∞
Control	Iris	Manual	Manual	Manual
	Focus	Manual	Manual	Manual
Shooting Range at M.O.D. (mm)		375.6(H)×272.1(V)	267.4(H)×196.3(V)	196.0(H)×143.2(V)
Angle of View (Degrees)	1 Inch	112.2×95.4	96.8×79.4	79.4×63.0
	2/3 Inch	90.0×72.2	74.1×58.0	58.3×44.7
	1/1.8 Inch	77.4×60.8	62.6×48.2	48.5×36.9
Resolution (Center, Corner)		100lp/mm, 50lp/mm	120lp/mm, 80lp/mm	120lp/mm, 80lp/mm
TV Distortion (%)		−0.58	−0.2	−1.2
Bask Focus in Air (mm)		9.0	11.1	11.2
Mount		C-mount	C-mount	C-mount
Filter Thread (mm)		–	–	M55×P0.75
Size (mm) (∞)		Φ71×64.7	Φ54×56.2	Φ57×58
Weight (g)		360	215	205
Temperature Range		−10°C～+50°C	−10°C～+50°C	−10°C～+50°C

LM12HC

LO-DIS

LM16HC

LO-DIS

LM25HC

LO-DIS

Model		LM12HC	LM16HC	LM25HC
Focal Length (mm)		12.5	16	25
Image Size (mm)		12.8×9.6(Φ16)	12.8×9.6(Φ16)	12.8×9.6(Φ16)
Iris Range		F1.4～F16	F1.4～F16	F1.4～F16
Focusing Range (m)		0.3～∞	0.3～∞	0.3～∞
Control	Iris	Manual	Manual	Manual
	Focus	Manual	Manual	Manual
Shooting Range at M.O.D. (mm)		330.6(H)×243.5(V)	251.5(H)×186.2(V)	160.7(H)×119.2(V)
Angle of View (Degrees)	1 Inch	55.6×42.5	44.3×33.6	29.3×22.0
	2/3 Inch	39.1×29.5	30.8×23.2	20.2×15.1
	1/1.8 Inch	32.1×24.2	25.3×19.0	16.5×12.4
Resolution (Center, Corner)		120lp/mm, 80lp/mm	120lp/mm, 80lp/mm	120lp/mm, 80lp/mm
TV Distortion (%)		−1.58	−1.0	−1.0
Bask Focus in Air (mm)		12.6	12.6	16.5
Mount		C-mount	C-mount	C-mount
Filter Thread (mm)		M35.5×P0.5	M35.5×P0.5	M35.5×P0.5
Size (mm) (∞)		Φ43×51.5	Φ43×52.9	Φ43×43
Weight (g)		160	150	135
Temperature Range		−10°C～+50°C	−10°C～+50°C	−10°C～+50°C

LM35HC

LO-DIS

LM50HC

LO-DIS

LM75HC

LO-DIS

Model		LM35HC	LM50HC	LM75HC
Focal Length (mm)		35	50	75
Image Size (mm)		12.8×9.6(Φ16)	12.8×9.6(Φ16)	12.8×9.6(Φ16)
Iris Range		F1.4～F16	F1.4～F16	F1.8～F16
Focusing Range (m)		0.3～∞	0.5～∞	1.0～∞
Control	Iris	Manual	Manual	Manual
	Focus	Manual	Manual	Manual
Shooting Range at M.O.D. (mm)		110.1(H)×82.0(V)	121.8(H)×91.3(V)	165.5(H)×123.9(V)
Angle of View (Degrees)	1 Inch	20.9×15.8	14.5×10.8	9.7×7.3
	2/3 Inch	14.4×10.8	10.0×7.5	6.7×5.0
	1/1.8 Inch	11.8×8.8	8.2×6.2	5.5×4.1
Resolution (Center, Corner)		120lp/mm, 80lp/mm	120lp/mm, 80lp/mm	120lp/mm, 80lp/mm
TV Distortion (%)		−0.5	0.05	−0.2
Bask Focus in Air (mm)		16.8	14.8	14.5
Mount		C-mount	C-mount	C-mount
Filter Thread (mm)		M35.5×P0.5	M40.5×P0.5	M46×P0.75
Size (mm) (∞)		Φ43×43	Φ49×48	Φ49×57
Weight (g)		135	210	195
Temperature Range		−10°C～+50°C	−10°C～+50°C	−10°C～+50°C

* The specifications described above are the design values. * The product specifications and external appearance may be changed for improvement without prior notice.

HC-V series

Model	Format Size (Inch)						
	4/3	1.2	1.1	1	1/1.2	2/3	1/1.8
LM8HC-V	-	-	-	●	●	●	●
LM12HC-V	-	-	◇	●	●	●	●
LM16HC-V	-	-	◇	●	●	●	●
LM25HC-V	-	◇	◇	●	●	●	●
LM35HC-V	-	◇	◇	●	●	●	●
LM50HC-V	-	-	◇	●	●	●	●

● Compatible ◇ Suitable * Incompatible

The HC-V Series are high resolution lenses supporting large formats based on the optical system of the HC Series with enhanced vibration and impact resistance.

◎ 1" format (ϕ16mm) and 4MP resolution
◎ Mechanical design with outstanding vibration and impact resistance
◎ Interchangeable iris plates are used.
◎ Two way reversible nut is utilized for focus adjustment.
◎ Vibration resistance is improved by fixing the barrel with the lens using adhesive.

❶ Fixed iris

Instead of using iris blades, rings can be incorporated which set the F-value and fix the aperture. Taking fully open (F1.4) as the standard, it is possible to change the F-value to F2.8, F4 or F8 using three types of rings.

Interchangeable Iris Plates

❷ Focus adjustment

Two way reversible nut has been adopted, in which the nut on the mount side of the barrel part is loosened to adjust the focus, and then the focus is fixed by tightening the red nut.

Two Way Reversible Nut

❸ Adhesive fixing glass

Vibration resistance is improved by fixing the barrel with the lens using adhesive.

View a video showing the features▶

LM8HC-V

LO-DIS
RUGGED

LM12HC-V

LO-DIS
RUGGED

LM16HC-V

LO-DIS
RUGGED

Model		LM8HC-V	LM12HC-V	LM16HC-V
Focal Length (mm)		8	12.5	16
Image Size (mm)		12.8×9.6(Φ16)	12.8×9.6(Φ16)	12.8×9.6(Φ16)
Iris Range		F1.4 / F2.8 / F4 / F8	F1.4 / F2.8 / F4 / F8	F1.4 / F2.8 / F4 / F8
Focusing Range (m)		0.1～∞	0.3～∞	0.3～∞
Control	Iris	–	–	–
	Focus	Manual	Manual	Manual
Shooting Range at M.O.D. (mm)		196.0(H)×143.0(V)	330.6(H)×243.5(V)	251.5(H)×186.2(V)
Angle of View (Degrees)	1 Inch	79.7×63.0	55.6×42.5	44.3×33.6
	2/3 Inch	58.3×44.7	39.1×29.5	30.8×23.2
	1/1.8 Inch	48.5×36.9	32.1×24.2	25.3×19.0
Resolution (Center, Corner)		120lp/mm, 80lp/mm	120lp/mm, 80lp/mm	120lp/mm, 80lp/mm
TV Distortion (%)		−1.2	−1.58	−1.0
Bask Focus in Air (mm)		11.2	12.6	12.6
Mount		C-mount	C-mount	C-mount
Filter Thread (mm)		M55×P0.75	M35.5×P0.5	M35.5×P0.5
Size (mm) (∞)		Φ58×58	Φ44×51.5	Φ44×53
Weight (g)		183	130	120
Temperature Range		−10℃～+50℃	−10℃～+50℃	−10℃～+50℃

LM25HC-V

LO-DIS
RUGGED

LM35HC-V

LO-DIS
RUGGED

LM50HC-V

LO-DIS
RUGGED

Model		LM25HC-V	LM35HC-V	LM50HC-V
Focal Length (mm)		25	35	50
Image Size (mm)		12.8×9.6(Φ16)	12.8×9.6(Φ16)	12.8×9.6(Φ16)
Iris Range		F1.4 / F2.8 / F4 / F8	F1.4 / F2.8 / F4 / F8	F1.4 / F2.8 / F4 / F8
Focusing Range (m)		0.3～∞	0.3～∞	0.5～∞
Control	Iris	–	–	–
	Focus	Manual	Manual	Manual
Shooting Range at M.O.D. (mm)		160.7(H)×119.2(V)	110.1(H)×82.0(V)	121.8(H)×91.3(V)
Angle of View (Degrees)	1 Inch	29.3×22.0	20.9×15.8	14.5×10.8
	2/3 Inch	20.2×15.1	14.4×10.8	10.0×7.5
	1/1.8 Inch	16.5×12.4	11.8×8.8	8.2×6.2
Resolution (Center, Corner)		120lp/mm, 80lp/mm	120lp/mm, 80lp/mm	120lp/mm, 80lp/mm
TV Distortion (%)		−1.0	−0.5	0.05
Bask Focus in Air (mm)		16.5	16.8	14.8
Mount		C-mount	C-mount	C-mount
Filter Thread (mm)		M35.5×P0.5	M35.5×P0.5	M40.5×P0.5
Size (mm) (∞)		Φ44×43	Φ46×44.1	Φ50×48
Weight (g)		104	133	170
Temperature Range		−10℃～+50℃	−10℃～+50℃	−10℃～+50℃

* The specifications described above are the design values. * The product specifications and external appearance may be changed for improvement without prior notice.

JC10M Series

Model	Format Size (Inch)								
	4/3	1.2	1.1	1	1/1.2	2/3	1/1.8	1/2	1/3
LM3JC10M	-	-	-	-	◇	●	●	●	●
LM5JC10M	-	-	-	-	-	●	●	●	●
LM8JC10M	-	-	-	-	-	●	●	●	●
LM12JC10M	-	-	-	-	-	●	●	●	●
LM16JC10M	-	-	-	-	◇	●	●	●	●
LM25JC10M	-	-	-	-	◇	●	●	●	●
LM35JC10M	-	-	◇	◇	◇	●	●	●	●
LM50JC10M	-	-	-	-	◇	●	●	●	●

● Compatible ◇ Suitable * Incompatible

LM3JC10M

WBMC
LO-DIS
FLOAT
X D

LM5JC10M

WBMC
LO-DIS
FLOAT
X D

Model		LM3JC10M	LM5JC10M
Focal Length (mm)		3.7	5
Image Size (mm)		8.8×6.6(Φ11)	8.8×6.6(Φ11)
Iris Range		F2.8~F16	F1.8~F16
Focusing Range (m)		0.1~∞	0.1~∞
Control	Iris	Manual	Manual
	Focus	Manual	Manual
Shooting Range at M.O.D. (mm)		278.7(H)×207.3(V)	197.0(H)×147.0(V)
Angle of View (Degrees)	2/3 Inch	100.2×83.7	82.2×66.5
	1/1.8 Inch	88.7×72.4	71.1×56.5
	1/2 Inch	82.0×66.1	64.9×51.1
Resolution (Center, Corner)		200lp/mm, 125lp/mm	200lp/mm, 140lp/mm
TV Distortion (%)		−0.09	−0.33
Bask Focus in Air (mm)		9.9	10.3
Mount		C-mount	C-mount
Filter Thread (mm)		M55×P0.75	M46×P0.75
Size (mm) (∞)		Φ57×54	Φ48×59.4
Weight (g)		120	120
Temperature Range		−10°C~+50°C	−10°C~+50°C

LM8JC10M

WBMC
LO-DIS
FLOAT
X D

LM12JC10M

WBMC
LO-DIS
FLOAT
X D

LM16JC10M

WBMC
LO-DIS
FLOAT

Model		LM8JC10M	LM12JC10M	LM16JC10M
Focal Length (mm)		8.5	12	16
Image Size (mm)		8.8×6.6(Φ11)	8.8×6.6(Φ11)	8.8×6.6(Φ11)
Iris Range		F1.8~F22	F1.8~F11	F1.8~F16
Focusing Range (m)		0.1~∞	0.1~∞	0.1~∞
Control	Iris	Manual	Manual	Manual
	Focus	Manual	Manual	Manual
Shooting Range at M.O.D. (mm)		133.2(H)×99.6(V)	80.7(H)×60.2(V)	61.1(H)×45.7(V)
Angle of View (Degrees)	2/3 Inch	54.0×41.9	39.1×29.8	30.0×22.7
	1/1.8 Inch	45.3×34.8	32.4×24.6	24.7×18.6
	1/2 Inch	40.8×31.2	28.9×21.9	22.0×16.6
Resolution (Center, Corner)		200lp/mm, 140lp/mm	200lp/mm, 140lp/mm	200lp/mm, 140lp/mm
TV Distortion (%)		0.31	−0.12	−0.2
Bask Focus in Air (mm)		12.1	13.9	14.6
Mount		C-mount	C-mount	C-mount
Filter Thread (mm)		M34×P0.5	M25.5×P0.5	M25.5×P0.5
Size (mm) (∞)		Φ36×56	Φ33×53.5	Φ33×47.5
Weight (g)		115	105	90
Temperature Range		−10°C~+50°C	−10°C~+50°C	−10°C~+50°C

LM25JC10M

WBMC
LO-DIS
FLOAT

LM35JC10M

WBMC
LO-DIS
FLOAT

LM50JC10M

WBMC
LO-DIS
FLOAT
X D

Model		LM25JC10M	LM35JC10M	LM50JC10M
Focal Length (mm)		25	35	50
Image Size (mm)		8.8×6.6(Φ11)	8.8×6.6(Φ11)	8.8×6.6(Φ11)
Iris Range		F1.8~F16	F2.0~F16	F2.8~F16
Focusing Range (m)		0.1~∞	0.1~∞	0.1~∞
Control	Iris	Manual	Manual	Manual
	Focus	Manual	Manual	Manual
Shooting Range at M.O.D. (mm)		36.7(H)×27.5(V)	23.4(H)×17.6(V)	19.1(H)×14.3(V)
Angle of View (Degrees)	2/3 Inch	20.0×15.1	14.3×10.8	10.1×7.6
	1/1.8 Inch	16.4×12.3	11.7×8.8	8.2×6.1
	1/2 Inch	14.6×11.0	10.4×7.8	7.3×5.5
Resolution (Center, Corner)		200lp/mm, 140lp/mm	200lp/mm, 140lp/mm	200lp/mm, 140lp/mm
TV Distortion (%)		−0.09	0.05	−0.02
Bask Focus in Air (mm)		17.9	14.2	12.8
Mount		C-mount	C-mount	C-mount
Filter Thread (mm)		M25.5×P0.5	M34×P0.5	M30.5×P0.5
Size (mm) (∞)		Φ33×45.5	Φ43×49	Φ38×77
Weight (g)		95	160	170
Temperature Range		−10°C~+50°C	−10°C~+50°C	−10°C~+50°C

Supported Camera Series

KC800GC4(* See page 14)

KC800GC3(* See page 18)

* The specifications described above are the design values. * The product specifications and external appearance may be changed for improvement without prior notice.

JC5M2 Series

Model	Format Size (Inch)								
	4/3	1.2	1.1	1	1/1.2	2/3	1/1.8	1/2	1/3
LM12JC5M2	-	-	-	-	-	●	●	●	●
LM16JC5M2	-	-	-	-	-	●	●	●	●
LM25JC5M2	-	-	-	-	◇	●	●	●	●
LM35JC5M2	-	-	-	◇	◇	●	●	●	●

● Compatible ◇ Suitable * Incompatible

◎ Compared to our previous models, these lenses have been made smaller and lighter in weight, and the amount of light entering the lens with the aperture fully open has been increased by a maximum of 60% (F-value 1.4)*.

◎ Floating mechanisms are employed in all models. They reduce the aberration from close range to infinity.

* In the case of LM12JC5M2 and LM16JC5M2

LM12JC5M2

LO-DIS
FLOAT

Model		LM12JC5M2
Focal Length (mm)		12.5
Image Size (mm)		8.8×6.6(Φ11)
Iris Range		F1.4～F16
Focusing Range (m)		0.1～∞
Control	Iris	Manual
	Focus	Manual
Shooting Range at M.O.D. (mm)		81.4(H)×60.9(V)
Angle of View (Degrees)	2/3 Inch	38.4×29.2
	1/1.8 Inch	31.7×24.0
	1/2 Inch	28.4×21.4
Resolution (Center, Corner)		160lp/mm, 100lp/mm
TV Distortion (%)		−0.06
Bask Focus in Air (mm)		11.5
Mount		C-mount
Filter Thread (mm)		M30.5×P0.5
Size (mm) (∞)		Φ38.5×52
Weight (g)		130
Temperature Range		−10°C～+50°C

LM16JC5M2

LO-DIS
FLOAT

Model		LM16JC5M2
Focal Length (mm)		16
Image Size (mm)		8.8×6.6(Φ11)
Iris Range		F1.4～F16
Focusing Range (m)		0.1～∞
Control	Iris	Manual
	Focus	Manual
Shooting Range at M.O.D. (mm)		64.6(H)×48.4(V)
Angle of View (Degrees)	2/3 Inch	29.9×22.7
	1/1.8 Inch	24.7×18.6
	1/2 Inch	22.0×16.6
Resolution (Center, Corner)		160lp/mm, 100lp/mm
TV Distortion (%)		0.03
Bask Focus in Air (mm)		11.6
Mount		C-mount
Filter Thread (mm)		M30.5×P0.5
Size (mm) (∞)		Φ38.5×52
Weight (g)		125
Temperature Range		−10°C～+50°C

LM25JC5M2

LO-DIS
FLOAT

Model		LM25JC5M2
Focal Length (mm)		25
Image Size (mm)		8.8×6.6(Φ11)
Iris Range		F1.6～F16
Focusing Range (m)		0.1～∞
Control	Iris	Manual
	Focus	Manual
Shooting Range at M.O.D. (mm)		35.1(H)×26.3(V)
Angle of View (Degrees)	2/3 Inch	19.9×15.0
	1/1.8 Inch	16.4×12.3
	1/2 Inch	14.6×10.9
Resolution (Center, Corner)		160lp/mm, 100lp/mm
TV Distortion (%)		−0.01
Bask Focus in Air (mm)		11.2
Mount		C-mount
Filter Thread (mm)		M30.5×P0.5
Size (mm) (∞)		Φ38.5×45.5
Weight (g)		115
Temperature Range		−10°C～+50°C

LM35JC5M2

LO-DIS
FLOAT

Model		LM35JC5M2
Focal Length (mm)		35
Image Size (mm)		8.8×6.6(Φ11)
Iris Range		F1.6～F16
Focusing Range (m)		0.18～∞
Control	Iris	Manual
	Focus	Manual
Shooting Range at M.O.D. (mm)		42.1(H)×31.6(V)
Angle of View (Degrees)	2/3 Inch	14.3×10.8
	1/1.8 Inch	11.7×8.8
	1/2 Inch	10.4×7.8
Resolution (Center, Corner)		160lp/mm, 125lp/mm
TV Distortion (%)		−0.03
Bask Focus in Air (mm)		12.2
Mount		C-mount
Filter Thread (mm)		M30.5×P0.5
Size (mm) (∞)		Φ38.5×48
Weight (g)		120
Temperature Range		−10°C～+50°C

Supported Camera Series

* The specifications described above are the design values. * The product specifications and external appearance may be changed for improvement without prior notice.

JC5MC series

Model	Format Size (Inch)								
	4/3	1.2	1.1	1	1/1.2	2/3	1/1.8	1/2	1/3
LM8JC5MC	-	-	-	-	-	●	●	●	●
LM12JC5MC	-	-	-	-	-	●	●	●	●
LM16JC5MC	-	-	-	-	-	●	●	●	●
LM25JC5MC	-	-	-	-	-	●	●	●	●
LM35JC5MC	-	-	-	◇	◇	●	●	●	●
LM50JC5MC	-	-	-	-	◇	●	●	●	●

● Compatible ◇ Suitable * Incompatible

◎ Industry-smallest class (Total length 27.5mm * Focal length 8mm)
◎ The size has been reduced by approx. 50% from our previous models. (Compared with JC5M2 Series)
◎ 2/3" format and 5MP resolution
◎ An ultra-small size and light weight are realized.
◎ A click-type iris adjusting mechanism is employed.
◎ Vibration-resistant design

LM8JC5MC

LO-DIS
RUGGED

Model		LM8JC5MC
Focal Length (mm)		8
Image Size (mm)		8.8×6.6(Φ11)
Iris Range		F2.8～F16
Focusing Range (m)		0.15～∞
Control	Iris	Manual
	Focus	Manual
Shooting Range at M.O.D. (mm)		178.0(H)×132.0(V)
Angle of View (Degrees)	2/3 Inch	57.6×44.4
	1/1.8 Inch	48.1×36.7
	1/2 Inch	43.1×32.8
Resolution (Center, Corner)		160lp/mm, 100lp/mm
TV Distortion (%)		−0.85
Bask Focus in Air (mm)		10.8
Mount		C-mount
Filter Thread (mm)		M30.5xP0.5
Size (mm) (∞)		Φ32×27
Weight (g)		55
Temperature Range		−10°C～+50°C

LM12JC5MC

LO-DIS
RUGGED

LM16JC5MC

LO-DIS
RUGGED

LM25JC5MC

LO-DIS
RUGGED

Model		LM12JC5MC	LM16JC5MC	LM25JC5MC
Focal Length (mm)		12	16	25
Image Size (mm)		8.8×6.6(Φ11)	8.8×6.6(Φ11)	8.8×6.6(Φ11)
Iris Range		F2.8～F16	F2.8～F16	F2.8～F16
Focusing Range (m)		0.2～∞	0.2～∞	0.2～∞
Control	Iris	Manual	Manual	Manual
	Focus	Manual	Manual	Manual
Shooting Range at M.O.D. (mm)		159.0(H)×118.0(V)	117.0(H)×88.0(V)	75.0(H)×56.0(V)
Angle of View (Degrees)	2/3 Inch	41.0×31.2	30.9×23.4	20.0×15.0
	1/1.8 Inch	33.9×25.6	25.5×19.2	16.4×12.4
	1/2 Inch	30.3×22.8	22.7×17.2	14.6×11.0
Resolution (Center, Corner)		160lp/mm, 100lp/mm	160lp/mm, 100lp/mm	160lp/mm, 100lp/mm
TV Distortion (%)		−0.43	−0.09	0.06
Bask Focus in Air (mm)		12.6	14.7	11.7
Mount		C-mount	C-mount	C-mount
Filter Thread (mm)		*	*	*
Size (mm) (∞)		Φ32×26.8	Φ32×26.5	Φ32×25
Weight (g)		55	55	55
Temperature Range		−10°C～+50°C	−10°C～+50°C	−10°C～+50°C

LM35JC5MC

LO-DIS
RUGGED

LM50JC5MC

LO-DIS
X D
RUGGED

Model		LM35JC5MC	LM50JC5MC
Focal Length (mm)		35	50
Image Size (mm)		8.8×6.6(Φ11)	8.8×6.6(Φ11)
Iris Range		F2.8～F16	F2.8～F16
Focusing Range (m)		0.2～∞	0.3～∞
Control	Iris	Manual	Manual
	Focus	Manual	Manual
Shooting Range at M.O.D. (mm)		48.0(H)×36.0(V)	49.0(H)×37.0(V)
Angle of View (Degrees)	2/3 Inch	14.0×10.6	10.0×7.5
	1/1.8 Inch	11.5×8.7	8.2×6.2
	1/2 Inch	10.3×7.7	7.3×5.5
Resolution (Center, Corner)		160lp/mm, 125lp/mm	160lp/mm, 125lp/mm
TV Distortion (%)		−0.02	−0.01
Bask Focus in Air (mm)		13.3	14.9
Mount		C-mount	C-mount
Filter Thread (mm)		M30.5×P0.5	M30.5×P0.5
Size (mm) (∞)		Φ32×27.9	Φ32×34.7
Weight (g)		50	60
Temperature Range		−10°C～+50°C	−10°C～+50°C

Supported Camera Series

KC300GC4／KC500GC4 (* See page 14)
KC300XC3／KC500XC3 (* See page 16)
KC300GC3／KC500GC3 (* See page 18)

* Optional filter holder (M30.5×P0.5) can be attached. (See page 73)
* The specifications described above are the design values. * The product specifications and external appearance may be changed for improvement without prior notice.

JC5MC-WP Series

* The picture shows an image, as the lens would not be waterproof in the condition shown.

◎ This is an environment-resistant model of the JC5MC Series, which is the smallest class compact and lightweight lens in the industry.

◎ In addition to vibration and impact resistance, waterproofing and dustproofing have been added.

Model	Format Size (Inch)							
	4/3	1.2	1.1	1	1/1.2	2/3	1/1.8	1/2	1/3
LM8JC5MC-WP	-	-	-	-	-	●	●	●	●
LM12JC5MC-WP	-	-	-	-	-	●	●	●	●
LM16JC5MC-WP	-	-	-	-	-	●	●	●	●
LM25JC5MC-WP	-	-	-	-	-	●	●	●	●

● Compatible ◇ Suitable * Incompatible

LM8JC5MC-WP

LO-DIS
RUGGED
WATER
DUST

Model		LM8JC5MC-WP
Focal Length (mm)		8
Image Size (mm)		8.8×6.6(Φ11)
Iris Range		F2.8～F16
Focusing Range (m)		0.15～∞
Control	Iris	Manual
	Focus	Manual
Shooting Range at M.O.D. (mm)		178.0(H)×132.1(V)
Angle of View (Degrees)	2/3 Inch	57.6×44.4
	1/1.8 Inch	48.1×36.7
	1/2 Inch	43.1×32.9
Resolution (Center, Corner)		160lp/mm, 100lp/mm
TV Distortion (%)		−0.85
Bask Focus in Air (mm)		13.65
Mount		C-mount
Filter Thread (mm)		M30.5×P0.5
Size (mm) (∞)		Φ33×27.1
Weight (g)		52
Temperature Range		−10°C～+50°C

LM12JC5MC-WP

LO-DIS
RUGGED
WATER
DUST

Model		LM12JC5MC-WP
Focal Length (mm)		12
Image Size (mm)		8.8×6.6(Φ11)
Iris Range		F2.8～F16
Focusing Range (m)		0.2～∞
Control	Iris	Manual
	Focus	Manual
Shooting Range at M.O.D. (mm)		159.0(H)×118.1(V)
Angle of View (Degrees)	2/3 Inch	41.0×31.2
	1/1.8 Inch	33.9×25.6
	1/2 Inch	30.3×22.9
Resolution (Center, Corner)		160lp/mm, 100lp/mm
TV Distortion (%)		0.747
Bask Focus in Air (mm)		14.13
Mount		C-mount
Filter Thread (mm)		M30.5×P0.5
Size (mm) (∞)		Φ33×27.1
Weight (g)		52
Temperature Range		−10°C～+50°C

LM16JC5MC-WP

LO-DIS
RUGGED
WATER
DUST

Model		LM16JC5MC-WP
Focal Length (mm)		16
Image Size (mm)		8.8×6.6(Φ11)
Iris Range		F2.8～F16
Focusing Range (m)		0.2～∞
Control	Iris	Manual
	Focus	Manual
Shooting Range at M.O.D. (mm)		117.0(H)×88.1(V)
Angle of View (Degrees)	2/3 Inch	30.9×23.4
	1/1.8 Inch	25.5×19.2
	1/2 Inch	22.7×17.3
Resolution (Center, Corner)		160lp/mm, 100lp/mm
TV Distortion (%)		1.054
Bask Focus in Air (mm)		14.61
Mount		C-mount
Filter Thread (mm)		M30.5×P0.5
Size (mm) (∞)		Φ33×27.1
Weight (g)		50
Temperature Range		−10°C～+50°C

LM25JC5MC-WP

LO-DIS
RUGGED
WATER
DUST

Model		LM25JC5MC-WP
Focal Length (mm)		25
Image Size (mm)		8.8×6.6(Φ11)
Iris Range		F2.8～F16
Focusing Range (m)		0.2～∞
Control	Iris	Manual
	Focus	Manual
Shooting Range at M.O.D. (mm)		75.0(H)×56.1(V)
Angle of View (Degrees)	2/3 Inch	20.0×15.0
	1/1.8 Inch	16.4×12.4
	1/2 Inch	14.6×11.1
Resolution (Center, Corner)		160lp/mm, 100lp/mm
TV Distortion (%)		1.361
Bask Focus in Air (mm)		15.09
Mount		C-mount
Filter Thread (mm)		M30.5×P0.5
Size (mm) (∞)		Φ33×27.1
Weight (g)		51
Temperature Range		−10°C～+50°C

Supported Camera Series

KC300GC4／KC500GC4 (* See page 14)
KC300XC3／KC500XC3 (* See page 16)
KC300GC3／KC500GC3 (* See page 18)

* The specifications described above are the design values. * The product specifications and external appearance may be changed for improvement without prior notice.

NCM Series

Model	Format Size (Inch)								
	4/3	1.2	1.1	1	1/1.2	2/3	1/1.8	1/2	1/3
LM3NCM	-	-	-	-	-	-	●	●	●
LM6NCM	-	-	-	-	-	-	◇	●	●

● Compatible ◇ Suitable * Incompatible

◎ Low distortion is achieved while offering an ultra-wide angle and short focal length.
◎ Capable of resolving 2MP.
◎ A 3.5mm focal length model realizing a horizontal angle of 89.0° has been added to the lineup.
◎ Optical design that is small-sized while maintaining high performance and high quality is employed.

LM3NCM

LO-DIS

LM6NCM

LO-DIS

Model	LM3NCM	LM6NCM
Focal Length (mm)	3.5	6
Image Size (mm)	7.2×5.4(Φ9)	6.4×4.8(Φ8)
Iris Range	F2.4~F14	F1.2~Close
Focusing Range (m)	0.1~∞	0.1~∞
Control Iris	Manual	Manual
Control Focus	Manual	Manual
Shooting Range at M.O.D. (mm)	226.3(H)×171.4(V)	122.2(H)×91.0(V)
Angle of View (Degrees) 1/1.8 Inch	89.0×73.8	–
Angle of View (Degrees) 1/2 Inch	82.4×66.9	56.2×43.5
Angle of View (Degrees) 1/3 Inch	66.9×52.7	43.5×33.2
Resolution (Center, Corner)	120lp/mm, 100lp/mm	120lp/mm, 100lp/mm
TV Distortion (%)	0.4	−0.2
Bask Focus in Air (mm)	9.7	8.2
Mount	C-mount	C-mount
Filter Thread (mm)	M30.5×P0.5	M30.5×P0.5
Size (mm) (∞)	Φ42×38.2	Φ34×45.8
Weight (g)	80	100
Temperature Range	−10°C~+50°C	−10°C~+50°C

Supported Camera Series

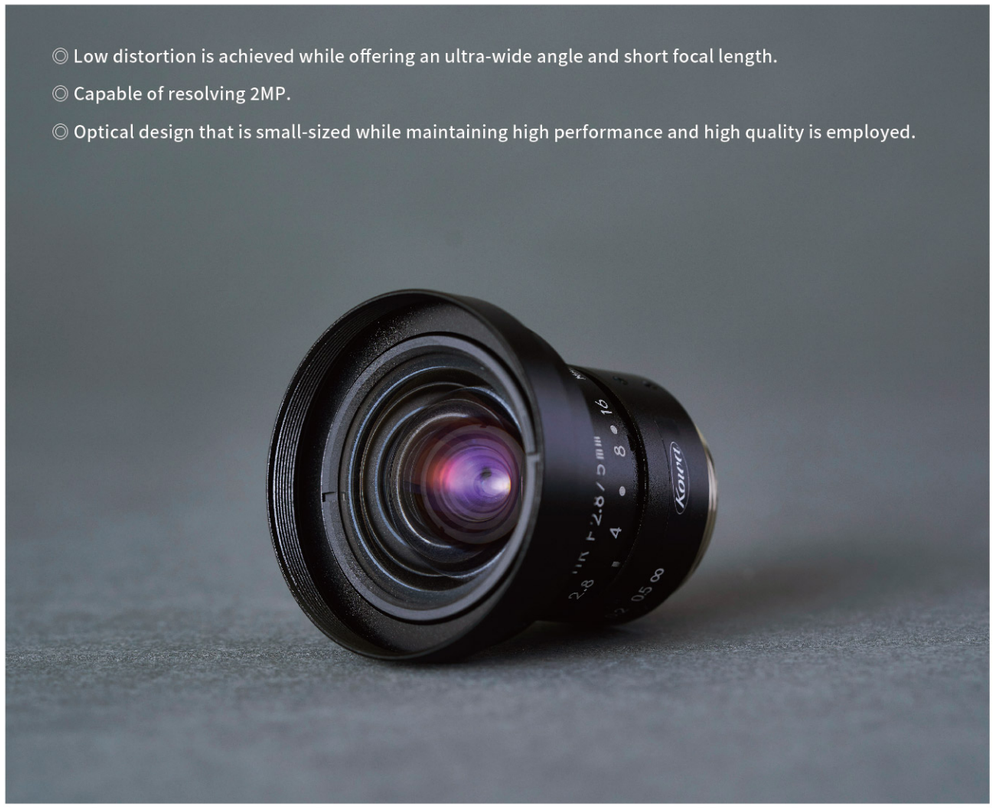
KC130GC4 / KC300GC4 (* See pages 13 and 14)
KC130XC2 / KC300XC3 (* See page 16)
KC130GC3 / KC300GC3 (* See page 18)

JCM

Model	Format Size (Inch)								
	4/3	1.2	1.1	1	1/1.2	2/3	1/1.8	1/2	1/3
LM5JCM	-	-	-	-	-	●	●	●	●

● Compatible ◇ Suitable * Incompatible

◎ Low distortion is achieved while offering an ultra-wide angle and short focal length.
◎ Capable of resolving 2MP.
◎ Optical design that is small-sized while maintaining high performance and high quality is employed.



LM5JCM

LO-DIS
X D

Model	LM5JCM
Focal Length (mm)	5
Image Size (mm)	8.8×6.6(Φ11)
Iris Range	F2.8~F16
Focusing Range (m)	0.1~∞
Control Iris	Manual
Control Focus	Manual
Shooting Range at M.O.D. (mm)	200.8(H)×150.8(V)
Angle of View (Degrees) 2/3 Inch	82.4×66.9
Angle of View (Degrees) 1/1.8 Inch	71.7×57.1
Angle of View (Degrees) 1/2 Inch	65.2×51.3
Resolution (Center, Corner)	120lp/mm, 100lp/mm
TV Distortion (%)	0.5
Bask Focus in Air (mm)	10.0
Mount	C-mount
Filter Thread (mm)	M40.5×P0.5
Size (mm) (∞)	Φ42×38.2
Weight (g)	84
Temperature Range	−10°C~+50°C

Supported Camera Series

KC48GC4 / KC130GC4 / KC300GC4 (* See pages 13 and 14)
KC130XC2 / KC300XC3 (* See page 16)
KC48GC3 / KC130GC3 / KC300GC3 (* See page 18)

JC1MS Series

Model	Format Size (Inch)								
	4/3	1.2	1.1	1	1/1.2	2/3	1/1.8	1/2	1/3
LM8JC1MS	-	-	-	-	-	●	●	●	●
LM12JC1MS	-	-	-	-	-	●	●	●	●
LM16JC1MS	-	-	-	-	-	●	●	●	●
LM25JC1MS	-	-	-	-	-	●	●	●	●
LM35JC1MS	-	-	-	◇	◇	●	●	●	●
LM50JC1MS	-	◇	◇	◇	◇	●	●	●	●
LM75JC1MS	-	-	◇	◇	◇	●	●	●	●
LM100JC1MS	-	-	-	◇	◇	●	●	●	●

● Compatible ◇ Suitable * Incompatible

◎ 2/3" format (ϕ11mm) and 2MP resolution
◎ Low distortion design
◎ Optical design to achieve both brightness and high performance is employed.
◎ Floating mechanism is partially used to support a wide variety of applications.

LM8JC1MS

LO-DIS
X D

LM12JC1MS

LO-DIS
X D

Model		LM8JC1MS	LM12JC1MS
Focal Length (mm)		8	12
Image Size (mm)		8.8×6.6(Φ11)	8.8×6.6(Φ11)
Iris Range		F1.4~Close	F1.4~Close
Focusing Range (m)		0.1~∞	0.15~∞
Control	Iris	Manual	Manual
	Focus	Manual	Manual
Shooting Range at M.O.D. (mm)		120.3(H)×90.0(V)	110.0(H)×82.5(V)
Angle of View (Degrees)	2/3 Inch	56.5×43.9	38.3×29.1
	1/1.8 Inch	47.4×36.3	31.7×24.0
	1/2 Inch	42.6×32.5	28.3×21.4
Resolution (Center, Corner)		120lp/mm, 100lp/mm	120lp/mm, 100lp/mm
TV Distortion (%)		−0.6	−0.07
Bask Focus in Air (mm)		9.74	11.7
Mount		C-mount	C-mount
Filter Thread (mm)		M27×P0.5	M27×P0.5
Size (mm) (∞)		Φ34×41.6	Φ34×37
Weight (g)		90	85
Temperature Range		−10°C~+50°C	−10°C~+50°C

LM16JC1MS

LO-DIS
FLOAT

LM25JC1MS

LO-DIS
FLOAT

LM35JC1MS

LO-DIS
FLOAT

Model		LM16JC1MS	LM25JC1MS	LM35JC1MS
Focal Length (mm)		16	25	35
Image Size (mm)		8.8×6.6(Φ11)	8.8×6.6(Φ11)	8.8×6.6(Φ11)
Iris Range		F1.4~F16	F1.4~F16	F2.0~F16
Focusing Range (m)		0.2~∞	0.2~∞	0.2~∞
Control	Iris	Manual	Manual	Manual
	Focus	Manual	Manual	Manual
Shooting Range at M.O.D. (mm)		112.8(H)×84.4(V)	71.1(H)×53.3(V)	47.9(H)×35.8(V)
Angle of View (Degrees)	2/3 Inch	30.0×22.7	19.6×14.8	14.4×10.8
	1/1.8 Inch	24.7×18.6	16.1×12.1	11.8×8.8
	1/2 Inch	21.8×16.4	14.0×10.5	10.5×7.9
Resolution (Center, Corner)		120lp/mm, 100lp/mm	120lp/mm, 100lp/mm	120lp/mm, 100lp/mm
TV Distortion (%)		−0.05	−0.04	−0.2
Bask Focus in Air (mm)		13.1	11.7	20.1
Mount		C-mount	C-mount	C-mount
Filter Thread (mm)		M27×P0.5	M27×P0.5	M27×P0.5
Size (mm) (∞)		Φ33.5×36.5	Φ33.5×39.5	Φ34×36.5
Weight (g)		85	90	70
Temperature Range		−10°C~+50°C	−10°C~+50°C	−10°C~+50°C

LM50JC1MS

LO-DIS
FLOAT

LM75JC1MS

LO-DIS

LM100JC1MS

LO-DIS

Model		LM50JC1MS	LM75JC1MS	LM100JC1MS
Focal Length (mm)		50	75	100
Image Size (mm)		8.8×6.6(Φ11)	8.8×6.6(Φ11)	8.8×6.6(Φ11)
Iris Range		F2.8~F22	F2.5~F22	F2.8~F32
Focusing Range (m)		0.2~∞	1.2~∞	2.0~∞
Control	Iris	Manual	Manual	Manual
	Focus	Manual	Manual	Manual
Shooting Range at M.O.D. (mm)		29.3(H)×21.9(V)	132.6(H)×99.6(V)	168.8(H)×126.6(V)
Angle of View (Degrees)	2/3 Inch	9.6×7.2	6.7×5.0	5.0×3.8
	1/1.8 Inch	7.9×5.9	5.5×4.1	4.1×3.1
	1/2 Inch	7.0×5.2	4.9×3.7	3.7×2.8
Resolution (Center, Corner)		120lp/mm, 100lp/mm	120lp/mm, 80lp/mm	120lp/mm, 80lp/mm
TV Distortion (%)		−0.03	−0.1	−0.05
Bask Focus in Air (mm)		35.5	18.0	19.0
Mount		C-mount	C-mount	C-mount
Filter Thread (mm)		M27×P0.5	M34×P0.5	M40.5×P0.5
Size (mm) (∞)		Φ34×55	Φ36×51	Φ42×70
Weight (g)		95	105	145
Temperature Range		−10°C~+50°C	−10°C~+50°C	−10°C~+50°C

Supported Camera Series

KC48GC4／KC130GC4／KC300GC4 (* See pages 13 and 14)

KC130XC2／KC300XC3 (* See page 16)

KC48GC3／KC130GC3／KC300GC3 (* See page 18)

* The specifications described above are the design values. * The product specifications and external appearance may be changed for improvement without prior notice.

JCM-V series

Model	Format Size (Inch)								
	4/3	1.2	1.1	1	1/1.2	2/3	1/1.8	1/2	1/3
LM5JCM-V	-	-	-	-	-	●	●	●	●
LM8JCM-V	-	-	-	-	-	●	●	●	●
LM12JCM-V	-	-	-	-	-	●	●	●	●
LM16JCM-V	-	-	-	-	-	●	●	●	●
LM25JCM-V	-	-	-	-	-	●	●	●	●
LM35JCM-V	-	-	-	◇	◇	●	●	●	●
LM50JCM-V	-	◇	◇	◇	◇	●	●	●	●

● Compatible ◇ Suitable * Incompatible

◎ 2/3" format (ϕ11mm) and 2MP resolution
◎ Mechanical design with outstanding vibration and impact resistance
◎ Interchangeable iris plates are used.
◎ Two way reversible nut is utilized for focus adjustment.
◎ The lens barrel and lens are fixed using adhesive.

LM5JCM-V

LO-DIS
X D
RUGGED

Model		LM5JCM-V
Focal Length (mm)		5
Image Size (mm)		8.8×6.6(Φ11)
Iris Range		F2.8 / F4 / F5.6 / F8
Focusing Range (m)		0.1～∞
Control	Iris	–
	Focus	Manual
Shooting Range at M.O.D. (mm)		200.8(H)×150.8(V)
Angle of View (Degrees)	2/3 Inch	82.4×66.9
	1/1.8 Inch	71.7×57.1
	1/2 Inch	65.2×51.3
Resolution (Center, Corner)		120lp/mm, 100lp/mm
TV Distortion (%)		0.5
Bask Focus in Air (mm)		10.0
Mount		C-mount
Filter Thread (mm)		M40.5×P0.5
Size (mm) (∞)		Φ43×38.1
Weight (g)		73
Temperature Range		−10℃～+50℃

LM8JCM-V

LO-DIS
X D
RUGGED

LM12JCM-V

LO-DIS
X D
RUGGED

LM16JCM-V

LO-DIS
RUGGED

Model		LM8JCM-V	LM12JCM-V	LM16JCM-V
Focal Length (mm)		8	12	16
Image Size (mm)		8.8×6.6(Φ11)	8.8×6.6(Φ11)	8.8×6.6(Φ11)
Iris Range		F1.4 / F4 / F8 / F16	F1.4 / F4 / F8 / F16	F1.4 / F4 / F8 / F16
Focusing Range (m)		0.1～∞	0.15～∞	0.2～∞
Control	Iris	–	–	–
	Focus	Manual	Manual	Manual
Shooting Range at M.O.D. (mm)		120.3(H)×90.0(V)	110.0(H)×82.5(V)	112.8(H)×84.4(V)
Angle of View (Degrees)	2/3 Inch	56.5×43.9	38.3×29.1	30.0×22.7
	1/1.8 Inch	47.4×36.3	31.7×24.0	24.7×18.6
	1/2 Inch	42.6×32.5	28.3×21.4	21.8×16.4
Resolution (Center, Corner)		120lp/mm, 100lp/mm	120lp/mm, 100lp/mm	120lp/mm, 100lp/mm
TV Distortion (%)		−0.6	−0.07	−0.05
Bask Focus in Air (mm)		9.74	11.7	13.1
Mount		C-mount	C-mount	C-mount
Filter Thread (mm)		M27×P0.5	M27×P0.5	M27×P0.5
Size (mm) (∞)		Φ33×41.6	Φ33×37.0	Φ33×36.5
Weight (g)		88	75	77
Temperature Range		−10℃～+50℃	−10℃～+50℃	−10℃～+50℃

LM25JCM-V

LO-DIS
RUGGED

LM35JCM-V

LO-DIS
RUGGED

LM50JCM-V

LO-DIS
RUGGED

Model		LM25JCM-V	LM35JCM-V	LM50JCM-V
Focal Length (mm)		25	35	50
Image Size (mm)		8.8×6.6(Φ11)	8.8×6.6(Φ11)	8.8×6.6(Φ11)
Iris Range		F1.4 / F4 / F8 / F16	F2 / F4 / F8 / F16	F2.8 / F4 / F8 / F16
Focusing Range (m)		0.2～∞	0.2～∞	0.2～∞
Control	Iris	–	–	–
	Focus	Manual	Manual	Manual
Shooting Range at M.O.D. (mm)		71.1(H)×53.3(V)	47.9(H)×35.8(V)	29.3(H)×21.9(V)
Angle of View (Degrees)	2/3 Inch	19.6×14.8	14.4×10.8	9.6×7.2
	1/1.8 Inch	16.1×12.1	11.8×8.8	7.9×5.9
	1/2 Inch	14.0×10.5	10.5×7.9	7.0×5.2
Resolution (Center, Corner)		120lp/mm, 100lp/mm	120lp/mm, 100lp/mm	120lp/mm, 100lp/mm
TV Distortion (%)		−0.04	−0.2	−0.03
Bask Focus in Air (mm)		11.7	20.1	35.5
Mount		C-mount	C-mount	C-mount
Filter Thread (mm)		M27×P0.5	M27×P0.5	M27×P0.5
Size (mm) (∞)		Φ33×39.5	Φ33×38.8	Φ33×56.2
Weight (g)		83	73	85
Temperature Range		−10℃～+50℃	−10℃～+50℃	−10℃～+50℃

Supported Camera Series


KC48GC4／KC130GC4／KC300GC4
(* See pages 13 and 14)


KC130XC2／KC300XC3
(* See page 16)


KC48GC3／KC130GC3／KC300GC3
(* See page 18)

* The specifications described above are the design values. * The product specifications and external appearance may be changed for improvement without prior notice.

JCM-WP series

* The picture shows an image, as the lens would not be waterproof in the condition shown.

- ◎ Mechanical design with outstanding vibration and impact resistance
- ◎ Mechanical design with the enhanced water resistance and dustproofing
- ◎ A special coating improves water repellence on the lens surface and cleaning ability.
- ◎ Interchangeable iris plates are used.
- ◎ Two way reversible nut is utilized for focus adjustment.
- ◎ The lens barrel and lens are fixed using adhesive.

Model	Format Size (Inch)								
	4/3	1.2	1.1	1	1/1.2	2/3	1/1.8	1/2	1/3
LM5JCM-WP	-	-	-	-	-	●	●	●	●
LM8JCM-WP	-	-	-	-	-	●	●	●	●
LM12JCM-WP	-	-	-	-	-	●	●	●	●
LM16JCM-WP	-	-	-	-	-	●	●	●	●
LM25JCM-WP	-	-	-	-	-	●	●	●	●
LM35JCM-WP	-	-	-	◇	◇	●	●	●	●
LM50JCM-WP	-	◇	◇	◇	◇	●	●	●	●

● Compatible ◇ Suitable * Incompatible

LM5JCM-WP

LO-DIS
X D
RUGGED
WATER
DUST

Model		LM5JCM-WP
Focal Length (mm)		5
Image Size (mm)		8.8×6.6(Φ11)
Iris Range		F2.8 / F4 / F5.6 / F8
Focusing Range (m)		0.1～∞
Control	Iris	–
	Focus	Manual
Shooting Range at M.O.D. (mm)		200.8(H)×150.8(V)
Angle of View (Degrees)	2/3 Inch	82.4×66.9
	1/1.8 Inch	71.7×57.1
	1/2 Inch	65.2×51.3
Resolution (Center, Corner)		120lp/mm, 100lp/mm
TV Distortion (%)		0.5
Bask Focus in Air (mm)		10.2
Mount		C-mount
Filter Thread (mm)		M40.5×P0.5
Size (mm) (∞)		Φ43×38.3
Weight (g)		75
Temperature Range		−10℃～+50℃

LM8JCM-WP

LO-DIS
X D
RUGGED
WATER
DUST

LM12JCM-WP

LO-DIS
X D
RUGGED
WATER
DUST

LM16JCM-WP

LO-DIS
RUGGED
WATER
DUST

Model		LM8JCM-WP	LM12JCM-WP	LM16JCM-WP
Focal Length (mm)		8	12	16
Image Size (mm)		8.8×6.6(Φ11)	8.8×6.6(Φ11)	8.8×6.6(Φ11)
Iris Range		F1.4 / F4 / F8 / F16	F1.4 / F4 / F8 / F16	F1.4 / F4 / F8 / F16
Focusing Range (m)		0.1～∞	0.15～∞	0.2～∞
Control	Iris	–	–	–
	Focus	Manual	Manual	Manual
Shooting Range at M.O.D. (mm)		120.3(H)×90.0(V)	110.0(H)×82.5(V)	112.8(H)×84.4(V)
Angle of View (Degrees)	2/3 Inch	56.5×43.9	38.3×29.1	30.0×22.7
	1/1.8 Inch	47.4×36.3	31.7×24.0	24.7×18.6
	1/2 Inch	42.6×32.5	28.3×21.4	21.8×16.4
Resolution (Center, Corner)		120lp/mm, 100lp/mm	120lp/mm, 100lp/mm	120lp/mm, 100lp/mm
TV Distortion (%)		−0.6	−0.07	−0.05
Bask Focus in Air (mm)		9.74	11.7	13.1
Mount		C-mount	C-mount	C-mount
Filter Thread (mm)		M27×P0.5	M27×P0.5	M27×P0.5
Size (mm) (∞)		Φ33×41.6	Φ33×36.5	Φ33×36.5
Weight (g)		85	75	75
Temperature Range		−10℃～+50℃	−10℃～+50℃	−10℃～+50℃

LM25JCM-WP

LO-DIS
RUGGED
WATER
DUST

LM35JCM-WP

LO-DIS
RUGGED
WATER
DUST

LM50JCM-WP

LO-DIS
RUGGED
WATER
DUST

Model		LM25JCM-WP	LM35JCM-WP	LM50JCM-WP
Focal Length (mm)		25	35	50
Image Size (mm)		8.8×6.6(Φ11)	8.8×6.6(Φ11)	8.8×6.6(Φ11)
Iris Range		F1.4 / F4 / F8 / F16	F2 / F4 / F8 / F16	F2.8 / F4 / F8 / F16
Focusing Range (m)		0.2～∞	0.2～∞	0.2～∞
Control	Iris	–	–	–
	Focus	Manual	Manual	Manual
Shooting Range at M.O.D. (mm)		71.1(H)×53.3(V)	47.9(H)×35.8(V)	29.3(H)×21.9(V)
Angle of View (Degrees)	2/3 Inch	19.6×14.8	14.4×10.8	9.6×7.2
	1/1.8 Inch	16.1×12.1	11.8×8.8	7.9×5.9
	1/2 Inch	14.0×10.5	10.5×7.9	7.0×5.2
Resolution (Center, Corner)		120lp/mm, 100lp/mm	120lp/mm, 100lp/mm	120lp/mm, 100lp/mm
TV Distortion (%)		−0.04	−0.2	−0.03
Bask Focus in Air (mm)		11.7	19.9	35.4
Mount		C-mount	C-mount	C-mount
Filter Thread (mm)		M27×P0.5	M27×P0.5	M27×P0.5
Size (mm) (∞)		Φ33×39.7	Φ33×38.8	Φ33×56.2
Weight (g)		83	65	85
Temperature Range		−10℃～+50℃	−10℃～+50℃	−10℃～+50℃

Supported Camera Series

KC48GC4／KC130GC4／KC300GC4 (* See pages 13 and 14)

KC130XC2／KC300XC3 (* See page 16)

KC48GC3／KC130GC3／KC300GC3 (* See page 18)

* The specifications described above are the design values. * The product specifications and external appearance may be changed for improvement without prior notice.

NCM-WP

* The picture shows an image, as the lens would not be waterproof in the condition shown.

◎ This is an environment-resistant model of LM3NC1M with ultra-wide angle lens, which added vibration and impact resistance, waterproofing and dustproofing performance.

◎ Mechanical design with the enhanced water resistance and dustproofing

◎ A special coating improves water repellence on the lens surface and cleaning ability.

◎ Interchangeable iris plates are used.

◎ Two way reversible nut is utilized for focus adjustment.

◎ The lens barrel and lens are fixed using adhesive.

Model	Format Size (Inch)								
	4/3	1.2	1.1	1	1/1.2	2/3	1/1.8	1/2	1/3
LM3NCM-WP	-	-	-	-	-	-	●	●	●

● Compatible ◇ Suitable * Incompatible

LM3NCM-WP

LO-DIS
RUGGED
WATER
DUST

Model		LM3NCM-WP
Focal Length (mm)		3.5
Image Size (mm)		7.2×5.4(Φ9)
Iris Range		F2.4 / F4 / F5.6 / F8
Focusing Range (m)		0.1～∞
Control	Iris	–
	Focus	Manual
Shooting Range at M.O.D. (mm)		226.3(H)×171.4(V)
Angle of View (Degrees)	1/1.8 Inch	89.0×73.8
	1/2 Inch	82.4×66.9
	1/3 Inch	66.9×52.7
Resolution (Center, Corner)		100lp/mm, 80lp/mm
TV Distortion (%)		0.4
Bask Focus in Air (mm)		10.0
Mount		C-mount
Filter Thread (mm)		M40.5×P0.5
Size (mm) (∞)		Φ43×38.3
Weight (g)		80
Temperature Range		−10°C～+50°C

FC-R

* Because these lenses are manufactured after receiving an order, please contact each sales office for more details and information.

Model	Format Size (Inch)								
	4/3	1.2	1.1	1	1/1.2	2/3	1/1.8	1/2	1/3
LM15FC-R	-	◇	●	●	●	●	●	●	●

● Compatible ◇ Suitable * Incompatible

◎ Radiation-resistant glass is utilized to limit colorization when working in areas subject to radiation.

◎ Long-period use is possible in radiation-related facilities and in outer space.

◎ Mechanical design with the enhanced water resistance and dustproofing

◎ Interchangeable iris plates are used.

◎ Two way reversible nut is utilized for focus adjustment.

■ Normal lens that has been irradiated with gamma rays

As shown in the figure at left, almost no visible-range light will pass through lenses that have been irradiated by radiation due to colorization of the glass.
The LM15FC-R, which uses radiation-resistant glass, limits the colorization that occurs in environments subject to radiation to allow long-term use.

LM15FC-R

WATER
DUST

Model		LM15FC-R
Focal Length (mm)		15
Image Size (mm)		14.1×10.6(Φ17.6)
Iris Range		F2.8/F4/F6/F10
Focusing Range (m)		0.1～∞
Control	Iris	–
	Focus	Manual
Shooting Range at M.O.D. (mm)		108(H)×80(V)
Angle of View (Degrees)	1.1 Inch	52.3×39.8
	1 Inch	47.7×36.1
	2/3 Inch	33.1×25.0
Resolution (Center, Corner)		200lp/mm, 125lp/mm
TV Distortion (%)		−2.12
Bask Focus in Air (mm)		16.3
Mount		C-mount
Size (mm) (∞)		Φ31×55.7
Weight (g)		70
Temperature Range		−10°C～+50°C

* The specifications described above are the design values. * The product specifications and external appearance may be changed for improvement without prior notice.

JC series

Model	Format Size (Inch)								
	4/3	1.2	1.1	1	1/1.2	2/3	1/1.8	1/2	1/3
LM6JC	-	-	-	-	-	●	●	●	●
LM8JC	-	-	-	-	-	●	●	●	●
LM12JC	-	-	-	-	-	●	●	●	●
LM16JC	-	-	-	-	-	●	●	●	●
LM25JC	-	-	-	-	-	●	●	●	●
LM35JC	-	-	-	-	◇	●	●	●	●
LM50JC	-	-	◇	◇	◇	●	●	●	●

● Compatible ◇ Suitable * Incompatible

LM6JC

Model		LM6JC
Focal Length (mm)		6
Image Size (mm)		8.8×6.6(Φ11)
Iris Range		F1.4～F16
Focusing Range (m)		0.1～∞
Control	Iris	Manual
	Focus	Manual
Shooting Range at M.O.D. (mm)		190.6(H)×130.3(V)
Angle of View (Degrees)	2/3 Inch	81.9×61.2
	1/1.8 Inch	66.9×50.1
	1/2 Inch	59.4×44.5
Resolution (Center, Corner)		100lp/mm, 60lp/mm
TV Distortion (%)		−10.7
Bask Focus in Air (mm)		11.3
Mount		C-mount
Filter Thread (mm)		–
Size (mm) (∞)		Φ30×32.8
Weight (g)		65
Temperature Range		−10°C～+50°C

LM8JC

LM12JC

LO-DIS

LM16JC

LO-DIS

Model		LM8JC	LM12JC	LM16JC
Focal Length (mm)		8	12	16
Image Size (mm)		8.8×6.6(Φ11)	8.8×6.6(Φ11)	8.8×6.6(Φ11)
Iris Range		F1.4～F16	F1.4～F16	F1.4～F16
Focusing Range (m)		0.1～∞	0.1～∞	0.2～∞
Control	Iris	Manual	Manual	Manual
	Focus	Manual	Manual	Manual
Shooting Range at M.O.D. (mm)		136.0(H)×96.1(V)	81.1(H)×59.4(V)	111.8(H)×82.6(V)
Angle of View (Degrees)	2/3 Inch	64.2×47.7	42.5×31.7	30.5×22.8
	1/1.8 Inch	52.4×39.1	34.6×25.9	23.8×18.7
	1/2 Inch	46.2×34.6	30.7×23.0	22.2×16.6
Resolution (Center, Corner)		100lp/mm, 60lp/mm	100lp/mm, 60lp/mm	100lp/mm, 60lp/mm
TV Distortion (%)		−6.2	−2.5	−1.5
Bask Focus in Air (mm)		11.3	11.1	12.1
Mount		C-mount	C-mount	C-mount
Filter Thread (mm)		M27×P0.5	M27×P0.5	M27×P0.5
Size (mm) (∞)		Φ30×30	Φ30×31.5	Φ30×28
Weight (g)		60	60	55
Temperature Range		−10°C～+50°C	−10°C～+50°C	−10°C～+50°C

LM25JC

LO-DIS

LM35JC

LO-DIS

LM50JC

LO-DIS

Model		LM25JC	LM35JC	LM50JC
Focal Length (mm)		25	35	50
Image Size (mm)		8.8×6.6(Φ11)	8.8×6.6(Φ11)	8.8×6.6(Φ11)
Iris Range		F1.6～F16	F1.6～F16	F2.0～F22
Focusing Range (m)		0.2～∞	0.3～∞	0.5～∞
Control	Iris	Manual	Manual	Manual
	Focus	Manual	Manual	Manual
Shooting Range at M.O.D. (mm)		72.1(H)×53.7(V)	76.0(H)×56.9(V)	85.0(H)×63.6(V)
Angle of View (Degrees)	2/3 Inch	21.0×15.7	14.4×10.8	10.1×7.6
	1/1.8 Inch	17.2×12.9	11.8×8.8	8.2×6.2
	1/2 Inch	15.3×11.4	10.5×7.9	7.3×5.5
Resolution (Center, Corner)		100lp/mm, 60lp/mm	100lp/mm, 60lp/mm	100lp/mm, 60lp/mm
TV Distortion (%)		−0.6	−0.2	−0.1
Bask Focus in Air (mm)		10.3	14.9	17.2
Mount		C-mount	C-mount	C-mount
Filter Thread (mm)		M27×P0.5	M30.5×P0.5	M30.5×P0.5
Size (mm) (∞)		Φ30×28	Φ32×36.5	Φ32×39.5
Weight (g)		55	85	90
Temperature Range		−10°C～+50°C	−10°C～+50°C	−10°C～+50°C

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NCL series

Model	Format Size (Inch)								
	4/3	1.2	1.1	1	1/1.2	2/3	1/1.8	1/2	1/3
LM4NCL	-	-	-	-	-	-	●	●	●
LM5NCL	-	-	-	-	-	-	●	●	●
LM6NCL	-	-	-	-	-	-	●	●	●
LM12NCL	-	-	-	-	-	◇	●	●	●

● Compatible ◇ Suitable * Incompatible

◎ 1/1.8" format

◎ A small size and light weight are realized.

LM4NCL

Model		LM4NCL
Focal Length (mm)		3.5
Image Size (mm)		7.2×5.4(Φ9)
Iris Range		F1.4～F16
Focusing Range (m)		0.2～∞
Control	Iris	Manual
	Focus	Manual
Shooting Range at M.O.D. (mm)		679.9(H)×389.3(V)
Angle of View (Degrees)	1/1.8 Inch	117.7×86.7
	1/2 Inch	103.6×76.7
	1/3 Inch	76.7×57.7
Resolution (Center, Corner)		100lp/mm, 60lp/mm
TV Distortion (%)		−28.0
Bask Focus in Air (mm)		8.9
Mount		C-mount
Filter Thread (mm)		–
Size (mm) (∞)		Φ31×30.5
Weight (g)		60
Temperature Range		−10°C～+50°C

LM5NCL

Model		LM5NCL
Focal Length (mm)		4.5
Image Size (mm)		7.2×5.4(Φ9)
Iris Range		F1.4～F16
Focusing Range (m)		0.2～∞
Control	Iris	Manual
	Focus	Manual
Shooting Range at M.O.D. (mm)		405.3(H)×273.8(V)
Angle of View (Degrees)	1/1.8 Inch	88.8×66.9
	1/2 Inch	79.0×59.4
	1/3 Inch	59.4×45.1
Resolution (Center, Corner)		100lp/mm, 60lp/mm
TV Distortion (%)		−17.5
Bask Focus in Air (mm)		10.0
Mount		C-mount
Filter Thread (mm)		–
Size (mm) (∞)		Φ31×29.5
Weight (g)		55
Temperature Range		−10°C～+50°C

LM6NCL

LO-DIS

Model		LM6NCL
Focal Length (mm)		6
Image Size (mm)		7.2×5.4(Φ9)
Iris Range		F1.4～F16
Focusing Range (m)		0.2～∞
Control	Iris	Manual
	Focus	Manual
Shooting Range at M.O.D. (mm)		255.8(H)×188.7(V)
Angle of View (Degrees)	1/1.8 Inch	62.7×48.4
	1/2 Inch	57.3×44.0
	1/3 Inch	44.0×33.7
Resolution (Center, Corner)		100lp/mm, 60lp/mm
TV Distortion (%)		−1.0
Bask Focus in Air (mm)		9.5
Mount		C-mount
Filter Thread (mm)		M25.5×P0.5
Size (mm) (∞)		Φ31×34
Weight (g)		60
Temperature Range		−10°C～+50°C

LM12NCL

LO-DIS

Model		LM12NCL
Focal Length (mm)		12
Image Size (mm)		7.2×5.4(Φ9)
Iris Range		F1.4～F16
Focusing Range (m)		0.3～∞
Control	Iris	Manual
	Focus	Manual
Shooting Range at M.O.D. (mm)		189.9(H)×140.0(V)
Angle of View (Degrees)	1/1.8 Inch	34.6×25.9
	1/2 Inch	30.7×23.0
	1/3 Inch	23.0×17.2
Resolution (Center, Corner)		100lp/mm, 60lp/mm
TV Distortion (%)		−0.8
Bask Focus in Air (mm)		11.1
Mount		C-mount
Filter Thread (mm)		M25.5×P0.5
Size (mm) (∞)		Φ31×29.5
Weight (g)		55
Temperature Range		−10°C～+50°C

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HC-VIS-SW series

Model	Format Size (Inch)							
	4/3	1.2	1.1	1	1/1.2	2/3	1/1.8	1/2	1/3
LM8HC-VIS-SW	-	-	-	●	●	●	●	●	●
LM12HC-VIS-SW	-	-	-	●	●	●	●	●	●
LM16HC-VIS-SW	-	-	-	●	●	●	●	●	●
LM25HC-VIS-SW	-	-	◇	●	●	●	●	●	●
LM35HC-VIS-SW	-	◇	◇	●	●	●	●	●	●
LM50HC-VIS-SW	◇	◇	◇	●	●	●	●	●	●

● Compatible ◇ Suitable * Incompatible

◎ 1" format and 12MP resolution (3.1μm)

◎ Focus shifting over a wavelength range from 450 to 2000nm is corrected.

◎ Special extra low dispersion (XD) glass is utilized to greatly reduce chromatic aberration.

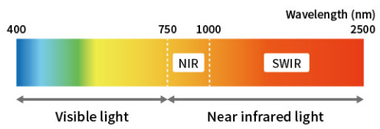
◎ By utilizing floating mechanisms in all models, a high optical performance is realized from close range to infinity.

◎ Low distortion design

◎ EX wide-band multi-coating

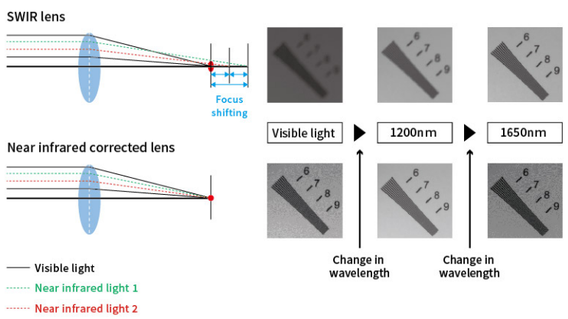
■ Near infrared corrected lens

A feature of the near infrared corrected lens is that imaging is possible through limiting the focus shifting amount even when the wavelength changes between the frequency of visible light to the frequency of near infrared light. In normal lenses used for near infrared or for visible light, focus shifting occurs when the wavelength is changed due to the difference in the refractive index caused by the wavelength. However, this does not occur when using the exclusively designed near infrared corrected lenses which utilize special extra low dispersion glass (XD lenses).



■ Example of focus shifting

* Focuses at 1650nm



LM8HC-VIS-SW

EX-WBMC
LO-DIS
FLOAT
X D

LM12HC-VIS-SW

EX-WBMC
LO-DIS
FLOAT
X D

LM16HC-VIS-SW

EX-WBMC
LO-DIS
FLOAT
X D

Model		LM8HC-VIS-SW	LM12HC-VIS-SW	LM16HC-VIS-SW
Focal Length (mm)		8	12	16
Image Size (mm)		12.8×9.6(Φ16)	12.8×9.6(Φ16)	12.8×9.6(Φ16)
Iris Range		F1.8～F16	F1.8～F16	F1.8～F16
Focusing Range (m)		0.2～∞	0.2～∞	0.2～∞
Control	Iris	Manual	Manual	Manual
	Focus	Manual	Manual	Manual
Shooting Range at M.O.D. (mm)		387.0(H)×272.0(V)	237.0(H)×175.0(V)	174.0(H)×129.0(V)
Angle of View (Degrees)	1 Inch	81.3×63.5	58.0×44.5	44.2×33.6
	2/3 Inch	58.7×44.8	41.0×31.1	31.0×23.3
	1/1.8 Inch	48.6×36.9	33.8×25.5	25.4×19.1
Resolution (Center, Corner)		160lp/mm, 80lp/mm	160lp/mm, 100lp/mm	160lp/mm, 100lp/mm
TV Distortion (%)		−3.1	−1.6	−0.81
Bask Focus in Air (mm)		11.1	11.1	15.0
Mount		C-mount	C-mount	C-mount
Filter Thread (mm)		M55×P0.75	M34×P0.5	M30.5×P0.5
Size (mm) (∞)		Φ58×79.5	Φ38.75×73.5	Φ39×78.15
Weight (g)		210	175	190
Temperature Range		−10°C～+50°C	−10°C～+50°C	−10°C～+50°C

LM25HC-VIS-SW

EX-WBMC
LO-DIS
FLOAT
X D

LM35HC-VIS-SW

EX-WBMC
LO-DIS
FLOAT
X D

LM50HC-VIS-SW

EX-WBMC
LO-DIS
FLOAT
X D

Model		LM25HC-VIS-SW	LM35HC-VIS-SW	LM50HC-VIS-SW
Focal Length (mm)		25	35	50
Image Size (mm)		12.8×9.6(Φ16)	12.8×9.6(Φ16)	12.8×9.6(Φ16)
Iris Range		F1.8～F16	F1.8～F16	F2.5～F16
Focusing Range (m)		0.2～∞	0.2～∞	0.5～∞
Control	Iris	Manual	Manual	Manual
	Focus	Manual	Manual	Manual
Shooting Range at M.O.D. (mm)		109.0(H)×81.0(V)	68.0(H)×51.0(V)	127.0(H)×95.0(V)
Angle of View (Degrees)	1 Inch	29.2×22.0	20.4×15.4	14.6×11.0
	2/3 Inch	20.2×15.0	14.0×10.6	10.0×7.6
	1/1.8 Inch	16.5×12.3	11.5×8.6	8.2×6.2
Resolution (Center, Corner)		160lp/mm, 100lp/mm	160lp/mm, 100lp/mm	160lp/mm, 100lp/mm
TV Distortion (%)		−0.97	−0.97	−0.11
Bask Focus in Air (mm)		24.5	16.4	34.9
Mount		C-mount	C-mount	C-mount
Filter Thread (mm)		M27×P0.5	M34×P0.5	M30.5×P0.5
Size (mm) (∞)		Φ39×66.5	Φ39×56.42	Φ39.5×71
Weight (g)		160	150	155
Temperature Range		−10°C～+50°C	−10°C～+50°C	−10°C～+50°C

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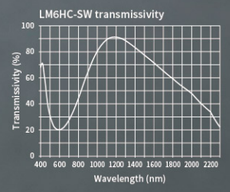
HC-SW series

Model	Format Size (Inch)								
	4/3	1.2	1.1	1	1/1.2	2/3	1/1.8	1/2	1/3
LM6HC-SW	-	-	-	●	●	●	●	●	●
LM8HC-SW	-	-	-	●	●	●	●	●	●
LM12HC-SW	-	-	◇	●	●	●	●	●	●
LM16HC-SW	-	-	◇	●	●	●	●	●	●
LM25HC-SW	-	◇	◇	●	●	●	●	●	●
LM35HC-SW	-	◇	◇	●	●	●	●	●	●
LM50HC-SW	-	-	◇	●	●	●	●	●	●

● Compatible ◇ Suitable * Incompatible

◎ A SWIR coating to allow high transmissivity over the short wavelength infrared range is made to the HC Series models which have a high performance 1" format.

◎ A wide-angle f = 6mm model has been newly added to offer a full lineup of focal lengths.



LM6HC-SW

SWIR
LO-DIS

Model		LM6HC-SW
Focal Length (mm)		6
Image Size (mm)		12.8×9.6(Φ16)
Iris Range		F1.8～F11
Focusing Range (m)		0.1～∞
Control	Iris	Manual
	Focus	Manual
Shooting Range at M.O.D. (mm)		267.4(H)×196.3(V)
Angle of View (Degrees)	1 Inch	96.8×79.4
	2/3 Inch	74.1×58.0
	1/1.8 Inch	62.6×48.2
Resolution (Center, Corner)		120lp/mm, 80lp/mm
TV Distortion (%)		−0.2
Bask Focus in Air (mm)		11.1
Mount		C-mount
Filter Thread (mm)		–
Size (mm) (∞)		Φ54×56.2
Weight (g)		215
Temperature Range		−10°C～+50°C

LM8HC-SW

SWIR
LO-DIS

LM12HC-SW

SWIR
LO-DIS

LM16HC-SW

SWIR
LO-DIS

Model		LM8HC-SW	LM12HC-SW	LM16HC-SW
Focal Length (mm)		8	12.5	16
Image Size (mm)		12.8×9.6(Φ16)	12.8×9.6(Φ16)	12.8×9.6(Φ16)
Iris Range		F1.4～F16	F1.4～F16	F1.4～F16
Focusing Range (m)		0.1～∞	0.3～∞	0.3～∞
Control	Iris	Manual	Manual	Manual
	Focus	Manual	Manual	Manual
Shooting Range at M.O.D. (mm)		196.0(H)×143.2(V)	330.6(H)×243.5(V)	251.5(H)×186.2(V)
Angle of View (Degrees)	1 Inch	79.4×63.0	55.6×42.5	44.3×33.6
	2/3 Inch	58.3×44.7	39.1×29.5	30.8×23.2
	1/1.8 Inch	48.5×36.9	32.1×24.2	25.3×19.0
Resolution (Center, Corner)		120lp/mm, 80lp/mm	120lp/mm, 80lp/mm	120lp/mm, 80lp/mm
TV Distortion (%)		−1.2	−1.58	−1.0
Bask Focus in Air (mm)		11.2	12.6	12.6
Mount		C-mount	C-mount	C-mount
Filter Thread (mm)		M55×P0.75	M35.5×P0.5	M35.5×P0.5
Size (mm) (∞)		Φ57×58	Φ43×51.5	Φ43×52.9
Weight (g)		205	160	150
Temperature Range		−10°C～+50°C	−10°C～+50°C	−10°C～+50°C

LM25HC-SW

SWIR
LO-DIS

LM35HC-SW

SWIR
LO-DIS

LM50HC-SW

SWIR
LO-DIS

Model		LM25HC-SW	LM35HC-SW	LM50HC-SW
Focal Length (mm)		25	35	50
Image Size (mm)		12.8×9.6(Φ16)	12.8×9.6(Φ16)	12.8×9.6(Φ16)
Iris Range		F1.4～F16	F1.4～F16	F1.4～F16
Focusing Range (m)		0.3～∞	0.3～∞	0.5～∞
Control	Iris	Manual	Manual	Manual
	Focus	Manual	Manual	Manual
Shooting Range at M.O.D. (mm)		160.7(H)×119.2(V)	110.1(H)×82.0(V)	121.8(H)×91.3(V)
Angle of View (Degrees)	1 Inch	29.3×22.0	20.9×15.8	14.5×10.8
	2/3 Inch	20.2×15.1	14.4×10.8	10.0×7.5
	1/1.8 Inch	16.5×12.4	11.8×8.8	8.2×6.2
Resolution (Center, Corner)		120lp/mm, 80lp/mm	120lp/mm, 80lp/mm	120lp/mm, 80lp/mm
TV Distortion (%)		−1.0	−0.5	0.05
Bask Focus in Air (mm)		16.5	16.8	14.8
Mount		C-mount	C-mount	C-mount
Filter Thread (mm)		M35.5×P0.5	M35.5×P0.5	M40.5×P0.5
Size (mm) (∞)		Φ43×43	Φ43×43	Φ49×48
Weight (g)		135	135	210
Temperature Range		−10°C～+50°C	−10°C～+50°C	−10°C～+50°C

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JC5M-IR series

Model	Format Size (Inch)								
	4/3	1.2	1.1	1	1/1.2	2/3	1/1.8	1/2	1/3
LM16JC5M-IR	-	-	-	-	-	●	●	●	●
LM25JC5M-IR	-	-	-	-	◇	●	●	●	●
LM35JC5M-IR	-	-	-	-	◇	●	●	●	●

● Compatible ◇ Suitable * Incompatible

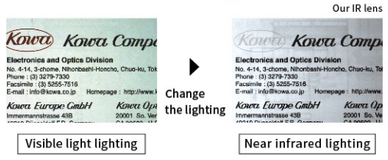
■ Focus shifting between visible light and near infrared is corrected.

【Normal lens for use in visible light】

Previous product: Lens for SLR camera

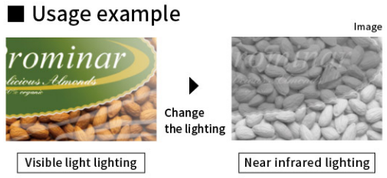
【Corrected lens for focus shifting】

Our IR lens



■ Usage example

Image



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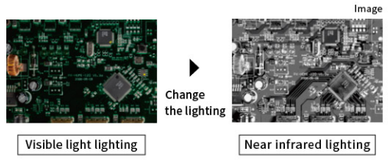

2/3" | IR-CORRECTED(VIS-NIR) 5MEGAPIXEL 3.45µm

LM16JC5M-IR

IR
LO-DIS
X D

Model		LM16JC5M-IR
Focal Length (mm)		16
Image Size (mm)		8.8×6.6(Φ11)
Iris Range		F1.4～F16
Focusing Range (m)		0.3～∞
Control	Iris	Manual
	Focus	Manual
Shooting Range at M.O.D. (mm)		171.4(H)×127.4(V)
Angle of View (Degrees)	2/3 Inch	30.9×23.2
	1/1.8 Inch	25.4×19.0
	1/2 Inch	22.6×16.9
Resolution (Center, Corner)		120lp/mm, 80lp/mm
TV Distortion (%)		−0.8
Bask Focus in Air (mm)		14.7
Mount		C-mount
Filter Thread (mm)		M27×P0.5
Size (mm) (∞)		Φ34.0×44.5
Weight (g)		100
Temperature Range		−10℃～+50℃

LM25JC5M-IR

IR
LO-DIS
X D

Model		LM25JC5M-IR
Focal Length (mm)		25
Image Size (mm)		8.8×6.6(Φ11)
Iris Range		F1.4～F16
Focusing Range (m)		0.3～∞
Control	Iris	Manual
	Focus	Manual
Shooting Range at M.O.D. (mm)		113.3(H)×84.5(V)
Angle of View (Degrees)	2/3 Inch	20.1×15.1
	1/1.8 Inch	16.5×12.4
	1/2 Inch	14.6×11.0
Resolution (Center, Corner)		120lp/mm, 80lp/mm
TV Distortion (%)		−0.3
Bask Focus in Air (mm)		12.0
Mount		C-mount
Filter Thread (mm)		M30.5×P0.5
Size (mm) (∞)		Φ34.0×47.0
Weight (g)		110
Temperature Range		−10℃～+50℃

LM35JC5M-IR

IR
LO-DIS
X D

Model		LM35JC5M-IR
Focal Length (mm)		35
Image Size (mm)		8.8×6.6(Φ11)
Iris Range		F2.0～F22
Focusing Range (m)		0.3～∞
Control	Iris	Manual
	Focus	Manual
Shooting Range at M.O.D. (mm)		75.8(H)×56.6(V)
Angle of View (Degrees)	2/3 Inch	13.9×10.5
	1/1.8 Inch	11.4×8.3
	1/2 Inch	10.2×7.6
Resolution (Center, Corner)		120lp/mm, 80lp/mm
TV Distortion (%)		−0.3
Bask Focus in Air (mm)		19.2
Mount		C-mount
Filter Thread (mm)		M30.5×P0.5
Size (mm) (∞)		Φ34.0×43.0
Weight (g)		100
Temperature Range		−10℃～+50℃

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LF Series

Model	Format Size (Inch)							
	57.0	51.0	46.0	38.0	35.0	30.0	23.0	18.0
LM28LF	-	-	●	●	●	●	●	●
LM35LF	-	◇	●	●	●	●	●	●
LM50LF	-	◇	●	●	●	●	●	●

● Compatible ◇ Suitable * Incompatible

◎ Large image size (ϕ46mm)

◎ Low distortion

◎ Imaging is allowed at close ranges down to 0.26m for the WD (distance between the lens tip and the workpiece surface). (For the LM35LF/LM50LF)

◎ Lineup offers two mounting types, consisting of the Nikon F-mount or the TFL-II mount.

LM28LF

LO-DIS

X D

LM35LF

LO-DIS

X D

LM50LF

LO-DIS

X D

Model		LM28LF	LM28LF-48	LM35LF	LM35LF-48	LM50LF	LM50LF-48
Focal Length (mm)		28		35		50	
Image Size (mm)		46.0(Φ46)		46.0(Φ46)		46.0(Φ46)	
Iris Range		F2.8～F22		F2.8～F22		F2.8～F22	
Focusing Range(m)(FROM SENSOR)		0.5～∞		0.4～∞		0.4～∞	
Control	Iris	Manual		Manual		Manual	
	Focus	Manual		Manual		Manual	
Shooting Range at M.O.D. (mm)		424.3×281.1		239.9×160.3		162.9×108.9	
Angle of View (Degrees)	Full size	64.6×45.8		53.7×37.2		39.7×27.1	
	4/3 Inch	35.8×27.2		28.9×21.8		20.9×15.7	
	1 Inch	25.3×19.1		20.3×15.3		14.6×11.0	
Resolution (Center, Corner)		160lp/mm, 63lp/mm		160lp/mm, 63lp/mm		160lp/mm, 63lp/mm	
TV Distortion (%)		−0.17		−0.15		−0.04	
Bask Focus in Air (mm)		46.5	17.5	46.5	17.5	46.5	17.5
Flange Focus in Air (mm)		46.5	17.5	46.5	17.5	46.5	17.5
Mount		Nikon F-mount	TFL- II mount	Nikon F-mount	TFL- II mount	Nikon F-mount	TFL- II mount
Filter Thread (mm)		M72×P0.75		M52×P0.75		M52×P0.75	
Size (mm) (∞)		Φ75×98	Φ75×127	Φ57.5×71	Φ57.5×100	Φ57.5×77	Φ57.5×106
Weight (g)		500		430		470	
Temperature Range		−10°C～+50°C		−10°C～+50°C		−10°C～+50°C	

CLS Series

Model	Format Size (Inch)							
	57.0	51.0	46.0	38.0	35.0	30.0	23.0	18.0
LM28CLS	-	-	-	-	-	●	●	●
LM35CLS	-	-	-	-	-	●	●	●
LM50CLS	-	-	-	-	◇	●	●	●

● Compatible ◇ Suitable * Incompatible

◎ Lenses for use with industrial three-sensor three-dichroic prism line scan cameras

◎ 30mm line sensor lengths are supported.

◎ Optical design to utilize the image recreating ability of three-sensor three-dichroic prism line scan cameras to the maximum

◎ With the support for the Nikon F-mount, existing systems can be used without change.

LM28CLS

LO-DIS

X D

LM35CLS

LO-DIS

X D

LM50CLS

LO-DIS

X D

Model	LM28CLS	LM35CLS	LM50CLS
Focal Length (mm)	28	35	50
Image Size (mm)	30.0(Φ30)	30.0(Φ30)	30.0(Φ30)
Iris Range	F2.8～F22	F2.8～F22	F2.8～F22
Focusing Range(m)(FROM SENSOR)	0.5～∞	0.5～∞	0.5～∞
Control Iris	Manual	Manual	Manual
Control Focus	Manual	Manual	Manual
Shooting Range at M.O.D. (mm)	317.9(V)	259.1(V)	157.7(V)
Angle of View (Degrees)	55.2(V)	46.1(V)	32.3(V)
Resolution (Center, Corner)	160lp/mm, 63lp/mm	160lp/mm, 63lp/mm	160lp/mm, 63lp/mm
TV Distortion (%)	−0.1	0.06	−0.1
Bask Focus in Air (mm)	46.5	46.5	46.5
Flange Focus in Air (mm)	46.5	46.5	46.5
Mount	Nikon F-mount	Nikon F-mount	Nikon F-mount
Filter Thread (mm)	M72×P0.75	M62×P0.75	M52×P0.75
Size (mm) (∞)	Φ75×108	Φ65×108	Φ58×63.5
Weight (g)	482	480	358
Temperature Range	−10°C～+50°C	−10°C～+50°C	−10°C～+50°C

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QS Series

Model	Format Size (Inch)							
	1	1/1.2	2/3	1/1.8	1/2	1/2.5	1/2.8	1/3
LM3QS28	-	-	-	-	-	●	●	●
LM3QS40	-	-	-	-	-	●	●	●
LM3QS56	-	-	-	-	-	●	●	●

● Compatible ◇ Suitable * Incompatible

◎ Super-wide angle

◎ Low distortion

● Option : A separately available IR cut filter/locking ring can be mounted.

LM3QS28/40/56

LO-DIS

Model			LM3QS28	LM3QS40	LM3QS56
Focal Length (mm)			3		
Image Size (mm)			1/2.5		
Iris Range			F2.8	F4	F5.6
Focusing Range (m)			0.1～∞		
Angle of View (Degrees)	1/2.5 Inch	H	86.7		
		V	70.6		
		D	99.5		
	1/3 Inch	H	76.9		
		V	61.6		
		D	89.6		
Resolution (Center, Corner)			160lp/mm, 125lp/mm		
TV Distortion (%)			0.02		
Bask Focus in Air (mm)			2.6		
Mount			S-mount(M12×P0.5)		
Size (mm) (∞)			Φ16×22.3		
Weight (g)			6		
Temperature Range			−10°C～+50°C		

Supported Camera Series

KC48XS1 (* See page 15)

NF Series

Model	Format Size (Inch)								
	4/3	1.2	1.1	1	1/1.2	2/3	1/1.8	1/2	1/3
LM3NF	-	-	-	-	-	-	-	-	●
LM5NF	-	-	-	-	-	-	-	-	●
LM9NF	-	-	-	-	-	-	-	◇	●

● Compatible ◇ Suitable * Incompatible

These lenses have been developed as the best optical system offering high quality, light weight and compact size for use with 1/3" NF-mount cameras.

◎ Homogenous image from the center to the corners

◎ NF-mount, 1/3" format megapixel

◎ Compared to C-mount lenses, the weight has been greatly reduced (30g)* and the size has been made more compact (outer diameter ϕ21mm)**.

◎ Low distortion design

* LM3NF ** LM3NF, LM5NF

LM3NF

LM5NF

LO-DIS

LM9NF

LO-DIS

Model		LM3NF	LM5NF	LM9NF
Focal Length (mm)		2.7	4.5	9
Image Size (mm)		4.8×3.6(Φ6)	4.8×3.6(Φ6)	4.8×3.6(Φ6)
Iris Range		F1.8～F11	F1.8～F11	F1.8～F11
Focusing Range (m)		0.1～∞	0.1～∞	0.1～∞
Control	Iris	Manual	Manual	Manual
	Focus	Manual	Manual	Manual
Shooting Range at M.O.D. (mm)		262.7(H)×167.8(V)	122.9(H)×89.9(V)	58.1(H)×43.3(V)
Angle of View (Degrees) 1/3 Inch		102.3×76.7	59.2×45.0	30.2×22.8
Resolution (Center, Corner)		100lp/mm, 60lp/mm	100lp/mm, 60lp/mm	100lp/mm, 60lp/mm
TV Distortion (%)		−7.3	−2.8	−0.6
Bask Focus in Air (mm)		7.8	8.1	8.6
Mount		NF-mount	NF-mount	NF-mount
Size (mm) (∞)		Φ21×27	Φ21×31	Φ22×34
Weight (g)		30	35	40
Temperature Range		−10°C～+50°C	−10°C～+50°C	−10°C～+50°C

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TC series

Model	Format Size (Inch)								
	4/3	1.2	1.1	1	1/1.2	2/3	1/1.8	1/2	1/3
LM1119TC	●	●	●	●	●	●	●	●	●
LM1138TC	●	●	●	●	●	●	●	●	●
LM1120TC	-	-	-	-	-	●	●	●	●
LM1121TC	-	-	-	-	-	●	●	●	●
LM1122TC	-	-	-	-	-	●	●	●	●
LM1123TC	-	-	-	-	-	●	●	●	●
LM1125TC	-	-	-	-	-	●	●	●	●

● Compatible ◇ Suitable * Incompatible

4/3" macro zoom 21MP

◎ Telecentric lens with variable magnification ◎ Capable of resolving up to 21MP.
◎ Can be used as a macro lens with a variable magnification between 0.5x and 1.0x.

4/3" macro 21MP

◎ Telecentric lens with a fixed magnification
◎ Able to resolve up to 21 megapixels
◎ Can be used as a macro lens with a magnification of 2.0x (fixed).

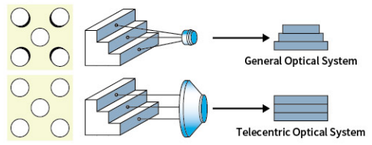
2/3" telecentric 5MP plus

◎ A lens can be selected intuitively from the pixel resolution.
◎ The optical magnification adjusting width can also be changed.
◎ Design with an optical magnification that meets 5MP resolution
◎ Low distortion design with a distortion of 0.02% or less
◎ A high contrast from the image center to the corners is secured.

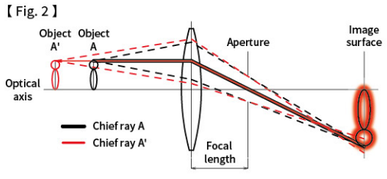
■ Telecentric Optical System

The main feature of telecentric optical systems is that there is no variation in magnification when adjusting the focus, and the entire object can be imaged from directly in front. (Fig. 1) Therefore, it is suitable for use when measuring dimensions with high accuracy, such as in position measurement. In telecentric optical systems, the chief ray (the central light ray of a light bundle from a single point on the object that is incident on the lens) is parallel to the optical axis. When the aperture is placed in the focal point position on the image side, the chief ray on the object side will become parallel to the optical axis. This means that even when the object position is changed in the optical axis direction, the image will simply become blurred without changing the magnification.

【Fig. 1】



【Fig. 2】



Application examples

◎ Surface inspection of silicon wafers
◎ Inspection of dirt on prisms and glass circuit boards ◎ Reading in 2D codes
◎ Inspection of FPD image defect ◎ Hole pitch measurement

4/3" macro zoom 21MP

LM1119TC

LO-DIS
X D

4/3" macro 21MP

LM1138TC

LO-DIS
X D

Model		LM1119TC		LM1138TC
Magnification Range		0.5～1.0×		2.0×
Image Size (mm)		18.4×13.8(Φ23)		18.4×13.8(Φ23)
Shooting Magnification		0.5×	1.0×	2.0×
Objective N.A.		0.05	0.1	0.2
W.D. (mm)		80	81.8	80.6
Shooting Range (mm)	4/3 Inch	36.8×27.6	18.4×13.8	9.20×6.90
	1 Inch	25.6×19.2	12.8×9.6	6.40×4.8
	2/3 Inch	17.6×13.2	8.8×6.6	4.4×3.3
TV Distortion (%)		0.1	0.1	0.1
Back Focus in Air (mm)		14.7		15.0
Mount		C-mount		C-mount
Resolution		120lp/mm		120lp/mm
Size (mm) (∞)		Φ82×151.5		Φ64×151.0
Weight (g)		1000		830
Temperature Range		−10°C～+50°C		−10°C～+50°C

2/3" telecentric 5MP plus

LM1120TC

LO-DIS
X D

LM1121TC

LO-DIS
X D

LM1122TC

LO-DIS
X D

Model		LM1120TC			LM1121TC			LM1122TC		
Magnification Range		3.45～4.4×			1.725～2.2×			1.15～1.47×		
Image Size (mm)		8.8×6.6(Φ11)			8.8×6.6(Φ11)			8.8×6.6(Φ11)		
Shooting Magnification		3.45×	4.0×	4.4×	1.725×	2.0×	2.2×	1.15×	1.3×	1.47×
Objective N.A.		0.2	0.2	0.2	0.131	0.131	0.131	0.101	0.101	0.101
W.D. (mm)		65.9	65.9	65.9	114.8	111.4	109.4	111.6	111.6	111.6
Shooting Range (mm)	2/3 Inch	2.6×1.9	2.2×1.7	2.0×1.5	5.1×3.8	4.4×3.3	4.0×3.0	7.6×5.7	6.6×5.0	6.0×4.5
	1/1.8 Inch	2.1×1.6	1.8×1.4	1.6×1.2	4.2×3.1	3.6×2.7	3.3×2.4	6.3×4.7	5.5×4.1	4.9×3.7
	1/2 Inch	1.9×1.4	1.6×1.2	1.5×1.1	3.7×2.8	3.2×2.4	2.9×2.2	5.6×4.2	4.9×3.7	4.3×3.3
TV Distortion (%)		0.015	0.003	−0.002	0.011	0.004	0.001	−0.015	−0.001	0.011
Back Focus in Air (mm)		17.1	24.5	30	55.8	67.7	76.3	18.7	23.6	29.8
Mount		C-mount			C-mount			C-mount		
Resolution		120lp/mm			120lp/mm			120lp/mm		
Filter Thread (mm)		–			–			–		
Size (mm) (∞)		Φ57×180.0			Φ48×147.5			Φ50×123.9		
Weight (g)		645			420			330		
Temperature Range		−10°C～+50°C			−10°C～+50°C			−10°C～+50°C		

2/3" telecentric 5MP plus

LM1123TC

LO-DIS
X D

LM1125TC

LO-DIS
X D

Model		LM1123TC			LM1125TC		
Magnification Range		0.69～0.88×			0.346～0.44×		
Image Size (mm)		8.8×6.6(Φ11)			8.8×6.6(Φ11)		
Shooting Magnification		0.69×	0.8×	0.88×	0.346×	0.4×	0.44×
Objective N.A.		0.07	0.07	0.07	0.04	0.04	0.04
W.D. (mm)		111.0	111.0	111.0	112.7	112.7	112.7
Shooting Range (mm)	2/3 Inch	12.7×9.6	11.0×8.2	10.0×7.5	25.4×19.1	22.0×16.5	20.0×15.0
	1/1.8 Inch	10.4×7.8	9.0×6.7	8.2×6.1	20.9×15.7	18.1×13.6	16.5×12.3
	1/2 Inch	9.3×7.0	8.0×6.0	7.3×5.5	18.6×13.9	16.1×12.1	14.6×11.0
TV Distortion (%)		−0.001	−0.009	0.005	0.02	−0.009	0.01
Back Focus in Air (mm)		34	28.8	25.3	17.6	17	16.5
Mount		C-mount			C-mount		
Resolution		120lp/mm			120lp/mm		
Filter Thread (mm)		–			–		
Size (mm) (∞)		Φ50×121.5			Φ51.5×142.3		
Weight (g)		290			420		
Temperature Range		−10°C～+50°C			−10°C～+50°C		

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Varifocal Lens Series

Model	Format Size (Inch)							
	4/3	1.2	1.1	1	1/1.2	2/3	1/1.8	1/2	1/3
LMVZ4411	-	-	-	-	-	-	●	●	●
LMVZ990-IR	-	-	-	-	-	-	-	●	●

● Compatible ◇ Suitable * Incompatible

* For placing orders, please contact each sales office.

LMVZ4411

LO-DIS

LMVZ990-IR

LO-DIS

X D

Model		LMVZ4411	LMVZ990-IR
Focal Length (mm)		4.4～11(2.5×)	9～90(10×)
Image Size (mm)		7.2×5.4(Φ9)	6.4×4.8(Φ8)
Iris Range		F1.6～F16	F1.8～F16
Focusing Range (m)		0.3～∞	0.3～∞
Control	Iris	Manual	Manual
	Focus	Manual	Manual
Shooting Range at M.O.D. (mm)		W507.5×379.0 / T211.4×159.0	W252.7×182.5 / T94.4×70.8
Angle of View (Degrees)	1/1.8 Inch	W76.6×61.2 / T36.7×28.0	–
	1/2 Inch	W70.2×55.5 / T32.9×25.0	W41.1×30.3 / T4.2×3.1
	1/3 Inch	W55.5×43.0 / T25.0×18.9	W30.3×22.5 / T3.1×2.4
TV Distortion (%)		W−0.2 / T0.4	W−4.3 / T0.3
Bask Focus in Air (mm)		W8.8 / T14.5	W15.4 / T11.7
Mount		C-mount	C-mount
Filter Thread (mm)		M43×P0.75	M43×P0.75
Size (mm) (∞)		Φ45×56.5	Φ45×93
Weight (g)		125	194
Temperature Range		−10°C～+50°C	−10°C～+50°C

Macro Zoom Lens

Model	Format Size (Inch)							
	4/3	1.2	1.1	1	1/1.2	2/3	1/1.8	1/2	1/3
LMZ69M	-	-	-	-	-	●	●	●	●

● Compatible ◇ Suitable * Incompatible

* For placing orders, please contact each sales office.

◎ Ideal for use in pattern matching, measurement, inspections and character recognition

LMZ69M

Model		LMZ69M
Focal Length (mm)		11.5～69(6×)
Image Size (mm		8.8×6.6(Φ11)
Iris Range		F1.4～Close
Focusing Range (m)		1.0～∞
(Macro)		0.01
Control	Iris	Manual
	Focus	Manual
	Zoom	Manual
Angle of View (Degrees)		W41.9×32.0 / T7.3×5.5
Mount		C-mount
Filter Thread (mm)		M46×P0.75
Size (mm) (∞)		Φ50.5×98.2
Weight (g)		300
Temperature Range		−10°C～+50°C

SCseries

Model		LM12SC	LM16SC	LM25SC	LM35SC	LM50SC
Focal Length (mm)		12	16	25	35	50
Image Size (mm)		12.8×9.6(Φ16)	12.8×9.6(Φ16)	12.8×9.6(Φ16)	12.8×9.6(Φ16)	12.8×9.6(Φ16)
Iris Range		F1.8～F16	F1.8～F16	F1.8～F16	F2.0～F16	F2.0～F16
Focusing Range (m)		0.1～∞	0.1～∞	0.15～∞	0.2～∞	0.3～∞
Control	Iris	Manual	Manual	Manual	Manual	Manual
	Focus	Manual	Manual	Manual	Manual	Manual
Shooting Range at M.O.D. (mm)		125.5(H)×93.5(V)	93.5(H)×69.9(V)	86.1(H)×64.4(V)	69.9(H)×52.4(V)	70.1(H)×52.7(V)
Angle of View (Degrees)	1 Inch	55.9×43.1	44.0×33.6	28.9×21.8	20.8×15.6	14.6×11.0
	2/3 Inch	39.8×30.2	30.9×23.3	20.1×15.2	14.3×10.8	10.1×7.6
	1/1.8 Inch	32.9×24.9	25.5×19.2	16.5×12.4	11.7×8.8	8.3×6.2
Resolution (Center, Corner)		160lp/mm, 120lp/mm	160lp/mm, 120lp/mm	160lp/mm, 120lp/mm	160lp/mm, 120lp/mm	160lp/mm, 120lp/mm
TV Distortion (%)		−0.55	0.02	−0.34	0.02	0.30
Bask Focus in Air (mm)		13.0	13.0	24.3	15.2	21.6
Mount		C-mount	C-mount	C-mount	C-mount	C-mount
Filter Thread (mm)		M40.5×P0.5	M34×P0.5	M34×P0.5	M34×P0.5	M34×P0.5
Size (mm) (∞)		Φ43×84.0	Φ43×80.0	Φ43×89.0	Φ43×74.0	Φ43×78.5
Weight (g)		255	240	245	200	210
Temperature Range		−10°C～+50°C	−10°C～+50°C	−10°C～+50°C	−10°C～+50°C	−10°C～+50°C

JC3M2series

Model		LM8JC3M2	LM12JC3M2	LM16JC3M2	LM25JC3M2	LM35JC3M2	LM50JC3M2
Focal Length (mm)		8	12	16	25	35	50
Image Size (mm)		8.8×6.6(Φ11)	8.8×6.6(Φ11)	8.8×6.6(Φ11)	8.8×6.6(Φ11)	8.8×6.6(Φ11)	8.8×6.6(Φ11)
Iris Range		F1.4～Close	F1.4～Close	F1.4～F16	F1.4～F16	F2.0～F16	F2.8～F22
Focusing Range (m)		0.1～∞	0.15～∞	0.2～∞	0.2～∞	0.2～∞	0.2～∞
Control	Iris	Manual	Manual	Manual	Manual	Manual	Manual
	Focus	Manual	Manual	Manual	Manual	Manual	Manual
Shooting Range at M.O.D. (mm)		120.3(H)×90.0(V)	110.0(H)×82.5(V)	112.8(H)×84.4(V)	71.1(H)×53.3(V)	47.9(H)×35.8(V)	29.3(H)×21.9(V)
Angle of View (Degrees)	2/3 Inch	56.5×43.9	38.3×29.1	30.0×22.7	19.6×14.8	14.4×10.8	9.6×7.2
	1/1.8 Inch	47.4×36.3	31.7×24.0	24.7×18.6	16.1×12.1	11.8×8.8	7.9×5.9
	1/2 Inch	42.6×32.5	28.3×21.4	21.8×16.4	14.0×10.5	10.5×7.9	7.0×5.2
Resolution (Center, Corner)		120lp/mm, 100lp/mm	120lp/mm, 100lp/mm	120lp/mm, 100lp/mm	120lp/mm, 100lp/mm	120lp/mm, 100lp/mm	120lp/mm, 100lp/mm
TV Distortion (%)		−0.6	−0.07	−0.05	−0.04	−0.2	−0.03
Bask Focus in Air (mm)		9.74	11.7	13.1	11.7	20.1	35.5
Mount		C-mount	C-mount	C-mount	C-mount	C-mount	C-mount
Filter Thread (mm)		M27×P0.5	M27×P0.5	M27×P0.5	M27×P0.5	M27×P0.5	M27×P0.5
Size (mm) (∞)		Φ34×41.6	Φ34×37	Φ33.5×36.5	Φ33.5×39.5	Φ34×36.5	Φ34×55
Weight (g)		90	85	85	90	70	95
Temperature Range		−10°C～+50°C	−10°C～+50°C	−10°C～+50°C	−10°C～+50°C	−10°C～+50°C	−10°C～+50°C

HC-IRseries

Model		LM50HC-IR	LM60HC-IR
Focal Length (mm)		50	60
Image Size (mm)		12.8×9.6(Φ16)	12.8×9.6(Φ16)
Iris Range (F-stop)		F1.8～F16	F2.0～F16
Focusing Range (m)		1.0～∞	1.0～∞
Control	Iris	Manual	Manual
	Focus	Manual	Manual
Shooting Range at M.O.D. (mm)		246.0(H)×184.0(V)	216.9(H)×162.1(V)
Angle of View (Degrees)	1 Inch	14.4×10.8	12.2×9.2
	2/3 Inch	9.9×7.5	8.4×6.3
	1/1.8 Inch	8.2×6.2	6.9×5.2
Resolution (Center, Corner)		160lp/mm, 125lp/mm	160lp/mm, 125lp/mm
TV Distortion (%)		−0.09	−0.06
Bask Focus in Air (mm)		20.4	15.7
Mount		C-mount	C-mount
Filter Thread (mm)		–	M37.5×P0.5
Size (mm) (∞)		Φ50.0×47.4	Φ49.2×54.6
Weight (g)		180	200
Temperature Range		−10°C～+50°C	−10°C～+50°C

LMVZ166HC

Model		LMVZ166HC
Focal Length (mm)		16～64(4.0×)
Image Size (mm)		12.8×9.6(Φ16)
Iris Range (F-stop)		F1.8～F16
Focusing Range (m)		1.0～∞
Control	Iris	Manual
	Focus	Manual
Shooting Range at M.O.D. (mm)		W881.4×639.7/T238.2×177.9
Angle of View (Degrees)	1 Inch	W45.9×34.2/T11.7×14.6
	2/3 Inch	W31.3×23.4/T8.1×6.1
	1/1.8 Inch	W25.5×19.1/T6.6×5.0
TV Distortion (%)		W-3.4/T0.2
Bask Focus in Air (mm)		W29.2/T29.5
Mount		C-mount
Filter Thread (mm)		M58×P0.75
Size (mm) (∞)		Φ60×124
Weight (g)		370
Temperature Range		−10°C～+50°C

Close Up Rings

Model	Specification
KW-EXT1	1mm
KW-EXT5	5mm
KW-EXT10	10mm
KW-EXT20	20mm
LMZ4S (Four-type set)	1mm, 5mm, 10mm, 20mm

Filter Holders

By attaching the filter holders, it is possible to mount filters (M30.5 x P0.5) on the JC5MC Series (f12mm, 16mm and 25mm).

Model	Specification
FL-12JC5MC	Φ32
FL-16JC5MC	
FL-25JC5MC	

Mount Adaptors

By attaching the mount adapters, it is possible to change the flange back of the VM42 Series (f18mm, 25mm and 35mm).

Model	Flange Back (mm)	Mount Adaptors
FB-1600VM	16	M42-mount
FB-1148VM	11.48	M42-mount
FB-1000VM	10	M42-mount
FB-1200VM	12	M42-mount
FB-0656VM	6.56	M42-mount
FB-1750VM	17.5	TFL-II-mount

FC24M Series

LM6FC24M

WD	Magnification	Field of View (mm)					
		1.1''		1''		2/3''	
mm		H	V	H	V	H	V
1000	0.007	2252.1	1669.3	2033.1	1506.4	1377.1	1026.1
950	0.007	2141.3	1587.1	1933.1	1432.3	1309.4	975.6
900	0.007	2030.4	1505.0	1833.0	1358.1	1241.6	925.1
850	0.008	1919.6	1422.9	1732.9	1284.0	1173.8	874.6
800	0.008	1808.7	1340.7	1632.9	1209.9	1106.1	824.1
750	0.009	1697.9	1258.6	1532.8	1135.8	1038.3	773.6
700	0.009	1587.0	1176.4	1432.8	1061.6	970.5	723.1
650	0.010	1476.2	1094.3	1332.7	987.5	902.8	672.6
600	0.011	1365.3	1012.1	1232.6	913.4	835.0	622.1
550	0.012	1254.5	930.0	1132.6	839.2	767.2	571.6
500	0.013	1143.6	847.8	1032.5	765.1	699.4	521.1
450	0.014	1032.7	765.6	932.4	691.0	631.7	470.6
400	0.016	921.9	683.5	832.3	616.8	563.9	420.1
350	0.018	811.0	601.3	732.3	542.7	496.1	369.6
300	0.021	700.1	519.2	632.2	468.5	428.3	319.1
250	0.025	589.2	437.0	532.1	394.4	360.5	268.6
200	0.031	478.2	354.8	431.9	320.2	292.7	218.1
150	0.040	367.2	272.6	331.8	246.0	224.9	167.6
100	0.057	255.8	190.1	231.2	171.6	156.9	117.0

LM8FC24M

WD	Magnification	Field of View (mm)					
		1.1''		1''		2/3''	
mm		H	V	H	V	H	V
1000	0.009	1688.7	1269.1	1534.6	1147.5	1050.3	783.9
950	0.009	1605.1	1206.3	1458.6	1090.8	998.3	745.1
900	0.009	1520.6	1142.9	1381.9	1033.5	945.9	706.0
850	0.010	1436.3	1079.7	1305.3	976.3	893.6	667.0
800	0.011	1353.4	1017.3	1230.0	919.9	842.0	628.5
750	0.011	1270.5	955.0	1154.6	863.5	790.4	590.0
700	0.012	1187.5	892.6	1079.2	807.2	738.8	551.5
650	0.013	1104.0	829.9	1003.3	750.5	686.9	512.7
600	0.014	1020.6	767.2	927.5	693.8	635.0	474.0
550	0.015	937.7	704.9	852.2	637.4	583.5	435.5
500	0.017	854.9	642.6	776.9	581.1	531.9	397.0
450	0.019	772.1	580.3	701.6	524.8	480.4	358.6
400	0.021	689.2	518.0	626.3	468.4	428.8	320.1
350	0.024	606.2	455.6	550.9	412.0	377.1	281.5
300	0.027	523.2	393.3	475.5	355.6	325.5	243.0
250	0.033	440.3	330.9	400.1	299.2	273.9	204.5
200	0.040	357.2	268.5	324.6	242.8	222.2	165.9
150	0.052	273.9	205.9	248.9	186.2	170.5	127.3
100	0.075	190.1	143.0	172.8	129.4	118.5	88.5

LM12FC24M

WD	Magnification	Field of View (mm)					
		1.1''		1''		2/3''	
mm		H	V	H	V	H	V
1000	0.012	1174.7	883.2	1067.1	799.4	732.2	548.0
950	0.013	1117.0	839.8	1014.7	760.1	696.2	521.1
900	0.013	1059.3	796.4	962.3	720.8	660.3	494.1
850	0.014	1001.6	753.0	909.8	681.5	624.3	467.2
800	0.015	943.9	709.6	857.4	642.2	588.3	440.2
750	0.016	886.2	666.2	805.0	603.0	552.3	413.3
700	0.017	828.5	622.8	752.6	563.7	516.3	386.4
650	0.018	770.8	579.4	700.2	524.4	480.3	359.5
600	0.020	713.1	536.0	647.7	485.1	444.3	332.5
550	0.022	655.4	492.6	595.3	445.8	408.4	305.6
500	0.024	597.7	449.2	542.9	406.5	372.4	278.6
450	0.026	540.0	405.8	490.4	367.2	336.4	251.7
400	0.030	482.3	362.4	438.0	327.9	300.4	224.8
350	0.034	424.6	319.0	385.5	288.6	264.4	197.8
300	0.039	366.8	275.5	333.1	249.3	228.4	170.9
250	0.046	309.1	232.1	280.6	210.0	192.3	143.9
200	0.057	251.3	188.6	228.1	170.7	156.3	116.9
150	0.074	193.4	145.1	175.5	131.3	120.2	89.9
100	0.106	135.3	101.4	122.8	91.8	84.0	62.8

LM16FC24M

WD	Magnification	Field of View (mm)					
		1.1''		1''		2/3''	
mm		H	V	H	V	H	V
1000	0.016	905.7	677.6	820.7	612.8	561.2	419.9
950	0.017	861.1	644.2	780.4	582.7	533.6	399.3
900	0.017	816.6	610.9	740.0	552.6	506.0	378.6
850	0.019	772.1	577.6	699.7	522.4	478.4	358.0
800	0.020	727.5	544.3	659.3	492.3	450.8	337.3
750	0.021	683.0	511.0	618.9	462.2	423.2	316.7
700	0.022	638.4	477.7	578.6	432.0	395.6	296.0
650	0.024	593.9	444.3	538.2	401.9	368.0	275.4
600	0.026	549.4	411.0	497.8	371.7	340.4	254.7
550	0.028	504.8	377.7	457.5	341.6	312.8	234.1
500	0.031	460.3	344.3	417.1	311.4	285.2	213.4
450	0.034	415.7	311.0	376.7	281.3	257.6	192.7
400	0.038	371.1	277.7	336.3	251.1	230.0	172.1
350	0.044	326.6	244.3	295.9	221.0	202.4	151.4
300	0.051	282.0	211.0	255.5	190.8	174.7	130.8
250	0.060	237.4	177.6	215.1	160.6	147.1	110.1
200	0.074	192.8	144.2	174.7	130.5	119.5	89.4
150	0.096	148.1	110.8	134.2	100.2	91.8	68.7
100	0.138	103.3	77.3	93.6	69.9	64.0	47.9

LM25FC24M

WD	Magnification	Field of View (mm)					
		1.1''		1''		2/3''	
mm		H	V	H	V	H	V
1000	0.025	576.2	431.8	522.5	390.8	358.0	268.2
950	0.026	547.8	410.6	496.7	371.5	340.4	255.0
900	0.027	519.5	389.3	471.0	352.3	322.8	241.8
850	0.029	491.1	368.0	445.3	333.1	305.1	228.6
800	0.031	462.7	346.8	419.6	313.8	287.5	215.4
750	0.033	434.4	325.5	393.8	294.6	269.9	202.2
700	0.035	406.0	304.2	368.1	275.3	252.2	188.9
650	0.038	377.6	283.0	342.4	256.1	234.6	175.7
600	0.041	349.2	261.7	316.6	236.8	216.9	162.5
550	0.044	320.9	240.4	290.9	217.5	199.3	149.3
500	0.049	292.5	219.1	265.2	198.3	181.7	136.1
450	0.054	264.1	197.9	239.4	179.0	164.0	122.9
400	0.060	235.7	176.6	213.7	159.8	146.4	109.6
350	0.069	207.3	155.3	187.9	140.5	128.7	96.4
300	0.079	178.9	134.0	162.2	121.2	111.1	83.2
250	0.094	150.5	112.7	136.4	102.0	93.4	69.9
200	0.117	122.1	91.4	110.6	82.7	75.7	56.7
150	0.152	93.6	70.0	84.8	63.3	58.0	43.4
100	0.219	65.2	48.7	59.0	44.0	40.3	30.2

LM35FC24M

WD	Magnification	Field of View (mm)					
		1.1''		1''		2/3''	
mm		H	V	H	V	H	V
1000	0.035	399.0	300.0	362.2	271.7	249.1	186.8
950	0.037	379.3	285.2	344.4	258.3	236.8	177.6
900	0.039	359.7	270.4	326.5	244.9	224.5	168.4
850	0.042	340.0	255.7	308.7	231.6	212.3	159.2
800	0.044	320.4	240.9	290.9	218.2	200.0	150.0
750	0.047	300.8	226.1	273.0	204.8	187.7	140.8
700	0.050	281.1	211.4	255.2	191.4	175.5	131.6
650	0.054	261.5	196.6	237.4	178.0	163.2	122.4
600	0.058	241.8	181.8	219.5	164.6	150.9	113.2
550	0.064	222.1	167.0	201.7	151.3	138.6	104.0
500	0.070	202.4	152.2	183.8	137.8	126.4	94.8
450	0.077	182.7	137.4	165.9	124.4	114.1	85.5
400	0.087	163.0	122.5	148.0	111.0	101.7	76.3
350	0.099	143.2	107.7	130.0	97.5	89.4	67.0
300	0.114	123.4	92.8	112.0	84.0	77.0	57.8
250	0.136	103.5	77.8	93.9	70.4	64.6	48.4
200	0.169	83.4	62.7	75.7	56.8	52.0	39.0

LM50FC24M

WD	Magnification	Field of View (mm)					
		1.1''		1''		2/3''	
mm		H	V	H	V	H	V
1000	0.049	289.2	217.3	262.5	196.7	180.3	135.2
950	0.051	275.0	206.6	249.6	187.1	171.5	128.6
900	0.054	260.8	196.0	236.7	177.4	162.6	121.9
850	0.057	246.6	185.3	223.8	167.8	153.8	115.3
800	0.061	232.4	174.6	210.9	158.1	144.9	108.6
750	0.065	218.1	163.9	198.0	148.4	136.0	102.0
700	0.069	203.9	153.2	185.1	138.7	127.2	95.3
650	0.075	189.6	142.5	172.1	129.0	118.3	88.7
600	0.081	175.4	131.8	159.2	119.3	109.4	82.0
550	0.088	161.1	121.0	146.2	109.6	100.5	75.3
500	0.096	146.7	110.3	133.2	99.9	91.5	68.6
450	0.107	132.4	99.5	120.2	90.1	82.6	61.9
400	0.120	118.0	88.7	107.1	80.3	73.6	55.2
350	0.136	103.5	77.8	94.0	70.5	64.6	48.4
300	0.159	89.0	66.9	80.8	60.6	55.5	41.6
250	0.190	74.3	55.8	67.4	50.6	46.4	34.8
200	0.238	59.3	44.6	53.9	40.4	37.0	27.8

LM75FC24M

WD	Magnification	Field of View (mm)					
		1.1''		1''		2/3''	
mm		H	V	H	V	H	V
1000	0.078	179.6	135.2	163.1	122.5	112.3	84.3
950	0.083	170.3	128.2	154.6	116.2	106.5	80.0
900	0.087	160.9	121.2	146.2	109.8	100.7	75.6
850	0.093	151.6	114.2	137.7	103.4	94.9	71.2
800	0.099	142.3	107.2	129.3	97.1	89.0	66.8
750	0.106	133.0	100.2	120.8	90.8	83.2	62.5
700	0.114	123.7	93.2	112.4	84.4	77.4	58.1
650	0.123	114.4	86.1	103.9	78.0	71.6	53.7
600	0.134	105.1	79.1	95.4	71.7	65.7	49.4
550	0.147	95.8	72.1	87.0	65.4	59.9	45.0
500	0.163	86.5	65.1	78.5	59.0	54.1	40.6
450	0.182	77.1	58.1	70.1	52.6	48.3	36.2
400	0.207	67.8	51.1	61.6	46.3	42.5	31.9
350	0.240	58.5	44.1	53.2	40.0	36.6	27.5
300	0.285	49.2	37.1	44.7	33.6	30.8	23.1
250	0.352	39.9	30.1	36.3	27.3	25.0	18.8
200	0.459	30.6	23.1	27.8	20.9	19.2	14.4
150	0.659	21.3	16.1	19.4	14.5	13.3	10.0

LM100FC24M

WD	Magni-fication	Field of View (mm)					
		1.1''		1''		2/3''	
mm		H	V	H	V	H	V
1000	0.101	138.6	104.5	126.0	94.7	86.9	65.2
950	0.106	131.7	99.3	119.7	90.0	82.5	61.9
900	0.112	124.7	94.0	113.3	85.2	78.1	58.7
850	0.119	117.8	88.8	107.0	80.5	73.8	55.4
800	0.126	110.8	83.5	100.7	75.7	69.4	52.1
750	0.135	103.8	78.3	94.4	70.9	65.1	48.8
700	0.145	96.9	73.0	88.0	66.2	60.7	45.6
650	0.156	89.9	67.8	81.7	61.4	56.3	42.3
600	0.169	82.9	62.5	75.3	56.6	51.9	39.0
550	0.185	75.9	57.2	69.0	51.9	47.6	35.7
500	0.203	68.9	51.9	62.6	47.1	43.2	32.4
450	0.226	61.9	46.6	56.2	42.3	38.8	29.1
400	0.256	54.9	41.3	49.8	37.5	34.4	25.8
350	0.293	47.8	36.0	43.4	32.6	29.9	22.5
300	0.345	40.7	30.7	37.0	27.8	25.5	19.1
250	0.419	33.5	25.2	30.4	22.9	21.0	15.8
200	0.535	26.2	19.8	23.8	17.9	16.4	12.3
150	0.749	18.7	14.1	17.0	12.8	11.7	8.8

JC5MC/JC5MC-WP Series

LM8JC5MC/LM8JC5MC-WP

WD	Magni-fication	Field of View (mm)					
		2/3''		1/1.8''		1/2''	
mm		H	V	H	V	H	V
1000	0.008	1113.2	824.7	902.9	670.2	798.8	593.8
900	0.009	1003.3	743.2	813.7	603.9	719.9	535.1
800	0.010	893.3	661.7	724.5	537.7	640.9	476.4
700	0.012	783.4	580.2	635.3	471.4	562.0	417.7
600	0.014	673.5	498.7	546.0	405.2	483.0	359.0
500	0.016	563.6	417.2	456.8	338.9	404.1	300.3
450	0.018	508.6	376.5	412.2	305.8	364.6	270.9
400	0.020	453.6	335.7	367.6	272.7	325.1	241.6
350	0.023	398.7	294.9	323.0	239.5	285.6	212.2
300	0.027	343.7	254.2	278.4	206.4	246.2	182.9
250	0.032	288.7	213.4	233.8	173.3	206.7	153.5
200	0.039	233.8	172.7	189.2	140.2	167.2	124.2
150	0.051	178.8	131.9	144.6	107.0	127.7	94.8

LM12JC5MC/LM12JC5MC-WP

WD	Magni-fication	Field of View (mm)					
		2/3''		1/1.8''		1/2''	
mm		H	V	H	V	H	V
1000	0.012	756.7	564.1	616.4	460.0	546.7	408.3
900	0.013	682.0	508.3	555.5	414.5	492.6	367.9
800	0.015	607.2	452.6	494.6	369.1	438.6	327.5
700	0.017	532.5	396.8	433.7	323.6	384.6	287.2
600	0.020	457.8	341.1	372.8	278.1	330.6	246.8
500	0.023	383.1	285.4	311.9	232.7	276.5	206.5
450	0.026	345.7	257.5	281.4	209.9	249.5	186.3
400	0.029	308.3	229.6	251.0	187.2	222.5	166.1
350	0.033	271.0	201.8	220.5	164.5	195.5	145.9
300	0.038	233.6	173.9	190.1	141.7	168.5	125.8
250	0.046	196.3	146.0	159.6	119.0	141.5	105.6
200	0.057	158.9	118.1	129.2	96.3	114.5	85.4

LM16JC5MC/LM16JC5MC-WP

WD	Magni-fication	Field of View (mm)					
		2/3''		1/1.8''		1/2''	
mm		H	V	H	V	H	V
1000	0.016	559.6	419.0	457.4	342.6	406.2	304.4
900	0.018	504.4	377.6	412.2	308.6	366.2	274.2
800	0.020	449.0	336.2	367.0	274.8	326.0	244.2
700	0.022	393.8	294.8	321.8	241.0	285.8	214.0
600	0.026	338.4	253.4	276.6	207.0	245.6	184.0
500	0.031	283.2	211.8	231.2	173.2	205.4	153.8
450	0.035	255.6	191.2	208.6	156.2	185.4	138.8
400	0.039	227.8	170.4	186.0	139.2	165.2	123.8
350	0.044	200.2	149.8	163.4	122.4	145.2	108.8
300	0.051	172.6	129.0	140.8	105.4	125.0	93.6
250	0.061	145.0	108.4	118.2	88.4	105.0	78.6
200	0.080	117.2	87.6	95.6	71.6	85.0	63.6

LM25JC5MC/LM25JC5MC-WP

WD	Magni-fication	Field of View (mm)					
		2/3''		1/1.8''		1/2''	
mm		H	V	H	V	H	V
1000	0.025	356.8	267.6	291.8	219.0	259.4	194.6
900	0.027	321.6	241.2	263.2	197.4	233.8	175.4
800	0.031	286.4	214.8	234.4	175.8	208.2	156.2
700	0.035	251.4	188.4	205.6	154.2	182.8	137.0
600	0.041	216.2	162.0	176.8	132.6	157.2	117.8
500	0.049	181.0	135.6	148.0	111.0	131.6	98.6
450	0.054	163.4	122.4	133.6	100.2	118.8	89.0
400	0.061	145.8	109.2	119.2	89.4	106.0	79.4
350	0.069	128.2	96.0	104.8	78.6	93.2	69.8
300	0.080	110.6	82.8	90.4	67.8	80.4	60.2
250	0.095	93.0	69.6	76.0	57.0	67.6	50.6
200	0.120	75.4	56.4	61.6	46.2	54.8	41.0

LM35JC5MC

WD	Magni-fication	Field of View (mm)					
		2/3''		1/1.8''		1/2''	
mm		H	V	H	V	H	V
1000	0.036	245.4	184.2	200.9	150.8	178.6	134.0
900	0.040	220.8	165.7	180.7	135.6	160.7	120.6
800	0.045	196.2	147.2	160.5	120.5	142.7	107.1
700	0.051	171.5	128.7	140.4	105.3	124.8	93.6
600	0.060	146.9	110.2	120.2	90.2	106.8	80.1
500	0.072	122.2	91.7	100.0	75.0	88.9	66.7
450	0.080	109.9	82.4	89.9	67.4	79.9	59.9
400	0.090	97.6	73.2	79.8	59.9	71.0	53.2
350	0.103	85.3	63.9	69.7	52.3	62.0	46.5
300	0.121	73.0	54.7	59.7	44.7	53.0	39.7
250	0.146	60.6	45.4	49.6	37.1	44.0	33.0
200	0.183	48.3	36.2	39.5	29.6	35.1	26.3

LM50JC5MC

WD	Magni-fication	Field of View (mm)					
		2/3''		1/1.8''		1/2''	
mm		H	V	H	V	H	V
1000	0.051	171.9	129.0	140.7	105.6	125.1	93.8
900	0.057	154.3	115.8	126.3	94.8	112.3	84.2
800	0.064	136.8	102.6	111.9	84.0	99.5	74.6
700	0.074	119.2	89.4	97.5	73.2	86.7	65.0
600	0.087	101.6	76.2	83.2	62.4	73.9	55.4
500	0.105	84.1	63.0	68.8	51.6	61.1	45.8
450	0.117	75.3	56.4	61.6	46.2	54.7	41.0
400	0.133	66.5	49.9	54.4	40.8	48.3	36.3
350	0.153	57.7	43.3	47.2	35.4	41.9	31.5
300	0.180	48.9	36.7	40.0	30.0	35.5	26.7

NCM/NCM-WP/JCM/JC1MS/JCM-V/JCM-WP Series

LM3NCM/LM3NCM-WP

WD	Magni-fication	Field of View (mm)					
		1/1.8''		1/2''		1/3''	
mm		H	V	H	V	H	V
1000	0.004	2003.1	1513.4	1786.2	1347.7	1347.7	1011.6
900	0.004	1805.7	1364.1	1610.1	1214.8	1214.8	911.8
800	0.005	1608.2	1214.9	1434.0	1081.8	1081.8	812.0
700	0.005	1410.8	1065.6	1257.9	948.9	948.9	712.2
600	0.006	1213.3	916.4	1081.8	816.0	816.0	612.3
500	0.007	1015.9	767.1	905.7	683.0	683.0	512.5
450	0.008	917.2	692.5	817.6	616.5	616.5	462.6
400	0.009	818.5	617.8	729.5	550.1	550.1	412.7
350	0.010	719.7	543.2	641.5	483.6	483.6	362.8
300	0.012	621.0	468.6	553.4	417.1	417.1	312.9
250	0.014	522.3	394.0	465.4	350.7	350.7	263.0
200	0.017	423.6	319.3	377.3	284.2	284.2	213.1
150	0.022	324.9	244.7	289.3	217.7	217.7	163.2
100	0.032	226.1	170.1	201.2	151.2	151.2	113.3

LM6NCM

WD	Magni-fication	Field of View (mm)					
		1/1.8''		1/2''		1/3''	
mm		H	V	H	V	H	V
1000	0.006	-	-	1081.4	808.4	808.4	603.3
900	0.007	-	-	974.9	728.7	728.7	543.8
800	0.008	-	-	868.3	649.0	649.0	484.3
700	0.009	-	-	761.7	569.3	569.3	424.8
600	0.010	-	-	655.1	489.5	489.5	365.3
500	0.012	-	-	548.6	409.8	409.8	305.8
450	0.013	-	-	495.3	370.0	370.0	276.0
400	0.015	-	-	442.0	330.1	330.1	246.2
350	0.017	-	-	388.7	290.2	290.2	216.5
300	0.020	-	-	335.4	250.4	250.4	186.7
250	0.023	-	-	282.1	210.5	210.5	157.0
200	0.029	-	-	228.8	170.7	170.7	127.2
150	0.037	-	-	175.6	130.8	130.8	97.5
100	0.054	-	-	122.3	90.9	90.9	67.7

LM5JCM/LM5JCM-V/LM5JCM-WP

WD	Magni-fication	Field of View (mm)					
		2/3''		1/1.8''		1/2''	
mm		H	V	H	V	H	V
1000	0.005	1781.3	1345.0	1465.0	1102.1	1304.7	979.5
900	0.006	1605.7	1212.3	1320.5	993.3	1176.0	882.8
800	0.006	1430.1	1079.6	1176.0	884.5	1047.3	786.1
700	0.007	1254.5	946.9	1031.5	775.8	918.5	689.5
600	0.008	1078.8	814.2	887.0	667.0	789.8	592.8
500	0.010	903.2	681.5	742.5	558.3	661.1	496.1
450	0.011	815.4	615.2	670.2	503.9	596.7	447.8
400	0.012	727.6	548.8	598.0	449.5	532.4	399.4
350	0.014	639.8	482.5	525.7	395.1	468.0	351.1
300	0.016	552.0	416.1	453.4	340.7	403.6	302.8
250	0.019	464.2	349.8	381.2	286.4	339.3	254.4
200	0.024	376.3	283.4	308.9	232.0	274.9	206.1
150	0.031	288.5	217.1	236.7	177.6	210.5	157.7
100	0.044	200.7	150.7	164.4	123.2	146.2	109.4

LM8JC1MS/LM8JCM-V/LM8JCM-WP

WD	Magni-fication	Field of View (mm)					
		2/3''		1/1.8''		1/2''	
mm		H	V	H	V	H	V
1000	0.008	1083.6	813.6	888.1	664.1	788.7	589.4
950	0.009	1030.1	773.4	844.2	631.3	749.7	560.3
900	0.009	976.5	733.2	800.3	598.4	710.7	531.2
850	0.010	923.0	693.0	756.5	565.6	671.8	502.0
800	0.010	869.5	652.8	712.6	532.8	632.8	472.9
750	0.011	816.0	612.6	668.7	500.0	593.8	443.8
700	0.012	762.5	572.4	624.8	467.2	554.9	414.6
650	0.013	709.0	532.2	581.0	434.4	515.9	385.5
600	0.014	655.5	492.0	537.1	401.5	476.9	356.4
550	0.015	601.9	451.8	493.2	368.7	437.9	327.3
500	0.016	548.4	411.6	449.3	335.9	399.0	298.1
450	0.018	494.9	371.4	405.5	303.1	360.0	269.0
400	0.020	441.4	331.2	361.6	270.3	321.0	239.9
350	0.023	387.9	291.0	317.7	237.5	282.1	210.7
300	0.027	334.4	250.8	273.8	204.6	243.1	181.6
250	0.032	280.9	210.6	230.0	171.8	204.1	152.5
200	0.039	227.4	170.4	186.1	139.0	165.2	123.3
150	0.051	173.8	130.2	142.2	106.2	126.2	94.2
100	0.075	120.3	90.0	98.3	73.4	87.2	65.1

LM12JC1MS/LM12JCM-V/LM12JCM-WP

WD	Magni-fication	Field of View (mm)					
		2/3''		1/1.8''		1/2''	
mm		H	V	H	V	H	V
1000	0.013	702.2	525.7	573.9	429.5	509.7	381.5
950	0.013	667.4	499.7	545.5	408.3	484.5	362.6
900	0.014	632.7	473.7	517.1	387.0	459.3	343.8
850	0.015	598.0	447.7	488.7	365.8	434.0	324.9
800	0.016	563.3	421.7	460.3	344.5	408.8	306.0
750	0.017	528.5	395.7	432.0	323.3	383.6	287.1
700	0.018	493.8	369.7	403.6	302.0	358.4	268.2
650	0.019	459.1	343.7	375.2	280.8	333.2	249.4
600	0.021	424.3	317.7	346.8	259.5	308.0	230.5
550	0.023	389.6	291.7	318.4	238.3	282.7	211.6
500	0.025	354.9	265.6	290.0	217.0	257.5	192.7
450	0.028	320.2	239.6	261.6	195.7	232.3	173.9
400	0.031	285.4	213.6	233.2	174.5	207.1	155.0
350	0.035	250.7	187.6	204.8	153.2	181.9	136.1
300	0.041	216.0	161.6	176.4	132.0	156.7	117.2
250	0.049	181.3	135.6	148.0	110.7	131.4	98.3
200	0.061	146.5	109.6	119.7	89.5	106.2	79.5
150	0.080	111.8	83.6	91.3	68.2	81.0	60.6

LM16JC1MS/LM16JCM-V/LM16JCM-WP

WD	Magni-fication	Field of View (mm)					
		2/3''		1/1.8''		1/2''	
mm		H	V	H	V	H	V
1000	0.016	541.1	405.1	442.2	331.1	392.8	294.1
950	0.017	514.2	385.0	420.3	314.7	373.3	279.6
900	0.018	487.4	365.0	398.4	298.3	353.8	265.0
850	0.019	460.6	344.9	376.4	281.9	334.4	250.4
800	0.020	433.8	324.8	354.5	265.5	314.9	235.8
750	0.022	407.0	304.7	332.6	249.1	295.5	221.3
700	0.023	380.2	284.7	310.7	232.7	276.0	206.7
650	0.025	353.4	264.6	288.8	216.2	256.5	192.1
600	0.027	326.6	244.5	266.9	199.8	237.1	177.5
550	0.030	299.8	224.5	245.0	183.4	217.6	163.0
500	0.032	273.0	204.4	223.1	167.0	198.2	148.4
450	0.036	246.2	184.3	201.2	150.7	178.7	133.8
400	0.040	219.4	164.3	179.3	134.3	159.3	119.3
350	0.046	192.7	144.2	157.4	117.9	139.8	104.7
300	0.053	165.9	124.2	135.6	101.5	120.4	90.2
250	0.064	139.2	104.2	113.7	85.1	101.0	75.6
200	0.079	112.5	84.2	91.9	68.8	81.6	61.1

LM25JC1MS/LM25JCM-V/LM25CM-WP

WD	Magni-fication	Field of View (mm)					
		2/3''		1/1.8''		1/2''	
mm		H	V	H	V	H	V
1000	0.025	346.3	259.7	283.4	212.5	251.9	188.9
950	0.027	329.1	246.8	269.3	201.9	239.3	179.5
900	0.028	311.9	233.9	255.1	191.3	226.8	170.1
850	0.030	294.6	220.9	241.0	180.7	214.2	160.6
800	0.032	277.4	208.0	226.9	170.2	201.7	151.2
750	0.034	260.2	195.1	212.8	159.6	189.2	141.8
700	0.036	242.9	182.2	198.7	149.0	176.6	132.4
650	0.039	225.7	169.2	184.6	138.4	164.1	123.0
600	0.042	208.5	156.3	170.5	127.9	151.6	113.7
550	0.046	191.3	143.4	156.5	117.3	139.1	104.3
500	0.051	174.0	130.5	142.4	106.7	126.5	94.9
450	0.056	156.8	117.6	128.3	96.2	114.0	85.5
400	0.063	139.6	104.7	114.2	85.6	101.5	76.1
350	0.072	122.5	91.8	100.2	75.1	89.0	66.7
300	0.084	105.3	78.9	86.1	64.5	76.5	57.4
250	0.100	88.1	66.0	72.0	54.0	64.0	48.0
200	0.125	70.8	53.1	57.9	43.4	51.5	38.6

LM35JC1MS/LM35JCM-V/LM35JCM-WP

WD	Magni-fication	Field of View (mm)					
		2/3''		1/1.8''		1/2''	
mm		H	V	H	V	H	V
1000	0.035	249.2	186.6	203.6	152.6	180.9	135.6
950	0.037	236.6	177.2	193.3	144.9	171.8	128.7
900	0.039	224.0	167.7	183.0	137.1	162.6	121.9
850	0.042	211.4	158.3	172.7	129.4	153.5	115.0
800	0.044	198.8	148.9	162.4	121.7	144.3	108.2
750	0.047	186.2	139.4	152.1	114.0	135.2	101.3
700	0.051	173.6	130.0	141.9	106.3	126.0	94.4
650	0.055	161.0	120.6	131.6	98.6	116.9	87.6
600	0.060	148.4	111.1	121.3	90.9	107.8	80.7
550	0.065	135.8	101.7	111.0	83.2	98.6	73.9
500	0.072	123.3	92.3	100.7	75.5	89.5	67.1
450	0.080	110.7	82.9	90.5	67.8	80.4	60.2
400	0.090	98.2	73.5	80.2	60.1	71.3	53.4
350	0.103	85.6	64.1	70.0	52.4	62.2	46.6
300	0.121	73.1	54.7	59.7	44.7	53.1	39.8
250	0.146	60.6	45.4	49.5	37.1	44.0	33.0
200	0.184	48.2	36.1	39.4	29.5	35.0	26.2

LM50JC1MS/LM50JCM-V/LM50JCM-WP

WD	Magni-fication	Field of View (mm)					
		2/3''		1/1.8''		1/2''	
mm		H	V	H	V	H	V
1000	0.054	164.3	123.2	134.4	100.8	119.5	89.6
950	0.057	155.8	116.9	127.5	95.6	113.3	85.0
900	0.060	147.4	110.5	120.6	90.4	107.2	80.4
850	0.063	138.9	104.2	113.6	85.2	101.0	75.8
800	0.068	130.4	97.8	106.7	80.0	94.9	71.1
750	0.072	122.0	91.5	99.8	74.8	88.7	66.5
700	0.078	113.5	85.1	92.9	69.7	82.6	61.9
650	0.084	105.1	78.8	86.0	64.5	76.4	57.3
600	0.091	96.6	72.5	79.1	59.3	70.3	52.7
550	0.100	88.2	66.1	72.1	54.1	64.1	48.1
500	0.110	79.7	59.8	65.2	48.9	58.0	43.5
450	0.124	71.3	53.5	58.3	43.7	51.8	38.9
400	0.140	62.9	47.1	51.4	38.6	45.7	34.3
350	0.162	54.4	40.8	44.5	33.4	39.6	29.7
300	0.191	46.0	34.5	37.6	28.2	33.5	25.1
250	0.234	37.6	28.2	30.8	23.1	27.4	20.5
200	0.301	29.3	21.9	23.9	18.0	21.3	16.0

LM75JC1MS

WD	Magni-fication	Field of View (mm)					
		2/3''		1/1.8''		1/2''	
mm		H	V	H	V	H	V
2000	0.039	226.1	169.8	185.2	139.0	164.7	123.6
1900	0.041	214.4	161.0	175.6	131.8	156.2	117.2
1800	0.043	202.7	152.3	166.0	124.6	147.7	110.8
1700	0.046	191.1	143.5	156.5	117.5	139.2	104.4
1600	0.049	179.4	134.7	146.9	110.3	130.6	98.0
1500	0.052	167.7	125.9	137.3	103.1	122.1	91.7
1400	0.056	156.0	117.2	127.8	95.9	113.6	85.3
1300	0.061	144.4	108.4	118.2	88.7	105.1	78.9
1200	0.066	132.7	99.6	108.6	81.5	96.6	72.5

LM100JC1MS

WD	Magni-fication	Field of View (mm)					
		2/3''		1/1.8''		1/2''	
mm		H	V	H	V	H	V
3000	0.034	257.0	192.6	210.1	157.5	186.7	140.0
2900	0.036	248.2	186.0	202.9	152.1	180.3	135.2
2800	0.037	239.3	179.4	195.7	146.7	173.9	130.4
2700	0.038	230.5	172.8	188.5	141.3	167.5	125.6
2600	0.040	221.7	166.2	181.3	135.9	161.1	120.8
2500	0.041	212.9	159.6	174.1	130.5	154.7	116.0
2400	0.043	204.1	153.0	166.9	125.1	148.3	111.2
2300	0.045	195.3	146.4	159.7	119.7	141.9	106.4
2200	0.047	186.5	139.8	152.5	114.3	135.5	101.6
2100	0.050	177.7	133.2	145.3	108.9	129.1	96.8
2000	0.052	168.9	126.6	138.1	103.5	122.7	92.0

Diagram of M.O.D. / Magnification using a Close Up Ring

XC Series Model ▶	LM8XC	LM12XC	LM16XC	LM25XC	LM35XC	LM50XC
(Non) M.O.D./Magnification	100mm/0.08×	100mm/0.10×	100mm/0.14×	150mm/0.15×	200mm/0.18×	300mm/0.18×
(1mm Ring) M.O.D./Magnification	30mm/0.19×	48mm/0.19×	64mm/0.20×	115mm/0.19×	174mm/0.21×	273mm/0.20×
(5mm Ring) M.O.D./Magnification	–	–	21mm/0.46×	56mm/0.35×	117mm/0.33×	204mm/0.28×
(10mm Ring) M.O.D./Magnification	–	–	–	31mm/0.55×	85mm/0.48×	158mm/0.39×
(20mm Ring) M.O.D./Magnification	–	–	–	12mm/0.96×	58mm/0.77×	115mm/0.59×

FC24M Series Model ▶	LM6FC24M	LM8FC24M	LM12FC24M	LM16FC24M	LM25FC24M	LM35FC24M	LM50FC24M	LM75FC24M	LM100FC24M
(Non) M.O.D./Magnification	100mm/0.06×	100mm/0.08×	100mm/0.11×	100mm/0.14×	100mm/0.22×	200mm/0.17×	200mm/0.24×	150mm/0.66×	150mm/0.75×
(1mm Ring) M.O.D./Magnification	–	28mm/0.19×	50mm/0.18×	64mm/0.20×	82mm/0.26×	170mm/0.20×	184mm/0.26×	148mm/0.67×	148mm/0.76×
(5mm Ring) M.O.D./Magnification	–	–	–	20mm/0.45×	45mm/0.41×	106mm/0.31×	140mm/0.35×	139mm/0.73×	142mm/0.82×
(10mm Ring) M.O.D./Magnification	–	–	–	–	25mm/0.61×	71mm/0.46×	108mm/0.46×	131mm/0.79×	135mm/0.88×
(20mm Ring) M.O.D./Magnification	–	–	–	–	–	42mm/0.75×	76mm/0.68×	117mm/0.93×	124mm/1.02×

HC Series Model ▶	LM4HC	LM6HC	LM8HC	LM12HC	LM16HC	LM25HC	LM35HC	LM50HC	LM75HC
(Non) M.O.D./Magnification	100mm/0.04×	100mm/0.05×	100mm/0.07×	300mm/0.04×	300mm/0.05×	300mm/0.08×	300mm/0.12×	500mm/0.11×	1000mm/0.078×
(1mm Ring) M.O.D./Magnification	–	–	–	93mm/0.12×	134mm/0.11×	200mm/0.12×	243mm/0.15×	424mm/0.13×	858mm/0.091×
(5mm Ring) M.O.D./Magnification	–	–	–	–	–	83mm/0.28×	138mm/0.26×	269mm/0.20×	553mm/0.14×
(10mm Ring) M.O.D./Magnification	–	–	–	–	–	–	91mm/0.40×	189mm/0.30×	389mm/0.21×
(20mm Ring) M.O.D./Magnification	–	–	–	–	–	–	–	124mm/0.50×	251mm/0.34×

JC10M Series Model ▶	LM3JC10M	LM5JC10M	LM8JC10M	LM12JC10M	LM16JC10M	LM25JC10M	LM35JC10M	LM50JC10M
(Non) M.O.D./Magnification	100mm/0.03×	100mm/0.05×	100mm/0.07×	100mm/0.11×	100mm/0.15×	100mm/0.24×	100mm/0.38×	100mm/0.46×
(1mm Ring) M.O.D./Magnification	–	–	20mm/0.20×	48mm/0.19×	61mm/0.21×	79mm/0.28×	85mm/0.40×	91mm/0.48×
(5mm Ring) M.O.D./Magnification	–	–	–	–	18mm/0.45×	46mm/0.44×	65mm/0.50×	76mm/0.58×
(10mm Ring) M.O.D./Magnification	–	–	–	–	–	29mm/0.63×	49mm/0.62×	64mm/0.70×
(20mm Ring) M.O.D./Magnification	–	–	–	–	–	–	31mm/0.87×	49mm/0.94×

JC5M2 Series Model ▶	LM12JC5M2	LM16JC5M2	LM25JC5M2	LM35JC5M2
(Non) M.O.D./Magnification	100mm/0.109×	100mm/0.137×	100mm/0.251×	180mm/0.209×
(1mm Ring) M.O.D./Magnification	50mm/0.184×	62mm/0.195×	86mm/0.288×	160mm/0.235×
(5mm Ring) M.O.D./Magnification	–	–	54mm/0.434×	109mm/0.341×
(10mm Ring) M.O.D./Magnification	–	–	–	78mm/0.470×
(20mm Ring) M.O.D./Magnification	–	–	–	49mm/0.728×

JC5MC Series Model ▶	LM8JC5MC	LM12JC5MC	LM16JC5MC	LM25JC5MC	LM35JC5MC	LM50JC5MC
(Non) M.O.D./Magnification	150mm/0.05×	200mm/0.06×	200mm/0.08×	200mm/0.12×	200mm/0.183×	300mm/0.180×
(1mm Ring) M.O.D./Magnification	35mm/0.18×	75mm/0.13×	105mm/0.14×	145mm/0.16×	174mm/0.211×	272mm/0.201×
(5mm Ring) M.O.D./Magnification	–	–	–	66mm/0.32×	115mm/0.325×	201mm/0.280×
(10mm Ring) M.O.D./Magnification	–	–	–	–	82mm/0.465×	154mm/0.381×
(20mm Ring) M.O.D./Magnification	–	–	–	–	53mm/0.748×	109mm/0.579×

JC5MC-WP Series Model ▶	LM8JC5MC-WP	LM12JC5MC-WP	LM16JC5MC-WP	LM25JC5MC-WP
(Non) M.O.D./Magnification	150mm/0.05×	200mm/0.06×	200mm/0.08×	200mm/0.12×
(1mm Ring) M.O.D./Magnification	35mm/0.19×	75mm/0.14×	105mm/0.15×	145mm/0.16×
(5mm Ring) M.O.D./Magnification	–	–	–	66mm/0.33×
(10mm Ring) M.O.D./Magnification	–	–	–	–
(20mm Ring) M.O.D./Magnification	–	–	–	–

JC1MS Series Model ▶	LM8JC1MS	LM12JC1MS	LM16JC1MS	LM25JC1MS	LM35JC1MS	LM50JC1MS	LM75JC1MS	LM100JC1MS
(Non) M.O.D./Magnification	100mm/0.04×	100mm/0.07×	150mm/0.08×	200mm/0.08×	200mm/0.12×	200mm/0.18×	200mm/0.30×	1200mm/0.07×
(1mm Ring) M.O.D./Magnification	–	30mm/0.20×	70mm/0.16×	110mm/0.14×	150mm/0.16×	175mm/0.21×	190mm/0.32×	1010mm/0.08×
(5mm Ring) M.O.D./Magnification	–	–	–	–	73mm/0.31×	115mm/0.32×	160mm/0.39×	630mm/0.13×
(10mm Ring) M.O.D./Magnification	–	–	–	–	–	81mm/0.46×	135mm/0.48×	440mm/0.20×
(20mm Ring) M.O.D./Magnification	–	–	–	–	–	51mm/0.73×	105mm/0.65×	285mm/0.34×

JC Series Model ▶	LM6JC	LM8JC	LM12JC	LM16JC	LM25JC	LM35JC	LM50JC
(Non) M.O.D./Magnification	100mm/0.06×	100mm/0.07×	100mm/0.12×	200mm/0.08×	200mm/0.12×	300mm/0.12×	500mm/0.10×
(1mm Ring) M.O.D./Magnification	–	–	50mm/0.19×	110mm/0.14×	136mm/0.15×	240mm/0.14×	422mm/0.12×
(5mm Ring) M.O.D./Magnification	–	–	–	–	46mm/0.31×	132mm/0.26×	264mm/0.20×
(10mm Ring) M.O.D./Magnification	–	–	–	–	–	84mm/0.40×	183mm/0.30×
(20mm Ring) M.O.D./Magnification	–	–	–	–	–	–	117mm/0.50×

NCL Series Model ▶	LM4NCL	LM5NCL	LM6NCL	LM12NCL
(Non) M.O.D./Magnification	200mm/0.018×	200mm/0.02×	200mm/0.03×	300mm/0.08×
(1mm Ring) M.O.D./Magnification	–	–	22mm/0.19×	93mm/0.12×
(5mm Ring) M.O.D./Magnification	–	–	–	22mm/0.45×

Custom Design

Would you like to create your optimum camera and lens?

[Kowa Customized Cameras and Lenses]

We propose consistent services, from designing to trial manufacturing, production, performance evaluation, and quality assurance.

We accept orders to design and manufacture a wide range of optical designs that match customer needs. In addition to designing the optics, we can provide system designs which also combine mechanical and electrical systems and software. Further, we work together with customers to actively propose designs such as for improving technical levels or solving cost-related issues.

Examples of technical development

- Optical systems for image processing
- Optical systems for 3D measurement
- Optical systems with built-in lighting
- Optical systems for surveillance
- Optical systems for robot vision
- Optical systems for laser scanning
- Optical systems for semiconductor manufacturing equipment
- Temperature-resistant and vibration-resistant optical systems
- Ultra-high resolution optical systems

From semi-customized to fully customized products

- Miniaturization by combining cameras and lenses
- Changing the lens coatings
- Customization of telecentric lenses
- Changing the shape using lens prism units
- Motorization of the focusing unit
- Proposals for incorporating units in environment resistant housings
- Provision of units which include lighting and image processing

We offer proposals for customization that match customers' needs.

Flow chart for manufacturing the product

Consideration phase

Inquiry
↓
Meeting with customer (rough specifications)
↓
Desinging
↓
Meeting with customer (specifications check)
↓
Quotation for prototype and mass production

▶

Prototype phase

Order placement
↓
Parts arrangement / Assembly / Evaluation
↓
Provide prototype
↓
Meeting with customer (mass production)

▶

Mass production phase

Order placement
↓
Parts arrangement / Assembly / Evaluation
↓
Provide products

Comparison Table for Cameras and Lenses

Camera : GigE Vision Series

Camera Model/Described on Page		Lens Model/Described on Page	
0.48MP Camera KC48GC4MX / KC48GC4CX	Described on Page 13	LM8JC1MS / LM12JC1MS / LM16JC1MS / LM25JC1MS / LM35JC1MS / LM50JC1MS / LM75JC1MS / LM100JC1MS	Described on Page 47
		LM5JCM-WP / LM8JCM-WP / LM12JCM-WP / LM16JCM-WP / LM25JCM-WP / LM35JCM-WP / LM50JCM-WP	Described on Page 51
		LM5JCM-V / LM8JCM-V / LM12JCM-V / LM16JCM-V / LM25JCM-V / LM35JCM-V / LM50JCM-V	Described on Page 49
		LM5JCM	Described on Page 46
1.3MP Camera KC130GC4MX / KC130GC4CX	Described on Page 13	LM8JC1MS / LM12JC1MS / LM16JC1MS / LM25JC1MS / LM35JC1MS / LM50JC1MS / LM75JC1MS / LM100JC1MS	Described on Page 47
		LM5JCM-WP / LM8JCM-WP / LM12JCM-WP / LM16JCM-WP / LM25JCM-WP / LM35JCM-WP / LM50JCM-WP	Described on Page 51
		LM5JCM-V / LM8JCM-V / LM12JCM-V / LM16JCM-V / LM25JCM-V / LM35JCM-V / LM50JCM-V	Described on Page 49
		LM5JCM	Described on Page 46
		LM3NCM / LM6NCM	Described on Page 45
3MP Camera KC300GC4MX / KC300GC4CX	Described on Page 14	LM8JC1MS / LM12JC1MS / LM16JC1MS / LM25JC1MS / LM35JC1MS / LM50JC1MS / LM75JC1MS / LM100JC1MS	Described on Page 47
		LM5JCM-WP / LM8JCM-WP / LM12JCM-WP / LM16JCM-WP / LM25JCM-WP / LM35JCM-WP / LM50JCM-WP	Described on Page 51
		LM5JCM-V / LM8JCM-V / LM12JCM-V / LM16JCM-V / LM25JCM-V / LM35JCM-V / LM50JCM-V	Described on Page 49
		LM5JCM	Described on Page 46
		LM3NCM / LM6NCM	Described on Page 45
		LM8JC5MC / LM12JC5MC / LM16JC5MC / LM25JC5MC / LM35JC5MC / LM50JC5MC	Described on Page 41
		LM8JC5MC-WP / LM12JC5MC-WP / LM16JC5MC-WP / LM25JC5MC-WP	Described on Page 43
5MP Camera KC500GC4MX / KC500GC4CX	Described on Page 14	LM8JC5MC / LM12JC5MC / LM16JC5MC / LM25JC5MC / LM35JC5MC / LM50JC5MC	Described on Page 41
		LM8JC5MC-WP / LM12JC5MC-WP / LM16JC5MC-WP / LM25JC5MC-WP	Described on Page 43
		LM12JC5M2 / LM16JC5M2 / LM25JC5M2 / LM35JC5M2	Described on Page 39
8MP Camera KC800GC4MX / KC800GC4CX	Described on Page 14	LM3JC10M / LM5JC10M / LM8JC10M / LM12JC10M / LM16JC10M / LM25JC10M / LM35JC10M / LM50JC10M	Described on Page 37
12MP Camera KC1200GC4MX / KC1200GC4CX	Described on Page 14	LM6FC24M / LM8FC24M / LM12FC24M / LM16FC24M / LM25FC24M / LM35FC24M / LM50FC24M / LM75FC24M / LM100FC24M	Described on Page 31
		LM8XC / LM12XC / LM16XC / LM25XC / LM35XC / LM50XC	Described on Page 29

Camera : CoaXPress Series

Camera Model/Described on Page		Lens Model/Described on Page	
0.48MP Camera KC48XS1MX	Described on Page 15	LM3QS28 / LM3QS40 / LM3QS56	Described on Page 67
1.3MP Camera KC130XC2MX / KC130XC2CX	Described on Page 16	LM8JC1MS / LM12JC1MS / LM16JC1MS / LM25JC1MS / LM35JC1MS / LM50JC1MS / LM75JC1MS / LM100JC1MS	Described on Page 47
		LM5JCM-WP / LM8JCM-WP / LM12JCM-WP / LM16JCM-WP / LM25JCM-WP / LM35JCM-WP / LM50JCM-WP	Described on Page 51
		LM5JCM-V / LM8JCM-V / LM12JCM-V / LM16JCM-V / LM25JCM-V / LM35JCM-V / LM50JCM-V	Described on Page 49
		LM5JCM	Described on Page 46
		LM3NCM / LM6NCM	Described on Page 45
3MP Camera KC300XC3MX / KC300XC3CX	Described on Page 16	LM8JC1MS / LM12JC1MS / LM16JC1MS / LM25JC1MS / LM35JC1MS / LM50JC1MS / LM75JC1MS / LM100JC1MS	Described on Page 47
		LM5JCM-WP / LM8JCM-WP / LM12JCM-WP / LM16JCM-WP / LM25JCM-WP / LM35JCM-WP / LM50JCM-WP	Described on Page 51
		LM5JCM-V / LM8JCM-V / LM12JCM-V / LM16JCM-V / LM25JCM-V / LM35JCM-V / LM50JCM-V	Described on Page 49
		LM5JCM	Described on Page 46
		LM3NCM / LM6NCM	Described on Page 45
		LM8JC5MC / LM12JC5MC / LM16JC5MC / LM25JC5MC / LM35JC5MC / LM50JC5MC	Described on Page 41
		LM8JC5MC-WP / LM12JC5MC-WP / LM16JC5MC-WP / LM25JC5MC-WP	Described on Page 43
5MP Camera KC500XC3MX / KC500XC3CX	Described on Page 16	LM8JC5MC / LM12JC5MC / LM16JC5MC / LM25JC5MC / LM35JC5MC / LM50JC5MC	Described on Page 41
		LM8JC5MC-WP / LM12JC5MC-WP / LM16JC5MC-WP / LM25JC5MC-WP	Described on Page 43
		LM12JC5M2 / LM16JC5M2 / LM25JC5M2 / LM35JC5M2	Described on Page 39

Camera : Harsh Environment Resistant GigE Vision Series

Camera Model/Described on Page		Lens Model/Described on Page	
0.48MP Camera KC48GC3MX / KC48GC3CX	Described on Page 18	LM8JC1MS / LM12JC1MS / LM16JC1MS / LM25JC1MS / LM35JC1MS / LM50JC1MS / LM75JC1MS / LM100JC1MS	Described on Page 47
		LM5JCM-WP / LM8JCM-WP / LM12JCM-WP / LM16JCM-WP / LM25JCM-WP / LM35JCM-WP / LM50JCM-WP	Described on Page 51
		LM5JCM-V / LM8JCM-V / LM12JCM-V / LM16JCM-V / LM25JCM-V / LM35JCM-V / LM50JCM-V	Described on Page 49
		LM5JCM	Described on Page 46
1.3MP Camera KC130GC3MX / KC130GC3CX	Described on Page 18	LM8JC1MS / LM12JC1MS / LM16JC1MS / LM25JC1MS / LM35JC1MS / LM50JC1MS / LM75JC1MS / LM100JC1MS	Described on Page 47
		LM5JCM-WP / LM8JCM-WP / LM12JCM-WP / LM16JCM-WP / LM25JCM-WP / LM35JCM-WP / LM50JCM-WP	Described on Page 51
		LM5JCM-V / LM8JCM-V / LM12JCM-V / LM16JCM-V / LM25JCM-V / LM35JCM-V / LM50JCM-V	Described on Page 49
		LM5JCM	Described on Page 46
		LM3NCM / LM6NCM	Described on Page 45
3MP Camera KC300GC3MX / KC300GC3CX	Described on Page 18	LM8JC1MS / LM12JC1MS / LM16JC1MS / LM25JC1MS / LM35JC1MS / LM50JC1MS / LM75JC1MS / LM100JC1MS	Described on Page 47
		LM5JCM-WP / LM8JCM-WP / LM12JCM-WP / LM16JCM-WP / LM25JCM-WP / LM35JCM-WP / LM50JCM-WP	Described on Page 51
		LM5JCM-V / LM8JCM-V / LM12JCM-V / LM16JCM-V / LM25JCM-V / LM35JCM-V / LM50JCM-V	Described on Page 49
		LM5JCM	Described on Page 46
		LM3NC1M / LM6NC1M	Described on Page 45
		LM8JC5MC / LM12JC5MC / LM16JC5MC / LM25JC5MC / LM35JC5MC / LM50JC5MC	Described on Page 41
		LM8JC5MC-WP / LM12JC5MC-WP / LM16JC5MC-WP / LM25JC5MC-WP	Described on Page 43
5MP Camera KC500GC3MX / KC500GC3CX	Described on Page 18	LM8JC5MC / LM12JC5MC / LM16JC5MC / LM25JC5MC / LM35JC5MC / LM50JC5MC	Described on Page 41
		LM8JC5MC-WP / LM12JC5MC-WP / LM16JC5MC-WP / LM25JC5MC-WP	Described on Page 43
		LM12JC5M2 / LM16JC5M2 / LM25JC5M2 / LM35JC5M2	Described on Page 39
8MP Camera KC800GC3MX / KC800GC3CX	Described on Page 18	LM3JC10M / LM5JC10M / LM8JC10M / LM12JC10M / LM16JC10M / LM25JC10M / LM35JC10M / LM50JC10M	Described on Page 37
12MP Camera KC1200GC3MX / KC1200GC3CX	Described on Page 19	LM6FC24M / LM8FC24M / LM12FC24M / LM16FC24M / LM25FC24M / LM35FC24M / LM50FC24M / LM75FC24M / LM100FC24M	Described on Page 31
		LM8XC / LM12XC / LM16XC / LM25XC / LM35XC / LM50XC	Described on Page 29
16MP Camera KC1600GC3MX / KC1600GC3CX	Described on Page 19	LM6FC24M / LM8FC24M / LM12FC24M / LM16FC24M / LM25FC24M / LM35FC24M / LM50FC24M / LM75FC24M / LM100FC24M	Described on Page 31
		LM8XC / LM12XC / LM16XC / LM25XC / LM35XC / LM50XC	Described on Page 29
20MP Camera KC2000GC3MX / KC2000GC3CX	Described on Page 19	LM6FC24M / LM8FC24M / LM12FC24M / LM16FC24M / LM25FC24M / LM35FC24M / LM50FC24M / LM75FC24M / LM100FC24M	Described on Page 31
		LM8XC / LM12XC / LM16XC / LM25XC / LM35XC / LM50XC	Described on Page 29
24MP Camera KC2400GC3MX / KC2400GC3CX	Described on Page 19	LM6FC24M / LM8FC24M / LM12FC24M / LM16FC24M / LM25FC24M / LM35FC24M / LM50FC24M / LM75FC24M / LM100FC24M	Described on Page 31
		LM8XC / LM12XC / LM16XC / LM25XC / LM35XC / LM50XC	Described on Page 29