Kowa

Quality of Light

Machine Vision Lenses

Lens Catalog



MACHINE VISION LENSES

About Kowa Optronics

With over 75 years of expertise in optical technology, we deliver cutting-edge total vision systems, featuring high-performance lenses designed with our proprietary innovations. By meeting our customers' diverse needs for enhanced product quality, we drive efficiency and convenience across industries such as factory automation, logistics, and retail. Our end-to-end solutions help optimize performance and create lasting value for our customers.


Industrial Lenses


Industrial Ruggedized Cameras


Image Processing and AI Software


Security Lenses and Cameras



Commercial Video Equipment


Spotting Scopes and Binoculars


Observation Telescopes


Lighting Equipment

Kowa's Key Markets

FACTORY AUTOMATION

With a comprehensive lineup of high-precision lenses and ruggedized, environment-resistant cameras, we enhance the efficiency and reliability of production facilities and logistics warehouses across a wide range of industries, including semiconductors, automotive, metal processing, food, medical, plastics, ceramics, and film manufacturing.



INSPECTION

By integrating lenses, cameras, and lighting with our proprietary software, we reveal workpiece conditions that are invisible in raw images. This ensures precise and effective inspection in any environment.



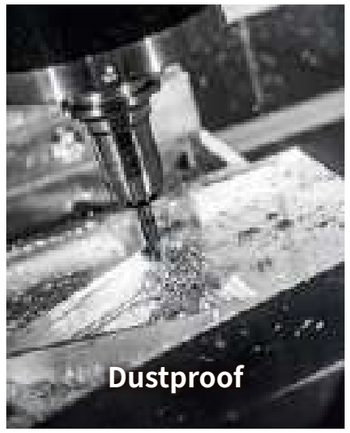
ROBOT VISION

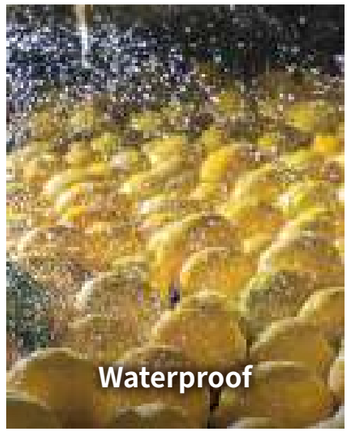
Integrating vision technology with robotics minimizes labor requirements while enhancing operational efficiency. A high-performance system utilizing 2D/3D cameras and AI-driven image processing significantly improves precision and reliability in automated tasks.



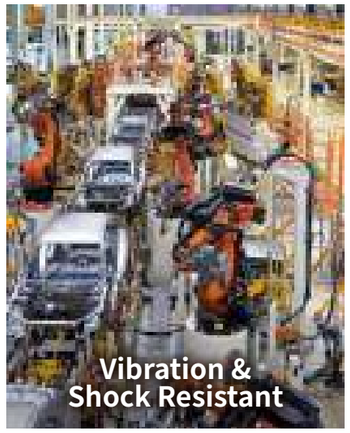
HARSH ENVIRONMENTS

Guided by our concept of "Clear View, Anytime, Anywhere," we provide ruggedized vision units engineered for harsh environments. Designed to withstand vibration, shock, impact, dust, water, and oil, these durable systems deliver reliable performance in any setting. With flexible configurations tailored to your specific needs, we ensure the optimal solution for your application.

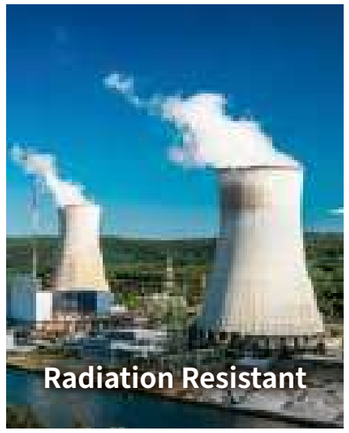

Dustproof


Waterproof


Oil Resistant


Vibration & Shock Resistant


Heat Resistant


Radiation Resistant

Contents



XC Lens Series 5

4/3″ | 20 MEGAPIXEL+ 3.1 µm



FC24M Lens Series 7

1.1″ | 24 MEGAPIXEL 2.5 µm



HC Lens Series 9

1″ | 1 MEGAPIXEL+



JC10M Lens Series 11

2/3″ | 10 MEGAPIXEL 2.4 µm



JC5M2 Lens Series 13

2/3″ | 5 MEGAPIXEL 3.45 µm



JC5MC Lens Series 15

2/3″ | ULTRA COMPACT 5 MEGAPIXEL 3.45 µm



NC1M Lens Series 17

1/1.8″ | 2 MEGAPIXEL
1/2″ | 2 MEGAPIXEL



JC1M Lens 18

2/3″ | 2 MEGAPIXEL



JC1MS Lens Series 19

2/3″ | 2 MEGAPIXEL



JC Lens Series 21

2/3″ | VGA+



NCL Lens Series 23

1/1.8″ | VGA+



Radiation Resistant Lens Series 25

1.1″ | WATER AND DUST RADIATION RESISTANCE 24 MEGAPIXEL 2.5 µm
2/3″ | RADIATION RESISTANCE ZOOM LENS



HC-V Lens Series 27

1″ | RUGGEDIZED 1 MEGAPIXEL+



JC5MC-WP Lens Series 29

2/3″ | RUGGEDIZED WATER AND DUST RESISTANCE ULTRA COMPACT 5 MEGAPIXEL 3.45µm



JCM-V Lens Series 31

2/3″ | RUGGEDIZED 2 MEGAPIXEL



NCM-WP/ JCM-WP Lens Series 33

1/1.8″ | RUGGEDIZED WATER AND DUST RESISTANCE 2 MEGAPIXEL
2/3″ | RUGGEDIZED WATER AND DUST RESISTANCE 2 MEGAPIXEL



EC-IR Lens Series 35

1.2″ | IR-CORRECTED (VIS-NIR) 28 MEGAPIXEL 2.5 µm



HC-VIS-SW Lens Series 37

1″ | IR-CORRECTED (VIS-SW) 12 MEGAPIXEL 3.1 µm



HC-SW Lens Series 39

1″ | SWIR 1MEGAPIXEL+



JC5M-IR Lens Series 41

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



TC Lens Series 43

4/3″ | TELECENTRIC 21 MEGAPIXEL 3.45 µm



Varifocal Lens Series 45

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1/2″ | VARIFOCAL 1 MEGAPIXEL



NF Lens Series 46

1/3″ | NF-MOUNT LENS 1 MEGAPIXEL+



VM Lens Series 47

2″ | 50 MEGAPIXEL 3.1 µm



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Φ46 | LINE SCAN 4K



CLS Lens Series 50

Φ30 | LINE SCAN (3CMOS)



S-Mount Lens Series 51

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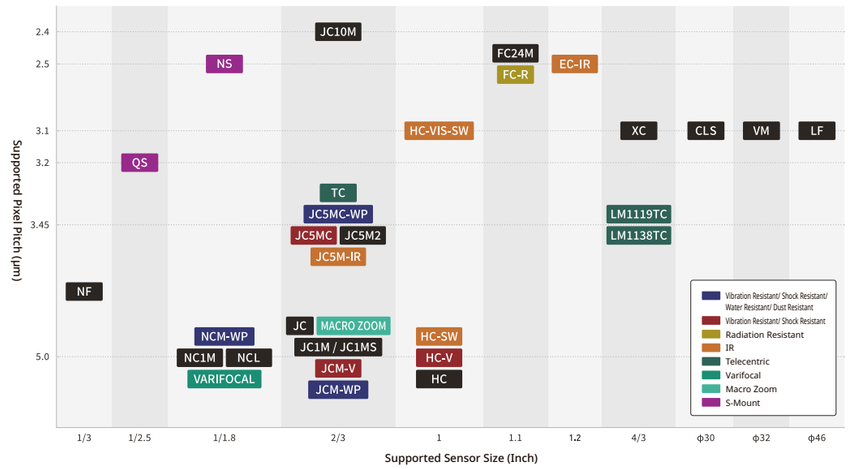
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Lineup Chart



Icons

WBMC	Wide-Band Multi-Coatings	EX-WBMC	EX Wide-Band Multi-Coatings	SWIR	SWIR Coatings	I R	Near Infrared (NIR)
LO-DIS	Low Distortion	FLOAT	Floating Mechanism Design	X D	Extra Low Dispersion		
RUGGED	Ruggedized Lens	WATER	Water Resistant	DUST	Dust Resistant		

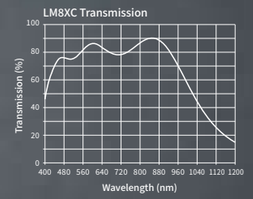
XC Lens Series

4/3″ | 20 MEGAPIXEL+ 3.1 µm

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 size (ϕ23mm) and 20MP resolution.
- High-precision aspherical lenses achieve both low distortion and high-resolution, delivering exceptional optical performance.
- The wide-band multi-coatings are engineered to maximize transmission in the near-infrared range.
- An 8.5mm focal length model with a horizontal angle of 93.5° has been added to this series lineup.
- Kowa's Floating Mechanism design is incorporated into all XC series models to effectively minimize aberrations from close object distances to infinity.

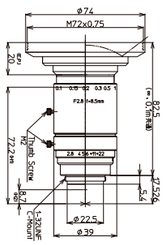




LM8XC

WBMC LO-DIS FLOAT XD



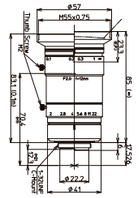


Model		LM8XC
Focal Length (mm)		8.5
Image Size (mm)		18.4×13.8 (Φ23)
Iris Range (F-Stop)		F2.8～F22
Focusing Range (m)		0.1～∞
Control	Iris	Manual
	Focus	Manual
Shooting Range at M.O.D. (mm)		238.4 (H) ×179.1 (V)
Angle of View (Degrees)	4/3″	93.5×77.1
	1.1″	78.2×62.7
	1″	72.9×57.9
	2/3″	53.8×41.6
Resolution (Center, Corner)		160lp/mm, 63lp/mm
TV Distortion (%)		0.12
Back 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 XD

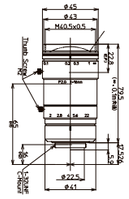




LM16XC

WBMC LO-DIS FLOAT XD

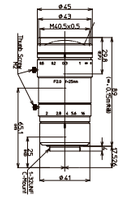




LM25XC

WBMC LO-DIS FLOAT XD



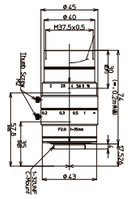


Model		LM12XC	LM16XC	LM25XC
Focal Length (mm)		12	16	25
Image Size (mm)		18.4×13.8 (Φ23)	18.4×13.8 (Φ23)	18.4×13.8 (Φ23)
Iris Range (F-Stop)		F2.0～F22	F2.0～F22	F2.0～F16
Focusing Range (m)		0.1～∞	0.1～∞	0.15～∞
Control	Iris	Manual	Manual	Manual
	Focus	Manual	Manual	Manual
Shooting Range at M.O.D. (mm)		181.5 (H) ×135.5 (V)	134.6 (H) ×100.8 (V)	124.8 (H) ×93.0 (V)
Angle of View (Degrees)	4/3″	74.9×59.6	60.6×47.2	40.9×31.1
	1.1″	60.6×47.1	48.0×36.8	31.8×24.0
	1″	55.9×43.1	44.0×33.6	28.9×21.8
	2/3″	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
Back 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

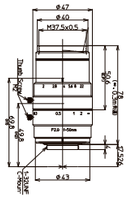




LM50XC

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 (F-Stop)		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″	29.6×22.4	20.6×15.7
	1.1″	22.8×17.2	16.0×12.0
	1″	20.8×15.6	14.6×11.0
	2/3″	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
Back 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

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

FC24M Lens Series

1.1″ | 24 MEGAPIXEL 2.5 µm

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



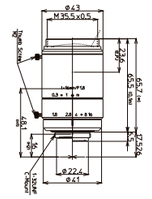
The 75mm and 100mm models support macro shooting at magnifications of up to 0.75x. When paired with a close-up ring, they deliver high-resolution imaging at 1x.

- 2.5µm lenses offering high detail and high-resolution performance.
- The wide-band multi-coatings are specifically engineered to minimize ghosting and flaring while optimizing transmission in the near-infrared range.
- Kowa's Floating Mechanism design is incorporated into all FC24M series models to effectively minimize aberrations from close object distances to infinity.
- 1.1″ format and 24MP resolution.

LM16FC24M

WBMC LO-DIS FLOAT XD

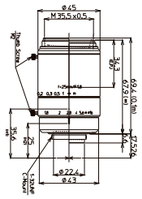




LM25FC24M

WBMC LO-DIS FLOAT XD

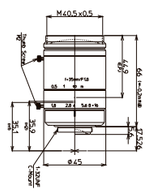




LM35FC24M

WBMC LO-DIS FLOAT



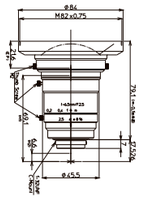


Model		LM16FC24M	LM25FC24M	LM35FC24M
Focal Length (mm)		16	25	35
Image Size (mm)		14.1×10.6 (Φ17.6)	14.1×10.6 (Φ17.6)	14.1×10.6 (Φ17.6)
Iris Range (F-Stop)		F1.8～F16	F1.8～F16	F1.8～F16
Focusing Range (m)		0.1～∞	0.1～∞	0.2～∞
Control	Iris	Manual	Manual	Manual
	Focus	Manual	Manual	Manual
Shooting Range at M.O.D. (mm)		102 (H) ×77 (V)	64 (H) ×48 (V)	84 (H) ×63 (V)
Angle of View (Degrees)	1.1″	48.0×36.7	31.5×23.9	22.1×16.7
	1″	43.6×33.4	28.7×21.7	20.2×15.2
	2/3″	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
Back 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)		Φ43×65.5 (Min.) / Φ43×65.7 (Max.)	Φ45×67.9 (Min.) / Φ45×69.4 (Max.)	Φ45×66
Weight (g)		200	220	205
Temperature Range		−10°C～+50°C	−10°C～+50°C	−10°C～+50°C

LM6FC24M

WBMC LO-DIS FLOAT XD

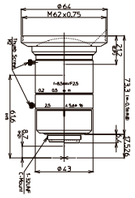




LM8FC24M

WBMC LO-DIS FLOAT XD

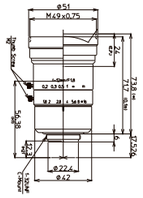




LM12FC24M

WBMC LO-DIS FLOAT XD



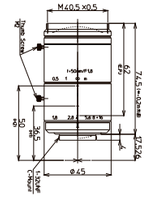


Model		LM6FC24M	LM8FC24M	LM12FC24M
Focal Length (mm)		6.5	8.5	12
Image Size (mm)		14.1×10.6 (Φ17.6)	14.1×10.6 (Φ17.6)	14.1×10.6 (Φ17.6)
Iris Range (F-Stop)		F2.5～F16	F2.5～F16	F1.8～F16
Focusing Range (m)		0.1～∞	0.1～∞	0.1～∞
Control	Iris	Manual	Manual	Manual
	Focus	Manual	Manual	Manual
Shooting Range at M.O.D. (mm)		256 (H) ×190 (V)	184 (H) ×138 (V)	135 (H) ×101 (V)
Angle of View (Degrees)	1.1″	95.7×78.7	79.2×63.8	60.0×46.9
	1″	89.9×73.0	73.9×58.8	55.3×42.9
	2/3″	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
Back 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	ϕ51×71.7 (Min.) / ϕ51×73.8 (Max.)
Weight (g)		300	230	260
Temperature Range		−10°C～+50°C	−10°C～+50°C	−10°C～+50°C

LM50FC24M

WBMC LO-DIS FLOAT XD

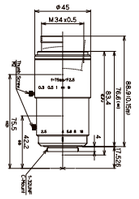




LM75FC24M

WBMC LO-DIS FLOAT XD

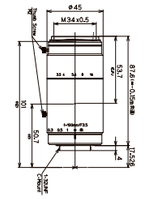




LM100FC24M

WBMC LO-DIS FLOAT XD





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 (F-Stop)		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″	16.1×12.1	10.7×8.0	7.9×6.0
	1″	14.6×11.0	9.7×7.3	7.2×5.4
	2/3″	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
Back 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 (Min.) / ϕ45×88.9 (Max.)	Φ45×87.6
Weight (g)		205	225	260
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 Lens Series

1″ | 1 MEGAPIXEL+

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	–	–	◇	●	●	●	●

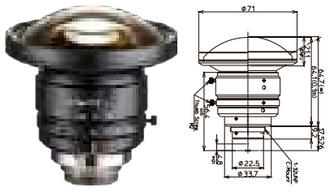
● Compatible ◇ Suitable * Incompatible

- An advanced optical design is utilized to deliver exceptional brightness and high performance.
- Corner light intensity has been significantly enhanced compared to lenses in the JC Series and similar models.
- A comprehensive range of focal lengths is offered to support the shift toward high-resolution imaging in machine vision applications.
- Supports image processing system optimization.
- Equipped with standard thumbscrews as the locking mechanism and precise numbered scales for improved focus and iris control.



LM4HC

LO-DIS FLOAT XD

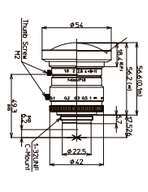


Model		LM4HC
Focal Length (mm)		4.7
Image Size (mm)		12.8×9.6 (Φ16)
Iris Range (F-Stop)		F2.4～F11
Focusing Range (m)		0.1～∞
Control	Iris	Manual
	Focus	Manual
Shooting Range at M.O.D. (mm)		375.6 (H) ×272.1 (V)
Angle of View (Degrees)	1″	112.2×95.4
	2/3″	90.0×72.2
	1/1.8″	77.4×60.8
Resolution (Center, Corner)		100lp/mm, 50lp/mm
TV Distortion (%)		−0.58
Back Focus in Air (mm)		9.0
Mount		C-mount
Filter Thread (mm)		–
Size (mm)		ϕ71×64.1 (Min.) / ϕ71×64.7 (Max.)
Weight (g)		360
Temperature Range		−10°C～+50°C

LM6HC

LO-DIS



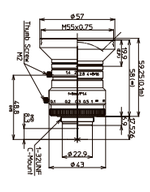


Model		LM6HC
Focal Length (mm)		6
Image Size (mm)		12.8×9.6 (Φ16)
Iris Range (F-Stop)		F1.8～F11
Focusing Range (m)		0.1～∞
Control	Iris	Manual
	Focus	Manual
Shooting Range at M.O.D. (mm)		267.4 (H) ×196.3 (V)
Angle of View (Degrees)	1″	96.8×79.4
	2/3″	74.1×58.0
	1/1.8″	62.6×48.2
Resolution (Center, Corner)		100lp/mm, 80lp/mm
TV Distortion (%)		−0.2
Back Focus in Air (mm)		11.1
Mount		C-mount
Filter Thread (mm)		–
Size (mm)		ϕ54×56.2 (Min.) / ϕ54×56.6 (Max.)
Weight (g)		215
Temperature Range		−10°C～+50°C

LM8HC

LO-DIS



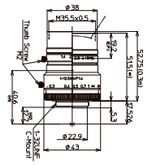


Model		LM8HC
Focal Length (mm)		8
Image Size (mm)		12.8×9.6 (Φ16)
Iris Range (F-Stop)		F1.4～F16
Focusing Range (m)		0.1～∞
Control	Iris	Manual
	Focus	Manual
Shooting Range at M.O.D. (mm)		196.0 (H) ×143.2 (V)
Angle of View (Degrees)	1″	79.4×63.0
	2/3″	58.3×44.7
	1/1.8″	48.5×36.9
Resolution (Center, Corner)		100lp/mm, 80lp/mm
TV Distortion (%)		−1.2
Back Focus in Air (mm)		11.2
Mount		C-mount
Filter Thread (mm)		M55×P0.75
Size (mm)		ϕ57×58 (Min.) / ϕ57×59.25 (Max.)
Weight (g)		205
Temperature Range		−10°C～+50°C

LM12HC

LO-DIS



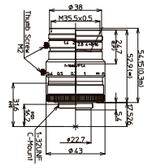


Model		LM12HC
Focal Length (mm)		12.5
Image Size (mm)		12.8×9.6 (Φ16)
Iris Range (F-Stop)		F1.4～F16
Focusing Range (m)		0.3～∞
Control	Iris	Manual
	Focus	Manual
Shooting Range at M.O.D. (mm)		330.6 (H) ×243.5 (V)
Angle of View (Degrees)	1″	55.6×42.5
	2/3″	39.1×29.5
	1/1.8″	32.1×24.2
Resolution (Center, Corner)		100lp/mm, 80lp/mm
TV Distortion (%)		−1.58
Back Focus in Air (mm)		12.6
Mount		C-mount
Filter Thread (mm)		M35.5×P0.5
Size (mm)		ϕ43×51.5 (Min.) / ϕ43×52.75 (Max.)
Weight (g)		160
Temperature Range		−10°C～+50°C

LM16HC

LO-DIS



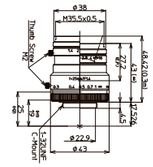


Model		LM16HC
Focal Length (mm)		16
Image Size (mm)		12.8×9.6 (Φ16)
Iris Range (F-Stop)		F1.4～F16
Focusing Range (m)		0.3～∞
Control	Iris	Manual
	Focus	Manual
Shooting Range at M.O.D. (mm)		251.5 (H) ×186.2 (V)
Angle of View (Degrees)	1″	44.3×33.6
	2/3″	30.8×23.2
	1/1.8″	25.3×19.0
Resolution (Center, Corner)		100lp/mm, 80lp/mm
TV Distortion (%)		−1.0
Back Focus in Air (mm)		12.6
Mount		C-mount
Filter Thread (mm)		M35.5×P0.5
Size (mm)		ϕ43×52.9 (Min.) / ϕ43×54.15 (Max.)
Weight (g)		150
Temperature Range		−10°C～+50°C

LM25HC

LO-DIS



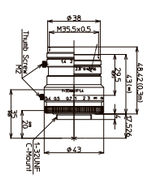


Model		LM25HC
Focal Length (mm)		25
Image Size (mm)		12.8×9.6 (Φ16)
Iris Range (F-Stop)		F1.4～F16
Focusing Range (m)		0.3～∞
Control	Iris	Manual
	Focus	Manual
Shooting Range at M.O.D. (mm)		160.7 (H) ×119.2 (V)
Angle of View (Degrees)	1″	29.3×22.0
	2/3″	20.2×15.1
	1/1.8″	16.5×12.4
Resolution (Center, Corner)		100lp/mm, 80lp/mm
TV Distortion (%)		−1.0
Back Focus in Air (mm)		16.5
Mount		C-mount
Filter Thread (mm)		M35.5×P0.5
Size (mm)		ϕ43×43 (Min.) / ϕ43×48.42 (Max.)
Weight (g)		135
Temperature Range		−10°C～+50°C

LM35HC

LO-DIS



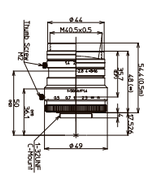


Model		LM35HC
Focal Length (mm)		35
Image Size (mm)		12.8×9.6 (Φ16)
Iris Range (F-Stop)		F1.4～F16
Focusing Range (m)		0.3～∞
Control	Iris	Manual
	Focus	Manual
Shooting Range at M.O.D. (mm)		110.1 (H) ×82.0 (V)
Angle of View (Degrees)	1″	20.9×15.8
	2/3″	14.4×10.8
	1/1.8″	11.8×8.8
Resolution (Center, Corner)		100lp/mm, 80lp/mm
TV Distortion (%)		−0.5
Back Focus in Air (mm)		16.8
Mount		C-mount
Filter Thread (mm)		M35.5×P0.5
Size (mm)		ϕ43×43 (Min.) / ϕ43×48.42 (Max.)
Weight (g)		135
Temperature Range		−10°C～+50°C

LM50HC

LO-DIS



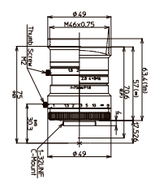


Model		LM50HC
Focal Length (mm)		50
Image Size (mm)		12.8×9.6 (Φ16)
Iris Range (F-Stop)		F1.4～F16
Focusing Range (m)		0.5～∞
Control	Iris	Manual
	Focus	Manual
Shooting Range at M.O.D. (mm)		121.8 (H) ×91.3 (V)
Angle of View (Degrees)	1″	14.5×10.8
	2/3″	10.0×7.5
	1/1.8″	8.2×6.2
Resolution (Center, Corner)		100lp/mm, 80lp/mm
TV Distortion (%)		0.05
Back Focus in Air (mm)		14.8
Mount		C-mount
Filter Thread (mm)		M40.5×P0.5
Size (mm)		ϕ49×48 (Min.) / ϕ49×54.4 (Max.)
Weight (g)		210
Temperature Range		−10°C～+50°C

LM75HC

LO-DIS





Model		LM75HC
Focal Length (mm)		75
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)		165.5 (H) ×123.9 (V)
Angle of View (Degrees)	1″	9.7×7.3
	2/3″	6.7×5.0
	1/1.8″	5.5×4.1
Resolution (Center, Corner)		100lp/mm, 80lp/mm
TV Distortion (%)		−0.2
Back Focus in Air (mm)		14.5
Mount		C-mount
Filter Thread (mm)		M46×P0.75
Size (mm)		ϕ49×57 (Min.) / ϕ49×63.4 (Max.)
Weight (g)		195
Temperature Range		−10°C～+50°C

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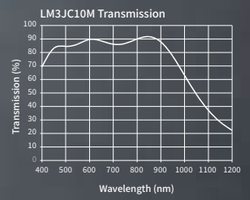
JC10M Lens Series

2/3" | 10 MEGAPIXEL 2.4 µm

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

- To achieve high contrast and ultra-high resolution at 2.4µm, multiple specialized optical lens elements are employed to ensure exceptional image quality.
- Kowa's Floating Mechanism design is incorporated into all JC10M series models to effectively minimize aberrations from close object distances to infinity.
- High precision aspherical lenses provide both low distortion and superior resolution.
- The wide-band multi-coatings are specifically engineered to minimize ghosting and flaring while optimizing transmission in the near-infrared range.

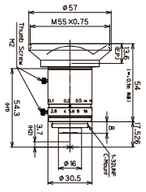




LM3JC10M

WBMC LO-DIS FLOAT XD

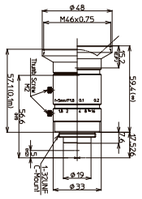




LM5JC10M

WBMC LO-DIS FLOAT XD



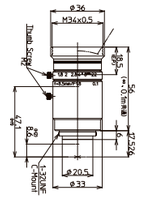


Model		LM3JC10M	LM5JC10M
Focal Length (mm)		3.7	5
Image Size (mm)		8.8×6.6 (Φ11)	8.8×6.6 (Φ11)
Iris Range (F-Stop)		F2.8～F16	F1.8～F16
Focusing Range (m)		0.1～∞	0.1～∞
Control	Iris	Manual	Manual
	Focus	Manual	Manual
Shooting Range at M.O.D. (mm)		278.7 (H) ×207.3 (V)	197.0 (H) ×147.0 (V)
Angle of View (Degrees)	2/3"	100.2×83.7	82.2×66.5
	1/1.8"	88.7×72.4	71.1×56.5
	1/2"	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
Back 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	ϕ48×57.01 (Min.) / ϕ48×59.4 (Max.)
Weight (g)		120	120
Temperature Range		−10°C～+50°C	−10°C～+50°C

LM8JC10M

WBMC LO-DIS FLOAT XD

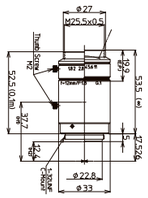




LM12JC10M

WBMC LO-DIS FLOAT XD

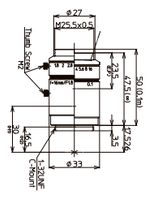




LM16JC10M

WBMC LO-DIS FLOAT



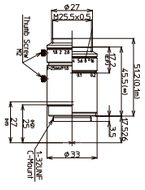


Model		LM8JC10M	LM12JC10M	LM16JC10M
Focal Length (mm)		8.5	12	16
Image Size (mm)		8.8×6.6 (Φ11)	8.8×6.6 (Φ11)	8.8×6.6 (Φ11)
Iris Range (F-Stop)		F1.8～F22	F1.8～F11	F1.8～F16
Focusing Range (m)		0.1～∞	0.1～∞	0.1～∞
Control	Iris	Manual	Manual	Manual
	Focus	Manual	Manual	Manual
Shooting Range at M.O.D. (mm)		133.2 (H) ×99.6 (V)	80.7 (H) ×60.2 (V)	61.1 (H) ×45.7 (V)
Angle of View (Degrees)	2/3"	54.0×41.9	39.1×29.8	30.0×22.7
	1/1.8"	45.3×34.8	32.4×24.6	24.7×18.6
	1/2"	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
Back 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	ϕ33×52.5 (Min.) / ϕ33×53.5 (Max.)	ϕ33×47.5 (Min.) / ϕ33×50 (Max.)
Weight (g)		115	105	90
Temperature Range		−10°C～+50°C	−10°C～+50°C	−10°C～+50°C

LM25JC10M

WBMC LO-DIS FLOAT

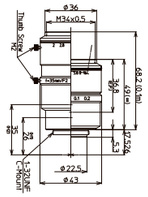




LM35JC10M

WBMC LO-DIS FLOAT

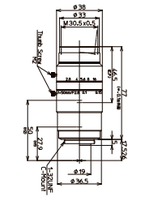




LM50JC10M

WBMC LO-DIS FLOAT XD





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 (F-Stop)		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"	20.0×15.1	14.3×10.8	10.1×7.6
	1/1.8"	16.4×12.3	11.7×8.8	8.2×6.1
	1/2"	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
Back 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 (Min.) / ϕ33×51.2 (Max.)	ϕ43×49 (Min.) / ϕ43×68.2 (Max.)	Φ38×77
Weight (g)		95	160	170
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.

JC5M2 Lens Series

2/3" | 5 MEGAPIXEL 3.45 µm

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

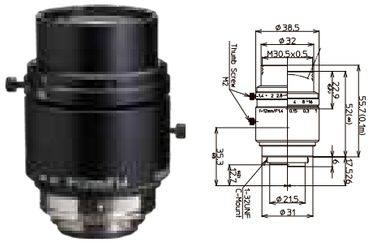


- Compared to our previous models, these lenses feature a more compact, lightweight design, enabling up to 60% greater light intake at a fully open aperture (F-Stop of 1.4)*.
- Kowa's Floating Mechanism design is incorporated into all JC5M2 series models to effectively minimize aberrations from close object distances to infinity.

* In the case of the LM12JC5M2 and LM16JC5M2 models.

LM12JC5M2

LO-DIS FLOAT

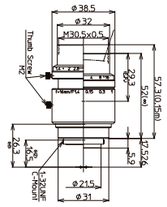


Model		LM12JC5M2
Focal Length (mm)		12.5
Image Size (mm)		8.8×6.6 (Φ11)
Iris Range (F-Stop)		F1.4～F16
Focusing Range (m)		0.1～∞
Control	Iris	Manual
	Focus	Manual
Shooting Range at M.O.D. (mm)		81.4 (H) ×60.9 (V)
Angle of View (Degrees)	2/3"	38.4×29.2
	1/1.8"	31.7×24.0
	1/2"	28.4×21.4
Resolution (Center, Corner)		160lp/mm, 100lp/mm
TV Distortion (%)		−0.06
Back Focus in Air (mm)		11.5
Mount		C-mount
Filter Thread (mm)		M30.5×P0.5
Size (mm)		ϕ38.5×52 (Min.) / ϕ38.5×55.7 (Max.)
Weight (g)		130
Temperature Range		−10°C～+50°C

LM16JC5M2

LO-DIS FLOAT

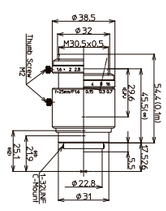




Model		LM16JC5M2
Focal Length (mm)		16
Image Size (mm)		8.8×6.6 (Φ11)
Iris Range (F-Stop)		F1.4～F16
Focusing Range (m)		0.1～∞
Control	Iris	Manual
	Focus	Manual
Shooting Range at M.O.D. (mm)		64.6 (H) ×48.4 (V)
Angle of View (Degrees)	2/3"	29.9×22.7
	1/1.8"	24.7×18.6
	1/2"	22.0×16.6
Resolution (Center, Corner)		160lp/mm, 100lp/mm
TV Distortion (%)		0.03
Back Focus in Air (mm)		11.6
Mount		C-mount
Filter Thread (mm)		M30.5×P0.5
Size (mm)		ϕ38.5×52 (Min.) / ϕ38.5×57.3 (Max.)
Weight (g)		125
Temperature Range		−10°C～+50°C

LM25JC5M2

LO-DIS FLOAT

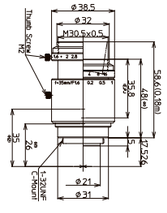


Model		LM25JC5M2
Focal Length (mm)		25
Image Size (mm)		8.8×6.6 (Φ11)
Iris Range (F-Stop)		F1.6～F16
Focusing Range (m)		0.1～∞
Control	Iris	Manual
	Focus	Manual
Shooting Range at M.O.D. (mm)		35.1 (H) ×26.3 (V)
Angle of View (Degrees)	2/3"	19.9×15.0
	1/1.8"	16.4×12.3
	1/2"	14.6×10.9
Resolution (Center, Corner)		160lp/mm, 100lp/mm
TV Distortion (%)		−0.01
Back Focus in Air (mm)		11.2
Mount		C-mount
Filter Thread (mm)		M30.5×P0.5
Size (mm)		ϕ38.5×45.5 (Min.) / ϕ38.5×54.4 (Max.)
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 (F-Stop)		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"	14.3×10.8
	1/1.8"	11.7×8.8
	1/2"	10.4×7.8
Resolution (Center, Corner)		160lp/mm, 125lp/mm
TV Distortion (%)		−0.03
Back Focus in Air (mm)		12.2
Mount		C-mount
Filter Thread (mm)		M30.5×P0.5
Size (mm)		ϕ38.5×48 (Min.) / ϕ38.5×58.6 (Max.)
Weight (g)		120
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.

JC5MC Lens Series

2/3" | ULTRA COMPACT 5 MEGAPIXEL 3.45 µm

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	–	–	–	–	◇	●	●	●	●

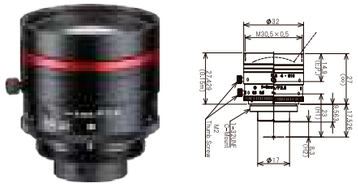
● Compatible ◇ Suitable * Incompatible

- Including the wide-angle 8mm LM8JC5MC model with an ultra-compact total length of just 27.5mm.
- The physical size of these lenses has been reduced by approximately 50% compared to previous models in the JC5M2 series.
- 2/3" format size with 5MP resolution.
- Featuring a highly compact form factor and lightweight design.
- A click-stop iris adjustment mechanism is implemented.
- Shock and vibration resistant design.



LM8JC5MC

LO-DIS RUGGED

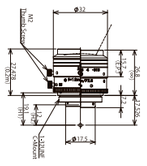


Model		LM8JC5MC
Focal Length (mm)		8
Image Size (mm)		8.8×6.6 (Φ11)
Iris Range (F-Stop)		F2.8～F16
Focusing Range (m)		0.15～∞
Control	Iris	Manual
	Focus	Manual
Shooting Range at M.O.D. (mm)		178.0 (H) ×132.0 (V)
Angle of View (Degrees)	2/3"	57.6×44.4
	1/1.8"	48.1×36.7
	1/2"	43.1×32.8
Resolution (Center, Corner)		160lp/mm, 100lp/mm
TV Distortion (%)		−0.85
Back Focus in Air (mm)		10.8
Mount		C-mount
Filter Thread (mm)		M30.5xP0.5
Size (mm)		ϕ32×27 (Min.) / ϕ32×27.429 (Max.)
Weight (g)		55
Temperature Range		−10°C～+50°C

LM12JC5MC

LO-DIS RUGGED

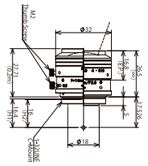




LM16JC5MC

LO-DIS RUGGED

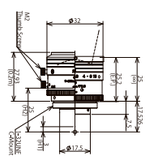




LM25JC5MC

LO-DIS RUGGED



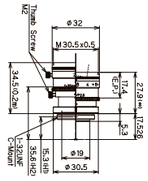


Model		LM12JC5MC	LM16JC5MC	LM25JC5MC
Focal Length (mm)		12	16	25
Image Size (mm)		8.8×6.6 (Φ11)	8.8×6.6 (Φ11)	8.8×6.6 (Φ11)
Iris Range (F-Stop)		F2.8～F16	F2.8～F16	F2.8～F16
Focusing Range (m)		0.2～∞	0.2～∞	0.2～∞
Control	Iris	Manual	Manual	Manual
	Focus	Manual	Manual	Manual
Shooting Range at M.O.D. (mm)		159.0 (H) ×118.0 (V)	117.0 (H) ×88.0 (V)	75.0 (H) ×56.0 (V)
Angle of View (Degrees)	2/3"	41.0×31.2	30.9×23.4	20.0×15.0
	1/1.8"	33.9×25.6	25.5×19.2	16.4×12.4
	1/2"	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
Back Focus in Air (mm)		12.6	14.7	11.7
Mount		C-mount	C-mount	C-mount
Filter Thread (mm)		*1	*1	*1
Size (mm)		ϕ32×26.9 (Min.) / ϕ32×27.478 (Max.)	ϕ32×26.5 (Min.) / ϕ32×27.71 (Max.)	ϕ32×25 (Min.) / ϕ32×27.93 (Max.)
Weight (g)		55	55	55
Temperature Range		−10°C～+50°C	−10°C～+50°C	−10°C～+50°C

LM35JC5MC

LO-DIS RUGGED

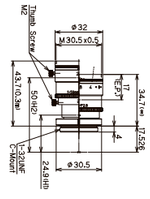




LM50JC5MC

LO-DIS XD RUGGED





Model		LM35JC5MC	LM50JC5MC
Focal Length (mm)		35	50
Image Size (mm)		8.8×6.6 (Φ11)	8.8×6.6 (Φ11)
Iris Range (F-Stop)		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"	14.0×10.6	10.0×7.5
	1/1.8"	11.5×8.7	8.2×6.2
	1/2"	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
Back 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 (Min.) / ϕ32×34.5 (Max.)	ϕ32×34.7 (Min.) / ϕ32×43.7 (Max.)
Weight (g)		50	60
Temperature Range		−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.
*1: A filter (M30.5 x P0.5) can be mounted to the front of the lens using a separately sold filter adapter (p.76).

NC1M Lens Series

1/1.8″ | 2 MEGAPIXEL 1/2″ | 2 MEGAPIXEL

Model	Format Size (Inch)							
	4/3	1.2	1.1	1	1/1.2	2/3	1/1.8	1/2	1/3
LM3NC1M	–	–	–	–	–	–	●	●	●
LM6NC1M	–	–	–	–	–	–	◇	●	●

● Compatible ◇ Suitable * Incompatible

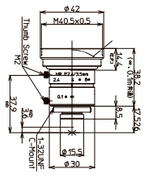
- Featuring ultra-wide angles of view at small focal lengths with minimal distortion.
- Engineered to achieve 2MP resolution.
- A 3.5mm focal length model with an 89.0° horizontal angle of view has been added to the lineup.
- High precision aspherical lenses provide both low distortion and high resolution. (LM3NC1M)
- A compact optical design is employed to maintain high performance and exceptional quality.
- An addition of the corner light amount is realized.
  (Compared with JC Series)



LM3NC1M

LO-DIS

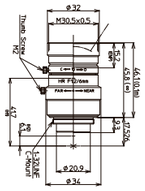




LM6NC1M

LO-DIS





Model		LM3NC1M	LM6NC1M
Focal Length (mm)		3.5	6
Image Size (mm)		7.2×5.4 (Φ9)	6.4×4.8 (Φ8)
Iris Range (F-Stop)		F2.4～F14	F1.2～Close
Focusing Range (m)		0.1～∞	0.1～∞
Control	Iris	Manual	Manual
	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″	89.0×73.8	–
	1/2″	82.4×66.9	56.2×43.5
	1/3″	66.9×52.7	43.5×33.2
Resolution (Center, Corner)		100lp/mm, 80lp/mm	100lp/mm, 80lp/mm
TV Distortion (%)		0.4	−0.2
Back Focus in Air (mm)		9.7	8.2
Mount		C-mount	C-mount
Filter Thread (mm)		M40.5×P0.5	M30.5×P0.5
Size (mm)		Φ42×38.2	Φ34×45.8 (Min.) / Φ34×46.1 (Max.)
Weight (g)		85	100
Temperature Range		−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.

JC1M Lens

2/3″ | 2 MEGAPIXEL

Model	Format Size (Inch)								
	4/3	1.2	1.1	1	1/1.2	2/3	1/1.8	1/2	1/3
LM5JC1M	–	–	–	–	–	●	●	●	●

● Compatible ◇ Suitable * Incompatible

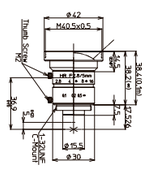
- Delivers an ultra-wide angle and small focal length with minimal distortion, making it ideal for precise data capture in image processing applications.
- Capable of achieving 2MP resolution.
- Meticulously crafted aspheric lenses are engineered to provide both low distortion and high resolution.
- A compact optical design is adopted to ensure superior performance and exceptional quality.



LM5JC1M

LO-DIS XD





Model		LM5JC1M
Focal Length (mm)		5
Image Size (mm)		8.8×6.6 (Φ11)
Iris Range (F-Stop)		F2.8～F16
Focusing Range (m)		0.1～∞
Control	Iris	Manual
	Focus	Manual
Shooting Range at M.O.D. (mm)		200.8 (H) ×150.8 (V)
Angle of View (Degrees)	2/3″	82.4×66.9
	1/1.8″	71.7×57.1
	1/2″	65.2×51.3
Resolution (Center, Corner)		100lp/mm, 80lp/mm
TV Distortion (%)		0.5
Back Focus in Air (mm)		10.0
Mount		C-mount
Filter Thread (mm)		M40.5×P0.5
Size (mm)		ϕ42×38.2 (Min.) / ϕ42×38.4 (Max.)
Weight (g)		84
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.

JC1MS Lens Series

2/3" | 2 MEGAPIXEL

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

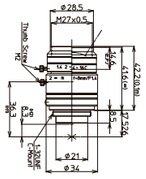
- 2/3" format size (ϕ11mm) with 2MP resolution.
- Engineered for low distortion, making it ideal for accurate data capture in image processing.
- Incorporates an optical design optimized for exceptional brightness and high performance.
- Kowa's Floating Mechanism system is partially integrated into the optical design to support a broad range of applications.



LM8JC1MS

LO-DIS XD

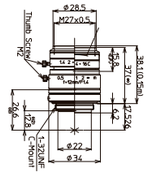




LM12JC1MS

LO-DIS XD



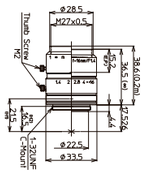


Model		LM8JC1MS	LM12JC1MS
Focal Length (mm)		8	12
Image Size (mm)		8.8×6.6 (Φ11)	8.8×6.6 (Φ11)
Iris Range (F-Stop)		F1.4～Close	F1.4～Close
Focusing Range (m)		0.1～∞	0.15～∞
Control	Iris	Manual	Manual
	Focus	Manual	Manual
Shooting Range at M.O.D. (mm)		120.3 (H) ×90.0 (V)	110.0 (H) ×82.5 (V)
Angle of View (Degrees)	2/3"	56.5×43.9	38.3×29.1
	1/1.8"	47.4×36.3	31.7×24.0
	1/2"	42.6×32.5	28.3×21.4
Resolution (Center, Corner)		100lp/mm, 80lp/mm	100lp/mm, 80lp/mm
TV Distortion (%)		−0.6	−0.07
Back 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 (Min.) / ϕ34×42.2 (Max.)	ϕ34×37 (Min.) / ϕ34×38.1 (Max.)
Weight (g)		90	85
Temperature Range		−10°C～+50°C	−10°C～+50°C

LM16JC1MS

LO-DIS FLOAT

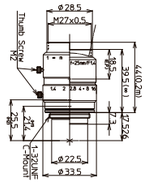




LM25JC1MS

LO-DIS FLOAT

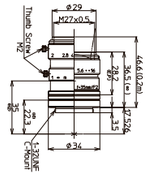




LM35JC1MS

LO-DIS FLOAT



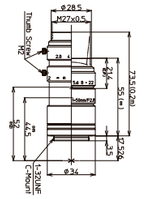


Model		LM16JC1MS	LM25JC1MS	LM35JC1MS
Focal Length (mm)		16	25	35
Image Size (mm)		8.8×6.6 (Φ11)	8.8×6.6 (Φ11)	8.8×6.6 (Φ11)
Iris Range (F-Stop)		F1.4～F16	F1.4～F16	F2.0～F16
Focusing Range (m)		0.2～∞	0.2～∞	0.2～∞
Control	Iris	Manual	Manual	Manual
	Focus	Manual	Manual	Manual
Shooting Range at M.O.D. (mm)		112.8 (H) ×84.4 (V)	71.1 (H) ×53.3 (V)	47.9 (H) ×35.8 (V)
Angle of View (Degrees)	2/3"	30.0×22.7	19.6×14.8	14.4×10.8
	1/1.8"	24.7×18.6	16.1×12.1	11.8×8.8
	1/2"	21.8×16.4	14.0×10.5	10.5×7.9
Resolution (Center, Corner)		100lp/mm, 80lp/mm	100lp/mm, 80lp/mm	100lp/mm, 80lp/mm
TV Distortion (%)		−0.05	−0.04	−0.2
Back 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 (Min.) / Φ33.5×38.6 (Max.)	ϕ33.5×39.5 (Min.) / ϕ33.5×44 (Max.)	ϕ34×36.5 (Min.) / ϕ34×46.6 (Max.)
Weight (g)		85	90	70
Temperature Range		−10°C～+50°C	−10°C～+50°C	−10°C～+50°C

LM50JC1MS

LO-DIS FLOAT

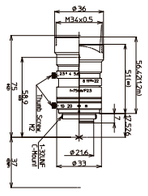




LM75JC1MS

LO-DIS

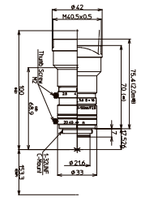




LM100JC1MS

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 (F-Stop)		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"	9.6×7.2	6.7×5.0	5.0×3.8
	1/1.8"	7.9×5.9	5.5×4.1	4.1×3.1
	1/2"	7.0×5.2	4.9×3.7	3.7×2.8
Resolution (Center, Corner)		100lp/mm, 80lp/mm	100lp/mm, 80lp/mm	100lp/mm, 80lp/mm
TV Distortion (%)		−0.03	−0.1	−0.05
Back 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 (Min.) / ϕ34×73.5 (Max.)	ϕ36×51 (Min.) / ϕ36×56.42 (Max.)	ϕ42×70 (Min.) / ϕ42×75.4 (Max.)
Weight (g)		95	105	145
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.

JC Lens Series

2/3″ | VGA+

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	–	–	◇	◇	◇	●	●	●	●

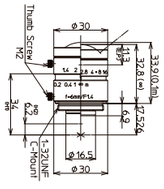
● Compatible ◇ Suitable * Incompatible



- Provides excellent cost-performance value.
- Compatible with format sizes up to 2/3″.
- Delivers bright images with a low F-Stop for enhanced clarity.

LM6JC

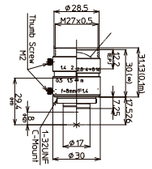




Model		LM6JC
Focal Length (mm)		6
Image Size (mm)		8.8×6.6 (Φ11)
Iris Range (F-Stop)		F1.4～F16
Focusing Range (m)		0.1～∞
Control	Iris	Manual
	Focus	Manual
Shooting Range at M.O.D. (mm)		190.6 (H) ×130.3 (V)
Angle of View (Degrees)	2/3″	81.9×61.2
	1/1.8″	66.9×50.1
	1/2″	59.4×44.5
Resolution (Center, Corner)		100lp/mm, 40lp/mm
TV Distortion (%)		−10.7
Back Focus in Air (mm)		11.3
Mount		C-mount
Filter Thread (mm)		–
Size (mm)		ϕ30×32.8 (Min.) / ϕ30×33.9 (Max.)
Weight (g)		65
Temperature Range		−10°C～+50°C

LM8JC

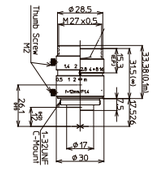




LM12JC

LO-DIS

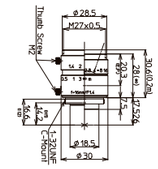




LM16JC

LO-DIS



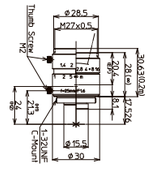


Model		LM8JC	LM12JC	LM16JC
Focal Length (mm)		8	12	16
Image Size (mm)		8.8×6.6 (Φ11)	8.8×6.6 (Φ11)	8.8×6.6 (Φ11)
Iris Range (F-Stop)		F1.4～F16	F1.4～F16	F1.4～F16
Focusing Range (m)		0.1～∞	0.1～∞	0.2～∞
Control	Iris	Manual	Manual	Manual
	Focus	Manual	Manual	Manual
Shooting Range at M.O.D. (mm)		136.0 (H) ×96.1 (V)	81.1 (H) ×59.4 (V)	111.8 (H) ×82.6 (V)
Angle of View (Degrees)	2/3″	64.2×47.7	42.5×31.7	30.5×22.8
	1/1.8″	52.4×39.1	34.6×25.9	23.8×18.7
	1/2″	46.2×34.6	30.7×23.0	22.2×16.6
Resolution (Center, Corner)		100lp/mm, 40lp/mm	100lp/mm, 40lp/mm	100lp/mm, 40lp/mm
TV Distortion (%)		−6.2	−2.5	−1.5
Back 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 (Min.) / ϕ30×31.13 (Max.)	ϕ30×31.5 (Min.) / ϕ30×33.38 (Max.)	ϕ30×28 (Min.) / ϕ30×30.6 (Max.)
Weight (g)		60	60	55
Temperature Range		−10°C～+50°C	−10°C～+50°C	−10°C～+50°C

LM25JC

LO-DIS

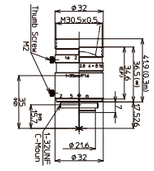




LM35JC

LO-DIS

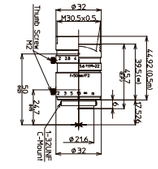




LM50JC

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 (F-Stop)		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″	21.0×15.7	14.4×10.8	10.1×7.6
	1/1.8″	17.2×12.9	11.8×8.8	8.2×6.2
	1/2″	15.3×11.4	10.5×7.9	7.3×5.5
Resolution (Center, Corner)		100lp/mm, 40lp/mm	100lp/mm, 40lp/mm	100lp/mm, 40lp/mm
TV Distortion (%)		−0.6	−0.2	−0.1
Back 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 (Min.) / ϕ30×30.63 (Max.)	ϕ32×36.5 (Min.) / ϕ32×41.9 (Max.)	ϕ32×39.5 (Min.) / ϕ32×44.92 (Max.)
Weight (g)		55	85	90
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.

NCL Lens Series

1/1.8″ | VGA+

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	–	–	–	–	–	◇	●	●	●

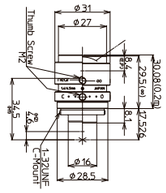
● Compatible ◇ Suitable * Incompatible



- Compatible with format sizes up to 1/1.8″.
- Compact and lightweight design.
- Offering wide angles of view, starting at a focal length of 3.5mm.
- Ideal for applications that require a wide field of view with smaller camera sensors.

LM5NCL



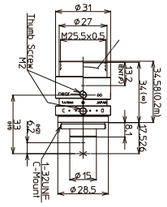


Model		LM5NCL
Focal Length (mm)		4.5
Image Size (mm)		7.2×5.4 (Φ9)
Iris Range (F-Stop)		F1.4～F16
Focusing Range (m)		0.2～∞
Control	Iris	Manual
	Focus	Manual
Shooting Range at M.O.D. (mm)		405.3 (H) ×273.8 (V)
Angle of View (Degrees)	1/1.8″	88.8×66.9
	1/2″	79.0×59.4
	1/3″	59.4×45.1
Resolution (Center, Corner)		100lp/mm, 40lp/mm
TV Distortion (%)		−17.5
Back Focus in Air (mm)		10.0
Mount		C-mount
Filter Thread (mm)		–
Size (mm)		φ31×29.5 (Min.) / φ31×30.08 (Max.)
Weight (g)		55
Temperature Range		−10°C～+50°C

LM6NCL

LO-DIS

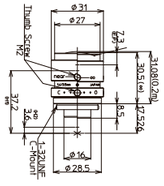




Model		LM6NCL
Focal Length (mm)		6
Image Size (mm)		7.2×5.4 (Φ9)
Iris Range (F-Stop)		F1.4～F16
Focusing Range (m)		0.2～∞
Control	Iris	Manual
	Focus	Manual
Shooting Range at M.O.D. (mm)		255.8 (H) ×188.7 (V)
Angle of View (Degrees)	1/1.8″	62.7×48.4
	1/2″	57.3×44.0
	1/3″	44.0×33.7
Resolution (Center, Corner)		100lp/mm, 40lp/mm
TV Distortion (%)		−1.0
Back Focus in Air (mm)		9.5
Mount		C-mount
Filter Thread (mm)		M25.5×P0.5
Size (mm)		φ31×34 (Min.) / φ31×34.58 (Max.)
Weight (g)		60
Temperature Range		−10°C～+50°C

LM4NCL



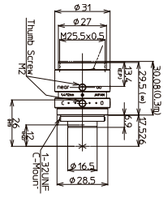


Model		LM4NCL
Focal Length (mm)		3.5
Image Size (mm)		7.2×5.4 (Φ9)
Iris Range (F-Stop)		F1.4～F16
Focusing Range (m)		0.2～∞
Control	Iris	Manual
	Focus	Manual
Shooting Range at M.O.D. (mm)		679.9 (H) ×389.3 (V)
Angle of View (Degrees)	1/1.8″	117.7×86.7
	1/2″	103.6×76.7
	1/3″	76.7×57.7
Resolution (Center, Corner)		100lp/mm, 40lp/mm
TV Distortion (%)		−28.0
Back Focus in Air (mm)		8.9
Mount		C-mount
Filter Thread (mm)		–
Size (mm)		φ31×30.5 (Min.) / φ31×31.08 (Max.)
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 (F-Stop)		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″	34.6×25.9
	1/2″	30.7×23.0
	1/3″	23.0×17.2
Resolution (Center, Corner)		100lp/mm, 40lp/mm
TV Distortion (%)		−0.8
Back Focus in Air (mm)		11.1
Mount		C-mount
Filter Thread (mm)		M25.5×P0.5
Size (mm)		φ31×29.5 (Min.) / φ31×30.08 (Max.)
Weight (g)		55
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.

Radiation Resistant Lens Series

1.1" | WATER AND DUST RADIATION RESISTANCE 24 MEGAPIXEL 2.5 µm
2/3" | RADIATION RESISTANCE 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
LM15FC-R	–	◇	●	●	●	●	●	●	●
LMZ1166M3-R	–	–	–	–	–	●	●	●	●

● Compatible ◇ Suitable * Incompatible





- Fixed focal length lens.
- Radiation resistant glass is utilized to prevent colorization (anti-browning) in radiation prone environments.
- Ideal for long-term use in radiation related facilities and/or in outer space.
- Mechanical design engineered for superior water resistant and dust resistant protection.
- A two-way reversible nut is employed for precise focus adjustment.



- Zoom lens.
- Radiation resistant glass is utilized to prevent colorization (anti-browning) in radiation prone environments.
- Ideal for long-term use in radiation related facilities and/or in outer space.





Standard lens showing browning after being subjected to gamma rays.

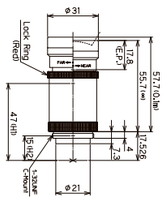
As shown in the figure on the left, lenses irradiated by radiation experience significant colorization, blocking nearly all visible-range light. The LM15FC-R, utilizing radiation resistant glass, minimizes this colorization, enabling long-term use in radiation exposed environments.

LM15FC-R

Build to order products

LO-DIS WATER DUST



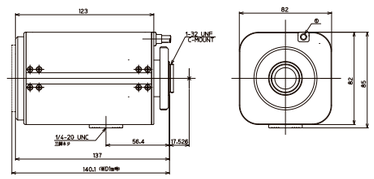


Model		LM15FC-R
Focal Length (mm)		15
Image Size (mm)		14.1×10.6 (Φ17.6)
Iris Range (F-Stop)		F2.8/F4/F6/F10
Focusing Range (m)		0.1∼∞
Control	Iris	–
	Focus	Manual
Shooting Range at M.O.D. (mm)		108 (H) ×80 (V)
Angle of View (Degrees)	1.1"	52.3×39.8
	1"	47.7×36.1
	2/3"	33.1×25.0
Resolution (Center, Corner)		200lp/mm, 125lp/mm
TV Distortion (%)		−2.12
Back Focus in Air (mm)		16.3
Mount		C-mount
Size (mm)		ϕ31×55.7 (Min.) / ϕ31×57.7 (Max.)
Weight (g)		70
Temperature Range		−10°C∼+50°C

LMZ1166M3-R

Build to order products





Model		LMZ1166M3-R
Focal Length (mm)		11 - 66
Image Size (mm)		Φ12.2
Iris Range (F-Stop)		F2.8∼F16
Focusing Range (m)		1.0∼∞
Control	Iris	Motorized
	Focus	Motorized
	Zoom	Motorized
Angle of View (Degrees)	2/3"	WIDE 45.9×34.8 / TELE 7.7×5.8
	1/2"	WIDE 33.8×25.5 / TELE 5.7×4.3
TV Distortion (%)		-
Back Focus in Air (mm)		15.5
Mount		C-mount
Size (mm)		82×85×137
Weight (g)		1,150
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.
* Radiation resistant lenses are subject to export regulations. Please contact your local sales office for more details.

HC-V Lens Series

1″ | RUGGEDIZED 1 MEGAPIXEL+

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

● Compatible ◇ Suitable * Incompatible

Based on the HC series optical design, these high-resolution lenses are perfect for large formats and deliver superior vibration and shock resistance.

- 1″ format size (ϕ16mm) with 4MP resolution.
- Patented mechanical design, engineered for superior vibration and impact resistance.
- Fixed, interchangeable iris plates are adopted for added flexibility.
- A two-way reversible nut is used for precise focus adjustment.
- Applying adhesive to the lens barrel and elements significantly enhances vibration and shock resistance.



1. Fixed Iris Design with Interchangeable Aperture Plates

Instead of standard iris blades, interchangeable aperture plates are used to set the F-Stop. With F1.4 preinstalled in the lens, the F-Stop can be changed to F2.8, F4, or F8 using three additional aperture plates included.

* LM6HC-V has an F1.8 aperture



2. Focus Adjustment

A two-way reversible nut is used for focus adjustment. The nut on the mount side of the barrel is loosened to adjust the focus, and the focus is secured by tightening the red nut.



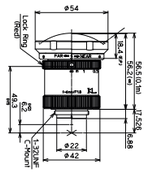
3. Adhesive-mounted Glass

Glass elements are securely bonded to the lens barrel with adhesive, enhancing reliability, stability, and shock and vibration resistance.

LM6HC-V

LO-DIS RUGGED



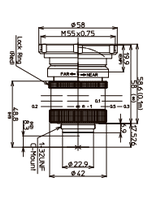


Model		LM6HC-V
Focal Length (mm)		6
Image Size (mm)		12.8×9.6 (Φ16)
Iris Range (F-Stop)		F1.8 / F2.8 / F4 / F8
Focusing Range (m)		0.1~∞
Control	Iris	–
	Focus	Manual
Shooting Range at M.O.D. (mm)		267.4 (H) ×196.3 (V)
Angle of View (Degrees)	1″	96.8×79.4
	2/3″	74.1×58.0
	1/1.8″	62.6×48.2
Resolution (Center, Corner)		100lp/mm, 80lp/mm
TV Distortion (%)		−0.2
Back Focus in Air (mm)		11.1
Mount		C-mount
Filter Thread (mm)		–
Size (mm)		Φ54×56.2 (Min.) / Φ54×56.5 (Max.)
Weight (g)		180
Temperature Range		−10°C~+50°C

LM8HC-V

LO-DIS RUGGED

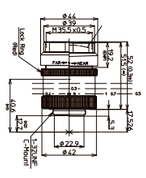




LM12HC-V

LO-DIS RUGGED

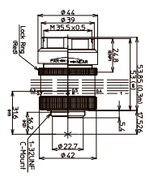




LM16HC-V

LO-DIS RUGGED



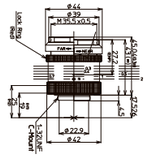


Model		LM8HC-V	LM12HC-V	LM16HC-V
Focal Length (mm)		8	12.5	16
Image Size (mm)		12.8×9.6 (Φ16)	12.8×9.6 (Φ16)	12.8×9.6 (Φ16)
Iris Range (F-Stop)		F1.4 / F2.8 / F4 / F8	F1.4 / F2.8 / F4 / F8	F1.4 / F2.8 / F4 / F8
Focusing Range (m)		0.1~∞	0.3~∞	0.3~∞
Control	Iris	–	–	–
	Focus	Manual	Manual	Manual
Shooting 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″	79.7×63.0	55.6×42.5	44.3×33.6
	2/3″	58.3×44.7	39.1×29.5	30.8×23.2
	1/1.8″	48.5×36.9	32.1×24.2	25.3×19.0
Resolution (Center, Corner)		100lp/mm, 80lp/mm	100lp/mm, 80lp/mm	100lp/mm, 80lp/mm
TV Distortion (%)		−1.2	−1.58	−1.0
Back 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 (Min.) / ϕ58×58.6 (Max.)	ϕ44×51.5 (Min.) / ϕ44×52 (Max.)	ϕ44×53 (Min.) / ϕ44×53.85 (Max.)
Weight (g)		183	130	120
Temperature Range		−10°C~+50°C	−10°C~+50°C	−10°C~+50°C

LM25HC-V

LO-DIS RUGGED

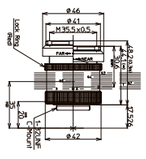




LM35HC-V

LO-DIS RUGGED

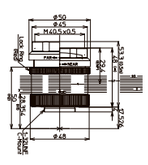




LM50HC-V

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 (F-Stop)		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″	29.3×22.0	20.9×15.8	14.5×10.8
	2/3″	20.2×15.1	14.4×10.8	10.0×7.5
	1/1.8″	16.5×12.4	11.8×8.8	8.2×6.2
Resolution (Center, Corner)		100lp/mm, 80lp/mm	100lp/mm, 80lp/mm	100lp/mm, 80lp/mm
TV Distortion (%)		−1.0	−0.5	0.05
Back 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 (Min.) / ϕ44×45.04 (Max.)	ϕ46×44.1 (Min.) / ϕ46×48.2 (Max.)	ϕ50×48 (Min.) / ϕ50×53.3 (Max.)
Weight (g)		104	133	170
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.

JC5MC-WP Lens Series

2/3" | RUGGEDIZED WATER AND DUST RESISTANCE ULTRA COMPACT
5 MEGAPIXEL 3.45μm

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

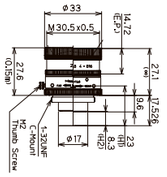
- This ruggedized, harsh environment resistant series is based on the optical design of the JC5MC series. Ultra compact and lightweight design.
- In addition to vibration and impact resistance, water resistant and dust resistant protection have been integrated.
- Compatible with 2/3" format size and 5MP high-resolution sensors.
- When combined with Kowa's waterproof ring-type light, it forms one of the smallest vision units in the industry.



LM8JC5MC-WP

LO-DIS RUGGED WATER DUST



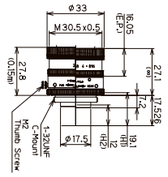


Model		LM8JC5MC-WP
Focal Length (mm)		8
Image Size (mm)		8.8×6.6 (Φ11)
Iris Range (F-Stop)		F2.8～F16
Focusing Range (m)		0.15～∞
Control	Iris	Manual
	Focus	Manual
Shooting Range at M.O.D. (mm)		178.0 (H) ×132.1 (V)
Angle of View (Degrees)	2/3"	57.6×44.4
	1/1.8"	48.1×36.7
	1/2"	43.1×32.8
Resolution (Center, Corner)		160lp/mm, 100lp/mm
TV Distortion (%)		−0.85
Back Focus in Air (mm)		10.8
Mount		C-mount
Filter Thread (mm)		M30.5×P0.5
Size (mm)		ϕ33×27.1 (Min.) / ϕ33×27.6 (Max.)
Weight (g)		52
Temperature Range		−10°C～+50°C

LM12JC5MC-WP

LO-DIS RUGGED WATER DUST



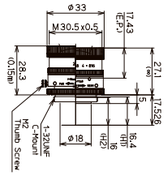


Model		LM12JC5MC-WP
Focal Length (mm)		12
Image Size (mm)		8.8×6.6 (Φ11)
Iris Range (F-Stop)		F2.8～F16
Focusing Range (m)		0.2～∞
Control	Iris	Manual
	Focus	Manual
Shooting Range at M.O.D. (mm)		159.0 (H) ×118.1 (V)
Angle of View (Degrees)	2/3"	41.0×31.2
	1/1.8"	33.9×25.6
	1/2"	30.3×22.8
Resolution (Center, Corner)		160lp/mm, 100lp/mm
TV Distortion (%)		-0.43
Back Focus in Air (mm)		12.6
Mount		C-mount
Filter Thread (mm)		M30.5×P0.5
Size (mm)		ϕ33×27.1 (Min.) / ϕ33×27.8 (Max.)
Weight (g)		52
Temperature Range		−10°C～+50°C

LM16JC5MC-WP

LO-DIS RUGGED WATER DUST



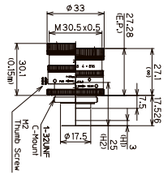


Model		LM16JC5MC-WP
Focal Length (mm)		16
Image Size (mm)		8.8×6.6 (Φ11)
Iris Range (F-Stop)		F2.8～F16
Focusing Range (m)		0.2～∞
Control	Iris	Manual
	Focus	Manual
Shooting Range at M.O.D. (mm)		117.0 (H) ×88.1 (V)
Angle of View (Degrees)	2/3"	30.9×23.4
	1/1.8"	25.5×19.2
	1/2"	22.7×17.2
Resolution (Center, Corner)		160lp/mm, 100lp/mm
TV Distortion (%)		-0.09
Back Focus in Air (mm)		14.7
Mount		C-mount
Filter Thread (mm)		M30.5×P0.5
Size (mm)		ϕ33×27.1 (Min.) / ϕ33×28.3 (Max.)
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 (F-Stop)		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"	20.0×15.0
	1/1.8"	16.4×12.4
	1/2"	14.6×11.0
Resolution (Center, Corner)		160lp/mm, 100lp/mm
TV Distortion (%)		0.06
Back Focus in Air (mm)		11.7
Mount		C-mount
Filter Thread (mm)		M30.5×P0.5
Size (mm)		ϕ33×27.1 (Min.) / ϕ33×30.1 (Max.)
Weight (g)		51
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.

JCM-V Lens Series

2/3″ | RUGGEDIZED 2 MEGAPIXEL

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

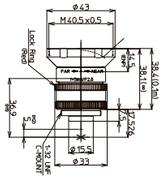
- 2/3″ format size (ϕ11mm) with 2MP resolution.
- Patented mechanical design, engineered for superior vibration and impact resistance.
- Fixed, interchangeable aperture plates are adopted for added flexibility.
- A two-way reversible nut is used for precise focus adjustment.
- Applying adhesive to the lens barrel and elements significantly enhances vibration and shock resistance.



LM5JCM-V

LO-DIS XD RUGGED



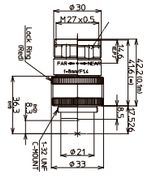


Model		LM5JCM-V
Focal Length (mm)		5
Image Size (mm)		8.8×6.6 (Φ11)
Iris Range (F-Stop)		F2.8 / F4 / F5.6 / F8
Focusing Range (m)		0.1～∞
Control	Iris	–
	Focus	Manual
Shooting Range at M.O.D. (mm)		200.8 (H) ×150.8 (V)
Angle of View (Degrees)	2/3″	82.4×66.9
	1/1.8″	71.7×57.1
	1/2″	65.2×51.3
Resolution (Center, Corner)		100lp/mm, 80lp/mm
TV Distortion (%)		0.5
Back Focus in Air (mm)		10.0
Mount		C-mount
Filter Thread (mm)		M40.5×P0.5
Size (mm)		ϕ43×38.1 (Min.) / ϕ43×38.1 (Max.)
Weight (g)		73
Temperature Range		−10°C～+50°C

LM8JCM-V

LO-DIS XD RUGGED

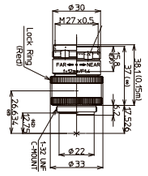




LM12JCM-V

LO-DIS XD RUGGED

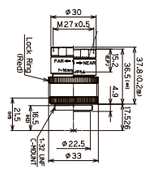




LM16JCM-V

LO-DIS RUGGED



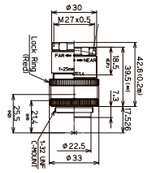


Model		LM8JCM-V	LM12JCM-V	LM16JCM-V
Focal Length (mm)		8	12	16
Image Size (mm)		8.8×6.6 (Φ11)	8.8×6.6 (Φ11)	8.8×6.6 (Φ11)
Iris Range (F-Stop)		F1.4 / F4 / F8 / F16	F1.4 / F4 / F8 / F16	F1.4 / F4 / F8 / F16
Focusing Range (m)		0.1～∞	0.15～∞	0.2～∞
Control	Iris	–	–	–
	Focus	Manual	Manual	Manual
Shooting 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″	56.5×43.9	38.3×29.1	30.0×22.7
	1/1.8″	47.4×36.3	31.7×24.0	24.7×18.6
	1/2″	42.6×32.5	28.3×21.4	21.8×16.4
Resolution (Center, Corner)		100lp/mm, 80lp/mm	100lp/mm, 80lp/mm	100lp/mm, 80lp/mm
TV Distortion (%)		−0.6	−0.07	−0.05
Back 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 (Min.) / ϕ33×42.2 (Max.)	ϕ33×37 (Min.) / ϕ33×38.1 (Max.)	ϕ33×36.5 (Min.) / ϕ33×37.8 (Max.)
Weight (g)		88	75	76.5
Temperature Range		−10°C～+50°C	−10°C～+50°C	−10°C～+50°C

LM25JCM-V

LO-DIS RUGGED

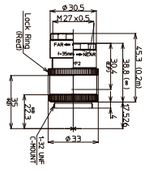




LM35JCM-V

LO-DIS RUGGED

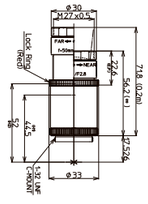




LM50JCM-V

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 (F-Stop)		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″	19.6×14.8	14.4×10.8	9.6×7.2
	1/1.8″	16.1×12.1	11.8×8.8	7.9×5.9
	1/2″	14.0×10.5	10.5×7.9	7.0×5.2
Resolution (Center, Corner)		100lp/mm, 80lp/mm	100lp/mm, 80lp/mm	100lp/mm, 80lp/mm
TV Distortion (%)		−0.04	−0.2	−0.03
Back 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 (Min.) / ϕ33×42.6 (Max.)	ϕ33×38.8 (Min.) / ϕ33×45.3 (Max.)	ϕ33×56.2 (Min.) / ϕ33×71.8 (Max.)
Weight (g)		83	72.5	85
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.

NCM-WP/JCM-WP Lens Series

1/1.8" | RUGGEDIZED WATER AND DUST RESISTANCE 2 MEGAPIXEL
2/3" | RUGGEDIZED WATER AND DUST RESISTANCE 2 MEGAPIXEL

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	–	–	–	–	–	–	●	●	●
LM5JCM-WP	–	–	–	–	–	●	●	●	●
LM8JCM-WP	–	–	–	–	–	●	●	●	●
LM12JCM-WP	–	–	–	–	–	●	●	●	●
LM16JCM-WP	–	–	–	–	–	●	●	●	●
LM25JCM-WP	–	–	–	–	–	●	●	●	●
LM35JCM-WP	–	–	–	◇	◇	●	●	●	●
LM50JCM-WP	–	◇	◇	◇	◇	●	●	●	●

● Compatible ◇ Suitable * Incompatible

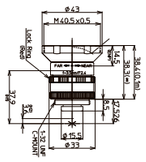
- Patented mechanical design, engineered for superior vibration and impact resistance.
- Offers exceptional water resistant and dust resistant protection.
- Special coatings enhance water repellency and cleaning efficiency of the front lens surface.
- Fixed, interchangeable aperture plates are adopted for added flexibility.
- A two-way reversible nut is used for precise focus adjustment.
- Applying adhesive to the lens barrel and elements significantly enhances vibration and shock resistance.



LM3NCM-WP

LO-DIS RUGGED WATER DUST



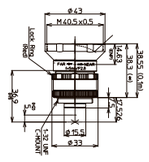


Model		LM3NCM-WP
Focal Length (mm)		3.5
Image Size (mm)		7.2×5.4 (Φ9)
Iris Range (F-Stop)		F2.4 / F4 / F5.6 / F8
Focusing Range (m)		0.1～∞
Control	Iris	–
	Focus	Manual
Shooting Range at M.O.D. (mm)		226.3 (H) ×171.4 (V)
Angle of View (Degrees)	2/3"	–
	1/1.8"	89.0×73.8
	1/2"	82.4×66.9
Resolution (Center, Corner)		100lp/mm, 80lp/mm
TV Distortion (%)		0.4
Back Focus in Air (mm)		10.0
Mount		C-mount
Filter Thread (mm)		M40.5×P0.5
Size (mm)		ϕ43×38.3 (Min.) / ϕ43×38.4 (Max.)
Weight (g)		80
Temperature Range		−10°C～+50°C

LM5JCM-WP

LO-DIS XD RUGGED WATER DUST



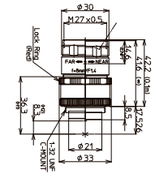


Model		LM5JCM-WP
Focal Length (mm)		5
Image Size (mm)		8.8×6.6 (Φ11)
Iris Range (F-Stop)		F2.8 / F4 / F5.6 / F8
Focusing Range (m)		0.1～∞
Control	Iris	–
	Focus	Manual
Shooting Range at M.O.D. (mm)		200.8 (H) ×150.8 (V)
Angle of View (Degrees)	2/3"	82.4×66.9
	1/1.8"	71.7×57.1
	1/2"	65.2×51.3
Resolution (Center, Corner)		100lp/mm, 80lp/mm
TV Distortion (%)		0.5
Back Focus in Air (mm)		10.2
Mount		C-mount
Filter Thread (mm)		M40.5×P0.5
Size (mm)		ϕ43×38.3 (Min.) / ϕ43×38.55 (Max.)
Weight (g)		75
Temperature Range		−10°C～+50°C

LM8JCM-WP

LO-DIS XD RUGGED WATER DUST



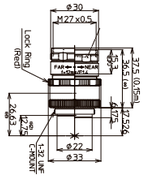


Model		LM8JCM-WP
Focal Length (mm)		8
Image Size (mm)		8.8×6.6 (Φ11)
Iris Range (F-Stop)		F1.4 / F4 / F8 / F16
Focusing Range (m)		0.1～∞
Control	Iris	–
	Focus	Manual
Shooting Range at M.O.D. (mm)		120.3 (H) ×90.0 (V)
Angle of View (Degrees)	2/3"	56.5×43.9
	1/1.8"	47.4×36.3
	1/2"	42.6×32.5
Resolution (Center, Corner)		100lp/mm, 80lp/mm
TV Distortion (%)		−0.6
Back Focus in Air (mm)		9.74
Mount		C-mount
Filter Thread (mm)		M27×P0.5
Size (mm)		ϕ33×41.6 (Min.) / ϕ33×42.2 (Max.)
Weight (g)		85
Temperature Range		−10°C～+50°C

LM12JCM-WP

LO-DIS XD RUGGED WATER DUST



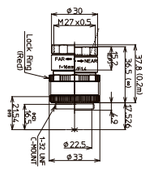


Model		LM12JCM-WP
Focal Length (mm)		12
Image Size (mm)		8.8×6.6 (Φ11)
Iris Range (F-Stop)		F1.4 / F4 / F8 / F16
Focusing Range (m)		0.15～∞
Control	Iris	–
	Focus	Manual
Shooting Range at M.O.D. (mm)		110.0 (H) ×82.5 (V)
Angle of View (Degrees)	2/3"	38.3×29.1
	1/1.8"	31.7×24.0
	1/2"	28.3×21.4
Resolution (Center, Corner)		100lp/mm, 80lp/mm
TV Distortion (%)		−0.07
Back Focus in Air (mm)		11.7
Mount		C-mount
Filter Thread (mm)		M27×P0.5
Size (mm)		ϕ33×36.5 (Min.) / ϕ33×37.5 (Max.)
Weight (g)		75
Temperature Range		−10°C～+50°C

LM16JCM-WP

LO-DIS RUGGED WATER DUST



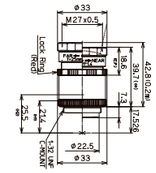


Model		LM16JCM-WP
Focal Length (mm)		16
Image Size (mm)		8.8×6.6 (Φ11)
Iris Range (F-Stop)		F1.4 / F4 / F8 / F16
Focusing Range (m)		0.2～∞
Control	Iris	–
	Focus	Manual
Shooting Range at M.O.D. (mm)		112.8 (H) ×84.4 (V)
Angle of View (Degrees)	2/3"	30.0×22.7
	1/1.8"	24.7×18.6
	1/2"	21.8×16.4
Resolution (Center, Corner)		100lp/mm, 80lp/mm
TV Distortion (%)		−0.05
Back Focus in Air (mm)		13.1
Mount		C-mount
Filter Thread (mm)		M27×P0.5
Size (mm)		ϕ33×36.5 (Min.) / ϕ33×37.8 (Max.)
Weight (g)		75
Temperature Range		−10°C～+50°C

LM25JCM-WP

LO-DIS RUGGED WATER DUST



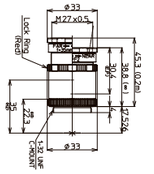


Model		LM25JCM-WP
Focal Length (mm)		25
Image Size (mm)		8.8×6.6 (Φ11)
Iris Range (F-Stop)		F1.4 / F4 / F8 / F16
Focusing Range (m)		0.2～∞
Control	Iris	–
	Focus	Manual
Shooting Range at M.O.D. (mm)		71.1 (H) ×53.3 (V)
Angle of View (Degrees)	2/3"	19.6×14.8
	1/1.8"	16.1×12.1
	1/2"	14.0×10.5
Resolution (Center, Corner)		100lp/mm, 80lp/mm
TV Distortion (%)		−0.04
Back Focus in Air (mm)		11.7
Mount		C-mount
Filter Thread (mm)		M27×P0.5
Size (mm)		ϕ33×39.7 (Min.) / ϕ33×42.8 (Max.)
Weight (g)		83
Temperature Range		−10°C～+50°C

LM35JCM-WP

LO-DIS RUGGED WATER DUST



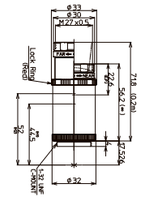


Model		LM35JCM-WP
Focal Length (mm)		35
Image Size (mm)		8.8×6.6 (Φ11)
Iris Range (F-Stop)		F2 / F4 / F8 / F16
Focusing Range (m)		0.2～∞
Control	Iris	–
	Focus	Manual
Shooting Range at M.O.D. (mm)		47.9 (H) ×35.8 (V)
Angle of View (Degrees)	2/3"	14.4×10.8
	1/1.8"	11.8×8.8
	1/2"	10.5×7.9
Resolution (Center, Corner)		100lp/mm, 80lp/mm
TV Distortion (%)		−0.2
Back Focus in Air (mm)		19.9
Mount		C-mount
Filter Thread (mm)		M27×P0.5
Size (mm)		ϕ33×38.8 (Min.) / ϕ33×45.3 (Max.)
Weight (g)		65
Temperature Range		−10°C～+50°C

LM50JCM-WP

LO-DIS RUGGED WATER DUST





Model		LM50JCM-WP
Focal Length (mm)		50
Image Size (mm)		8.8×6.6 (Φ11)
Iris Range (F-Stop)		F2.8 / F4 / F8 / F16
Focusing Range (m)		0.2～∞
Control	Iris	–
	Focus	Manual
Shooting Range at M.O.D. (mm)		29.3 (H) ×21.9 (V)
Angle of View (Degrees)	2/3"	9.6×7.2
	1/1.8"	7.9×5.9
	1/2"	7.0×5.2
Resolution (Center, Corner)		100lp/mm, 80lp/mm
TV Distortion (%)		−0.03
Back Focus in Air (mm)		35.4
Mount		C-mount
Filter Thread (mm)		M27×P0.5
Size (mm)		ϕ33×56.2 (Min.) / ϕ33×71.8 (Max.)
Weight (g)		85
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.

EC-IR Lens Series

1.2″ | IR-CORRECTED (VIS-NIR) 28 MEGAPIXEL 2.5 µm

Model	Format Size (Inch)							
	4/3	1.2	1.1	1	1/1.2	2/3	1/1.8	1/2	1/3
LM16EC-IR	–	●	●	●	●	●	●	●	●
LM25EC-IR	–	●	●	●	●	●	●	●	●
LM35EC-IR	–	●	●	●	●	●	●	●	●
LM50EC-IR	–	●	●	●	●	●	●	●	●

● Compatible ◇ Suitable * Incompatible

- Compatible with format sizes up to 1.2″.
- Capable of resolving pixel sizes as small as 2.5µm.
- Supports a wide range of high-resolution sensors, including the IMX530 / IMX540 (1.2″ 24MP) and IMX183 (1″ 20MP).
- IR-corrected design eliminates focus shift when transitioning between visible and near-infrared (NIR) wavelengths.
- Features fixed, interchangeable aperture plates.
- A two-way reversible nut is used for precise focus adjustment.
- The series includes four models with focal lengths of 16mm, 25mm, 35mm, and 50mm.



*In the case of LM35EC-IR

Fixed Iris

Instead of standard iris blades, interchangeable aperture plates are used to set the F-Stop. With F2.4 preinstalled in the lens, the F-Stop can be adjusted to F2.8, F4, F5.6, or F8 using four additional aperture plates included.



Estimated Working Distance	
Near type	0.5～1m
Far type	1m～INF

* When using the LM16EC-IR with a working distance of 0.5m to 1m, remove the “Far” specific spacer and use it as the “Near” type.

IR-Corrected Design Eliminates Focus Shift

Standard Lens Designed for Visible Light



Visible Light



Near Infrared Light (NIR)

IR-Corrected Lens



Visible Light

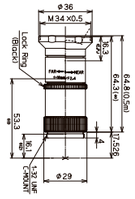


Near Infrared Light (NIR)

LM16EC-IR

IR XD LO-DIS

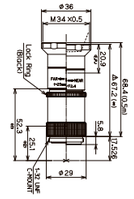




LM25EC-IR

IR XD LO-DIS



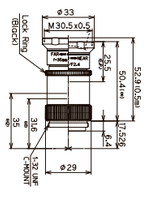


Model		LM16EC-IR	LM25EC-IR
Focal Length (mm)		16	25
Image Size (mm)		15.4mm×11.5mm (ϕ19.2)	15.4mm×11.5mm (ϕ19.2)
Iris Range (F-Stop)		F2.4 / F2.8 / F4 / F5.6 / F8	F2.4 / F2.8 / F4 / F5.6 / F8
Focusing Range (m)		0.5～∞	0.5～∞
Control	Iris	–	–
	Focus	Manual	Manual
Shooting Range at M.O.D. (mm)		501 (H) ×371 (V)	315 (H) ×233 (V)
Angle of View (Degrees)	1.2″	52.4×40.0	34.9×26.1
	1.1″	48.4×37.0	32.0×24.1
	1″	44.3×33.7	29.1×21.9
Resolution (Center, Corner)		200lp/mm, 100lp/mm	200lp/mm, 100lp/mm
TV Distortion (%)		-0.6	-1.00
Back Focus in Air (mm)		19.57	15.6
Mount		C-mount	C-mount
Filter Thread (mm)		M34×0.5	M34×0.5
Size (mm)		Φ36.0×64.3 (Min.) / Φ36.0×64.8 (Max.)	Φ36.0×67.2 (Min.) / Φ36.0×68.4 (Max.)
Weight (g)		95	90
Temperature Range		-10℃～+50℃	-10℃～+50℃

LM35EC-IR

IR XD LO-DIS

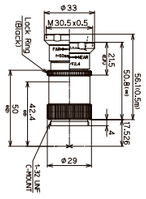




LM50EC-IR

IR XD LO-DIS





Model		LM35EC-IR	LM50EC-IR
Focal Length (mm)		35	50
Image Size (mm)		15.4mm×11.5mm (ϕ19.2)	15.4mm×11.5mm (ϕ19.2)
Iris Range (F-Stop)		F2.4 / F2.8 / F4 / F5.6 / F8	F2.4 / F2.8 / F4 / F5.6 / F8
Focusing Range (m)		0.5～∞	0.5～∞
Control	Iris	–	–
	Focus	Manual	Manual
Shooting Range at M.O.D. (mm)		222 (H) ×165 (V)	147 (H) ×109 (V)
Angle of View (Degrees)	1.2″	25.0×18.7	17.5×13.1
	1.1″	22.9×17.3	16.1×12.1
	1″	20.8×15.7	14.6×11.0
Resolution (Center, Corner)		200lp/mm, 100lp/mm	200lp/mm, 100lp/mm
TV Distortion (%)		-0.3	0.02
Back Focus in Air (mm)		14.72	17.94
Mount		C-mount	C-mount
Filter Thread (mm)		M30.5×0.5	M30.5×0.5
Size (mm)		Φ33.0×50.4 (Min.) / Φ33.0×52.9 (Max.)	Φ33.0×50.8 (Min.) / Φ33.0×56.1 (Max.)
Weight (g)		80	70
Temperature Range		-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.

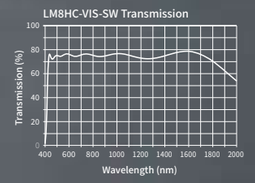
HC-VIS-SW Lens Series

1″ | IR-CORRECTED (VIS-SW) 12 MEGAPIXEL 3.1 µm

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

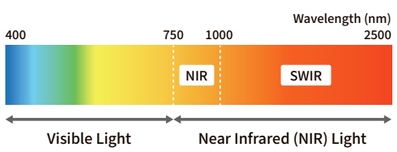
- 1″ format size with 12MP resolution (3.1µm).
- IR-corrected design eliminates focus shift across 450nm to 2,000nm wavelength range.
- Special extra-low dispersion (XD) glass is utilized to dramatically reduce chromatic aberration, delivering exceptional image clarity and color accuracy.
- Kowa's Floating Mechanism design is incorporated into all HC-VIS-SW series models to effectively minimize aberrations from close object distances to infinity.
- Low distortion ensures precise identification of materials or defects.
- Features Kowa's EX Wide-Band Multi-Coatings, which enhance lens performance across a broad spectrum of wavelengths.





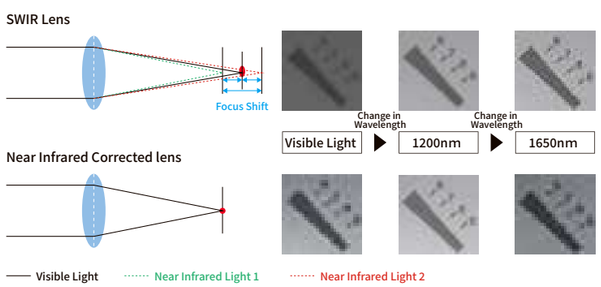
Near Infrared (NIR) Corrected Lens

A key characteristic of near infrared (NIR) corrected lenses is their ability to capture clear images while maintaining sharp focus, even when wavelengths transition between visible light and NIR light.
Unlike standard lenses that experience focus shift due to refractive index variations caused by wavelength changes, Kowa's NIR corrected lenses are engineered with specially manufactured extra low dispersion (XD) glass. This optical technology ensures exceptional image quality and precise focus across a broad wavelength range, providing reliable performance for high-precision imaging applications.



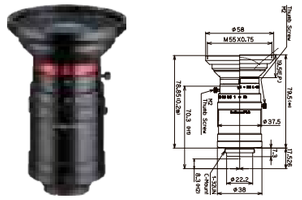
Example of Focus Shift

* Focuses at 1,650nm



LM8HC-VIS-SW

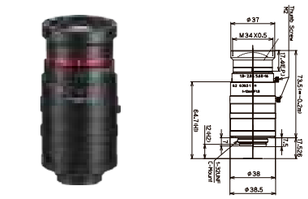
EX-WBMC LO-DIS FLOAT XD



Model		LM8HC-VIS-SW
Focal Length (mm)		8
Image Size (mm)		12.8×9.6 (Φ16)
Iris Range (F-Stop)		F1.8～F16
Focusing Range (m)		0.2～∞
Control	Iris	Manual
	Focus	Manual
Shooting Range at M.O.D. (mm)		387.0 (H) ×272.0 (V)
Angle of View (Degrees)	1″	81.3×63.5
	2/3″	58.7×44.8
	1/1.8″	48.6×36.9
Resolution (Center, Corner)		160lp/mm, 80lp/mm
TV Distortion (%)		−3.1
Back Focus in Air (mm)		11.1
Mount		C-mount
Filter Thread (mm)		M55×P0.75
Size (mm)		ϕ58×78.85 (Min.) / ϕ58×79.5 (Max.)
Weight (g)		210
Temperature Range		−10°C～+50°C

LM12HC-VIS-SW

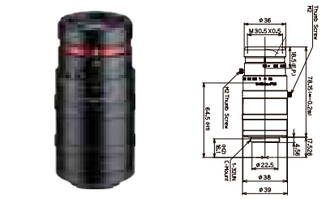
EX-WBMC LO-DIS FLOAT XD



Model		LM12HC-VIS-SW
Focal Length (mm)		12
Image Size (mm)		12.8×9.6 (Φ16)
Iris Range (F-Stop)		F1.8～F16
Focusing Range (m)		0.2～∞
Control	Iris	Manual
	Focus	Manual
Shooting Range at M.O.D. (mm)		237.0 (H) ×175.0 (V)
Angle of View (Degrees)	1″	58.0×44.5
	2/3″	41.0×31.1
	1/1.8″	33.8×25.5
Resolution (Center, Corner)		160lp/mm, 100lp/mm
TV Distortion (%)		−1.6
Back Focus in Air (mm)		11.1
Mount		C-mount
Filter Thread (mm)		M34×P0.5
Size (mm)		Φ38.5×73.5
Weight (g)		175
Temperature Range		−10°C～+50°C

LM16HC-VIS-SW

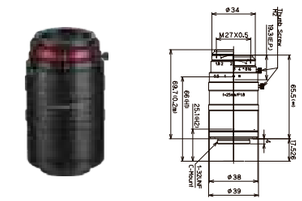
EX-WBMC LO-DIS FLOAT XD



Model		LM16HC-VIS-SW
Focal Length (mm)		16
Image Size (mm)		12.8×9.6 (Φ16)
Iris Range (F-Stop)		F1.8～F16
Focusing Range (m)		0.2～∞
Control	Iris	Manual
	Focus	Manual
Shooting Range at M.O.D. (mm)		174.0 (H) ×129.0 (V)
Angle of View (Degrees)	1″	44.2×33.6
	2/3″	31.0×23.3
	1/1.8″	25.4×19.1
Resolution (Center, Corner)		160lp/mm, 100lp/mm
TV Distortion (%)		−0.81
Back Focus in Air (mm)		15.0
Mount		C-mount
Filter Thread (mm)		M30.5×P0.5
Size (mm)		Φ39×78.15
Weight (g)		190
Temperature Range		−10°C～+50°C

LM25HC-VIS-SW

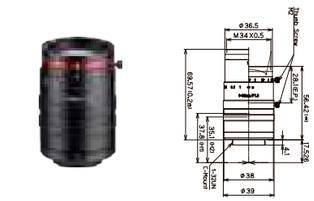
EX-WBMC LO-DIS FLOAT XD



Model		LM25HC-VIS-SW
Focal Length (mm)		25
Image Size (mm)		12.8×9.6 (Φ16)
Iris Range (F-Stop)		F1.8～F16
Focusing Range (m)		0.2～∞
Control	Iris	Manual
	Focus	Manual
Shooting Range at M.O.D. (mm)		109.0 (H) ×81.0 (V)
Angle of View (Degrees)	1″	29.2×22.0
	2/3″	20.2×15.0
	1/1.8″	16.5×12.3
Resolution (Center, Corner)		160lp/mm, 100lp/mm
TV Distortion (%)		−0.97
Back Focus in Air (mm)		24.5
Mount		C-mount
Filter Thread (mm)		M27×P0.5
Size (mm)		ϕ39×65.5 (Min.) / ϕ39×69.7 (Max.)
Weight (g)		160
Temperature Range		−10°C～+50°C

LM35HC-VIS-SW

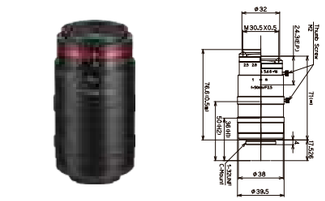
EX-WBMC LO-DIS FLOAT XD



Model		LM35HC-VIS-SW
Focal Length (mm)		35
Image Size (mm)		12.8×9.6 (Φ16)
Iris Range (F-Stop)		F1.8～F16
Focusing Range (m)		0.2～∞
Control	Iris	Manual
	Focus	Manual
Shooting Range at M.O.D. (mm)		68.0 (H) ×51.0 (V)
Angle of View (Degrees)	1″	20.4×15.4
	2/3″	14.0×10.6
	1/1.8″	11.5×8.6
Resolution (Center, Corner)		160lp/mm, 100lp/mm
TV Distortion (%)		−0.37
Back Focus in Air (mm)		16.4
Mount		C-mount
Filter Thread (mm)		M34×P0.5
Size (mm)		ϕ39×56.42 (Min.) / ϕ39×69.57 (Max.)
Weight (g)		150
Temperature Range		−10°C～+50°C

LM50HC-VIS-SW

EX-WBMC LO-DIS FLOAT XD



Model		LM50HC-VIS-SW
Focal Length (mm)		50
Image Size (mm)		12.8×9.6 (Φ16)
Iris Range (F-Stop)		F2.5～F16
Focusing Range (m)		0.5～∞
Control	Iris	Manual
	Focus	Manual
Shooting Range at M.O.D. (mm)		127.0 (H) ×95.0 (V)
Angle of View (Degrees)	1″	14.6×11.0
	2/3″	10.0×7.6
	1/1.8″	8.2×6.2
Resolution (Center, Corner)		160lp/mm, 100lp/mm
TV Distortion (%)		−0.11
Back Focus in Air (mm)		34.9
Mount		C-mount
Filter Thread (mm)		M30.5×P0.5
Size (mm)		ϕ39.5×71 (Min.) / ϕ39.5×76.6 (Max.)
Weight (g)		155
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.

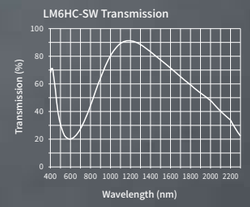
HC-SW Lens Series

1″ | SWIR 1MEGAPIXEL+

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

- The HC-SW lens series, built with a 1″ format size, are optimized with specialized SWIR coatings that delivers outstanding transmission across the short-wavelength infrared (SWIR) range. Kowa's advanced coating technology ensures superior image clarity, precision, and reliability, making these lenses the perfect choice for high-accuracy imaging applications where performance in the SWIR spectrum is essential.
- The recent addition of a wide-angle 6mm model expands the lineup, offering greater versatility to address a broad range of imaging applications.
- A well-rounded lineup of 7 models with focal lengths ranging from 6mm to 50mm.
- Offering exceptional value, this cost-effective lens series is designed to produce consistent and accurate results in a variety of applications.

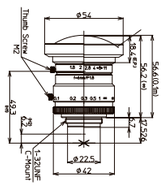




LM6HC-SW

SWIR LO-DIS



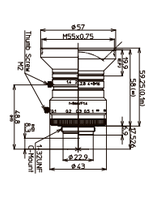


Model		LM6HC-SW
Focal Length (mm)		6
Image Size (mm)		12.8×9.6 (Φ16)
Iris Range (F-Stop)		F1.8～F11
Focusing Range (m)		0.1～∞
Control	Iris	Manual
	Focus	Manual
Shooting Range at M.O.D. (mm)		267.4 (H) ×196.3 (V)
Angle of View (Degrees)	1″	96.8×79.4
	2/3″	74.1×58.0
	1/1.8″	62.6×48.2
Resolution (Center, Corner)		100lp/mm, 80lp/mm
TV Distortion (%)		−0.2
Back Focus in Air (mm)		11.1
Mount		C-mount
Filter Thread (mm)		–
Size (mm)		φ54×56.2 (Min.) / φ54×56.6 (Max.)
Weight (g)		215
Temperature Range		−10°C～+50°C

LM8HC-SW

SWIR LO-DIS

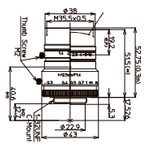




LM12HC-SW

SWIR LO-DIS

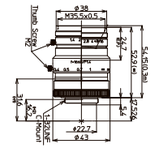




LM16HC-SW

SWIR LO-DIS



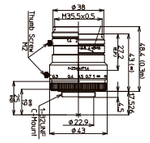


Model		LM8HC-SW	LM12HC-SW	LM16HC-SW
Focal Length (mm)		8	12.5	16
Image Size (mm)		12.8×9.6 (Φ16)	12.8×9.6 (Φ16)	12.8×9.6 (Φ16)
Iris Range (F-Stop)		F1.4～F16	F1.4～F16	F1.4～F16
Focusing Range (m)		0.1～∞	0.3～∞	0.3～∞
Control	Iris	Manual	Manual	Manual
	Focus	Manual	Manual	Manual
Shooting Range at M.O.D. (mm)		196.0 (H) ×143.2 (V)	330.6 (H) ×243.5 (V)	251.5 (H) ×186.2 (V)
Angle of View (Degrees)	1″	79.4×63.0	55.6×42.5	44.3×33.6
	2/3″	58.3×44.7	39.1×29.5	30.8×23.2
	1/1.8″	48.5×36.9	32.1×24.2	25.3×19.0
Resolution (Center, Corner)		100lp/mm, 80lp/mm	100lp/mm, 80lp/mm	100lp/mm, 80lp/mm
TV Distortion (%)		−1.2	−1.58	−1.0
Back 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 (Min.) / φ57×59.25 (Max.)	φ43×51.5 (Min.) / φ43×52.75 (Max.)	φ43×52.9 (Min.) / φ43×54.15 (Max.)
Weight (g)		205	160	150
Temperature Range		−10°C～+50°C	−10°C～+50°C	−10°C～+50°C

LM25HC-SW

SWIR LO-DIS

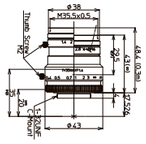




LM35HC-SW

SWIR LO-DIS

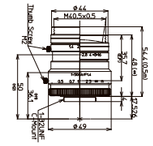




LM50HC-SW

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 (F-Stop)		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″	29.3×22.0	20.9×15.8	14.5×10.8
	2/3″	20.2×15.1	14.4×10.8	10.0×7.5
	1/1.8″	16.5×12.4	11.8×8.8	8.2×6.2
Resolution (Center, Corner)		100lp/mm, 80lp/mm	100lp/mm, 80lp/mm	100lp/mm, 80lp/mm
TV Distortion (%)		−1.0	−0.5	0.05
Back 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 (Min.) / φ43×48.4 (Max.)	φ43×43 (Min.) / φ43×48.4 (Max.)	φ49×48 (Min.) / φ49×54.4 (Max.)
Weight (g)		135	135	210
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.

JC5M-IR Lens Series

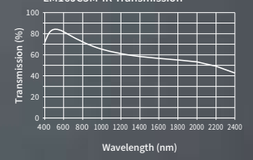
2/3″ | IR-CORRECTED (VIS-NIR) 5 MEGAPIXEL 3.45 µm

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

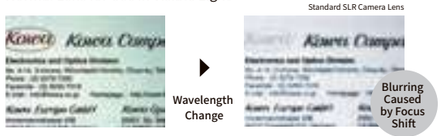
- 2/3″ format size and 5MP resolution.
- IR-Corrected design eliminates focus shift when transitioning between visible and near-infrared (NIR) wavelengths.
- Suitable for a wide range of applications, from factory automation to intelligent traffic solutions (ITS).
- Bright optical design with an F-Stop of F1.4 at maximum aperture.
  * The maximum aperture F-Stop for the LM35JC5M-IR model is F2.0.

LM16JC5M-IR Transmission



IR-Corrected Design Eliminates Focus Shift

Normal Lens for Use in Visible Light



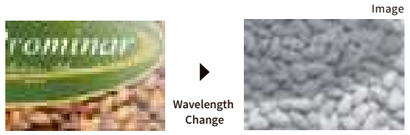
Visible Light Illumination — Wavelength Change — Near Infrared (NIR) Illumination

IR-Corrected Lens with No Focus Shift

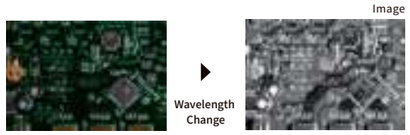


Visible Light Illumination — Wavelength Change — Near Infrared (NIR) Illumination

Application Example



Visible Light Illumination — Wavelength Change — Near Infrared (NIR) Illumination

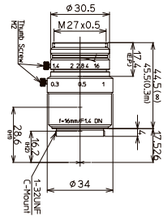


Visible Light Illumination — Wavelength Change — Near Infrared (NIR) Illumination

LM16JC5M-IR

IR LO-DIS XD



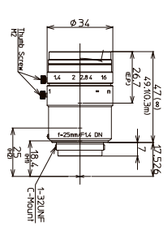


Model		LM16JC5M-IR
Focal Length (mm)		16
Image Size (mm)		8.8×6.6 (Φ11)
Iris Range (F-Stop)		F1.4～F16
Focusing Range (m)		0.3～∞
Control	Iris	Manual
	Focus	Manual
Shooting Range at M.O.D. (mm)		171.4 (H) ×127.4 (V)
Angle of View (Degrees)	2/3″	30.9×23.2
	1/1.8″	25.4×19.0
	1/2″	22.6×16.9
Resolution (Center, Corner)		120lp/mm, 80lp/mm
TV Distortion (%)		−0.8
Back Focus in Air (mm)		14.7
Mount		C-mount
Filter Thread (mm)		M27×P0.5
Size (mm)		ϕ34×44.5 (Min.) / ϕ34×45.5 (Max.)
Weight (g)		100
Temperature Range		−10°C～+50°C

LM25JC5M-IR

IR LO-DIS XD



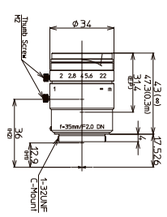


Model		LM25JC5M-IR
Focal Length (mm)		25
Image Size (mm)		8.8×6.6 (Φ11)
Iris Range (F-Stop)		F1.4～F16
Focusing Range (m)		0.3～∞
Control	Iris	Manual
	Focus	Manual
Shooting Range at M.O.D. (mm)		113.3 (H) ×84.5 (V)
Angle of View (Degrees)	2/3″	20.1×15.1
	1/1.8″	16.5×12.4
	1/2″	14.6×11.0
Resolution (Center, Corner)		120lp/mm, 80lp/mm
TV Distortion (%)		−0.3
Back Focus in Air (mm)		12.0
Mount		C-mount
Filter Thread (mm)		M30.5×P0.5
Size (mm)		ϕ34×47 (Min.) / ϕ34×49.1 (Max.)
Weight (g)		110
Temperature Range		−10°C～+50°C

LM35JC5M-IR

IR LO-DIS XD





Model		LM35JC5M-IR
Focal Length (mm)		35
Image Size (mm)		8.8×6.6 (Φ11)
Iris Range (F-Stop)		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″	13.9×10.5
	1/1.8″	11.4×8.3
	1/2″	10.2×7.6
Resolution (Center, Corner)		120lp/mm, 80lp/mm
TV Distortion (%)		−0.3
Back Focus in Air (mm)		19.2
Mount		C-mount
Filter Thread (mm)		M30.5×P0.5
Size (mm)		ϕ34×43 (Min.) / ϕ34×47.3 (Max.)
Weight (g)		100
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.

TC Lens Series

4/3" | TELECENTRIC 21 MEGAPIXEL 3.45 µm

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" 21MP Macro Zoom Telecentric Lens Series
- Telecentric lens with variable magnification.
- 21MP resolution.
- Can be used as a macro lens with a variable magnification between 0.5x and 1.0x.

4/3" 21MP Macro Telecentric Lens Series
- Telecentric lens with a fixed magnification.
- 21MP resolution.
- Can be used as a macro lens with a magnification of 2.0x (fixed).

2/3" 5MP+ Telecentric Lens Series
- Intuitive lens selection based on pixel size.
- Optical magnification range is fully adjustable.
- Optimized optical magnification for 5MP sensor resolution.
- Low distortion design of 0.02% or less.
- Ensures consistent high contrast from center to edge for optimal image clarity.



Telecentric Optical Systems: Precision Imaging for Accurate Measurements

Telecentric optical systems are distinguished by their ability to maintain consistent magnification during focus adjustments, enabling direct imaging of objects from the front (see Fig. 1). This characteristic makes them particularly suitable for high-precision dimensional measurements, especially when exact positioning is required.
In these systems, the chief ray, which is the central light ray from a point on the object entering the lens, runs parallel to the optical axis. By setting the aperture at the image-side focal point, the chief ray on the object side becomes parallel to the optical axis. Consequently, when the object's position shifts along the optical axis, the image may blur, but the magnification remains unchanged.

Fig. 1

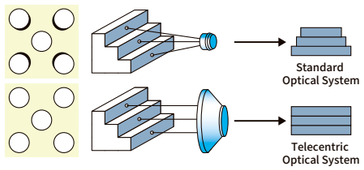
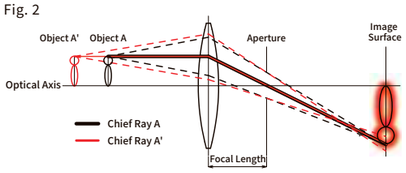


Fig. 2



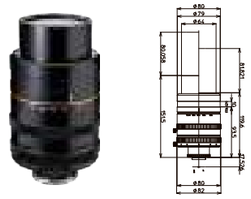
Application Examples

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

4/3" macro zoom 21MP

LM1119TC

LO-DIS XD

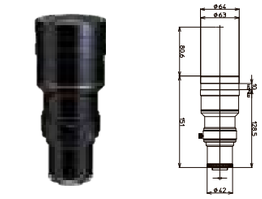


Model		LM1119TC	
Magnification Range		0.5～1.0×	
Image Size (mm)		18.4×13.8 (Φ23)	
Shooting Magnification		0.5×	1.0×
Objective N.A.		0.05	0.1
W.D.(mm)		80	81.8
Shooting Range (mm)	4/3"	36.8×27.6	18.4×13.8
	1"	25.6×19.2	12.8×9.6
	2/3"	17.6×13.2	8.8×6.6
TV Distortion (%)		0.1	0.1
Back Focus in Air (mm)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

4/3" macro 21MP

LM1138TC

LO-DIS XD

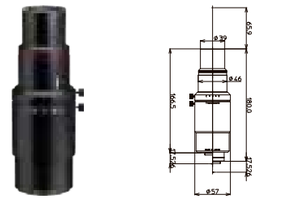


Model	LM1138TC
Magnification Range	2.0×
Image Size (mm)	18.4×13.8 (Φ23)
Shooting Magnification	2.0×
Objective N.A.	0.2
W.D.(mm)	80.6
Shooting Range (mm) 4/3"	9.20×6.90
1"	6.40×4.8
2/3"	4.4×3.3
TV Distortion (%)	0.1
Back Focus in Air (mm)	15.0
Mount	C-mount
Resolution	120lp/mm
Size (mm)	Φ64×151.0
Weight (g)	830
Temperature Range	−10°C～+50°C

2/3" telecentric 5MP plus

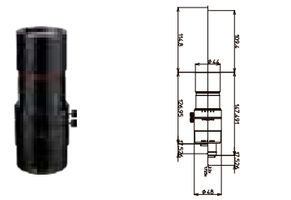
LM1120TC

LO-DIS XD



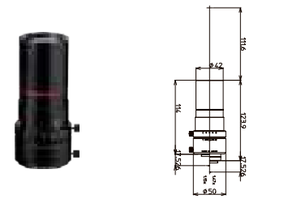
LM1121TC

LO-DIS XD



LM1122TC

LO-DIS XD

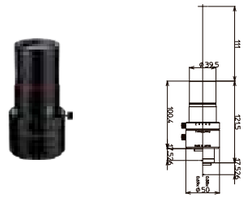


Model		LM1120TC			LM1121TC			LM1122TC		
Magnification Range		3.45～4.4×			1.725～2.2×			1.15～1.47×		
Image Size (mm)		8.8×6.6 (Φ11)			8.8×6.6 (Φ11)			8.8×6.6 (Φ11)		
Shooting Magnification		3.45×	4.0×	4.4×	1.725×	2.0×	2.2×	1.15×	1.3×	1.47×
Objective N.A.		0.2	0.2	0.2	0.131	0.131	0.131	0.101	0.101	0.101
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"	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"	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"	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		
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

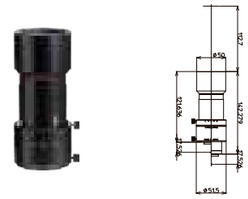
LM1123TC

LO-DIS XD



LM1125TC

LO-DIS XD



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"	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"	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"	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		
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

1/1.8″ | VARIFOCAL 1 MEGAPIXEL
1/2″ | VARIFOCAL 1 MEGAPIXEL

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

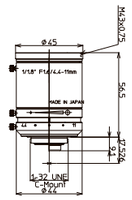
- Supports 1/1.8″ and 1/2″ format sizes.
- Adjustable angle of view to match application needs.
- Engineered for versatility and ideal for both security and factory automation (FA) applications.



LMVZ4411

LO-DIS

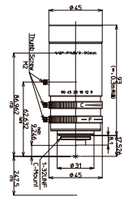




LMVZ990-IR

LO-DIS XD IR





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 (F-Stop)		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″	W76.6×61.2 / T36.7×28.0	–
	1/2″	W70.1×55.5 / T32.9×25.0	W41.1×30.3 / T4.2×3.1
	1/3″	W55.5×43.0 / T25.0×18.9	W30.3×22.6 / T3.1×2.4
TV Distortion (%)		W−0.2 / T0.4	W−4.3 / T0.3
Back 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

* The specifications described above are the design values. * The product specifications and external appearance may be changed for improvement without prior notice.
* For orders and inquiries, please reach out to your nearest sales office.

NF Lens Series

1/3″ | NF-MOUNT LENS 1 MEGAPIXEL+

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

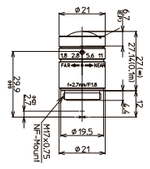
- Developed as a high-performance optical solution for 1/3″ megapixel NF-Mount cameras, these lenses deliver excellent image quality in a lightweight and compact form.
- Produces uniform brightness and resolution from the image center to the corners.
- Offers a significantly lighter design (30g) and a more compact form factor (ϕ21mm outer diameter)* compared to conventional C-Mount lenses.**

*LM3NF **LM3NF, LM5NF



LM3NF

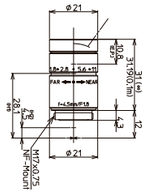




LM5NF

LO-DIS

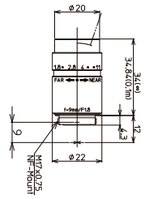




LM9NF

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 (F-Stop)		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″	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
Back Focus in Air (mm)		7.8	8.1	8.6
Mount		NF-mount	NF-mount	NF-mount
Size (mm)		Φ21×27 (Min.) / Φ21×27.14 (Max.)	Φ21×31 (Min.) / Φ21×31.19 (Max.)	Φ22×34 (Min.) / Φ22×34.84 (Max.)
Weight (g)		30	35	40
Temperature Range		−10°C～+50°C	−10°C～+50°C	−10°C～+50°C

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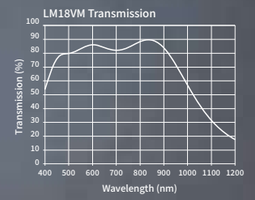
VM Lens Series

2″ | 50 MEGAPIXEL 3.1 µm

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

● Compatible ◇ Suitable * Incompatible

- Large image size of ϕ32mm.
- Optical performance designed to support sensors up to 50 megapixels.
- High-resolution lenses compatible with 8K imaging and ultra-high-pixel cameras.
- Optimized for APS-C sensors.
- Features an innovative mechanism that prevents thumb screws from loosening or falling off during use.
- Available in both M42-Mount and TFL-Mount.
- The flange back distance can be adjusted using optional accessories.
- Kowa's Floating Mechanism design is incorporated into all VM series models to effectively minimize aberrations from close object distances to infinity.
- Wide-band multi-coatings are specifically engineered to minimize ghosting and flaring while optimizing transmission in the near-infrared range.





Optional

Optional mount adapters allow for flange back adjustment.



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

* Mount adapters are not compatible with VM35 series lenses.

Equipped with a specialized retention mechanism that prevents thumb screws from loosening or falling out.

In conventional industrial lenses, thumb screws may loosen and fall off during use, particularly when exposed to shock and vibration. To prevent this, a newly developed mechanism has been engineered, utilizing a dedicated locking screw for switching. This innovative design securely holds the thumb screws in place while still allowing for easy removal and attachment by simply sliding the switching mechanism.

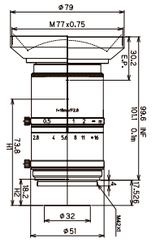


Applications | -Line Scan & Area Scan -FPD Inspections -Aerial Photography -Sports and Action Imaging -Drones

LM18VM42 / LM18VM35

WBMC LO-DIS FLOAT XD



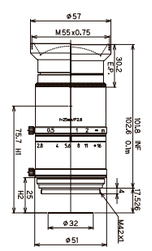


Model		LM18VM42	LM18VM35
Focal Length (mm)		18	
Image Size (mm)		25.6×19.2 (Φ32.0)	
Iris Range (F-Stop)		F2.8～F16	
Focusing Range (m)		0.1～∞	
Control	Iris	Manual	
	Focus	Manual	
Shooting Range at M.O.D. (mm)		172 (H) ×128 (V)	
Angle of View (Degrees)	2″	70.5×56.1	
	APS-C	63.4×49.7	
	4/3″	54.1×41.8	
Resolution (Center, Corner)		160lp/mm, 100lp/mm	
TV Distortion (%)		1.25	
Back Focus in Air (mm)		15.5	
Flange Back in Air (mm)		17.526	
Mount		M42-mount (M42×1)	TFL-mount (M35×0.75)
Filter Thread (mm)		M77×P0.75	
Size (mm)		ϕ79×99.6 (Min.) / ϕ79×101.1 (Max.)	
Weight (g)		460	
Temperature Range		−10°C～+50°C	

LM25VM42 / LM25VM35

WBMC LO-DIS FLOAT XD



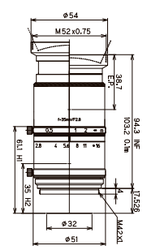


Model		LM25VM42	LM25VM35
Focal Length (mm)		25	
Image Size (mm)		25.6×19.2 (Φ32.0)	
Iris Range (F-Stop)		F2.8～F16	
Focusing Range (m)		0.1～∞	
Control	Iris	Manual	
	Focus	Manual	
Shooting Range at M.O.D. (mm)		125 (H) ×93 (V)	
Angle of View (Degrees)	2″	54.0×42.0	
	APS-C	48.0×37.0	
	4/3″	40.4×30.9	
Resolution (Center, Corner)		160lp/mm, 100lp/mm	
TV Distortion (%)		0.59	
Back Focus in Air (mm)		20.3	
Flange Back in Air (mm)		17.526	
Mount		M42-mount (M42×1)	TFL-mount (M35×0.75)
Filter Thread (mm)		M55×P0.75	
Size (mm)		ϕ57×101.8 (Min.) / ϕ57×102.6 (Max.)	
Weight (g)		400	
Temperature Range		−10°C～+50°C	

LM35VM42 / LM35VM35

WBMC LO-DIS FLOAT XD





Model		LM35VM42	LM35VM35
Focal Length (mm)		35	
Image Size (mm)		25.6×19.2 (Φ32.0)	
Iris Range (F-Stop)		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″	40.2×30.7	
	APS-C	35.4×26.9	
	4/3″	29.5×22.3	
Resolution (Center, Corner)		160lp/mm, 100lp/mm	
TV Distortion (%)		0.12	
Back Focus in Air (mm)		19.5	
Flange Back in Air (mm)		17.526	
Mount		M42-mount (M42×1)	TFL-mount (M35×0.75)
Filter Thread (mm)		M52×P0.75	
Size (mm)		ϕ54×94.3 (Min.) / ϕ54×103.2 (Max.)	
Weight (g)		375	
Temperature Range		−10°C～+50°C	

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LF Lens Series

Φ46 | LINE SCAN 4K

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

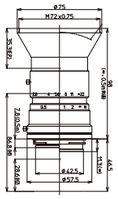
- Large image size of ϕ46mm.
- Low distortion
- Close-range imaging is possible at working distances as short as 0.26 m, measured from the front lens tip to the object surface. Applicable only for the LM35LF and LM50LF models.
- Available in two mount types: Nikon F-Mount and TFL II-Mount



LM28LF

LO-DIS XD

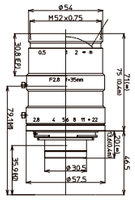




LM35LF

LO-DIS XD

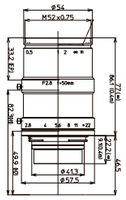




LM50LF

LO-DIS XD





Model		LM28LF	LM28LF-48	LM35LF	LM35LF-48	LM50LF	LM50LF-48
Focal Length (mm)		28		35		50	
Image Size (mm)		36×24 (Φ46)		36×24 (Φ46)		36×24 (Φ46)	
Iris Range (F-Stop)		F2.8～F22		F2.8～F22		F2.8～F22	
Focusing Range (m)		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"	35.8×27.2		28.9×21.8		20.9×15.7	
	1"	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	
Back Focus in Air (mm)		38.5	38.5	34.6	34.6	37.7	37.7
Flange Back 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 (Min.) / ϕ57.5×75 (Max.)	ϕ55×100 (Min.) / ϕ55×104 (Max.)	ϕ57.5×77 (Min.) / ϕ57.5×86.1 (Max.)	Φ57.5×106
Weight (g)		500		430		470	
Temperature Range		−10°C～+50°C		−10°C～+50°C		−10°C～+50°C	

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* Nikon is a registered trademark of Nikon Corporation.

CLS Lens Series

Φ30 | LINE SCAN (3CMOS)

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

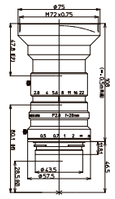
- Lenses designed for use with industrial line scan cameras featuring a three-sensor, three-dichroic prism configuration.
- Supports line sensor lengths up to 30mm.
- Engineered to take full advantage of the imaging precision of three-sensor, three-dichroic prism line scan systems.
- Compatible with Nikon F-Mount for direct use with existing systems.



LM28CLS

LO-DIS XD

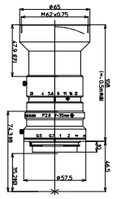




LM35CLS

LO-DIS XD

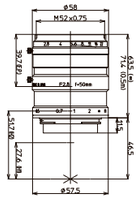




LM50CLS

LO-DIS XD





Model	LM28CLS	LM35CLS	LM50CLS
Focal Length (mm)	28	35	50
Image Size (mm)	Φ30	Φ30	Φ30
Iris Range (F-Stop)	F2.8～F22	F2.8～F22	F2.8～F22
Focusing Range (m)	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
Back Focus in Air (mm)	37.2	36.9	35.6
Flange Back 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 (Min.) / ϕ58×71.4 (Max.)
Weight (g)	482	480	358
Temperature Range	−10°C～+50°C	−10°C～+50°C	−10°C～+50°C

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S-Mount Lens Series

1/1.8″ S-MOUNT LENS 5MEGAPIXEL+ 2.5μm
1/2.5″ S-MOUNT LENS 2MEGAPIXEL+ 3.1μm

Model	Format Size (Inch)							
	1	1/1.2	2/3	1/1.8	1/2	1/2.5	1/2.8	1/3
LM1.7QS25 / LM1.7QS25-IR65	–	–	–	–	–	●	●	●
LM1.7QS40 / LM1.7QS40-IR65	–	–	–	–	–	●	●	●
M1.7QS56 / LM1.7QS56-IR65	–	–	–	–	–	●	●	●
LM3QS28 / LM3QS28-IR65	–	–	–	–	–	●	●	●
LM3QS40 / LM3QS40-IR65	–	–	–	–	–	●	●	●
LM3QS56 / LM3QS56-IR65	–	–	–	–	–	●	●	●
LM5NS21 / LM5NS21-IR65	–	–	–	●	●	●	●	●
LM5NS28 / LM5NS28-IR65	–	–	–	●	●	●	●	●
LM5NS40 / LM5NS40-IR65	–	–	–	●	●	●	●	●
LM5NS56 / LM5NS56-IR65	–	–	–	●	●	●	●	●

● Compatible ◇ Suitable * Incompatible

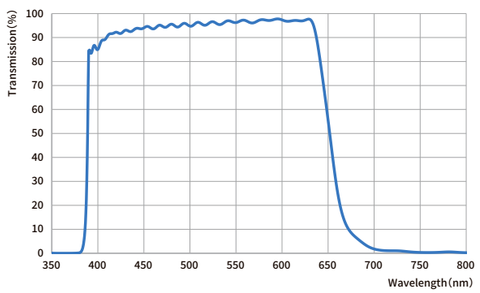


- Super-wide-angle lenses.
- Low distortion
- An optional IR-cut filter or lock ring can be attached.

Achieve Optimized Color Reproduction with an Optional IR-Cut Filter

Image sensors are sensitive to near-infrared (NIR) light, which is invisible to the human eye, and may capture unnatural reddish images depending on the illumination.
Attaching an IR-cut filter effectively blocks unwanted NIR, allowing natural color reproduction close to what the human eye sees.
Suitable for applications requiring accurate color reproduction, such as inspection, surveillance, and image analysis.

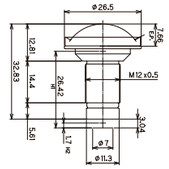




LM1.7QS

LO-DIS XD



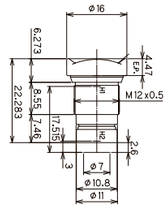


Model	Standard	LM1.7QS25	LM1.7QS40	LM1.7QS56
	With IR-Cut Filter *1	LM1.7QS25-IR65	LM1.7QS40-IR65	LM1.7QS56-IR65
Focal Length (mm)		1.7		
Image Size (mm)		5.70×4.28 (Φ7)		
Iris Range (F-Stop)		F2.5	F4	F5.6
Focusing Range (m)		0.1～∞		
Angle of View (Degrees)	1/2.5″	118.1 (H) ×102.8 (V)		
	1/2.8″	115.1 (H) ×89.1 (V)		
	1/3″	109.1 (H) ×93.0 (V)		
Resolution (Center, Corner)		160lp/mm, 100lp/mm		
TV Distortion (%)		-0.32		
Back Focus in Air (mm)		4.0		
Mount		S-mount (M12×P0.5)		
Size (mm)		Φ26.5×32.83		
Weight (g)		18		
Temperature Range		−10°C～+50°C		

LM3QS

LO-DIS XD



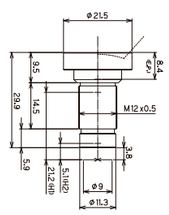


Model	Standard	LM3QS28	LM3QS40	LM3QS56
	With IR-Cut Filter *1	LM3QS28-IR65	LM3QS40-IR65	LM3QS56-IR65
Focal Length (mm)		3		
Image Size (mm)		5.70×4.28 (Φ7)		
Iris Range (F-Stop)		F2.8	F4	F5.6
Focusing Range (m)		0.1～∞		
Angle of View (Degrees)	1/2.5″	86.7 (H) ×70.6 (V)		
	1/2.8″	83.3 (H) ×58.2 (V)		
	1/3″	76.9 (H) ×61.6 (V)		
Resolution (Center, Corner)		160lp/mm, 125lp/mm		
TV Distortion (%)		0.02		
Back Focus in Air (mm)		3.9		
Mount		S-mount (M12×P0.5)		
Size (mm)		Φ16×22.3		
Weight (g)		6		
Temperature Range		−10°C～+50°C		

LM5NS

LO-DIS





Model	Standard	LM5NS21	LM5NS28	LM5NS40	LM5NS56
	With IR-Cut Filter *1	LM5NS21-IR65	LM5NS28-IR65	LM5NS40-IR65	LM5NS56-IR65
Focal Length (mm)		5			
Image Size (mm)		7.2×5.4 (φ9)			
Iris Range (F-Stop)		F2.1	F2.8	F4	F5.6
Focusing Range (m)		0.1～∞			
Angle of View (Degrees)	1/1.8″	72.4×57.0			
	1/2″	65.9×51.3			
	1/2.5″	59.8×46.2			
Resolution (Center, Corner)		200lp/mm, 100lp/mm			
TV Distortion (%)		-0.51			
Back Focus in Air (mm)		5.8			
Mount		S-mount (M12×P0.5)			
Size (mm)		Φ21.5×29.9			
Weight (g)		12			
Temperature Range		-10°C～+50°C			

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*Standard models are without IR-cut filters. *1 The IR-cut filter is optional. For details, please contact us.

SC Lens Series

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 (F-Stop)		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″	55.9×43.1	44.0×33.6	28.9×21.8	20.8×15.6	14.6×11.0
	2/3″	39.8×30.2	30.9×23.3	20.1×15.2	14.3×10.8	10.1×7.6
	1/1.8″	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
Back 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)		ϕ48×82 (Min.) / ϕ43×84 (Max.)	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

JC3M2 Lens Series

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 (F-Stop)		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″	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″	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″	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
Back 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 (Min.) / ϕ34×42.2 (Max.)	ϕ34×37 (Min.) / ϕ34×38.1 (Max.)	ϕ33.5×36.5 (Min.) / ϕ33.5×38.6 (Max.)	ϕ33.5×39.5 (Min.) / ϕ33.5×44 (Max.)	ϕ34×36.5 (Min.) / ϕ34×46.6 (Max.)	ϕ34×55 (Min.) / ϕ34×73.5 (Max.)
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-IR Lens Series

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″	14.4×10.8	12.2×9.2
	2/3″	9.9×7.5	8.4×6.3
	1/1.8″	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
Back Focus in Air (mm)		20.4	15.7
Mount		C-mount	C-mount
Filter Thread (mm)		M37.5×P0.5	M37.5×P0.5
Size (mm)		ϕ50×48.9 (Min.) / ϕ50×51.46 (Max.)	Φ49.2×54.6
Weight (g)		180	200
Temperature Range		−10°C～+50°C	−10°C～+50°C

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LM50-IR

Model		LM50-IR
Focal Length (mm)		50
Image Size (mm)		36×24 (Φ43.3)
Iris Range (F-Stop)		F1.9～F16
Focusing Range (m)		0.5～∞
Control	Iris	Manual
	Focus	Manual
Shooting Range at M.O.D. (mm)		366.9 (H) ×242.9 (V)
Angle of View (Degrees)	Full size	40.2×27.2
	4/3″	21.0×15.8
	1″	14.6×11.0
Resolution (Center, Corner)		100lp/mm, 50lp/mm
TV Distortion (%)		−0.5
Back Focus in Air (mm)		34.6
Mount		Nikon F-mount
Filter Thread (mm)		M52×P0.75
Size (mm)		Φ58.5×105.2
Weight (g)		605
Temperature Range		−10°C～+50°C

LMZ45T3 * Please contact regional sales office to order.

Model		LMZ45T3			
Magnification		inf ～1.1×			
Zoom magnification		6×			
Image Size(mm)		8.8×6.6 (Φ11)			
Close up lens		3Dpt.un-installed		3Dpt.installed	
Shooting Magnification		Inf ～0.72×		0.053～1.1×	
W.D (mm)		Inf～M.O.D=185		WD=330～115	
Iris Range (F-Stop)		F2.5～Close			
TV Distortion (%)		−0.3		−0.1	
Control	Iris	Manual			
	Focus	Manual			
	Zoom	Manual			
Shooting Range (mm)	2/3″	inf wide	27.3×20.5°	WD=310 wide	165.4×123.8
		inf tele	4.7×3.5°	WD=310 tele	28.3×21.3
		WD=310 wide	67.0×50.1	WD=150 wide	43.8×32.8
		WD=310 tele	11.7×9.0	WD=150 tele	7.6×5.9
	1/2″	inf wide	19.9×14.9°	WD=310 wide	120.0×89.8
		inf tele	3.4×2.6°	WD=310 tele	20.7×15.6
		WD=310 wide	48.6×36.5	WD=150 wide	31.8×23.8
		WD=310 tele	8.7×6.6	WD=150 tele	5.7×4.3
	1/3″	inf wide	14.9×11.2°	WD=310 wide	89.8×67.4
		inf tele	2.6×2.0°	WD=310 tele	15.6×11.7
		WD=310 wide	36.5×27.3	WD=150 wide	23.8×17.9
		WD=310 tele	6.6×5.0	WD=150 tele	4.3×3.3
Mount		C-mount			
Filter Thread (mm)		M52×P0.75			
Size (mm)		Φ62×171.7			
Weight (g)		595			
Temperature Range		−10° C ～+50° C			

Close Up Rings

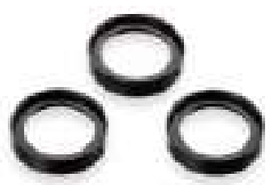
Model	Specification
KW-EXT1	1mm
KW-EXT5	5mm
KW-EXT10	10mm
KW-EXT20	20mm
LMZ4S (Set of 4 Close Up Rings)	1mm, 5mm, 10mm, 20mm



1 mm　5 mm　10 mm　20 mm

Filter Holders

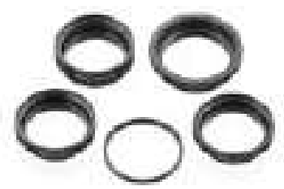
Attaching a filter holder enables the use of M30.5 x P0.5 filters with JC5MC Series lenses in 12mm, 16mm, and 25mm focal lengths.



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

Mount Adaptors

Mount adapters allow flange back adjustment for VM42 Series lenses with 18mm, 25mm, and 35mm focal lengths.



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

NF-C Conversion Adapter

This is a conversion adapter for attaching an NF-mount lens to a C-mount camera.

Model	Mount
KW-NFC	C-mount

*Not compatible with LM9NF lenses.



KW-NFC

S-C Conversion Adapters

This is a conversion adapter for attaching an S-mount lens to a C-mount camera.

Model	Mount
KW-SC1	C-mount
KW-SC3	

* When attaching to the camera, the dustproof glass must be removed.



KW-SC1



KW-SC3

S-mount Lock Rings

This is a lock ring for fixing the focus of an S-mount lens.

Model	Compatible Lenses
KW-LR1	S-mount Lens
KW-LR3	



KW-LR1



KW-LR3

Correspondence Table

Lenses		Conversion Adapters	Lock Rings
S-mount Series	LM5NS	KW-SC1	KW-LR1
	LM3QS	KW-SC1	KW-LR1
	LM1.7QS	KW-SC3	KW-LR3
NF-mount Series	LM3NF	KW-NFC	—
	LM5NF	KW-NFC	—

XC Lens Series

LM8XC

WD (mm)	Magnification	Field of View (mm) 4/3″ H	4/3″ V	1″ H	1″ V	2/3″ H	2/3″ V
1000	0.008	2153.1	1614.2	1497.5	1121.8	1027.0	770.7
950	0.009	2047.0	1534.6	1423.8	1066.6	976.4	732.7
900	0.009	1940.6	1454.9	1349.8	1011.2	925.6	694.6
850	0.010	1834.3	1375.2	1275.8	955.8	874.9	656.6
800	0.011	1727.9	1295.4	1201.8	900.4	824.2	618.5
750	0.011	1621.5	1215.7	1127.9	845.0	773.5	580.5
700	0.012	1515.1	1136.0	1053.9	789.6	722.8	542.5
650	0.013	1408.7	1056.2	979.9	734.2	672.1	504.4
600	0.014	1302.3	976.5	906.0	678.8	621.4	466.4
550	0.015	1195.9	896.7	832.0	623.4	570.7	428.3
500	0.017	1089.3	816.8	757.9	567.9	519.9	390.2
450	0.019	983.2	737.3	684.1	512.6	469.3	352.2
400	0.021	876.8	657.5	610.1	457.2	418.6	314.2
350	0.024	770.7	578.0	536.3	401.9	367.9	276.2
300	0.028	663.8	497.9	462.0	346.3	317.1	238.0
250	0.033	557.7	418.4	388.2	291.0	266.5	200.1
200	0.041	451.2	338.5	314.1	235.6	215.7	162.0
150	0.053	344.9	258.8	240.2	180.2	165.0	123.9
100	0.077	238.4	179.1	166.4	124.9	114.5	85.9

LM12XC

WD (mm)	Magnification	Field of View (mm) 4/3″ H	4/3″ V	1″ H	1″ V	2/3″ H	2/3″ V
1000	0.012	1562.6	1168.7	1082.6	806.5	737.2	551.2
950	0.013	1485.8	1111.3	1029.5	766.9	701.0	524.2
900	0.013	1409.1	1053.9	976.3	727.3	664.8	497.1
850	0.014	1332.4	996.5	923.1	687.7	628.6	470.0
800	0.015	1255.7	939.1	870.0	648.1	592.4	443.0
750	0.016	1179.0	881.7	816.8	608.5	556.2	415.9
700	0.017	1102.2	824.3	763.6	568.9	520.0	388.8
650	0.018	1025.5	766.9	710.4	529.2	483.8	361.8
600	0.020	948.8	709.5	657.3	489.6	447.6	334.7
550	0.022	872.1	652.1	604.1	450.0	411.4	307.6
500	0.024	795.3	594.7	550.9	410.4	375.2	280.6
450	0.026	718.6	537.3	497.8	370.8	339.0	253.5
400	0.029	641.9	479.9	444.6	331.2	302.8	226.4
350	0.033	565.1	422.5	391.4	291.6	266.5	199.3
300	0.039	488.4	365.1	338.2	252.0	230.3	172.2
250	0.046	411.7	307.7	285.1	212.4	194.1	145.2
200	0.056	334.6	250.0	231.6	172.6	157.8	118.0
150	0.073	258.0	192.8	178.6	133.1	121.6	91.0
100	0.104	181.5	135.5	125.5	93.5	85.6	63.9

LM16XC

WD (mm)	Magnification	Field of View (mm) 4/3″ H	4/3″ V	1″ H	1″ V	2/3″ H	2/3″ V
1000	0.016	1187.5	887.7	822.8	614.7	562.3	421.4
950	0.017	1129.0	844.0	782.3	584.4	534.7	400.6
900	0.017	1070.5	800.3	741.8	554.2	507.0	379.9
850	0.018	1012.1	756.6	701.3	523.9	479.3	359.2
800	0.020	953.5	712.8	660.7	493.6	451.6	338.4
750	0.021	895.2	669.2	620.3	463.4	424.0	317.7
700	0.022	836.7	625.5	579.8	433.2	396.3	296.9
650	0.024	778.2	581.8	539.3	402.9	368.6	276.2
600	0.026	719.8	538.1	498.8	372.7	341.0	255.5
550	0.028	661.3	494.4	458.3	342.4	313.3	234.8
500	0.031	602.8	450.7	417.8	312.2	285.6	214.0
450	0.034	544.3	407.0	377.3	281.9	257.9	193.3
400	0.038	485.9	363.3	336.8	251.7	230.3	172.6
350	0.044	427.4	319.6	296.3	221.4	202.6	151.8
300	0.051	368.9	275.9	255.8	191.1	174.9	131.1
250	0.060	310.5	232.3	215.3	160.9	147.2	110.4
200	0.074	252.0	188.5	174.8	130.6	119.5	89.6
150	0.096	193.4	144.7	134.2	100.3	91.8	68.8
100	0.138	134.6	100.8	93.5	69.9	64.0	48.0

LM25XC

WD (mm)	Magnification	Field of View (mm) 4/3″ H	4/3″ V	1″ H	1″ V	2/3″ H	2/3″ V
1000	0.025	759.0	566.0	524.7	392.4	359.2	269.4
950	0.026	721.7	538.2	498.9	373.1	341.5	256.1
900	0.027	684.4	510.4	473.1	353.9	323.8	242.9
850	0.029	647.1	482.5	447.3	334.6	306.2	229.7
800	0.031	609.8	454.7	421.5	315.3	288.5	216.4
750	0.033	572.5	426.9	395.8	296.0	270.9	203.2
700	0.035	535.2	399.1	370.0	276.7	253.2	189.9
650	0.037	497.9	371.3	344.2	257.4	235.6	176.7
600	0.041	460.6	343.4	318.4	238.1	217.9	163.4
550	0.044	423.3	315.6	292.6	218.8	200.2	150.2
500	0.048	386.0	287.8	266.8	199.5	182.6	136.9
450	0.054	348.7	259.9	241.0	180.2	164.9	123.7
400	0.060	311.3	232.1	215.2	160.9	147.2	110.4
350	0.068	274.0	204.3	189.3	141.6	129.6	97.2
300	0.079	236.7	176.4	163.5	122.3	111.9	83.9
250	0.094	199.3	148.5	137.7	102.9	94.2	70.7
200	0.115	161.9	120.6	111.8	83.6	76.5	57.4
150	0.150	124.8	93.0	86.1	64.4	59.0	44.2

LM35XC

WD (mm)	Magnification	Field of View (mm) 4/3″ H	4/3″ V	1″ H	1″ V	2/3″ H	2/3″ V
1000	0.035	523.5	392.3	364.0	272.9	249.9	187.6
950	0.037	497.1	372.6	345.7	259.2	237.3	178.2
900	0.039	470.7	352.8	327.4	245.4	224.7	168.7
850	0.042	444.3	333.0	309.0	231.7	212.1	159.3
800	0.044	417.9	313.3	290.7	217.9	199.5	149.8
750	0.047	391.5	293.5	272.3	204.2	186.9	140.4
700	0.051	365.2	273.7	254.0	190.4	174.4	130.9
650	0.054	338.7	253.9	235.6	176.7	161.8	121.5
600	0.059	312.3	234.1	217.3	162.9	149.2	112.0
550	0.064	285.9	214.4	198.9	149.2	136.6	102.6
500	0.071	259.5	194.6	180.6	135.4	124.0	93.1
450	0.079	233.0	174.8	162.2	121.6	111.4	83.6
400	0.089	206.6	154.9	143.8	107.8	98.8	74.2
350	0.102	180.1	135.1	125.4	94.1	86.1	64.9
300	0.120	153.6	115.3	107.0	80.3	73.5	55.2
250	0.145	127.1	95.4	88.5	66.4	60.8	45.7
200	0.183	100.3	75.3	69.9	52.4	48.1	36.1

LM50XC

WD (mm)	Magnification	Field of View (mm) 4/3″ H	4/3″ V	1″ H	1″ V	2/3″ H	2/3″ V
1000	0.051	354.7	267.7	248.7	187.1	171.4	128.9
950	0.054	336.5	252.5	236.0	177.5	162.6	122.3
900	0.057	318.3	240.3	223.2	167.9	153.8	115.7
850	0.060	300.1	226.5	210.5	158.3	145.1	109.1
800	0.064	281.9	212.8	197.7	148.7	136.3	102.5
750	0.069	263.7	199.1	184.9	139.1	127.5	95.9
700	0.074	245.6	185.3	172.2	129.5	118.7	89.2
650	0.080	227.3	171.6	159.4	119.9	109.9	82.6
600	0.087	209.1	157.8	146.6	110.3	101.1	76.0
550	0.095	190.9	144.1	133.8	100.7	92.2	69.4
500	0.105	172.7	130.3	121.0	91.0	83.4	62.7
450	0.118	154.4	116.5	108.2	81.4	74.6	56.1
400	0.134	136.1	102.6	95.4	71.7	65.7	49.4
350	0.154	117.7	88.8	82.5	62.0	56.8	42.7
300	0.181	100.2	75.5	70.1	52.7	48.4	36.3

FC24M Lens Series

LM6FC24M

WD (mm)	Magnification	Field of View (mm) 1.1″ H	1.1″ V	1″ H	1″ V	2/3″ H	2/3″ 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 (mm)	Magnification	Field of View (mm) 1.1″ H	1.1″ V	1″ H	1″ V	2/3″ H	2/3″ 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

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

LM12FC24M

WD (mm)	Magnification	Field of View (mm) 1.1″ H	1.1″ V	1″ H	1″ V	2/3″ H	2/3″ 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 (mm)	Magnification	Field of View (mm) 1.1″ H	1.1″ V	1″ H	1″ V	2/3″ H	2/3″ 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 (mm)	Magnification	Field of View (mm) 1.1″ H	1.1″ V	1″ H	1″ V	2/3″ H	2/3″ 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 (mm)	Magnification	Field of View (mm) 1.1″ H	1.1″ V	1″ H	1″ V	2/3″ H	2/3″ 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 (mm)	Magnification	Field of View (mm) 1.1″ H	1.1″ V	1″ H	1″ V	2/3″ H	2/3″ 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 (mm)	Magnification	Field of View (mm) 1.1″ H	1.1″ V	1″ H	1″ V	2/3″ H	2/3″ 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 (mm)	Magnification	Field of View (mm) 1.1″ H	1.1″ V	1″ H	1″ V	2/3″ H	2/3″ 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

HC Lens Series

LM4HC

WD (mm)	Magnification	Field of View (mm) 1″ H	1″ V	2/3″ H	2/3″ V	1/1.8″ H	1/1.8″ V
1000	0.005	3047.6	2250.8	2046.3	1492.1	1641.0	1201.2
950	0.005	2899.6	2141.5	1946.9	1419.6	1561.3	1142.9
900	0.005	2750.6	2031.4	1846.8	1346.6	1481.0	1084.1
850	0.006	2602.3	1921.8	1747.2	1274.0	1401.2	1025.6
800	0.006	2453.5	1811.8	1647.1	1201.0	1320.9	966.9
750	0.006	2304.7	1701.7	1547.0	1128.0	1240.6	908.1
700	0.007	2155.8	1591.7	1447.0	1055.1	1160.4	849.4
650	0.007	2007.0	1481.6	1346.9	982.1	1080.1	790.6
600	0.008	1858.2	1371.6	1246.9	909.1	999.9	731.9
550	0.008	1709.3	1261.6	1146.8	836.2	919.6	673.1
500	0.009	1560.5	1151.5	1046.8	763.2	839.4	614.4
450	0.010	1411.7	1041.5	946.7	690.2	759.1	555.6
400	0.011	1262.8	931.4	846.6	617.2	678.9	496.9
350	0.013	1114.0	821.4	746.6	544.3	598.6	438.2
300	0.015	965.2	711.3	646.5	471.3	518.4	379.4
250	0.018	816.4	601.3	546.5	398.3	438.1	320.7
200	0.022	667.6	491.3	446.4	325.4	357.9	261.9
150	0.028	518.8	381.3	346.4	252.4	277.6	203.2
100	0.039	375.6	272.1	246.6	178.8	196.8	143.6

LM6HC

WD (mm)	Magnification	Field of View (mm) 1″ H	1″ V	2/3″ H	2/3″ V	1/1.8″ H	1/1.8″ V
1000	0.006	2296.0	1691.7	1538.9	1128.0	1238.3	912.1
950	0.006	2183.3	1608.7	1463.3	1072.6	1177.5	867.3
900	0.007	2070.6	1525.6	1387.8	1017.2	1116.7	822.5
850	0.007	1957.9	1442.5	1312.2	961.8	1055.9	777.7
800	0.008	1845.2	1359.4	1236.6	906.4	995.1	732.9
750	0.008	1732.5	1276.3	1161.0	851.0	934.2	688.1
700	0.009	1619.8	1193.3	1085.4	795.6	873.4	643.3
650	0.009	1507.1	1110.2	1009.9	740.2	812.6	598.5
600	0.010	1394.4	1027.1	934.3	684.8	751.8	553.7
550	0.011	1281.7	944.0	858.7	629.4	691.0	508.9
500	0.012	1169.0	860.9	783.1	574.0	630.2	464.1
450	0.013	1056.3	777.9	707.6	518.6	569.3	419.3
400	0.015	943.6	694.8	632.0	463.2	508.5	374.5
350	0.017	830.9	611.7	556.4	407.8	447.7	329.8
300	0.020	718.2	528.6	480.8	352.4	386.9	285.0
250	0.023	605.5	445.5	405.2	297.0	326.1	240.2
200	0.028	492.8	362.5	329.7	241.6	265.2	195.4
150	0.037	380.1	279.4	254.1	186.2	204.4	150.6
100	0.052	267.4	196.3	178.7	130.9	143.7	105.9

LM8HC

WD (mm)	Magnification	Field of View (mm) 1″ H	1″ V	2/3″ H	2/3″ V	1/1.8″ H	1/1.8″ V
1000	0.008	1698.6	1245.6	1134.2	835.9	916.0	678.3
950	0.009	1615.1	1184.4	1078.5	794.8	871.0	644.9
900	0.009	1531.7	1123.1	1022.7	753.7	825.9	611.5
850	0.010	1448.2	1061.9	966.9	712.6	780.9	578.2
800	0.010	1364.7	1000.6	911.1	671.4	735.8	544.8
750	0.011	1281.3	939.4	855.4	630.3	690.8	511.5
700	0.012	1197.8	878.1	799.6	589.2	645.7	478.1
650	0.012	1114.3	816.9	743.8	548.1	600.7	444.7
600	0.013	1030.9	755.6	688.0	507.0	555.6	411.4
550	0.015	947.4	694.4	632.3	465.9	510.6	378.0
500	0.016	863.9	633.2	576.5	424.8	465.5	344.7
450	0.018	780.5	571.9	520.7	383.7	420.5	311.3
400	0.020	697.0	510.7	464.9	342.6	375.4	278.0
350	0.023	613.5	449.4	409.2	301.5	330.4	244.6
300	0.026	530.1	388.2	353.4	260.4	285.3	211.2
250	0.031	446.6	326.9	297.6	219.2	240.3	177.9
200	0.038	363.1	265.7	241.8	178.1	195.2	144.5
150	0.050	279.7	204.4	186.1	137.0	150.2	111.2
100	0.071	196.0	143.2	130.4	96.0	105.2	77.9

LM12HC

WD (mm)	Magnification	Field of View (mm) 1″ H	1″ V	2/3″ H	2/3″ V	1/1.8″ H	1/1.8″ V
1000	0.013	1068.7	787.5	718.9	533.9	583.9	435.0
950	0.013	1016.0	748.6	683.5	507.6	555.1	413.5
900	0.014	963.3	709.8	648.0	481.3	526.3	392.1
850	0.015	910.6	670.9	612.5	454.9	497.5	370.6
800	0.016	857.9	632.1	577.1	428.6	468.7	349.1
750	0.017	805.2	593.3	541.6	402.3	439.9	327.7
700	0.018	752.5	554.4	506.2	375.9	411.1	306.2
650	0.019	699.8	515.6	470.7	349.6	382.3	284.8
600	0.021	647.0	476.7	435.2	323.2	353.5	263.3
550	0.023	594.4	437.9	399.8	296.9	324.7	241.9
500	0.025	541.6	399.1	364.3	270.6	295.9	220.4
450	0.027	489.0	360.2	328.9	244.3	267.1	199.0
400	0.031	436.2	321.3	293.4	217.9	238.3	177.5
350	0.035	383.4	282.5	257.9	191.5	209.4	156.0
300	0.041	330.6	243.5	222.4	165.2	180.6	134.6

LM16HC

WD (mm)	Magnification	Field of View (mm) 1″ H	1″ V	2/3″ H	2/3″ V	1/1.8″ H	1/1.8″ V
1000	0.016	821.0	608.6	556.4	414.5	453.0	338.1
950	0.017	780.4	578.4	528.8	394.0	430.5	321.4
900	0.018	739.7	548.3	501.2	373.4	408.0	304.6
850	0.019	699.0	518.1	473.6	352.8	385.6	287.8
800	0.020	658.3	487.9	446.0	332.3	363.1	271.1
750	0.021	617.6	457.8	418.5	311.8	340.7	254.3
700	0.023	577.0	427.6	390.9	291.2	318.2	237.5
650	0.025	536.3	397.4	363.3	270.6	295.7	220.8
600	0.027	495.6	367.2	335.7	250.1	273.3	204.0
550	0.029	454.9	337.1	308.1	229.5	250.8	187.2
500	0.032	414.2	306.9	280.6	209.0	228.4	170.5
450	0.035	373.6	276.8	253.0	188.4	205.9	153.7
400	0.040	332.9	246.6	225.4	167.9	183.5	137.0
350	0.045	292.2	216.4	197.8	147.4	161.0	120.2
300	0.053	251.5	186.2	170.3	126.8	138.6	103.4

LM25HC

WD (mm)	Magnification	Field of View (mm) 1″ H	1″ V	2/3″ H	2/3″ V	1/1.8″ H	1/1.8″ V
1000	0.025	527.1	391.4	358.1	267.3	291.9	218.3
950	0.026	500.9	372.0	340.3	254.0	277.4	207.4
900	0.028	474.8	352.5	322.5	240.8	262.9	196.6
850	0.029	448.6	333.1	304.7	227.5	248.4	185.8
800	0.031	422.5	313.7	286.9	214.2	233.9	174.9
750	0.033	396.3	294.2	269.2	200.9	219.4	164.1
700	0.035	370.2	274.8	251.4	187.6	204.9	153.2
650	0.038	344.0	255.4	233.6	174.4	190.4	142.4
600	0.041	317.9	235.9	215.8	161.1	175.9	131.5
550	0.045	291.7	216.5	198.0	147.8	161.4	120.7
500	0.049	265.6	197.1	180.3	134.5	146.9	109.8
450	0.055	239.4	177.6	162.5	121.3	132.4	99.0
400	0.062	213.2	158.2	144.7	108.0	117.9	88.1
350	0.070	187.1	138.7	126.9	94.7	103.4	77.3
300	0.082	160.7	119.2	109.1	81.4	88.9	66.5

LM35HC

WD (mm)	Magnification	Field of View (mm) 1″ H	1″ V	2/3″ H	2/3″ V	1/1.8″ H	1/1.8″ V
1000	0.035	368.6	275.0	251.9	188.5	205.7	154.1
950	0.037	350.2	261.3	239.3	179.1	195.5	146.4
900	0.039	331.8	247.5	226.7	169.6	185.2	138.7
850	0.041	313.3	233.8	214.1	160.2	174.9	131.0
800	0.044	294.9	220.0	201.5	150.8	164.5	123.2
750	0.047	276.5	206.2	188.8	141.3	154.2	115.5
700	0.050	258.0	192.5	176.2	131.9	143.9	107.8
650	0.054	239.5	178.6	163.6	122.4	133.6	100.0
600	0.059	221.1	164.9	151.0	113.0	123.3	92.3
550	0.064	202.7	151.1	138.4	103.5	113.0	84.6
500	0.071	184.2	137.3	125.8	94.1	102.7	76.9
450	0.078	165.8	123.5	113.1	84.6	92.4	69.2
400	0.088	147.3	109.7	100.5	75.1	82.0	61.4
350	0.101	128.8	95.9	87.8	65.7	71.7	53.7
300	0.118	110.1	82.0	75.2	56.2	61.4	46.0

LM50HC

WD (mm)	Magnification	Field of View (mm) 1″ H	1″ V	2/3″ H	2/3″ V	1/1.8″ H	1/1.8″ V
1000	0.051	249.4	187.2	171.6	128.8	140.5	105.4
950	0.054	236.7	177.6	162.8	122.2	133.3	100.0
900	0.057	224.0	168.0	154.1	115.6	126.1	94.6
850	0.061	211.3	158.5	145.3	109.0	118.9	89.2
800	0.065	198.5	148.9	136.5	102.4	111.7	83.8
750	0.069	185.8	139.3	127.7	95.8	104.5	78.4
700	0.074	173.0	129.7	118.9	89.2	97.3	73.0
650	0.080	160.2	120.1	110.1	82.6	90.1	67.6
600	0.087	147.5	110.5	101.3	76.0	82.9	62.2
550	0.095	134.8	101.0	92.6	69.4	75.7	56.8
500	0.105	121.8	91.3	83.8	62.9	68.6	51.4

LM75HC

WD (mm)	Magnification	Field of View (mm) 1″ H	1″ V	2/3″ H	2/3″ V	1/1.8″ H	1/1.8″ V
2000	0.038	334.7	251.3	230.4	172.9	188.6	141.5
1900	0.040	317.8	238.5	218.7	164.2	179.0	134.4
1800	0.042	300.8	225.8	207.0	155.4	169.5	127.1
1700	0.045	283.9	213.1	195.3	146.6	159.9	120.0
1600	0.048	267.0	200.3	183.6	137.8	150.3	112.8
1500	0.051	250.0	187.6	172.0	129.0	140.7	105.6
1400	0.055	233.1	174.8	160.3	120.2	131.2	98.4
1300	0.059	216.2	162.1	148.6	111.5	121.6	91.2
1200	0.064	199.3	149.4	136.9	102.7	112.0	84.0
1100	0.070	182.4	136.7	125.3	93.9	102.5	76.9
1000	0.078	165.5	123.9	113.6	85.2	92.9	69.7

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

JC5MC/JC5MC-WP Lens Series

LM8JC5MC/LM8JC5MC-WP

WD (mm)	Magnification	Field of View (mm) 2/3″ H	2/3″ V	1/1.8″ H	1/1.8″ V	1/2″ H	1/2″ 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 (mm)	Magnification	Field of View (mm) 2/3″ H	2/3″ V	1/1.8″ H	1/1.8″ V	1/2″ H	1/2″ 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 (mm)	Magnification	Field of View (mm) 2/3″ H	2/3″ V	1/1.8″ H	1/1.8″ V	1/2″ H	1/2″ 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 (mm)	Magnification	Field of View (mm) 2/3″ H	2/3″ V	1/1.8″ H	1/1.8″ V	1/2″ H	1/2″ 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 (mm)	Magnification	Field of View (mm) 2/3″ H	2/3″ V	1/1.8″ H	1/1.8″ V	1/2″ H	1/2″ 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 (mm)	Magnification	Field of View (mm) 2/3″ H	2/3″ V	1/1.8″ H	1/1.8″ V	1/2″ H	1/2″ 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

NC1M/NCM-WP/JC1M/JC1MS/JCM-V/JCM-WP Lens series

LM3NC1M/LM3NCM-WP

WD (mm)	Magnification	Field of View (mm) 1/1.8″ H	1/1.8″ V	1/2″ H	1/2″ V	1/3″ H	1/3″ 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

LM6NC1M

WD (mm)	Magnification	Field of View (mm) 1/1.8″ H	1/1.8″ V	1/2″ H	1/2″ V	1/3″ H	1/3″ 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

LM5JC1M/LM5JCM-V/LM5JCM-WP

WD (mm)	Magnification	Field of View (mm) 2/3″ H	2/3″ V	1/1.8″ H	1/1.8″ V	1/2″ H	1/2″ 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 (mm)	Magnification	Field of View (mm) 2/3″ H	2/3″ V	1/1.8″ H	1/1.8″ V	1/2″ H	1/2″ 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 (mm)	Magnification	Field of View (mm) 2/3″ H	2/3″ V	1/1.8″ H	1/1.8″ V	1/2″ H	1/2″ 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 (mm)	Magnification	Field of View (mm) 2/3″ H	2/3″ V	1/1.8″ H	1/1.8″ V	1/2″ H	1/2″ 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 (mm)	Magnification	Field of View (mm) 2/3″ H	2/3″ V	1/1.8″ H	1/1.8″ V	1/2″ H	1/2″ 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 (mm)	Magnification	Field of View (mm) 2/3″ H	2/3″ V	1/1.8″ H	1/1.8″ V	1/2″ H	1/2″ 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 (mm)	Magnification	Field of View (mm) 2/3″ H	2/3″ V	1/1.8″ H	1/1.8″ V	1/2″ H	1/2″ 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 (mm)	Magnification	Field of View (mm) 2/3″ H	2/3″ V	1/1.8″ H	1/1.8″ V	1/2″ H	1/2″ 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 (mm)	Magnification	Field of View (mm) 2/3″ H	2/3″ V	1/1.8″ H	1/1.8″ V	1/2″ H	1/2″ 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

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

JC10M Lens Series

LM3JC10M

WD (mm)	Magnification	Field of View (mm) 2/3″ H	2/3″ V	1/1.8″ H	1/1.8″ V	1/2″ H	1/2″ V
1000	0.004	2433.0	1822.3	1989.3	1488.5	1766.6	1322.1
950	0.004	2313.5	1732.7	1891.5	1415.3	1679.7	1257.1
900	0.004	2194.1	1643.1	1793.8	1342.1	1592.9	1192.0
850	0.004	2074.6	1553.6	1696.0	1268.9	1506.1	1127.0
800	0.005	1955.1	1464.0	1598.2	1195.7	1419.2	1062.0
750	0.005	1835.6	1374.4	1500.5	1122.5	1332.4	997.0
700	0.005	1716.1	1284.8	1402.7	1049.3	1245.6	932.0
650	0.006	1596.6	1195.3	1305.0	976.1	1158.7	866.9
600	0.006	1477.1	1105.7	1207.2	902.9	1071.9	801.9
550	0.007	1357.6	1016.1	1109.5	829.8	985.0	736.9
500	0.007	1238.2	926.6	1011.7	756.6	898.2	671.9
450	0.008	1118.7	837.0	913.9	683.4	811.4	606.9
400	0.009	999.2	747.4	816.2	610.2	724.5	541.8
350	0.010	879.7	657.9	718.4	537.0	637.7	476.8
300	0.012	760.2	568.3	620.7	463.8	550.9	411.8
250	0.014	640.8	478.7	522.9	390.6	464.0	346.8
200	0.017	521.3	389.2	425.2	317.4	377.2	281.8
150	0.022	401.8	299.6	327.4	244.3	290.4	216.8
100	0.032	282.4	210.1	229.7	171.1	203.6	151.7

LM5JC10M

WD (mm)	Magnification	Field of View (mm) 2/3″ H	2/3″ V	1/1.8″ H	1/1.8″ V	1/2″ H	1/2″ V
1000	0.005	1773.6	1330.1	1450.3	1090.1	1290.1	969.9
950	0.005	1686.3	1264.6	1378.9	1036.4	1226.5	922.1
900	0.006	1599.0	1199.1	1307.4	982.7	1163.0	874.3
850	0.006	1511.7	1133.5	1236.0	928.9	1099.4	826.5
800	0.006	1424.4	1068.0	1164.6	875.2	1035.9	778.7
750	0.007	1337.1	1002.5	1093.2	821.5	972.3	730.9
700	0.007	1249.8	937.0	1021.7	767.8	908.8	683.1
650	0.008	1162.5	871.5	950.3	714.1	845.2	635.3
600	0.008	1075.2	806.0	878.9	660.4	781.7	587.5
550	0.009	987.9	740.4	807.5	606.7	718.1	539.7
500	0.010	900.6	674.9	736.0	552.9	654.6	491.9
450	0.011	813.3	609.4	664.6	499.2	591.0	444.1
400	0.012	725.9	543.9	593.2	445.5	527.5	396.3
350	0.014	638.6	478.3	521.7	391.8	463.9	348.5
300	0.016	551.3	412.8	450.3	338.1	400.3	300.7
250	0.019	463.9	347.3	378.8	284.3	336.8	252.9
200	0.023	376.6	281.7	307.4	230.6	273.2	205.1
150	0.031	289.2	216.2	235.9	176.9	209.6	157.3
100	0.044	201.7	150.5	164.3	123.0	145.9	109.3

LM8JC10M

WD (mm)	Magnification	Field of View (mm) 2/3″ H	2/3″ V	1/1.8″ H	1/1.8″ V	1/2″ H	1/2″ V
1000	0.008	1052.3	791.0	862.6	647.4	767.1	575.5
950	0.009	1000.6	752.2	820.3	615.6	729.4	547.3
900	0.009	949.8	713.9	778.6	584.3	692.3	519.4
850	0.010	898.9	675.6	736.8	553.0	655.2	491.6
800	0.010	848.2	637.5	695.2	521.8	618.2	463.8
750	0.001	797.1	599.1	653.3	490.3	580.9	435.8
700	0.012	746.2	560.8	611.6	458.9	543.8	408.0
650	0.013	695.2	522.4	569.7	427.5	506.6	380.0
600	0.014	644.3	484.1	528.0	396.2	469.5	352.2
550	0.015	593.3	445.7	486.2	364.8	432.3	324.2
500	0.016	542.7	407.7	444.7	333.6	395.4	296.6
450	0.018	491.9	369.5	403.0	302.3	358.3	268.7
400	0.020	440.7	331.0	361.1	270.8	321.0	240.7
350	0.023	389.8	292.7	319.3	239.5	283.8	212.8
300	0.026	338.9	254.4	277.5	208.1	246.7	184.9
250	0.031	288.0	216.1	235.8	176.7	209.5	157.1
200	0.037	237.0	177.7	194.0	145.3	172.3	129.1
150	0.048	186.1	139.4	152.2	113.9	135.2	101.2
100	0.066	135.4	101.3	110.6	82.7	98.2	73.4

LM12JC10M

WD (mm)	Magnification	Field of View (mm) 2/3″ H	2/3″ V	1/1.8″ H	1/1.8″ V	1/2″ H	1/2″ V
1000	0.016	546.3	408.9	446.3	334.2	396.4	296.9
950	0.017	519.5	388.8	424.4	317.8	377.0	282.3
900	0.018	492.7	368.7	402.5	301.4	357.5	267.7
850	0.019	465.9	348.7	380.6	285.0	338.0	253.2
800	0.020	439.1	328.6	358.7	268.6	318.6	238.6
750	0.022	412.3	308.5	336.8	252.2	299.1	224.0
700	0.023	385.4	288.5	314.9	235.7	279.7	209.4
650	0.025	358.6	268.4	292.9	219.3	260.2	194.9
600	0.027	331.8	248.3	271.0	202.9	240.7	180.3
550	0.029	305.0	228.2	249.1	186.5	221.3	165.7
500	0.032	278.1	208.1	227.2	170.1	201.8	151.1
450	0.035	251.3	188.1	205.3	153.7	182.3	136.6
400	0.039	224.5	168.0	183.4	137.3	162.9	122.0
350	0.045	197.7	147.9	161.5	120.9	143.4	107.4
300	0.052	170.9	127.8	139.6	104.5	123.9	92.8
250	0.062	144.0	107.8	117.6	88.1	104.5	78.2
200	0.076	117.2	87.7	95.7	71.7	85.0	63.7
150	0.098	90.4	67.6	73.8	55.3	65.6	49.1
100	0.107	83.4	62.3	68.0	50.9	60.3	45.1

LM16JC10M

WD (mm)	Magnification	Field of View (mm) 2/3″ H	2/3″ V	1/1.8″ H	1/1.8″ V	1/2″ H	1/2″ V
1000	0.016	546.3	408.9	446.3	334.2	396.4	296.9
950	0.017	519.5	388.8	424.4	317.8	377.0	282.3
900	0.018	492.7	368.7	402.5	301.4	357.5	267.7
850	0.019	465.9	348.7	380.6	285.0	338.0	253.2
800	0.020	439.1	328.6	358.7	268.6	318.6	238.6
750	0.022	412.3	308.5	336.8	252.2	299.1	224.0
700	0.023	385.4	288.5	314.9	235.7	279.7	209.4
650	0.025	358.6	268.4	292.9	219.3	260.2	194.9
600	0.027	331.8	248.3	271.0	202.9	240.7	180.3
550	0.029	305.0	228.2	249.1	186.5	221.3	165.7
500	0.032	278.1	208.1	227.2	170.1	201.8	151.1
450	0.035	251.3	188.1	205.3	153.7	182.3	136.6
400	0.039	224.5	168.0	183.4	137.3	162.9	122.0
350	0.045	197.7	147.9	161.5	120.9	143.4	107.4
300	0.052	170.9	127.8	139.6	104.5	123.9	92.8
250	0.062	144.0	107.8	117.6	88.1	104.5	78.2
200	0.076	117.2	87.7	95.7	71.7	85.0	63.7
150	0.098	90.4	67.6	73.8	55.3	65.6	49.1
100	0.139	61.1	45.7	49.9	37.3	46.3	33.1

LM25JC10M

WD (mm)	Magnification	Field of View (mm) 2/3″ H	2/3″ V	1/1.8″ H	1/1.8″ V	1/2″ H	1/2″ V
1000	0.025	356.4	267.1	291.4	218.4	259.0	194.1
950	0.026	338.8	253.9	277.0	207.6	246.2	184.5
900	0.028	321.2	240.7	262.6	196.8	233.4	174.9
850	0.029	303.5	227.4	248.2	186.0	220.5	165.3
800	0.031	285.9	214.2	233.8	175.2	207.7	155.7
750	0.033	268.2	201.0	219.3	164.4	194.9	146.1
700	0.035	250.6	187.8	204.9	153.6	182.1	136.5
650	0.038	233.0	174.6	190.5	142.8	169.3	126.9
600	0.041	215.3	161.4	176.1	132.0	156.5	117.3
550	0.045	197.7	148.2	161.7	121.2	143.7	107.7
500	0.049	180.1	134.9	147.2	110.4	130.8	98.1
450	0.054	162.4	121.7	132.8	99.5	118.0	88.5
400	0.061	144.8	108.5	118.4	88.7	105.2	78.9
350	0.069	127.2	95.3	104.0	77.9	92.4	69.3
300	0.081	109.5	82.1	89.6	67.1	79.6	59.7
250	0.096	91.9	68.9	75.1	56.3	66.8	50.0
200	0.119	74.3	55.6	60.7	45.5	53.9	40.4
150	0.156	56.6	42.4	46.3	34.7	41.1	30.8
100	0.226	39.0	29.2	31.9	23.9	28.3	21.2

LM35JC10M

WD (mm)	Magnification	Field of View (mm) 2/3″ H	2/3″ V	1/1.8″ H	1/1.8″ V	1/2″ H	1/2″ V
1000	0.035	249.3	187.1	204.0	153.1	181.4	136.1
950	0.037	236.8	177.6	193.8	145.3	172.2	129.2
900	0.039	224.2	168.2	183.5	137.6	163.1	122.3
850	0.042	211.6	158.8	173.2	129.9	154.0	115.5
800	0.044	199.1	149.3	162.9	122.2	144.8	108.6
750	0.047	186.5	139.9	152.6	114.5	135.7	101.8
700	0.051	173.9	130.5	142.3	106.8	126.5	94.9
650	0.055	161.4	121.0	132.0	99.0	117.4	88.0
600	0.059	148.8	111.6	121.7	91.3	108.2	81.2
550	0.065	136.2	102.2	111.5	83.6	99.1	74.3
500	0.071	123.7	92.7	101.2	75.9	89.9	67.5
450	0.079	111.1	83.3	90.9	68.2	80.8	60.6
400	0.089	98.5	73.9	80.6	60.5	71.7	53.7
350	0.102	86.0	64.5	70.4	52.8	62.5	46.9
300	0.120	73.5	55.1	60.2	45.1	53.5	40.1
250	0.144	61.1	45.8	50.0	37.5	44.4	33.3
200	0.180	48.9	36.6	40.0	30.0	35.5	26.6
150	0.239	36.9	27.6	30.2	22.6	26.8	20.1
100	0.349	25.3	19.0	20.7	15.5	18.4	13.8

LM50JC10M

WD (mm)	Magnification	Field of View (mm) 2/3″ H	2/3″ V	1/1.8″ H	1/1.8″ V	1/2″ H	1/2″ V
1000	0.048	182.9	137.2	149.7	112.3	133.0	99.8
950	0.051	174.0	130.6	142.4	106.8	126.6	95.0
900	0.053	165.2	123.9	135.2	101.4	120.2	90.1
850	0.056	156.3	117.3	127.9	96.0	113.7	85.3
800	0.060	147.5	110.6	120.7	90.5	107.3	80.5
750	0.063	138.6	104.0	113.4	85.1	100.9	75.6
700	0.068	129.7	97.3	106.2	79.7	94.4	70.8
650	0.073	120.9	90.7	98.9	74.2	87.9	66.0
600	0.079	112.0	84.0	91.7	68.8	81.5	61.1
550	0.085	103.1	77.3	84.4	63.3	75.0	56.3
500	0.093	94.2	70.7	77.1	57.8	68.5	51.4
450	0.103	85.2	64.0	69.8	52.3	62.0	46.5
400	0.115	76.3	57.2	62.4	46.8	55.5	41.6
350	0.131	67.3	50.5	55.1	41.3	48.9	36.7
300	0.151	58.2	43.7	47.6	35.7	42.4	31.8
250	0.179	49.1	36.8	40.2	30.1	35.7	26.8
200	0.221	39.8	29.9	32.6	24.4	29.0	21.7
150	0.290	30.3	22.7	24.8	18.6	22.0	16.5
100	0.459	19.2	14.4	15.7	11.8	13.9	10.4

EC-IR Lens Series

LM16EC-IR

WD (mm)	Magnification	Field of View (mm) 1.2″ H 15.4	1.2″ V 11.5	1.1″ H 14.1	1.1″ V 10.6	1″ H 12.8	1″ V 9.6
20000	0.001	19701.4	14572.2	17987.0	13399.6	16275.5	12103.8
10000	0.002	9855.3	7289.6	8997.8	6703.0	8141.6	6054.8
9000	0.002	8870.7	6561.3	8098.8	6033.3	7328.2	5449.9
8000	0.002	7886.1	5833.1	7199.9	5363.7	6514.8	4845.0
7000	0.002	6901.5	5104.8	6301.0	4694.0	5701.5	4240.1
6000	0.003	5916.9	4376.5	5402.1	4024.4	4888.1	3635.2
5000	0.003	4932.3	3648.3	4503.1	3354.7	4074.7	3030.3
4000	0.004	3947.7	2920.0	3604.2	2685.0	3261.3	2425.4
3000	0.005	2963.1	2191.7	2705.3	2015.4	2447.9	1820.5
2000	0.008	1978.5	1463.5	1806.4	1345.7	1634.5	1215.6
1900	0.008	1880.1	1390.6	1716.5	1278.8	1553.2	1155.1
1800	0.009	1781.6	1317.8	1626.6	1211.8	1471.8	1094.6
1700	0.009	1683.1	1245.0	1536.7	1144.8	1390.5	1034.1
1600	0.010	1584.7	1172.2	1446.8	1077.9	1309.2	973.6
1500	0.011	1486.2	1099.3	1356.9	1010.9	1227.8	913.2
1400	0.011	1387.7	1026.5	1267.0	943.9	1146.5	852.7
1300	0.012	1289.3	953.7	1177.1	877.0	1065.1	792.2
1200	0.013	1190.8	880.9	1087.2	810.0	983.8	731.7
1100	0.015	1092.4	808.0	997.3	743.0	902.5	671.2
1000	0.016	993.9	735.2	907.4	676.1	821.1	610.7
900	0.018	895.4	662.4	817.5	609.1	739.8	550.2
800	0.020	797.0	589.6	727.7	542.1	658.4	489.7
700	0.023	698.5	516.7	637.8	475.2	577.1	429.2
600	0.026	600.1	443.9	547.9	408.2	495.8	368.7
500	0.032	501.0	371.0	458.0	341.0	414.0	308.0

LM25EC-IR

WD (mm)	Magnification	Field of View (mm) 1.2″ H 15.4	1.2″ V 11.5	1.1″ H 14.1	1.1″ V 10.6	1″ H 12.8	1″ V 9.6
20000	0.0013	12565.6	9288.6	11462.6	8545.0	10370.6	7723.5
10000	0.0025	6283.1	4644.7	5731.7	4272.9	5185.7	3862.1
9000	0.0028	5654.9	4180.3	5158.6	3845.7	4667.2	3476.0
8000	0.0031	5026.7	3715.9	4585.5	3418.5	4148.7	3089.8
7000	0.0036	4398.4	3251.5	4012.4	2991.2	3630.2	2703.7
6000	0.0042	3770.2	2787.1	3439.3	2564.0	3111.7	2317.5
5000	0.005	3141.9	2322.7	2866.2	2136.8	2593.2	1931.4
4000	0.0063	2513.7	1858.3	2293.1	1709.6	2074.7	1545.3
3000	0.0084	1885.4	1393.9	1720.0	1282.4	1556.3	1159.1
2000	0.0125	1257.2	929.6	1146.9	855.2	1037.8	773.0
1900	0.0132	1194.4	883.1	1089.6	812.5	985.9	734.4
1800	0.0139	1131.6	836.7	1032.3	769.7	934.1	695.8
1700	0.0148	1068.7	790.2	975.0	727.0	882.2	657.1
1600	0.0157	1005.9	743.8	917.7	684.3	830.4	618.5
1500	0.0167	943.1	697.4	860.4	641.6	778.5	579.9
1400	0.0179	880.3	650.9	803.1	598.8	726.7	541.3
1300	0.0193	817.4	604.5	745.8	556.1	674.8	502.7
1200	0.0209	754.6	558.0	688.5	513.4	623.0	464.1
1100	0.0228	691.8	511.6	631.2	470.7	571.1	425.5
1000	0.0251	629.0	465.2	573.9	428.0	519.3	386.8
900	0.0278	566.1	418.7	516.5	385.2	467.4	348.2
800	0.0313	503.3	372.3	459.2	342.5	415.6	309.6
700	0.0358	440.5	325.8	401.9	299.8	363.7	271.0
600	0.0417	377.7	279.4	344.6	257.1	311.9	232.4
500	0.05	315.0	233.0	287.0	214.0	260.0	194.0

LM35EC-IR

WD (mm)	Magnification	Field of View (mm) 1.2″ H 15.4	1.2″ V 11.5	1.1″ H 14.1	1.1″ V 10.6	1″ H 12.8	1″ V 9.6
20000	0.0018	8878.4	6603.7	8118.0	6081.8	7359.7	5503.1
10000	0.0035	4439.4	3301.8	4059.1	3040.8	3679.9	2751.5
9000	0.0039	3995.5	2971.7	3653.2	2736.8	3311.9	2476.4
8000	0.0044	3551.6	2641.5	3247.3	2432.7	2943.9	2201.2
7000	0.005	3107.7	2311.3	2841.4	2128.6	2575.9	1926.0
6000	0.0058	2663.8	1981.1	2435.5	1824.5	2208.0	1650.9
5000	0.007	2219.9	1650.9	2029.6	1520.4	1840.0	1375.7
4000	0.0088	1775.9	1320.7	1623.7	1216.3	1472.0	1100.6
3000	0.0117	1332.0	990.5	1217.8	912.2	1104.0	825.4
2000	0.0175	888.1	660.3	811.9	608.1	736.0	550.2
1900	0.0185	843.7	627.3	771.4	577.7	699.2	522.7
1800	0.0195	799.3	594.3	730.8	547.3	662.4	495.2
1700	0.0206	754.9	561.3	690.2	516.9	625.6	467.7
1600	0.0219	710.6	528.3	649.6	486.5	588.8	440.2
1500	0.0234	666.2	495.3	609.0	456.1	552.0	412.6
1400	0.0251	621.8	462.2	568.4	425.7	515.2	385.1
1300	0.027	577.4	429.2	527.8	395.3	478.4	357.6
1200	0.0292	533.0	396.2	487.2	364.8	441.6	330.1
1100	0.0319	488.6	363.2	446.6	334.4	404.8	302.6
1000	0.035	444.2	330.2	406.0	304.0	368.0	275.1
900	0.039	399.8	297.1	365.4	273.6	331.2	247.6
800	0.044	355.4	264.1	324.9	243.2	294.4	220.0
700	0.050	311.0	231.1	284.3	212.8	257.6	192.5
600	0.059	266.6	198.1	243.7	182.4	220.8	165.0
500	0.070	222.0	165.0	203.0	152.0	184.0	137.0

LM50EC-IR

WD (mm)	Magnification	Field of View (mm) 1.2″ H 15.4	1.2″ V 11.5	1.1″ H 14.1	1.1″ V 10.6	1″ H 12.8	1″ V 9.6
20000	0.003	6157.4	4598.6	5637.9	4238.8	5118.3	3839.0
10000	0.005	3075.0	2296.4	2815.4	2116.7	2555.9	1917.0
9000	0.006	2766.7	2066.1	2533.2	1904.5	2299.7	1724.8
8000	0.006	2458.5	1835.9	2250.9	1692.2	2043.4	1532.6
7000	0.007	2150.2	1605.7	1968.7	1480.0	1787.2	1340.4
6000	0.008	1842.0	1375.5	1686.5	1267.8	1531.0	1148.2
5000	0.010	1533.7	1145.2	1404.2	1055.6	1274.7	956.0
4000	0.013	1225.5	915.0	1122.0	843.4	1018.5	763.8
3000	0.017	917.2	684.8	839.7	631.2	762.3	571.6
2000	0.025	609.0	454.6	557.5	419.0	506.0	379.4
1900	0.027	578.1	431.6	529.2	397.8	480.4	360.2
1800	0.028	547.3	408.5	501.0	376.5	454.8	341.0
1700	0.030	516.5	385.5	472.8	355.3	429.1	321.8
1600	0.032	485.6	362.5	444.6	334.1	403.5	302.5
1500	0.034	454.8	339.5	416.3	312.9	377.9	283.3
1400	0.036	424.0	316.4	388.1	291.6	352.3	264.1
1300	0.039	393.2	293.4	359.9	270.4	326.6	244.9
1200	0.043	362.3	270.4	331.7	249.2	301.0	225.7
1100	0.047	331.5	247.4	303.4	228.0	275.4	206.4
1000	0.051	300.7	224.3	275.2	206.8	249.8	187.2
900	0.057	269.8	201.3	247.0	185.5	224.1	168.0
800	0.065	239.0	178.3	218.7	164.3	198.5	148.8
700	0.074	208.2	155.3	190.5	143.1	172.9	129.6
600	0.087	177.3	132.2	162.3	121.9	147.2	110.3
500	0.106	147.0	109.0	134.0	101.0	122.0	91.0

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

S-Mount Lens Series

LM1.7QS

WD (mm)	Magnification	Field of View (mm) 1/2.5" H	1/2.5" V	1/2.8" H	1/2.8" V	1/3.6" H	1/3.6" V
1000	0.002	3365.3	2526.8	3173.3	1986.2	2268.2	1703.9
950	0.002	3198.5	2401.5	3016.0	1887.7	2155.7	1619.4
900	0.002	3031.7	2276.2	2858.7	1789.2	2043.3	1534.8
850	0.002	2864.9	2150.9	2701.4	1690.7	1930.8	1450.3
800	0.002	2698.1	2025.6	2544.1	1592.2	1818.3	1365.8
750	0.002	2531.3	1900.4	2386.9	1493.7	1705.8	1281.3
700	0.002	2364.5	1775.1	2229.6	1395.2	1593.4	1196.8
650	0.003	2197.8	1649.8	2072.3	1296.7	1480.9	1112.3
600	0.003	2031.0	1524.5	1915.0	1198.2	1368.4	1027.8
550	0.003	1864.2	1399.3	1757.7	1099.7	1256.0	943.3
500	0.003	1697.4	1274.0	1600.4	1001.2	1143.5	858.8
450	0.004	1530.6	1148.7	1443.1	902.7	1031.0	774.3
400	0.004	1363.8	1023.4	1285.9	804.2	918.5	689.8
350	0.005	1197.0	898.1	1128.6	705.7	806.1	605.2
300	0.006	1030.3	772.9	971.3	607.2	693.6	520.7
250	0.007	863.5	647.6	814.0	508.7	581.1	436.2
200	0.008	696.7	522.3	656.7	410.2	468.6	351.7
150	0.011	529.9	397.0	499.4	311.7	356.2	267.2
100	0.016	363.1	271.8	342.1	213.2	243.7	182.7

LM3QS

WD (mm)	Magnification	Field of View (mm) 1/2.5" H	1/2.5" V	1/2.8" H	1/2.8" V	1/3.6" H	1/3.6" V
1000	0.003	1883.8	1409.2	1775.1	1107.1	1261.7	944.9
950	0.003	1790.1	1339.1	1686.7	1052.0	1198.9	897.8
900	0.003	1696.3	1268.9	1598.3	996.9	1136.1	850.8
850	0.004	1602.5	1198.8	1510.0	941.7	1073.3	803.7
800	0.004	1508.8	1128.6	1421.6	886.6	1010.5	756.7
750	0.004	1415.0	1058.5	1333.3	831.5	947.6	709.7
700	0.004	1321.2	988.3	1244.9	776.4	884.8	662.6
650	0.005	1227.4	918.2	1156.6	721.3	822.0	615.6
600	0.005	1133.7	848.0	1068.2	666.2	759.2	568.6
550	0.005	1039.9	777.9	979.8	611.1	696.4	521.5
500	0.006	946.1	707.7	891.5	556.0	633.6	474.5
450	0.007	852.3	637.6	803.1	500.8	570.8	427.4
400	0.008	758.6	567.4	714.8	445.7	508.0	380.4
350	0.009	664.8	497.3	626.4	390.6	445.2	333.4
300	0.010	571.0	427.1	538.0	335.5	382.4	286.3
250	0.012	477.3	357.0	449.7	280.4	319.6	239.3
200	0.015	383.5	286.8	361.3	225.3	256.7	192.2
150	0.020	289.7	216.6	273.0	170.2	193.9	145.2
100	0.029	195.9	146.5	184.6	115.0	131.1	98.2

LM5NS

WD (mm)	Magnification	Field of View (mm) 1/2.5" H	1/2.5" V	1/2.8" H	1/2.8" V	1/3.6" H	1/3.6" V
1000	0.005	1457.6	1078.3	1088.6	669.2	767.7	571.6
950	0.005	1385.3	1024.8	1034.6	636.0	729.6	543.3
900	0.006	1312.9	971.3	980.6	602.7	691.5	514.9
850	0.006	1240.6	917.8	926.6	569.5	653.4	486.5
800	0.006	1168.3	864.3	872.5	536.3	615.3	458.1
750	0.007	1096.0	810.7	818.5	503.1	577.2	429.8
700	0.007	1023.7	757.2	764.5	469.9	539.1	401.4
650	0.008	951.4	703.7	710.5	436.7	501.0	373.0
600	0.008	879.1	650.2	656.4	403.5	462.9	344.6
550	0.009	806.8	596.7	602.4	370.2	424.8	316.3
500	0.010	734.5	543.2	548.4	337.0	386.7	287.9
450	0.011	662.2	489.7	494.3	303.8	348.6	259.5
400	0.013	589.8	436.1	440.3	270.6	310.5	231.1
350	0.014	517.5	382.6	386.3	237.4	272.4	202.8
300	0.017	445.2	329.1	332.3	204.2	234.2	174.4
250	0.020	372.9	275.6	278.2	171.0	196.1	146.0
200	0.025	300.6	222.1	224.2	137.7	158.0	117.7
150	0.033	228.3	168.6	170.2	104.5	119.9	89.3
100	0.048	156.0	115.1	116.2	71.3	81.8	60.9

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/0.07×	150mm/0.08×	200mm/0.08×	200mm/0.12×	200mm/0.18×	200mm/0.30×	1200mm/0.07×	2000mm/0.05×
(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×	1700mm/0.06×
(5mm Ring) M.O.D./Magnification	–	–	–	73mm/0.31×	115mm/0.32×	160mm/0.39×	630mm/0.13×	1060mm/0.10×
(10mm Ring) M.O.D./Magnification	–	–	–	–	81mm/0.46×	135mm/0.48×	440mm/0.20×	740mm/0.15×
(20mm Ring) M.O.D./Magnification	–	–	–	–	51mm/0.73×	105mm/0.65×	285mm/0.34×	480mm/0.25×

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×

EC-IR Series / Model	LM16EC-IR *1	LM25EC-IR	LM35EC-IR	LM50EC-IR
(Non) M.O.D./Magnification	500mm/0.03×	500mm/0.05×	500mm/0.07×	500mm/0.11×
(1mm Ring) M.O.D./Magnification	158mm/0.10×	276mm/0.09×	356mm/0.10×	1424mm/0.13×
(5mm Ring) M.O.D./Magnification	37mm/0.35×	98mm/0.25×	165mm/0.21×	269mm/0.21×
(10mm Ring) M.O.D./Magnification	15mm/0.66×	54mm/0.45×	100mm/0.36×	190mm/0.31×
(20mm Ring) M.O.D./Magnification	–	28mm/0.84×	56mm/0.64×	126mm/0.51×

*1: When the Far Spacer is removed

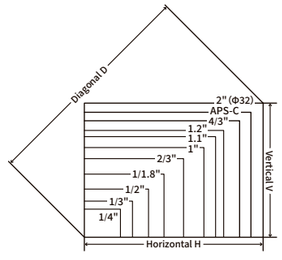
Fundamentals of Lenses

Image Size

Image size varies across lens series and refers to the area of the image that passes through the lens and can be captured.
As long as the lens's image size is equal to or larger than the camera's sensor size (see figure at right), the lens is compatible and can be used effectively.

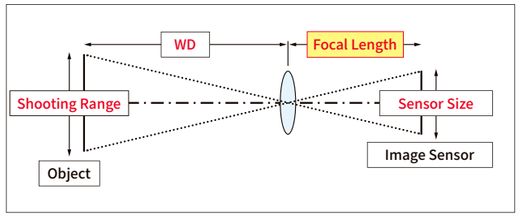
Image Sensor Size

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 imaging area is determined by the focal length, the sensor size, and the working distance (W.D.), which is the distance from the front of the lens to the object.
As shown in the figure at the right, the focal length is the distance from the lens to the image sensor. A shorter focal length results in a wider field of view, while a longer focal length provides a more magnified view of the object.
To achieve optimal imaging results, it is important to select a lens with a focal length that matches both the object size and the required working distance.



F-Stop (Aperture)

The brightness of a lens is indicated by its F-Stop, calculated by dividing the focal length by the effective diameter of the lens. This value can be adjusted using the aperture.
Lenses with smaller F-Stops (brighter lenses) allow more light to pass through, enabling faster shutter speeds. On the other hand, larger F-Stops (darker lenses) increase the depth of field, allowing a wider range of the image to remain in focus.

F-Stop (Aperture Value) = The size of the opening through which light passes through a lens.



A large amount of light enters the lens.
Increase the aperture size.

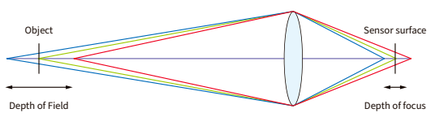
Only a small amount of light enters the lens.
Decrease the aperture size.

The F-Stop follows a standard sequence: 1.4, 2, 2.8, 4, 5.6, and so on. Each step in this sequence corresponds to halving or doubling the amount of light that reaches the sensor. This is because the F-Stop is based on the aperture diameter, and when the radius of the aperture is reduced by a factor of $1/\sqrt{2}$, the area through which light enters becomes half. As a result, the light intensity is also halved.

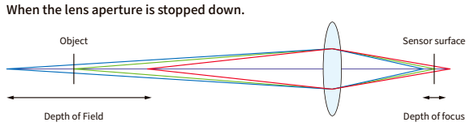


Depth of Field

Depth of field refers to the range within which the image remains in acceptable focus. It is influenced by three main factors: F-Stop, working distance (W.D.), and focal length. The depth of field increases when the F-Stop is raised, the working distance is extended, or the focal length is shortened. Adjusting these parameters allows for better control over what portions of the image appear sharp.

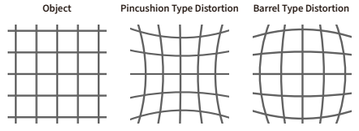


When the lens aperture is stopped down.



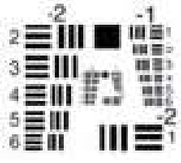
Distortion

Distortion is a phenomenon where the captured image appears warped or deformed. When distortion is present, the shape of the imaged object may differ from its actual shape, leading to inaccuracies in position or dimensional information during inspections or image processing. For this reason, low-distortion lenses are essential in applications that require high precision, as they maintain accurate image geometry and ensure reliable measurement results.



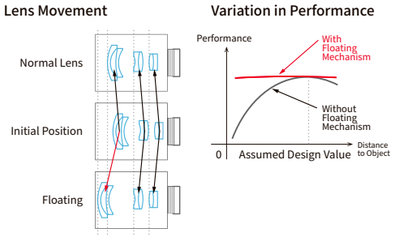
Resolving Power

Resolving power refers to the lens's ability to reproduce the fine details and edges of an object clearly. It is typically measured using black and white striped patterns, and is expressed as the number of line pairs that can be distinguished within a 1 mm width. This value is indicated in lp/mm (line pairs per millimeter), where a higher number represents greater detail resolution.



Floating Mechanism Design

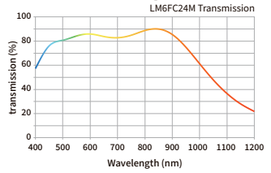
Floating mechanisms, also known as close-range aberration compensating mechanisms, are effective in minimizing performance degradation across varying working distances.
In conventional lenses, all lens elements move together when adjusting focus. This often results in a decline in optical performance depending on the working distance.
In contrast, lenses equipped with floating mechanisms divide internal lens elements into multiple groups. These groups move independently, allowing the lens to maintain optimal performance across a range of working distances. As a result, floating mechanisms enable lenses to deliver consistently high image quality, even during close-range imaging.



Lens Coatings

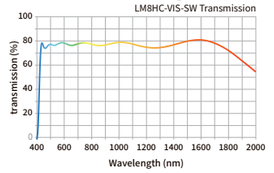
-High light transmission from visible to near-infrared (NIR) wavelengths.
-Can be used in a wide range of applications.

Wide-Band Multi-Coating



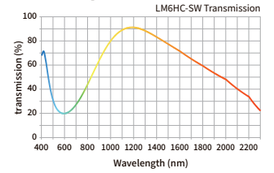
-High transmission from the visible range to short wavelength infrared (SWIR).
-A wide range of wavelength bands.

EX Wide-Band Multi-Coating

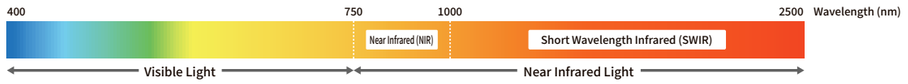


-Coatings optimized for high transmission in the short wavelength infrared (SWIR) range.

SWIR Coating



For each lens series, coatings are optimized to suit the specific needs of various wavelength bands, ensuring they are ideally suited for a wide range of applications.



Custom Design

Would you like to create your optimum lens?
[Kowa Customized Lenses]

We offer comprehensive services covering everything from design and prototyping to production, performance evaluation, and quality assurance.

We accept orders to design and manufacture a wide range of optical systems tailored to customer needs. Our capabilities extend beyond optics, offering complete system solutions that integrate mechanical, electrical, and software components. By working closely with our customers, we actively propose enhancements to improve technical performance and address cost-related challenges.

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

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.

Manufacturing Process Flow Chart

Planning and Evaluation Phase

Inquiry
↓
Client Consultation for Preliminary Specifications
↓
Engineering Design
↓
Customer Meeting for Specification Review
↓
Quotation for Prototyping and Mass Production

▶

Prototyping Phase

Order Placement
↓
Parts Procurement / Assembly / Evaluation
↓
Prototype Delivery
↓
Customer Meeting for Mass Production Planning

▶

Mass Production Phase

Order Placement
↓
Parts Procurement / Assembly / Evaluation
↓
Supply Mass Production Products

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