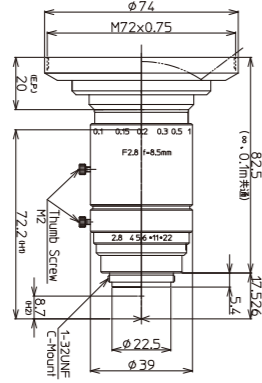


XC Series

High Resolution FA/MV Lenses

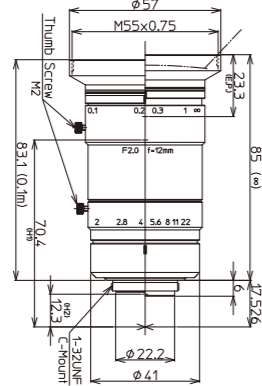
Features of XC Series

- ▶ Large image size of $\Phi 23\text{mm}$ incorporated within a C-mount design.
- ▶ Megapixel resolution is maintained throughout the entire image even when the iris is fully opened.
- ▶ High precision aspherical lens greatly reduces distortion and produces a high-definition picture.
- ▶ The LM8XC generates a very wide 93.5° horizontal angle of view.
- ▶ Kowa's floating mechanism system virtually eliminates optical aberrations from close distance to infinity.



Model	LM8XC
Focal Length(mm)	8.5
Image Size(mm)	18.4x13.8($\Phi 23$)
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)x179.1(V)
Angle of View (Degrees)	4/3 Inch: 93.5x77.1 1.1 Inch: 78.2x62.7 1 Inch: 72.9x57.9 2/3 Inch: 53.8x41.6
Resolution(Center, Corner)	160lp/mm, 80lp/mm
TV Distortion(%)	0.12
Back Focus in Air(mm)	12.9
Mount	C-mount
Filter Thread(mm)	M72xP0.75
Size(mm)	$\Phi 74 \times 82.5$
Weight(g)	245
Temperature Range	-10°C~+50°C

4/3" 1.1" 1" 2/3" 8.5mm FIXED 8MEGA C-mnt METAL LO-DIS FLOAT XD WBMC



Model	LM12XC
Focal Length(mm)	12
Image Size(mm)	18.4x13.8($\Phi 23$)
Iris Range(F-stop)	F2.0~F22
Focusing Range(m)	0.1~ ∞
Control	Iris: Manual Focus: Manual
Shooting Range at M.O.D.(mm)	181.5(H)x135.5(V)
Angle of View (Degrees)	4/3 Inch: 74.9x59.6 1.1 Inch: 60.6x47.1 1 Inch: 55.9x43.1 2/3 Inch: 39.8x30.2
Resolution(Center, Corner)	160lp/mm, 80lp/mm
TV Distortion(%)	0.59
Back Focus in Air(mm)	13.0
Mount	C-mount
Filter Thread(mm)	M55xP0.75
Size(mm)	$\Phi 57 \times 85$
Weight(g)	270
Temperature Range	-10°C~+50°C

4/3" 1.1" 1" 2/3" 12mm FIXED 8MEGA C-mnt METAL LO-DIS FLOAT XD WBMC

Magnification Using A Close Up Ring

You can use close up rings to increase the magnification and decrease the minimum object distance (M.O.D.) of the lens. Simply screw in the spacer ring between the threads of the lens mount and camera.



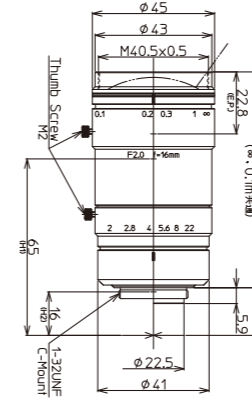
† Images may differ from the actual product.



BOCK OPTRONICS INC.
14 Steinway Blvd., Unit 7
Toronto, Ontario M9W 6M6

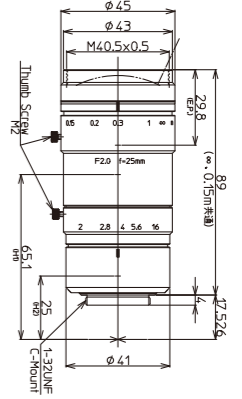
Tel: (416) 674-2804
sales@bockoptronics.ca
www.bockoptronics.ca

LM16XC



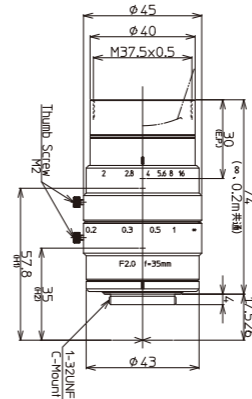
4/3" 1.1" 1" 2/3" 16mm
FIXED 8MEGA C-mnt METAL LO-DIS FLOAT XD WBMC

LM25XC



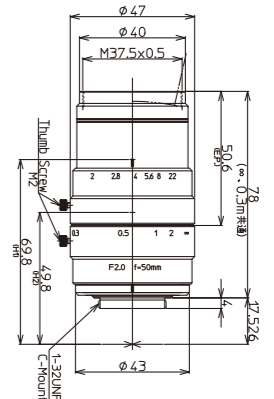
4/3" 1.1" 1" 2/3" 25mm
FIXED 8MEGA C-mnt METAL LO-DIS FLOAT XD WBMC

LM35XC



4/3" 1.1" 1" 2/3" 35mm
FIXED 8MEGA C-mnt METAL LO-DIS FLOAT WBMC

LM50XC



4/3" 1.1" 1" 2/3" 50mm
FIXED 8MEGA C-mnt METAL LO-DIS FLOAT WBMC

Model	LM16XC	LM25XC	LM35XC	LM50XC
Focal Length(mm)	16	25	35	50
Image Size(mm)	18.4x13.8($\Phi 23$)	18.4x13.8($\Phi 23$)	18.4x13.8($\Phi 23$)	18.4x13.8($\Phi 23$)
Iris Range(F-stop)	F2.0~F22	F2.0~F16	F2.0~F16	F2.0~F22
Focusing Range(m)	0.1~ ∞	0.15~ ∞	0.2~ ∞	0.3~ ∞
Control	Iris: Manual Focus: Manual	Iris: Manual Focus: Manual	Iris: Manual Focus: Manual	Iris: Manual Focus: Manual
Shooting Range at M.O.D.(mm)	134.8(H)x100.8(V)	124.8(H)x93.0(V)	100.3(H)x75.3(V)	100.2(H)x75.5(V)
Angle of View (Degrees)	4/3 Inch: 60.6x47.2 1.1 Inch: 48.0x36.8 1 Inch: 44.0x33.6 2/3 Inch: 30.9x23.3	4/3 Inch: 40.9x31.1 1.1 Inch: 31.8x24.0 1 Inch: 28.9x21.8 2/3 Inch: 20.1x15.2	4/3 Inch: 29.6x22.4 1.1 Inch: 22.8x17.2 1 Inch: 20.8x15.6 2/3 Inch: 14.3x10.8	4/3 Inch: 20.6x15.7 1.1 Inch: 16.0x12.0 1 Inch: 14.6x11.0 2/3 Inch: 10.1x7.6
Resolution(Center, Corner)	160lp/mm, 80lp/mm	160lp/mm, 80lp/mm	160lp/mm, 80lp/mm	160lp/mm, 80lp/mm
TV Distortion(%)	0.02	-0.57	-0.17	0.80
Back Focus in Air(mm)	13.0	24.3	15.2	21.6
Mount	C-mount	C-mount	C-mount	C-mount
Filter Thread(mm)	M40.5xP0.5	M40.5xP0.5	M37.5xP0.5	M37.5xP0.5
Size(mm)	$\Phi 45 \times 79.5$	$\Phi 45 \times 89$	$\Phi 45 \times 74$	$\Phi 47 \times 78$
Weight(g)	250	255	210	235
Temperature Range	-10°C~+50°C	-10°C~+50°C	-10°C~+50°C	-10°C~+50°C

Diagram of M.O.D. / Magnification Using A Close Up Ring

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

† Images may differ from the actual product.

FC Series NEW

High Resolution FA/MV Lens

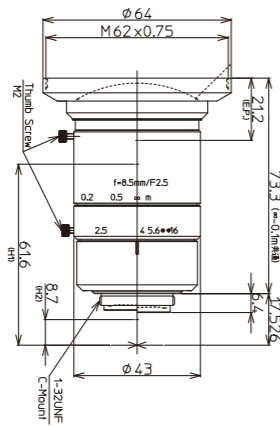
To Be Released in Spring 2018

Features of FC Series

- ▶ Large image size of $\Phi 17.6\text{mm}$ (C-mount).
- ▶ Design optimization allows the high resolution compact lens.
- ▶ The extensive lineup of focal length. 8.5mm, 16mm, 25mm, 35mm (plan: delivery from Spring 2018). 6.5mm, 12mm (plan: delivery from Autumn 2018).
- ▶ Kowa's wide-band multi-coating effectively decreases glare and refraction and produces a high transmission from the visible to NIR wavelength range.



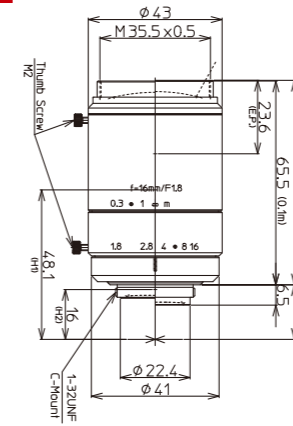
LM8FC NEW



Model	LM8FC
Focal Length(mm)	8.5
Image Size(mm)	14.1×10.6(Φ17.6)
Iris Range(F-stop)	F2.5-F16
Focusing Range(m)	0.1-∞
Control	Iris Manual Focus Manual
Shooting Range at M.O.D.(mm)	184(H)×138(V)
Angle of View	1.1 Inch 79.2×63.8 1 Inch 73.9×58.8 2/3 Inch 54.5×42.1
TV Distortion(%)	0.55
Back Focus in Air(mm)	12.9
Mount	C-mount
Filter Thread(mm)	M62×P0.75
Size(mm)	Φ64×73.3
Weight(g)	230
Temperature Range	-10°C~+50°C

1.1" 1" 2/3" 8mm **FIXED** 12MEGA **C-mt** **METAL** **LO-DIS** **FLOAT** **XD** **WBMC**
Fixed Focal Megapixel C-mount Metal Body Low Distortion Floating Extra Low Dispersion Wide-Band Multi-Coating

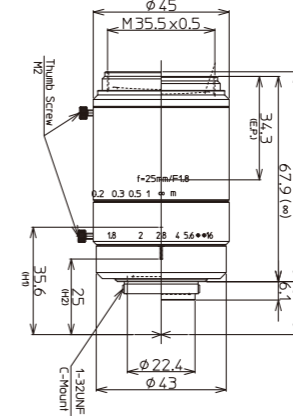
LM16FC NEW



Model	LM16FC
Focal Length(mm)	16
Image Size(mm)	14.1×10.6(Φ17.6)
Iris Range(F-stop)	F1.8-F16
Focusing Range(m)	0.1-∞
Control	Iris Manual Focus Manual
Shooting Range at M.O.D.(mm)	102(H)×77(V)
Angle of View	1.1 Inch 48.0×36.7 1 Inch 43.6×33.4 2/3 Inch 30.8×23.3
TV Distortion(%)	-0.4
Back Focus in Air(mm)	11.9
Mount	C-mount
Filter Thread(mm)	M35.5×P0.5
Size(mm)	Φ43×65.7
Weight(g)	200
Temperature Range	-10°C~+50°C

1.1" 1" 2/3" 16mm **FIXED** 12MEGA **C-mt** **METAL** **LO-DIS** **FLOAT** **XD** **WBMC**
Fixed Focal Megapixel C-mount Metal Body Low Distortion Floating Extra Low Dispersion Wide-Band Multi-Coating

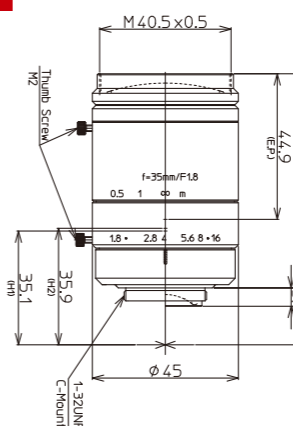
LM25FC NEW



Model	LM25FC
Focal Length(mm)	25
Image Size(mm)	14.1×10.6(Φ17.6)
Iris Range(F-stop)	F1.8-F16
Focusing Range(m)	0.1-∞
Control	Iris Manual Focus Manual
Shooting Range at M.O.D.(mm)	64(H)×48(V)
Angle of View	1.1 Inch 31.5×23.9 1 Inch 28.7×21.7 2/3 Inch 20.0×15.0
TV Distortion(%)	-0.3
Back Focus in Air(mm)	13.3
Mount	C-mount
Filter Thread(mm)	M35.5×P0.5
Size(mm)	Φ45×69.4
Weight(g)	220
Temperature Range	-10°C~+50°C

1.1" 1" 2/3" 25mm **FIXED** 12MEGA **C-mt** **METAL** **LO-DIS** **FLOAT** **XD** **WBMC**
Fixed Focal Megapixel C-mount Metal Body Low Distortion Floating Extra Low Dispersion Wide-Band Multi-Coating

LM35FC NEW



Model	LM35FC
Focal Length(mm)	35
Image Size(mm)	14.1×10.6(Φ17.6)
Iris Range(F-stop)	F1.8-F16
Focusing Range(m)	0.2-∞
Control	Iris Manual Focus Manual
Shooting Range at M.O.D.(mm)	84(H)×63(V)
Angle of View	1.1 Inch 22.1×16.7 1 Inch 20.2×15.2 2/3 Inch 14.0×10.5
TV Distortion(%)	0.01
Back Focus in Air(mm)	15.5
Mount	C-mount
Filter Thread(mm)	M40.5×P0.5
Size(mm)	Φ45×66
Weight(g)	205
Temperature Range	-10°C~+50°C

1.1" 1" 2/3" 35mm **FIXED** 12MEGA **C-mt** **METAL** **LO-DIS** **WBMC**
Fixed Focal Megapixel C-mount Metal Body Low Distortion Wide-Band Multi-Coating

Diagram of M.O.D. / Magnification Using A Close Up Ring

Model	LM8FC	LM16FC	LM25FC	LM35FC
(Non)M.O.D./Magnification	100mm/0.08×	100mm/0.14×	100mm/0.22×	200mm/0.17×
(1mm Ring)M.O.D./Magnification	28mm/0.19×	64mm/0.20×	82mm/0.26×	170mm/0.20×
(5mm Ring)M.O.D./Magnification	-	20mm/0.45×	45mm/0.41×	106mm/0.31×
(10mm Ring)M.O.D./Magnification	-	-	25mm/0.61×	71mm/0.46×
(20mm Ring)M.O.D./Magnification	-	-	-	42mm/0.75×

† Images may differ from the actual product.

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SC Series

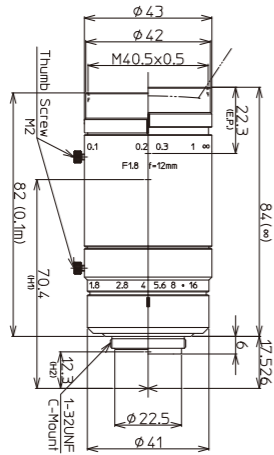
High Resolution FA/MV Lenses

Features of SC Series

- ▶ Large image size of $\Phi 16\text{mm}$ (C-mount).
- ▶ Able to maintain a sharp image with high resolution and contrast from the center to the corners of an image (less degradation of corner resolution).
- ▶ High precision aspherical lens greatly reduces distortion and creates a short minimum object distance.
- ▶ Kowa's wide-band multi-coating effectively decreases glare and refraction and produces a high transmission from the visible to NIR wavelength range.



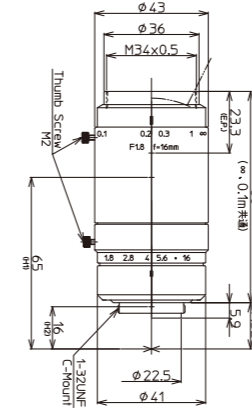
LM12SC



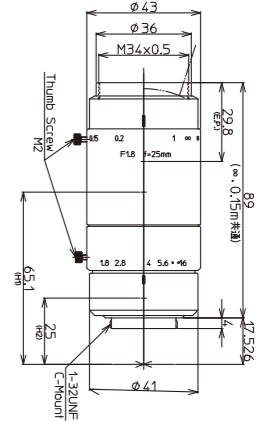
Model	LM12SC
Focal Length(mm)	12
Image Size(mm)	12.8×9.6($\Phi 16$)
Iris Range(F-stop)	F1.8-F16
Focusing Range(m)	0.1-∞
Control Iris	Manual
Focus	Manual
Shooting Range at M.O.D.(mm)	125.5(H)×93.5(V)
Angle of 1 Inch	55.9×43.1
View 2/3 Inch	39.8×30.2
(Degrees) 1/1.8 Inch	32.9×24.9
Resolution(Center, Corner)	160lp/mm, 120lp/mm
TV Distortion(%)	-0.55
Back Focus in Air(mm)	13.0
Mount	C-mount
Filter Thread(mm)	M40.5×P0.5
Size(mm)	$\Phi 43 \times 84.0$
Weight(g)	255
Temperature Range	-10°C~+50°C



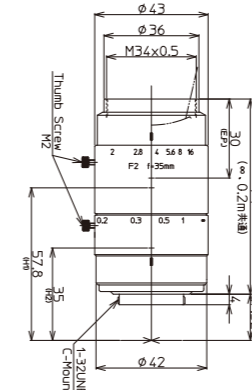
LM16SC



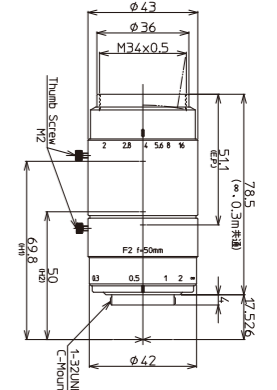
LM25SC



LM35SC



LM50SC



Model	LM16SC	LM25SC	LM35SC	LM50SC
Focal Length(mm)	16	25	35	50
Image Size(mm)	12.8×9.6($\Phi 16$)	12.8×9.6($\Phi 16$)	12.8×9.6($\Phi 16$)	12.8×9.6($\Phi 16$)
Iris Range(F-stop)	F1.8-F16	F1.8-F16	F2.0-F16	F2.0-F16
Focusing Range(m)	0.1-∞	0.2-∞	0.15-∞	0.3-∞
Control Iris	Manual	Manual	Manual	Manual
Focus	Manual	Manual	Manual	Manual
Shooting Range at M.O.D.(mm)	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 1 Inch	44.0×33.6	28.9×21.8	20.8×15.6	14.6×11.0
View 2/3 Inch	30.9×23.3	20.1×15.2	14.3×10.8	10.1×7.6
(Degrees) 1/1.8 Inch	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
TV Distortion(%)	0.02	-0.34	0.02	0.30
Back Focus in Air(mm)	13.0	24.3	15.2	21.6
Mount	C-mount	C-mount	C-mount	C-mount
Filter Thread(mm)	M34×P0.5	M34×P0.5	M34×P0.5	M34×P0.5
Size(mm)	$\Phi 43 \times 80.0$	$\Phi 43 \times 89.0$	$\Phi 43 \times 74.0$	$\Phi 43 \times 78.5$
Weight(g)	240	245	200	210
Temperature Range	-10°C~+50°C	-10°C~+50°C	-10°C~+50°C	-10°C~+50°C

Diagram of M.O.D. / Magnification Using A Close Up Ring

Model	LM12SC	LM16SC	LM25SC	LM35SC	LM50SC
(Non)M.O.D./Magnification	100mm/0.10×	100mm/0.14×	150mm/0.15×	200mm/0.18×	300mm/0.18×
(1mm Ring)M.O.D./Magnification	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×

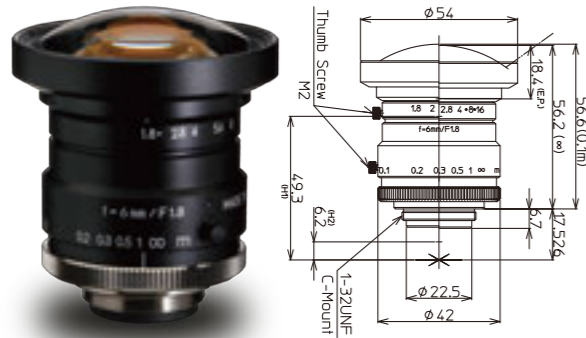
† Images may differ from the actual product.

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HC Series

- ▶ Wide product range: 8 lenses in HC series
- ▶ Excellent corner brightness
- ▶ Low distortion
- ▶ For large format 1" megapixel applications
- ▶ High performance compact lenses

LM6HC



1" 2/3" 1/1.8" 6mm FIXED MEGA C-mt METAL
Fixed Focal Megapixel C-mount Metal Body

LM8HC



1" 2/3" 1/1.8" 8mm FIXED MEGA C-mt METAL
Fixed Focal Megapixel C-mount Metal Body

LM12HC



1" 2/3" 1/1.8" 12.5mm FIXED MEGA C-mt METAL
Fixed Focal Megapixel C-mount Metal Body

LM16HC

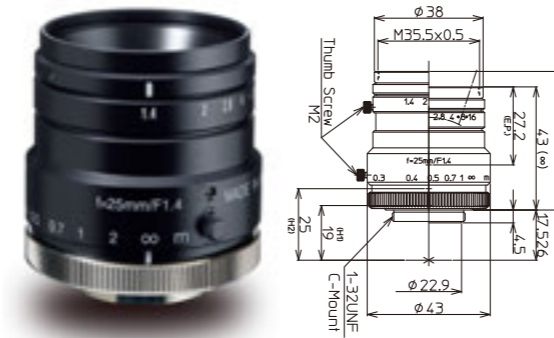


1" 2/3" 1/1.8" 16mm FIXED MEGA C-mt METAL
Fixed Focal Megapixel C-mount Metal Body

Model	LM6HC	LM8HC	LM12HC	LM16HC
Focal Length(mm)	6	8	12.5	16
Image Size(mm)	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	F1.4~F16	F1.4~F16	F1.4~F16
Focusing Range(m)	0.1~∞	0.1~∞	0.3~∞	0.3~∞
Control Iris	Manual	Manual	Manual	Manual
Focus	Manual	Manual	Manual	Manual
Shooting Range at M.O.D.(mm)	267.4(H)×196.3(V)	196.0(H)×143.2(V)	330.6(H)×243.5(V)	251.5(H)×186.2(V)
Angle of 1 Inch	96.8×79.4	79.4×63.0	55.6×42.5	44.3×33.6
View 2/3 Inch	74.1×58.0	58.3×44.7	39.1×29.5	30.8×23.2
(Degrees) 1/1.8 Inch	62.6×48.2	48.5×36.9	32.1×24.2	25.3×19.0
Resolution(Center, Corner)	120lp/mm, 80lp/mm	120lp/mm, 80lp/mm	120lp/mm, 80lp/mm	120lp/mm, 80lp/mm
TV Distortion(%)	-0.2	-1.2	-1.58	-1.0
Back Focus in Air(mm)	11.1	11.2	12.6	12.6
Mount	C-mount	C-mount	C-mount	C-mount
Filter Thread(mm)	-	M55×P0.75	M35.5×P0.5	M35.5×P0.5
Size(mm)	Φ54×56.2	Φ57×58	Φ43×51.5	Φ43×52.9
Weight(g)	215	205	160	150
Temperature Range	-10°C~+50°C	-10°C~+50°C	-10°C~+50°C	-10°C~+50°C

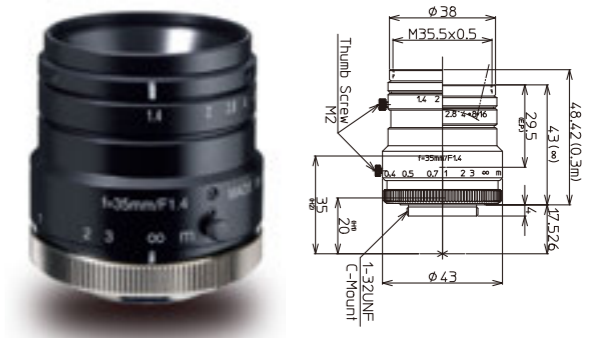
† Images may differ from the actual product.

LM25HC



1" 2/3" 1/1.8" 25mm FIXED MEGA C-mt METAL
Fixed Focal Megapixel C-mount Metal Body

LM35HC



1" 2/3" 1/1.8" 35mm FIXED MEGA C-mt METAL
Fixed Focal Megapixel C-mount Metal Body

LM50HC



1" 2/3" 1/1.8" 50mm FIXED MEGA C-mt METAL
Fixed Focal Megapixel C-mount Metal Body

LM75HC



1" 2/3" 1/1.8" 75mm FIXED MEGA C-mt METAL
Fixed Focal Megapixel C-mount Metal Body

Model	LM25HC	LM35HC	LM50HC	LM75HC
Focal Length(mm)	25	35	50	75
Image Size(mm)	12.8×9.6(Φ16)	12.8×9.6(Φ16)	12.8×9.6(Φ16)	12.8×9.6(Φ16)
Iris Range(F-stop)	F1.4~F16	F1.4~F16	F1.4~F16	F1.8~F16
Focusing Range(m)	0.3~∞	0.3~∞	0.5~∞	1.0~∞
Control Iris	Manual	Manual	Manual	Manual
Focus	Manual	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)	165.5(H)×123.9(V)
Angle of 1 Inch	29.3×22.0	20.9×15.8	14.5×10.8	9.7×7.3
View 2/3 Inch	20.2×15.1	14.4×10.8	10.0×7.5	6.7×5.0
(Degrees) 1/1.8 Inch	16.5×12.4	11.8×8.8	8.2×6.2	5.5×4.1
Resolution(Center, Corner)	120lp/mm, 80lp/mm	120lp/mm, 80lp/mm	120lp/mm, 80lp/mm	120lp/mm, 80lp/mm
TV Distortion(%)	-1.0	-0.5	0.05	-0.2
Back Focus in Air(mm)	16.5	16.8	14.8	14.5
Mount	C-mount	C-mount	C-mount	C-mount
Filter Thread(mm)	M35.5×P0.5	M35.5×P0.5	M40.5×P0.5	M46×P0.75
Size(mm)	Φ43×43	Φ43×43	Φ49×48	Φ49×57
Weight(g)	135	135	210	195
Temperature Range	-10°C~+50°C	-10°C~+50°C	-10°C~+50°C	-10°C~+50°C

Diagram of M.O.D. / Magnification Using A Close Up Ring

Model	LM6HC	LM8HC	LM12HC	LM16HC	LM25HC	LM35HC	LM50HC	LM75HC
(Non)M.O.D./Magnification	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×

† Images may differ from the actual product.

HC-V Series

High Resolution FA/MV Lenses

Kowa's new HC-V series is made for use in high vibration and shock environments. With a design based on Kowa's standard 1" HC lenses, this new ruggedized megapixel lens series is ideal for applications that require increased durability and high optical performance.

Features of HC-V Series

- ▶ For megapixel applications requiring a sensor size of 1" (Φ16mm).
- ▶ Unique mechanical design to guard against strong vibration and shock.
- ▶ Two way reversible nut is utilized to tightly lock the focus adjustment ring in place.
- ▶ All internal glass elements are glued to the inside housing to improve stability.
- ▶ Interchangeable iris plates are used to select the F-stop.

Interchangeable Iris Plates

- The HC-V series uses interchangeable iris plates instead of mechanical iris diaphragms with moving blades. You can choose from four iris plates to adjust the F-stop.



Interchangeable Iris Plates

Focus Adjustment Procedure

- Unscrew the bottom ring of the outside body to adjust the focus to optimal position.
- Screw the red two way reversible nut on the center body towards the bottom ring to lock in the focus.



Two Way Reversible Nut



LM8HC-V LM12HC-V LM16HC-V LM25HC-V LM35HC-V LM50HC-V

LM8HC-V

1" 2/3" 1/1.8" 8mm FIXED MEGA C-mnt METAL RUGGED
Fixed Focal Megapixel C-mount Metal Body Ruggedized lens

LM12HC-V

1" 2/3" 1/1.8" 12.5mm FIXED MEGA C-mnt METAL RUGGED
Fixed Focal Megapixel C-mount Metal Body Ruggedized lens

LM16HC-V

1" 2/3" 1/1.8" 16mm FIXED MEGA C-mnt METAL RUGGED
Fixed Focal Megapixel C-mount Metal Body Ruggedized lens

LM25HC-V

1" 2/3" 1/1.8" 25mm FIXED MEGA C-mnt METAL RUGGED
Fixed Focal Megapixel C-mount Metal Body Ruggedized lens

LM35HC-V

1" 2/3" 1/1.8" 35mm FIXED MEGA C-mnt METAL RUGGED
Fixed Focal Megapixel C-mount Metal Body Ruggedized lens

LM50HC-V

1" 2/3" 1/1.8" 50mm FIXED MEGA C-mnt METAL RUGGED
Fixed Focal Megapixel C-mount Metal Body Ruggedized lens

Model	LM8HC-V	LM12HC-V	LM16HC-V	LM25HC-V	LM35HC-V	LM50HC-V
Focal Length (mm)	8	12.5	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)	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	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~∞	0.3~∞	0.3~∞	0.5~∞
Control Iris	-	-	-	-	-	-
Focus	Manual	Manual	Manual	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)	160.7(H)×119.2(V)	110.1(H)×82.0(V)	121.8(H)×91.3(V)
Angle of View	1 Inch 79.7×63.0 2/3 Inch 58.3×44.7 1/1.8 Inch 48.5×36.9	55.6×42.5 39.1×29.5 32.1×24.2	44.3×33.6 30.8×23.2 25.3×19.0	29.3×22.0 20.2×15.1 16.5×12.4	20.9×15.8 14.4×10.8 11.8×8.8	14.5×10.8 10.0×7.5 8.2×6.2
TV Distortion (%)	-1.2	-1.58	-1.0	-1.0	-0.5	0.05
Back Focus in Air(mm)	11.2	12.6	12.6	16.5	16.8	14.8
Mount	C-mount	C-mount	C-mount	C-mount	C-mount	C-mount
Filter Thread (mm)	M55×P0.75	M35.5×P0.5	M35.5×P0.5	M35.5×P0.5	M35.5×P0.5	M40.5×P0.5
Size (mm)	Φ58×58	Φ44×51.5	Φ44×53	Φ44×43	Φ46×44.1	Φ50×48
Weight(g)	183	130	120	104	133	170
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

† Images may differ from the actual product.

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JC10M Series

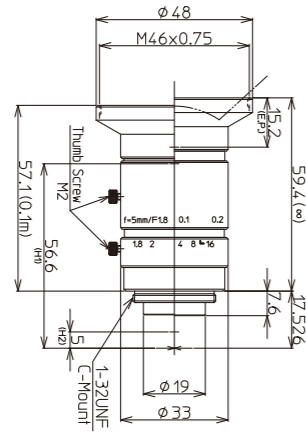
High Resolution FA/MV Lenses

Features of JC10M Series

- ▶ 200lp/mm center resolution and low distortion maximize performance of high-end inspection.
- ▶ Incorporating Kowa's wide-band multi-coating and floating mechanism system, the JC10M lens series greatly reduces chromatic aberration from close distance to infinity and maintains a high transmission from visible to NIR.
- ▶ Short minimum object distance and compact design using aspherical lenses (5 models/f=5~25mm) allow for easy installation in compact machine vision systems.



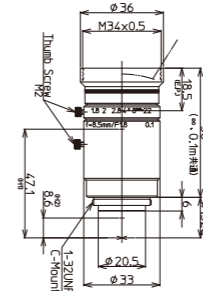
LM5JC10M



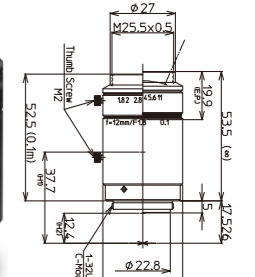
Model	LM5JC10M
Focal Length(mm)	5
Image Size(mm)	8.8×6.6(Φ11)
Iris Range(F-stop)	F1.8-F16
Focusing Range(m)	0.1~∞
Control Iris	Manual
Focus	Manual
Shooting Range at M.O.D.(mm)	197.0(H)×147.0(V)
Angle of 2/3 Inch	82.2×66.5
View 1/1.8 Inch	71.1×56.5
(Degrees) 1/2 Inch	64.9×51.1
Resolution(Center, Corner)	200lp/mm, 160lp/mm
TV Distortion(%)	-0.33
Back Focus in Air(mm)	10.3
Mount	C-mount
Filter Thread(mm)	M46×P0.75
Size(mm)	Φ48×59.4
Weight(g)	120
Temperature Range	-10°C~+50°C



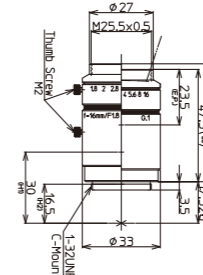
LM8JC10M



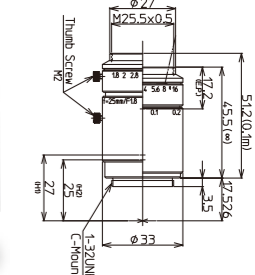
LM12JC10M



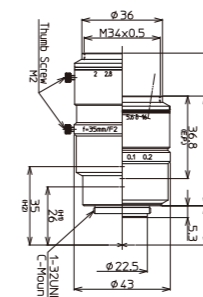
LM16JC10M



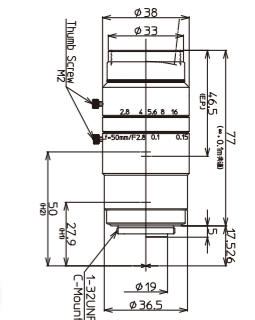
LM25JC10M



LM35JC10M



LM50JC10M



Model	LM8JC10M	LM12JC10M	LM16JC10M	LM25JC10M	LM35JC10M	LM50JC10M
Focal Length(mm)	8.5	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)	F1.8-F22	F1.8-F11	F1.8-F16	F1.8-F16	F2.0-F16	F2.8-F16
Focusing Range(m)	0.1~∞	0.1~∞	0.1~∞	0.1~∞	0.1~∞	0.1~∞
Control Iris	Manual	Manual	Manual	Manual	Manual	Manual
Focus	Manual	Manual	Manual	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)	36.7(H)×27.5(V)	23.4(H)×17.6(V)	19.1(H)×14.3(V)
Angle of 2/3 Inch	54.0×41.9	39.1×29.8	30.0×22.7	20.0×15.1	14.3×10.8	10.1×7.6
View 1/1.8 Inch	45.3×34.8	32.4×24.6	24.7×18.6	16.4×12.3	11.7×8.8	8.2×6.1
(Degrees) 1/2 Inch	40.8×31.2	28.9×21.9	22.0×16.6	14.6×11.0	10.4×7.8	7.3×5.5
Resolution(Center, Corner)	200lp/mm, 160lp/mm	200lp/mm, 160lp/mm	200lp/mm, 160lp/mm	200lp/mm, 160lp/mm	200lp/mm, 160lp/mm	200lp/mm, 160lp/mm
TV Distortion(%)	0.31	-0.12	-0.20	-0.09	0.05	-0.02
Back Focus in Air(mm)	12.1	13.9	14.6	17.9	14.2	12.8
Mount	C-mount	C-mount	C-mount	C-mount	C-mount	C-mount
Filter Thread(mm)	M34×P0.5	M25.5×P0.5	M25.5×P0.5	M25.5×P0.5	M34×P0.5	M30.5×P0.5
Size(mm)	Φ36×56.0	Φ33×53.5	Φ33×47.5	Φ33×45.5	Φ43×49	Φ38×77
Weight(g)	115	105	90	95	160	170
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

Diagram of M.O.D. / Magnification Using A Close Up Ring

Model	LM5JC10M	LM8JC10M	LM12JC10M	LM16JC10M	LM25JC10M	LM35JC10M	LM50JC10M
(Non)M.O.D./Magnification	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×

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JC5M2 Series

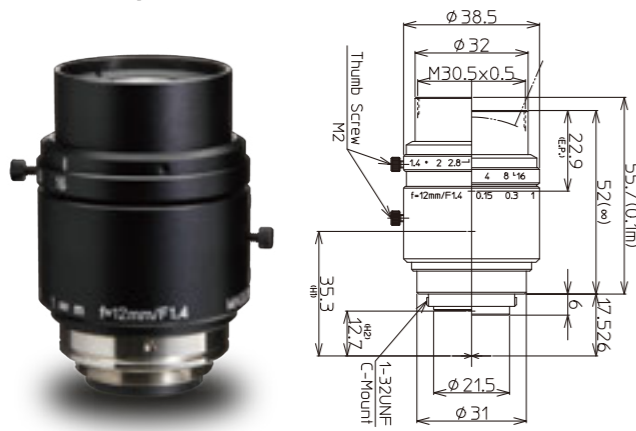
Kowa's JC5M2 lens series is perfect for high-end applications that require the use of 5 megapixel camera.

Features of JC5M2 Series

- ▶ Incorporating Kowa's floating mechanism system, the JC5M2 lens series greatly reduces chromatic aberration from close distance to infinity.
- ▶ With a fast F-stop, locking screws, and a compact design, these lenses provide a good value between price versus performance.



LM12JC5M2



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	2/3 Inch: 38.4×29.2 1/1.8 Inch: 31.7×24.0 1/2 Inch: 28.4×21.4
Resolution(Center, Corner)	160lp/mm, 125lp/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
Weight(g)	130
Temperature Range	-10°C~+50°C



LM16JC5M2



LM25JC5M2



LM35JC5M2



Diagram of M.O.D. / Magnification Using A Close Up Ring

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×

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	2/3 Inch: 29.9×22.7 1/1.8 Inch: 24.7×18.6 1/2 Inch: 22.0×16.6
Resolution(Center, Corner)	160lp/mm, 125lp/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
Weight(g)	125
Temperature Range	-10°C~+50°C

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	2/3 Inch: 19.9×15.0 1/1.8 Inch: 16.4×12.3 1/2 Inch: 14.6×10.9
Resolution(Center, Corner)	160lp/mm, 125lp/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
Weight(g)	115
Temperature Range	-10°C~+50°C

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	2/3 Inch: 14.3×10.8 1/1.8 Inch: 11.7×8.8 1/2 Inch: 10.4×7.8
Resolution(Center, Corner)	160lp/mm, 125lp/mm
TV Distortion(%)	-0.03
Back Focus in Air(mm)	12.2
Mount	C-mount
Filter Thread(mm)	M30.5×P0.5
Size(mm)	Φ38.5×48
Weight(g)	120
Temperature Range	-10°C~+50°C

† Images may differ from the actual product.

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JC3M2 Series NEW

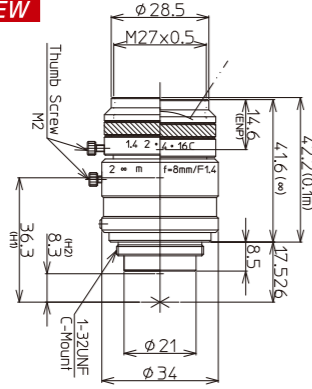
High Resolution FA/MV Lenses

Features of XC Series

- ▶ Kowa's wide-band multi-coating effectively decreases glare and refraction and produces a high transmission from the visible to NIR wavelength range.
- ▶ Kowa's floating mechanism system virtually eliminates optical aberrations from close distance to infinity.
- ▶ Low distortion *Except for LM8JC3M2 and LM12JC3M2
- ▶ Excellent corner brightness
- ▶ Applicable on 1/1.2" as well *Except for LM8JC3M2



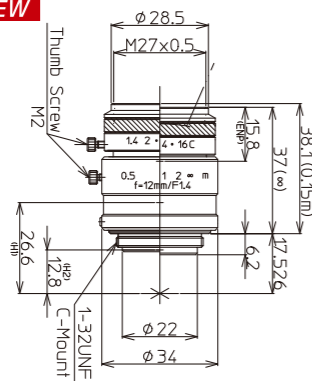
LM8JC3M2 NEW



Model	LM8JC3M2
Focal Length(mm)	8
Image Size(mm)	8.8×6.6(Φ11)
Iris Range(F-stop)	F1.4~Close
Focusing Range(m)	0.1~∞
Control Iris	Manual
Focus	Manual
Shooting Range at M.O.D.(mm)	120.3(H)×90.0(V)
Angle of View	2/3 Inch: 56.5×43.9 1/1.8 Inch: 47.4×36.3 1/2 Inch: 42.6×32.5
TV Distortion(%)	-0.6
Back Focus in Air(mm)	9.5
Mount	C-mount
Filter Thread(mm)	M27×P0.5
Size(mm)	Φ34×41.6
Weight(g)	90
Temperature Range	-10°C~+50°C

2/3" 1/1.8" 1/2" 8mm **FIXED** **3MEGA** **C-mt** **METAL** **WBMC**
Fixed Focal Megapixel C-mount Metal Body Wide-Band Multi-Coating

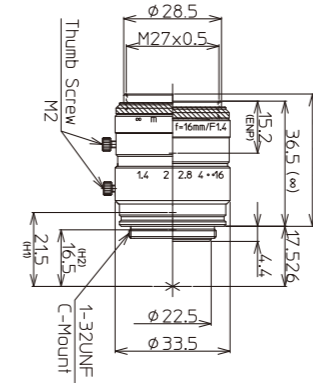
LM12JC3M2 NEW



Model	LM12JC3M2
Focal Length(mm)	12
Image Size(mm)	8.8×6.6(Φ11)
Iris Range(F-stop)	F1.4~Close
Focusing Range(m)	0.15~∞
Control Iris	Manual
Focus	Manual
Shooting Range at M.O.D.(mm)	110.0(H)×82.5(V)
Angle of View	2/3 Inch: 38.3×29.1 1/1.8 Inch: 31.7×24.0 1/2 Inch: 28.3×21.4
TV Distortion(%)	-0.07
Back Focus in Air(mm)	11.7
Mount	C-mount
Filter Thread(mm)	M27×P0.5
Size(mm)	Φ34×37
Weight(g)	85
Temperature Range	-10°C~+50°C

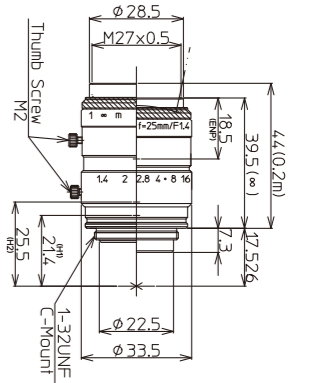
2/3" 1/1.8" 1/2" 12mm **FIXED** **3MEGA** **C-mt** **METAL** **WBMC**
Fixed Focal Megapixel C-mount Metal Body Wide-Band Multi-Coating

LM16JC3M2 NEW



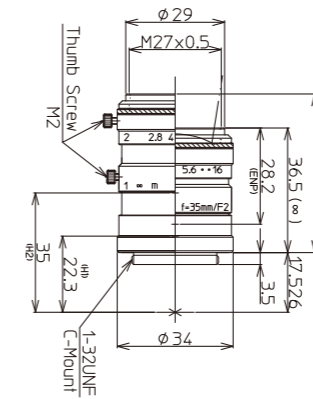
2/3" 1/1.8" 1/2" 16mm **FIXED** **3MEGA** **C-mt** **METAL** **FLOAT** **WBMC**
Fixed Focal Megapixel C-mount Metal Body Floating Wide-Band Multi-Coating

LM25JC3M2 NEW



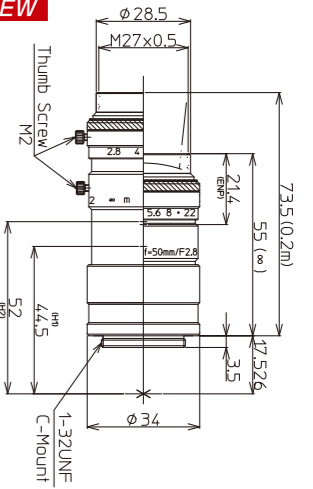
2/3" 1/1.8" 1/2" 25mm **FIXED** **3MEGA** **C-mt** **METAL** **FLOAT** **WBMC**
Fixed Focal Megapixel C-mount Metal Body Floating Wide-Band Multi-Coating

LM35JC3M2 NEW



2/3" 1/1.8" 1/2" 35mm **FIXED** **3MEGA** **C-mt** **METAL** **FLOAT** **WBMC**
Fixed Focal Megapixel C-mount Metal Body Floating Wide-Band Multi-Coating

LM50JC3M2 NEW



2/3" 1/1.8" 1/2" 50mm **FIXED** **3MEGA** **C-mt** **METAL** **FLOAT** **WBMC**
Fixed Focal Megapixel C-mount Metal Body Floating Wide-Band Multi-Coating

Model	LM16JC3M2	LM25JC3M2	LM35JC3M2	LM50JC3M2
Focal Length(mm)	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)
Iris Range(F-stop)	F1.4~F16	F1.4~F16	F2.0~F16	F2.8~F22
Focusing Range(m)	0.2~∞	0.2~∞	0.2~∞	0.2~∞
Control Iris	Manual	Manual	Manual	Manual
Focus	Manual	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)	29.3(H)×21.9(V)
Angle of View	2/3 Inch: 30.0×22.7 1/1.8 Inch: 24.7×18.6	19.6×14.8 16.1×12.1	14.4×10.8 11.8×8.8	9.6×7.2 7.9×5.9
(Degrees)	1/2 Inch: 21.8×16.4	14.0×10.5	10.5×7.9	7.0×5.2
TV Distortion(%)	-0.05	-0.04	-0.2	-0.03
Back Focus in Air(mm)	13.1	11.7	20.1	35.5
Mount	C-mount	C-mount	C-mount	C-mount
Filter Thread(mm)	M27×P0.5	M27×P0.5	M27×P0.5	M27×P0.5
Size(mm)	Φ33.5×36.5	Φ33.5×39.5	Φ34×36.5	Φ34×55
Weight(g)	85	90	70	95
Temperature Range	-10°C~+50°C	-10°C~+50°C	-10°C~+50°C	-10°C~+50°C

Diagram of M.O.D. / Magnification Using A Close Up Ring

Model	LM8JC3M2	LM12JC3M2	LM16JC3M2	LM25JC3M2	LM35JC3M2	LM50JC3M2
(Non)M.O.D./Magnification	100mm/0.07×	150mm/0.08×	200mm/0.08×	200mm/0.12×	200mm/0.18×	200mm/0.30×
(1mm Ring)M.O.D./Magnification	31mm/0.19×	70mm/0.16×	110mm/0.14×	150mm/0.16×	173mm/0.21×	190mm/0.32×
(5mm Ring)M.O.D./Magnification	-	-	-	73mm/0.31×	115mm/0.32×	160mm/0.39×
(10mm Ring)M.O.D./Magnification	-	-	-	-	81mm/0.45×	132mm/0.49×
(20mm Ring)M.O.D./Magnification	-	-	-	-	51mm/0.73×	102mm/0.68×

† Images may differ from the actual product.

† Images may differ from the actual product.

NCM/JCM Series

High Resolution FA/MV Lenses

Features of WIDE NCM/JCM Series

- ▶ Super wide optical design
 - ▶ Large angle of view
 - ▶ Expansion angle
(Horizontal angle 82degree, Vertical angle 66degree)
- † 2/3" model: LM5JCM, 1/1.8" model: LM3NCM

Low distortion

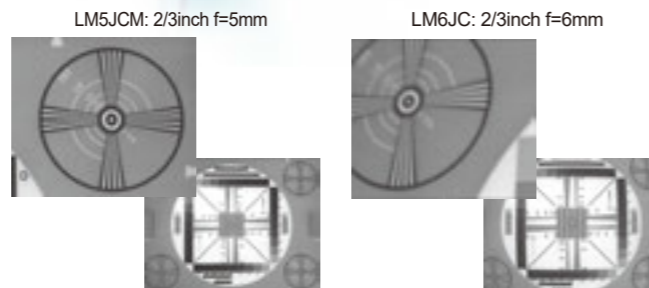
- ▶ Reduces the distortion to corner
- † LM5JCM: Under 0.5%, LM3NCM: Under 0.4% (TV distortion)

High quality

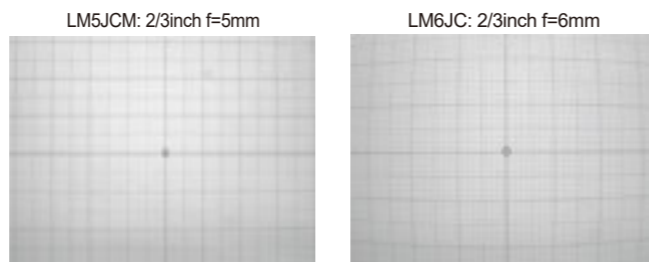
- ▶ Adapts to 2 megapixel cameras
- ▶ Improves center and corner resolution
- ▶ High transmittance



Corner image comparison
(Super wide angle lens vs. Standard lens)

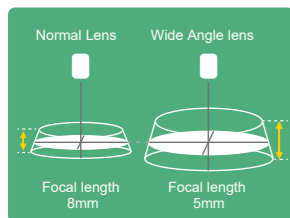


Distortion comparison at short distance object

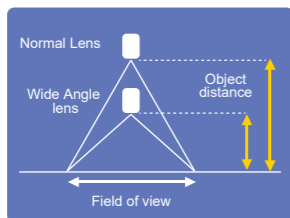


Capture image taken by 2megapixel camera

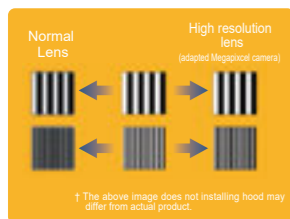
Long Depth of field



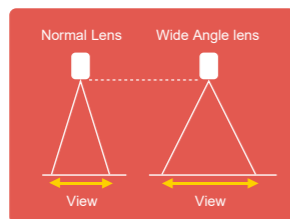
Short Close distance



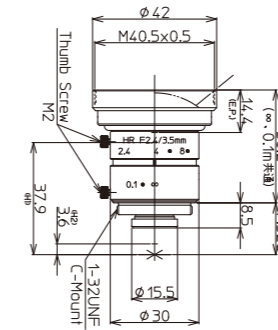
Clear image



Large field of view

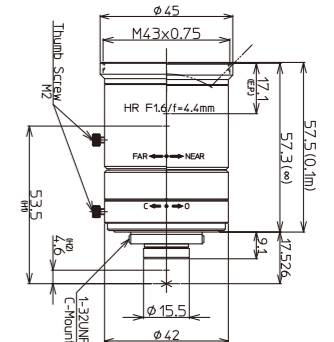


LM3NCM



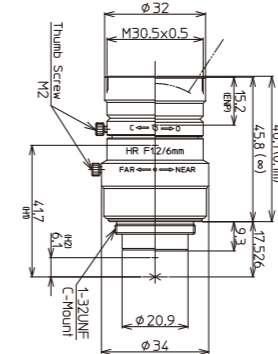
1/1.8" 1/2" 1/3" 3.5mm FIXED MEGA C-mt METAL LO-DIS
Fixed Focal Megapixel C-mount Metal Body Low Distortion

LM4NCM



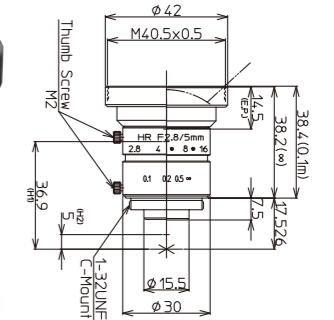
1/1.8" 1/2" 1/3" 4.4mm FIXED MEGA C-mt METAL LO-DIS
Fixed Focal Megapixel C-mount Metal Body Low Distortion

LM6NCM



1/2" 1/3" 6mm FIXED MEGA C-mt METAL LO-DIS
Fixed Focal Megapixel C-mount Metal Body Low Distortion

LM5JCM



2/3" 1/1.8" 1/2" 5mm FIXED MEGA C-mt METAL LO-DIS
Fixed Focal Megapixel C-mount Metal Body Low Distortion

Model	LM3NCM	LM4NCM	LM6NCM	LM5JCM
Focal Length(mm)	3.5	4.4	6	5
Image Size(mm)	7.2×5.4(Φ9)	7.2×5.4(Φ9)	6.4×4.8(Φ8)	8.8×6.6(Φ11)
Iris Range(F-stop)	F2.4~F14	F1.6~F16	F1.2~Close	F2.8~F16
Focusing Range(m)	0.1~∞	0.1~∞	0.1~∞	0.1~∞
Control	Manual	Manual	Manual	Manual
Focus	Manual	Manual	Manual	Manual
Shooting Range at M.O.D.(mm)	226.3(H)×171.4(V)	190.0(H)×141.2(V)	122.2(H)×91.0(V)	200.8(H)×150.8(V)
Angle of View	2/3 inch -	-	-	82.4×66.9
(Degrees)	1/1.8 inch 89.0×73.8	76.6×61.3	-	71.7×57.1
	1/2 inch 82.4×66.9	70.2×55.5	56.2×43.5	65.2×51.3
	1/3 inch 66.9×52.7	55.5×43	43.5×33.2	-
Resolution(Center, Corner)	120lp/mm, 100lp/mm	120lp/mm, 100lp/mm	120lp/mm, 100lp/mm	120lp/mm, 100lp/mm
TV Distortion(%)	0.4	-0.2	-0.2	0.5
Back Focus in Air(mm)	9.7	8.8	8.2	10.0
Mount	C-mount	C-mount	C-mount	C-mount
Filter Thread(mm)	M40.5×P0.5	M43×P0.75	M30.5×P0.5	M40.5×P0.5
Size(mm)	Φ42×38.2	Φ45×57.3	Φ34×45.8	Φ42×38.2
Weight(g)	85	150	100	84
Temperature Range	-10°C~+50°C	-10°C~+50°C	-10°C~+50°C	-10°C~+50°C

† Images may differ from the actual product.

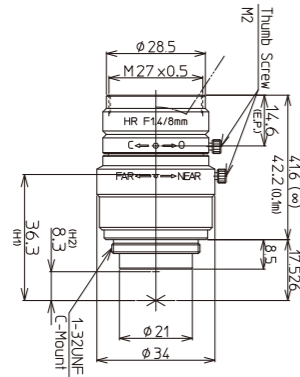
† Images may differ from the actual product.

JCM Series

- ▶ World standard and popular lens series
- ▶ Excellent corner brightness
- ▶ Low distortion
- ▶ For megapixel applications
- ▶ High resolution

Option : Models with iris & focus scales (LM-JC1MS Series)

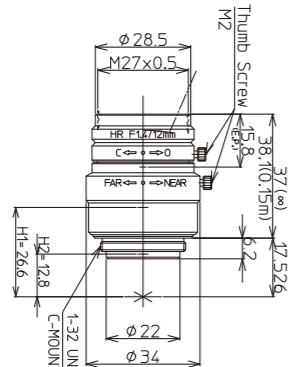
LM8JCM



2/3" 1/1.8" 1/2" 8mm **FIXED** **MEGA** **C-mt** **METAL** **LO-DIS**
 Fixed Focal Megapixel C-mount Metal Body Low Distortion

Model	LM8JCM
Focal Length(mm)	8
Image Size(mm)	8.8×6.6(Φ11)
Iris Range(F-stop)	F1.4~Close
Focusing Range(m)	0.1~∞
Control	Iris Manual Focus Manual
Shooting Range at M.O.D.(mm)	120.3(H)×90.0(V)
Angle of View	2/3 Inch 56.5×43.9 1/1.8 Inch 47.4×36.3 1/2 Inch 42.6×32.5
Resolution(Center, Corner)	120lp/mm, 100lp/mm
TV Distortion(%)	-0.6
Back Focus in Air(mm)	9.7
Mount	C-mount
Filter Thread(mm)	M27×P0.5
Size(mm)	Φ34×41.6
Weight(g)	90
Temperature Range	-10°C~+50°C

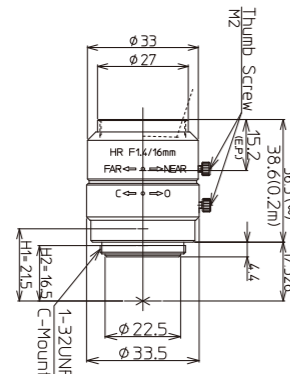
LM12JCM



2/3" 1/1.8" 1/2" 12mm **FIXED** **MEGA** **C-mt** **METAL** **LO-DIS**
 Fixed Focal Megapixel C-mount Metal Body Low Distortion

Model	LM12JCM
Focal Length(mm)	12
Image Size(mm)	8.8×6.6(Φ11)
Iris Range(F-stop)	F1.4~Close
Focusing Range(m)	0.15~∞
Control	Iris Manual Focus Manual
Shooting Range at M.O.D.(mm)	110.0(H)×82.5(V)
Angle of View	2/3 Inch 38.3×29.1 1/1.8 Inch 31.7×24.0 1/2 Inch 28.3×21.4
Resolution(Center, Corner)	120lp/mm, 100lp/mm
TV Distortion(%)	-0.07
Back Focus in Air(mm)	11.7
Mount	C-mount
Filter Thread(mm)	M27×P0.5
Size(mm)	Φ34×37
Weight(g)	85
Temperature Range	-10°C~+50°C

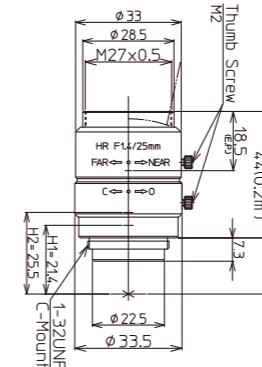
LM16JCM



2/3" 1/1.8" 1/2" 16mm **FIXED** **MEGA** **C-mt** **METAL** **LO-DIS** **FLOAT**
 Fixed Focal Megapixel C-mount Metal Body Low Distortion Floating

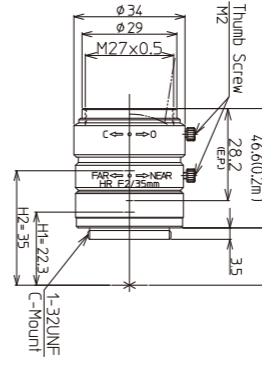
Model	LM16JCM
Focal Length(mm)	16
Image Size(mm)	8.8×6.6(Φ11)
Iris Range(F-stop)	F1.4~F16
Focusing Range(m)	0.2~∞
Control	Iris Manual Focus Manual
Shooting Range at M.O.D.(mm)	112.8(H)×84.4(V)
Angle of View	2/3 Inch 30.0×22.7 1/1.8 Inch 24.7×18.6 1/2 Inch 21.8×16.4
Resolution(Center, Corner)	120lp/mm, 100lp/mm
TV Distortion(%)	-0.05
Back Focus in Air(mm)	13.1
Mount	C-mount
Filter Thread(mm)	M25.5×P0.5
Size(mm)	Φ33.5×36.5
Weight(g)	85
Temperature Range	-10°C~+50°C

LM25JCM



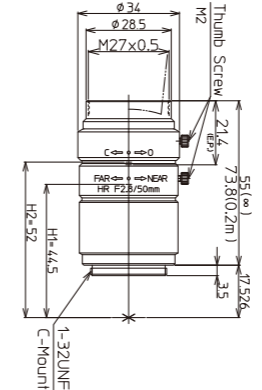
2/3" 1/1.8" 1/2" 25mm **FIXED** **MEGA** **C-mt** **METAL** **FLOAT**
 Fixed Focal Megapixel C-mount Metal Body Floating

LM35JCM



2/3" 1/1.8" 1/2" 35mm **FIXED** **MEGA** **C-mt** **METAL** **FLOAT**
 Fixed Focal Megapixel C-mount Metal Body Floating

LM50JCM



2/3" 1/1.8" 1/2" 50mm **FIXED** **MEGA** **C-mt** **METAL** **FLOAT**
 Fixed Focal Megapixel C-mount Metal Body Floating

Diagram of M.O.D. / Magnification Using A Close Up Ring

Model	LM8JCM	LM12JCM	LM16JCM	LM25JCM	LM35JCM	LM50JCM
(Non)M.O.D./Magnification	100mm/0.07×	150mm/0.08×	200mm/0.08×	200mm/0.12×	200mm/0.18×	200mm/0.30×
(1mm Ring)M.O.D./Magnification	30mm/0.20×	70mm/0.16×	110mm/0.14×	150mm/0.16×	175mm/0.21×	190mm/0.32×
(5mm Ring)M.O.D./Magnification	-	-	-	73mm/0.31×	115mm/0.32×	160mm/0.39×
(10mm Ring)M.O.D./Magnification	-	-	-	-	81mm/0.46×	135mm/0.48×
(20mm Ring)M.O.D./Magnification	-	-	-	-	51mm/0.73×	105mm/0.65×

Model	LM25JCM
Focal Length(mm)	25
Image Size(mm)	8.8×6.6(Φ11)
Iris Range(F-stop)	F1.4~F16
Focusing Range(m)	0.2~∞
Control	Iris Manual Focus Manual
Shooting Range at M.O.D.(mm)	71.1(H)×53.3(V)
Angle of View	2/3 Inch 19.6×14.8 1/1.8 Inch 16.1×12.1 1/2 Inch 14.0×10.5
Resolution(Center, Corner)	120lp/mm, 100lp/mm
TV Distortion(%)	-0.04
Back Focus in Air(mm)	11.7
Mount	C-mount
Filter Thread(mm)	M27×P0.5
Size(mm)	Φ33.5×39.5
Weight(g)	90
Temperature Range	-10°C~+50°C

Model	LM35JCM
Focal Length(mm)	35
Image Size(mm)	8.8×6.6(Φ11)
Iris Range(F-stop)	F2.0~F16
Focusing Range(m)	0.2~∞
Control	Iris Manual Focus Manual
Shooting Range at M.O.D.(mm)	47.9(H)×35.8(V)
Angle of View	2/3 Inch 14.4×10.8 1/1.8 Inch 11.8×8.8 1/2 Inch 10.5×7.9
Resolution(Center, Corner)	120lp/mm, 100lp/mm
TV Distortion(%)	-0.2
Back Focus in Air(mm)	20.1
Mount	C-mount
Filter Thread(mm)	M27×P0.5
Size(mm)	Φ34×36.5
Weight(g)	70
Temperature Range	-10°C~+50°C

Model	LM50JCM
Focal Length(mm)	50
Image Size(mm)	8.8×6.6(Φ11)
Iris Range(F-stop)	F2.8~F22
Focusing Range(m)	0.2~∞
Control	Iris Manual Focus Manual
Shooting Range at M.O.D.(mm)	29.3(H)×21.9(V)
Angle of View	2/3 Inch 9.6×7.2 1/1.8 Inch 7.9×5.9 1/2 Inch 7.0×5.2
Resolution(Center, Corner)	120lp/mm, 100lp/mm
TV Distortion(%)	-0.03
Back Focus in Air(mm)	35.5
Mount	C-mount
Filter Thread(mm)	M27×P0.5
Size(mm)	Φ34×55
Weight(g)	95
Temperature Range	-10°C~+50°C

† Images may differ from the actual product.

† Images may differ from the actual product.

LM5JCM-V LM8JCM-V LM12JCM-V LM16JCM-V LM25JCM-V LM35JCM-V LM50JCM-V

JCM-V Series

High Resolution FA/MV Lenses

Kowa's new JCM-V series is made for use in high vibration and shock environments.

With a design based on Kowa's standard 2/3" JCM lenses, this new ruggedized megapixel lens series is ideal for applications that require increased durability and high optical performance.



Features of JCM-V Series

- ▶ For megapixel applications requiring a sensor size of 2/3" (Φ11mm) or smaller.
- ▶ Two way reversible nut is utilized to tightly lock the focus adjustment ring in place.
- ▶ Interchangeable iris plates are used to select the F-stop.
- ▶ Unique mechanical design to guard against strong vibration and shock.
- ▶ All internal glass elements are glued to the inside housing to improve stability.

Interchangeable Iris Plates

- The JCM-V series uses interchangeable iris plates instead of mechanical iris diaphragms with moving blades. You can choose from four iris plates to adjust the F-stop.



Interchangeable Iris Plates

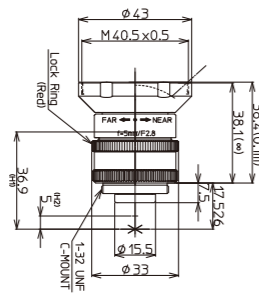
Focus Adjustment Procedure

- Unscrew the bottom ring of the outside body to adjust the focus to optimal position.
- Screw the red two way reversible nut on the center body towards the bottom ring to lock in the focus.



Two Way Reversible Nut

LM5JCM-V **NEW**



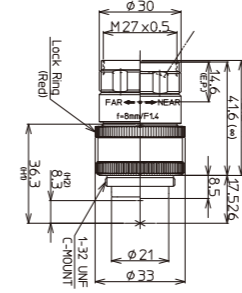
2/3" 1/1.8" 1/2" 5mm **FIXED** **MEGA** **C-mt** **METAL** **RUGGED**
Fixed Focal Megapixel C-mount Metal Body Ruggedized lens

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 2/3 Inch	82.4×66.9
View 1/1.8 Inch	71.7×57.1
(Degrees) 1/2 Inch	65.2×51.3
TV Distortion (%)	0.5
Back Focus in Air(mm)	10.0
Mount	C-mount
Filter Thread (mm)	M40.5×P0.5
Size (mm)	Φ43×38.4
Weight(g)	73
Temperature Range	-10°C~+50°C

† Images may differ from the actual product.

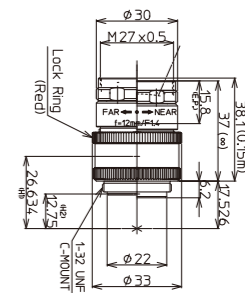
LM5JCM-V LM8JCM-V LM12JCM-V LM16JCM-V LM25JCM-V LM35JCM-V LM50JCM-V

LM8JCM-V



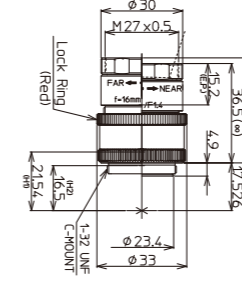
2/3" 1/1.8" 1/2" 8mm **FIXED** **MEGA** **C-mt** **METAL** **RUGGED**
Fixed Focal Megapixel C-mount Metal Body Ruggedized lens

LM12JCM-V



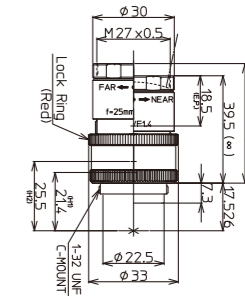
2/3" 1/1.8" 1/2" 12mm **FIXED** **MEGA** **C-mt** **METAL** **RUGGED**
Fixed Focal Megapixel C-mount Metal Body Ruggedized lens

LM16JCM-V



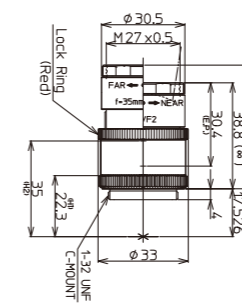
2/3" 1/1.8" 1/2" 16mm **FIXED** **MEGA** **C-mt** **METAL** **RUGGED**
Fixed Focal Megapixel C-mount Metal Body Ruggedized lens

LM25JCM-V



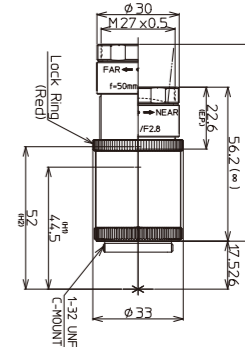
2/3" 1/1.8" 1/2" 25mm **FIXED** **MEGA** **C-mt** **METAL** **RUGGED**
Fixed Focal Megapixel C-mount Metal Body Ruggedized lens

LM35JCM-V



2/3" 1/1.8" 1/2" 35mm **FIXED** **MEGA** **C-mt** **METAL** **RUGGED**
Fixed Focal Megapixel C-mount Metal Body Ruggedized lens

LM50JCM-V



2/3" 1/1.8" 1/2" 50mm **FIXED** **MEGA** **C-mt** **METAL** **RUGGED**
Fixed Focal Megapixel C-mount Metal Body Ruggedized lens

Model	LM8JCM-V	LM12JCM-V	LM16JCM-V	LM25JCM-V	LM35JCM-V	LM50JCM-V
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 / F4 / F8 / F16	F1.4 / F4 / F8 / F16	F1.4 / F4 / F8 / F16	F1.4 / F4 / F8 / F16	F2 / F4 / F8 / F16	F2.8 / F4 / F8 / F16
Focusing Range (m)	0.1~∞	0.15~∞	0.2~∞	0.2~∞	0.2~∞	0.2~∞
Control	Iris	-	-	-	-	-
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 2/3 Inch	56.5×43.9	38.3×29.1	30.0×22.7	19.6×14.8	14.4×10.8	9.6×7.2
View 1/1.8 Inch	47.4×36.3	31.7×24.0	24.7×18.6	16.1×12.1	11.8×8.8	7.9×5.9
(Degrees) 1/2 Inch	42.6×32.5	28.3×21.4	21.8×16.4	14.0×10.5	10.5×7.9	7.0×5.2
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)	Φ33.0×41.6	Φ33.0×37.0	Φ33.0×36.5	Φ33.0×39.5	Φ33.0×38.8	Φ33.0×56.2
Weight(g)	88	75	76.5	83	72.5	85
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

† Images may differ from the actual product.