

GOYO OPTICAL

Industrial Lenses with Exceptional Performance and Value



Industrial Lenses

Goyo Optical provides more individual industrial lens designs than from any single machine vision lens provider in the world

Compact High Resolution Lenses

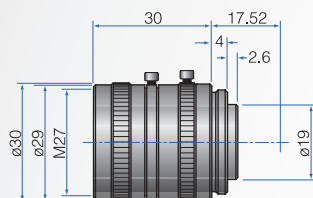
Standard Manual Fixed Focal Length Lenses

- Ultra-compact models available
- Excellent quality at an attractive price
- Locking focus and iris
- 100 lp/mm center resolution
- 5um pixel match

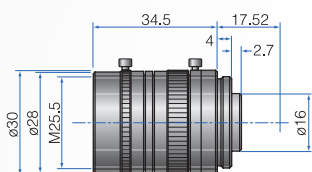
Focal length of a lens determines its angle of view and how much the subject will be magnified for a given photographic position.

The **Iris range** of a lens refers to the amount that the lens can open up or close down to let in more or less light. Lenses with larger apertures are also described as being "faster".

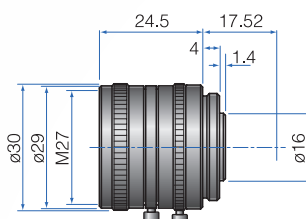
M.O.D Minimum Object Distance



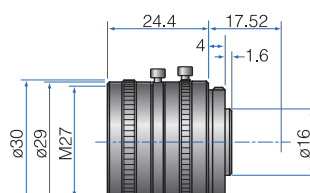
1/2" GM26014MCN



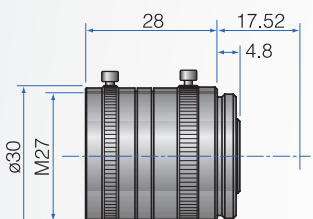
2/3" GM38013MCN



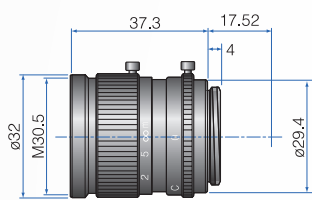
2/3" GM31614MCN



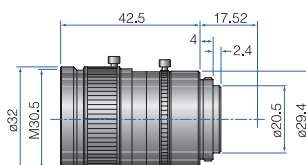
2/3" GM32514MCN



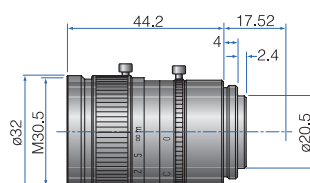
2/3" GM33519MCN



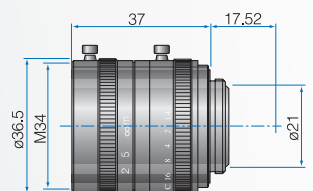
2/3" GM35018MCN



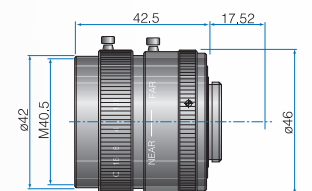
2/3" GM37527MCN



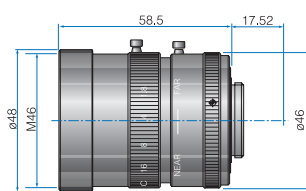
2/3" GM310035MCN



1" GMG42514MCN



1" GMG45018MCN



1" GMG47518MCN

STANDARD FIX FOCAL LENGTH LENSES

Item Number	Focal Length	Iris Range	Lens Format	Angle of View (H x V x D) 1/2"	Angle of View (H x V x D) 2/3"	M.O.D	Filter Thread	Dimension (D x L)
GM26014MCN	6.0mm	F1.4-Close	1/2"	54°35'x42°19'x65°39'	—	0.2m	M=27.0, P=0.5	Ø30 x 30.0mm
GM38013MCN	8.0mm	F1.3-Close	2/3"	42°0'x32°7'x50°3'	57°8'x45°0'x69°2'	0.2m	M=25.5, P=0.5	Ø30 x 34.5mm
GM31614MCN	16.0mm	F1.4-Close	2/3"	22°2'x16°5'x27°58'	30°22'x23°0'x38°6'	0.4m	M=27.0, P=0.5	Ø30 x 24.5mm
GM32514MCN	25.0mm	F1.4-Close	2/3"	14°3'x10°5'x18°11'	19°5'x15°1'x25°2'	0.5m	M=27.0, P=0.5	Ø30 x 24.5mm
GM33519MCN	35.0mm	F1.9-Close	2/3"	10°5'x7°9'x13°1'	14°4'x10°8'x17°9'	0.5m	M=27.0, P=0.5	Ø30 x 28.0mm
GM35018MCN	50.0mm	F1.8-Close	2/3"	7°4'x5°4'x9°3'	10°3'x7°5'x13°0'	1.0m	M=30.5, P=0.5	Ø32 x 37.3mm
GM37527MCN	75.0mm	F2.7-Close	2/3"	4°46'x3°34'x5°58'	6°33'x4°55'x8°12'	1.0m	M=30.5, P=0.5	Ø32 x 42.5mm
GM310035MCN	100.0mm	F3.5-Close	2/3"	3°47'x2°51'x4°42'	5°9'x3°54'x6°21'	1.0m	M=30.5, P=0.5	Ø32 x 44.2mm

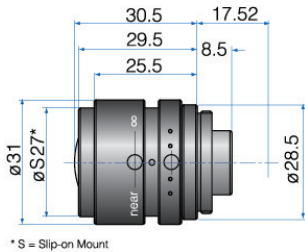
STANDARD FIX FOCAL LENGTH LENSES

Item Number	Focal Length	Iris Range	Lens Format	Angle of View (H x V x D)	M.O.D	Filter Thread	Dimension (D x L)
GMG42514MCN	25.0mm	F1.4-Close	1"	28°7'x21°7'x36°0'	0.5m	M=34, P=0.5	Ø36.5 x 37mm
GMG45018MCN	50.0mm	F1.8-Close	1"	14°5'x10°9'x18°0'	0.7m	M=40.5, P=0.5	Ø46 x 42.5mm
GMG47518MCN	75.0mm	F1.8-Close	1"	9°7'x7°3'x12°3'	0.8m	M=46, P=0.75	Ø48.0 x 58.5mm

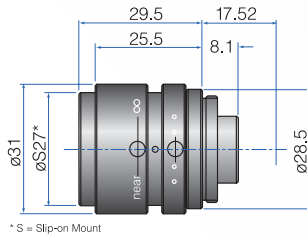
High Resolution Lenses

High Resolution Fixed Focal Length Lenses

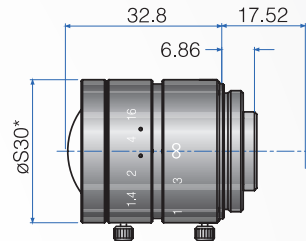
- Excellent quality at an attractive price
- 100 lp/mm center resolution
- Locking focus and iris
- 5um pixel match



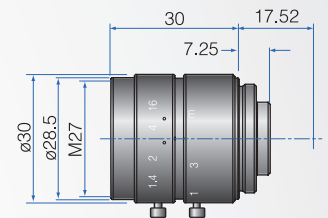
1/2" GM23514MCN



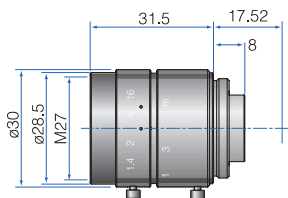
1/2" GM24514MCN



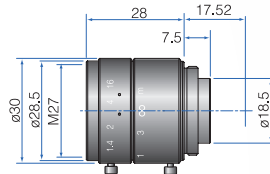
2/3" GMN36014MCN-1



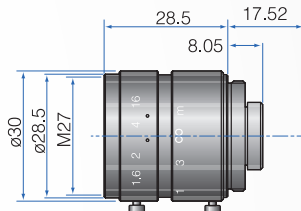
2/3" GMN38014MCN-1



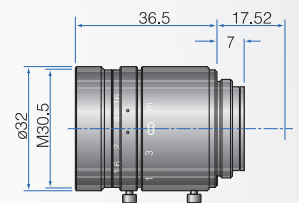
2/3" GMN31214MCN-1



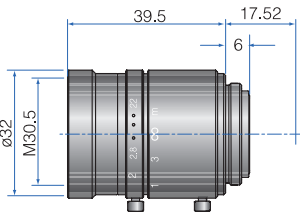
2/3" GMN31614MCN-1



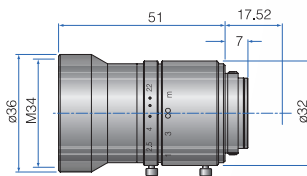
2/3" GMN32516MCN-1



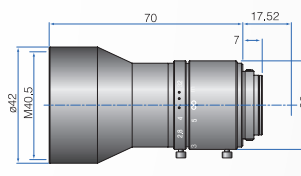
2/3" GMN33516MCN-1



2/3" GMN35020MCN-1



2/3" GMN37525MCN-1



2/3" GMN310028MCN-1

HIGH RESOLUTION FIX FOCAL LENGTH LENSES

Item Number	Focal Length	Iris Range	Lens Format	Angle of View (H x V x D) 1/2"	Angle of View (H x V x D) 2/3"	M.O.D	Filter Thread	Dimension (D x L)
GM23514MCN	3.5mm	F1.4-Close	1/2"	103°6'x76°0'x132°1'	—	0.2m	S27*	Ø31 x 30.5mm
GM24514MCN	4.5mm	F1.4-Close	1/2"	79°0'x59°4'x98°2'	—	0.2m	S27*	Ø31 x 29.5mm
GMN36014MCN-1	6.0mm	F1.4-16	2/3"	59°4'x44°5'x74°3'	81°9'x61°2'x102°9'	0.1m	S30*	Ø30 x 33.0mm
GMN38014MCN-1	8.0mm	F1.4-16	2/3"	46°2'x34°6'x58°1'	64°2'x47°7'x81°3'	0.1m	M=27.0, P=0.5	Ø30 x 30.0mm
GMN31214MCN-1	12.0mm	F1.4-16	2/3"	30°7'x23°0'x38°5'	42°5'x31°7'x53°7'	0.1m	M=27.0, P=0.5	Ø30 x 31.5mm
GMN31614MCN-1	16.0mm	F1.4-16	2/3"	22°2'x16°5'x27°5'	30°5'x22°8'x38°3'	0.2m	M=27.0, P=0.5	Ø30 x 28.0mm
GMN32516MCN-1	25.0mm	F1.6-16	2/3"	15°3'x11°4'x19°1'	21°0'x15°7'x26°3'	0.2m	M=27.0, P=0.5	Ø30 x 28.5mm
GMN33516MCN-1	35.0mm	F1.6-16	2/3"	10°5'x7°9'x13°1'	14°4'x10°8'x17°9'	0.35m	M=30.5, P=0.5	Ø32 x 36.5mm
GMN35020MCN-1	50.0mm	F2.0-16	2/3"	7°3'x5°5'x9°2'	10°1'x7°5'x12°5'	0.5m	M=30.5, P=0.5	Ø32 x 40.0mm
GMN37525MCN-1	75.0mm	F2.5-16	2/3"	4°9'x3°7'x6°1'	6°7'x5°0'x8°3'	1.2m	M=34.0, P=0.5	Ø36 x 51.0mm
GMN310028MCN-1	100.0mm	F2.8-16	2/3"	3°7'x2°8'x4°6'	5°7'x3°8'x6°3'	2.0m	M=40.5, P=0.5	Ø42 x 70.0mm

*S27 and S30 = Slip-On Mount Adapter Size

Megapixel High Resolution Lenses

High Resolution Megapixel Fixed Focal Length Lenses

- High performance optics
- Designed for factory environments
- Locking focus and iris
- 120 lp/mm - 160 lp/mm center resolution
- 4.2um pixel match

2 MEGAPIXEL LENSES (120 lp/mm)

Item Number	Focal Length	Iris Range	Lens Format	Angle of View (H x V x D) 1/2"	Angle of View (H x V x D) 2/3"	M.O.D	Filter Thread	Dimension (D x L)
GMHR23524MCN	3.5mm	F2.4-16.0	1/2"	82°4'x66°9'	—	0.1m	M=40.5 , P=0.5	Ø42 x 38.2mm
GMHR38014MCN	8.0mm	F1.4-Close	2/3"	42°6'x32°5'x52°1'	56°5'x43°9'x67°0'	0.1m	M=27.5 , P=0.5	Ø34 x 41mm
GMHR31214MCN	12.0mm	F1.4-Close	2/3"	28°3'x21°1'x35°0'	38°3'x26°2'x46°8'	0.15m	M=27.0 , P=0.5	Ø34 x 37mm
GMHR31614MCN	16.0mm	F1.4-Close	2/3"	21°8'x16°4'x27°0'	30°0'x22°7'x37°0'	0.2m	M=25.5 , P=0.5	Ø33 x 37.0mm
GMHR32514MCN	25.0mm	F1.4-Close	2/3"	14°0'x10°5'x17°5'	19°6'x14°8'x24°3'	0.2m	M=27.0 , P=0.5	Ø33 x 40.0mm
GMHR33520MCN	35.0mm	F2.0-16.0	2/3"	10°5'x7°85'x13°1'	14°4'x10°8'x17°9'	0.2m	M=27.0 , P=0.5	Ø34 x 36mm
GMHR35028MCN	50.0mm	F2.8-Close	2/3"	7°0'x5°2'x8°7'	9°6'x7°2'x11°9'	0.2m	M=27.0 , P=0.5	Ø34 x 55.0mm

2 MEGAPIXEL LENSES (120 lp/mm)

Item Number	Focal Length	Iris Range	Lens Format	Angle of View (H x V) 2/3"	Angle of View (H x V x D) 1"	M.O.D	Filter Thread	Dimension (D x L)
GMHR48014MCN	8.0mm	F1.4-16	1"	58.3°x48.7°	79°7'x63°0'x92°4'	0.1m	M=55.0 , P=0.75	Ø57 x 58mm
GMHR412513MCN	12.5mm	F1.3-16	1"	39.1°x29.5°	54°5'x41°9'x65°4'	0.23m	M=40.5 , P=0.5	Ø49 x 57mm
GMHR41614MCN	16.0mm	F1.4-16	1"	30.8°x23.2°	44°3'x33°6'x54°4'	0.3m	M=35.5 , P=0.5	Ø42 x 53mm
GMHR42514MCN	25.0mm	F1.4-16	1"	20.2°x15.1°	29°3'x22°0'x36°6'	0.3m	M=35.5 , P=0.5	Ø42 x 43mm
GMHR43514MCN	35.0mm	F1.4-16	1"	14.4°x10.8°	20°9'x15°8'x26°1'	0.3m	M=35.5 , P=0.5	Ø42 x 43mm
GMHR45014MCN	50.0mm	F1.4-16	1"	10.0°x7.54°	14°5'x10°8'x18°0'	0.5m	M=40.5 , P=0.5	Ø48 x 48mm
GMHR47518MCN	75.0mm	F1.4-16	1"	6.68°x5.03°	9°7'x7°3'x12°0'	0.5m	M=46.0 , P=0.75	Ø48 x 57mm

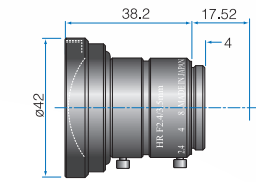
BEST
VALUE

2 AND 3 MEGAPIXEL CLICK-STOP IRIS LENSES (120/140 lp/mm)

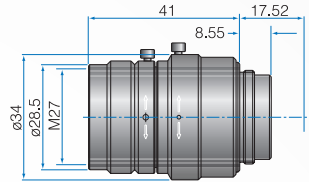
Item Number	Focal Length	Iris Range	Lens Format	Angle of View (H x V x D) 1/2"	Angle of View (H x V x D) 2/3"	M.O.D	Filter Thread	Dimension (D x L)
GMHR26014MCN	6.0mm	F1.4-16.0	1/2"	57°4'x44°3'x72°9'	—	0.2m	M=30.5 , P=0.5	Ø32 x 37.5mm
GMTHR38014MCN	8.25mm	F1.44-16	2/3"	—	57°32'x44°29'x68°66'	0.1m	M=27.0 , P=0.5	Ø30 x 47.5mm
GMTHR31214MCN	12.0mm	F1.45-16	2/3"	—	39°59'x30°17'x48°38'	0.1m	M=27.0 , P=0.5	Ø30 x 47.5mm
GMTHR31614MCN	16.2mm	F1.45-16	2/3"	—	30°46'x23°07'x37°55'	0.1m	M=27.0 , P=0.5	Ø30 x 42.5mm
GMTHR32514MCN	25.0mm	F1.4-16.0	2/3"	14°6'x11°0'x18°2'	20°1'x15°1'x25°0'	0.25m	M=25.5 , P=0.5	Ø29 x 32.0mm
GMTHR33520MCN	35.0mm	F2.0-22.0	2/3"	10°5'x7°9'x13°1'	14°3'x10°5'x17°8'	0.25m	M=25.5 , P=0.5	Ø29 x 39mm
GMTHR35028MCN	50.0mm	F2.8-22	2/3"	7°3'x5°5'x9°0'	10°0'x7°5'x12°4'	0.5m	M=25.5 , P=0.75	Ø29 x 39.0mm

5 MEGAPIXEL HIGH RESOLUTION LENSES (160 lp/mm)

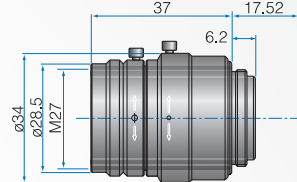
Item Number	Focal Length	Iris Range	Lens Format	Angle of View (H x V x D)	M.O.D	Filter Thread	Dimension (D x L)
GMB5HR30528MCN	5 mm	F2.8-16	2/3"	82°4'x66°9'	0.1m	M=40.5 , P=0.5	Ø42 x 38.5mm
GMB5HR38014MCN	8 mm	F1.4-Close	2/3"	56°5'x43°9'x67°0'	0.1m	M=30.5 , P=0.5	Ø38.5 x 41.6mm
GMA5HR31218MCN	12mm	F1.8-22	2/3"	40°3'x30°8'	0.15m	M=49 , P=0.75	Ø51 x 59.0mm
GMB5HR31614MCN	16 mm	F1.4-16	2/3"	30°0'x22°7'x37°0'	0.2m	M=30.5 , P=0.5	Ø38.5 x 39.1mm
GMB5HR32514MCN	25 mm	F1.4-16	2/3"	19°6'x14°8'x24°3'	0.2m	M=30.5 , P=0.5	Ø38.5 x 44.0mm
GM5HR33514MCN	35 mm	F1.4-22	2/3"	10°4'x7°8'	0.25m	M=49 , P=0.75	Ø51 x 62.0mm
GMB5HR35028MCN	50 mm	F2.8-22	2/3"	9°6'x7°2'x11°9'	0.2m	M=30.5 , P=0.5	Ø38.5 x 76.0mm



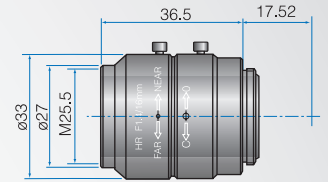
1/2" 2MP GMHR23524MCN



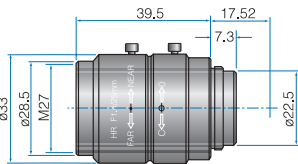
2/3" 2MP GMHR38014MCN



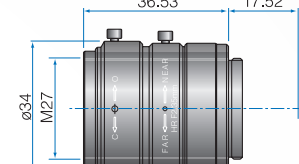
2/3" 2MP GMHR31214MCN



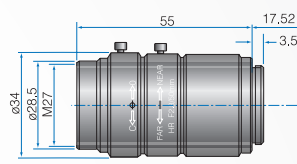
2/3" 2MP GMHR31614MCN



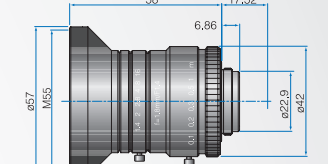
2/3" 2MP GMHR32514MCN



2/3" 2MP GMHR33520MCN



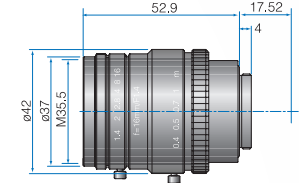
2/3" 2MP GMHR35028MCN



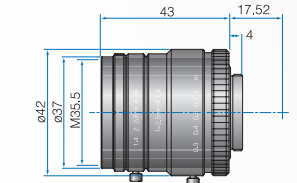
1" 2MP GMHR48014MCN



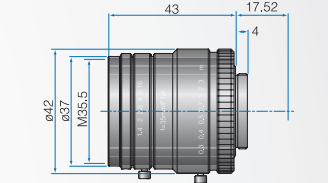
1" 2MP GMHR412513MCN



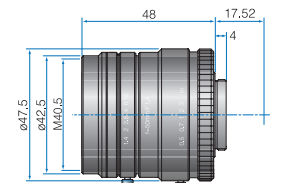
1" 2MP GMHR41614MCN



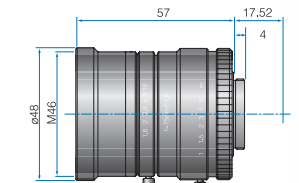
1" 2MP GMHR42514MCN



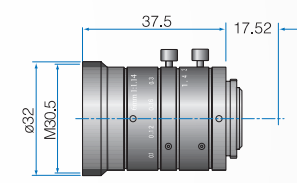
1" 2MP GMHR43514MCN



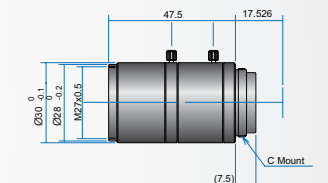
1" 2MP GMHR45014MCN



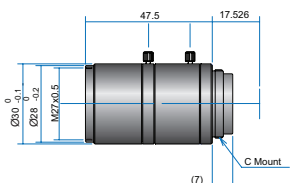
1" 2MP GMHR47518MCN



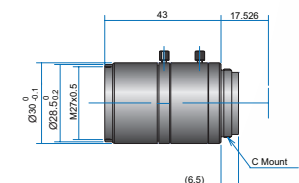
1/2" 2MP GMHR26014MCN
Click-Stop Iris



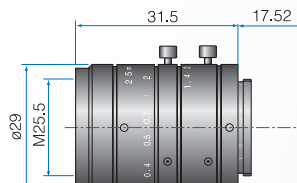
2/3" 2MP GMTHR38014MCN
Click-Stop Iris



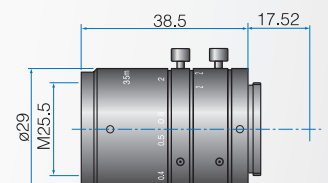
2/3" 2MP GMTHR31214MCN
Click-Stop Iris



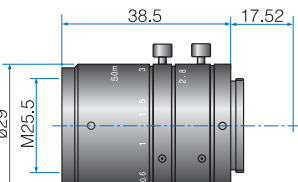
2/3" 2MP GMTHR31614MCN
Click-Stop Iris



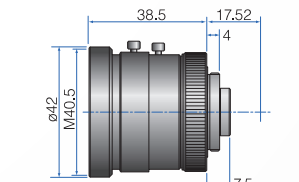
2/3" 3MP GMTHR32514MCN
Click-Stop Iris



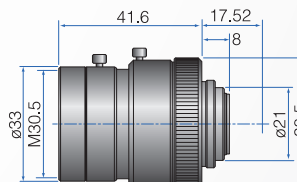
2/3" 3MP GMTHR33520MCN
Click-Stop Iris



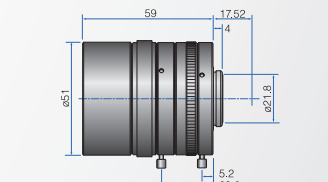
2/3" 3MP GMTHR35028MCN
Click-Stop Iris



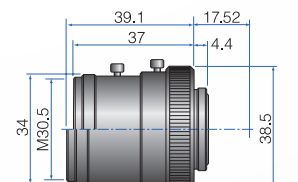
2/3" 5MP GMB5HR30528MCN



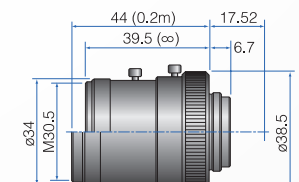
2/3" 5MP GMB5HR38014MCN



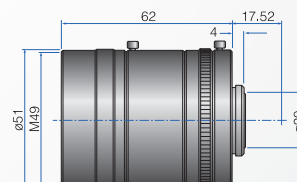
2/3" 5MP GMA5HR31218MCN



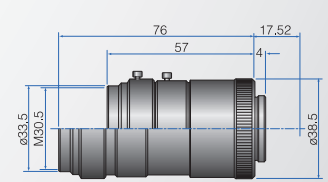
2/3" 5MP GMB5HR31614MCN



2/3" 5MP GMB5HR32514MCN



2/3" 5MP GM5HR33514MCN



2/3" 5MP GMB5HR35028MCN



10 MEGAPIXEL HIGH RESOLUTION LENSES (200 lp/mm)

Item Number	Focal Length	Iris Range	Lens Format	Angle of View (H x V x D)	M.O.D	Filter Thread	Dimension (D x L)
GM10HR30518MCN	5 mm	F1.8-16	2/3"	82°2'x66°5'x65°4'	0.1m	M=46.0, P=0.7	Ø48 x 59.4mm
GM10HR38518MCN	8.5 mm	F1.8-22	2/3"	54°0'x41°9'x64°6'	0.1m	M=34.0, P=0.5	Ø36 x 56mm
GM10HR31218MCN	12 mm	F1.8-11	2/3"	39°1'x29°8'x47°8'	0.1m	M=25.5, P=0.5	Ø33 x 53.5mm
GM10HR31618MCN	16 mm	F1.8-16	2/3"	30°0'x22°7'x37°1'	0.1m	M=25.5, P=0.5	Ø33 x 50mm
GM10HR32518MCN	25 mm	F1.8-16	2/3"	20°0'x15°1'x24°9'	0.1m	M=25.5, P=0.5	Ø33 x 51.2mm
GM10HR33520MCN	35 mm	F2.0-16	2/3"	14°3'x10°8'x17°8'	0.1m	M=34, P=0.5	Ø43 x 68.2mm
GM10HR35028MCN	50 mm	F2.8-16	2/3"	10°1'x7°6'x12°6'	0.1m	M=30.5, P=0.5	Ø38 x 77mm

4/3" Format Megapixel Lenses

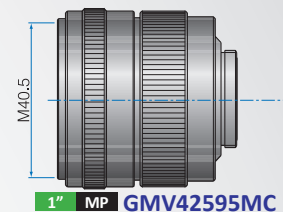
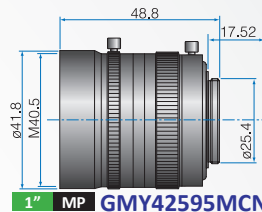
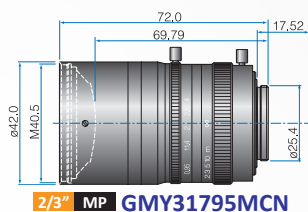


4/3" MEGAPIXEL HIGH RESOLUTION LENSES (160 lp/mm)

Item Number	Focal Length	Iris Range	Lens Format	Angle of View (H x V x D)	M.O.D	Filter Thread	Dimension (D x L)
GMHR61220MCN	12mm	F2-22	4/3"	74°9'x59°6'x86°8'	0.1m	M=55, P=0.75	Ø57 x 85mm
GMHR61620MCN	16mm	F2-22	4/3"	60°6'x47°2'x72°0'	0.1m	M=40.5, P=0.5	Ø45 x 79.5mm
GMHR62520MCN	25mm	F2-16	4/3"	40°9'x31°1'x50°2'	0.15m	M=40.5, P=0.5	Ø45 x 89mm
GMHR63520MCN	35mm	F2-16	4/3"	29°6'x22°4'x36°6'	0.2m	M=37.5, P=0.5	Ø45 x 74mm
GMHR65020MCN	50mm	F2-22	4/3"	20°6'x15°7'x25°4'	0.3m	M=37.5, P=0.75	Ø45 x 74mm

F/0.95 “Low Light” Fixed Focal Length Lenses

- Extremely wide apert
- Mechanically robust
- Locking focus and iris
- 100 lp/mm center resolution
- 5um pixel match



Item Number	Focal Length	Iris Range	Lens Format	Angle of View (H x V x D)	M.O.D	Filter Thread	Dimension (D x L)
GMY31795MC	17.0mm	F0.95-16	2/3"	21°3'x16°1'x26°5'	0.5m	M=40.5 , P=0.5	Ø42 x 63.5mm
GMY42595MC	25.0mm	F0.95-16	1"	28°7'x21°7'x35°5'	0.5m	M=40.5 , P=0.5	Ø42 x 45.5mm
GMV42595MC	25.0mm	F0.95-16	1"	28°6'x21°7'x35°2'	0.4m	M=40.5 , P=0.5	Ø46 x 47.0mm

A Optical Filters

Filters narrow the spectral range of an image, especially when used with monochromatic LED lighting. This greatly increases contrast and improves resolution by reducing the effect of chromatic aberrations. Best focus is a function of wavelength. It is always beneficial to limit the wavelength range of lighting on the subject being imaged, particularly if there is a substantial UV and/or near-infrared component to the light in the surrounding area.

B LE100 CS Mount Lens Enclosure

Protects the lens. Fits all CS cameras. Equipped with a built-in 5mm spacer to accommodate all C-mount lenses. Anti-reflective coating to maximize transmission. Easy to clean and tamper resistant. Accommodates a lens up to 42.5 mm in length and 37.5 mm in width including thumbscrews.

C Rotating Right Angle Attachments

A rotating right angle attachment screws into lens filter threads and permits viewing at 90° to the optical axis of your lens and camera. Attachments can be adapted to smaller lenses through the use of step-up rings. Filters can also be accommodated.

D Slip Mount Adapters

- Designed for lenses without filter threads
- Accommodate standard threaded optical filter mounts
- Large diameter design to prevent wide angle lens vignetting
- Locking set screws to secure the mount adapter to the lens

Many varifocal zoom and shorter fixed focal length wide angle lenses are not supplied with filter threads due to the presence of a protruding, strongly convex first lens element. Our slip mount adapters allow standard threaded filters to be fitted securely to a large variety of lenses that are not designed with filter threads.

E Extension Rings

The **EXT-S-SET** extension ring set consists of six different rings (0.5, 1.0, 5.0, 10.0, 20.0 and 40.0mm) used to adjust the focal point for C- or CS-mount lenses and increase magnification for close-up applications. Individual rings of various lengths are also sold separately. In particular, the 5mm ring allows CS-mount cameras to accept C-Mount lenses.

F Step-Up / Step-Down Rings

Step-up rings allow large filters to be used on lenses with smaller diameter filter threads. Use of step-up rings is often mandatory and routine with shorter focal length lenses in order to prevent vignetting. Step-down rings allow smaller diameter filters to be used on lenses with larger diameter filter threads. The diameter of the filter or lighting to which these rings are coupled will be much smaller than the diameter of the lens, often resulting in vignetting.





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