

Nikon Rayfact

Tochigi Nikon Industrial Lens

TOCHIGI NIKON CORPORATION
Marketing Sec.
Industrial Equipment Dept.

Nikon Rayfact GF Series

▪ Features

- Lens mount : F mount for your use of various CCD cameras.
- High resolution and uniformity from the center to the edge of the lens.
- Minimal distortion (0.1% at the standard magnification).
- Aperture ring lockable screw and focus lockable screw for easy to use.
- RoHS compliant.

▪ Applications

- For high resolution cameras (CCD pixel size : $4.7 \mu\text{m}$)
- FPD inspection.
- Fine pattern inspection – e.g. PCB.
- Fine pattern inspection and detecting defects – e.g. TAB, sheets.
- Printed materials inspection.

NikonRayfact80mmF4 0.235x (Build-to-order product)

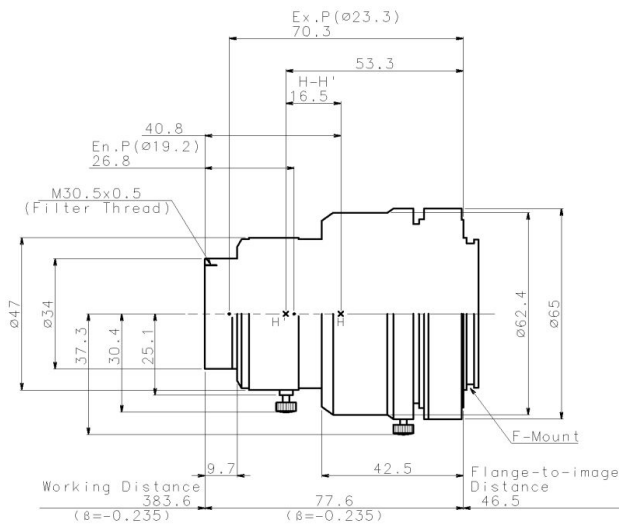


Specifications

Model	QVM0235023MF
Focal length	80.8mm
F Number (∞)	F4
NA (Diaphragm open)	0.024
Magnification scale	-0.235x
Magnification range	-0.188x~ -0.313x
Reference wavelength	546.07nm (e-line)
Wavelength range	400~700nm
Picture angle	21.1°
Image size	36mm ϕ
Object Size	153.2mm ϕ ※1
Distortion	-0.06% ※1
Relative illumination	86.2% ※1
Aperture scale	4.5,6,8(With a diaphragm lock, a click stop)
Object-to-image distance	507.7mm ※1
Working distance	383.6mm ※1
Mount size	F Mount
Flange-to-image distance	46.5mm
Back focus	66.8mm
Attachment size	M30.5(P=0.5)
Diameter/length	65mm ϕ × 77.6mm ※2
Weight	Approximately 350g

※1 Value at the standard magnification.

※2 Dimension excludes protrusion of screws or other convex part.



NikonRayfact80mmF4 0.47x (Build-to-order product)

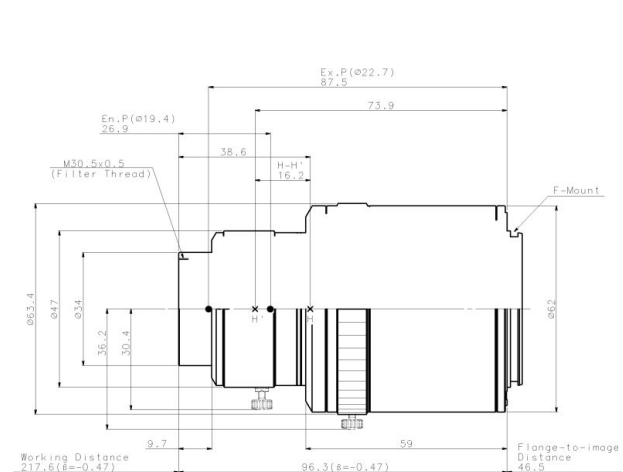


Specifications

Model	QVM05041MF
Focal length	81.9mm
F Number (∞)	F4
NA (Diaphragm open)	0.04
Magnification scale	-0.47x
Magnification range	-0.4x~ -0.5x
Reference wavelength	546.07nm (e-line)
Wavelength range	400~700nm
Picture angle	17.8°
Image size	36mm ϕ
Object Size	76.6mm ϕ ※1
Distortion	-0.09% ※1
Relative illumination	94.0% ※1
Aperture scale	4.5,6,8(With a diaphragm lock, a click stop)
Object-to-image distance	360.4mm ※1
Working distance	217.6mm ※1
Mount size	F Mount
Flange-to-image distance	46.5mm
Back focus	85.5mm
Attachment size	M30.5(P=0.5)
Diameter/length	63.4mm ϕ × 100.8mm ※2
Weight	Approximately 440g

※1 Value at the standard magnification.

※2 Dimension excludes protrusion of screws or other convex part.



*Specifications unless any specific instructions are stated is at the standard magnification.

*Specifications are subject to change without prior notice.

NikonRayfact80mmF4 0.7x (Build-to-order product)



NikonRayfact80mmF4 1.0x (Build-to-order product)

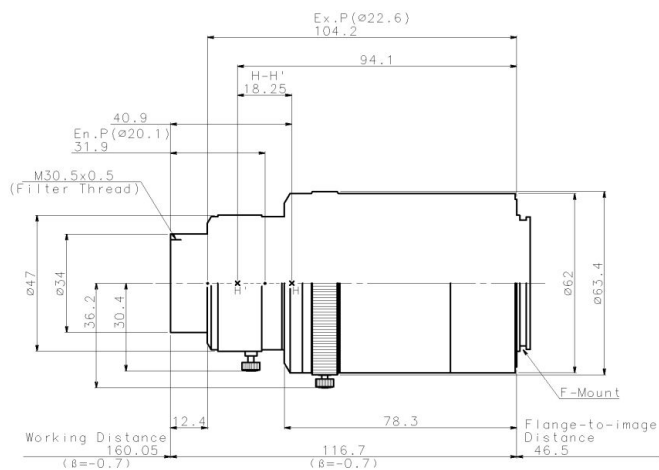


Specifications

Model	QVM07052MF
Focal length	82.7mm
F Number (∞)	F4
NA (Diaphragm open)	0.051
Magnification scale	-0.7x
Magnification range	-0.65x ~ -0.75x
Reference wavelength	546.07nm (e-line)
Wavelength range	400 ~ 700nm
Picture angle	14.6°
Image size	36mm ϕ
Object Size	ϕ 51.4mm ※1
Distortion	-0.08% ※1
Relative illumination	92.6% ※1
Aperture scale	4.5,6,8(With a diaphragm lock, a click stop)
Object-to-image distance	323.3mm ※1
Working distance	160.5mm ※1
Mount size	F Mount
Flange-to-image distance	46.5mm
Back focus	104.3mm
Attachment size	M30.5(P=0.5)
Diameter/length	65mm ϕ × 121.2mm ※2
Weight	Approximately 460g

※1 Data at the standard magnification.

※2 Dimension excludes protrusion of screws or other convex part.

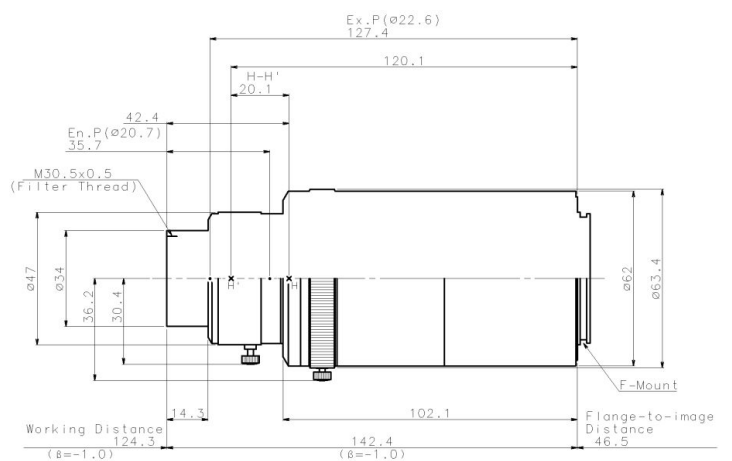


Specifications

Model	QVM10065MF
Focal length	83.3mm
F Number (∞)	F4
NA (Diaphragm open)	0.063
Magnification scale	-1.0x
Magnification range	-0.95x ~ -1.05x
Reference wavelength	546.07nm (e-line)
Wavelength range	400 ~ 700nm
Picture angle	12.8°
Image size	36mm ϕ
Object Size	ϕ 36mm ※1
Distortion	-0.06% ※1
Relative illumination	90.7% ※1
Aperture scale	4.5,6,8(With a diaphragm lock, a click stop)
Object-to-image distance	313.1mm ※1
Working distance	124.8mm ※1
Mount size	F Mount
Flange-to-image distance	46.5mm
Back focus	129.5mm
Attachment size	M30.5(P=0.5)
Diameter/length	63.4mm ϕ × 146.9mm ※2
Weight	Approximately 490g

※1 Data at the standard magnification.

※2 Dimension excludes protrusion of screws or other convex part.



•Specifications unless any specific instructions are stated is at the standard magnification.

•Specifications are subject to change without prior notice.