Macro lens

Apo-Componon 4.0/60-0016

Unlike conventional cameras lenses where the optical performance decreases as the magnification increases, Schneider-Kreuznach macro lenses have been developed and corrected exclusively for the close-up range of 1:20 to 1:1. Due to its mechanical stability and the robust V-mount interface enabling simpler adjustment of the best azimuth position, the system is exceptionally well suited to demanding, continuous industrial use.

Apo-Componon 4.0/60

Key Features

- Excellent optical imaging performance when using large sensors
- Vibration-insensitive for stable optical performance
- Industry-compatible V-mount interface
- Lockable distance and aperture settings
- Infinitely adjustable aperture, guaranteed long-term stability
- 100% quality control guarantees reliability and constant quality
- Low maintenance requirements, therefore high system reliability

Applications

- Machine Vision and other imaging applications
- PCB inspection
- LCD inspection
- OLED inspection
- Solar inspection

Technical Specifications

F-number	4.0
Focal length	59.9 mm
Image circle	60 mm
Magnification	-0,17
Transmission	400 - 700 nm
Interface	V-Mount
Weight	120 gr.
Option	Optical filter

Contact

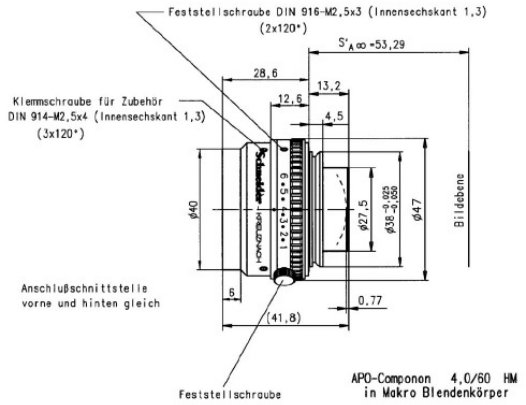
Jos. Schneider Optische Werke GmbH
Ringstraße 132
55543 Bad Kreuznach
Germany
Phone +49 671 601-387
Fax +49 671 601-286
www.schneiderkreuznach.com/industrialoptics
industrie@schneiderkreuznach.com

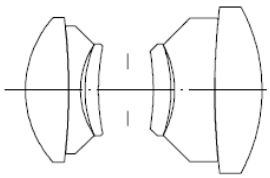
Schneider Asia Pacific Ltd.
20/F Central Tower, 28 Queen's Road
Central, Hong Kong
China
Phone +852 8302 0301
Fax +852 8302 4722
www.schneider-asiapacific.com
info@schneider-asiapacific.com

Schneider Optics Inc.
285 Oser Ave.
Hauppauge, NY 11788
USA
Phone +1 631 761-5000
Fax +1 631 761-5090
www.schneideroptics.com/industrial
industrial@schneideroptics.com

Version 2.0, 20.11.2008 | © 2012 Jos. Schneider Optische Werke GmbH

Apo-Componon 4.0/60





APO-COMPONON 4/60

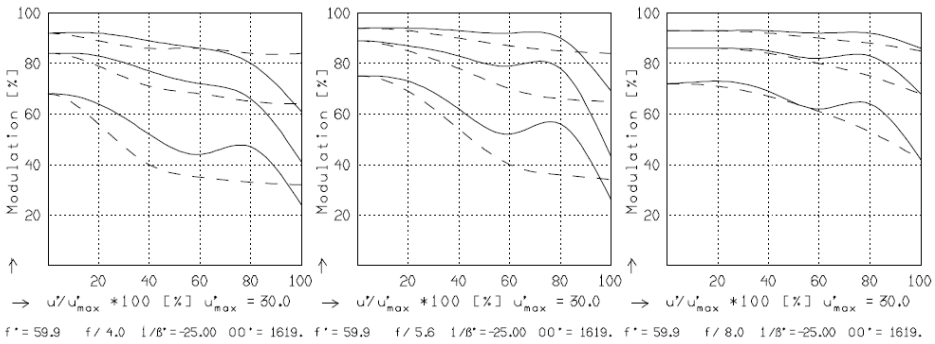
f'	=	59.9 mm	β'p	=	0.970
sF	=	-47.1 mm	sEP	=	14.6 mm
s'F	=	40.9 mm	s'AP	=	-17.3 mm
HH'	=	-1.9 mm	Σ d	=	30.0 mm

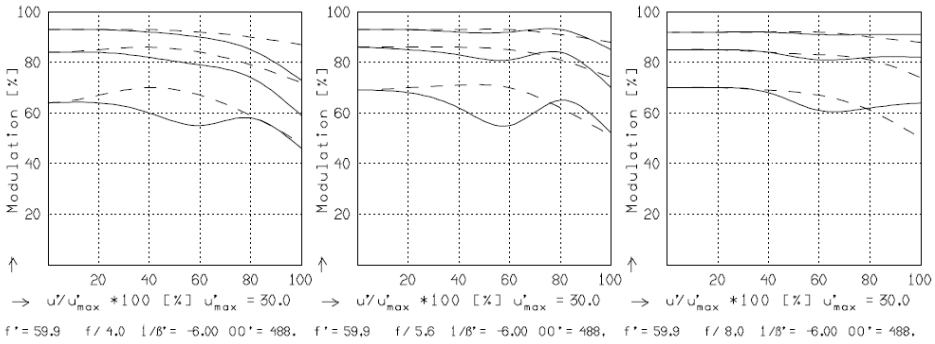
APO-COMPONON 4/60

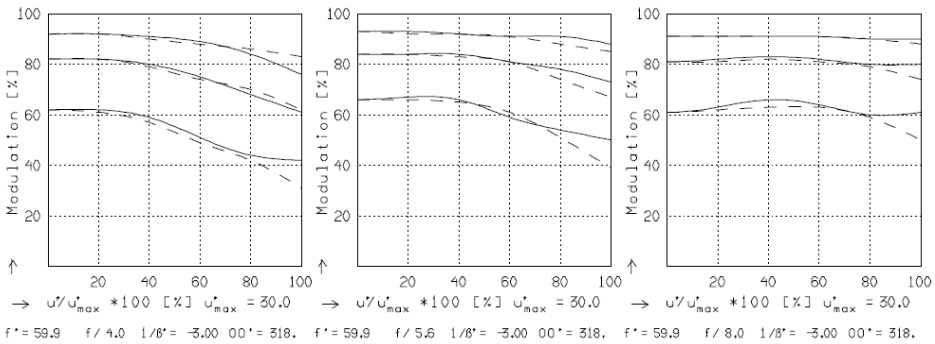
MODULATION with reference to the relative image height

Wavelength	λ	[nm] :	546	706	644	480	436	405
Spectral weighting		[%] :	27.4	12.4	24.1	18.3	12.6	5.2
Spatial frequency R		[1/mm] :	10	20	40			
Format		[mm X mm] :	42.0 X 42.0					
Diagonal 2u'		[mm] :	60.0					

radial ——
tangential — —



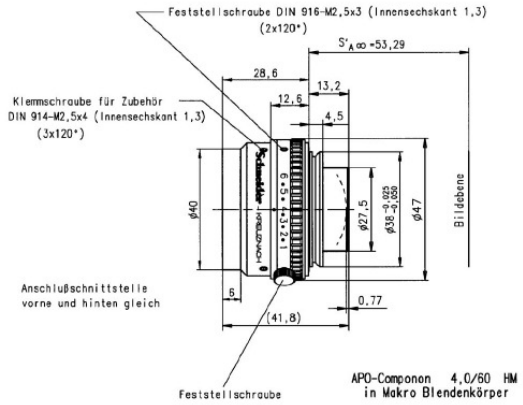


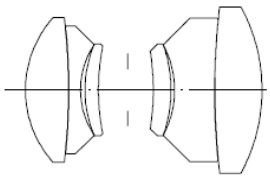


Focusing : MTF_{max} at f / 4.0 . R = 20 1/mm. u'/u'_{max} = 0

Version 2.0, 20.11.2008 | © 2012 Jos. Schneider Optische Werke GmbH

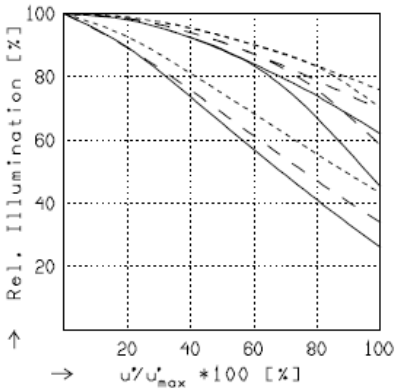
Apo-Componon 4.0/60





APO-COMPONON 4/60

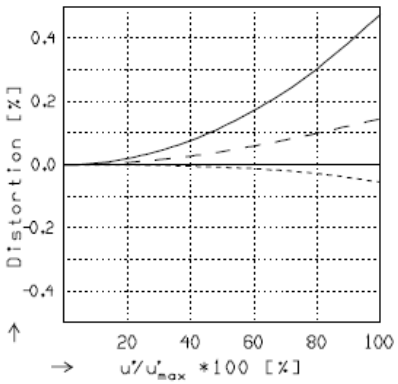
f'	=	59.9 mm	β'_P	=	0.970
s_F	=	-47.1 mm	s_{EP}	=	14.6 mm
s'_F	=	40.9 mm	s'_{AP}	=	-17.3 mm
HH'	=	-1.9 mm	Σ d	=	30.0 mm



RELATIVE ILLUMINATION

The relativ illumination is shown for the given focal distances or magnifications.

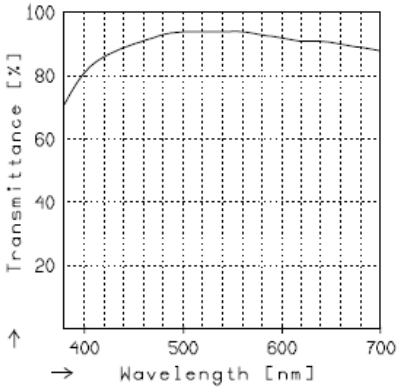
	f / 4.0	f / 5.6	f / 8.0
——	β' = -0.0400	u'_{max} = 30.1	00' = 1619.
— —	β' = -0.1667	u'_{max} = 30.0	00' = 488.
-----	β' = -0.3333	u'_{max} = 30.0	00' = 318.



DISTORTION

Distortion is shown for the given focal distances or magnifications. Positive values indicate pincushion distortion and negative values barrel distortion.

——	β' = -0.0400	u'_{max} = 30.0	00' = 1619.
— —	β' = -0.1667	u'_{max} = 30.0	00' = 488.
-----	β' = -0.3333	u'_{max} = 30.0	00' = 318.



TRANSMITTANCE

Relative spectral transmittance is shown with reference to wavelength.

Version 2.0, 20.11.2008 | © 2012 Jos. Schneider Optische Werke GmbH