

Macro lens

Apo-Componon 4.5/90-0025

Unlike conventional camera 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.



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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	4.5
Focal length	91.2 mm
Image circle	87.8 mm
Magnification	-0,17
Transmission	400 - 700 nm
Interface	V-Mount
Weight	135 gr.
Option	Optical filter

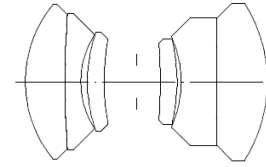
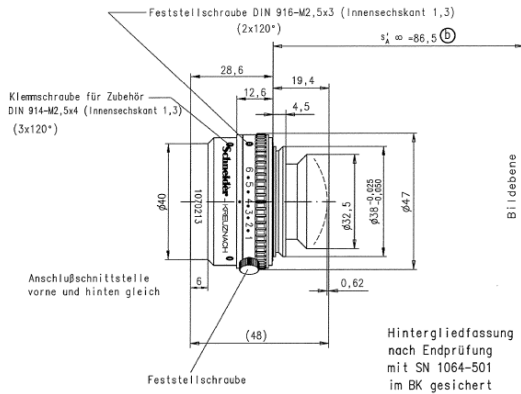
Contact

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

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R4839.3 APO-CPN 4.5/90

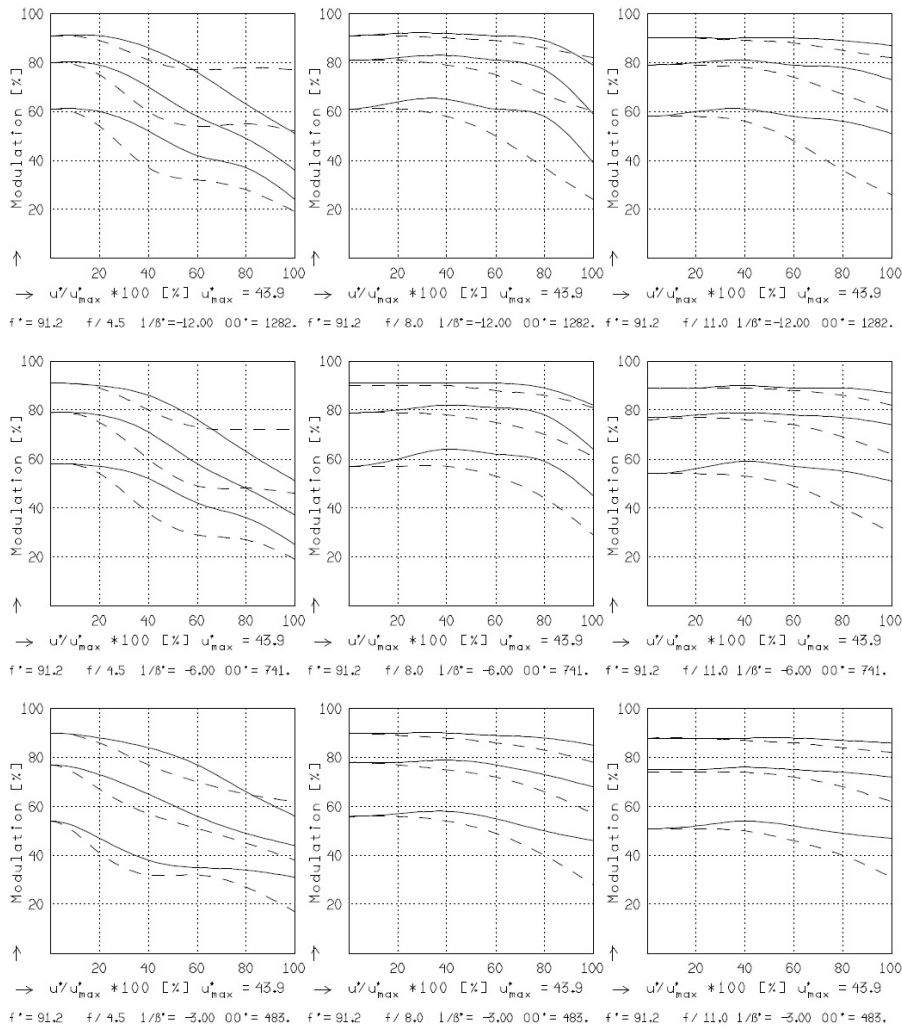
f^* = 91.2 mm	β_p = 1.014
s_F = -67.5 mm	s_{EP} = 22.4 mm
s_F^* = 67.8 mm	s_{AP} = -24.7 mm
HH^* = -3.6 mm	Σd = 43.5 mm

R4839.3 APO-CPN 4.5/90

MODULATION with reference to the relative image height

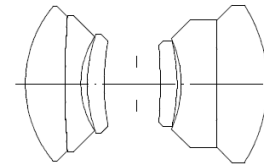
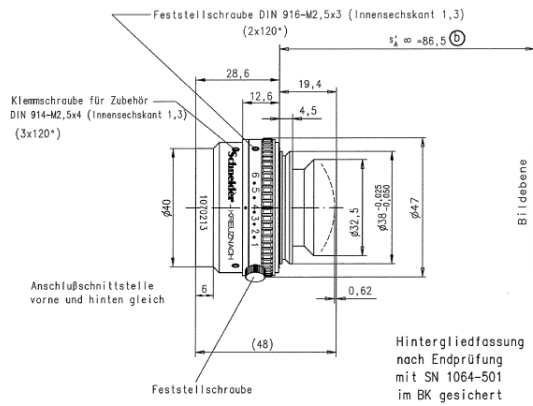
Wavelength λ	[nm]	546	706	644	480	436	405
Spectral weighting	[%]	27.4	12.4	24.1	18.3	12.6	5.2
Spatial frequency R	[1/mm]	10	20	40			
Format	[mm X mm]	0.0	0.0				
Diagonal $2u'$	[mm]	87.9					

radial —
tangential - -

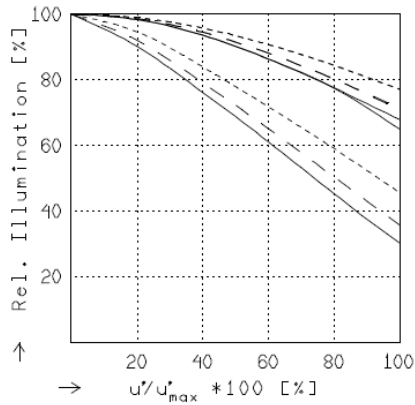


Focusing : MTF_{max} at $f / 4.5$, $R = 50$ 1/mm, $u'/u'_{max} = 0$

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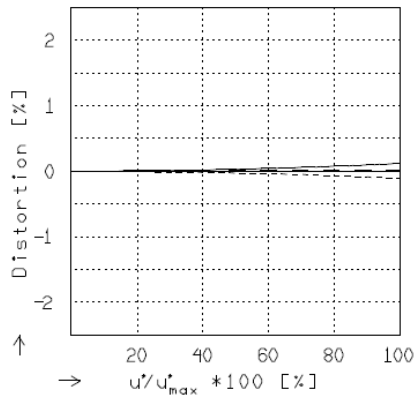
R4839.3	APO-CPN 4.5/90
$f^* = 91,2 \text{ mm}$	$\beta_p^* = 1,014$
$s_F = -67,5 \text{ mm}$	$s_{EP} = 22,4 \text{ mm}$
$s_F^* = 67,8 \text{ mm}$	$s_{AP}^* = -24,7 \text{ mm}$
$HH^* = -3,6 \text{ mm}$	$\Sigma d = 43,5 \text{ mm}$



RELATIVE ILLUMINATION

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

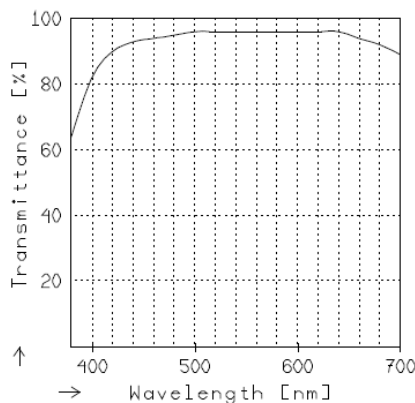
	$f / 4,5$	$f / 8,0$	$f / 11,0$
—	$\beta^* = -0,0833$	$u'_{max} = 44,0$	$00^* = 1282$
- -	$\beta^* = -0,1667$	$u'_{max} = 43,9$	$00^* = 741$
----	$\beta^* = -0,3330$	$u'_{max} = 43,9$	$00^* = 483$



DISTORTION

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

—	$\beta^* = -0,0833$	$u'_{max} = 43,9$	$00^* = 1282$
- -	$\beta^* = -0,1667$	$u'_{max} = 43,9$	$00^* = 741$
----	$\beta^* = -0,3330$	$u'_{max} = 43,9$	$00^* = 483$



TRANSMITTANCE

Relative spectral transmittance is shown with reference to wavelength.