

V-Mount Macro Lens

Apo-Componon 4.0/45-0007

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.



Apo-Componon 4.0/45

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
- Continuous aperture adjustment, guaranteed long-term stability
- 100% quality control guarantees reliability and constant quality
- Low maintenance requirements, therefore high system reliability

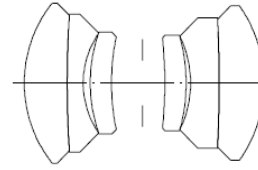
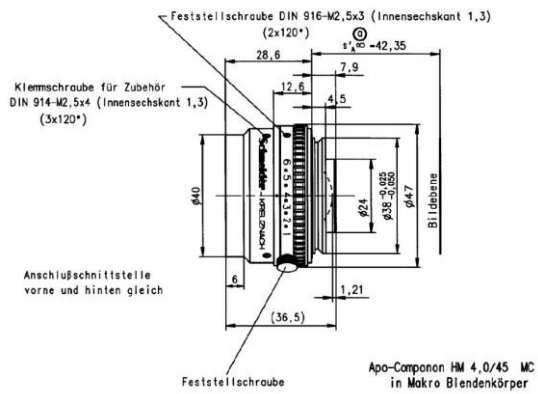
Applications

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

Technical Specifications

F-number	4.0
Focal length	46.5 mm
Image circle	43.2 mm
Magnification	1:20 to 1:1, optimized for -0.17
Transmission	400 - 700 nm
Interface	V38-Mount
Weight	100 gr.
Filter tread	M37 x 0.75
Code no.	14783

Apo-Componon 4.0/45



APO-COMPONON 4/45

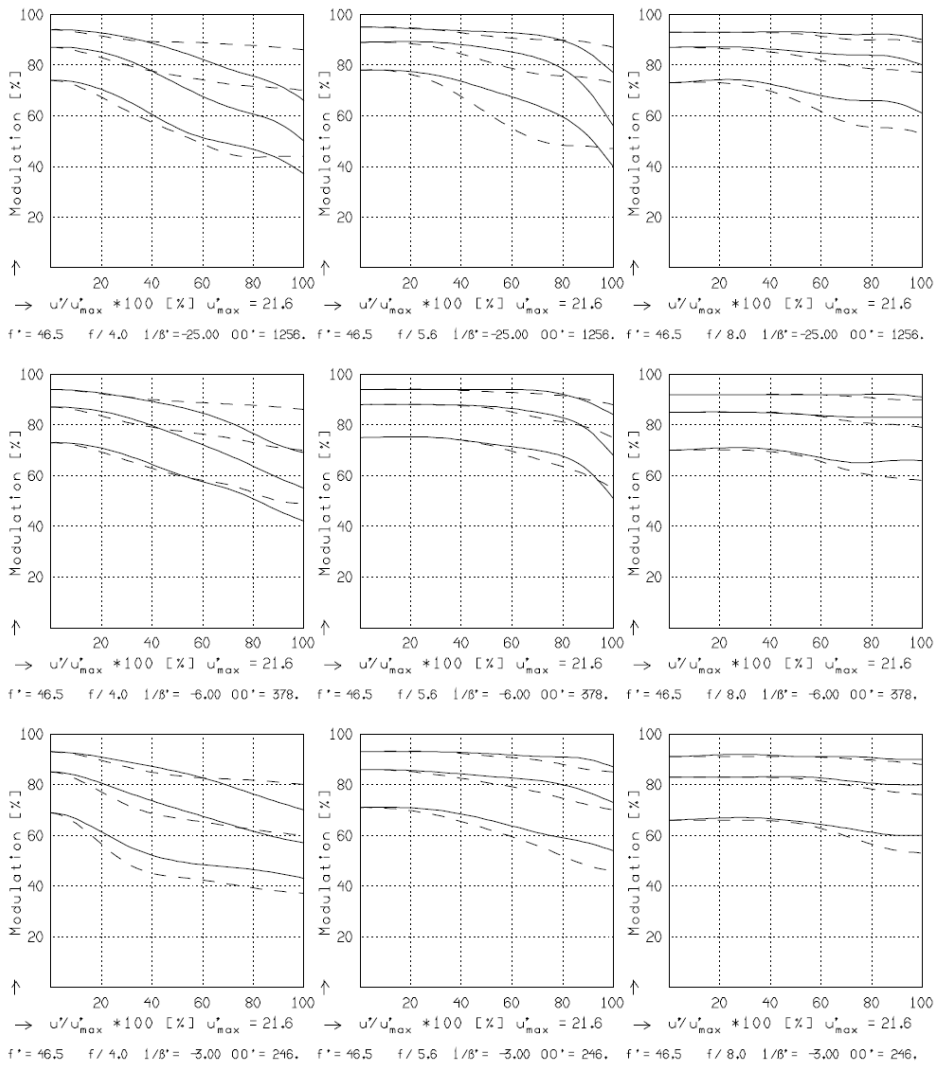
f'	= 46.5 mm	β'_P	= 1.026
s_F	= -33.1 mm	s_{EP}	= 12.3 mm
s'_F	= 35.7 mm	s'_{AP}	= -12.1 mm
HH'	= -1.8 mm	Σd	= 22.5 mm

APO-COMPONON 4/45

MODULATION with reference to the relative image height

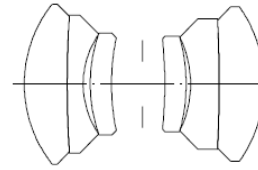
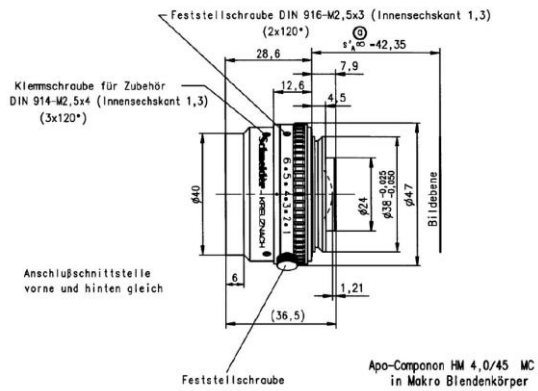
Wavelength λ	[nm]	546	706	644	480	436	405
Spectral weighting	[%]	27.4	12.4	24.1	18.3	12.6	5.2
Spatial frequency R	[1/mm]	10	20	40			
Format	[mm X mm]	24.0		X 36.0			
Diagonal $2u'$	[mm]	43.2					

radial —
tangential - - -



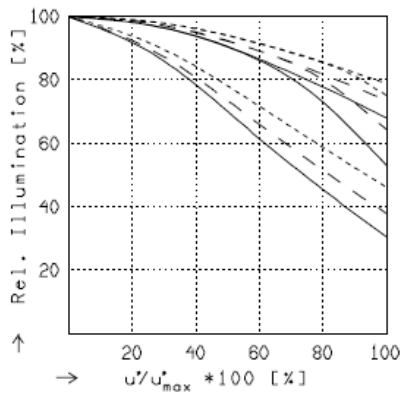
Focusing : MTF_{max} at $f / 4.0$, $R = 20$ 1/mm. $u/u'_{max} = 0$

Apo-Componon 4.0/45



APO-COMPONON 4/45

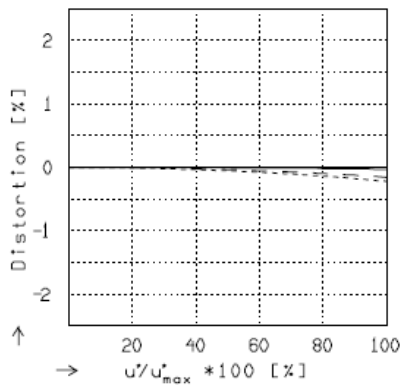
$f' = 46,5 \text{ mm}$	$\beta'_p = 1,026$
$s_F = -33,1 \text{ mm}$	$s_{EP} = 12,3 \text{ mm}$
$s'_F = 35,7 \text{ mm}$	$s'_{AP} = -12,1 \text{ mm}$
$HH' = -1,8 \text{ mm}$	$\Sigma d = 22,5 \text{ mm}$



RELATIVE ILLUMINATION

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

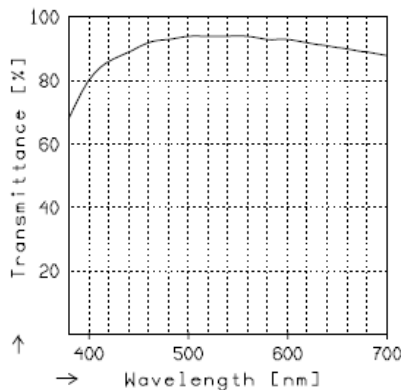
	$f / 4.0$	$f / 5.6$	$f / 8.0$
— $\beta' = -0.0400$	$u_{max}' = 21.6$	$00' = 1256.$	
- - $\beta' = -0.1667$	$u_{max}' = 21.6$	$00' = 378.$	
---- $\beta' = -0.3333$	$u_{max}' = 21.6$	$00' = 246.$	



DISTORTION

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

— $\beta' = -0.0400$	$u_{max}' = 21.6$	$00' = 1256.$
- - $\beta' = -0.1667$	$u_{max}' = 21.6$	$00' = 378.$
---- $\beta' = -0.3333$	$u_{max}' = 21.6$	$00' = 246.$



TRANSMITTANCE

Relative spectral transmittance is shown with reference to wavelength.