

# Xenon-Emerald Lens F-Mount Series

## XENON-EMERALD 2.9/100-L

Many camera manufacturers are using the F-Mount bayonet as the camera/lens interface of their high resolution area and line scan cameras. Schneider-Kreuznach has addressed this topic with the new series of industrial XENON EMERALD lenses. These low distortion lenses with an image circle diameter of 43.2mm are compact, robust, lockable in distance and aperture, designed for close up range or infinity and optimized for a uniform image quality over the whole sensor area. The 400-1000 nm broadband coating makes them suitable for applications in the visible and the near infrared spectrum. The option of alternative mounts like e.g. Canon bayonet or M42 thread makes them even more flexible for a wide range of applications in machine vision, quality control, web inspection and other image processing applications.



XENON-EMERALD 2.8/100

### Key Features

- Robust mechanics for rough industrial environment
- Compact design and low weight
- Focus and iris setting lockable
- High resolution optics 400 - 700 nm (VIS) / 700 - 1000 nm (NIR)
- Corrected for infinity
- Constant MTF over the entire image field

### Applications

- Machine vision and other imaging applications
- Quality control
- Web inspection
- Surface inspection
- Line scan applications

### Technical Specifications

F-number	2.9
Focal length	100.9 mm
Image circle	43.2 mm
Transmission	400 - 1000 nm
Interface	F-Mount
Weight	460 gr.
Option	Other interface on request

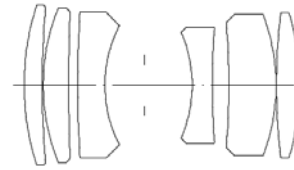
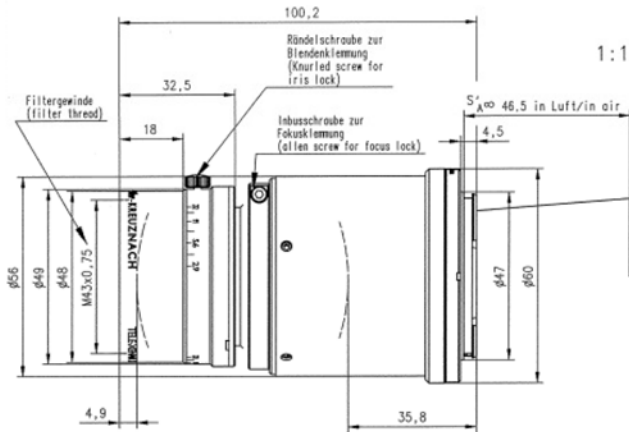
### Contact

Jos. Schneider Optische Werke GmbH  
 Ringstraße 132  
 55543 Bad Kreuznach  
 Germany  
 Phone +49 671 601-490  
 Fax +49 671 601-286  
[www.schneiderkreuznach.com/industrialoptics](http://www.schneiderkreuznach.com/industrialoptics)  
[industrie@schneiderkreuznach.com](mailto: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](http://www.schneider-asiapacific.com)  
[info@schneider-asiapacific.com](mailto: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](http://www.schneideroptics.com/industrial)  
[industrial@schneideroptics.com](mailto:industrial@schneideroptics.com)

# XENON-EMERALD 2.9/100-L



## AP0-TXR 2.9/100

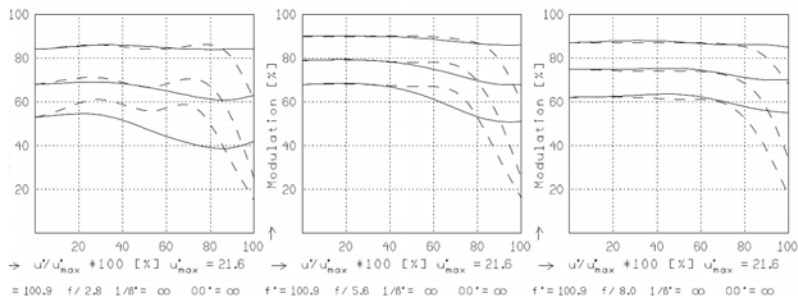
$f'$	= 100.9 mm	$\beta_p$	= 1.318
$s_F$	= -46.4 mm	$s_{EP}$	= 30.2 mm
$s_F'$	= 78.7 mm	$s_{AP}$	= -54.3 mm
$HH'$	= -17.3 mm	$\Sigma d$	= 59.4 mm

## AP0-TXR 2.9/100

MODULATION with reference to the relative image height

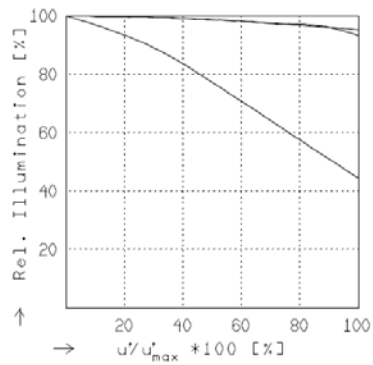
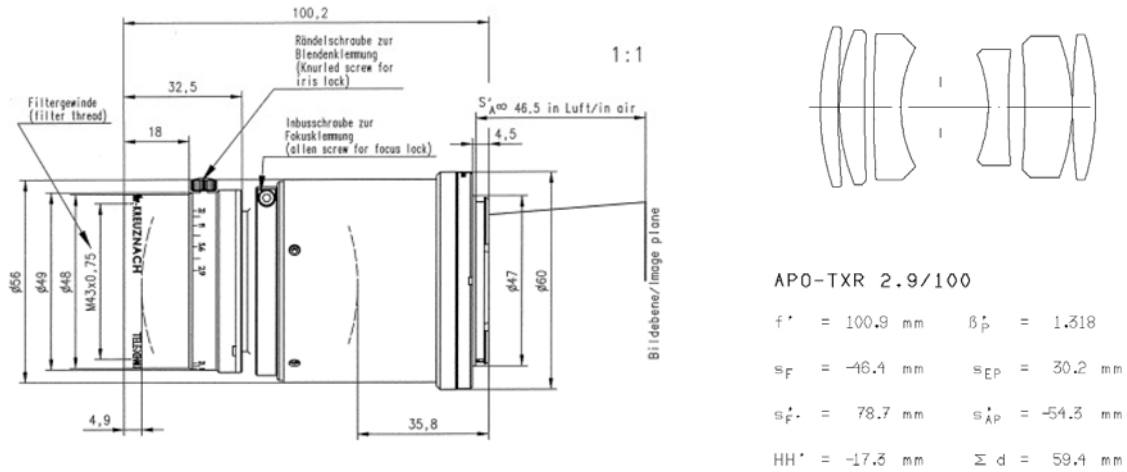
Wavelength $\lambda$	[nm]	546	644	588	486	436	420	
Spectral weighting	[%]	27.4	16.6	25.8	21.7	8.5	0.0	
Spatial frequency R	[1/mm]	20	40	60				
Format	[mm X mm]	24.0	36.0					
Diagonal $2u'$	[mm]	45.2						

radial —  
tangential - -



Focusing :  $MTF_{max}$  at  $f / 2.8$  ,  $R = 60$  1/mm,  $u'/u'_{max} = 0$

# XENON-EMERALD 2.9/100-L

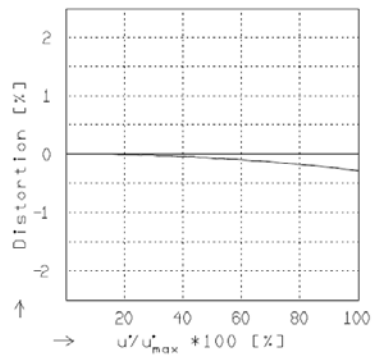


## RELATIVE ILLUMINATION

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

$$f / 2.8 \quad f / 5.6 \quad f / 8.0$$

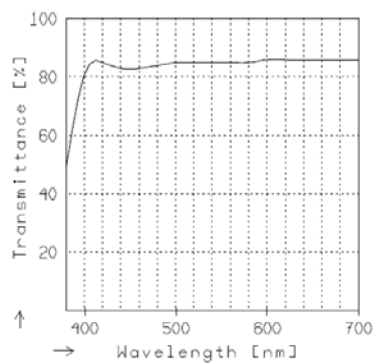
$$\beta' = 0.0000 \quad u'_{max} = 21.5 \quad \infty' = \infty$$



## DISTORTION

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

$$\beta' = 0.0000 \quad u'_{max} = 21.6 \quad \infty' = \infty$$



## TRANSMITTANCE

Relative spectral transmittance is shown with reference to wavelength.