

## Anti-Shading lenses

### Apo-Xenoplan 2.8/50

These high-resolution, high-speed lenses are optimized for the use of 4 and 8 megapixel 1.3" sensors with micro-lenses on the sensor surface. The special optical design prevents unwanted shading on the sensor. This makes it much easier to combine a homogeneous luminance distribution with high imaging performance. The image circles are very large for C-Mount lenses. With a 1.3" sensor, the relatively short focal lengths allow a large coverage range at a short working distance. The lenses are also broadband coated and can be used in the visible range 400 – 700 nm or the near infrared range 700 – 1000 nm.



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### Key Features

- Anti-shading for sensor sizes up to 1.3"(image circle 24 mm)
- Designed for 4 and 8 Mpix sensors with micro-lenses
- High resolution optics 400 - 700 nm (VIS) / 700 - 1000 nm (NIR)
- Very high MTF across the entire sensor
- Robust mechanics for industrial environment
- Compact and low weight
- Focus and iris setting lockable

### Applications

- Machine Vision and other imaging applications
- 3D measurement
- Traffic
- Etc.

### Technical Specifications

F-number	2.8
Focal length	50.2 mm
Image circle	24 mm
Transmission	400 - 1000 nm
Interface	C-Mount
Weight	135 gr.
Option	Optical filter

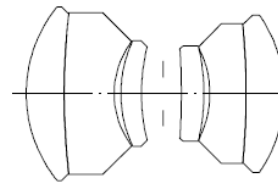
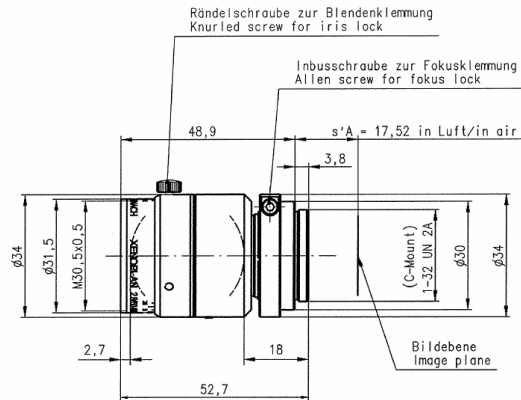
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## Apo-Xenoplan 2.8/50



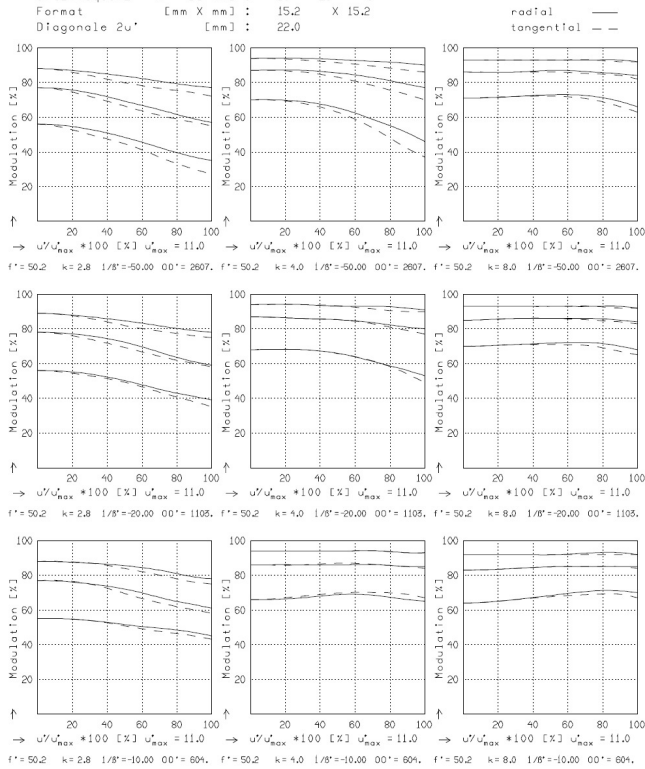
### XENOPLAN 2.8/50

$f^*$	= 50.2 mm	$\beta_p^*$	= 0.945
$s_F$	= -33.5 mm	$s_{EP}$	= 19.6 mm
$s_F^*$	= 31.7 mm	$s_{AP}^*$	= -15.7 mm
HH'	= -3.1 mm	$\Sigma d$	= 32.0 mm

#### XENOPLAN 2.8/50

MODULATION als Funktion der relativen Bildgröße

Wellenlänge $\lambda$ [nm]	: 555	655	605	505	455	405
Spektrale Gewichtung [%]	: 19.6	23.7	22.2	15.7	12.1	6.7
Ortsfrequenz R [l/mm]	: 10	20	40			
Format [mm X mm]	: 15.2	X 15.2				
Diagonale $2u^*$ [mm]	: 22.0					

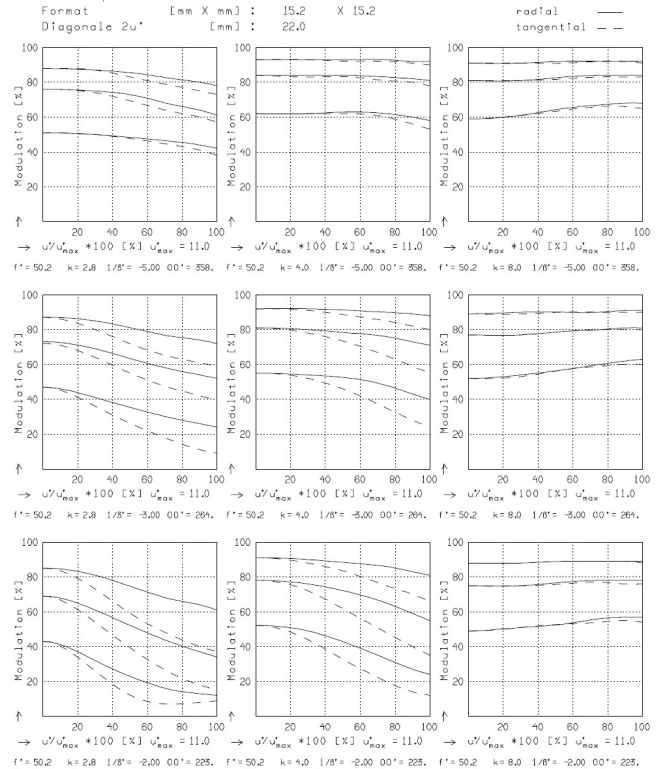


Fokussierung MTF<sub>max</sub> bei k = 2.8, R = 40 l/mm,  $u/u_{max}^* = 0$

#### XENOPLAN 2.8/50

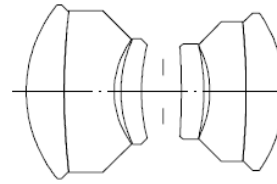
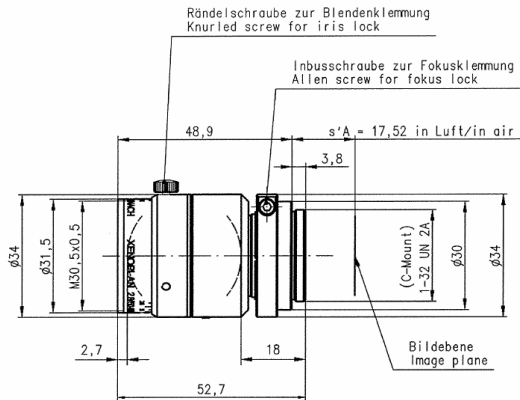
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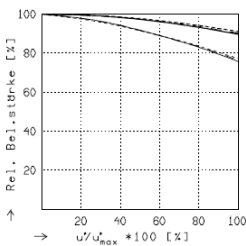
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# Apo-Xenoplan 2.8/50



## XENOPLAN 2.8/50

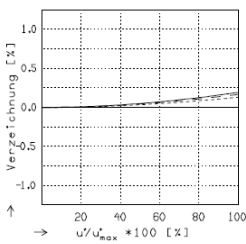
$f^*$ = 50.2 mm	$\beta_p^*$ = 0.945
$s_F$ = -33.5 mm	$s_{EP}$ = 19.6 mm
$s_F^*$ = 31.7 mm	$s_{AP}^*$ = -15.7 mm
$HH'$ = -3.1 mm	$\Sigma d$ = 32.0 mm



### RELATIVE BELEUCHTUNGSSTÄRKE

Die relative Beleuchtungsstärke ist für die angegebenen Brennweiten oder Abbildungsmaßstäbe für die folgenden Blendenzahlen dargestellt.  
 $k = 2.8$      $k = 4.0$      $k = 8.0$

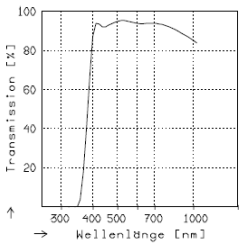
— $\delta' = -0.0200$	$u_{max}^* = 11.0$	$00' = 2607.$
- - $\delta' = -0.0500$	$u_{max}^* = 11.0$	$00' = 1103.$
--- $\delta' = -0.1000$	$u_{max}^* = 11.0$	$00' = 604.$



### VERZEICHNUNG

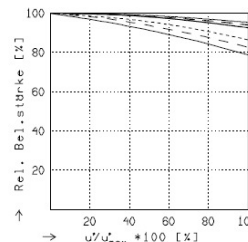
Die Verzeichnung ist für die angegebenen Brennweiten oder Abbildungsmaßstäbe dargestellt.  
 Pos. Werte : Kissenförm. Verzeichnung  
 Neg. Werte : Tonnenförm. Verzeichnung

— $\delta' = -0.0200$	$u_{max}^* = 11.0$	$00' = 2607.$
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### TRANSMISSION

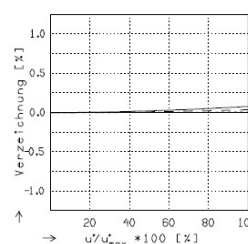
Die relative spektrale Transmission ist als Funktion der Wellenlänge dargestellt.



### RELATIVE BELEUCHTUNGSSTÄRKE

Die relative Beleuchtungsstärke ist für die angegebenen Brennweiten oder Abbildungsmaßstäbe für die folgenden Blendenzahlen dargestellt.  
 $k = 2.8$      $k = 4.0$      $k = 8.0$

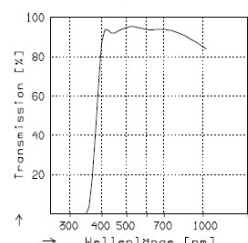
— $\delta' = -0.0200$	$u_{max}^* = 11.0$	$00' = 358.$
- - $\delta' = -0.3333$	$u_{max}^* = 11.0$	$00' = 264.$
--- $\delta' = -0.5000$	$u_{max}^* = 11.0$	$00' = 223.$



### VERZEICHNUNG

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 Pos. Werte : Kissenförm. Verzeichnung  
 Neg. Werte : Tonnenförm. Verzeichnung

— $\delta' = -0.0200$	$u_{max}^* = 11.0$	$00' = 358.$
- - $\delta' = -0.3333$	$u_{max}^* = 11.0$	$00' = 264.$
--- $\delta' = -0.5000$	$u_{max}^* = 11.0$	$00' = 223.$



### TRANSMISSION

Die relative spektrale Transmission ist als Funktion der Wellenlänge dargestellt.



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