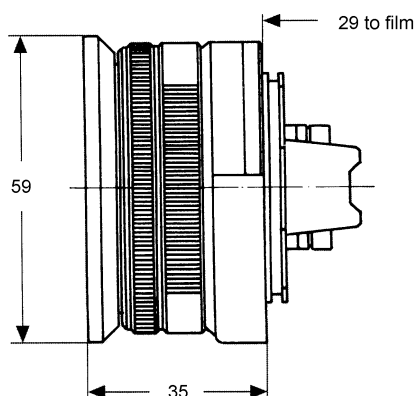
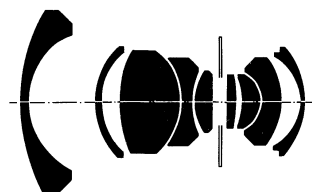


# Biogon® T\* 2.8/21



**CONTAX® G mount**

This **Biogon® 2.8/21** lens bridges the gap between the **Hologon® T\* 8/16** lens and the **Biogon® 2.8/28** lens for the Contax G lens range. With its large field angle across the diagonal, this lens is suitable for photography where not only a dynamic perspective, but also high image quality and minimum distortion are required at the same time. Examples include the photography of architecture and interiors. The relatively wide initial aperture of f/2.8 also allows available-light photography of interiors.

The almost symmetrical design of this lens also makes it suitable for the close-up range: its superb image quality, especially at infinity, is also evident in photographs of prototype and architectural models.

The **Biogon® 2.8/21** lens has been designed for use with the autofocus connection of the Contax G compact cameras.

<b>Cat. No. of lens</b>	<b>10 49 37</b>		
Number of elements	9	Close limit field size	485 mm x 728 mm
Number of groups	7	Max. scale	1 : 20.1
Max. aperture	f/2.8	Entrance pupil*	
Focal length	21.5 mm	Position	16.4 mm behind the first lens vertex
Negative size	24 x 36 mm	Diameter	7.5 mm
Angular field*	width 80°, height 59°, diagonal 2w 90°	Exit pupil*	
Min. aperture	22	Position	10.7 mm in front of the last lens vertex
Camera mount	Contax G	Diameter	8.0 mm
Filter connection	M 55 x 0,75	Position of principal planes*	
Focusing range	infinity to 0,5 m	H	17.6 mm behind the first lens vertex
Working distance (between mechanical front end of lens and subject)	0,44 m	H'	9.5 mm
		Back focal distance	12.1 mm
		Distance between first and last lens vertex	49.7 mm
		Weight	200 g

\* at infinity



Performance data:

**Biogon® T\* 2.8/21**

Cat. No. 10 49 37

### 1. MTF Diagrams

The image height  $u$  - calculated from the image center - is entered in mm on the horizontal axis of the graph. The modulation transfer  $T$  (MTF = Modulation Transfer Factor) is entered on the vertical axis. Parameters of the graph are the spatial frequencies  $R$  in cycles (line pairs) per mm given at the top of this page.

The lowest spatial frequency corresponds to the upper pair of curves, the highest spatial frequency to the lower pair. Above each graph, the f-number  $k$  is given for which the measurement was made. "White" light means that the measurement was made with a subject illumination having the approximate spectral distribution of daylight. Unless otherwise indicated, the performance data refer to large object distances, for which normal photographic lenses are primarily used.

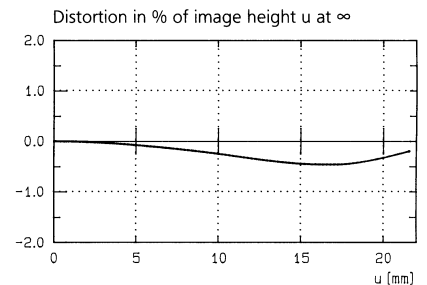
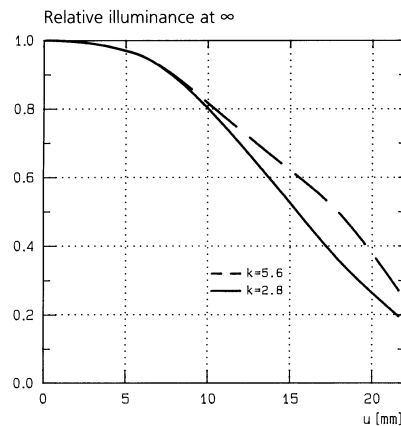
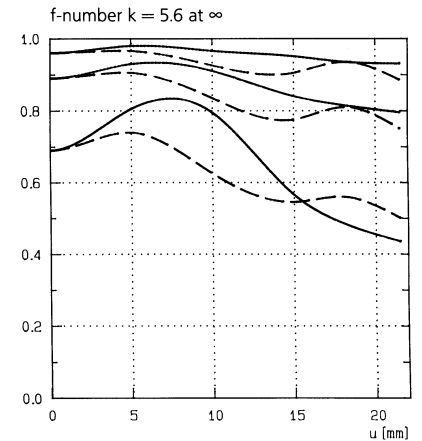
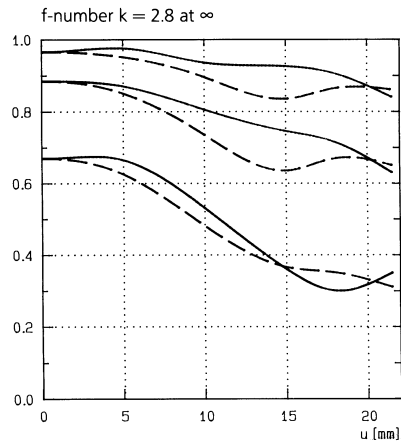
### 2. Relative illuminance

In this diagram the horizontal axis gives the image height  $u$  in mm and the vertical axis the relative illuminance  $E$ , both for full aperture and a moderately stopped-down lens. The values for  $E$  are determined taking into account vignetting and natural light decrease.

### 3. Distortion

Here again the image height  $u$  is entered on the horizontal axis in mm. The vertical axis gives the distortion  $V$  in % of the relevant image height. A positive value for  $V$  means that the actual image point is further from the image center than with perfectly distortion-free imaging (pincushion distortion); a negative  $V$  indicates barrel distortion.

Modulation transfer  $T$  as a function of image height  $u$ . Slit orientation: tangential — — — sagittal ———  
White light. Spatial frequencies  $R = 10, 20$  and  $40$  cycles/mm



Subject to change.

Printed in Germany 31.07.2000



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