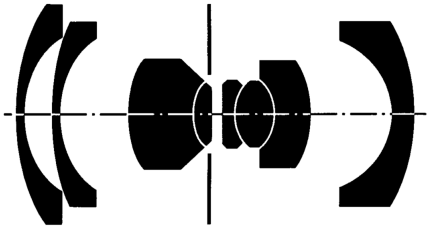
Biogon® T* 4,5/38



ALPA

The Alpa medium format system is a family of cameras with superior mechanical precision and outstanding overall quality.
This makes the Alpa the ideal platform for the high performance wide angle lens Zeiss Biogon® T* 4.5/38.
Only with Alpa, the Zeiss Biogon® T* 4.5/38 is available as interchangeable lens.
Even with the aperture fully open, the Biogon® T* 4.5/38 lens produces beautifully sharp, brilliant photographs.

Distortion is virtually eliminated. When best imaging quality is required and reproduction requirements are high, this lens is in its element.

Preferred use: architectural and model photographs, demanding interiors, aerial photography and for recording technical sequences from a short distance

Cat. No. of lens	**10 49 76**
Number of elements	8
Number of groups	5
Max. aperture	f/4.5
Focal length	38.6 mm
Negative size	56 x 56 mm
Angular field	width 72°, height 72°, diagonal 91°
Min. aperture	32
Camera mount	Alpa plate
Shutter	Copal 0, modified (aperture with 1/3 stops)
Filter connection	M 67 x 0,75
Focusing range	infinity to 0.35 m
Working distance (between mechanical front end of lens and subject)	0.2 m
Close limit field size	266 mm x 266 mm
Max. scale	1 : 4.7
Entrance pupil	
Position	21.7 mm behind the first lens vertex
Diameter	8.6 mm
Exit pupil	
Position	21.9 mm in front of the last lens vertex
Diameter	9.1 mm
Position of principal planes	
H	23.9 mm behind the first lens vertex
H'	19.6 mm behind the last lens vertex
Back focal distance	19.0 mm
Distance between first and last lens vertex	76.1 mm
Distance Alpa plate to film	22,2 mm
Weight	520 g

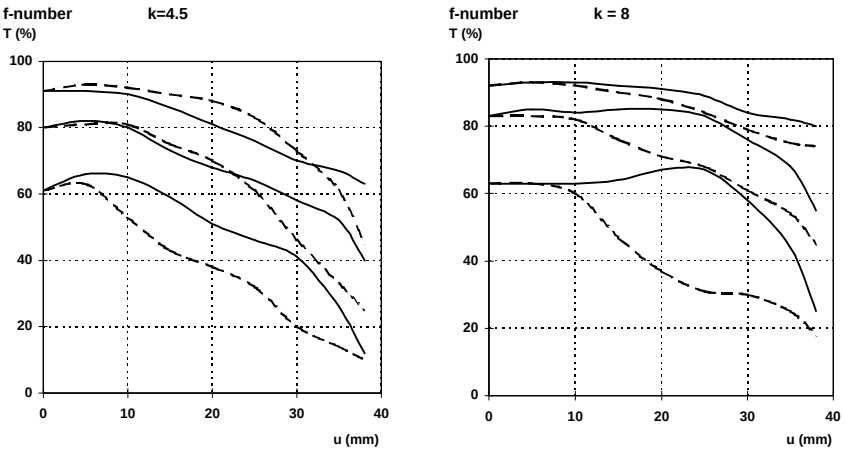
Performance data:
Biogon® **T*** 4.5/38
Cat. No. 10 49 76

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.

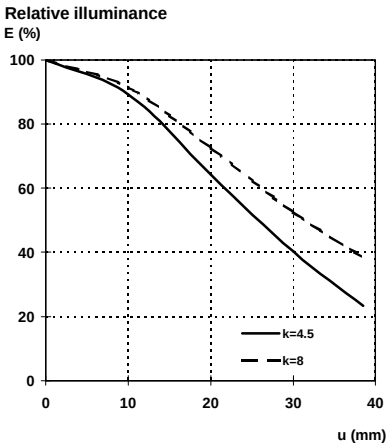
Modulation transfer T as a function of image height u.
White light. Spatial frequencies R = 10, 20 and 40 cycles/mm

Slit orientation: —— sag – – tan



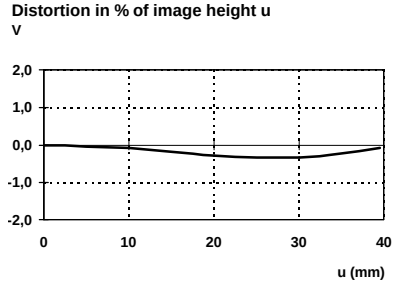
2. Relative illuminance

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.



Subject to change.
Printed in Germany 12.12.2002

Carl Zeiss
Camera Lens Division
73446 Oberkochen
Germany
Telephone ++49-7364-20-6175
Fax ++49-7364-20-4045
eMail: photo@zeiss.de
http://www.zeiss.de/photo