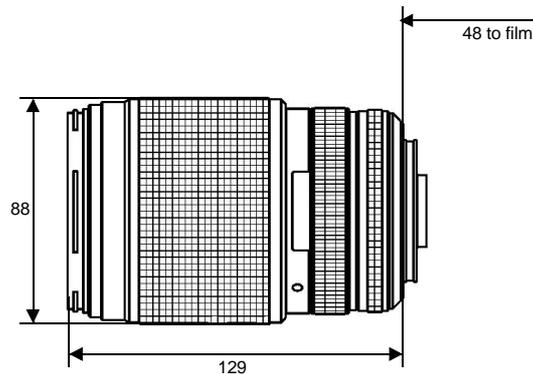
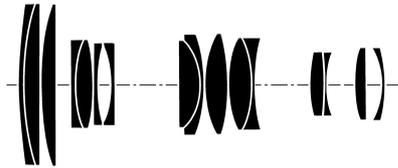


Vario-Sonnar® T* 4.0-5.6/70-300



CONTAX® N1

The **Vario-Sonnar® T* 4.0-5.6/70-300** lens is a compact tele-zoom lens with autofocus and high image quality for the Contax® N1 SLR system. The zoom range of the **Vario-Sonnar® T* 4.0-5.6/70-300** lens covers all focal lengths of 35 mm photography which normally allow good results to be obtained without the use of a tripod. The smallest object size covered corresponds to the size of a postcard, the minimum object distance in front of the lens is 73 cm. The image quality obtained at this setting is remarkably good.

To achieve this high image quality, the **Vario-Sonnar® T* 4.0-5.6/70-300** lens also uses fluor-crown glass with anomalous partial dispersion. Distortion has also been very well corrected, allowing the **Vario-Sonnar® T* 4.0-5.6/70-300** lens to be used for product photographs, if necessary, if no macro lens is avail-

able or the longer focal lengths provided by the **Vario-Sonnar® T* 4.0-5.6/70-300** lens are particularly beneficial for picture composition. The optical and mechanical design is such that the lens requires relatively little space in its transport position. The **Vario-Sonnar® T* 4.0-5.6/70-300** lens is the ideal complement to the more wide-angle oriented **Vario-Sonnar® T* 3.5-4.5/24-85** lens and forms a lens pair with it, allowing the reliable performance of all tasks of 35 mm SLR photography – from landscape to small animals.

Preferred applications:

All-purpose telephoto lens, traveling, landscape detail, snapshots, editorials, portraits, animals

Cat. No. of lens	10 47 67	Entrance pupil*	
Number of elements	16	Position	W = 53.2 mm behind the first lens vertex T = 252.5 mm behind the first lens vertex
Number of groups	11	Diameter	W = 17.9 mm T = 52.5 mm
Max. aperture	f/4.0 - 5.6	Exit pupil*	
Focal length	W = 70.8 mm, T = 298.0 mm	Position	W = 23.8 mm in front of the last lens vertex T = 21.3 mm in front of the last lens vertex
Negative size	24 x 36 mm	Diameter	W = 16.0 mm T = 18.0 mm
Angular field*	W = width 29°, height 19°, diagonal 2w 34° T = width 6.8°, height 4.6°, diagonal 2w 8.1°	Position of principal planes*	
Min. aperture	32	H	W = 44.5 mm behind the first lens vertex T = 320.0 mm in front of the first lens vertex
Camera mount	Contax N1	H'	W = 31.6 mm in front of the last lens vertex T = 217.3 mm in front of the last lens vertex
Filter connection	M 72 x 0.75	Back focal distance	W = 39.3 mm T = 80.7 mm
Focusing range	infinity to 1.5 m	Distance between first and last lens vertex*	W = 121.5 mm T = 159.3 mm
Working distance (between mechanical front end of lens and subject)	W = 1.2 m, T = 1.3 m	Weight	1070 g
Close limit field size	W = 486 x 732 mm T = 100 x 150 mm		
Max. scale	W = 1 : 20.1 T = 1 : 4.2		

* at infinity



Performance data:

Vario-Sonnar® T* 4.0-5.6/70-300

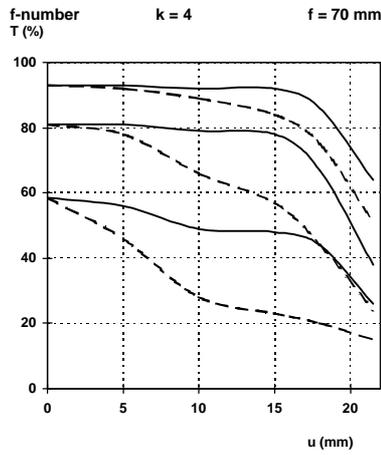
Cat. No. 10 47 67

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.

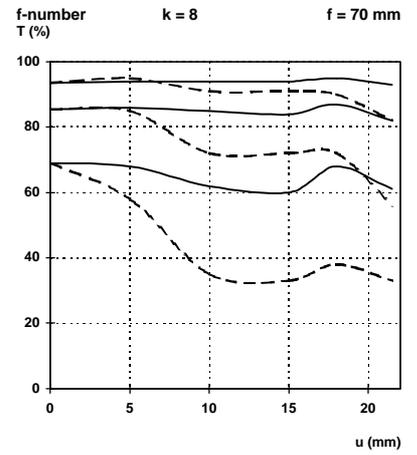
The lowest spatial frequency corresponds to the upper pair of curves, the highest spatial frequency to the lower pair. Above each graph, the f -number k is given for which the measurement was made. "White" light means that the measurement was made with a subject illumination having the approximate spectral 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:

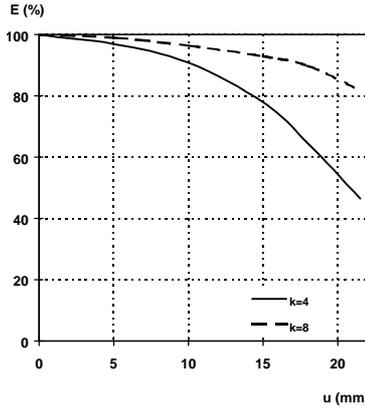
— sag
- - tan



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.

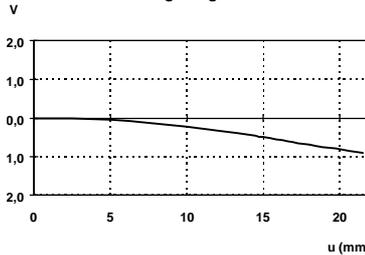
Relative illuminance E (%) $f = 70$ mm



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.

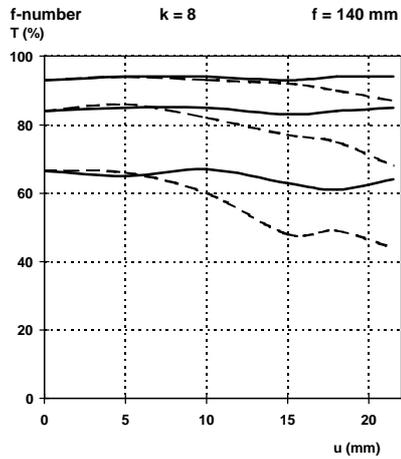
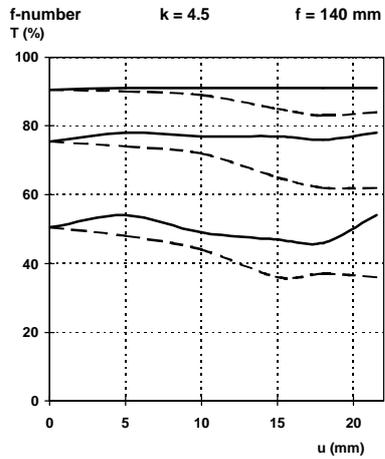
Distortion in % of image height u V $f = 70$ mm



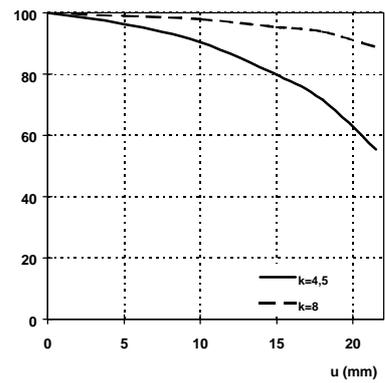
Performance data:
Vario-Sonnar® T* 4.0-5.6/70-300
 Cat. No. 10 47 67

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

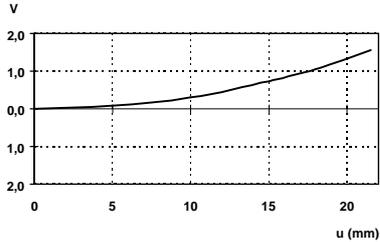
Slit orientation: — sag — tan



Relative illuminance E (%) f = 140 mm



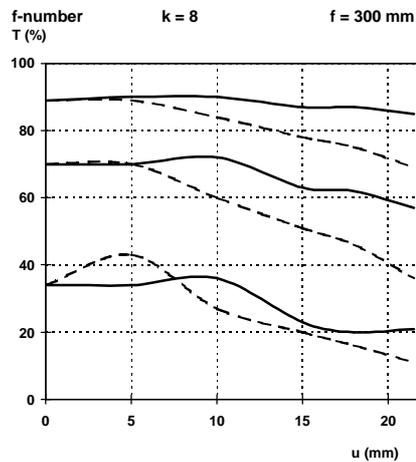
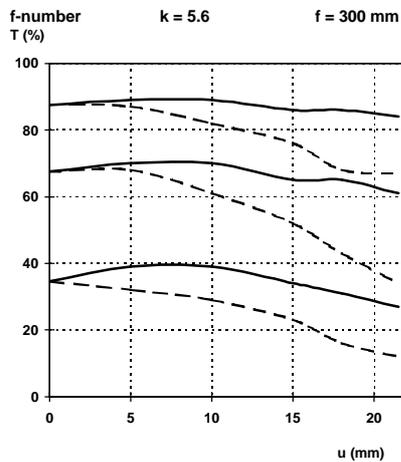
Distortion in % of image height u f = 140 mm



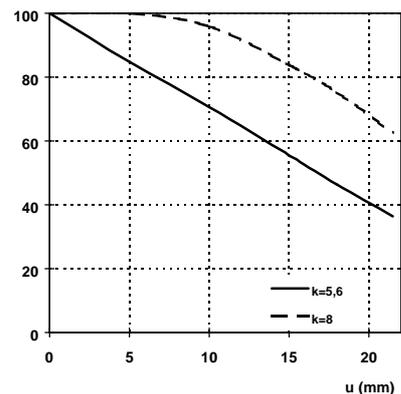
Performance data:
Vario-Sonnar® T* 4.0-5.6/70-300
 Cat. No. 10 47 67

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

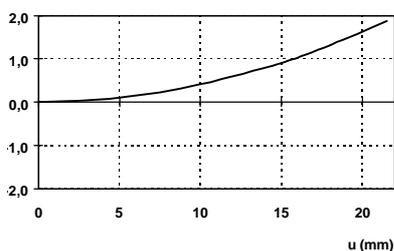
Slit orientation: — sag — tan



Relative illuminance E (%) f = 300 mm



Distortion in % of image height u v f = 300 mm



Subject to change.
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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