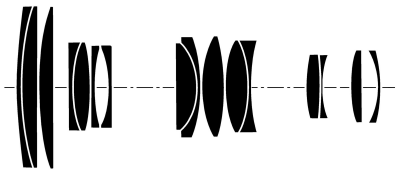
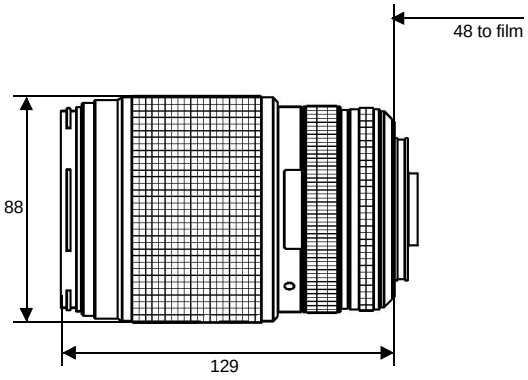
Vario-Sonnar® T* 4.0-5.6/70-300





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 available 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**
Number of elements	16
Number of groups	11
Max. aperture	f/4.0 - 5.6
Focal length	W = 70.8 mm, T = 298.0 mm
Negative size	24 x 36 mm
Angular field*	W = width 29°, height 19°, diagonal 2w 34° T = width 6.8°, height 4.6°, diagonal 2w 8.1°
Min. aperture	32
Camera mount	Contax N1
Filter connection	M 72 x 0.75
Focusing range	infinity to 1.5 m
Working distance (between mechanical front end of lens and subject)	W = 1.2 m, T = 1.3 m
Close limit field size	W = 486 x 732 mm T = 100 x 150 mm
Max. scale	W = 1 : 20.1 T = 1 : 4.2

Entrance pupil*	
Position	W = 53.2 mm behind the first lens vertex T = 252.5 mm behind the first lens vertex
Diameter	W = 17.9 mm T = 52.5 mm
Exit pupil*	
Position	W = 23.8 mm in front of the last lens vertex T = 21.3 mm in front of the last lens vertex
Diameter	W = 16.0 mm T = 18.0 mm
Position of principal planes*	
H	W = 44.5 mm behind the first lens vertex T = 320.0 mm in front of the first lens vertex
H'	W = 31.6 mm in front of the last lens vertex T = 217,3 mm in front of the last lens vertex
Back focal distance	W = 39.3 mm T = 80.7 mm
Distance between first and last lens vertex*	W = 121.5 mm T = 159.3 mm
Weight	1070 g

* at infinity

ZEISS

Performance data:

Vario-Sonnar® T* 4.0-5.6/70-300

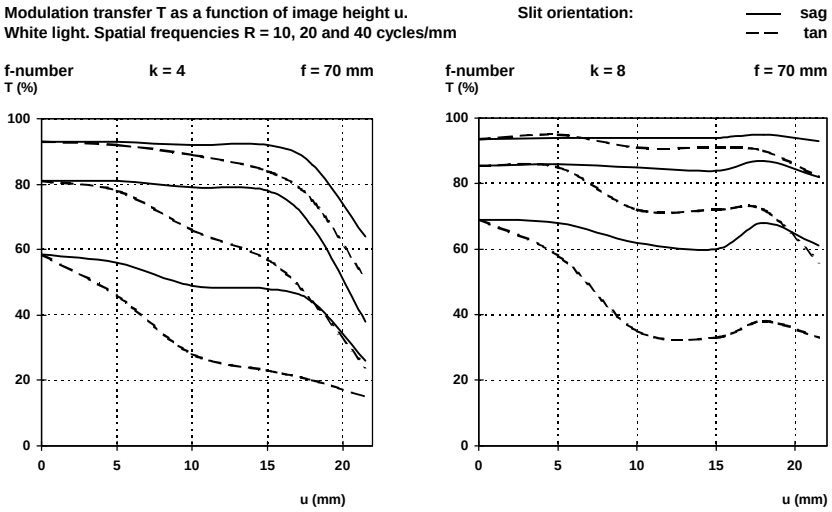
Cat. No. 10 47 67

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.

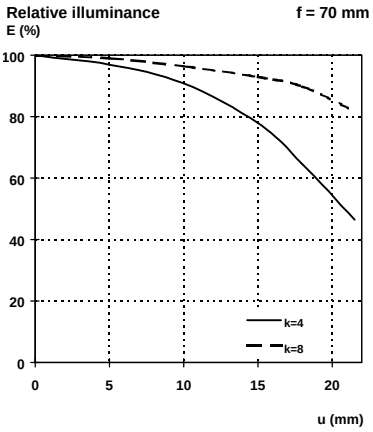
The lowest spatial frequency corresponds to the upper pair of curves, the highest spatial frequency to the lower pair. Above each graph, the f-number k is given for which the measurement was made. "White" light means that the measurement was made with a subject illumination having the approximate spectral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

Unless otherwise indicated, the performance data refer to large object distances, for which normal photographic lenses are primarily used.



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.

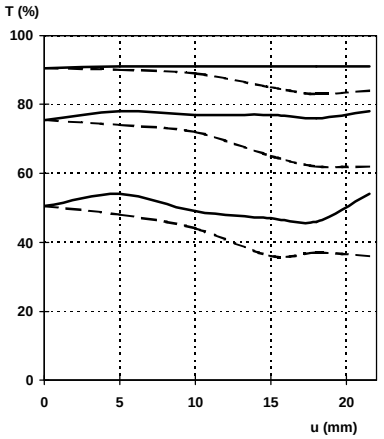
Performance data:

Vario-Sonnar® T* 4.0-5.6/70-300

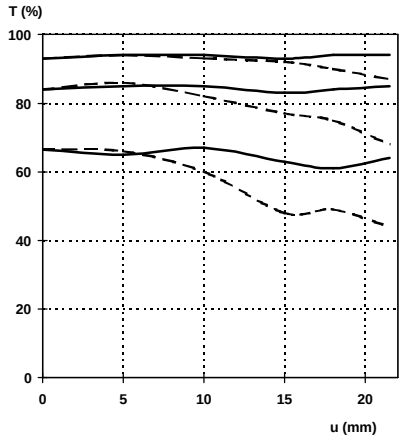
Cat. No. 10 47 67

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

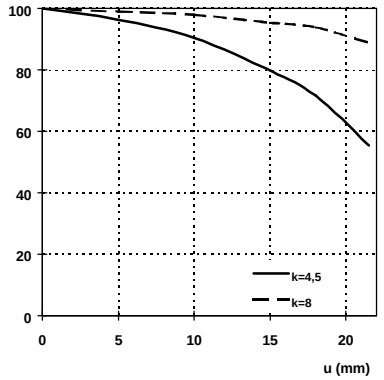
f-number **k = 4.5** **f = 140 mm**



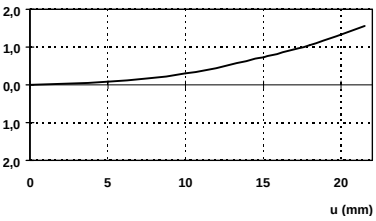
f-number **k = 8** **f = 140 mm**



Relative illuminance **f = 140 mm**



Distortion in % of image height u **f = 140 mm**



Performance data:

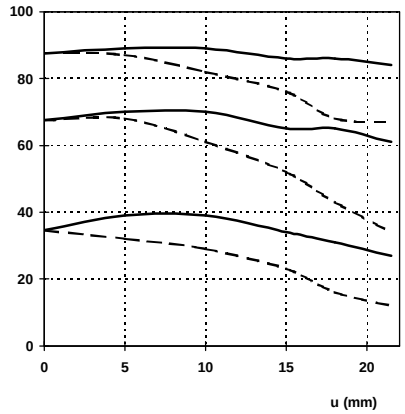
Vario-Sonnar® T* 4.0-5.6/70-300

Cat. No. 10 47 67

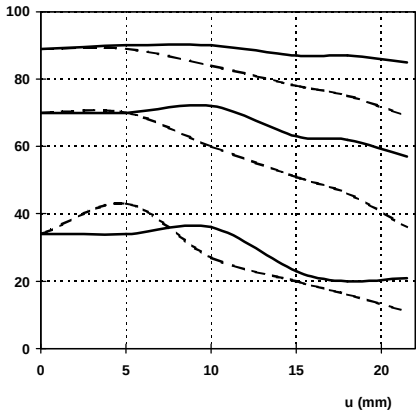
Modulation transfer T as a function of image height u.
White light. Spatial frequencies R = 10, 20 and 40 cycles/mm

Slit orientation: —— sag – – tan

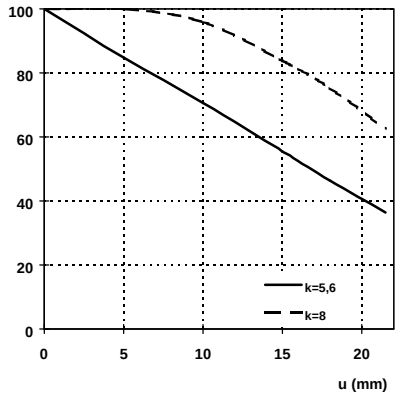
f-number k = 5.6 f = 300 mm



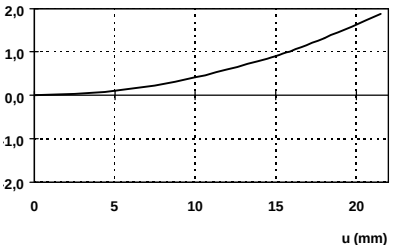
f-number k = 8 f = 300 mm



Relative illuminance f = 300 mm



Distortion in % of image height u f = 300 mm



Subject to change.

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