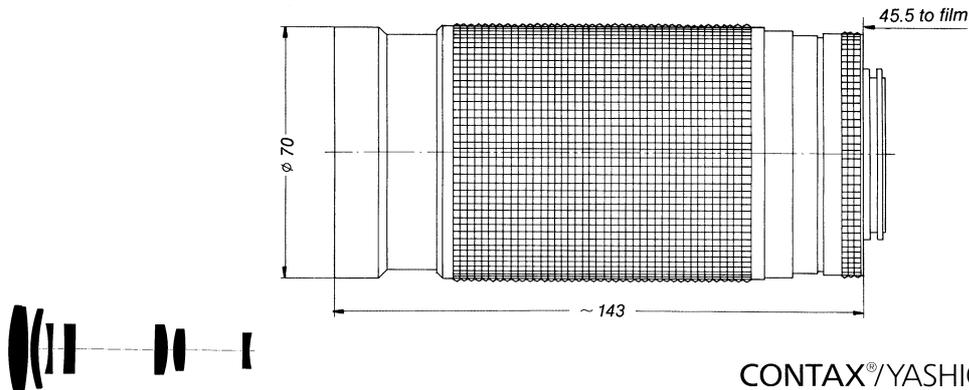


# Vario-Sonnar® T\* f/4.5-5.6 100 - 300 mm



CONTAX®/YASHICA® mount

The use of optical glass with special properties ensures that this 100-300 mm Vario-Sonnar® T\* f/4.5-5.6 lens provides excellent image quality over its entire image field and focal length range.

Like all Zeiss Vario-Sonnar® T\* lenses, this is a one-touch zoom lens, i.e., the same ring is used for zooming and focusing.

As special types of glass with a somewhat higher temperature dependence have been used, a fixed infinity stop has been dispensed with. This guarantees perfect adjustment even in extreme temperatures.

This relatively compact Vario-Sonnar® T\* lens is ideal for a wide variety of photographic applications, but especially in nature and sports photography.

<b>Cat. No. of lens:</b>	<b>10 47 59</b>	<b>Entrance pupil*:</b>	
Number of elements:	12	Position:	a) 89.0 mm behind first lens vertex b) 245.2 mm behind first lens vertex
Number of groups:	7	Diameter:	a) 22.1 mm b) 51.0 mm
Max. aperture*:	f/4.5-5.6	<b>Exit pupil*:</b>	
Focal length*:	102-298 mm	Position:	a) 23.7 mm in front of last lens vertex b) 29.1 mm in front of last lens vertex
Negative format:	24 x 36 mm	Diameter:	a) 13.8 mm b) 17.6 mm
Angular field 2w*:	24°-8°	<b>Position of principal planes*:</b>	
Spectral region:	visible spectrum	H:	a) 27.6 mm behind first lens vertex b) 323.7 mm in front of first lens vertex
Aperture scale:	4.5 - 8 - 11 - 16 - 22 - 32	H':	a) 62.0 mm in front of last lens vertex b) 225.0 mm in front of last lens vertex
Mount:	focusing helicoid with bayonet. Aperture priority/Shutter priority/Automatic programs (Multi-Mode Operation).	<b>Back focal distance*:</b>	a) 40.0 mm b) 73.6 mm
Filter connection:	screw-in type, thread M 67 x 0.75 clip-on type, diameter 70 mm	<b>Distance between first and last lens vertex*:</b>	a) 144.8 mm b) 162.1 mm
Focusing range:	∞ to 1.5 m		
Weight:	approx. 925 g		

a) f = 100 mm, b) f = 300 mm, \* at ∞



Performance data:

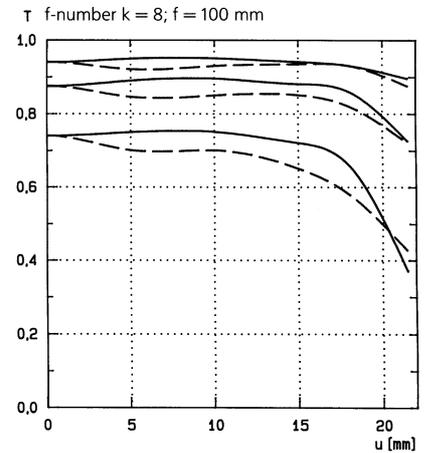
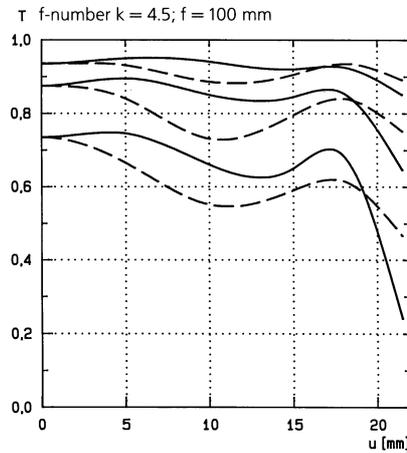
Vario-Sonnar® T\* f/4.5-5.6 100 - 300 mm

Cat. No. 10 47 59

### 1. MTF Diagrams

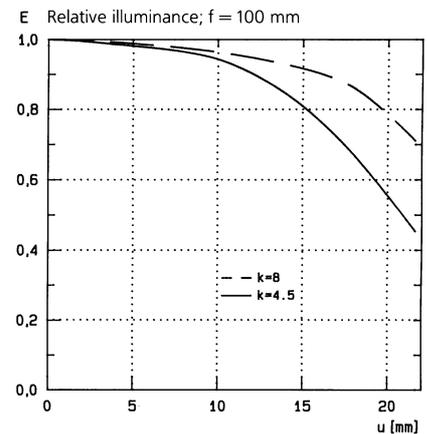
The image height  $u$  - calculated from the image center - is entered in mm on the horizontal axis of the graph. The modulation transfer  $T$  (MTF = Modulation Transfer Factor) is entered on the vertical axis. Parameters of the graph are the spatial frequencies  $R$  in cycles (line pairs) per mm given 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  $u$ . Slit orientation: tangential — — — sagittal ———  
White light. Spatial frequencies  $R = 10, 20$  and  $40$  cycles/mm



### 2. Relative illuminance

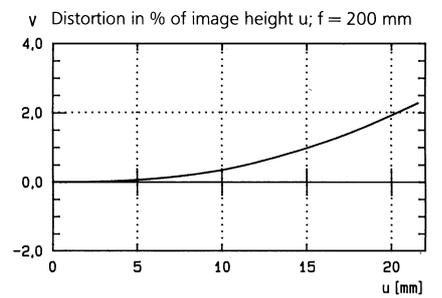
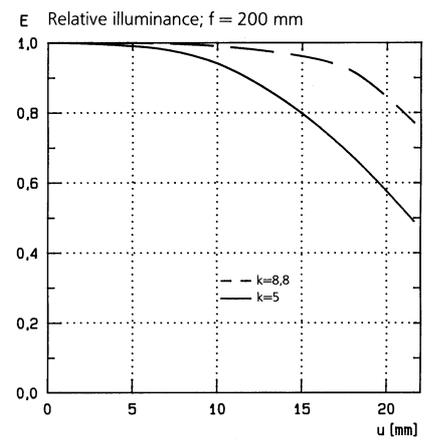
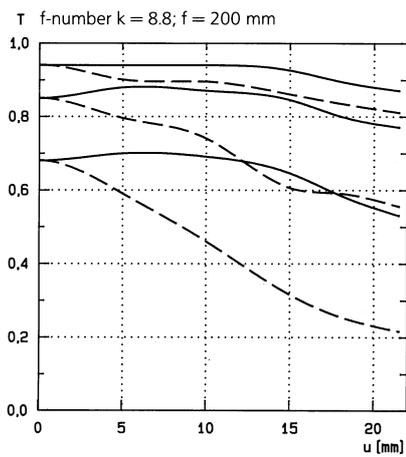
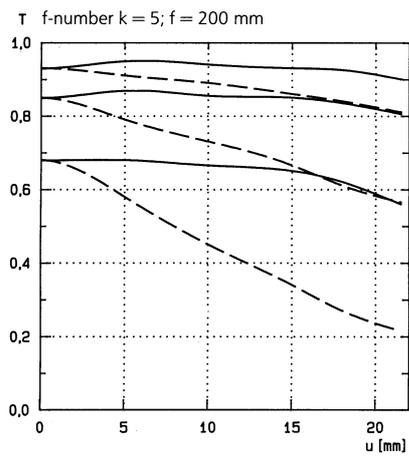
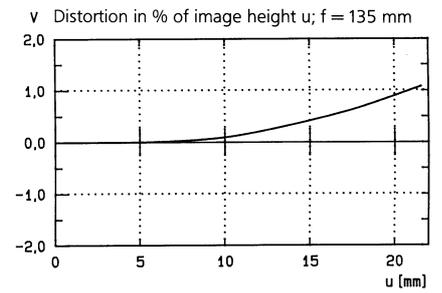
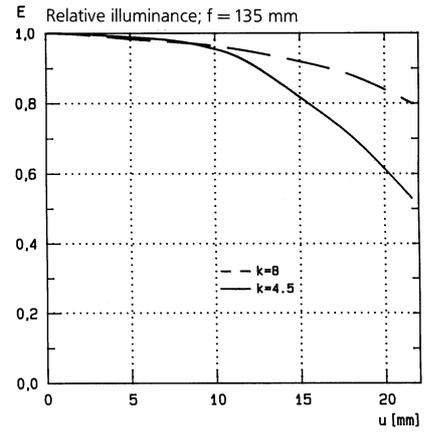
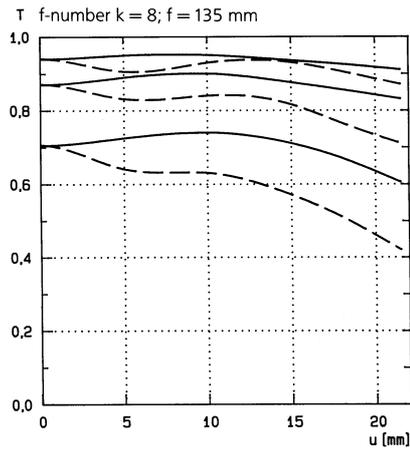
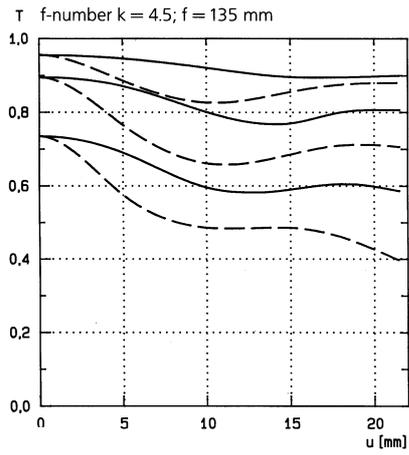
In this diagram the horizontal axis gives the image height  $u$  in mm and the vertical axis the relative illuminance  $E$ , both for full aperture and a moderately stopped-down lens. The values for  $E$  are determined taking into account vignetting and natural light decrease.

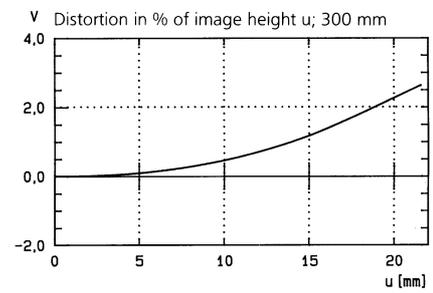
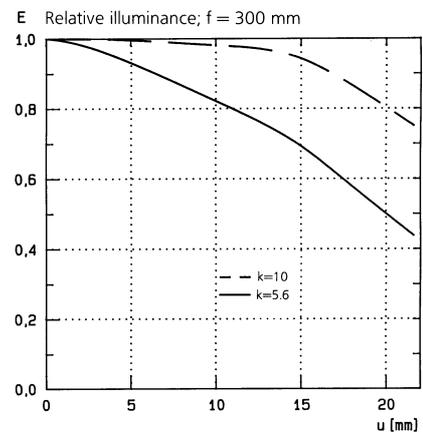
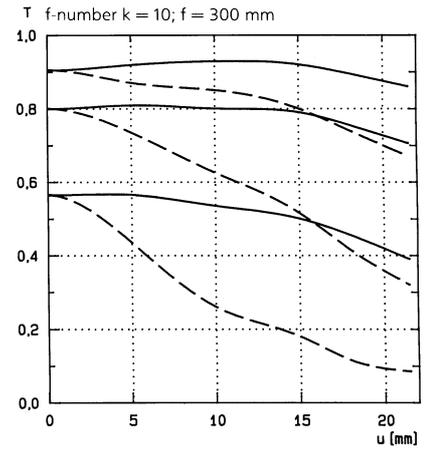
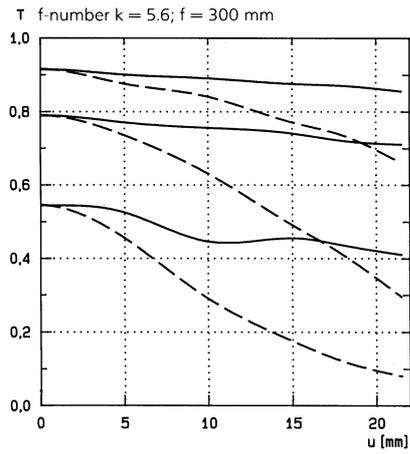


### 3. Distortion

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.







**Carl Zeiss**  
 Photoobjektive  
 D-73446 Oberkochen  
 Telephone (07364) 20-6175  
 Fax (07364) 20-4045  
 eMail: photo@zeiss.de  
 http://www.zeiss.de

Subject to change.