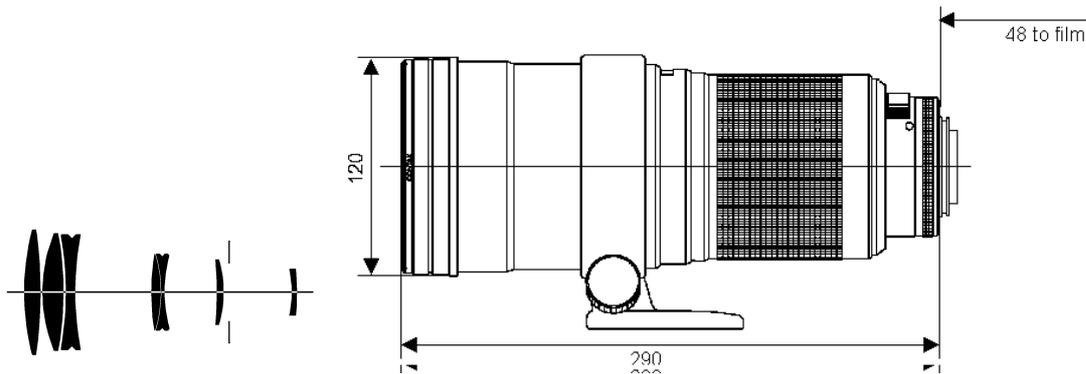


Tele-Apotessar® T* 4/400



CONTAX® N

Fast, yet handy apochromatic telephoto lenses have become indispensable optics for both sports and wildlife photographers.

For the Contax N SLR system, Carl Zeiss has designed an all new autofocus lens Tele-Apotessar® T* 4/400. It is relatively fast, yet handy enough to be used without a tripod. A filter slot accepts filters of rather small diameter. The lens Tele-Apotessar® T* 4/400 produces images of stunning sharpness and brilliance delivering high image quality even fully open, and over the entire frame. Field flatness is immaculate. And so is field illumination. The resolution of fine detail impresses even very demanding photographers.

The distortion is very well corrected. This lens's high performance is kept virtually constant over the entire focussing range from infinity to the close-up limit. Utilising the latest in optical glass technology and precision manufacturing, the Tele-Apotessar® T* 4/400 lens marks a summit in the development of Zeiss Tele-Apotessar® lens designs. Its performance challenges the quality of the best color films to their limits.

Preferred use: Sports, wildlife, photojournalism, fashion, advertising, documentation of inaccessible objects and actions.

Cat. No. of lens	10 45 58	Close limit field size	148 mm x 221 mm
Number of elements	7	Max. scale	1 : 6.2
Number of groups	6	Entrance pupil*	
Max. aperture	f/4	Position	385.7 mm behind the first lens vertex
Focal length	400.0 mm	Diameter	98.2 mm
Negative size	24 x 36 mm	Exit pupil*	
Angular field 2w*	width 5.2°; height 3.4°; diagonal 6.2°	Position	49.7 mm in front of the last lens vertex
Min. aperture	32	Diameter	35.4 mm
Camera mount	Contax N	Position of principal planes*	
Filter connection	insertable filter	H	729.7 mm behind the first lens vertex
Focussing range	infinity to 2.9 m	H'	306.8 mm in front of the last lens vertex
Working distance (between mechanical front end of lens and subject)	2.56 m	Back focal distance	93.2 mm
		Distance between first and last lens vertex	232.8 mm
		Weight	3580 g

* at infinity



Performance data:

Tele-Apotessar® T* 4/400

Cat. No. 10 45 58

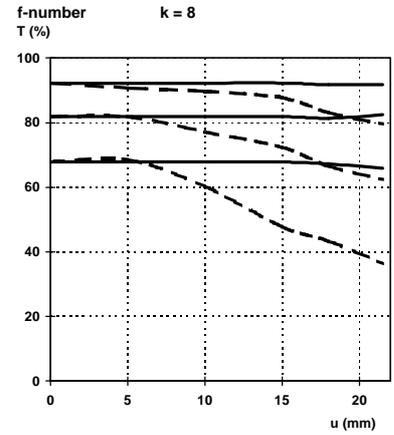
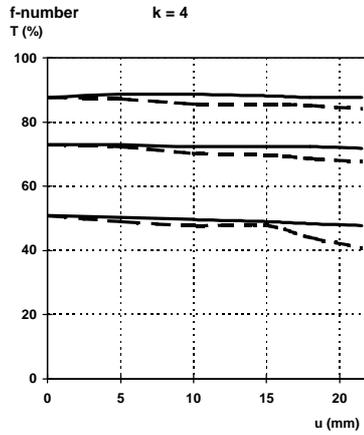
1. MTF Diagrams

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.

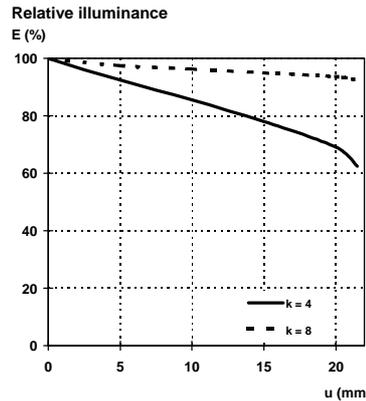
Modulation transfer T as a function of image height u .
White light. Spatial frequencies $R = 10, 20$ and 40 cycles/mm

Slit orientation: — sag — tan



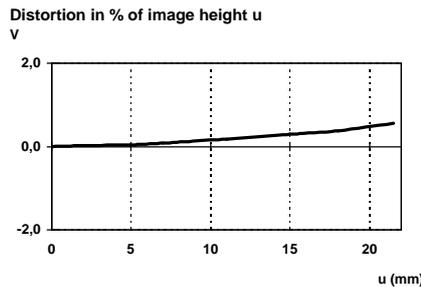
2. Relative illuminance

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.
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