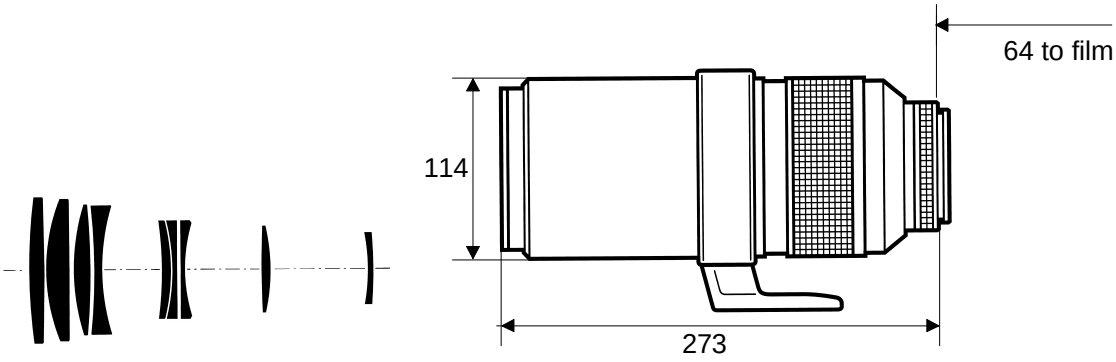
Tele-Apotessar® T* 4/350



CONTAX® 645

The Carl Zeiss **Tele-Apotessar®** T* 4/350 lens is specially designed for the Contax 645 medium format autofocus camera system.
Being a highly corrected optical tool for the demanding medium format photographer it incorporates 9 lens elements in 8 groups, several elements being made of fluor crown glass to correct chromatic aberrations exceptionally well. Due to elaborate stray light baffling techniques and specially developed absorptive surface treatments, internal suppression of flare is on an extremely advanced level. Stunningly brilliant photos with true-to-life color rendition and vivid saturation are the result.
The **Tele-Apotessar®** T* 4/350 lens comes with a rotatable tripod collar, and Carl Zeiss recommends to use a good tripod in order to bring the full optical potential of this lens to film. Filter thread is M 95, non-rotating.

Utilizing internal focusing optics and autofocus drive motors in the lens, not in the camera body, the new lens focuses as close as impressive 1.9 meters in front of the film plane, 1.5 meters from the front lens element. This enables the photographer to tightly fill the fame with a child's face at a magnification of 1:4. The level of correction is so high that the lens can be successfully used wide open. So the photographer can use selective focus in a very pronounced way. The **Tele-Apotessar®** T* 4/350 lens comes with the **Mutar®** 1,4x T* converter, building a powerful 5,6/490 mm lens. This optic expands the capabilities of the Contax 645 system considerably.

Preferred use: Action, Fashion, Nature, Wildlife, Editorial

Cat. No. of lens	**10 45 56**
Number of elements	9
Number of groups	8
Max. aperture	f/4
Focal length	349.4 mm
Negative size	41.5 x 56 mm
Angular field*	width 9.1°; height 6.8°; diagonal 2w 11°
Min. aperture	45
Camera mount	Contax 645
Filter connection	M 95 x 1 mm
Focusing range	infinity to 1.9 m
Working distance (between mechanical front end of lens and subject)	1.56 m
Close limit field size	164 mm x 221 mm
Max. scale	1 : 4.0
Entrance pupil*	
Position	293.2 mm behind the first lens vertex
Diameter	86.0 mm
Exit pupil*	
Position	49.1 mm in front of the last lens vertex
Diameter	41.5 mm
Position of principal planes*	
H	86.1 mm in front of the first lens vertex
H'	231.0 mm in front of the last lens vertex
Back focal distance	118.4 mm
Distance between first and last lens vertex	210.9 mm
Weight	3610 g

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* at infinity

ZEISS

Performance data:

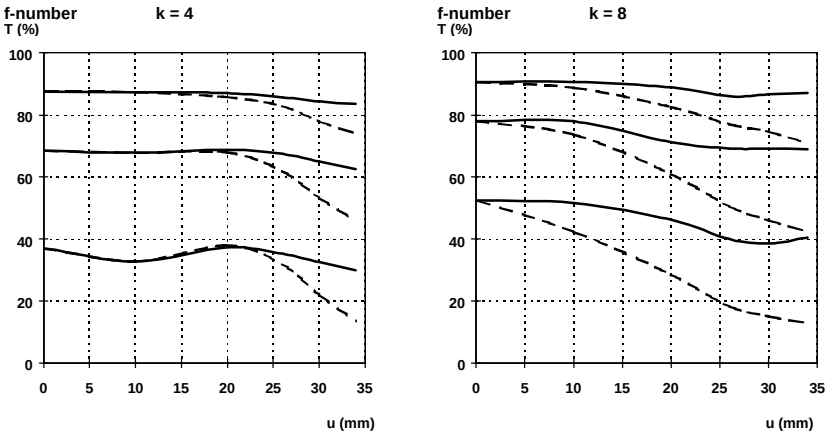
Tele-Apotessar® T* 4/350

Cat. No. 10 45 56

1. MTF Diagrams

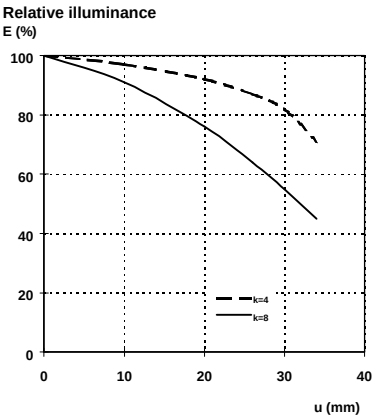
The image height u - calculated from the image center - is entered in mm on the horizontal axis of the graph. The modulation transfer T (MTF = M odulation Transfer Factor) is entered on the vertical axis. Parameters of the graph are the spatial frequencies R in cycles (line pairs) per mm given at the 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:** sag
White light. Spatial frequencies R = 10, 20 and 40 cycles/mm tan



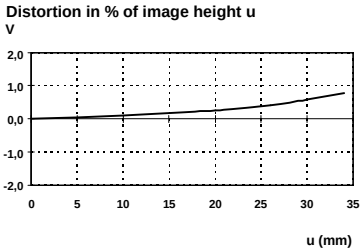
2. Relative illuminance

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.



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