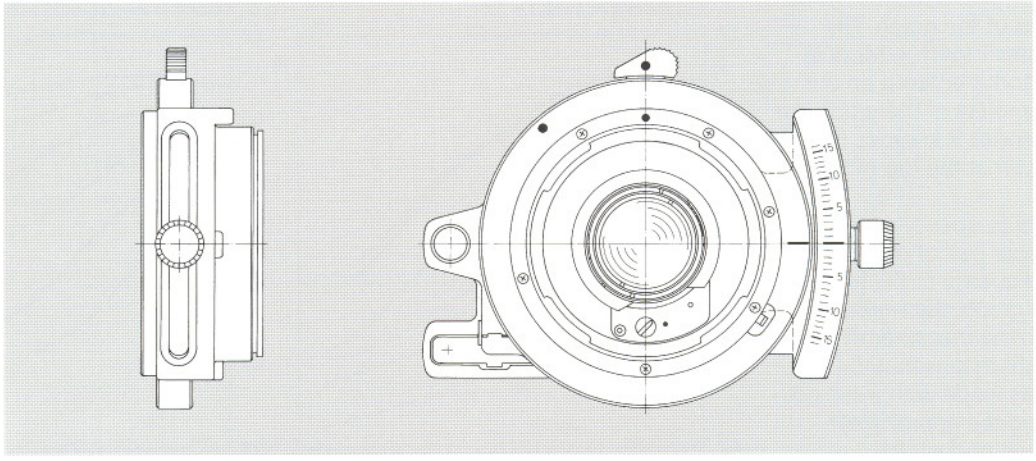
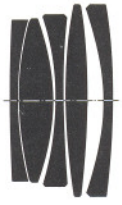
PC Mutar® T* 1.4x Converter



HASSELBLAD



The **PC Mutar**® T* 1.4x is another interesting addition to the range of lenses for Hasselblad cameras. It features a vertical shift facility for perspective control, e.g. for avoiding converging lines.

The **PC Mutar**® T* 1.4x converter was optimized for use with the 40 mm **Distagon**® T* f/4 lens. This combination results in a PC lens with an initial aperture of f/5.6, a focal length of 56 mm and a usable image circle diameter of 106 mm. The shift range of the lens is ± 16 mm, and a scale allows repeatable settings. This configuration provides superb image quality even at full lens aperture.

The vertical shift facility requires mechanical separation of the camera and the shutter. For this reason, the shutter must be separately cocked and then released synchronously with the camera using a special twin cable release. In its zero position, the **PC Mutar**® T* 1.4x converter can also be used as a normal teleconverter with the Zeiss lenses up to a focal length of 100 mm. If the PC function of the Mutar converter is required, we recommend using it together with Zeiss lenses with a focal length from f = 40 mm to f = 80 mm.

Distagon® T* f/4 – 40 mm	**No. 10 48 78**
with converter **PC Mutar**® T*1.4x	**No. 10 43 34**
Number of elements:	11 + 5
Number of groups:	10 + 4
Max. aperture:	f/5.8
Focal length:	59.5 mm
Image circle diameter:	106 mm
Angular field 2w:	83°
Spectral region:	visible spectrum
Filter:	Hasselblad series 93
Focusing range:	∞ to approx. 0.5 m
Reproduction ratio:	0 to 1:5.7

Weight:	lens: approx. 915 g
	converter: approx. 490 g
Entrance pupil:	
Position*:	35.4 mm behind the first lens vertex
Diameter*:	10.3 mm
Exit pupil:	
Position*:	33.4 mm in front of the last lens vertex
Diameter*:	19.4 mm
Position of principal planes:	
H*:	63.3 mm behind the last lens vertex
H'*:	19.2 mm behind the last lens vertex
* Distance between first and last lens vertex:	120.4 mm

Planar 100 Years

ZEISS

Performance data:
Distagon® T* f/4 – 40 mm Cat.-No. 104878
with PC Mutar® T* 1.4x Cat.-No. 104334

1. MTF Diagrams

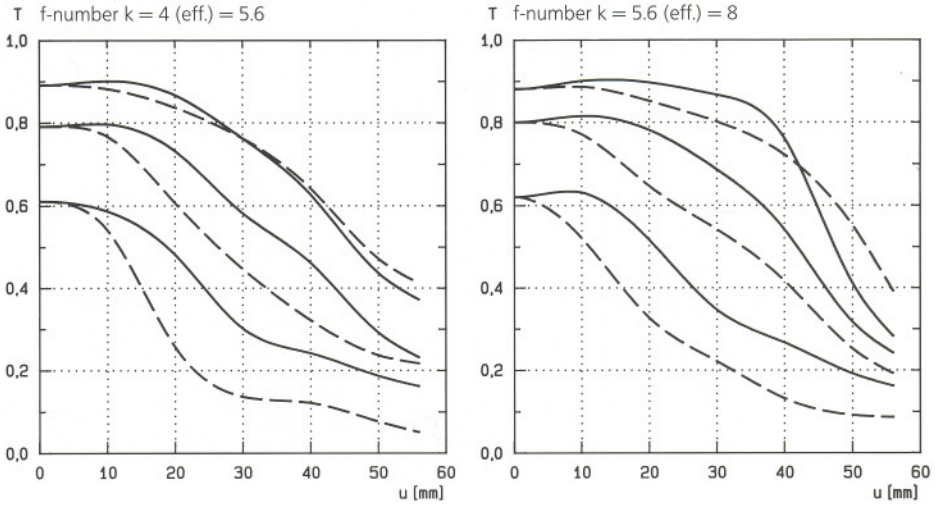
The image height u – calculated from the image center – is entered in mm on the horizontal axis of the graph. The modulation transfer T (MTF = Modulation Transfer Factor) is entered on the vertical axis. Parameters of the graph are the spatial frequencies R in cycles (line pairs) per mm given at the 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.

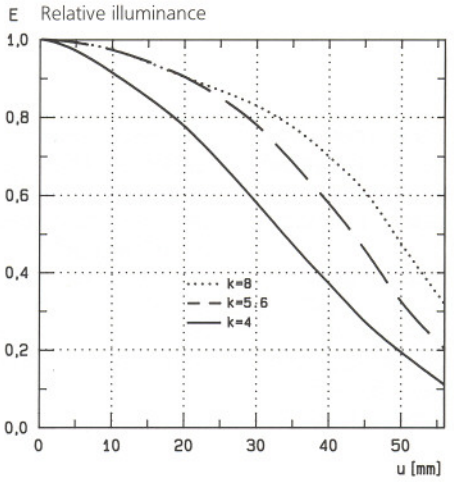
Unless otherwise indicated, the performance data refer to large object distances, for which normal photographic lenses are primarily used.

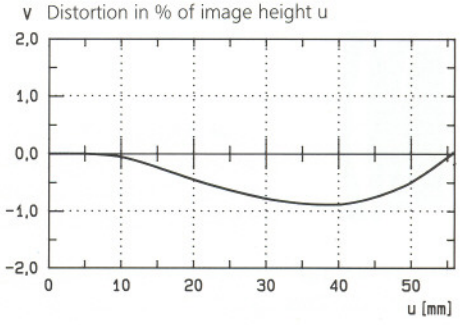
2. Relative illuminance

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.

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







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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Subject to change.

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