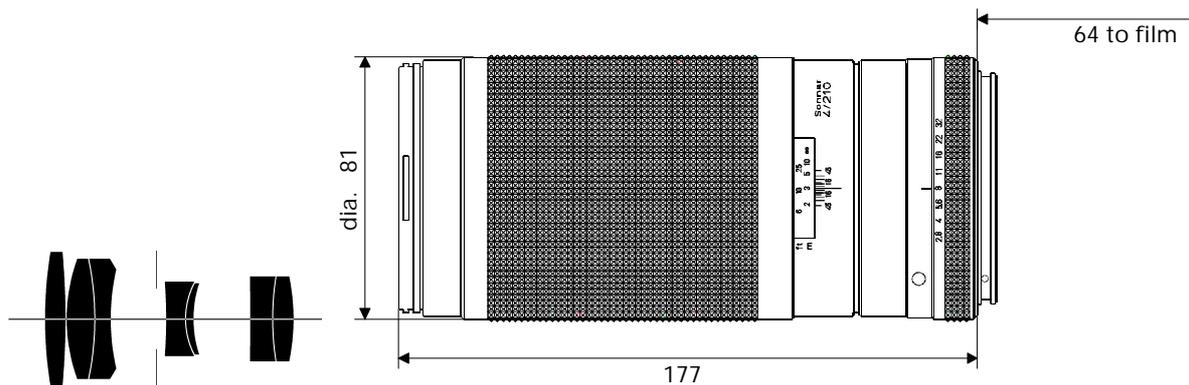


# Sonnar<sup>®</sup> T\* 4/210



CONTAX<sup>®</sup> 645

The **Sonnar<sup>®</sup> T\* 4/210** lens is an autofocus telephoto lens similar to a 135 mm lens on a 35 mm Contax<sup>®</sup> SLR. The optical system was designed using the latest technology, incorporating internal focusing (IF) and the most recent optical glass types. It shows outstanding performance.

The **Sonnar<sup>®</sup> T\* 4/210** lens can deliver telephoto shots of high quality and perfect corner-to-corner uniformity even at wide open aperture.

This is what fashion photographers need to blur out unwanted background with a shallow depth of field, making their subjects stand out impressively.

Combined with the autofocus of the Contax<sup>®</sup> 645 the **Sonnar<sup>®</sup> T\* 4/210** lens brings new possibilities to such fields as fashion and beauty photography, sports celebrities in action, performing artists on stage, musicians in concert, playing kids, pets and the like. The resulting images can be blown up to poster size with significantly better results than a 35 mm photo could deliver.

Preferred use: portraits, kids, pets, animals, fashion, beauty, sports and action

**Cat. No. of lens:** 10 11 39

Number of elements: 7  
 Number of groups: 4  
 Max. aperture: 1:4  
 Focal length: 209.6mm  
 Negative size: 41.5 x 56mm  
 Angular field 2w: 19°  
 Mount: Contax 645 Mount  
 Filter connection: screw-in type, thread M72x0.75  
 Focusing range: ∞ to 1.4m  
 Aperture scale: 4 - 5.6 - 8 - 11 - 16 - 22 - 32 - 45  
 Weight: approx. 1178 g

**Entrance pupil<sup>\*</sup>:**

Position: 61.6mm behind the first lens vertex  
 Diameter: 51.1mm

**Exit pupil<sup>\*</sup>:**

Position: 74.2mm in front of the last lens vertex  
 Diameter: 47.2mm

**Position of principal planes<sup>\*</sup>:**

H: 40.5mm behind the first lens vertex  
 H': 93.3mm in front of the last lens vertex  
 Back focal distance: 116.3mm  
 Distance between first and last lens vertex: 116.3mm

<sup>\*</sup> at ∞



# Performance data:

## Sonnar® T\* 4/210

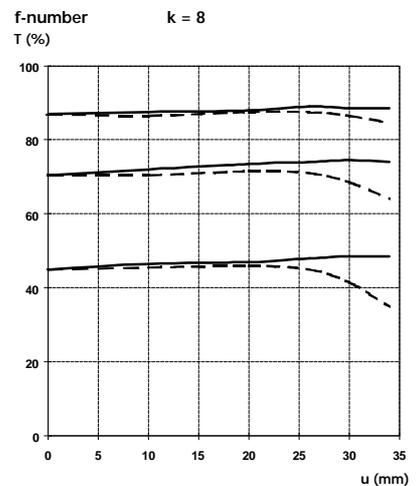
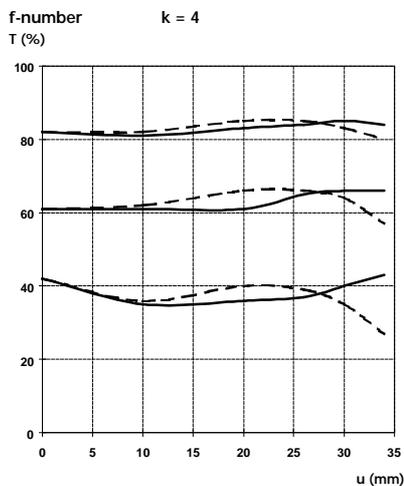
### Cat. No. 10 11 39

#### 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.

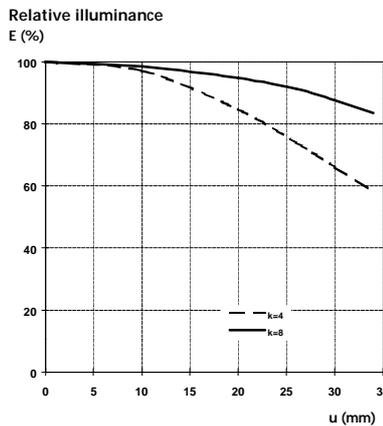
Modulation transfer  $T$  as a function of image height  $u$ .  
White light. Spatial frequencies  $R = 10, 20$  and  $40$  cycles/mm

Slit orientation: — sag  
- - tan



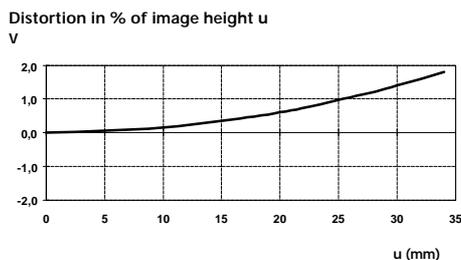
#### 2. Relative illuminance

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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