## Distagon ${ }^{\oplus}{ }^{*} \mathrm{f} / 4-18 \mathrm{~mm}$



## CONTAX ${ }^{\circledR} /$ YASHICA ${ }^{\circledR}$ mount

This Distagon ${ }^{\circledR}$ lens with an angular field of 1000 has a time-honoured design.
Its special features are excellent image quality, a good distortion correction unexpected in this type of lens and an exceptionally compact design.
The new version of this lens provides the same image quality as the well-known and time-tried
design when photographing subjects at a long-distance. New, however, is the design of the focusing system. When the lens is focused to short distances, the positions of the lens groups change in relation to each other. This counteracts the loss in image quality in the outer zones of the image and extends the useful range of the lens to 0.3 m .

Cat. No. of lens:
Number of elements:
Number of groups: M ax. aperture: Focal length: Negative size: Angular field 2w: Mount:

Aperture scale: Filter connection: Weight:

## 104842

10
9
f/4
18.6 mm
$24 \times 36 \mathrm{~mm}$
diagonal 1000
focusing mount with bayonet;
TTL metering either at full aperture or in stopped-down position.
Aperture priority/Shutter priority/
Automatic programs
(M ulti-M ode Operation)
4-5.6-8-11-16-22
clip-on filter, diameter 70 mm approx. 350 g

Focusing range: $\quad \infty$ to 0.3 m
Aberration correction for close
range by floating element
Entrance pupil:
Position: $\quad 23.3 \mathrm{~mm}$ behind the first lens vertex Diameter: $\quad 4.5 \mathrm{~mm}$
Exit pupil:
Position:
11.9 mm in front of the last lens vertex 11.7 mm

Position of principal planes:
H :
$\mathrm{H}^{\prime}$ :
Back focal distance:
Distance between first and
last lens vertex:
34.7 mm behind the first lens vertex
17.7 mm behind the last lens vertex
36.3 mm
60.1 mm

## Performance data:

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## 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.

## 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.

Modulation transfer T as a function of image height U . Slit orientation: tangential ——— sagittal White light. Spatial frequencies $R=10,20$ and 40 cycles $/ \mathrm{mm}$


T f-number $k=8$


E Relative illuminance



## Carl Zeiss



Photoobjektive
D-73446 Oberkochen
Telephone (07364) 20-6175
Fax (07364) 20-4045
eM ail: photo@zeiss.de
http://www.zeiss.de

