



#### **Features**

- Fast f/2.0 aperture
- Precise manual focusing
- Robust full-metal construction
- Fixation for focus and aperture
- Identical color reproduction of all models
- For industrial cameras with F-Mount up to sensor sizes of 24x36 mm or 43mm line sensors.

#### **ZF-I: Industrial Edition**

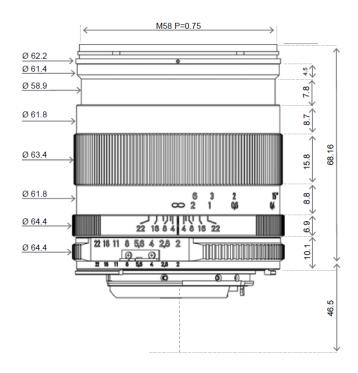
Features special screws to fix focus and aperture settings even in rough situations.

#### **Camera Mounts**

Available with ZF.2, EF and M42 mount.



### **Technical Specifications**

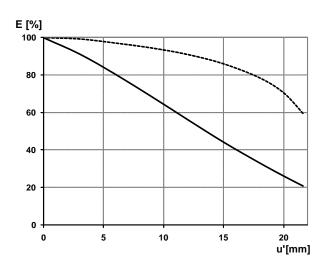


| Focal length                             | 28 mm  |
|--|--|
| Aperture range                           | f/2 — f/22 (1/2 stop intervals)                |
| Number of elements / groups              | 10 / 8   |
| Min. working distance (object to sensor) | 240 mm (0.8 ft.) — ∞                           |
| Min. free working distance               | 120 mm (0.4 ft.) — ∞                           |
| Angular field* (diag. / horiz. / vert.)  | 74 / 65 / 45°                                  |
| Max. diameter of image field             | 43 mm (1.7")                                   |
| Flange focal length                      | F-Mount: 46.5 mm (1.8"); M42-Mount: 45,5 mm    |
| Coverage at close range                  | 113 x 169 mm ( 4.5 x 6.7"), line 202 mm (7.9") |
| Image ratio at close range               | 1:4.7  |
| Filter-thread                            | M 58 x 0.75                                    |
| Weight                                   | 500 g (1 lbs.)                                 |
| Camera mount                             | F bayonet, M42, EF                             |

<sup>\*</sup> referring to 35 mm format



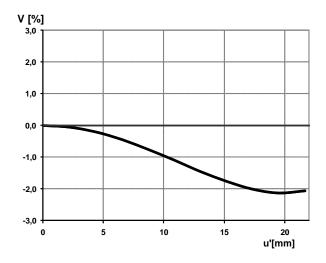
### **Relative Illuminance**



The relative illumination shows the decrease in image brightness from the image center to the edge in percent.

- f-number 2
- ... f-number 4

#### **Relative Distortion**

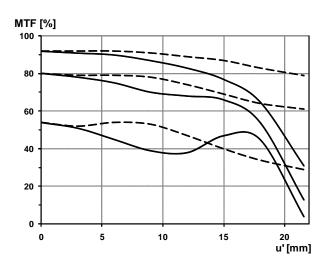


The relative distortion shows the deviation of the actual image height from the ideal one in percent.

<sup>\*</sup>Data for infinite focus setting



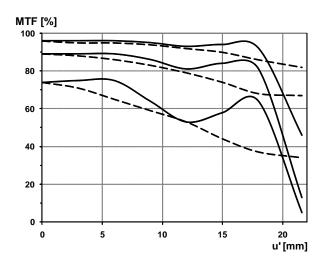
#### **MTF Charts**



The Modulation Transfer (MTF) as a function of image height (u) and slit orientation (sagittal, tangential) has been measured with white light at spatial frequencies of R=10, 20 and 40 cycles/mm.

f-number 2

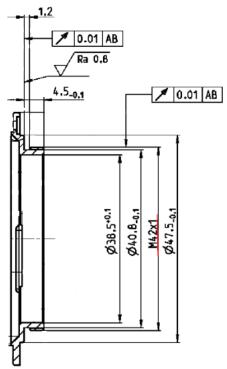
- \_\_\_ Sagittal
- ... Tangential



f-number 4 \_\_ Sagittal ... Tangential

<sup>\*</sup>Data for infinite focus setting





M42 Mount for 45,5 mm Flange Focal Distance

The diameter of the camera/lens adapter must not exceed 55 mm at the lens side!