





#### **Features**

- Very compact but suitable to large image format
- For industrial cameras up to sensor sizes of 24x36 mm or 41mm line sensors
- Precise manual focusing
- Robust full-metal construction
- Features special screws to fix focus and aperture settings even in rough situations
- Due to light weight resistant against vibrations and shocks
- Large angular field of 91°

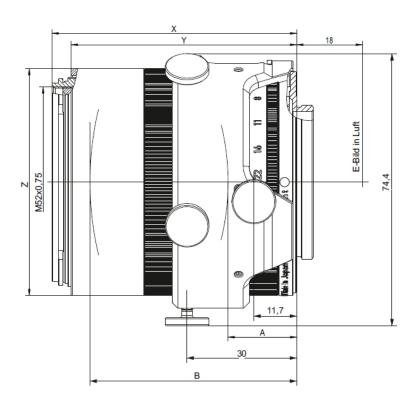
#### **Camera Mount**

M42x1 screw mount (18 mm FFD)





### **Technical Specifications**



Χ	Υ	Z	Α	В
67.0 mm (inf.)	61.7 mm	$\emptyset = 62.0 \text{ mm}$	1.14 mm (inf.)	65.45 mm (inf.)

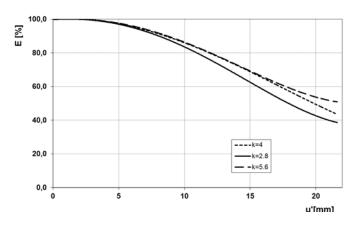
Focal length	21 mm
Aperture range	f/2.8 - f/22
Number of elements / groups	11 / 9
Min. working distance (object to sensor)	250 mm (0.82 ft.) − ∞
Min. free working distance	160 mm (0.52 ft.) – ∞
Angular field* (diag. / horiz. / vert.)	91 / 81 / 59°
Max. diameter of image field	43.3 mm (1.7")
Flange focal length	18.0 mm
Coverage at close range	281 x 187 mm (11.0 x 7.3"), line 319 mm (12.5")
Image ratio at close range	1:7.81
Filter-thread	M 52 x 0.75
Weight	448 g (1.0 lbs.)
Camera mount	M42 (18.0 mm FFD)

<sup>\*</sup> referring to 24 x 36 mm format resp. 43 mm line





### **Relative Illuminance\***

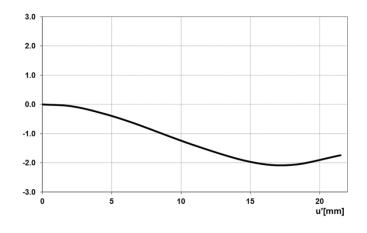


#### **E** [%]

The relative illuminance shows the image brightness over the image height u' in relation to the image center.

f-number = 2.8f-number = 4f-number = 5.6

### **Relative Distortion\***



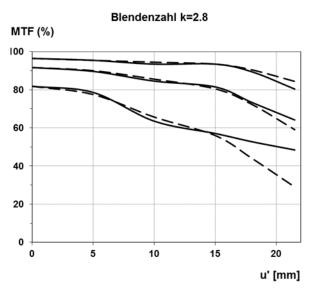
#### **V** [%]

The relative distortion shows the deviation of the image height from the expected image height u' in percent





#### **MTF Charts\***

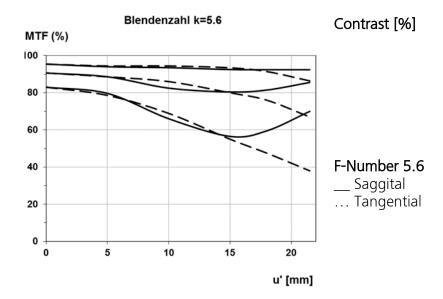


#### Contrast [%]

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 2.8

- \_\_ Saggital
- ... Tangential

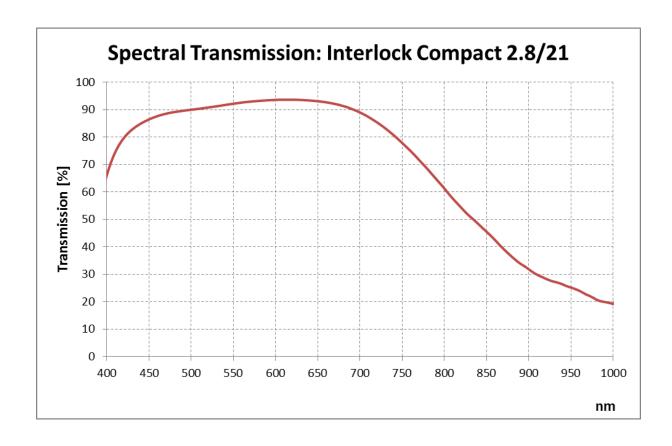


\*Data for infinite focus setting





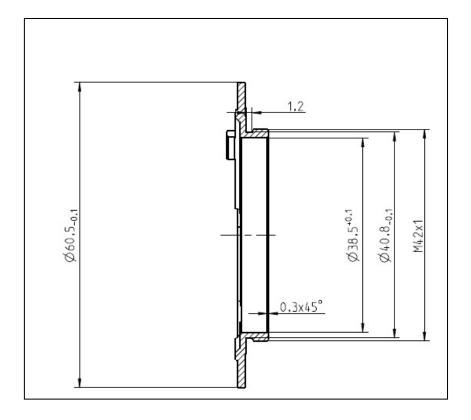
### **Spectral Transmission**







Sketch of the M42x1 Interface (FFD 18.0 mm)



The diameter of the camera/lens adapter must not exceed 60 mm at the interface to the lens!