Промышленные объективы Dimension, профессиональные объективы с оптимизированными фиксирующими винтами, компактные линзы Interlock, Otus, Classic

Технические характеристики

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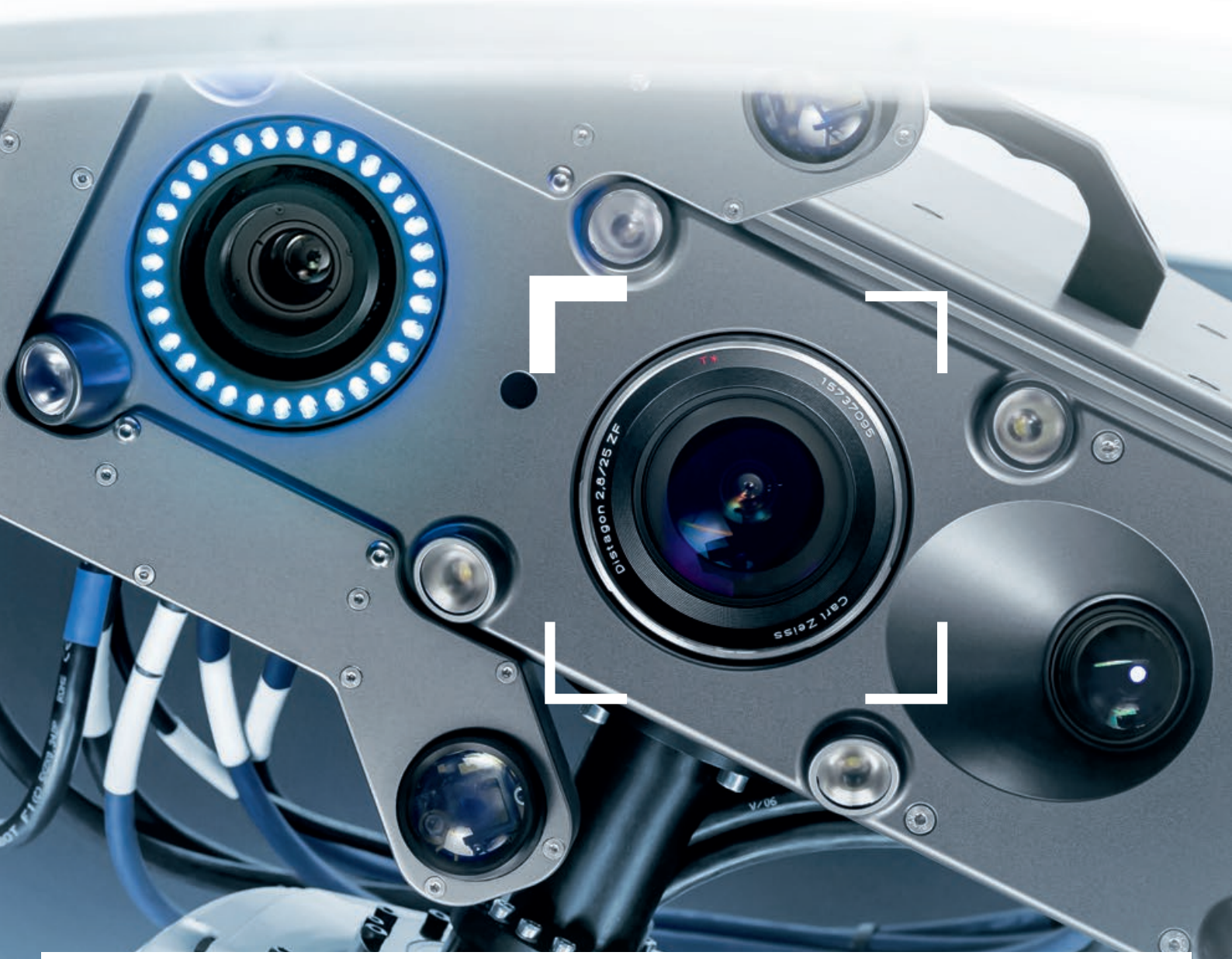
Ensuring reliable results with high performance optics.



ZEISS Industrial Lenses for machine vision applications

ZEISS

Seeing beyond

The company ZEISS
Many years of optical expertise

ZEISS is a leading international technology group active in the optical and optoelectronic industry headquartered in Oberkochen, Germany. Founded in Jena, Germany in 1846, the ZEISS Group has about 30,500 employees and is active in almost 50 countries worldwide with around 60 own sales and service companies as well as 30 production and development sites.

With its solutions, ZEISS is driving advancement in the world of optics and helping shape technological progress. Impressive works of photographic and cinematographic art have been created using ZEISS lenses since 1890. "The Lord of the Rings", "James Bond 007: Skyfall" and "The Revenant" are just a few examples.

Industrial lenses from ZEISS for outstanding results
The experience gained in over 100 years of lens development is also reflected in ZEISS lenses for industrial use. ZEISS Industrial Lenses are used to monitor complex production processes and for quality assurance among other purposes.

Full control through precision adjustments
ZEISS Industrial Lenses deliver excellent results due to their outstanding imaging performance and precise manual adjustment options. They particulary stand out in regard to durability due to their robust metal housing which withstands high shock and extreme temperatures. Due to their low distortion, objects can be detected with precision from varying distances. The ZEISS T* anti-reflective coating reduces unwanted reflections to a minimum and increases contrast. ZEISS Industrial Lenses' fixing screws are practical for use in rugged conditions. With these screws, both the aperture and the manual focus can be locked into place. As a result, the lenses still produce sharp images, even when exposed to vibrations from nearby production equipment.

All these technical features ensure our customers can achieve the best optical performance for their machine vision applications.

ZEISS Dimension® Lenses

High precision lenses for greater efficiency

- Excellent image quality in compact housing
- Precise adjustable FFD and scales orientation
- High-value metal housing resists rough climatic conditions
- ZEISS T* coating allows broad spectral transmission in VIS and NearIR wavelengths
- Shock and vibration restistant due to locking screws

Mount: C-mount
Sensor Format: Line scan up to 21.6 mm or area scan up to 17.3x13.0 mm² (4/3" sensor)
Resolution: Pixel size down to 2.0 µm (at 30% contrast)

ZEISS Dimension 2.8/8
ZEISS Dimension 2/12
ZEISS Dimension 2/18
ZEISS Dimension 2/25
ZEISS Dimension 2/35
ZEISS Dimension 2/50

Product	Focal length	Aperture	Min. object distance*	Max. magnification ratio	Min. working distance*	Length*	Diameter*	Weight*	Filter thread
Dimension 2.8/8	8 mm	2.8 - 22	180.6 mm	1:14.3	102 mm	59.0 mm (∞ - MOD)	86.0 mm	376 g	M72 x 0.75
Dimension 2/12	12 mm	2 - 22	180.4 mm	1:10.0	101 mm	60.0 mm (∞ - MOD)	64.0 mm	264 g	M43 x 0.75
Dimension 2/18	18 mm	2 - 22	170.5 mm	1:5.6	91 mm	61.2 mm (∞ - MOD)	63.0 mm	291 g	M43 x 0.75
Dimension 2/25	25 mm	2 - 22	231.9 mm	1:6.3	153 mm	60.0 mm (∞ - MOD)	64.0 mm	283 g	M43 x 0.75
Dimension 2/35	35 mm	2 - 22	288.6 mm	1:5.6	209 mm	70.0 mm (∞ - MOD)	64.0 mm	323 g	M49 x 0.75
Dimension 2/50	50 mm	2 - 22	390.3 mm	1:5.5	311 mm	69.0 mm (∞) 81.0 mm (MOD)	64.0 mm	306 g	M49 x 0.75

** imperial units can be found in the datasheets on*

ZEISS Interlock® Lenses

Professional lenses with robust locking screws

- Excellent image quality
- Full-metal housing and focus ring
- Superior locking screws for focus and aperture
- Future proof lenses for high-resolution cameras
- High contrast through control of stray light

Mount: F-mount; M42x1-mount (for 45.5 mm FFD)
Sensor Format: Line scan up to 43 mm or area scan up to 24x36 mm²
Resolution: Pixel size down to 2.8 µm (at 30% contrast)

ZEISS Interlock 2.8/15
ZEISS Interlock 2.8/18
ZEISS Interlock 2.8/21
ZEISS Interlock 1.4/25
ZEISS Interlock 1.4/35
ZEISS Interlock 2/35
ZEISS Interlock 1.4/50
ZEISS Interlock 2/50
ZEISS Interlock 1.4/85
ZEISS Interlock 2/100
ZEISS Interlock 2/135

Product	Focal length	Aperture	Min. object distance*	Max. magnification ratio	Min. working distance*	Length*	Diameter*	Weight*	Filter thread
Interlock 2.8/15	15 mm	2.8 - 22	250 mm	1:9.0	90 mm	90.0 mm (∞ - MOD)	102.8 mm	927 g	M95 x 1.0
Interlock 2.8/18	18 mm	2.8 - 22	250 mm	1:7.4	120 mm	82.7 mm (∞ - MOD)	90.2 mm	722 g	M77 x 0.75
Interlock 2.8/21	21 mm	2.8 - 22	220 mm	1:5.0	90 mm	84.8 mm (∞ - MOD)	95.2 mm	785 g	M82 x 0.75
Interlock 1.4/25	25 mm	1.4 - 16	252 mm	1:4.6	93 mm	113.4 mm (∞ - MOD)	95.2 mm	1.218 g	M82 x 0.75
Interlock 1.4/35	35 mm	1.4 - 16	300 mm	1:4.6	140 mm	116.8 mm (∞ - MOD)	84.8 mm	1.178 g	M72 x 0.75
Interlock 2/35	35 mm	2 - 22	300 mm	1:5.3	180 mm	72.7 mm (∞) 78.2 mm (MOD)	77.0 mm	716 g	M58 x 0.75
Interlock 1.4/50	50 mm	1.4 - 16	450 mm	1:6.7	340 mm	83.8 mm (∞) 86.0 mm (MOD)	82.8 mm	942 g	M67 x 0.75
Interlock 2/50	50 mm	2 - 22	240 mm	1:2.0	100 mm	64.2 mm (∞) 94.4 mm (MOD)	80.8 mm	720 g	M67 x 0.75
Interlock 1.4/85	85 mm	1.4 - 16	800 mm	1:8.3	650 mm	94.5 mm (∞) 102.8 mm (MOD)	90.0 mm	1.277 g	M77 x 0.75
Interlock 2/100	100 mm	2 - 22	440 mm	1:2.0	250 mm	94.0 mm (∞) 114.8 mm (MOD)	80.5 mm	875 g	M67 x 0.75
Interlock 2/135	135 mm	2 - 22	800 mm	1:4.0	620 mm	105.1 mm (∞) 113.8 (MOD)	90.0 mm	1.126 g	M77 x 0.75

ZEISS Interlock® Compact Lenses

Compact lenses for large sensors

- Compact and lightweight
- High and unwavering image quality
- Full-metal housing and focus ring
- Superior locking screws for focus and aperture
- Optical design developed for high-resolution cameras

ZEISS Interlock Compact 2.8/21
ZEISS Interlock Compact 2.4/25
ZEISS Interlock Compact 2/35
ZEISS Interlock Compact 2/50
ZEISS Interlock Compact 2.4/85

Mount: E-mount, M42x1-mount (for 18 mm FFD)
Sensor Format: Line scan up to 43 mm or area scan up to 24x36 mm²
Resolution: Pixel size down to 2.5 µm (at 30% contrast)

Product	Focal length	Aperture	Min. object distance*	Max. magnification ratio	Min. working distance*	Length*	Diameter*	Weight*	Filter thread
Interlock Compact 2.8/21	21 mm	2.8 - 22	250 mm	1:7.8	160 mm	67.0 mm (∞) 68.8 mm (MOD)	74.4 mm	448 g	M52 x 0.75
Interlock Compact 2.4/25	25 mm	2.4 - 22	250 mm	1:6.4	163 mm	69.2 mm (∞) 72.0 mm (MOD)	74.4 mm	474 g	M52 x 0.75
Interlock Compact 2/35	35 mm	2.0 - 22	300 mm	1:5.8	230 mm	54.0 mm (∞) 62.4 mm (MOD)	74.4 mm	394 g	M52 x 0.75
Interlock Compact 2/50	50 mm	2.0 - 22	450 mm	1:6.9	370 mm	54.0 mm (∞) 62.1 mm (MOD)	74.4 mm	374 g	M52 x 0.75
Interlock Compact 2.4/85	85 mm	2.4 - 22	800 mm	1:7.2	685 mm	89.8 mm (∞) 104.1 mm (MOD)	74.4 mm	648 g	M52 x 0.75

ZEISS Ventum® Lens

Lightweight lens for new perspectives

- Excellent for aerial applications
- Lightweight alloy housing
- Outstanding image quality
- Fixed focus settings to reduce number of moving parts
- Splash-water and dust-resistant lens housing

Mount: E-mount
Sensor Format: Line scan up to 43 mm or area scan up to 24x36 mm²
Resolution: Pixel size down to 2.5 µm (at 30% contrast)

ZEISS Ventum 2.8/21

Product	Focal length	Aperture	Min. object distance*	Max. magnification ratio	Min. working distance*	Length*	Diameter*	Weight*	Filter thread
Ventum 2.8/21	21 mm	2.8 - 22	fixed to 15 m	–	–	67.8 mm (∞ - MOD)	62.0 mm	227 g	M52 x 0.75

ZEISS Classic Lenses

Proven optical design in a sturdy metal housing

- High image quality
- Locking screws for focus and aperture
- Full-metal housing and focus ring
- Precise manual focus

Mount: F-mount; M42x1-mount (for 45.5 mm FFD)
Sensor Format: Line scan up to 43 mm or area scan up to 24x36 mm²
Resolution: Pixel size down to 3.4 µm (at 30% contrast)

ZEISS Distagon T* 2.8/25
ZEISS Distagon T* 2/28
ZEISS Distagon T* 2/35
ZEISS Planar T* 1.4/50
ZEISS Planar T* 1.4/85

Product	Focal length	Aperture	Min. object distance*	Max. magnification ratio	Min. working distance*	Length*	Diameter*	Weight*	Filter thread
Distagon T* 2.8/25	25 mm	2.8 - 22	170 mm	1:2.3	60 mm	66.2 mm (∞) 77.6 mm (MOD)	64.4 mm	460 g	M58 x 0.75
Distagon T* 2/28	28 mm	2 - 22	240 mm	1:4.7	120 mm	68.2 mm (∞) 72.8 mm (MOD)	64.4 mm	500 g	M58 x 0.75
Distagon T* 2/35	35 mm	2 - 22	300 mm	1:5.3	180 mm	68.6 mm (∞) 77.8 mm (MOD)	64.4 mm	530 g	M58 x 0.75
Planar T* 1.4/50	50 mm	1.4 - 16	450 mm	1:6.7	351 mm	44.7 mm (∞) 51.9 mm (MOD)	66.0 mm	330 g	M58 x 0.75
Planar T* 1.4/85	85 mm	1.4 - 16	1000 mm	1:10.0	883 mm	62.1 mm (∞) 70.6 mm (MOD)	77.2 mm	600 g	M72 x 0.75

ZEISS ZM-I Lenses

Reliable quality for safe results

- Precise manual focus
- Excellent image quality
- Compact and lightweight
- Robust full-metal housing

Mount: M42x1-mount (for 26.8 mm FFD)
Sensor Format: Line scan up to 43 mm or area scan up to 24x36 mm²
Resolution: Pixel size down to 3.4 µm (at 30% contrast)

ZEISS Biogon T* 2.8/21
ZEISS Biogon T* 2/35
ZEISS C Sonnar T* 1.5/50

Product	Focal length	Aperture	Min. object distance*	Max. magnification ratio	Min. working distance*	Length*	Diameter*	Weight*	Filter thread
Biogon T* 2.8/21	21 mm	2.8 - 22	500 mm	1:21.0	420 mm	51.8 mm (∞) 52.9 mm (MOD)	67 mm	300 g	M46 x 0.75
Biogon T* 2/35	35 mm	2 - 22	700 mm	1:18.0	630 mm	44.3 mm (∞) 46.3 mm (MOD)	65 mm	240 g	M43 x 0.75
C Sonnar T* 1.5/50	50 mm	1.5 - 16	900 mm	1:15.0	830 mm	39.0 mm (∞) 42.3 mm (MOD)	68 mm	250 g	M46 x 0.75

ZEISS Otus® Lenses

Uncompromising image quality

- Exceptionally high contrast
- Practically no color fringes for short inspection times in high-speed applications
- Virtually no distortion
- Extremly smooth rotation angle for the very best usability

Mount: EF-mount, F-mount
Sensor Format: Line scan up to 43 mm or area scan up to 24x36 mm²
Resolution: Pixel size down to 2.0 µm (at 30% contrast)

ZEISS Otus 1.4/28
ZEISS Otus 1.4/55
ZEISS Otus 1.4/85
ZEISS Otus 1.4/100

Product	Focal length	Aperture	Min. object distance*	Max. magnification ratio	Min. working distance*	Length*	Diameter*	Weight*	Filter thread
Otus 1.4/28	28 mm	1.4 - 16	300 mm	1:5.5	150 mm	ZF.2: 128.1 mm (∞ - MOD) ZE: 129.8 mm (∞ - MOD)	108.9 mm	ZF.2: 1350 g ZE: 1390 g	M95 x 1.00
Otus 1.4/55	55 mm	1.4 - 16	500 mm	1:6.8	330 mm	ZF.2: 116.7 mm (∞ - MOD) ZE: 118.9 mm (∞ - MOD)	92.4 mm	ZF.2: 970 g ZE: 1030 g	M77 x 0.75
Otus 1.4/85	85 mm	1.4 - 16	800 mm	1:7.7	650 mm	ZF.2: 112.5 mm (∞ - MOD) ZE: 115.0 mm (∞ - MOD)	101.0 mm	ZF.2: 1140 g ZE: 1200 g	M86 x 1.00
Otus 1.4/100	100 mm	1.4 - 16	1000 mm	1:8.6	830 mm	ZF.2: 126.5 mm (∞ - MOD) ZE: 128.8 mm (∞ - MOD)	101.0 mm	ZF.2: 1336 g ZE: 1405 g	M87 x 0.75

** imperial units can be found in the datasheets on*

ZEISS Dimension 2.8/8

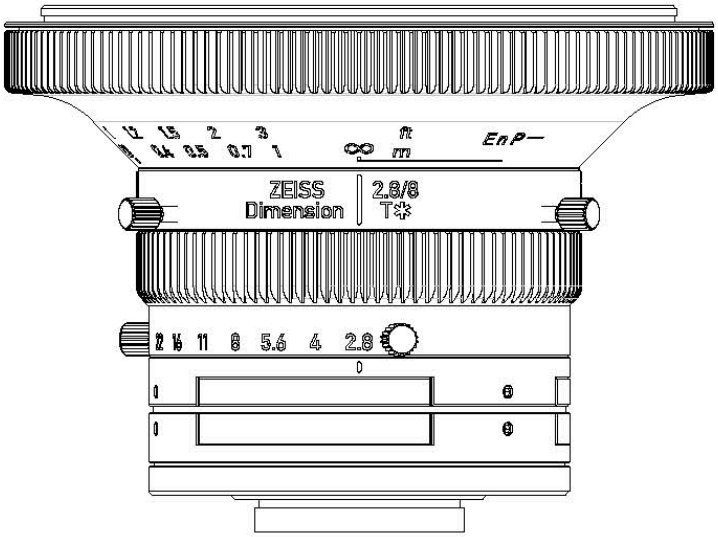
Features

- fast f/2.8 aperture
- excellent image quality, leading to highest data precision over the complete image field
- for industrial cameras up to sensor sizes of 4/3''
- robust full-metal construction made of aluminium
- small and compact
- possibility to adjust the back focal distance to compensate for tolerances of camera bayonets
- possibility for azimuthal adjustment ensures best possible readability of scales
- fixable focus and aperture settings
- optimized spectral transmission in VIS and near IR range through ZEISS T* coating

Camera Mount
Available with
C mount

ZEISS Dimension 2.8/8

Technical Specifications

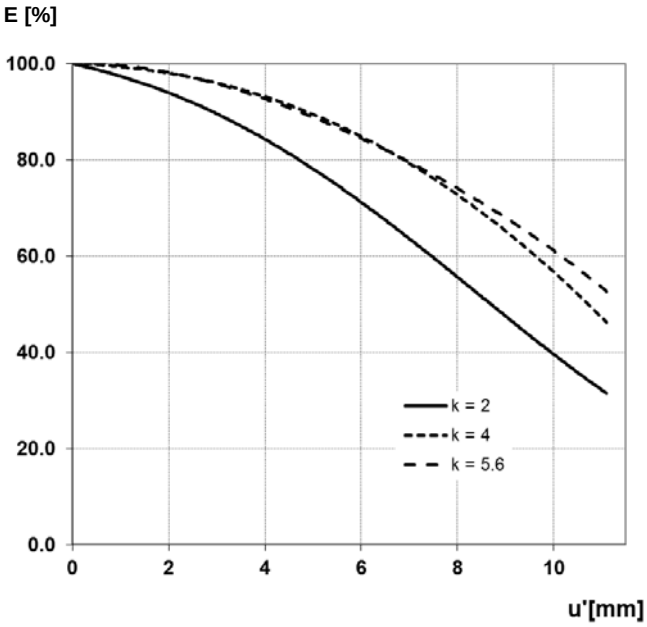


Optical data:	
Focal length	8 mm
Aperture range	f/2.8 – f/22 (continuous)
Number of elements / groups	14 / 8
Focus range (object to sensor)	180,6mm (0.59 ft)- ∞
Min. free working distance	102,1mm (0.33 ft)
Angular field (diag. / horiz. / vert.)	**1":** 88.15° / 77.59° / 56.41° **4/3":** 105.97° / 93.19° / 76.74°
Max. diameter of image field	**1":** 16mm (0.63"); **4/3":** 21,64mm (0.83")
Flange focal distance (in air)	17,526mm (0.69"), C mount
Coverage at close range	**1":** 189,6mm x 126,0mm (7.46" x 4.96") **4/3":** 250,5mm x 186,7mm (9.86" x 7.35")
Image ratio at close range	1:14.3
Position of entrance pupil (relative to image sensor)	62,3 mm (2.45")
Position of exit pupil (relative to image sensor)	40,1 mm (1.58")

Physical data:	
Length (front to mount contact surface) (at inf.)	59,0 mm (2.32")
Length (front to mount contact surface) (at MOD)	59,0 mm (2.32")
Diameter (lens only)	86,0 mm (3.39")
Diameter (with fixation screws)	86,0 mm (3.39")
Filter-thread	M72 x 0.75
Weight	376 g (0.83 lbs)
Camera mount	C mount

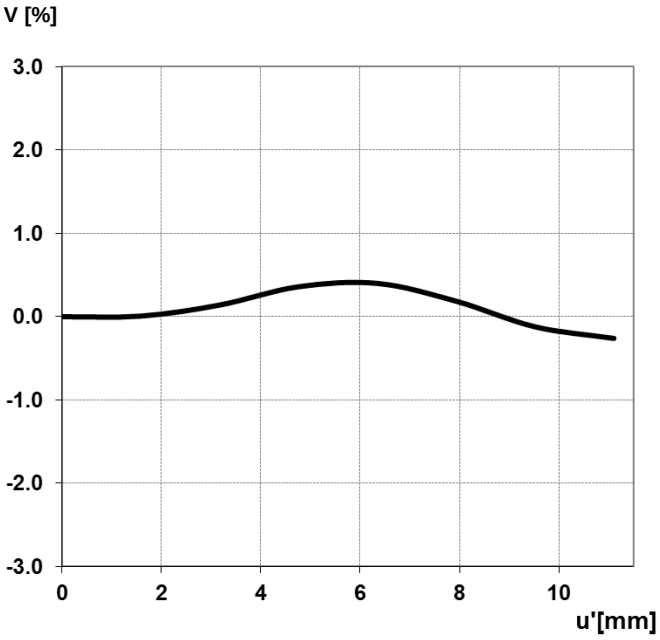
ZEISS Dimension 2.8/8

Relative Illuminance*



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

Relative Distortion*

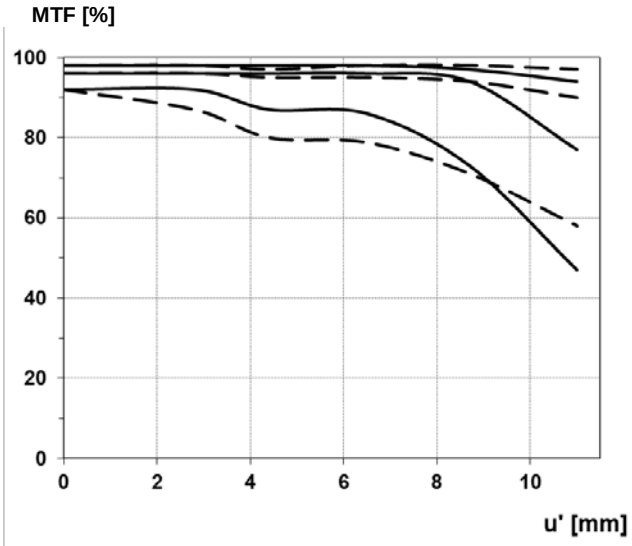


The relative distortion shows the deviation of the actual image height from the ideal one in percent.

**Data for infinite focus setting*

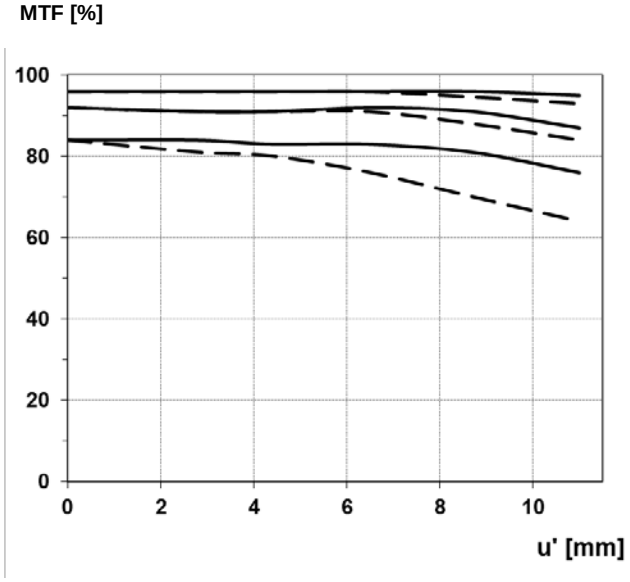
ZEISS Dimension 2.8/8

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 2.8
__ Sagittal
… Tangential

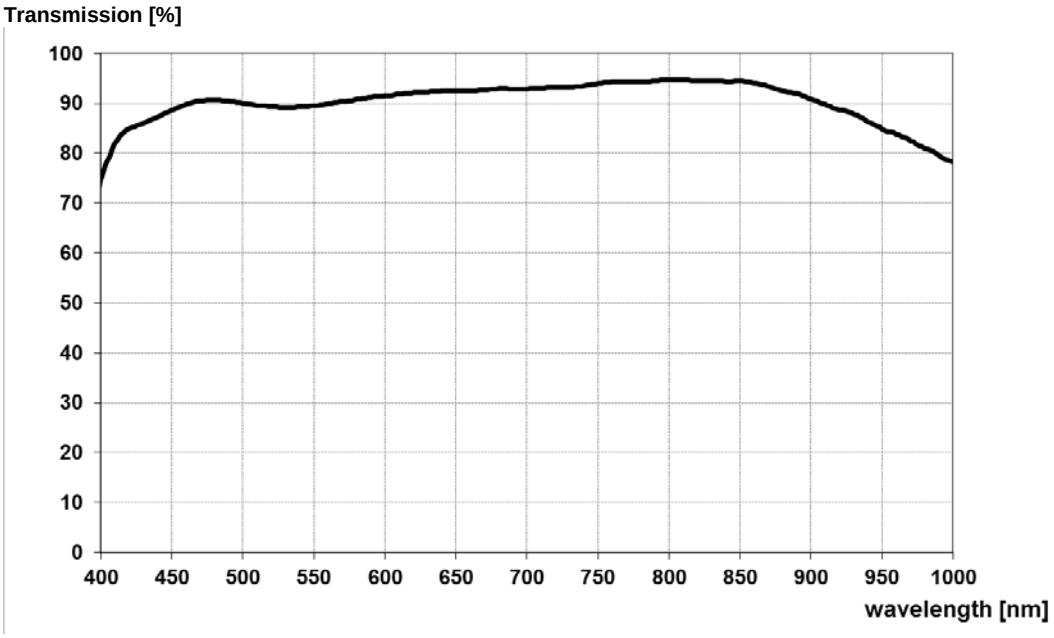


f-number 5.6
__ Sagittal
… Tangential

**Data for infinite focus setting*

ZEISS Dimension 2.8/8

Spectral Transmission



ZEISS Dimension 2/12

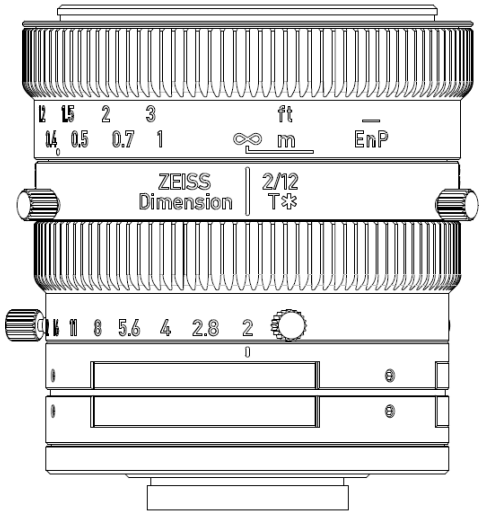
Features

- fast f/2 aperture
- excellent image quality, leading to highest data precision over the complete image field
- for industrial cameras up to sensor sizes of 4/3''
- robust full-metal construction made of aluminium
- small and compact
- possibility to adjust the back focal distance to compensate for tolerances of camera bayonets
- possibility for azimuthal adjustment ensures best possible readability of scales
- fixable focus and aperture settings
- optimized spectral transmission in VIS and near IR range through ZEISS T* coating

Camera Mount
Available with
C mount

ZEISS Dimension 2/12

Technical Specifications

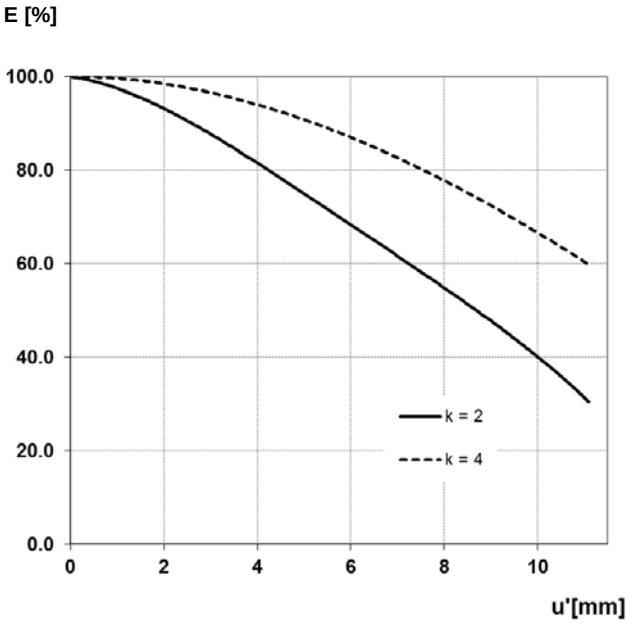


Optical data:	
Focal length	12 mm
Aperture range	f/2 – f/22 (continuous)
Number of elements / groups	13 / 9
Focus range (object to sensor)	180,4 mm (0.59 ft.) – ∞
Min. free working distance	101,0 mm (0.33 ft.)
Angular field (diag. / horiz. / vert.)	**1'':** 65.94°/56.73°/39.55° **4/3'':** 82.53°/70.51°/56.00°
Max. diameter of image field	**1'':** 16 mm (0.63''); **4/3'':** 21.64 mm (0.83'')
Flange focal length (in air)	17,526 mm (0.69''), C mount
Coverage at close range	**1'':** 133,9 mm x 88,7 mm (5,27 x 3,49'') **4/3'':** 176,5 mm x 131,8 mm (6,95 x 5,19'')
Image ratio at close range	1:10
Position of entrance pupil (relative to image sensor)	63,8 mm (2.51")
Position of exit pupil (relative to image sensor)	38,9 mm (1.53")

Physical data:	
Length (front to mount contact surface at inf.)	60,0 mm (2.36")
Length (front to mount contact surface at MOD)	60,0 mm (2.36")
Diameter (lens only)	57,0 mm (2.24")
Diameter (with fixation screws)	64,0 mm (2.52")
Filter-thread	M43 x 0.75
Weight	264 g (0.58 lbs)
Camera mount	C mount

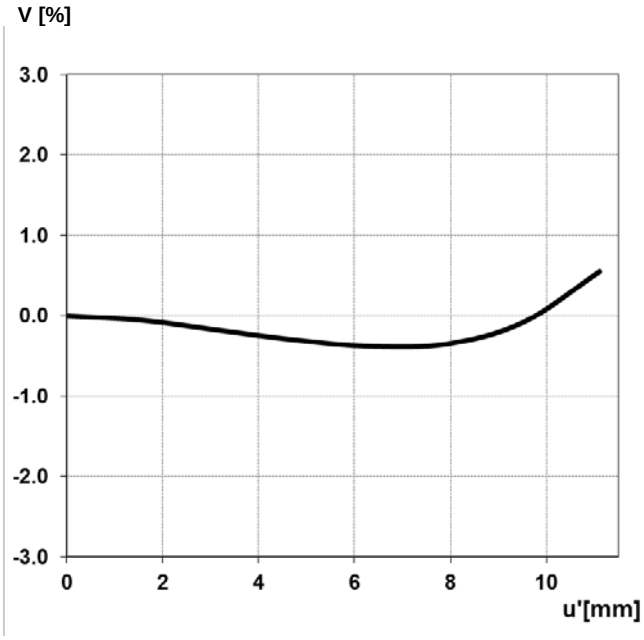
ZEISS Dimension 2/12

Relative Illuminance*



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

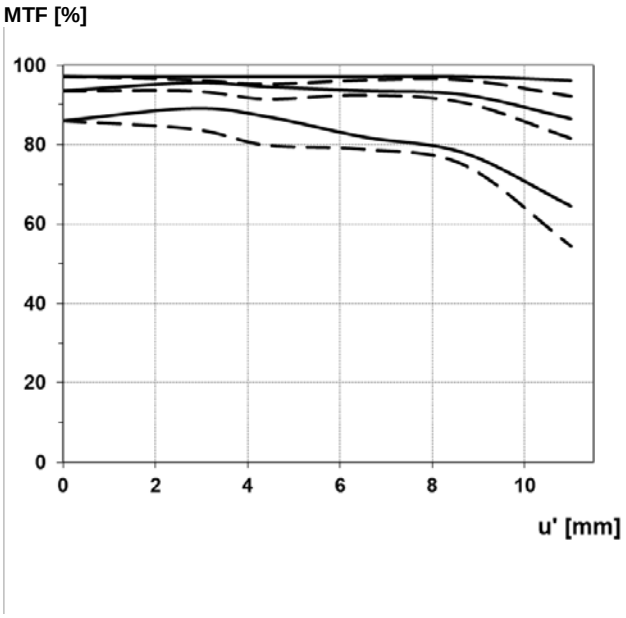
Relative Distortion*



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

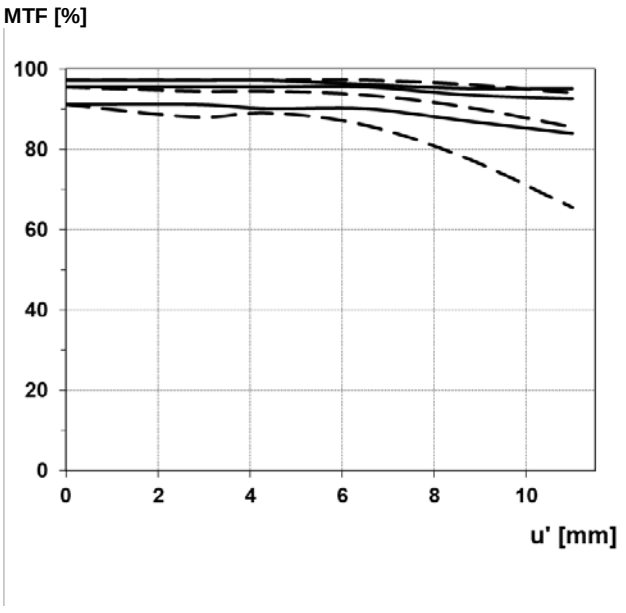
ZEISS Dimension 2/12

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

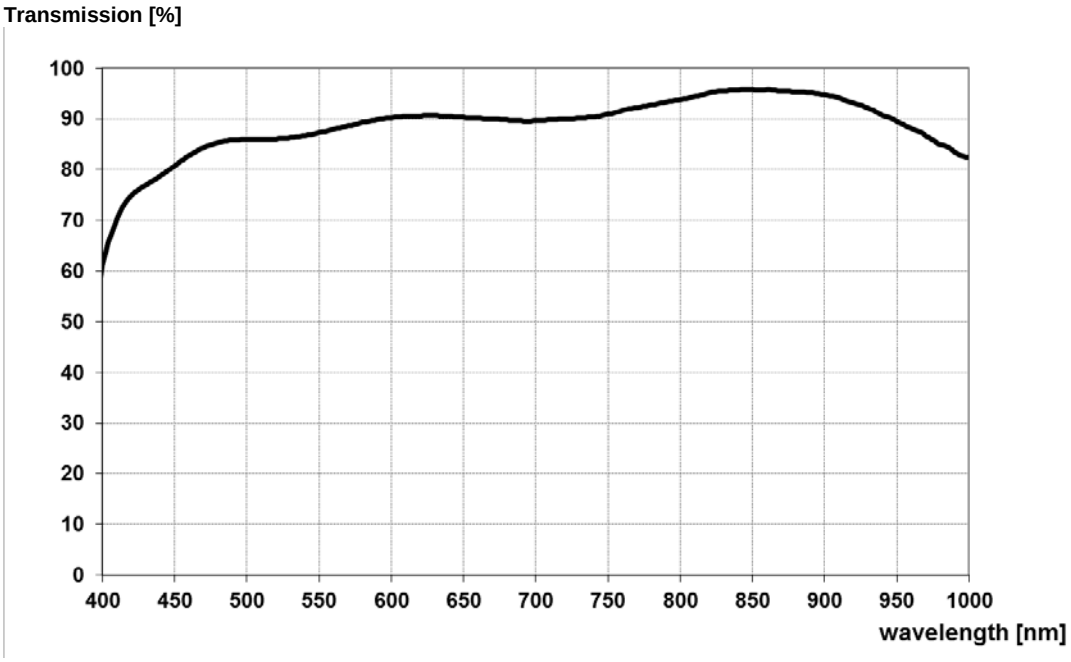


f-number 4
__ Sagittal
_ _ Tangential

*Data for infinite focus setting

ZEISS Dimension 2/12

Spectral Transmission



ZEISS Dimension 2/18

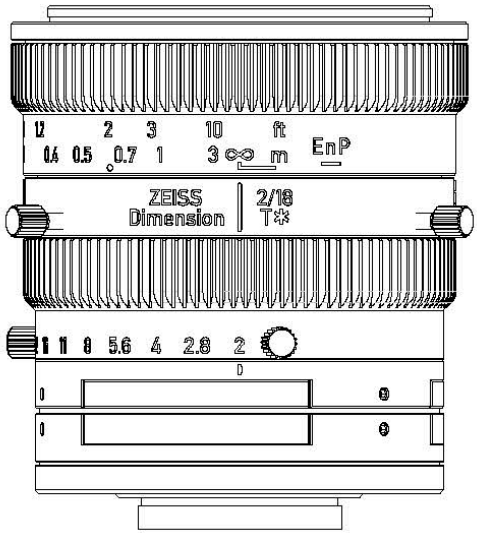
Features

- fast f/2 aperture
- excellent image quality, leading to highest data precision over the complete image field
- for industrial cameras up to sensor sizes of 4/3''
- robust full-metal construction made of aluminium
- small and compact
- possibility to adjust the back focal distance to compensate for tolerances of camera bayonets
- possibility for azimuthal adjustment ensures best possible readability of scales
- fixable focus and aperture settings
- optimized spectral transmission in VIS and near IR range through ZEISS T* coating

Camera Mount
Available with
C mount

ZEISS Dimension 2/18

Technical Specifications

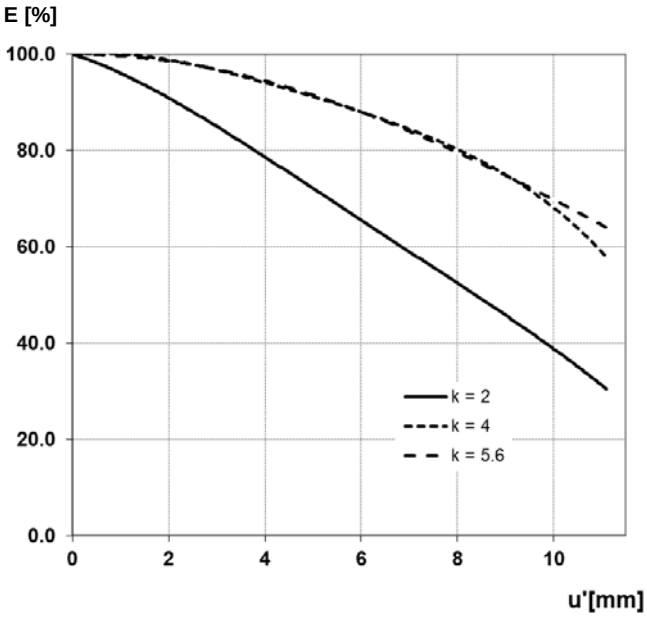


Optical data:	
Focal length	18 mm
Aperture range	f/2 – f/22 (continuous)
Number of elements / groups	13 / 9
Focus range (object to sensor)	170,5mm (0.56 ft)- ∞
Min. free working distance	91,1mm (0.30 ft)
Angular field (diag. / horiz. / vert.)	**1":** 47.38° / 39.99° / 27.13° **4/3":** 62.12° / 51.22° / 39.42°
Max. diameter of image field	**1":** 16mm (0.63"); **4/3":** 21,64mm (0.83")
Flange focal distance (in air)	17,526mm (0.69"), C mount
Coverage at close range	**1":** 73,8mm x 49,1mm (2.91" x 1.93") **4/3":** 97,0mm x 72,7mm (3.82" x 2.86")
Image ratio at close range	1:5.6
Position of entrance pupil (relative to image sensor)	60,4 mm (2.38")
Position of exit pupil (relative to image sensor)	39,2 mm (1.54")

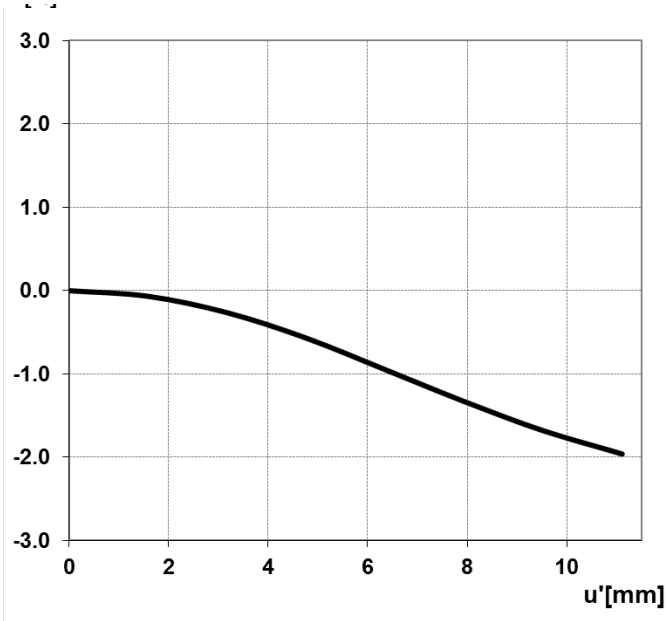
Physical data:	
Length (front to mount contact surface) (at inf.)	61,2 mm (2.41")
Length (front to mount contact surface) (at MOD)	61,2 mm (2.41")
Diameter (lens only)	57,0 mm (2.24")
Diameter (with fixation screws)	63,0 mm (2.48")
Filter-thread	M43 x 0.75
Weight	291 g (0.64 lbs)
Camera mount	C mount

ZEISS Dimension 2/18

Relative Illuminance*



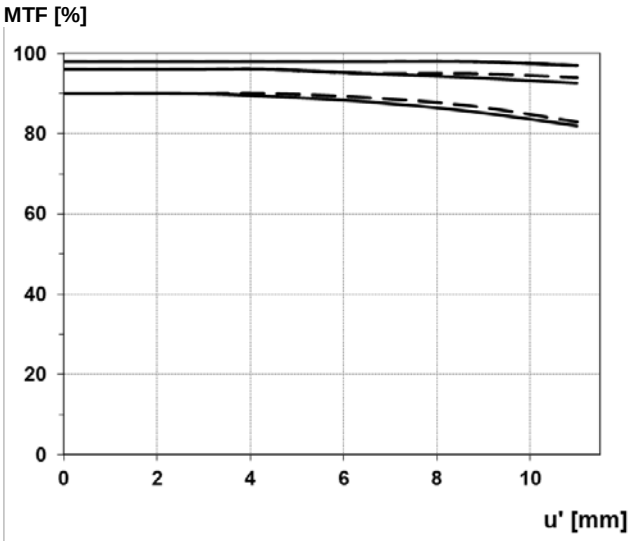
The relative illumination shows the decrease in image brightness from the image center to the edge in percent.



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

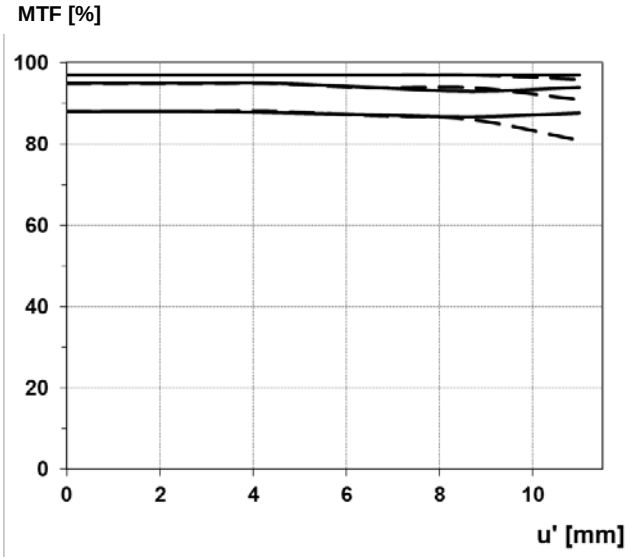
ZEISS Dimension 2/18

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

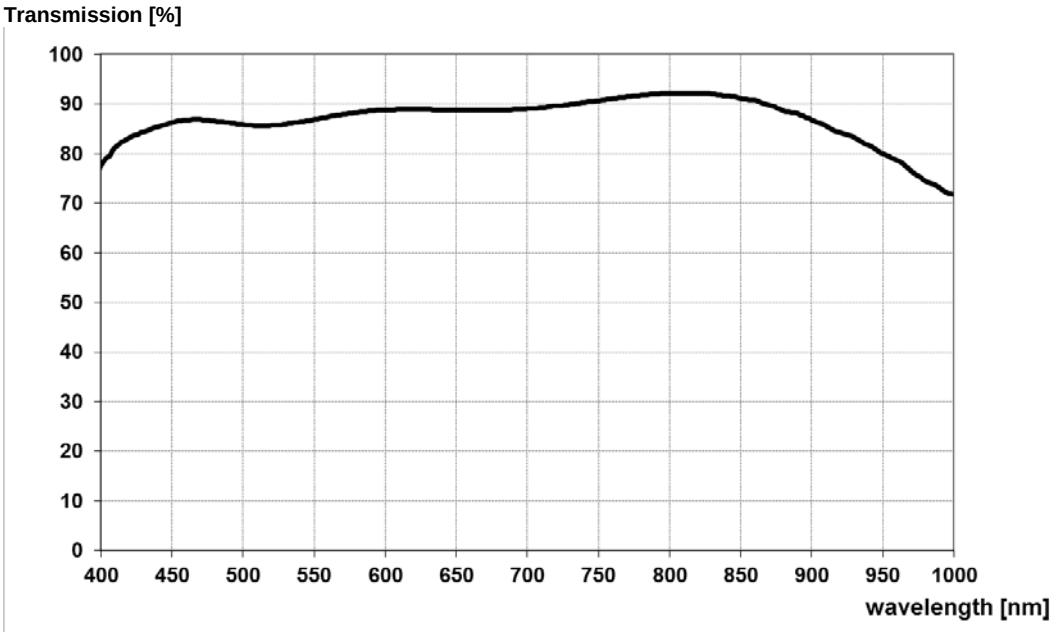


f-number 4
__ Sagittal
… Tangential

**Data for infinite focus setting*

ZEISS Dimension 2/18

Spectral Transmission



ZEISS Dimension 2/25

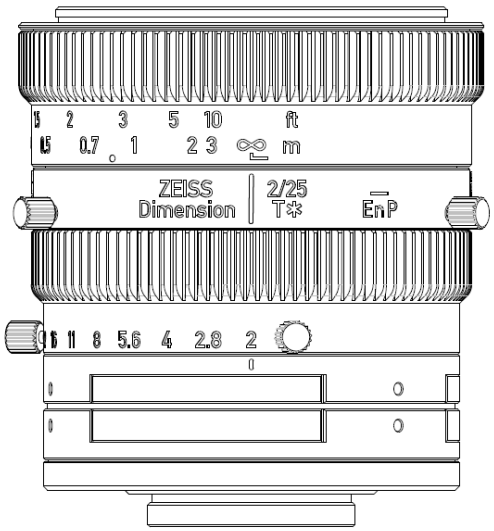
Features

- fast f/2 aperture
- excellent image quality, leading to highest data precision over the complete image field
- for industrial cameras up to sensor sizes of 4/3’’
- robust full-metal construction made of aluminium
- small and compact
- possibility to adjust the back focal distance to compensate for tolerances of camera bayonets
- possibility for azimuthal adjustment ensures best possible readability of scales
- fixable focus and aperture settings
- optimized spectral transmission in VIS and near IR range through ZEISS T* coating

Camera Mount
Available with
C mount

ZEISS Dimension 2/25

Technical Specifications



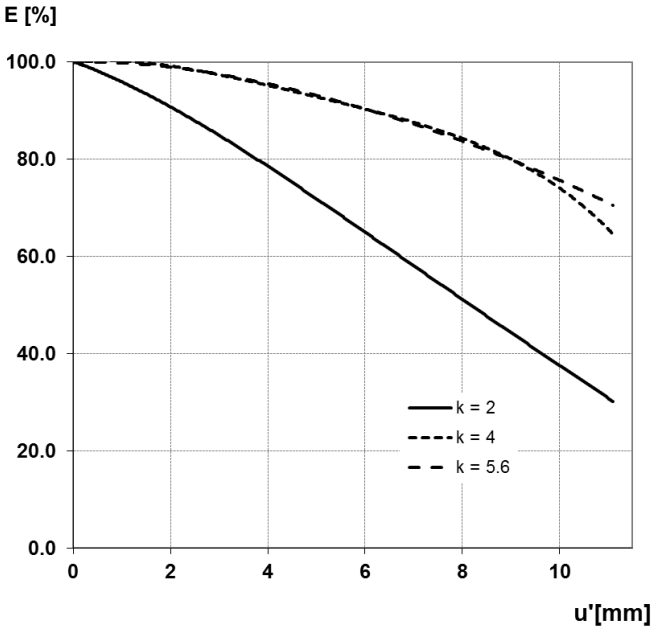
Optical data:	
Focal length	25 mm
Aperture range	f/2 – f/22 (continuous)
Number of elements / groups	13 / 8
Focus range (object to sensor)	231,9 mm (0.77 ft.) – ∞
Min. free working distance	152,5 mm (0.50 ft.)
Angular field (diag. / horiz. / vert.)	**1'':** 34.50°/28.97°/19.54° **4/3'':** 45.91°/37.41°/28.55°
Max. diameter of image field	**1'':** 16 mm (0.63''); **4/3'':** 21.64 mm (0.83'')
Flange focal length (in air)	17,526 mm (0.69''), C mount
Coverage at close range	**1'':** 82,4 mm x 55,0 mm (3,24 x 2,17'') **4/3'':** 107,9 mm x 81,2 mm (4,25 x 3,20'')
Image ratio at close range	1:6.3
Position of entrance pupil (relative to image sensor)	55,58 mm (2.19")
Position of exit pupil (relative to image sensor)	38,9 mm (1.53")

ZEISS Dimension 2/25

Physical data:	
Length (front to mount contact surface at inf.)	60,0 mm (2.36”)
Length (front to mount contact surface at MOD)	60,0 mm (2.36”)
Diameter (lens only)	57,0 mm (2.24”)
Diameter (with fixation screws)	64,0 mm (2.52”)
Filter-thread	M43 x 0.75
Weight	283 g (0.62 lbs)
Camera mount	C mount

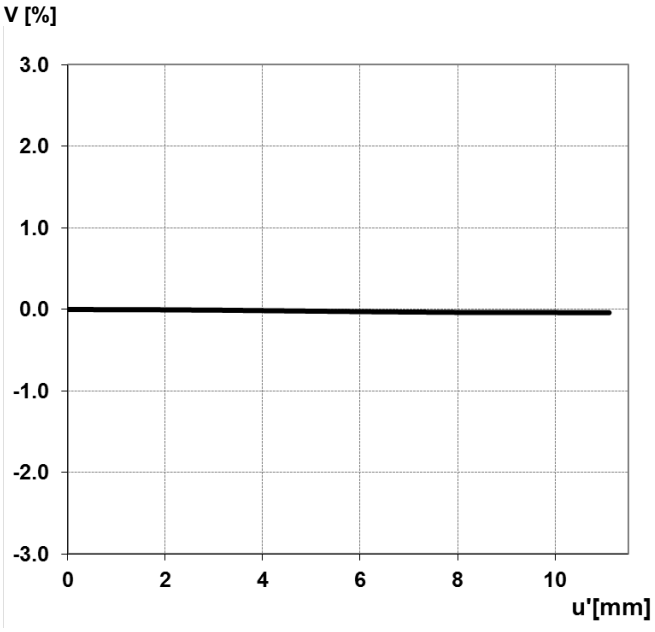
ZEISS Dimension 2/25

Relative Illuminance*



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

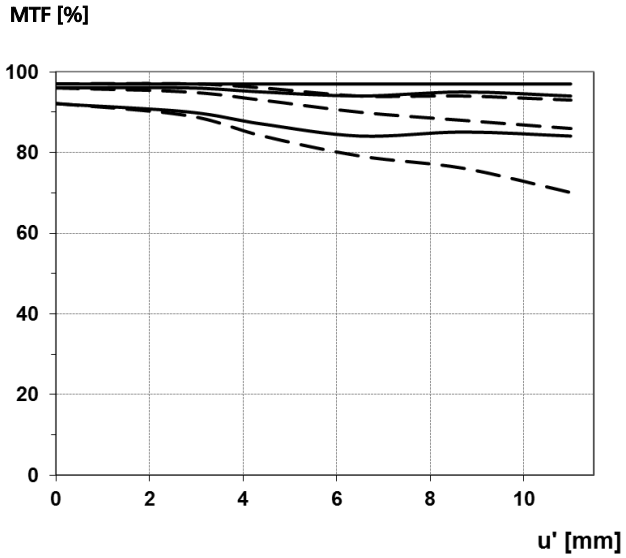
Relative Distortion*



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

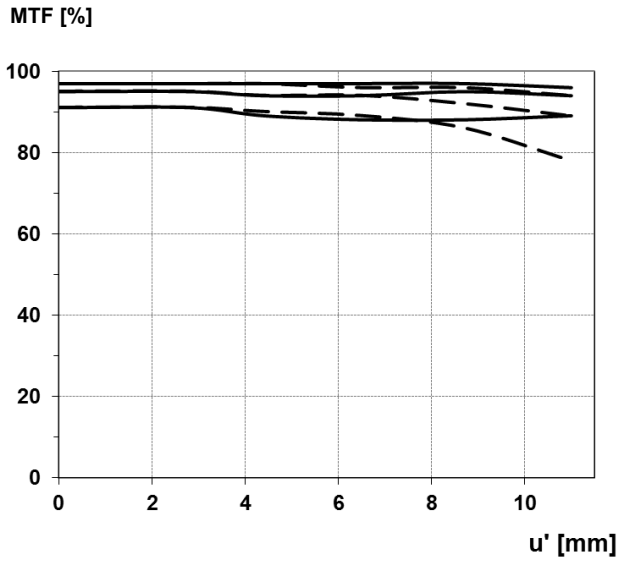
ZEISS Dimension 2/25

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

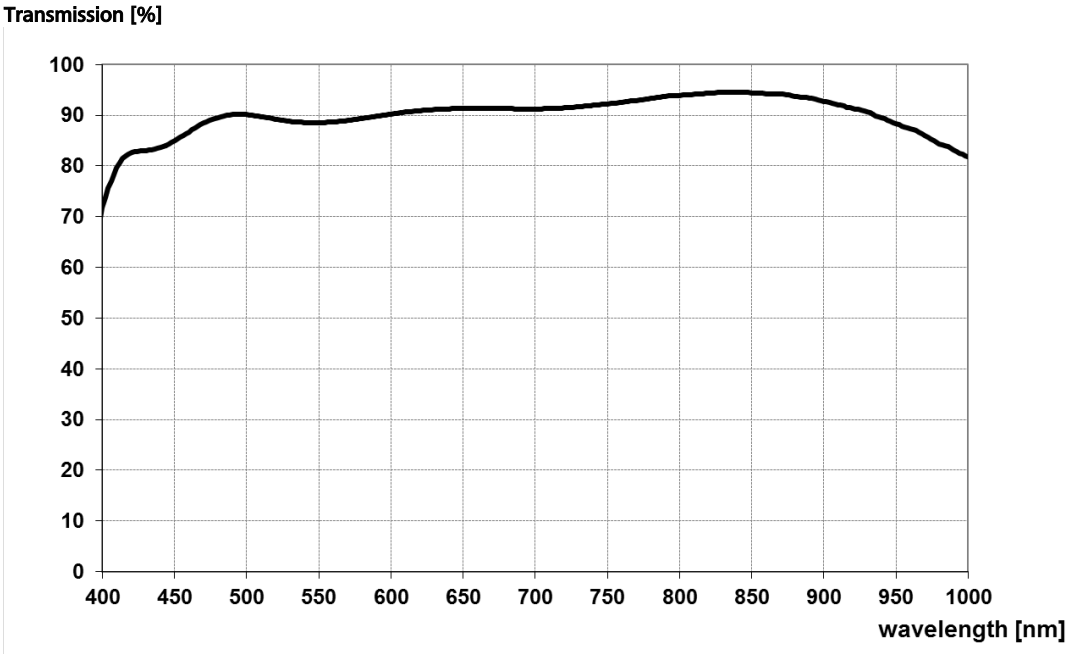


f-number 4
__ Sagittal
_ _ Tangential

*Data for infinite focus setting

ZEISS Dimension 2/25

Spectral Transmission



ZEISS Dimension 2/35

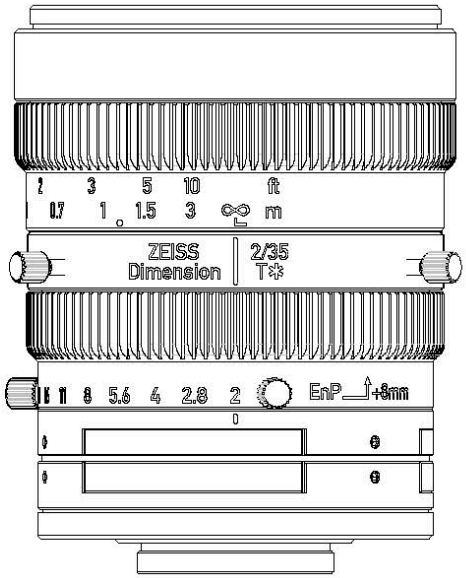
Features

- fast f/2 aperture
- excellent image quality, leading to highest data precision over the complete image field
- for industrial cameras up to sensor sizes of 4/3''
- robust full-metal construction made of aluminium
- small and compact
- possibility to adjust the back focal distance to compensate for tolerances of camera bayonets
- possibility for azimuthal adjustment ensures best possible readability of scales
- fixable focus and aperture settings
- optimized spectral transmission in VIS and near IR range through ZEISS T* coating

Camera Mount
Available with
C mount

ZEISS Dimension 2/35

Technical Specifications

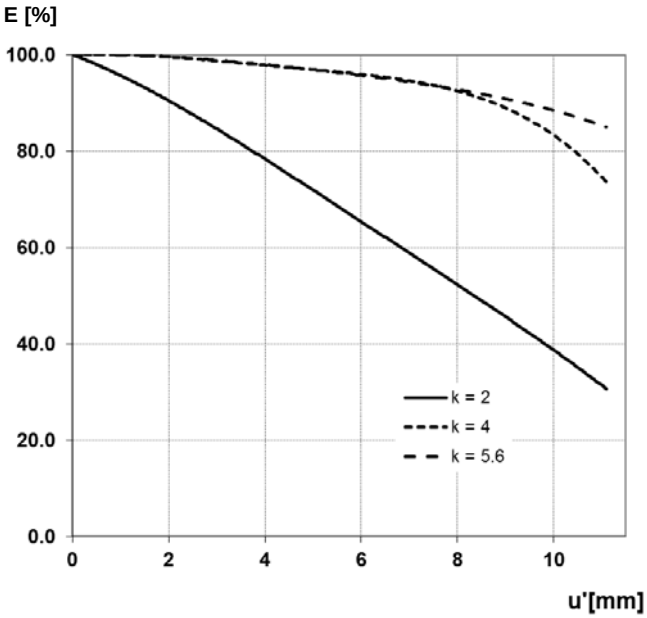


Optical Data:	
Focal length	35mm
Aperture range	f/2 – f/22 (continuous)
Number of elements / groups	13 / 8
Focus range (object to sensor)	288,6mm (0.95 ft)- ∞
Min. free working distance	209,2mm (0.69 ft)
Angular field (diag. / horiz. / vert.)	**1":** 25.24° / 21.04° / 14.06° **4/3":** 34.25° / 27.49° / 20.73°
Max. diameter of image field	**1":** 16mm (0.63"); **4/3":** 21,64mm (0.83")
Flange focal distance (in air)	17,526mm (0.69"), C mount
Coverage at close range	**1":** 73,7mm x 49,0mm (3.14" x 1.93") **4/3":** 96,9mm x 72,6mm (3.82" x 2.89")
Image ratio at close range	1:5.6
Position of entrance pupil (relative to image sensor)	45,1mm (1.77")
Position of exit pupil (relative to image sensor)	37,7mm (1.48")

Physical Data:	
Length (front to mount contact surface) (at inf.)	70,0mm (2.76")
Length (front to mount contact surface) (at MOD)	70,0mm (2.76")
Diameter (lens only)	57,0mm (2.24")
Diameter (with fixation screws)	64,0mm (2.52")
Filter-thread	M49 x 0.75
Weight	323g (0.71lbs)
Camera mount	C mount

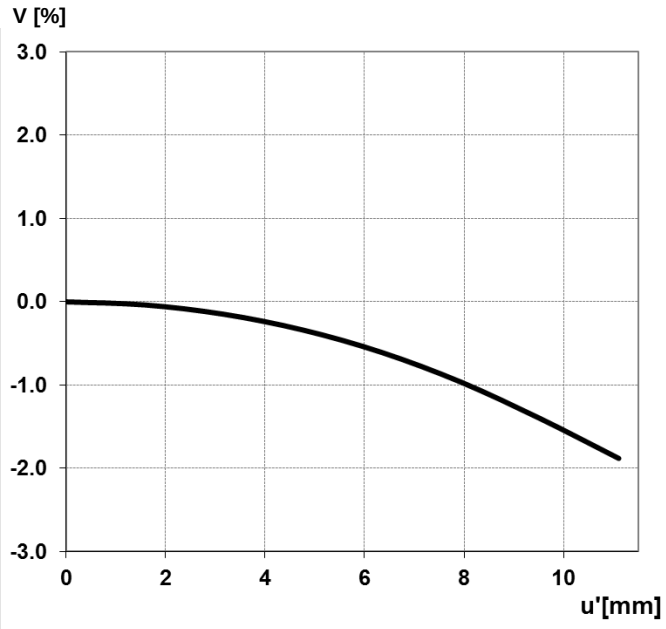
ZEISS Dimension 2/35

Relative Illuminance*



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

Relative Distortion*

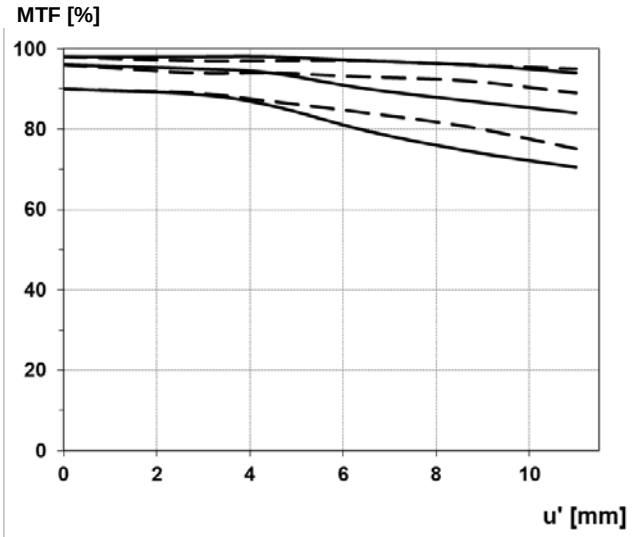


The relative distortion shows the deviation of the actual image height from the ideal one in percent.

**Data for infinite focus setting*

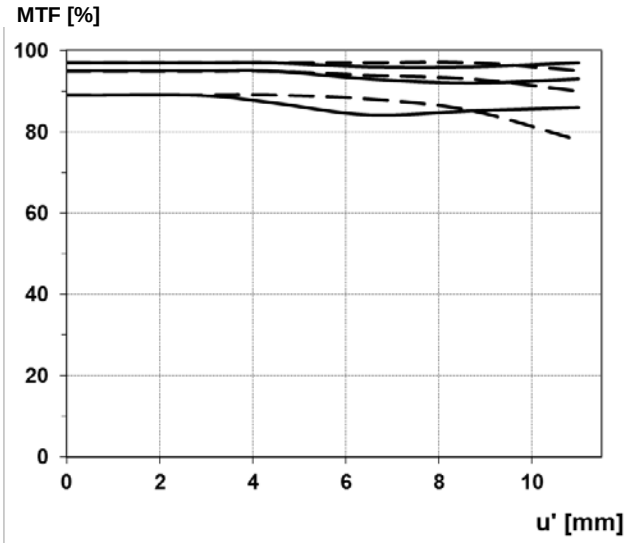
ZEISS Dimension 2/35

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

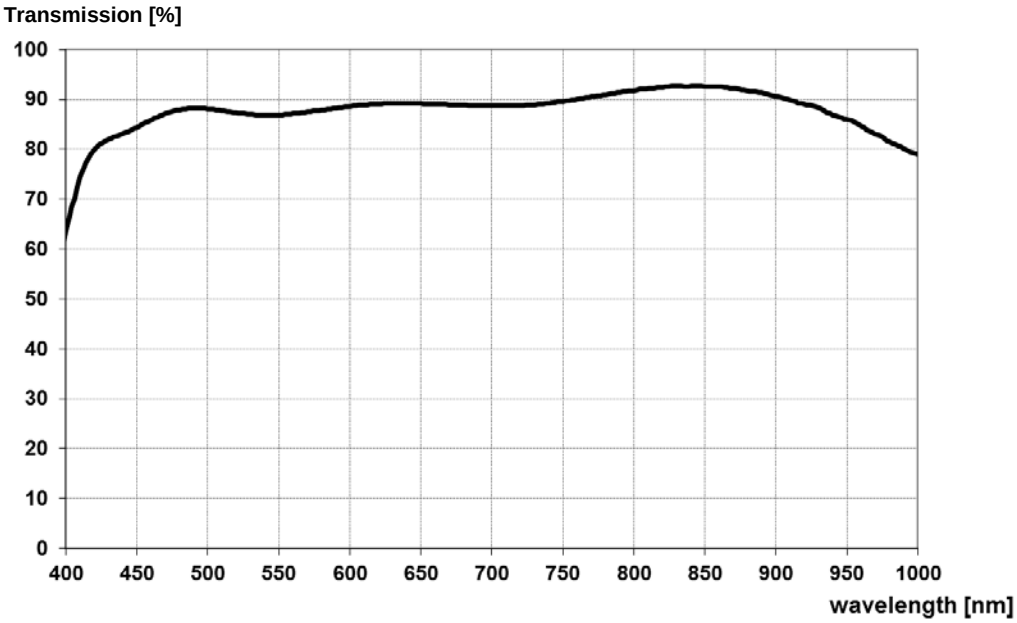


f-number 4
__ Sagittal
… Tangential

**Data for infinite focus setting*

ZEISS Dimension 2/35

Spectral Transmission



ZEISS Dimension 2/50

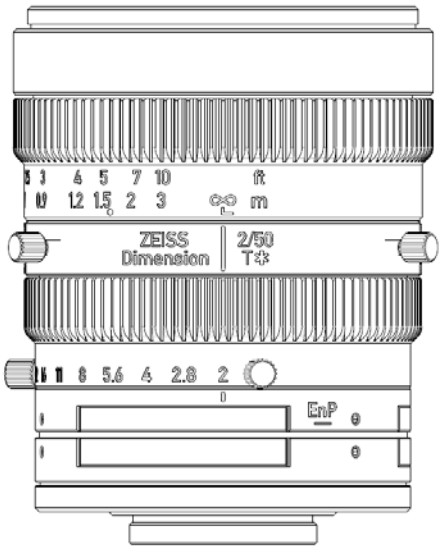
Features

- fast f/2 aperture
- excellent image quality, leading to highest data precision over the complete image field
- for industrial cameras up to sensor sizes of 4/3''
- robust full-metal construction made of aluminium
- small and compact
- possibility to adjust the back focal distance to compensate for tolerances of camera bayonets
- possibility for azimuthal adjustment ensures best possible readability of scales
- fixable focus and aperture settings
- optimized spectral transmission in VIS and near IR range through ZEISS T* coating

Camera Mount
Available with
C mount

ZEISS Dimension 2/50

Technical Specifications

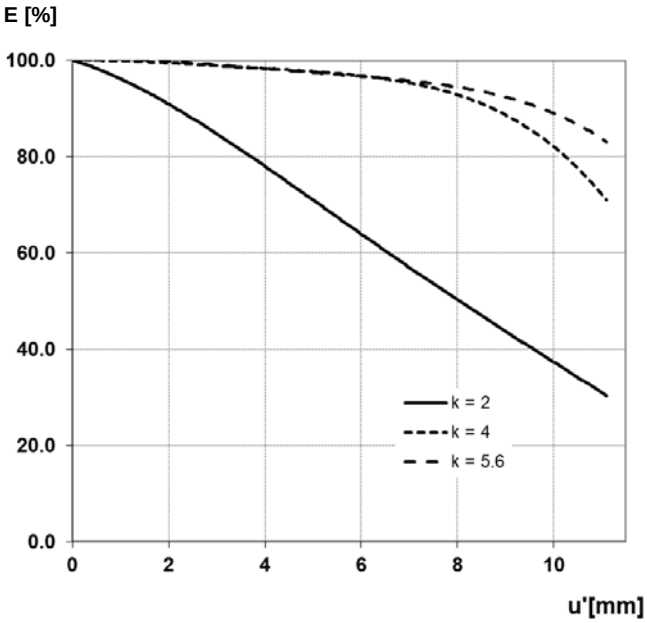


Optical data:	
Focal length	50 mm
Aperture range	f/2 – f/22 (continuous)
Number of elements / groups	10 / 6
Focus range (object to sensor)	390,3 mm (1.28 ft.) – ∞
Min. free working distance	311,2 mm (1.02 ft.)
Angular field (diag. / horiz. / vert.)	**1'':** 17.81°/14.89°/9.98° **4/3'':** 24.00°/19.37°/14.66°
Max. diameter of image field	**1'':** 16 mm (0.63''); **4/3'':** 21.64 mm (0.83'')
Flange focal length (in air)	17,526 mm (0.69''), C mount
Coverage at close range	**1'':** 72,3 mm x 48,2 mm (2.85 x 1.89'') **4/3'':** 94,7 mm x 71,2 mm (3.73 x 2.80'')
Image ratio at close range	1:5.5
Position of entrance pupil (relative to image sensor)	63,8 mm (2.51")
Position of exit pupil (relative to image sensor)	38,9 mm (1.53")

Physical data:	
Length (front to mount contact surface at inf.)	69,0 mm (2.72")
Length (front to mount contact surface at MOD)	81,0 mm (3.19")
Diameter (lens only)	57,0 mm (2.24")
Diameter (with fixation screws)	64,0 mm (2.52")
Filter-thread	M49 x 0.75
Weight	306 g (0.67 lbs)
Camera mount	C mount

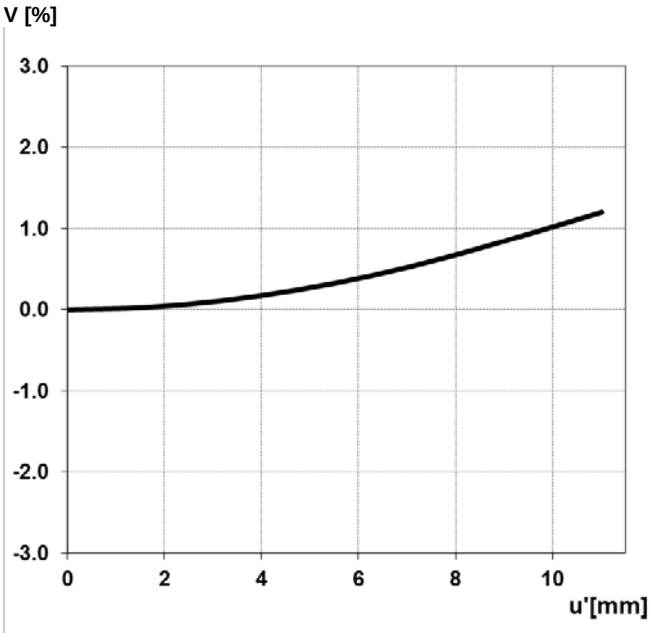
ZEISS Dimension 2/50

Relative Illuminance*



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

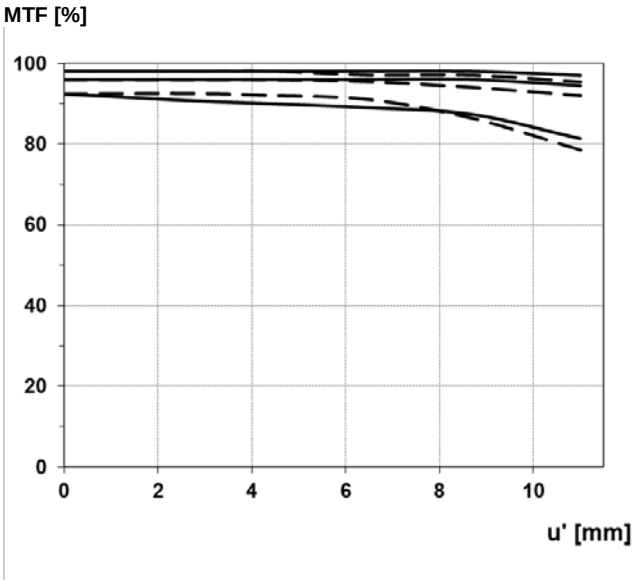
Relative Distortion*



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

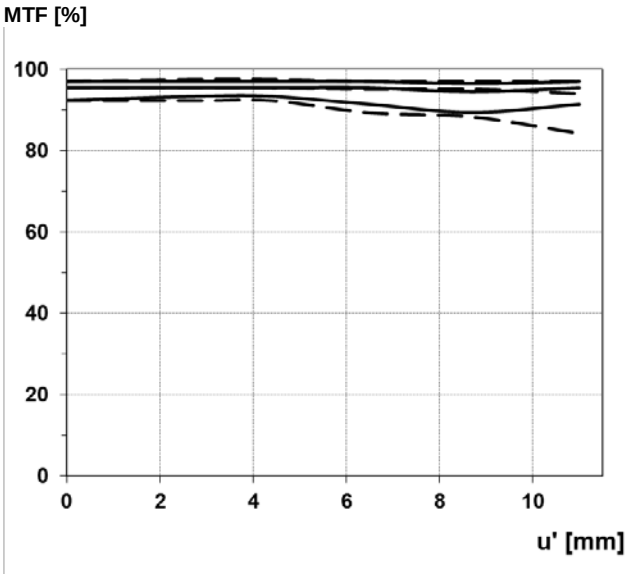
ZEISS Dimension 2/50

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

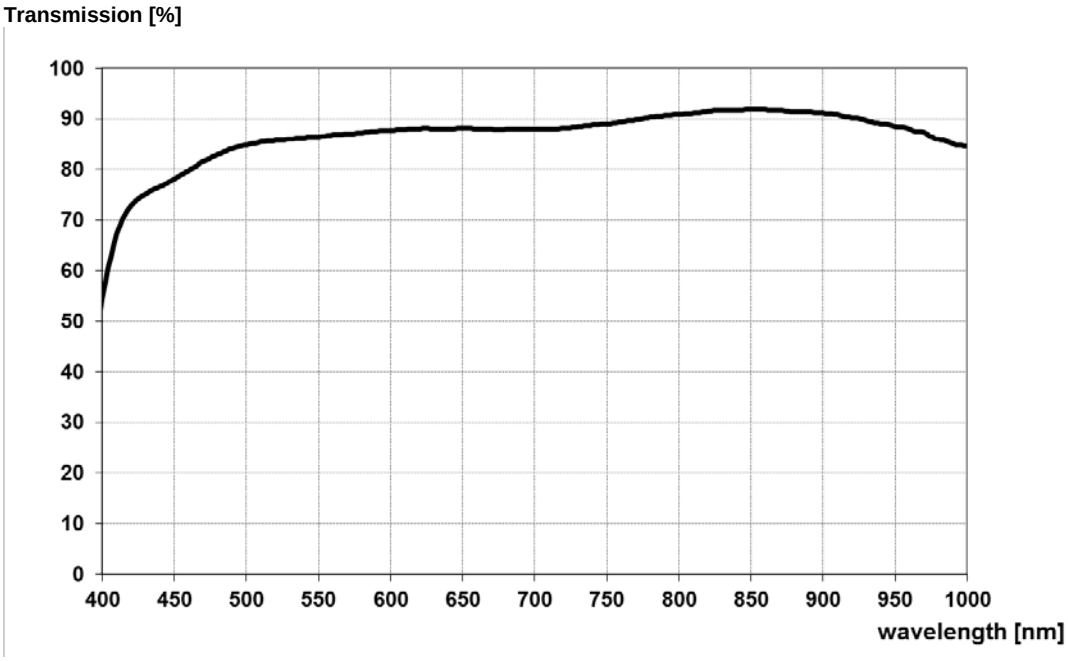


f-number 4
___ Sagittal
_ _ Tangential

*Data for infinite focus setting

ZEISS Dimension 2/50

Spectral Transmission



ZEISS Interlock 2.8/15

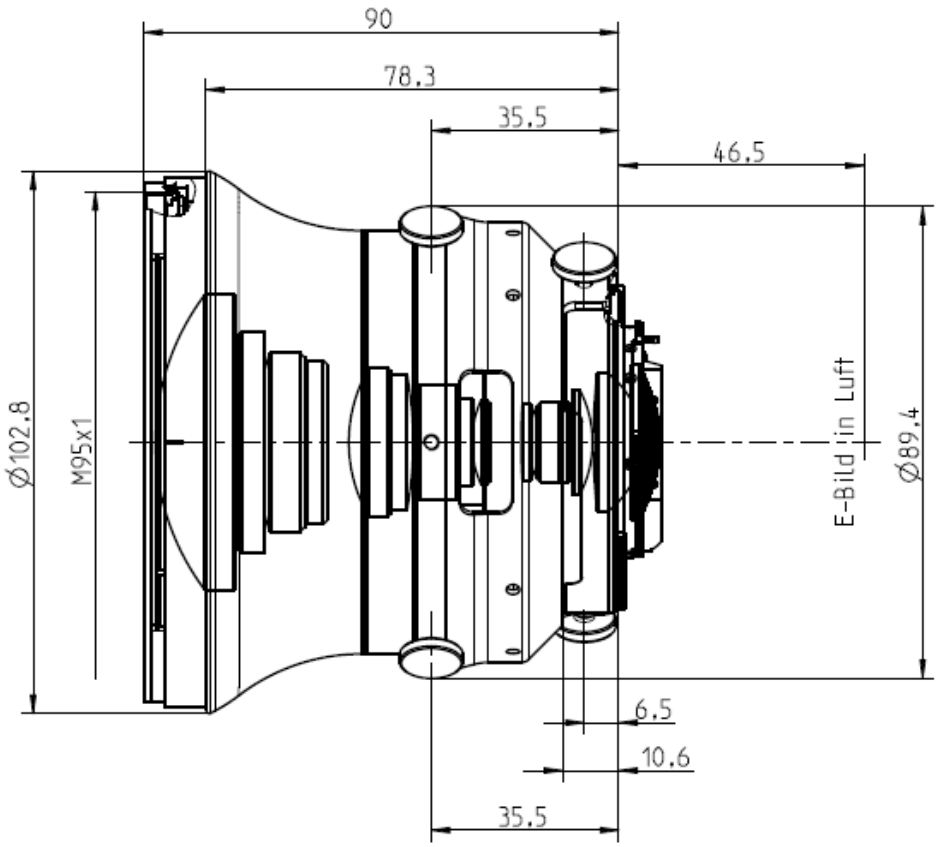
Features

- 110° angular field with highest optical performance
- Precise manual focusing
- Robust full-metal construction
- Continuous aperture setting or click stop
- For industrial cameras up to sensor sizes of 24x36 mm or 41mm line sensors
- Features special screws to fix focus and aperture settings even in rough situations

Camera Mounts
Available with F mount or M42 screw mount

ZEISS Interlock 2.8/15

Technical Specifications

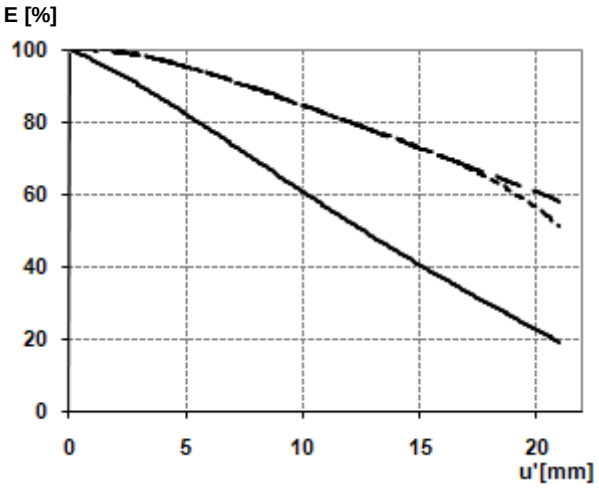


Focal length	15 mm
Aperture range	f/2.8 – f/22 (1/2 stop intervals or continuous)
Number of elements / groups	15/12
Min. working distance (object to sensor)	250 mm (0.82 ft.) - ∞
Min. free working distance	90 mm (0.29 ft.) - ∞
Angular field* (diag. / horiz. / vert.)	110 / 100 / 76°
Max. diameter of image field	43 mm (1.7")
Flange focal length	F-Mount: 46.5 mm (1.8"); M42-Mount: 45,5 mm
Coverage at close range	340 x 221 mm (13.4 x 8.7"), line 387 mm (15.2")
Image ratio at close range	1:9
Filter-thread	M 95 x 1.0
Weight	927 g (2.0 lbs.)
Camera mount	F bayonet, M42

* referring to 35 mm format

ZEISS Interlock 2.8/15

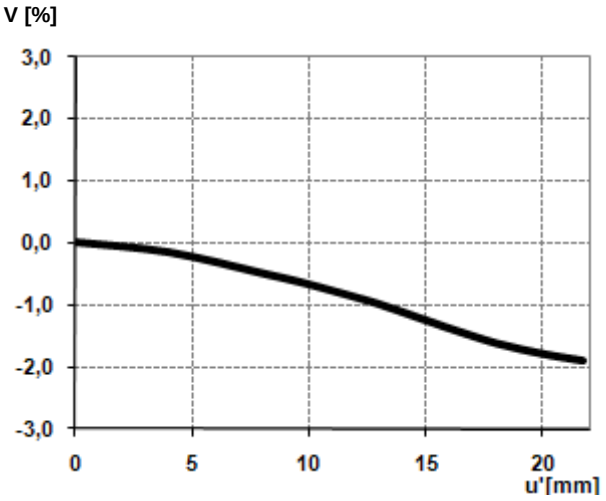
Relative Illuminance*



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

__ f-number = 2.8
… f-number = 5.6
--- f-number = 8

Relative Distortion*

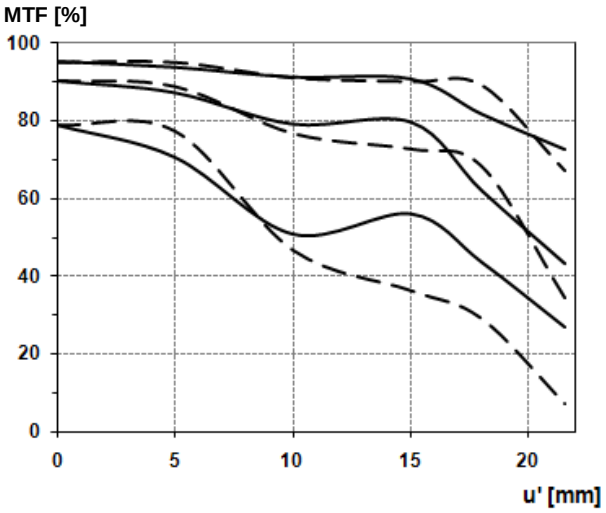


The relative distortion shows the deviation of the actual image height from the ideal one in percent.

**Data for infinite focus setting*

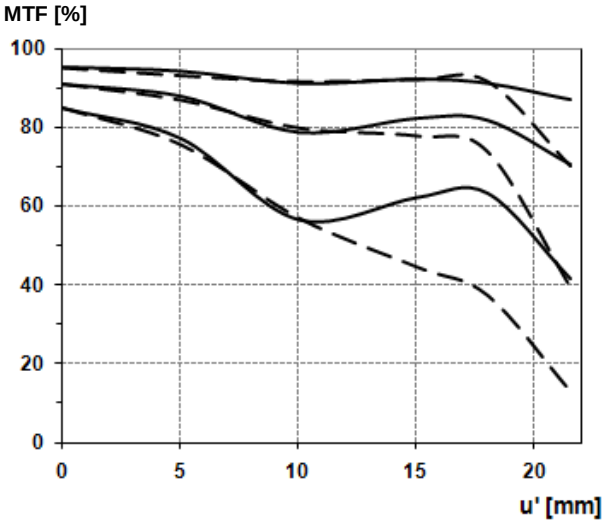
ZEISS Interlock 2.8/15

MTF Charts*



Modulation transfer MTF as a function of the image height (u′) and slit orientation. White light. Spatial frequencies R=10, 20 and 40 cycles/mm.

f-number 2.8
__ Sagittal
… Tangential

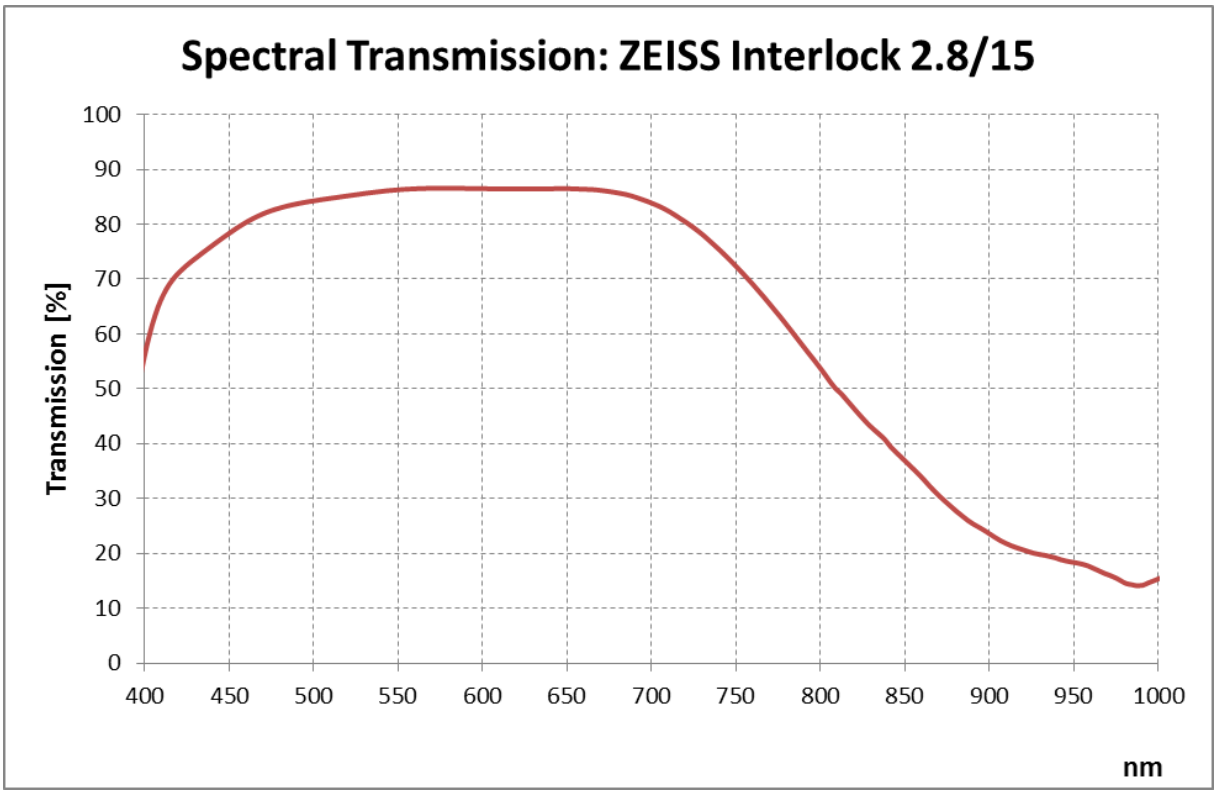


f-number 5.6
__ Sagittal
… Tangential

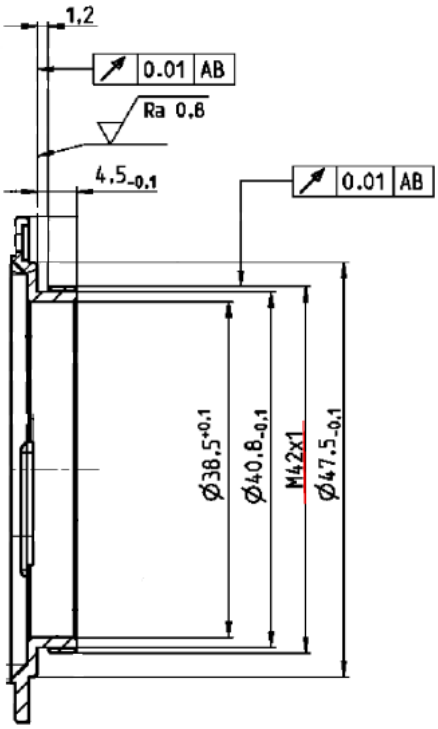
**Data for infinite focus setting*

ZEISS Interlock 2.8/15

Spectral Transmission



ZEISS Interlock 2.8/15



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!

ZEISS Interlock 2.8/18

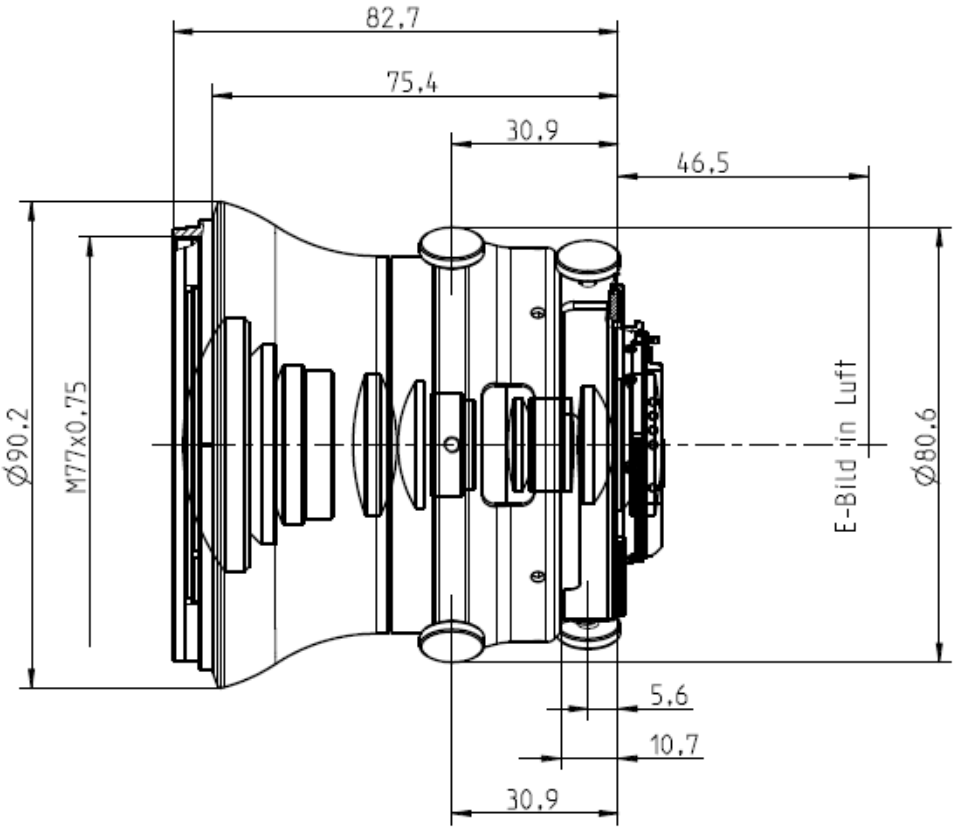
Features

- 100° angular field with highest optical performance
- Precise manual focusing
- Robust full-metal construction
- Continuous aperture setting or click stop
- For industrial cameras up to sensor sizes of 24x36 mm or 41mm line sensors
- Features special screws to fix focus and aperture settings even in rough situations
- High contrast over the entire image field

Camera Mounts
Available with F mount or M42 screw mount

ZEISS Interlock 2.8/18

Technical Specifications

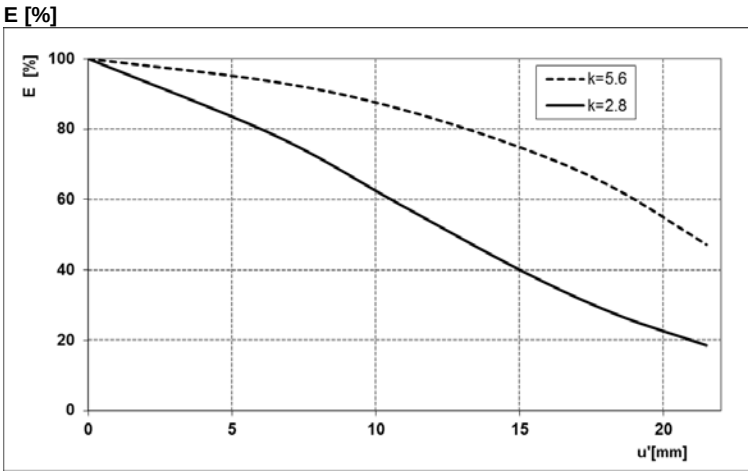


Focal length	18 mm
Aperture range	f/2.8 – f/22 (1/2 stop intervals or continuous)
Number of elements / groups	14/12
Min. working distance (object to sensor)	250 mm (0.82 ft.) - ∞
Min. free working distance	120 mm (0.39 ft.) - ∞
Angular field* (diag. / horiz. / vert.)	99,9 / 89,4 / 66,5°
Max. diameter 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	274 x 180 mm (10.8 x 7.1") line 318 mm (12.5”)
Image ratio at close range	1:7.4
Filter-thread	M 77 x 0.75
Weight	722 g (1.59 lbs.)
Camera mount	F bayonet, M42

* referring to 35 mm format

ZEISS Interlock 2.8/18

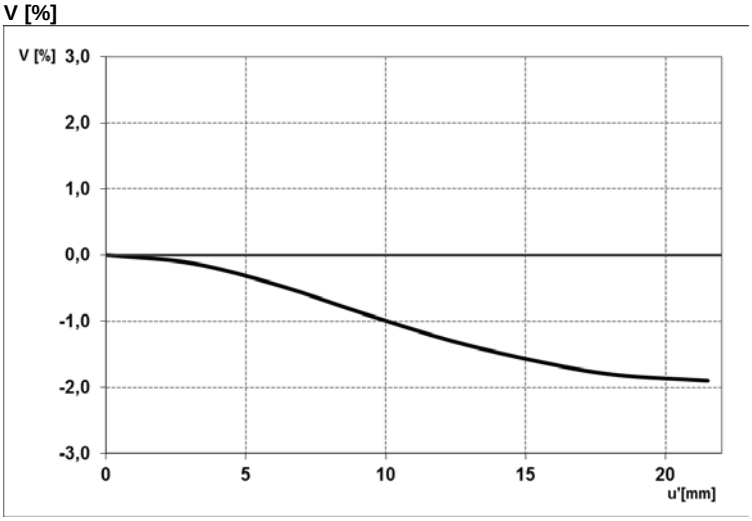
Relative Illuminance*



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

__ f-number = 2.8
… f-number = 5.6

Relative Distortion*

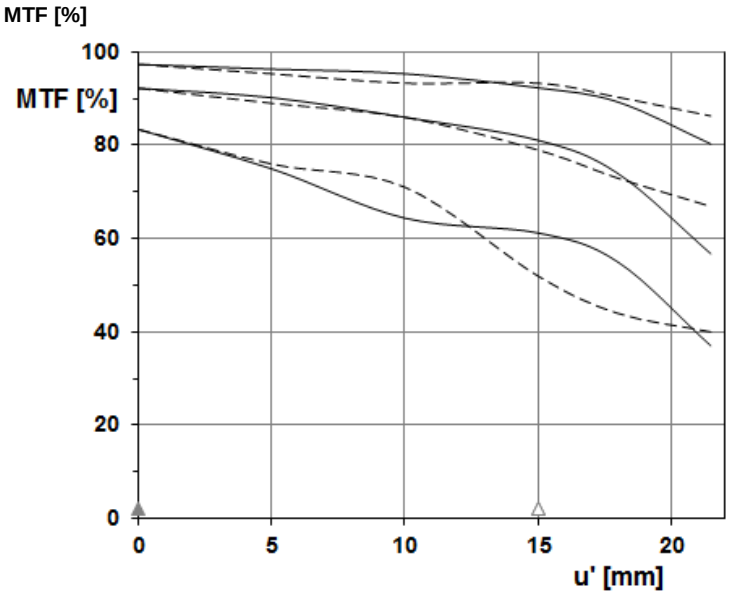


The relative distortion shows in percent the deviation of the actual from the ideal image height.

**Data for infinite focus setting*

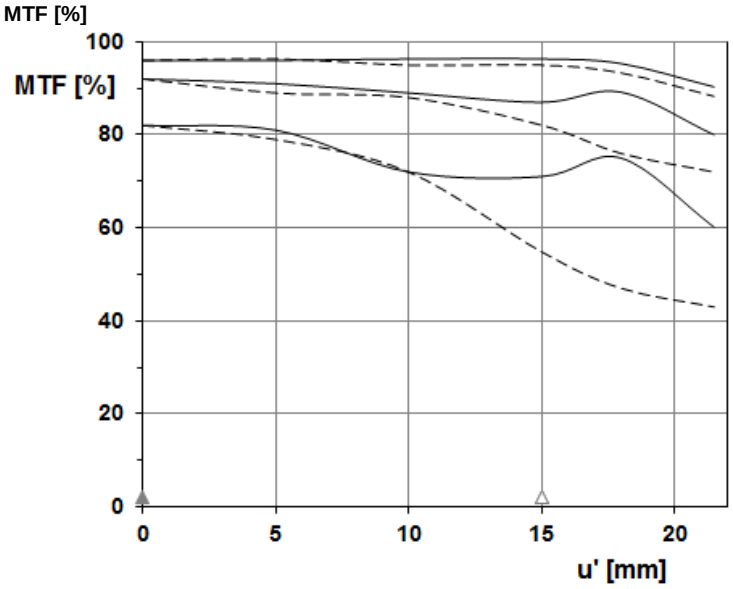
ZEISS Interlock 2.8/18

MTF Charts*



Modulation transfer MTF as a function of the image height (u´) and slit orientation. White light. Spatial frequencies R=10, 20 and 40 cycles/mm.

f-number 2.8
__ Sagittal
… Tangential

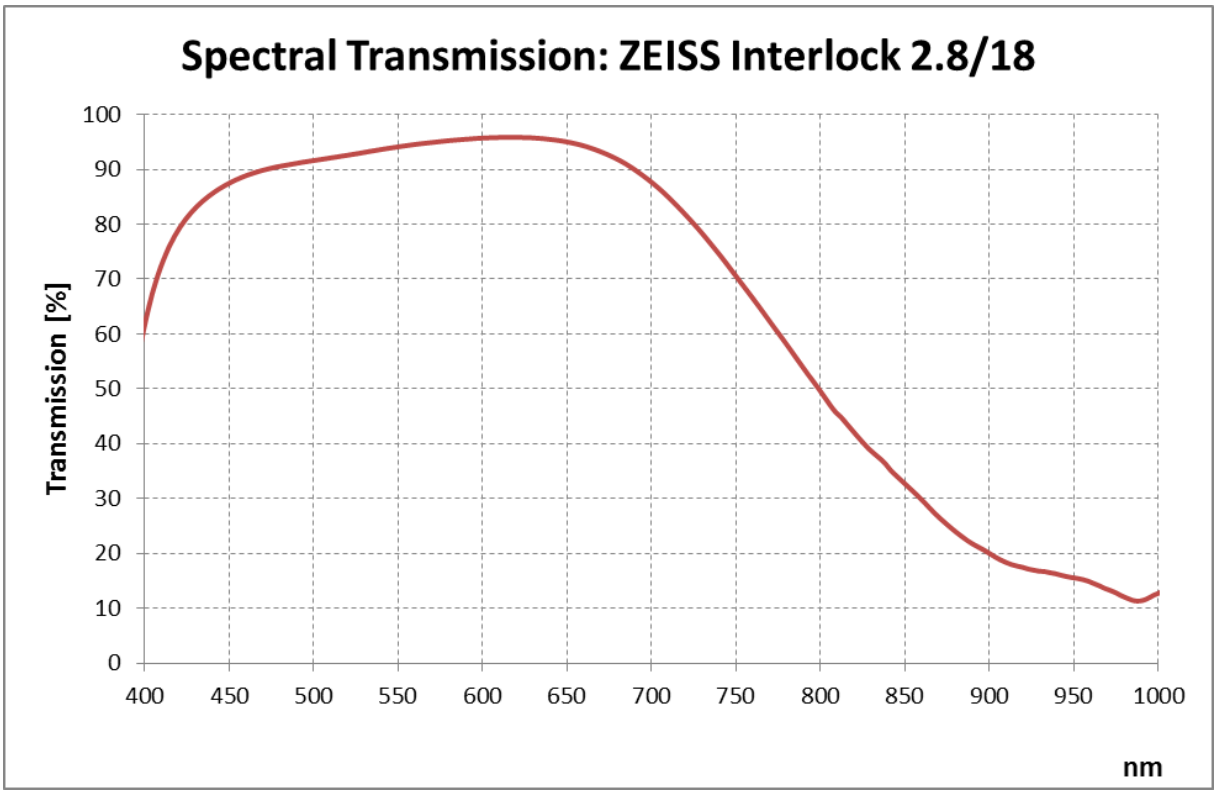


f-number 5.6
__ Sagittal
… Tangential

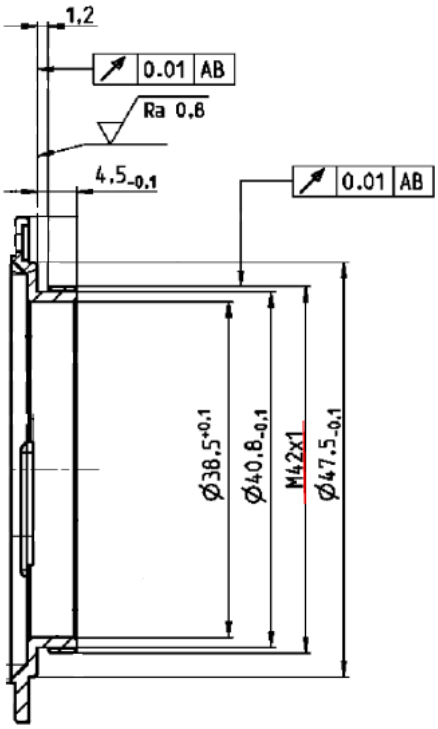
**Data for infinite focus setting*

ZEISS Interlock 2.8/18

Spectral Transmission



ZEISS Interlock 2.8/18



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!

ZEISS Interlock 2.8/21

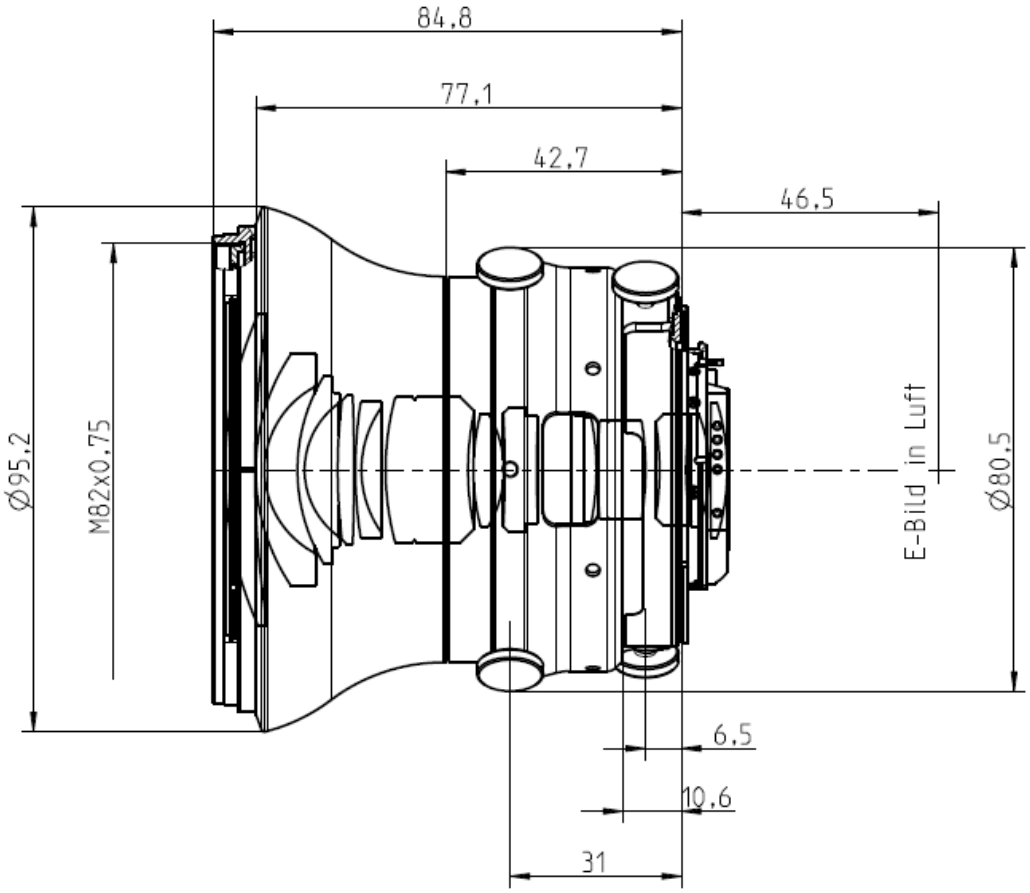
Features

- f/2.8 aperture
- Precise manual focusing
- Robust full-metal construction
- Continuous aperture setting or click stop
- For industrial cameras up to sensor sizes of 24x36 mm or 41mm line sensors
- Wide angle lens with highest optical performance
- Features special screws to fix focus and aperture settings even in rough situations
- High contrast over the entire image field

Camera Mounts
Available with F mount or M42 screw mount

ZEISS Interlock 2.8/21

Technical Specifications

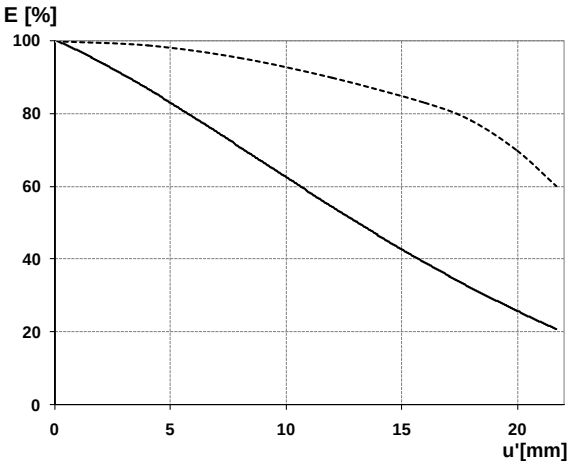


Focal length	21 mm
Aperture range	f/2.8 – f/22 (1/ 2 stop intervals or continuous)
Number of elements / groups	16/13
Min. working distance (object to sensor)	220 mm (0.72 ft.) - ∞
Min. free working distance	90 mm (0.29 ft.) - ∞
Angular field* (diag. / horiz. / vert.)	90 / 81 / 59°
Max. diameter of image field	43 mm (1.7")
Flange focal length	F-Mount: 46.5 mm (1.8"); M42-Mount: 45,5 mm
Coverage at close range	120 x 180 mm (4.7 x 7.1"), line 215 mm (8.4")
Image ratio at close range	1:5
Filter-thread	M 82 x 0.75
Weight	785 g (1.7 lbs.)
Camera mount	F bayonet, M42

* referring to 35 mm format

ZEISS Interlock 2.8/21

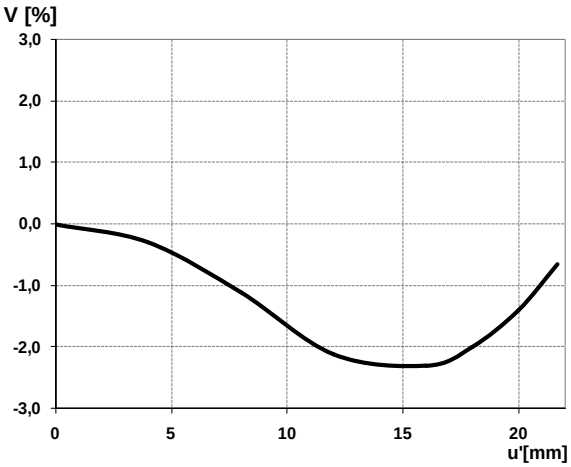
Relative Illuminance*



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

__ f-number 2.8
… f-number 5.6

Relative Distortion*

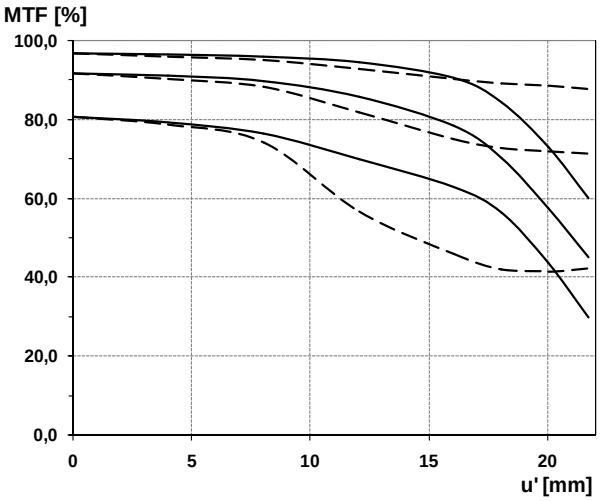


The relative distortion shows the deviation of the actual image height from the ideal one in percent.

**Data for infinite focus setting*

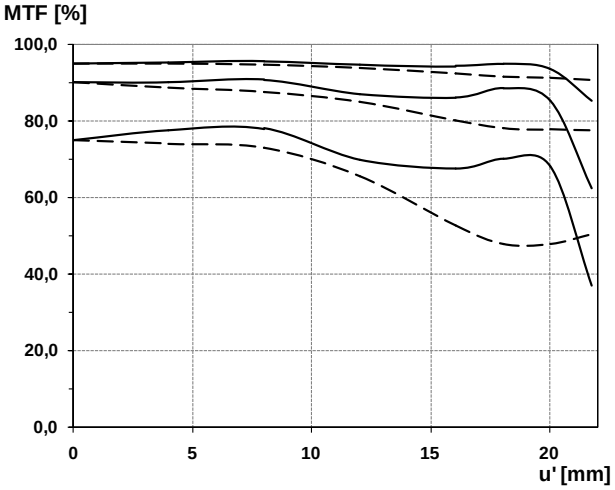
ZEISS Interlock 2.8/21

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 2.8
__ Sagittal
… Tangential

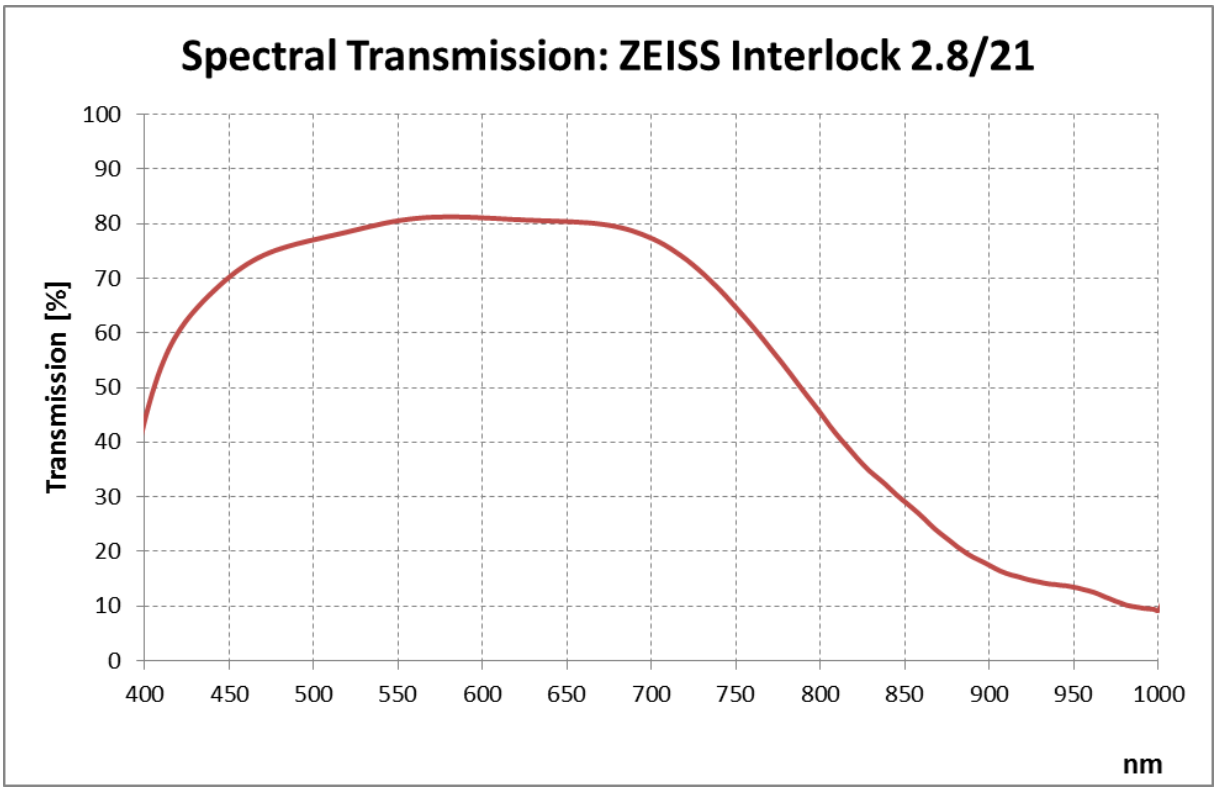


f-number 5.6
__ Sggittal
… Tangential

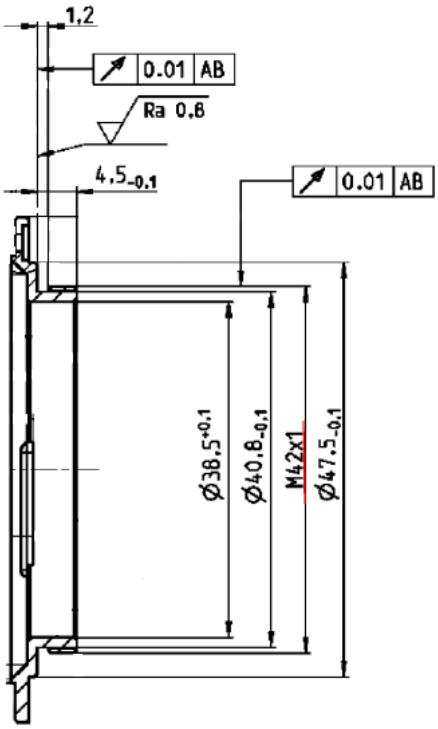
**Data for infinite focus setting*

ZEISS Interlock 2.8/21

Spectral Transmission



ZEISS Interlock 2.8/21



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!

ZEISS Interlock 1.4/25

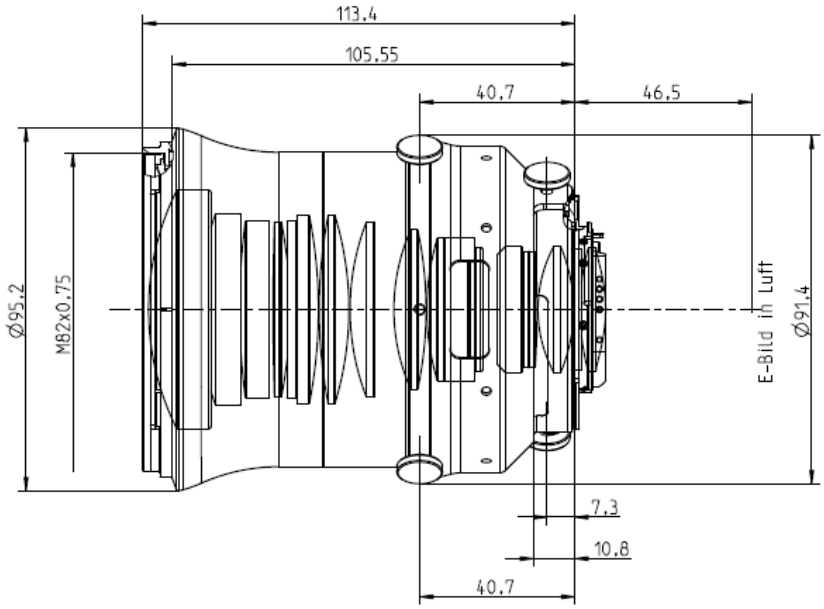
Features

- Very fast f/1.4 aperture
- Precise manual focusing
- Robust full-metal construction
- Continuous aperture setting or click stop
- For industrial cameras up to sensor sizes of 24x36 mm or 41 mm line sensors
- High optical performance both at infinity and at 1:4.6 scale
- Features special screws to fix focus and aperture settings even in rough situations

Camera Mounts
Available with F mount or M42 screw mount

ZEISS Interlock 1.4/25

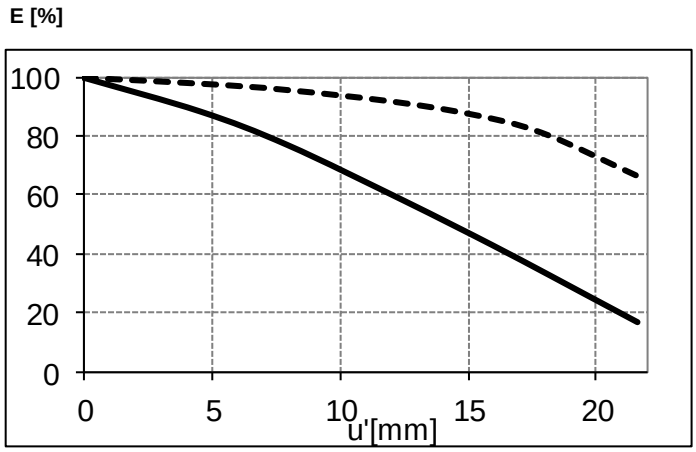
Technical Specifications



Focal length	25 mm
Aperture range	f/1.4 – f/16 (1/ 2 stop intervals or continuous)
Number of elements / groups	15 / 13
Min. working distance (object to sensor)	252 mm (0.83 ft.) – ∞
Min. free working distance	93 mm (0.31 ft.) – ∞
Angular field* (diag. / horiz. / vert.)	81,2° / 70,8° / 50,4°
Max. diameter of image field	43 mm (1.69")
Flange focal length	F-Mount: 46,5 mm (1.8"); M42-Mount: 45,5 mm
Coverage at close range*	area: 166 x 110 mm (6.5" x 4.3") line: 188 mm (7,4")
Image ratio at close range	1 : 4.6
Filter-thread	M82 x 0.75
Weight	1.218 g (2.7 lbs.)
Camera mount	F bayonet, M42

ZEISS Interlock 1.4/25

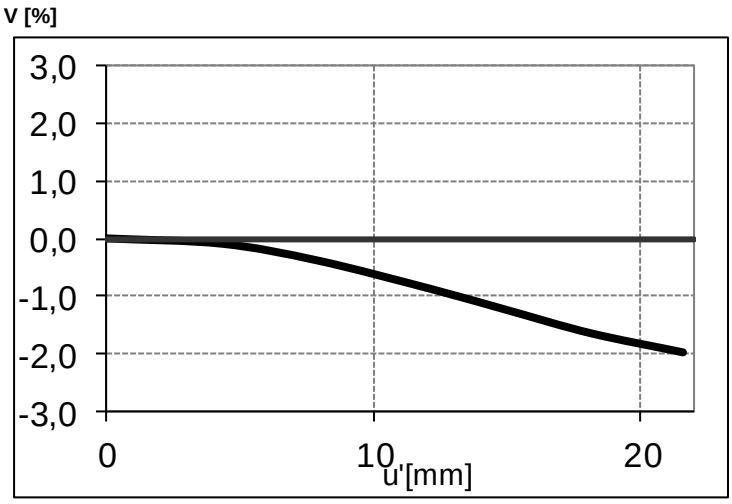
Relative Illuminance*



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

__ f-number 1.4
--- f-number 4

Relative Distortion*

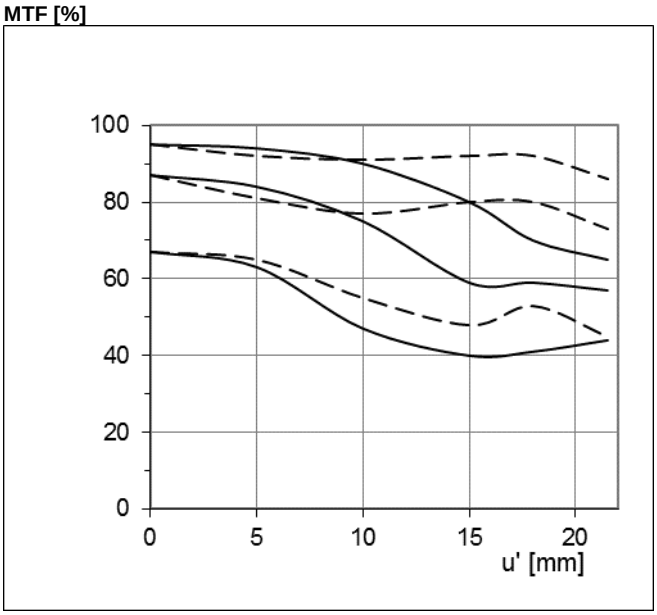


The relative distortion shows the deviation of the actual image height from the ideal one in percent.

**Data for infinite focus setting*

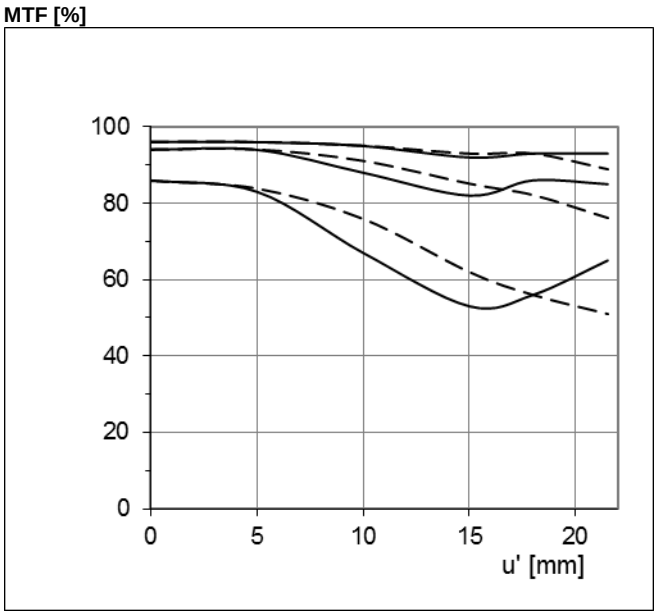
ZEISS Interlock 1.4/25

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 1.4
__ Sagittal
… Tangential

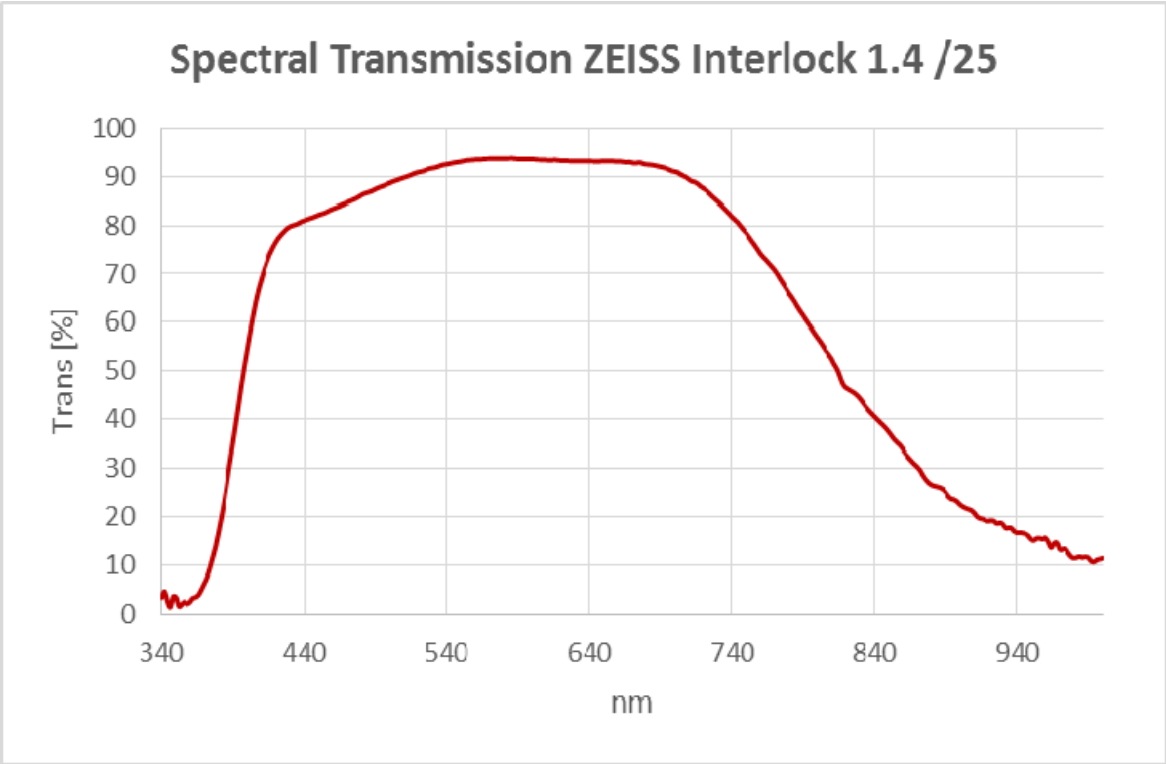


f-number 4
__ Sagittal
… Tangential

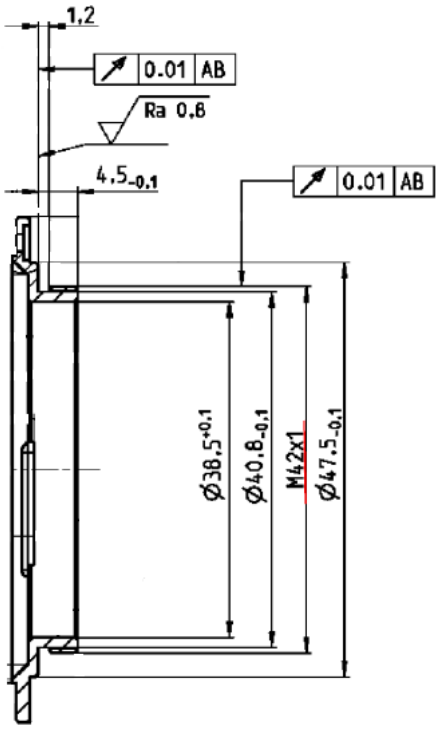
**Data for infinite focus setting*

ZEISS Interlock 1.4/25

Spectral Transmission



ZEISS Interlock 1.4/25



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!

ZEISS Interlock 1.4/35

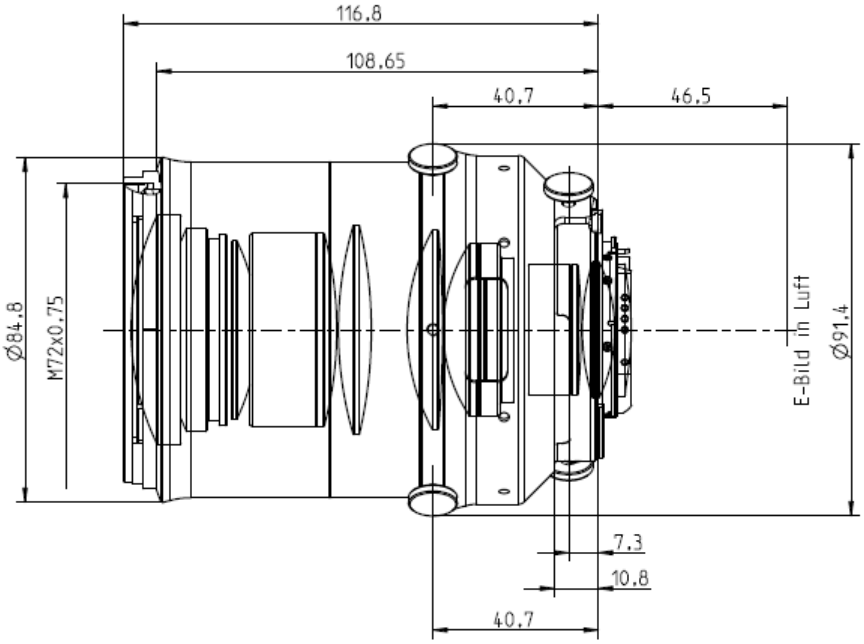
Features

- Very fast f/1.4 aperture
- Precise manual focusing
- Robust full-metal construction
- Continuous aperture setting or click stop
- For industrial cameras up to sensor sizes of 24x36 mm or 41 mm line sensors
- High optical performance both at infinity and at 1:4.6 scale
- Features special screws to fix focus and aperture settings even in rough situations

Camera Mounts
Available with F mount or M42 screw mount

ZEISS Interlock 1.4/35

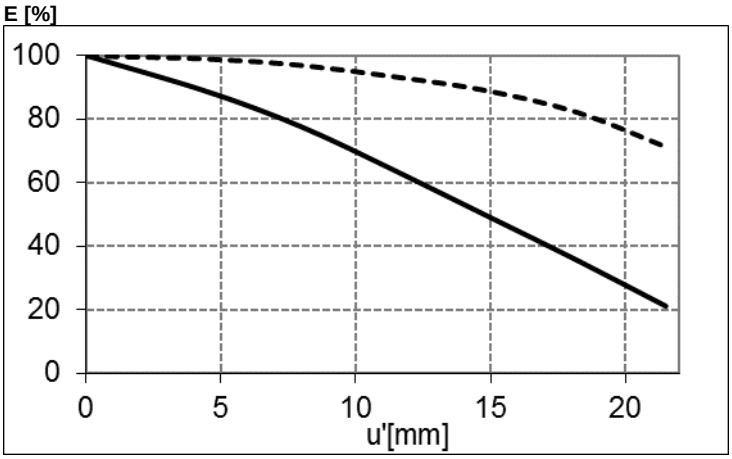
Technical Specifications



Focal length	35 mm
Aperture range	f/1.4 – f/16 (1/ 2 stop intervals or continuous)
Number of elements / groups	14 / 11
Min. working distance (object to sensor)	300 mm (0.98 ft.) – ∞
Min. free working distance	140 mm (0.46 ft.) – ∞
Angular field* (diag. / horiz. / vert.)	64,2 / 55 / 38°
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*	area: 166 x 110 mm (6.5” x 4.3") line: 188 mm (7,4”)
Image ratio at close range	1:4.6
Filter-thread	M72 x 0.75
Weight	1.178 g (2.6 lbs.)
Camera mount	F bayonet, M42

ZEISS Interlock 1.4/35

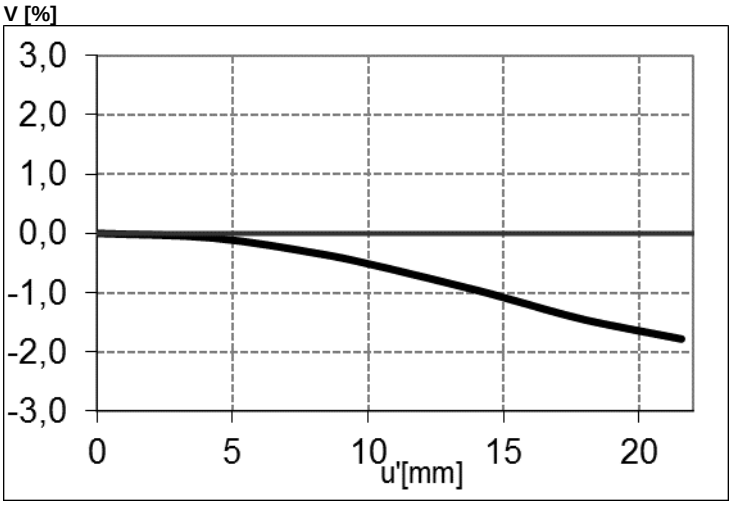
Relative Illuminance*



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

__ f-number 1.4
--- f-number 4

Relative Distortion*

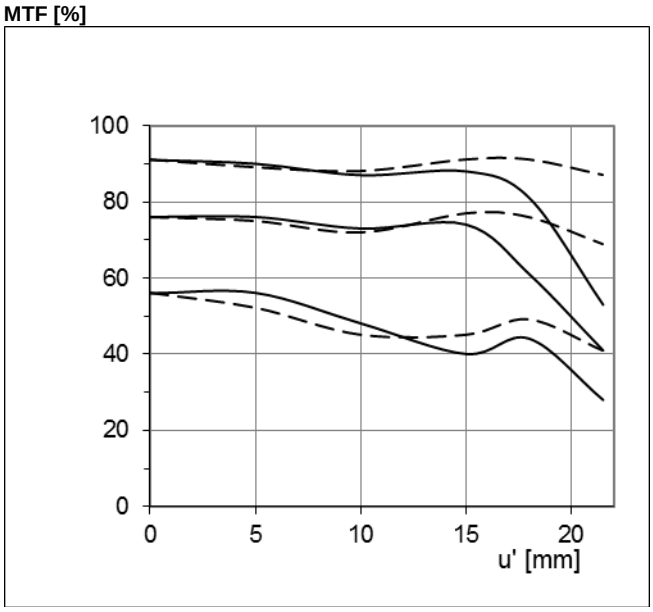


The relative distortion shows the deviation of the actual image height from the ideal one in percent.

**Data for infinite focus setting*

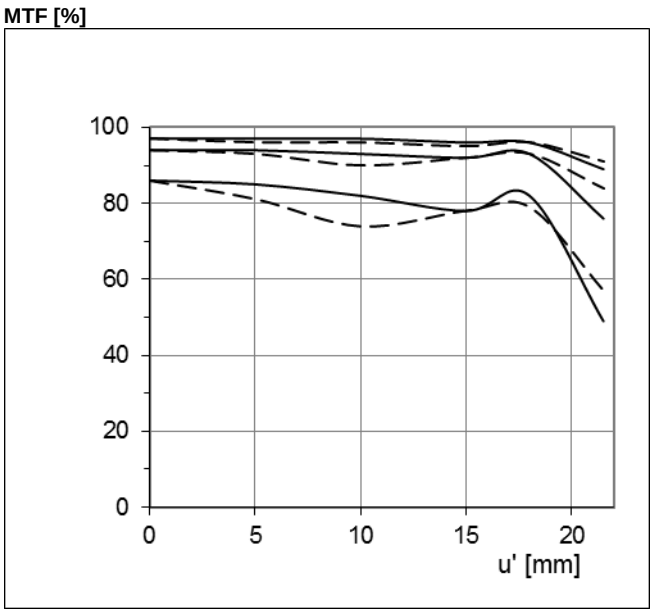
ZEISS Interlock 1.4/35

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 1.4
__ Sagittal
… Tangential

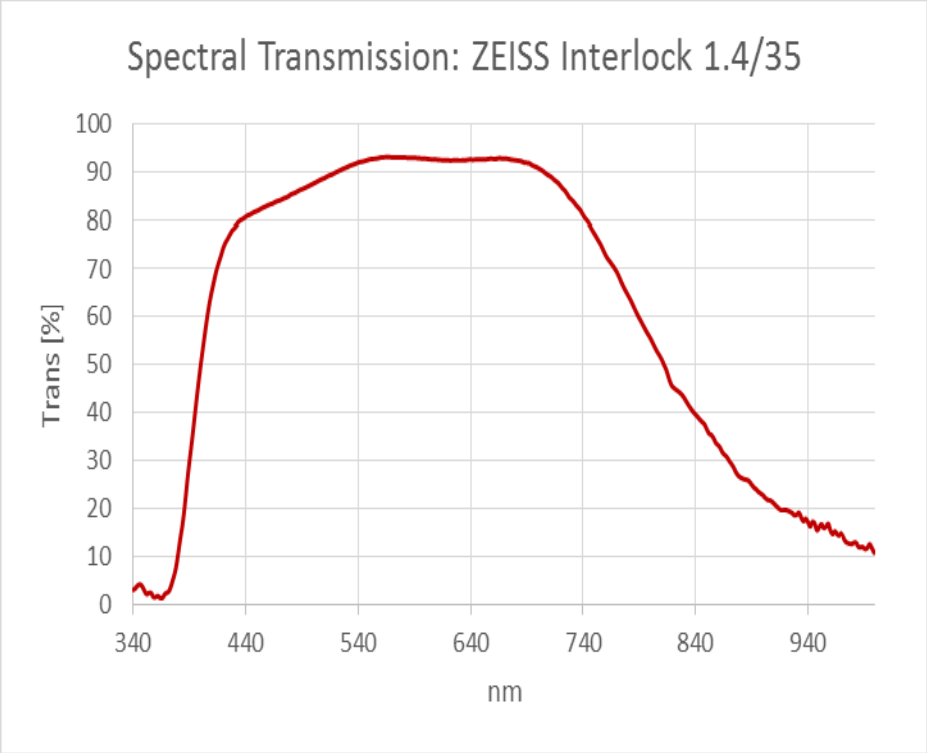


f-number 4
__ Sagittal
… Tangential

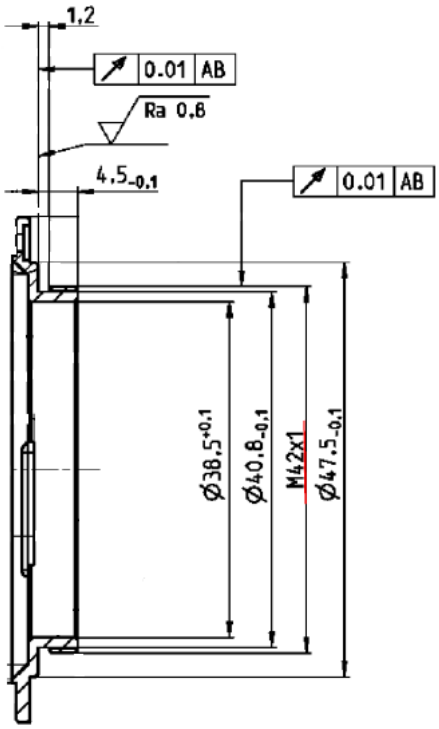
**Data for infinite focus setting*

ZEISS Interlock 1.4/35

Spectral Transmission



ZEISS Interlock 1.4/35



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!

ZEISS Interlock 2/35

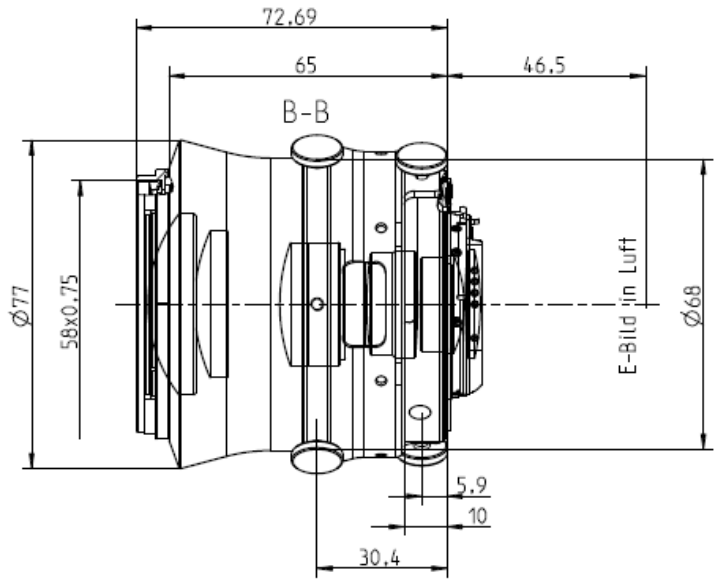
Features

- Fast f/2.0 aperture
- Precise manual focusing
- Robust full-metal construction
- Continuous aperture setting or click stop
- For industrial cameras up to sensor sizes of 24x36 mm or 41 mm line sensors
- High optical performance both at infinity and at 1:5.3 scale
- Features special screws to fix focus and aperture settings even in rough situations

Camera Mounts
Available with F mount or M42 screw mount

ZEISS Interlock 2/35

Technical Specifications

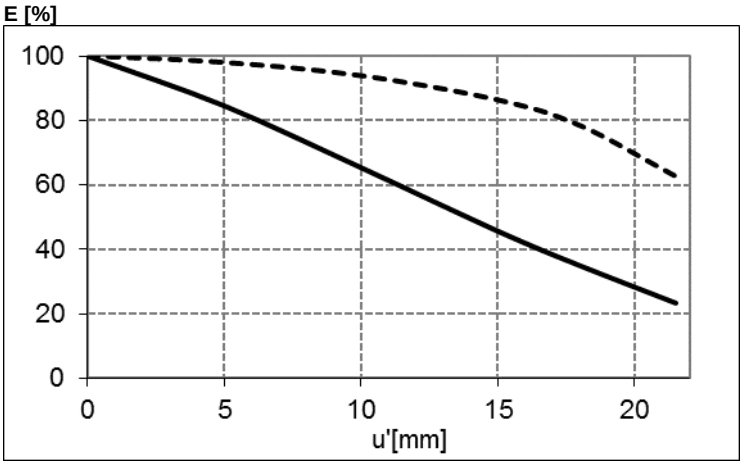


Focal length	35 mm
Aperture range	f/2 – f/22 (1/ 2 stop intervals or continuous)
Number of elements / groups	9 / 7
Min. working distance (object to sensor)	300 mm (0.98 ft.) – ∞
Min. free working distance	180 mm (0.59 ft.) – ∞
Angular field* (diag. / horiz. / vert.)	62 / 53 / 37°
Max. diameter of image field	43 mm (1.7")
Flange focal length	F-Mount: 46,5 mm (1.8"); M42-Mount: 45,5 mm
Coverage at close range*	area: 127 x 190 mm (5.0 x 7.5") line: 217 mm (8,5”)
Image ratio at close range	1:5.3
Filter-thread	M58 x 0.75
Weight	716 g (1.6 lbs.)
Camera mount	F bayonet, M42

* referring to 35 mm format

ZEISS Interlock 2/35

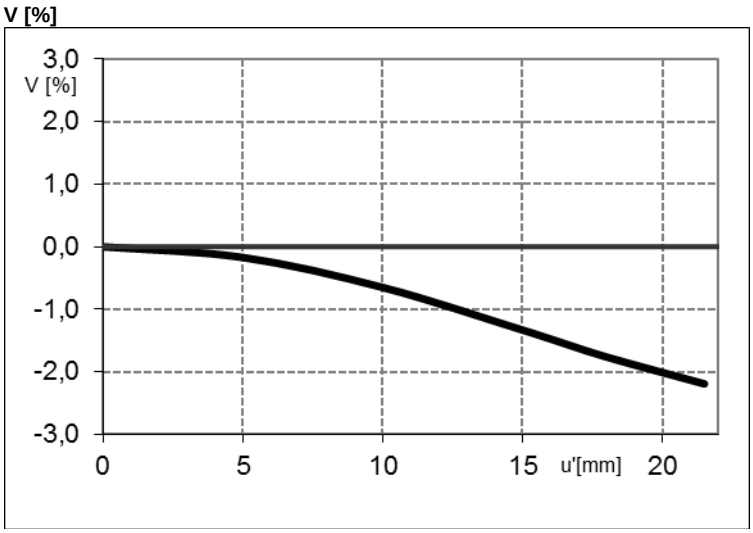
Relative Illuminance*



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*



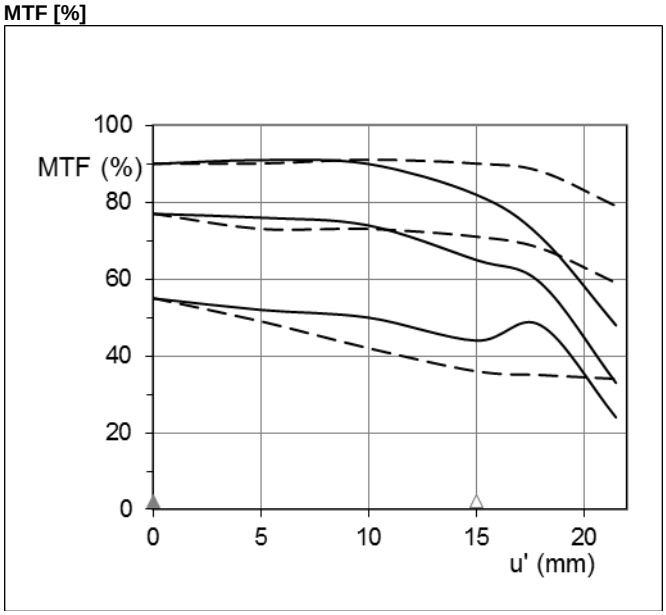
The relative distortion shows the deviation of the actual image height from the ideal one in percent.

**Data for infinite focus setting*

ZEISS Interlock 2/35

MTF Charts*

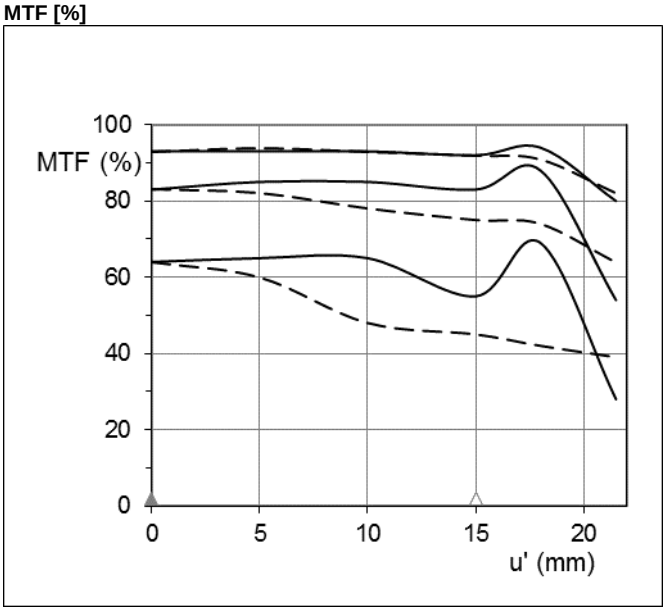
MTF [%]



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

MTF [%]

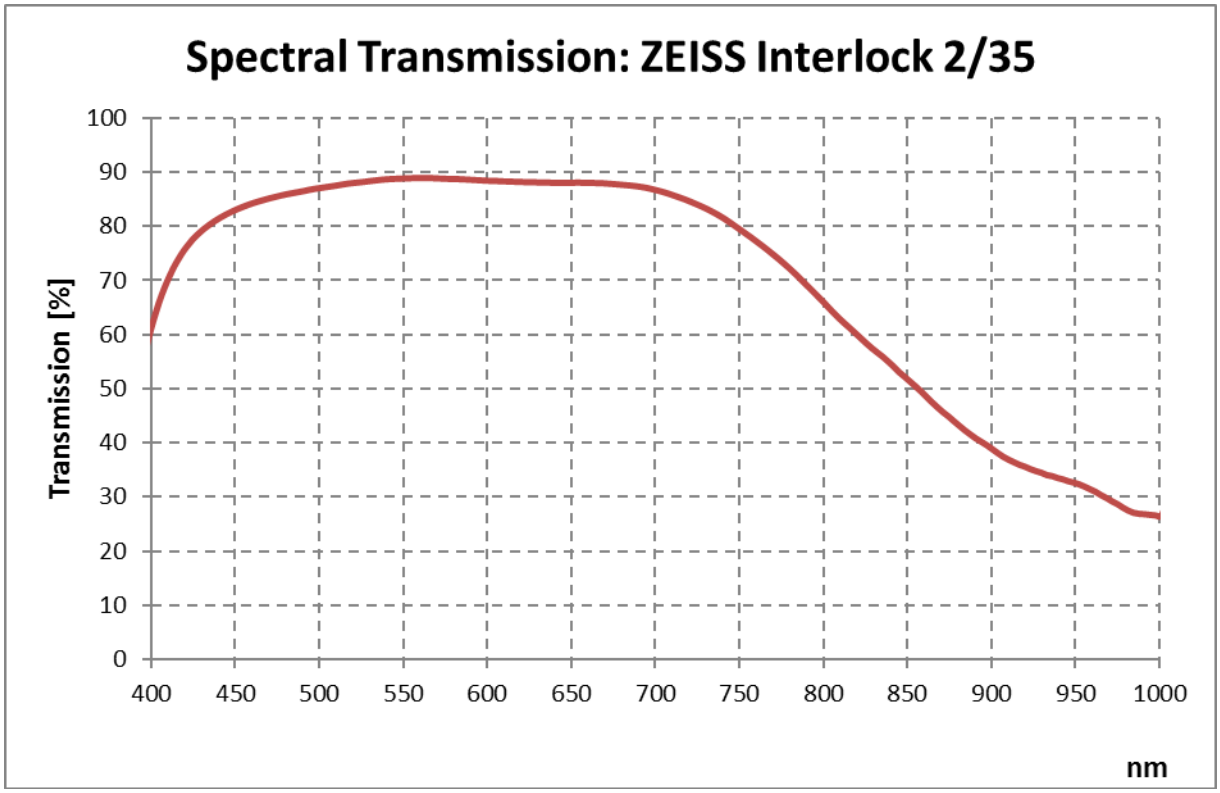


f-number 4
__ Sagittal
… Tangential

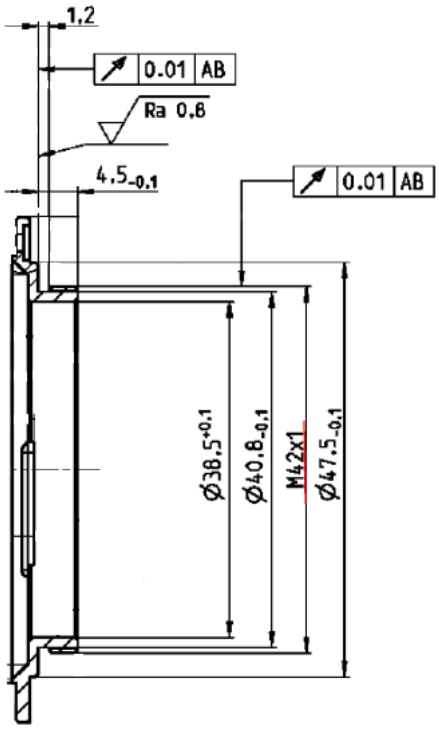
**Data for infinite focus setting*

ZEISS Interlock 2/35

Spectral Transmission



ZEISS Interlock 2/35



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!

ZEISS Interlock 1.4/50

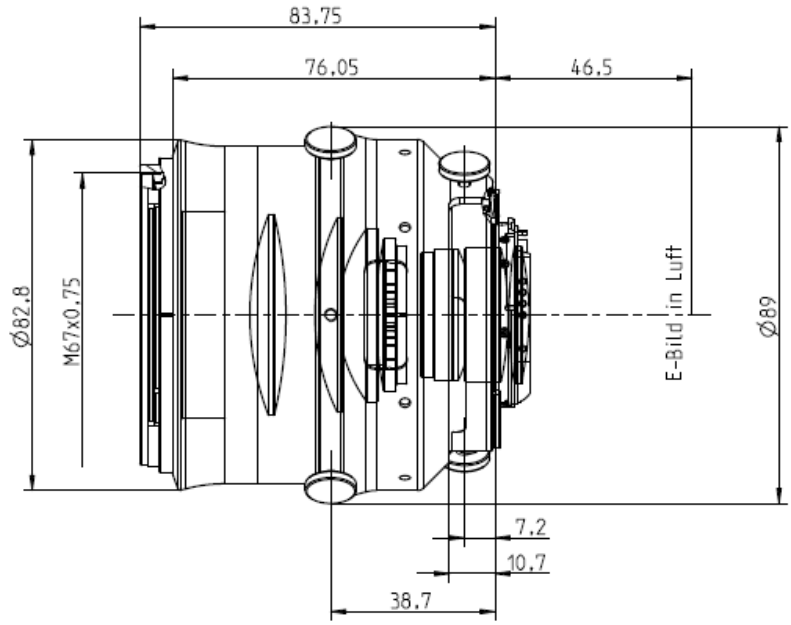
Features

- Very fast f/1.4 aperture
- Precise manual focusing
- Robust full-metal construction
- Continuous aperture setting or click stop
- For industrial cameras up to sensor sizes of 24x36 mm or 41 mm line sensors
- High optical performance both at infinity and at 1:6.7 scale
- Features special screws to fix focus and aperture settings even in rough situations

Camera Mounts
Available with F mount or M42 screw mount

ZEISS Interlock 1.4/50

Technical Specifications

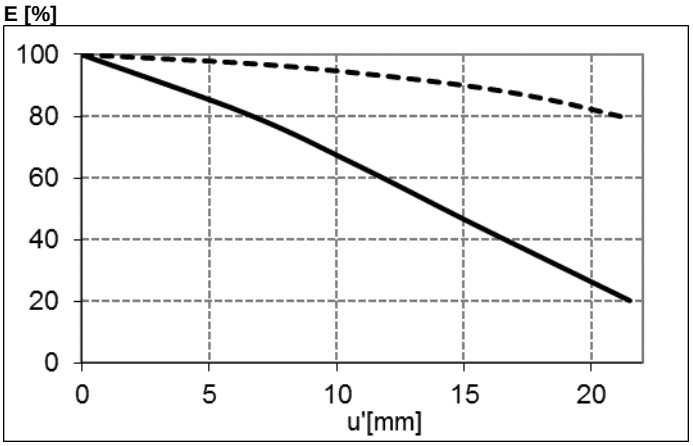


Focal length	50 mm
Aperture range	f/1.4 – f/16 (1/ 2 stop intervals or continuous)
Number of elements / groups	10 / 8
Min. working distance (object to sensor)	450 mm (1.48 ft.) – ∞
Min. free working distance	340 mm (1.12 ft.) – ∞
Angular field* (diag. / horiz. / vert.)	46 / 39 / 26°
Max. diameter of 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*	area: 241 x 160 mm (9.5 x 6.3") line: 274 mm (10,8")
Image ratio at close range	1:6.7
Filter-thread	M 67 x 0.75
Weight	942 g (2.1 lbs.)
Camera mount	F bayonet, M42

* referring to 35 mm format

ZEISS Interlock 1.4/50

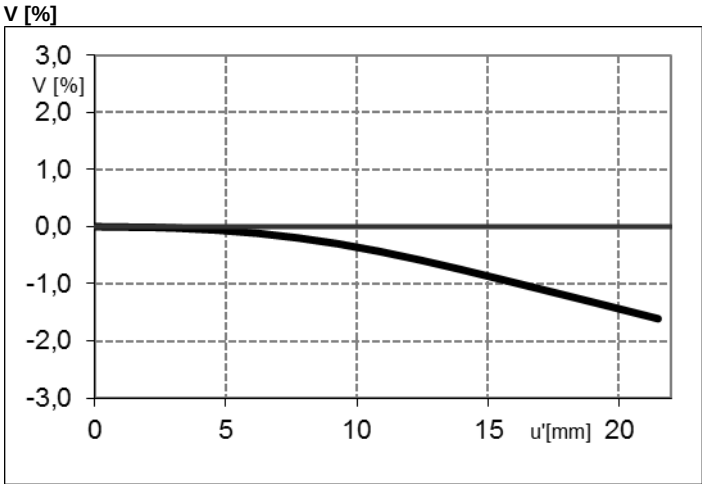
Relative Illuminance*



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

__ f-number 1.4
--- f-number 4

Relative Distortion*

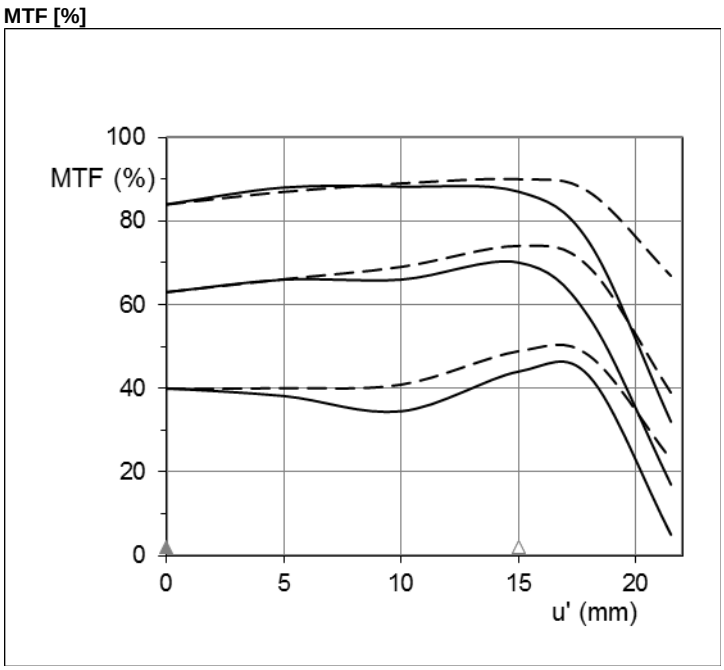


The relative distortion shows the deviation of the actual image height from the ideal one in percent.

**Data for infinite focus setting*

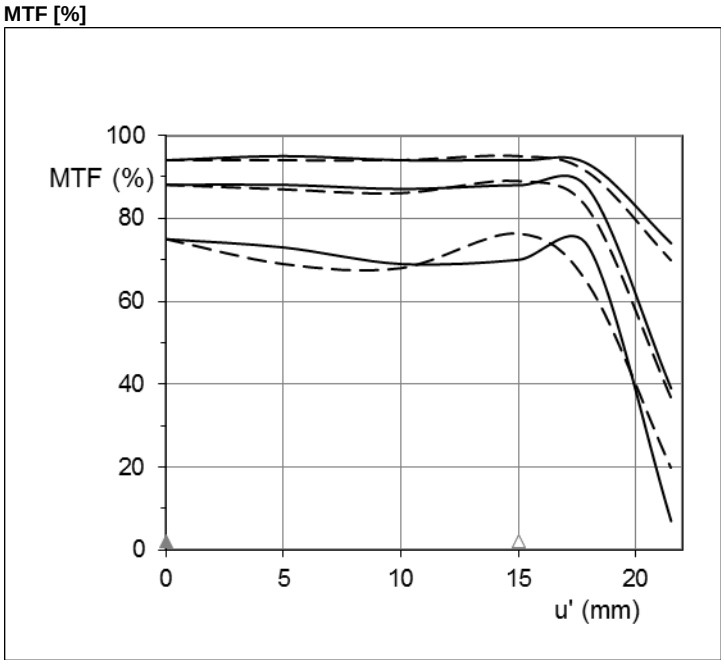
ZEISS Interlock 1.4/50

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 1.4
__ Sagittal
… Tangential

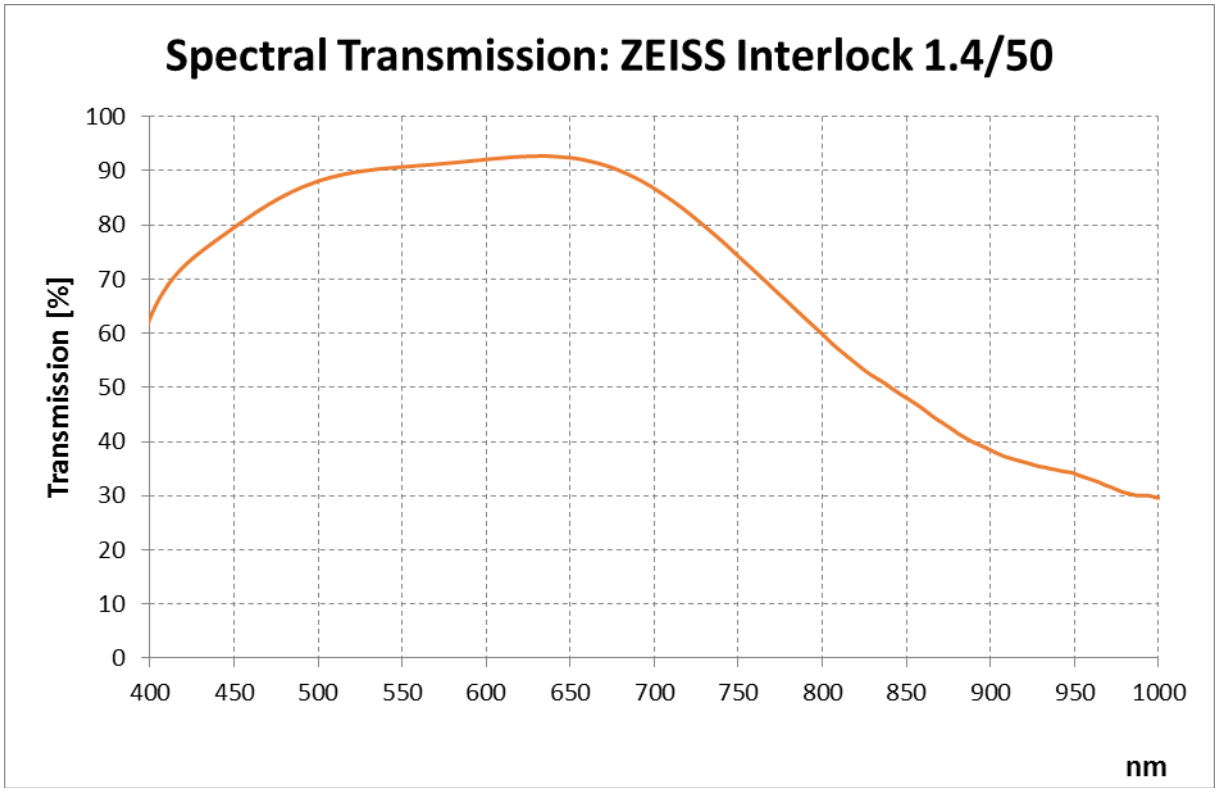


f-number 4
__ Sagittal
… Tangential

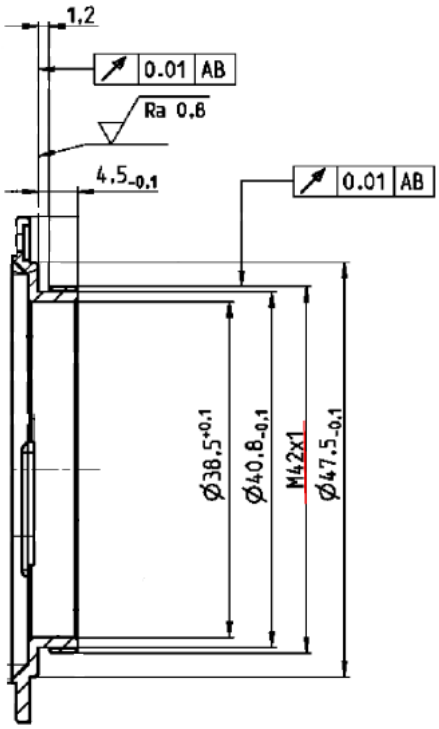
**Data for infinite focus setting*

ZEISS Interlock 1.4/50

Spectral Transmission



ZEISS Interlock 1.4/50



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!

ZEISS Interlock 2/50

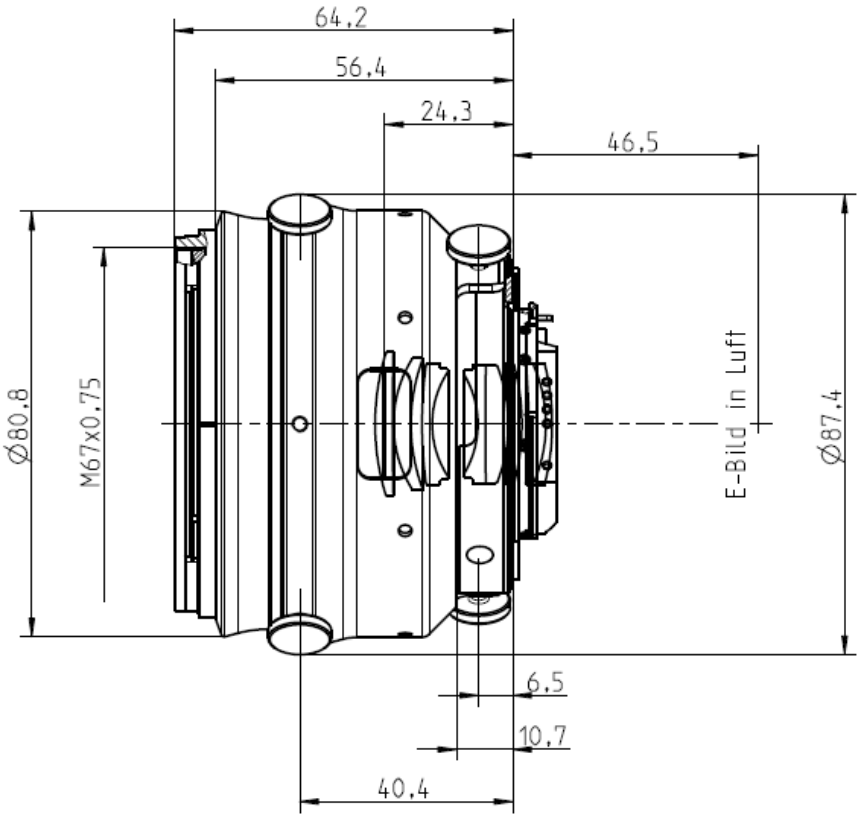
Features

- Fast f/2.0 aperture
- Precise manual focusing
- Robust full-metal construction
- Continuous aperture setting or click stop
- For industrial cameras up to sensor sizes of 24x36 mm or 41mm line sensors
- High optical performance both at infinity and at 1:2 scale
- Features special screws to fix focus and aperture settings even in rough situations

Camera Mounts
Available with F mount or M42 screw mount

ZEISS Interlock 2/50

Technical Specifications

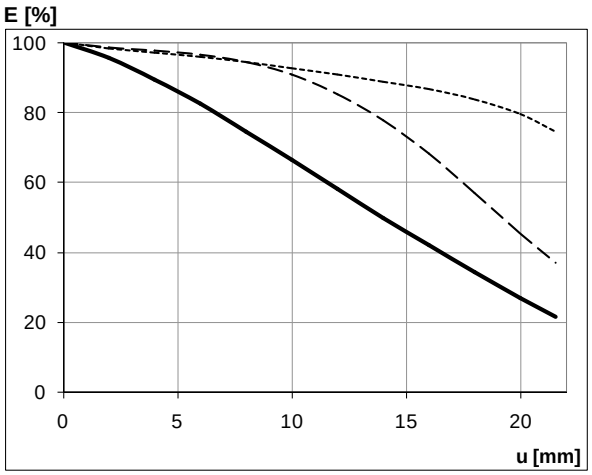


Focal length	50 mm
Aperture range	f/2 – f/22 (1/ 2 stop intervals or continuous)
Number of elements / groups	8 / 6
Min. working distance (object to sensor)	240 mm (0.78 ft.) – ∞
Min. free working distance	100 mm (0.33 ft.) – ∞
Angular field* (diag. / horiz. / vert.)	45 / 38 / 26°
Max. diameter of image field	43 mm (1.7")
Flange focal length	F-Mount: 46,5 mm (1.8"); M42-Mount: 45,5 mm
Coverage at close range	48 x 72 mm (1.9 x 2.8"), line 86 mm (3.3”)
Image ratio at close range	1:2
Filter-thread	M 67 x 0.75
Weight	720 g (1.6 lbs.)
Camera mount	F bayonet, M42

* referring to 35 mm format

ZEISS Interlock 2/50

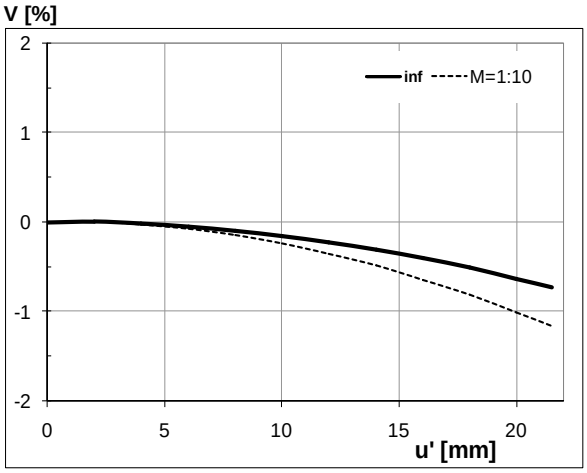
Relative Illuminance*



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

__ f-number 2
--- f-number 2.8
… f-number 5.6

Relative Distortion*

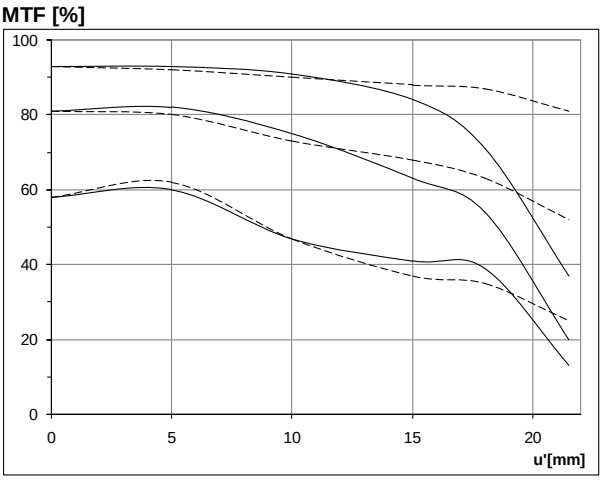


The relative distortion shows the deviation of the actual image height from the ideal one in percent.

**Data for infinite focus setting*

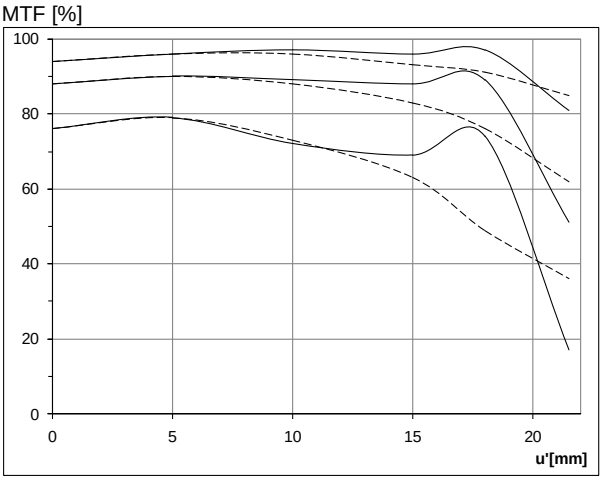
ZEISS Interlock 2/50

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

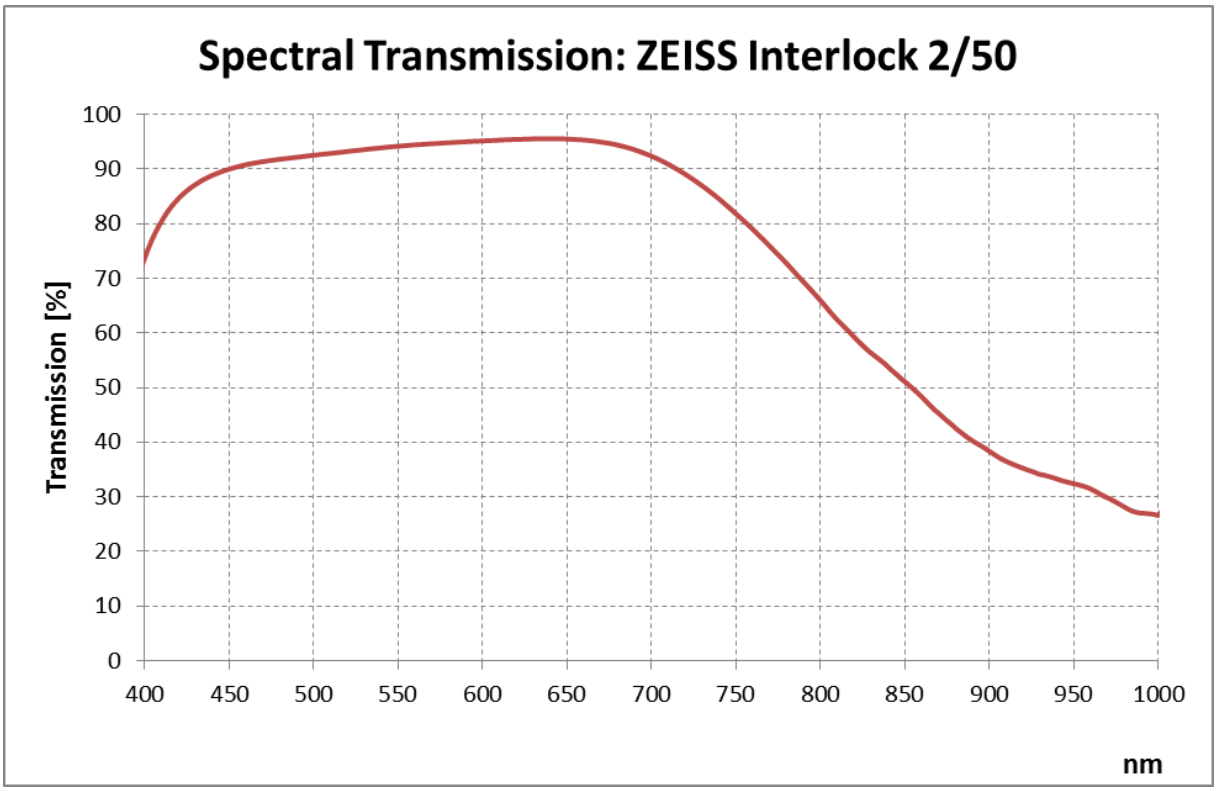


f-number 5.6
__ Sagittal
… Tangential

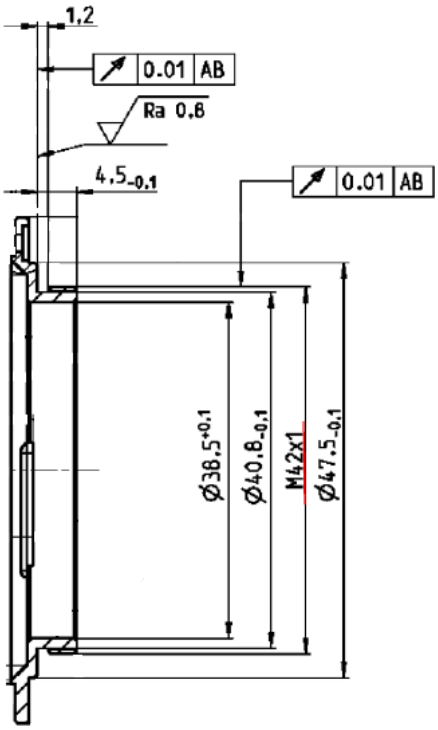
**Data for infinite focus setting*

ZEISS Interlock 2/50

Spectral Transmission



ZEISS Interlock 2/50



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!

ZEISS Interlock 1.4/85

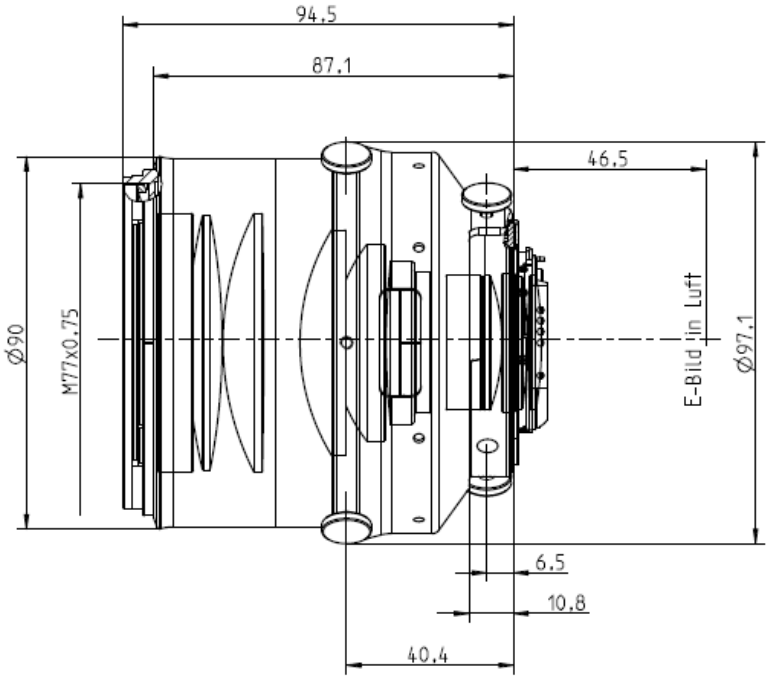
Features

- Very fast f/1.4 aperture
- Precise manual focusing
- Robust full-metal construction
- Continuous aperture setting or click stop
- For industrial cameras up to sensor sizes of 24x36 mm or 41 mm line sensors
- High optical performance both at infinity and at 8.3 scale
- Features special screws to fix focus and aperture settings even in rough situations

Camera Mounts
Available with F mount or M42 screw mount

ZEISS Interlock 1.4/85

Technical Specifications

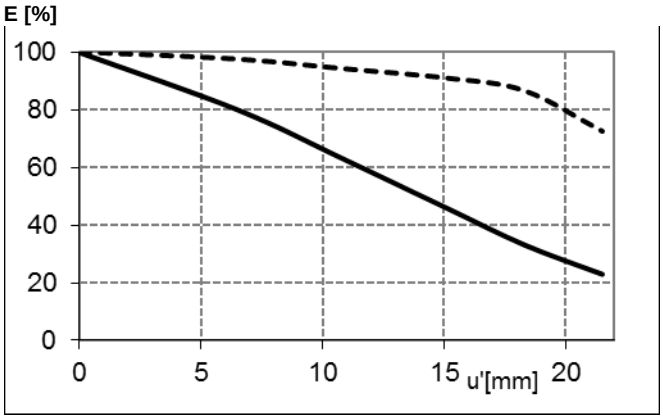


Focal length	85 mm
Aperture range	f/1.4 – f/16 (1/ 2 stop intervals or continuous)
Number of elements / groups	11 / 9
Min. working distance (object to sensor)	800 mm (2.62 ft.) – ∞
Min. free working distance	650 mm (2.13 ft.) – ∞
Angular field* (diag. / horiz. / vert.)	29 / 24 / 16°
Max. diameter of 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*	area: 298 x 208 mm (11.7 x 8.2") line: 356 mm (14,0")
Image ratio at close range	1:8.3
Filter-thread	M77 x 0.75
Weight	1.277 g (2.8 lbs.)
Camera mount	F bayonet, M42

* referring to 35 mm format

ZEISS Interlock 1.4/85

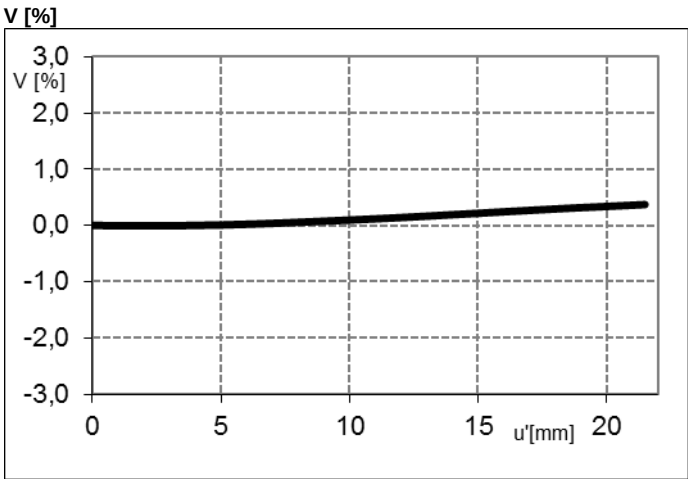
Relative Illuminance*



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

__ f-number 1.4
--- f-number 4

Relative Distortion*



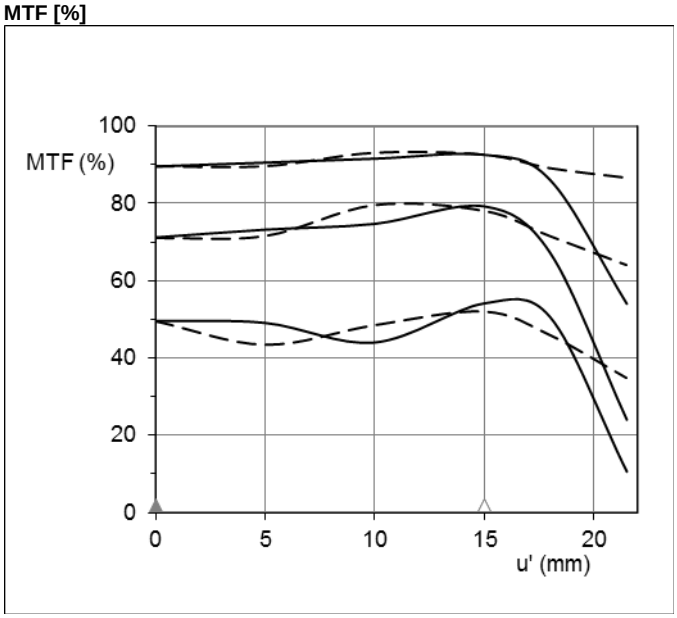
The relative distortion shows the deviation of the actual image height from the ideal one in percent.

**Data for infinite focus setting*

ZEISS Interlock 1.4/85

MTF Charts*

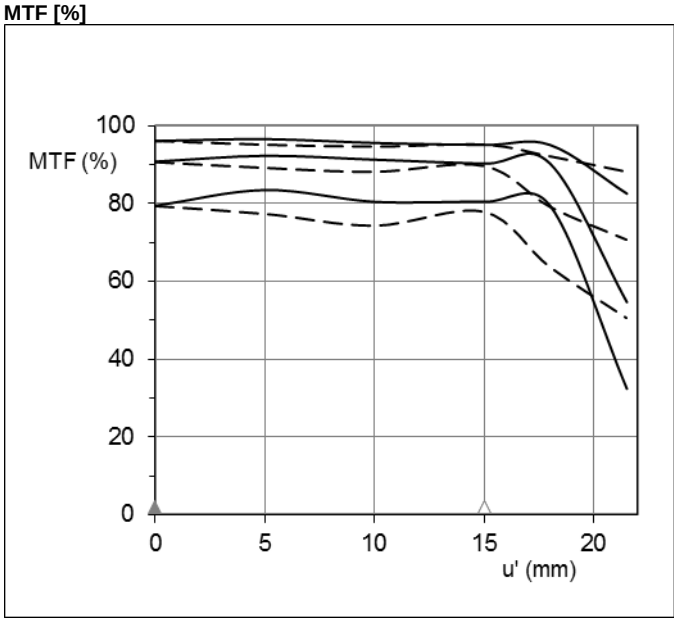
MTF [%]



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 1.4
__ Sagittal
… Tangential

MTF [%]

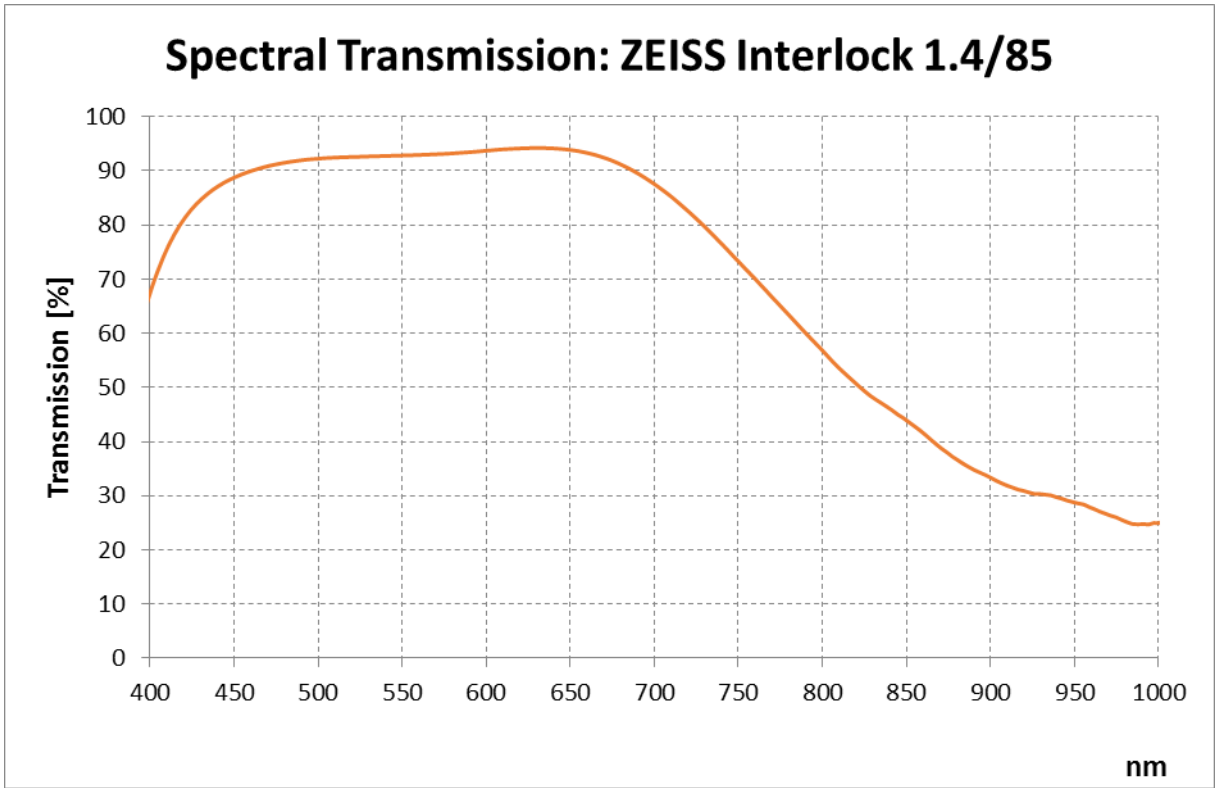


f-number 4
__ Sagittal
… Tangential

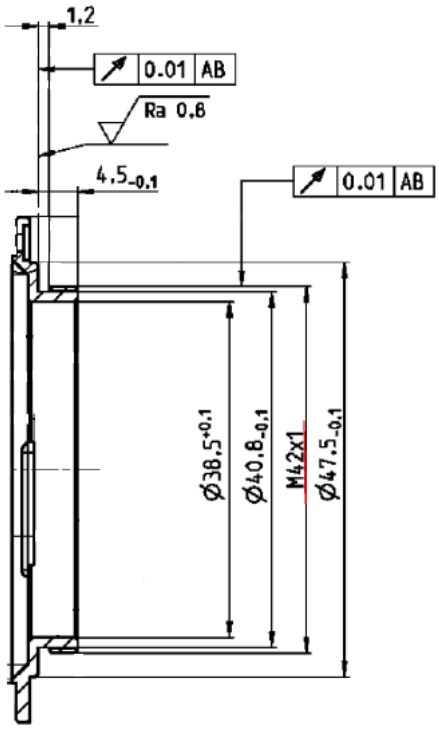
**Data for infinite focus setting*

ZEISS Interlock 1.4/85

Spectral Transmission



ZEISS Interlock 1.4/85



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!

ZEISS Interlock 2/100

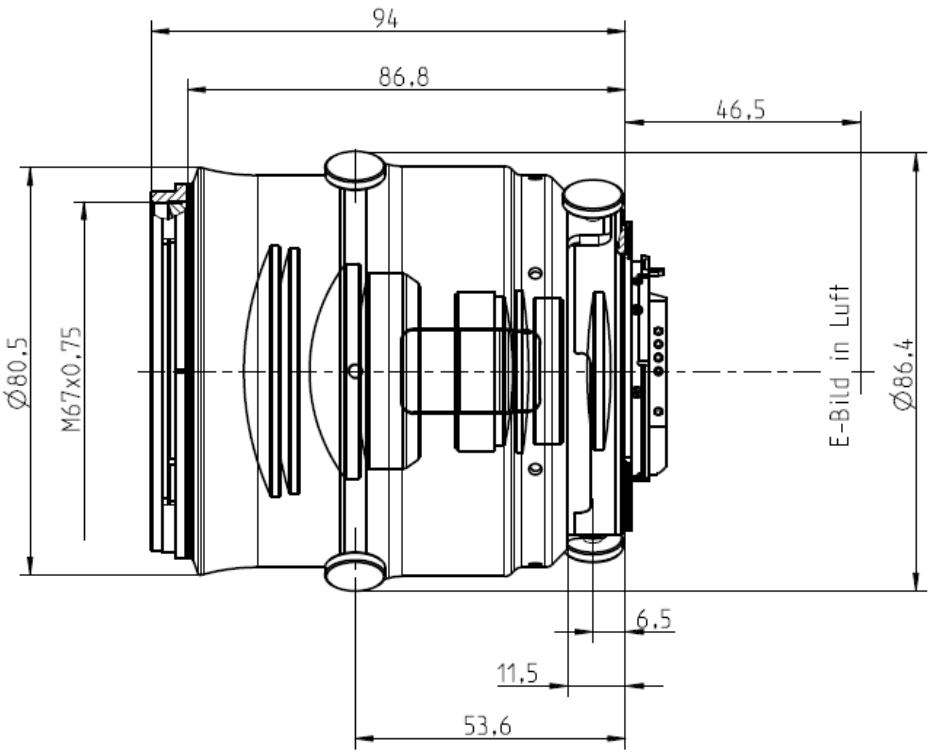
Features

- Fast f/2.0 aperture
- Low distorsion
- Precise manual focusing
- Robust full-metal construction
- Continuous aperture setting or click stop
- For industrial cameras up to sensor sizes of 24x36 mm or 41mm line sensors
- High optical performance both at infinity and at 1:2 scale
- Features special screws to fix focus and aperture settings even in rough situations

Camera Mounts
Available with F mount or M42 screw mount

ZEISS Interlock 2/100

Technical Specifications

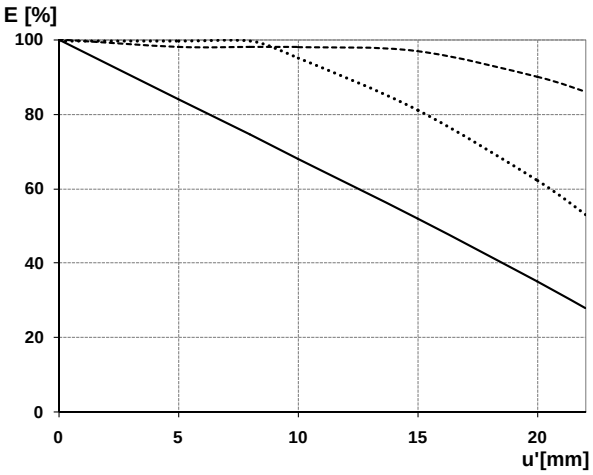


Focal length	100 mm
Aperture range	f/2 – f/22 (1/ 2 stop intervals or continuous)
Number of elements / groups	9 / 8
Min. working distance (object to sensor)	440 mm (1.44 ft.) – ∞
Min. free working distance	250 mm (0.82 ft.) – ∞
Angular field* (diag. / horiz. / vert.)	25 / 21 / 14 °
Max. diameter of image field	43 mm (1.7")
Flange focal length	F-Mount: 46,5 mm (1.8"); M42-Mount: 45,5 mm
Coverage at close range	48 x 72 mm (1.9 x 2.8"), line 86 mm (3.3”)
Image ratio at close range	1:2
Filter-thread	M 67 x 0.75
Weight	875 g (1.9 lbs.)
Camera mount	F bayonet, M42

* referring to 35 mm format

ZEISS Interlock 2/100

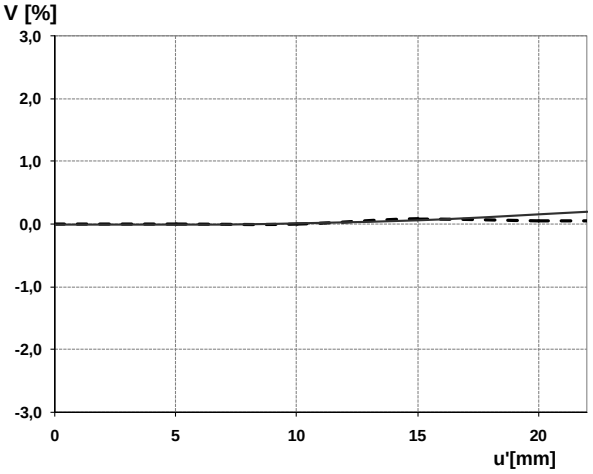
Relative Illuminance*



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

__ f-number 2
… f-number 2 M=1:2
--- f-number 4

Relative Distortion*

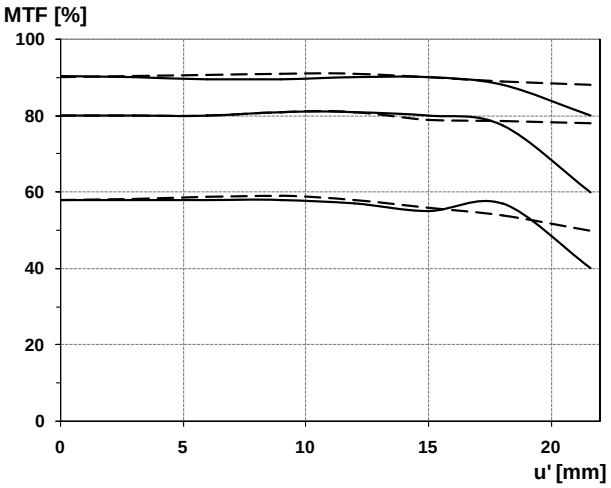


The relative distortion shows the deviation of the actual image height from the ideal one in percent.

**Data for infinite focus setting*

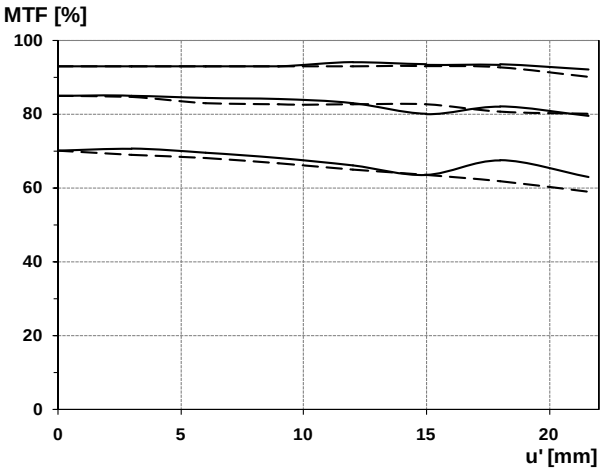
ZEISS Interlock 2/100

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

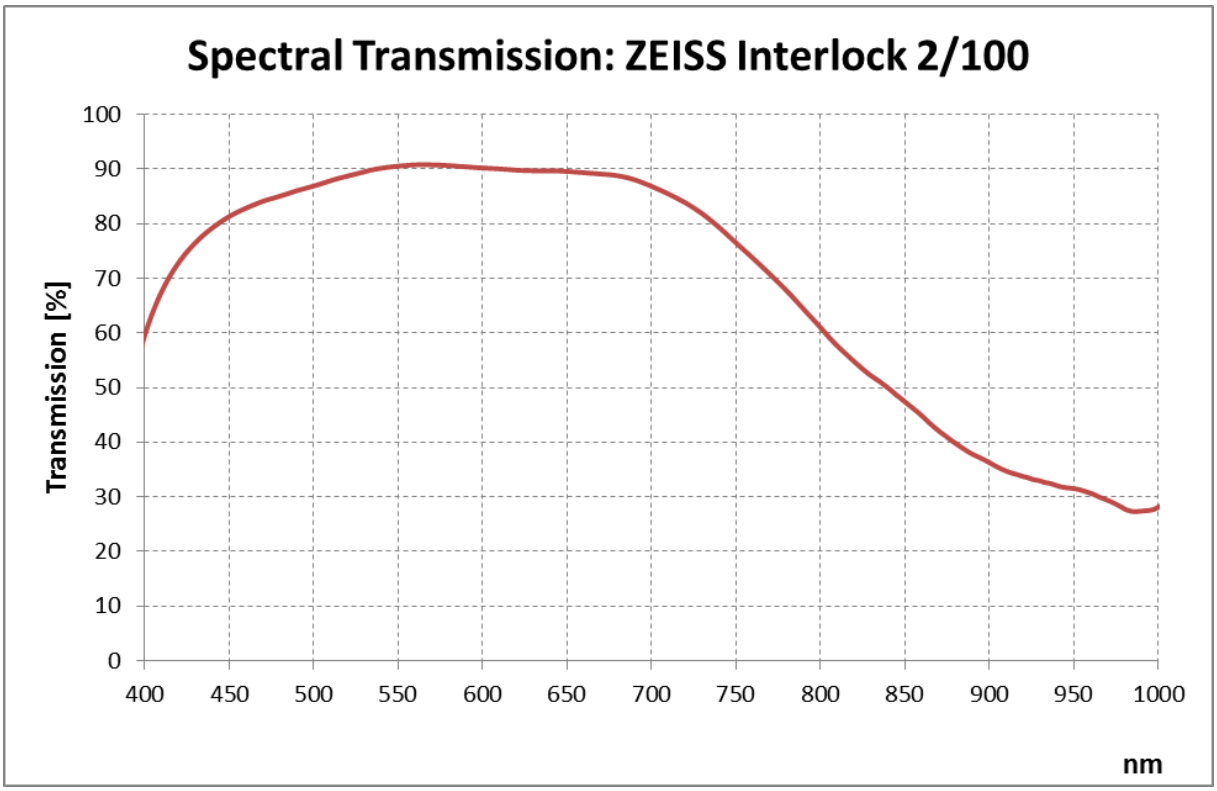


f-number 4
__ Sagittal
… Tangential

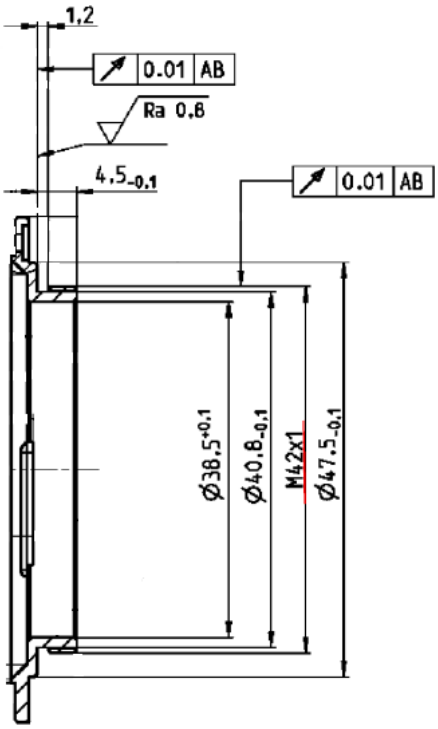
**Data for infinite focus setting*

ZEISS Interlock 2/100

Spectral Transmission



ZEISS Interlock 2/100



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!

ZEISS Interlock 2/135

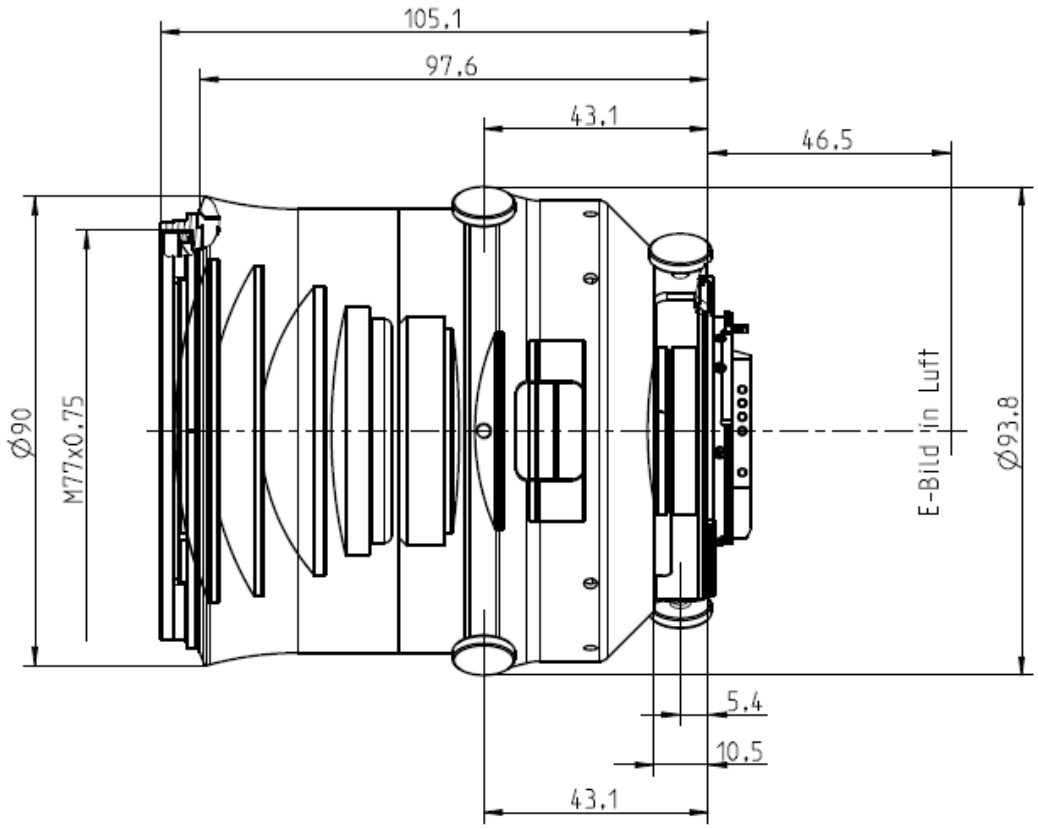
Features

- Fast f/2.0 aperture
- Extraordinary high resolution and contrast
- Low distortion
- Precise manual focusing
- Robust full-metal construction
- Continuous aperture setting or click stop
- For industrial cameras up to sensor sizes of 24x36 mm or 41mm line sensors
- High optical performance both at infinity and at 1:2 scale
- Features special screws to fix focus and aperture settings even in rough situations

Camera Mounts
Available with F mount or M42 screw mount

ZEISS Interlock 2/135

Technical Specifications

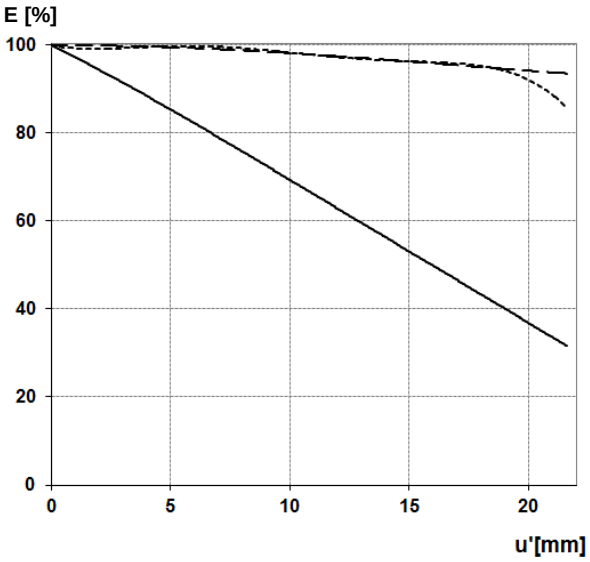


Focal length	135 mm
Aperture range	f/2 – f/22 (1/2 stop intervals or continuous)
Number of elements / groups	11 / 8
Min. working distance (object to sensor)	800 mm (2.62 ft.) – ∞
Min. free working distance	620 mm (1.37 ft.) – ∞
Angular field* (diag. / horiz. / vert.)	18,7 / 15,6 / 10,5 °
Max. diameter 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	145 x 96 mm (5.7 x 3.8") line 172 mm (6.8”)
Image ratio at MOD	1:4
Filter-thread	M 77 x 0.75
Weight	1.126 g (2.48 lbs.)
Camera mount	F bayonet, M42

* referring to 35 mm format

ZEISS Interlock 2/135

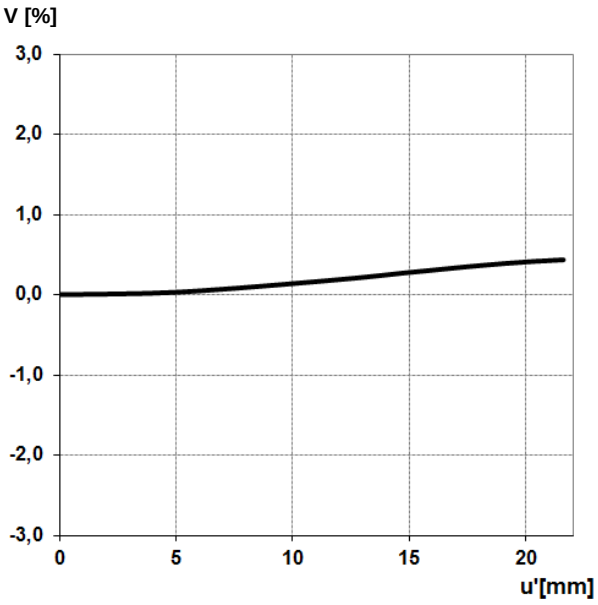
Relative Illuminance*



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

__ f-number = 2.0
… f-number = 5.6

Relative Distortion*

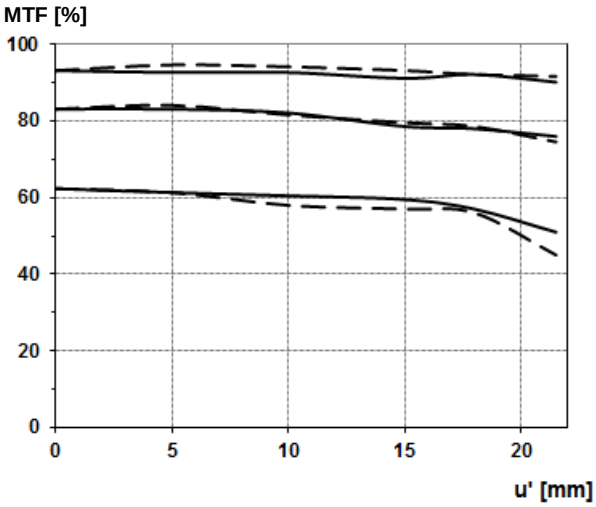


The relative distortion shows the deviation of the actual image height from the ideal one in percent.

**Data for infinite focus setting*

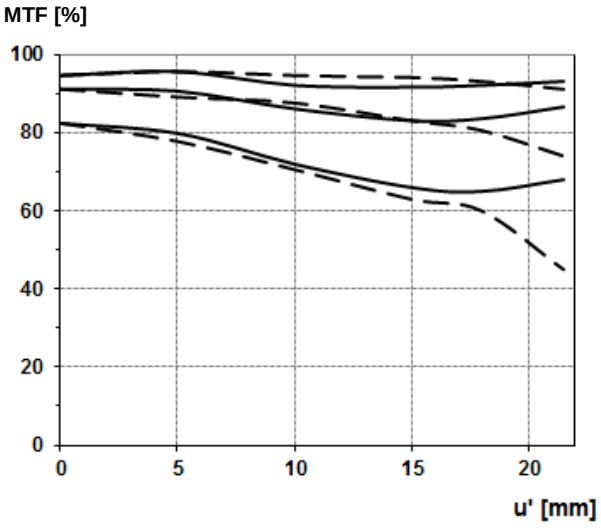
ZEISS Interlock 2/135

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

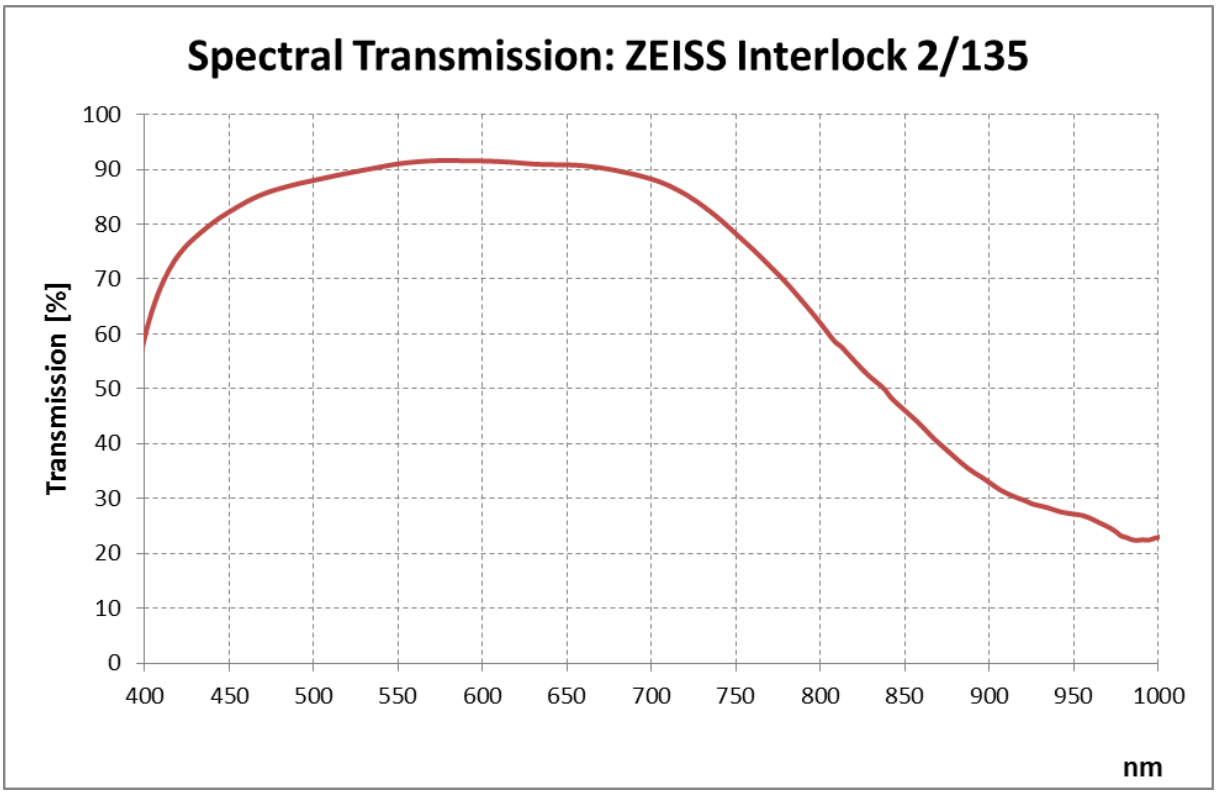


f-number 4
__ Sagittal
… Tangential

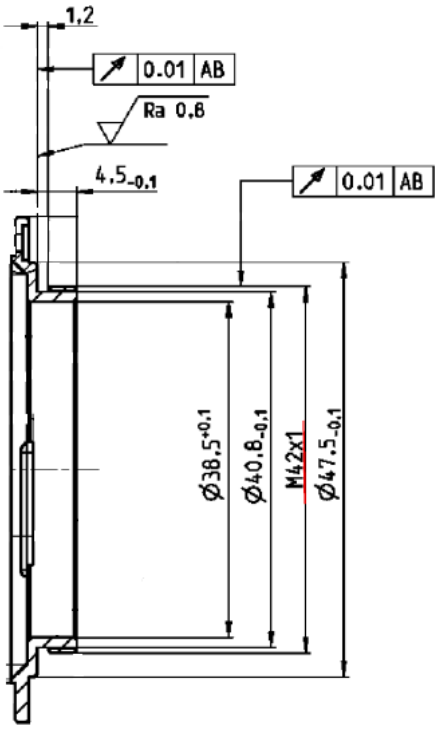
**Data for infinite focus setting*

ZEISS Interlock 2/135

Spectral Transmission



ZEISS Interlock 2/135



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!

ZEISS Interlock Compact 2.8/21

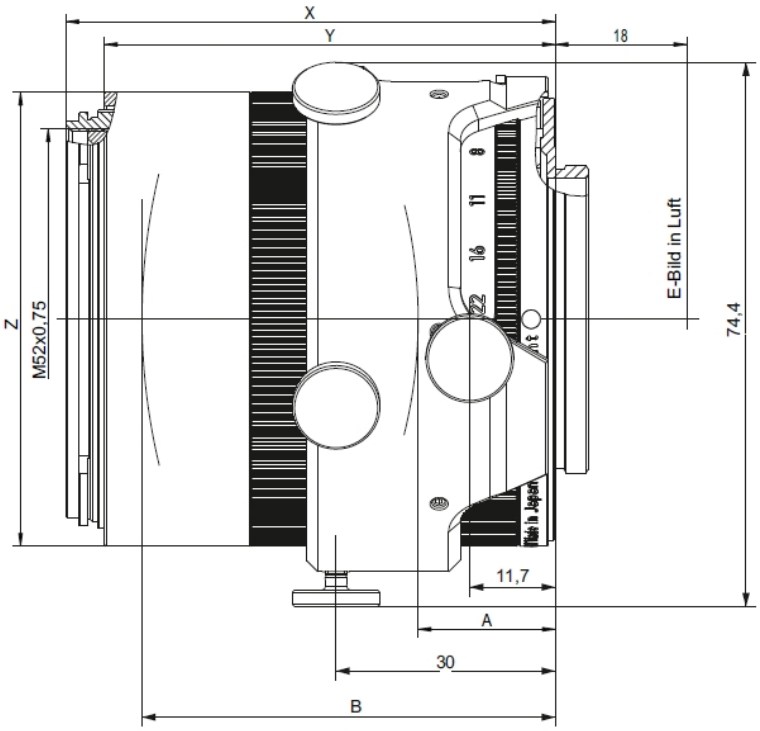
Features

- 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)

ZEISS Interlock Compact 2.8/21

Technical Specifications



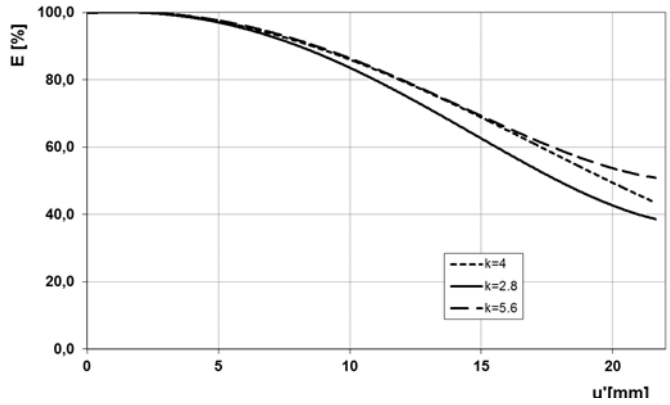
X	Y	Z	A	B
67.0 mm (inf.)	61.7 mm	Ø = 62.0 mm	1.14 mm (inf.)	65.45 mm (inf.)

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)

** referring to 24 x 36 mm format resp. 43 mm line*

ZEISS Interlock Compact 2.8/21

Relative Illuminance*

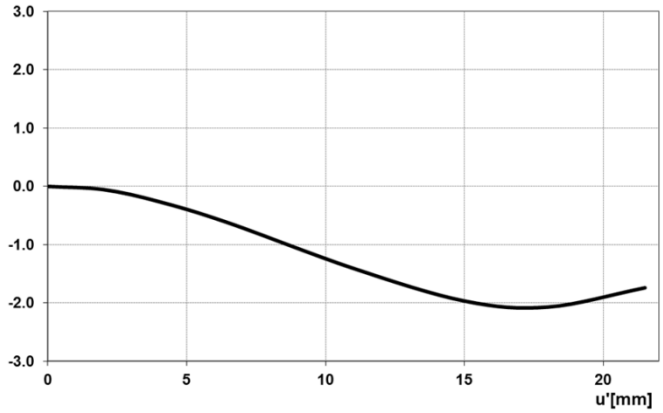


E [%]

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

—— f-number = 2.8
– – f-number = 4
- - f-number = 5.6

Relative Distortion*

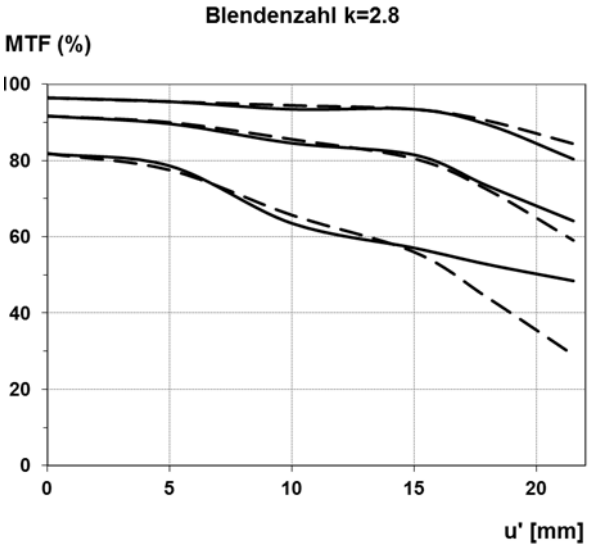


V [%]

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

ZEISS Interlock Compact 2.8/21

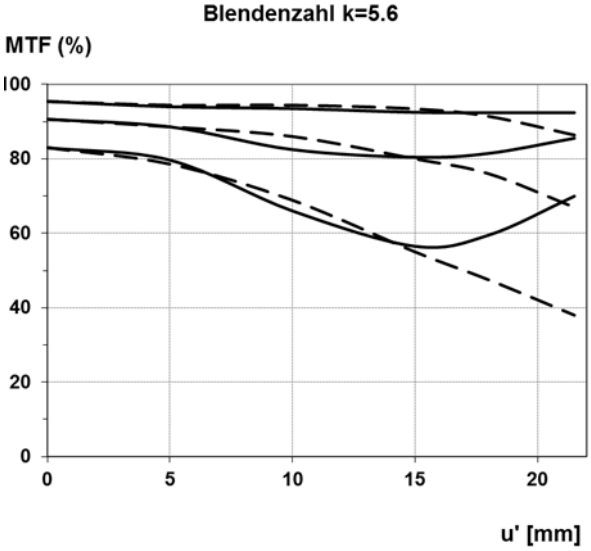
MTF Charts*



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
__ Sagittal
… Tangential



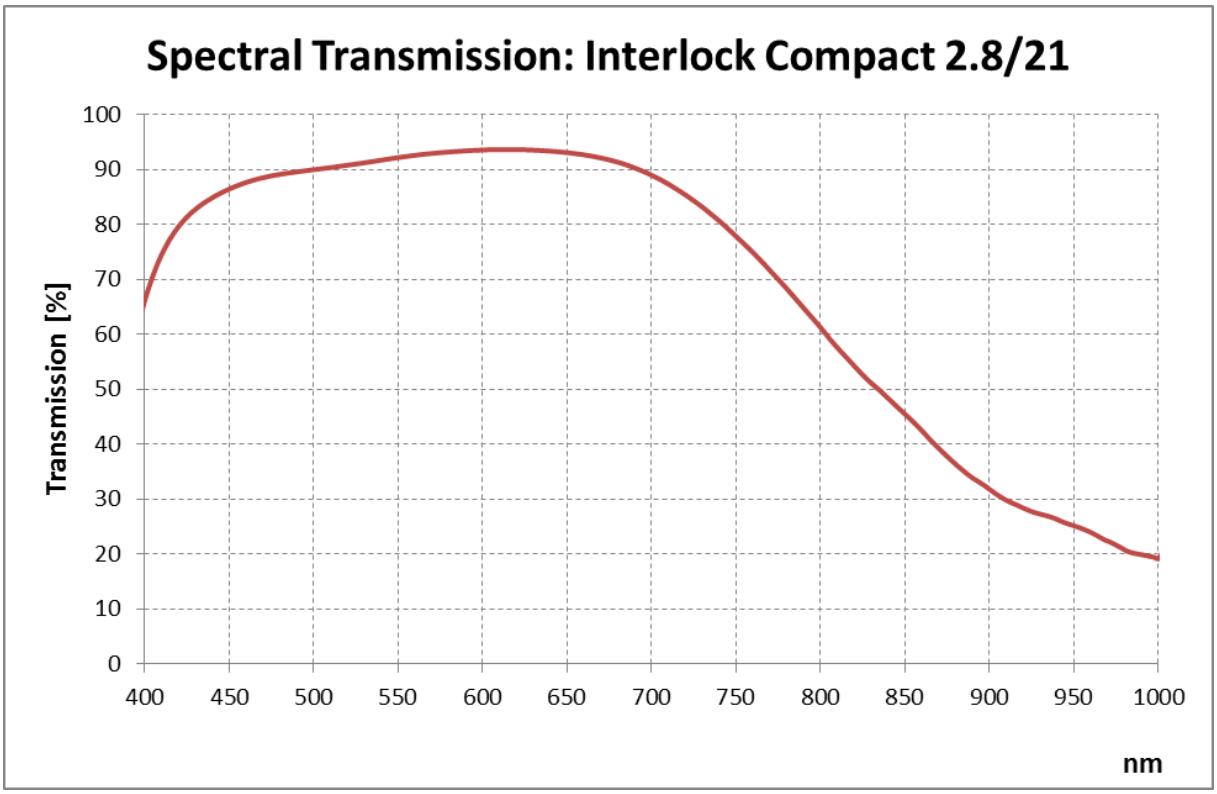
Contrast [%]

F-Number 5.6
__ Sagittal
… Tangential

**Data for infinite focus setting*

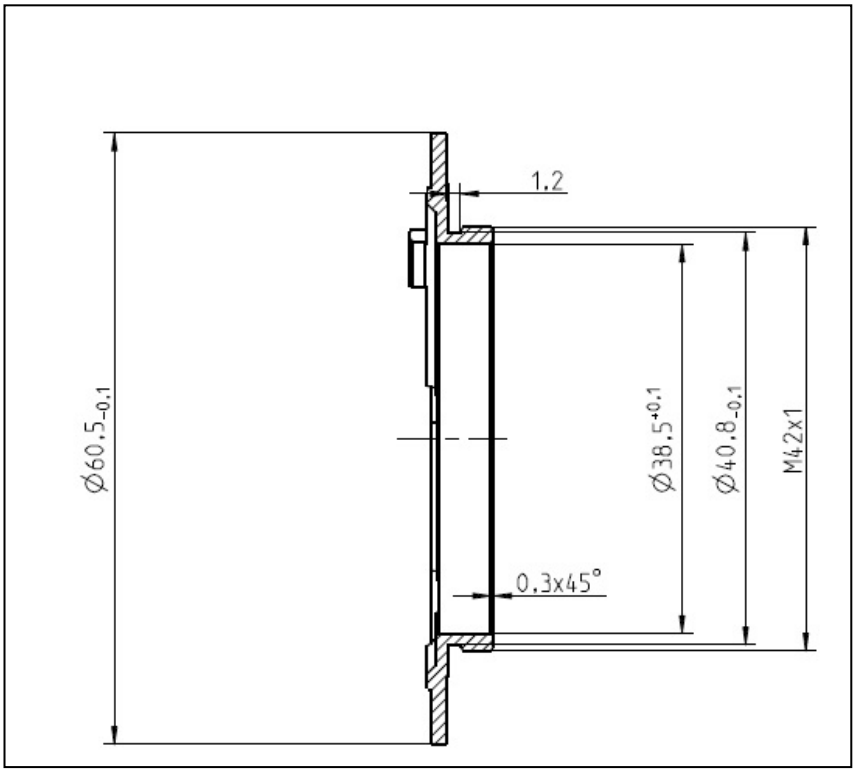
ZEISS Interlock Compact 2.8/21

Spectral Transmission



ZEISS Interlock Compact 2.8/21

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!

ZEISS Interlock Compact 2.4/25

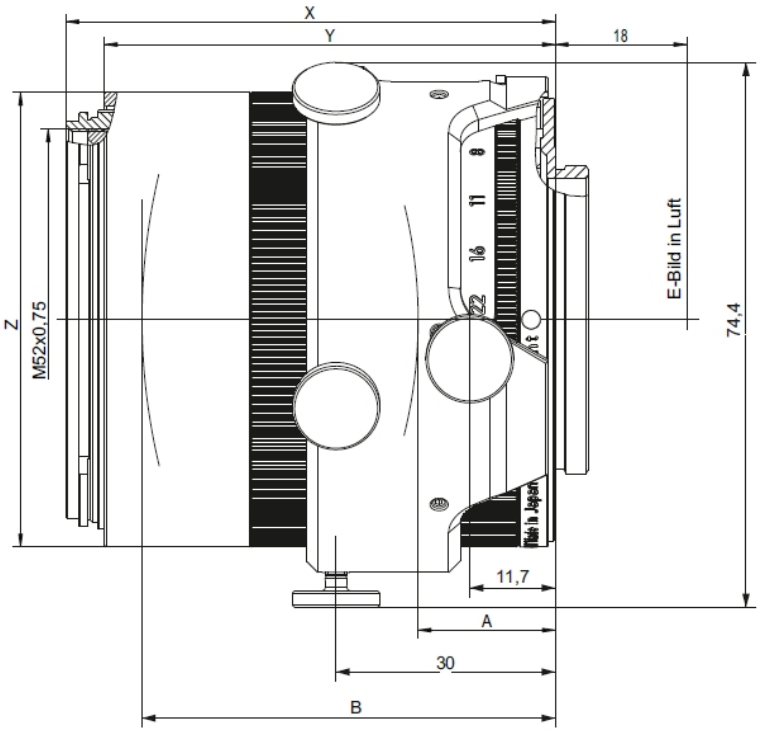
Features

- 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 81°

Camera Mount
M42x1 screw mount
(18 mm FFD)

ZEISS Interlock Compact 2.4/25

Technical Specifications



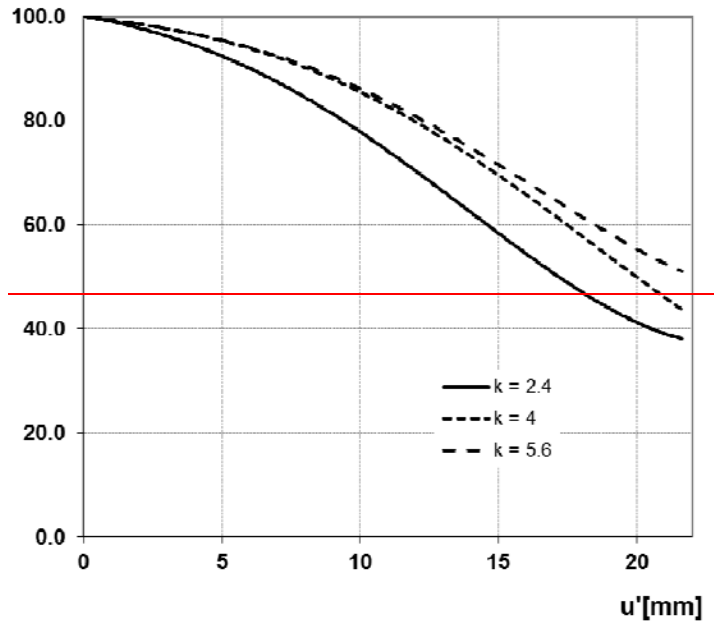
X	Y	Z	A	B
69.2 mm (inf.)	63.8 mm	Ø = 62.0 mm	1.47 mm (inf.)	65.39 mm (inf.)

Focal length	25 mm
Aperture range	f/2.4 – f/22
Number of elements / groups	10 / 8
Min. working distance (object to sensor)	250 mm (0.82 ft.) – ∞
Min. free working distance	163 mm (0.54 ft.) – ∞
Angular field* (diag. / horiz. / vert.)	81 / 71 / 51°
Max. diameter of image field	43.0 mm (1.7")
Flange focal length	18.0 mm (0.71”)
Coverage at close range	231 x 154 mm (9.1 x 6.1"), line 319 mm (12.5”)
Image ratio at close range	1:6.4
Filter-thread	M52 x 0.75
Weight	474 g (1.0 lbs.)
Camera mount	M42 (18.0 mm FFD)

** referring to 24 x 36 mm format resp. 43 mm line*

ZEISS Interlock Compact 2.4/25

Relative Illuminance*

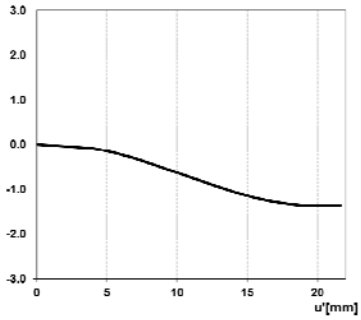


E [%]

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

— f-number = 2.4
-- f-number = 4
- f-number = 5.6

Relative Distortion*

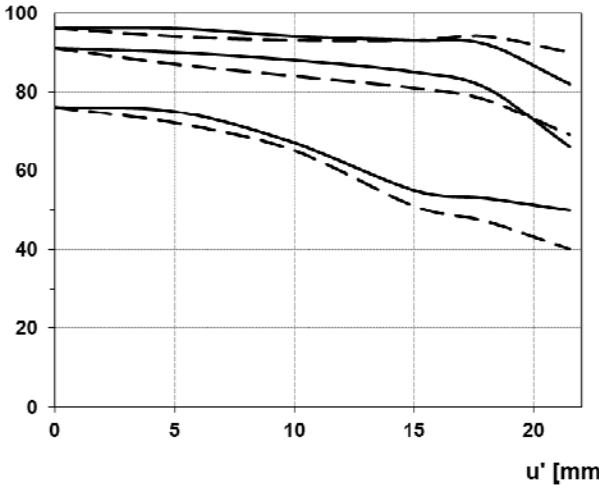


V [%]

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

ZEISS Interlock Compact 2.4/25

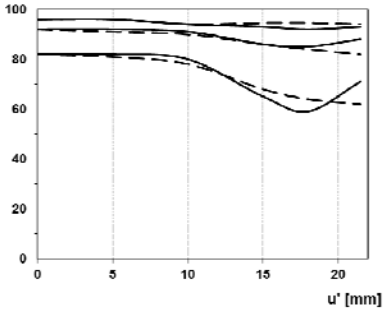
MTF Charts*



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 2.4
__ Sagittal
… Tangential



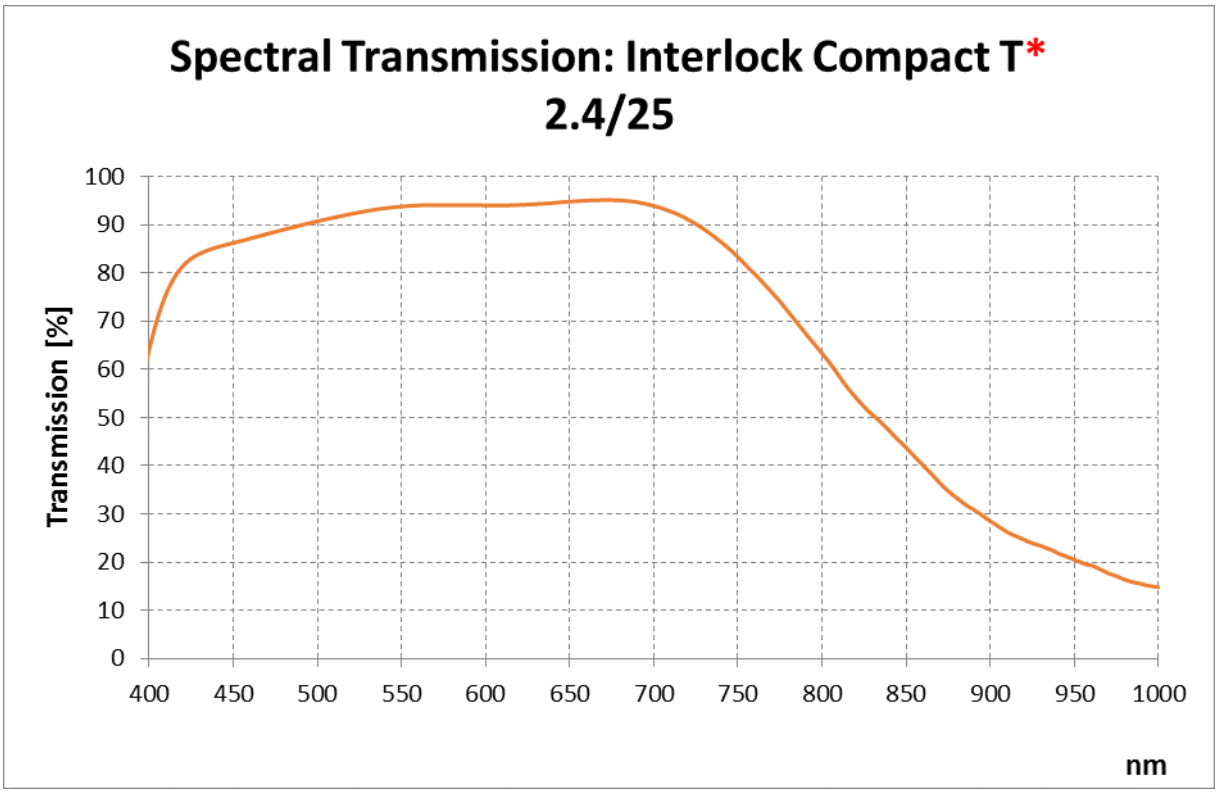
Contrast [%]

F-Number 5.6
__Sagittal
... Tangential

**Data for infinite focus setting*

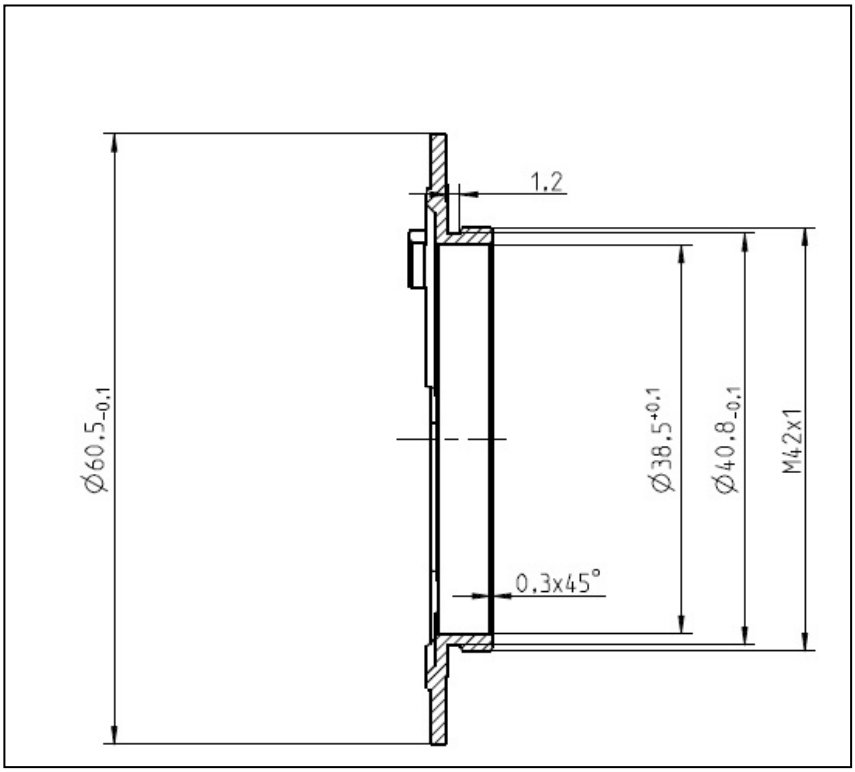
ZEISS Interlock Compact 2.4/25

Spectral Transmission



ZEISS Interlock Compact 2.4/25

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!

ZEISS Interlock Compact 2/35

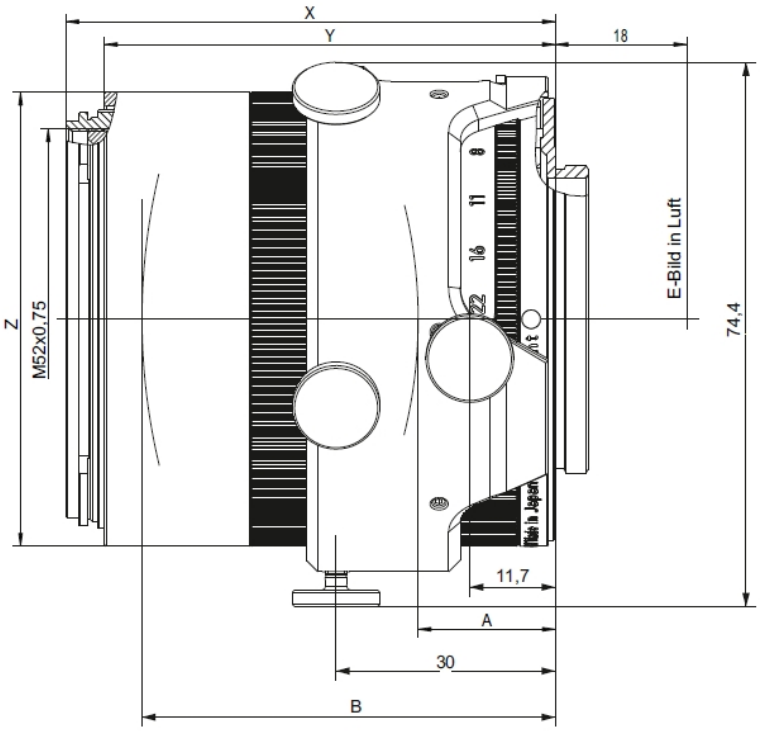
Features

- Very compact but suitable to large image format
- For industrial cameras up to sensor sizes of 24x36 mm or 41mm line sensors
- Fast f/2.0 aperture
- 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
- Literally free of distorsion

Camera Mount
M42x1 screw mount
(18 mm FFD)

ZEISS Interlock Compact 2/35

Technical Specifications



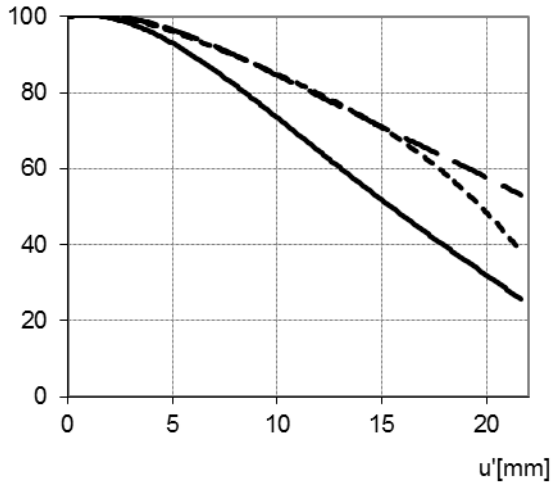
X	Y	Z	A	B
53.98 mm (inf.)	49.4 mm	Ø = 62.0 mm	2.66 mm (inf.)	50.37 mm (inf.)

Focal length	35 mm
Aperture range	f/2.0 – f/22
Number of elements / groups	9 / 6
Min. working distance (object to sensor)	300 mm (0.98 ft.) – ∞
Min. free working distance	230 mm (0.75 ft.) – ∞
Angular field* (diag. / horiz. / vert.)	63 / 54 / 38°
Max. diameter of image field	43.0 mm (1.7")
Flange focal length	18.0 mm
Coverage at close range	208 x 139 mm (8.2 x 5.5"), line 237 mm (9.3”)
Image ratio at close range	1:5.8
Filter-thread	M 52 x 0.75
Weight	394 g (0.87 lbs.)
Camera mount	M42 (18.0 mm FFD)

** referring to 24 x 36 mm format resp. 43 mm line*

ZEISS Interlock Compact 2/35

Relative Illuminance*

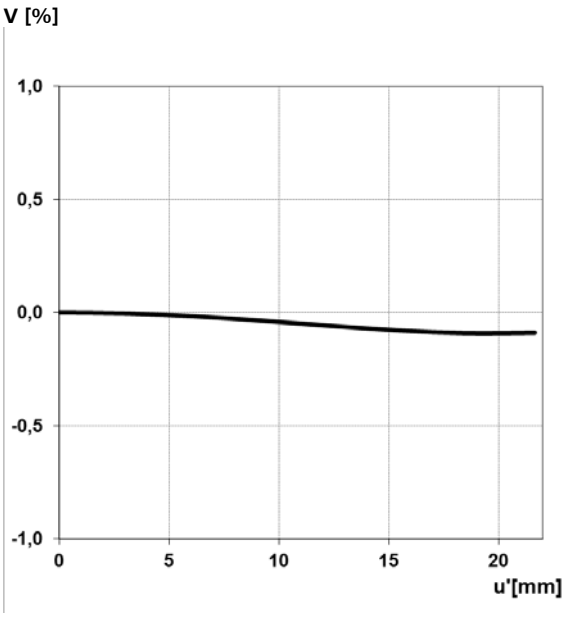


E [%]

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

— f-number = 2.0
– – f-number = 4
- - f-number = 5.6

Relative Distortion*



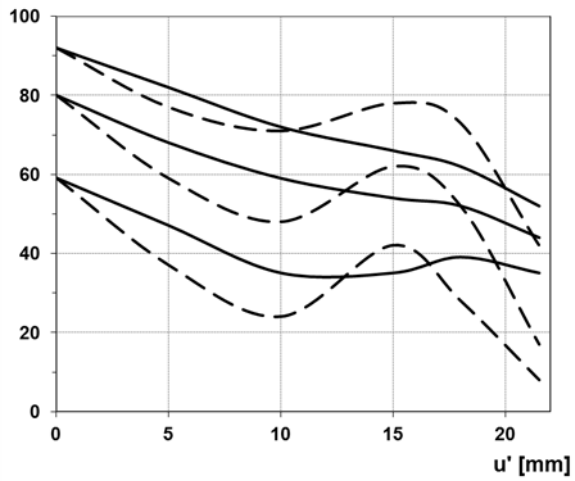
V [%]

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

**Data for infinite focus setting*

ZEISS Interlock Compact 2/35

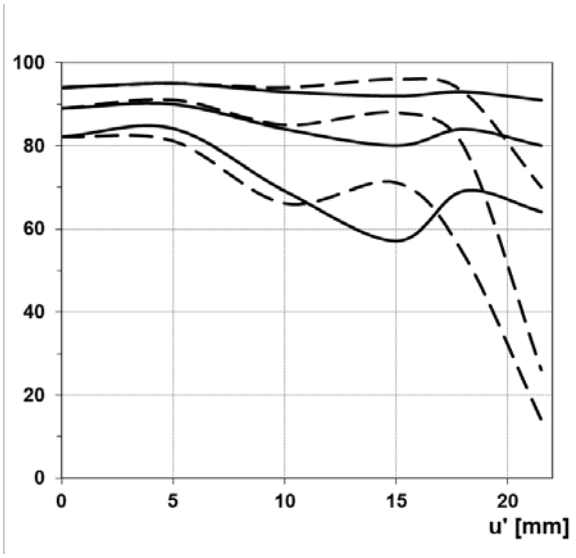
MTF Charts*



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 2.0
__ Sagittal
… Tangential



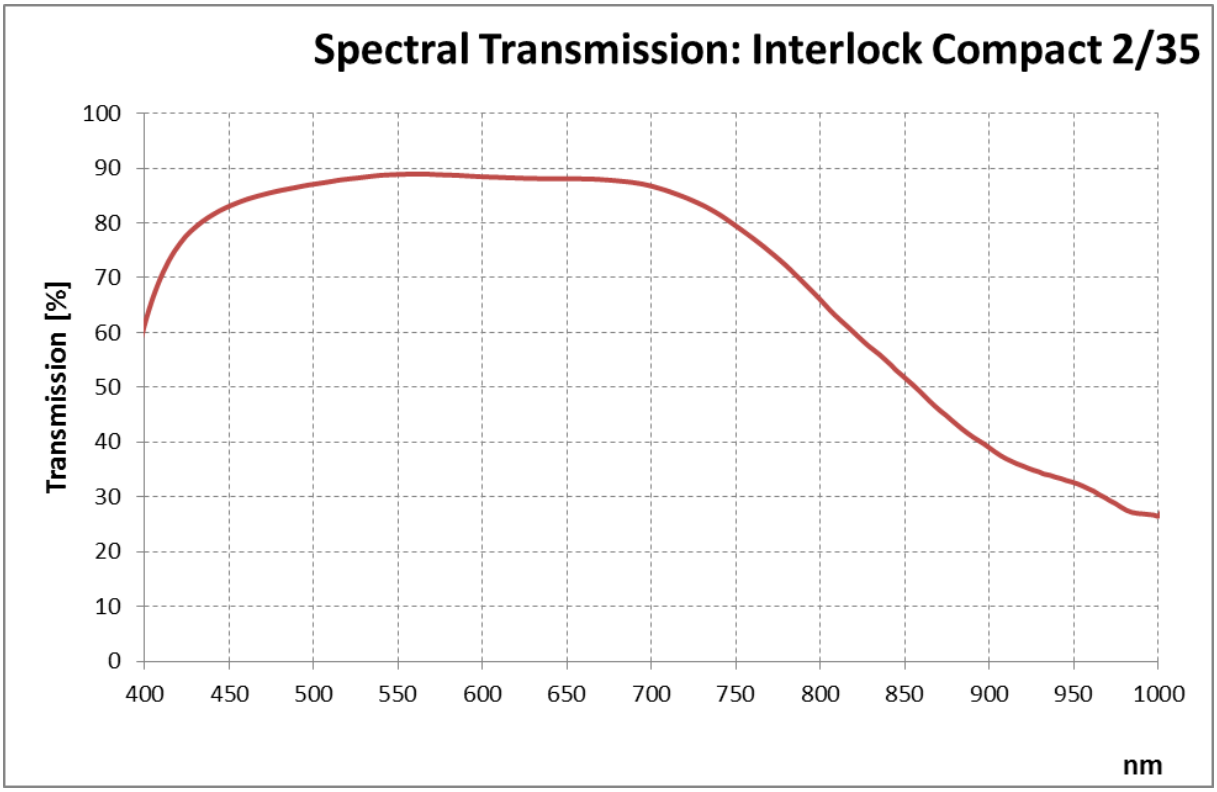
Contrast [%]

F-Number 5.6
__ Sagittal
… Tangential

**Data for infinite focus setting*

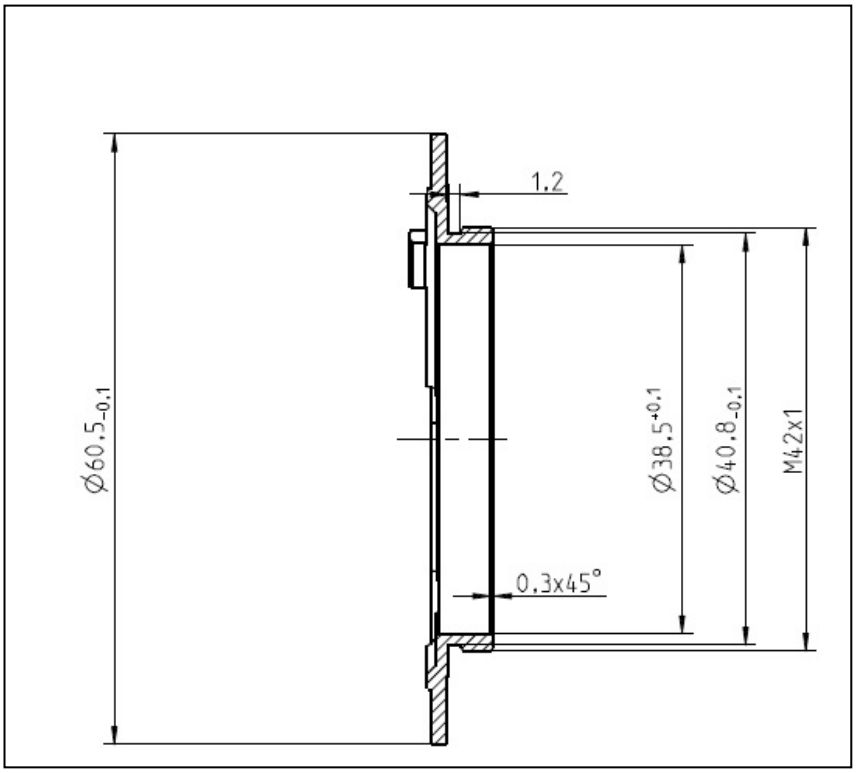
ZEISS Interlock Compact 2/35

Spectral Transmission



ZEISS Interlock Compact 2/35

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!

ZEISS Interlock Compact 2/50

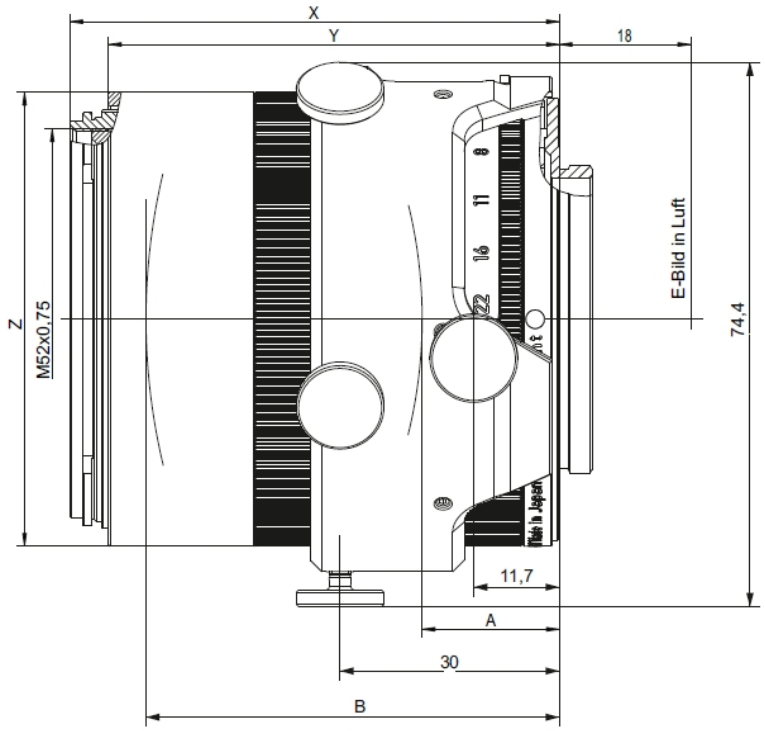
Features

- Very compact but suitable to large image format
- For industrial cameras up to sensor sizes of 24x36 mm or 41mm line sensors
- Fast f/2.0 aperture
- 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

Camera Mount
M42x1 screw mount
(18 mm FFD)

ZEISS Interlock Compact 2/50

Technical Specifications



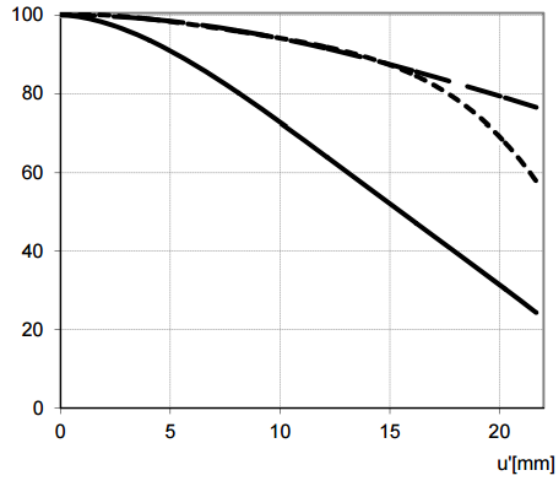
X	Y	Z	A	B
54 .0 mm (inf.)	49.4 mm	Ø = 62.0 mm	11.72 mm (inf.)	52.61 mm (inf.)

Focal length	50 mm
Aperture range	f/2 – f/22
Number of elements / groups	6 / 4
Min. working distance (object to sensor)	450 mm (1.47 ft.) – ∞
Min. free working distance	370 mm (1.21 ft.) – ∞
Angular field* (diag. / horiz. / vert.)	46 / 39 / 26°
Max. diameter of image field	43 mm (1.7")
Flange focal length	18,0 mm
Coverage at close range	248 x 165 mm (9.7 x 6.5"), line 282 mm (11.1")
Image ratio at close range	1:6.9
Filter-thread	M 52 x 0.75
Weight	374 g (0.8 lbs.)
Camera mount	M42 (18.0 mm FFD)

** referring to 24 x 36 mm format resp. 43 mm line*

ZEISS Interlock Compact 2/50

Relative Illuminance*

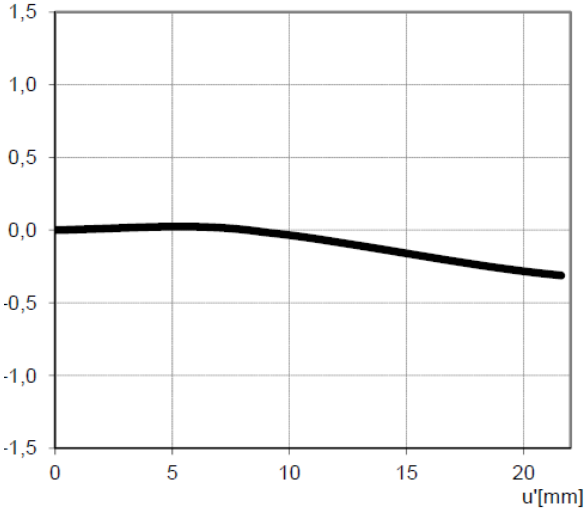


E [%]

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

F-Number 2,0
F-Number 4,0
F-Number 8,0

Relative Distortion*



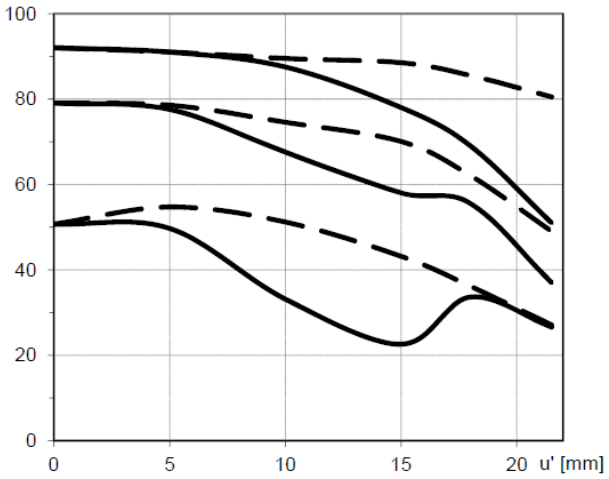
V [%]

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

**Data for infinite focus setting*

ZEISS Interlock Compact 2/50

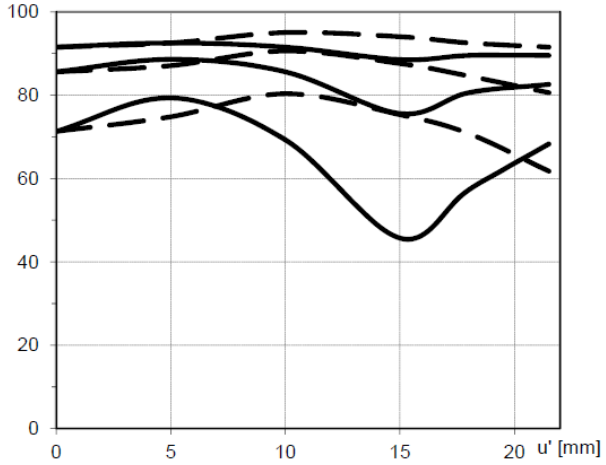
MTF Charts*



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 2.0
__ Sagittal
… Tangential



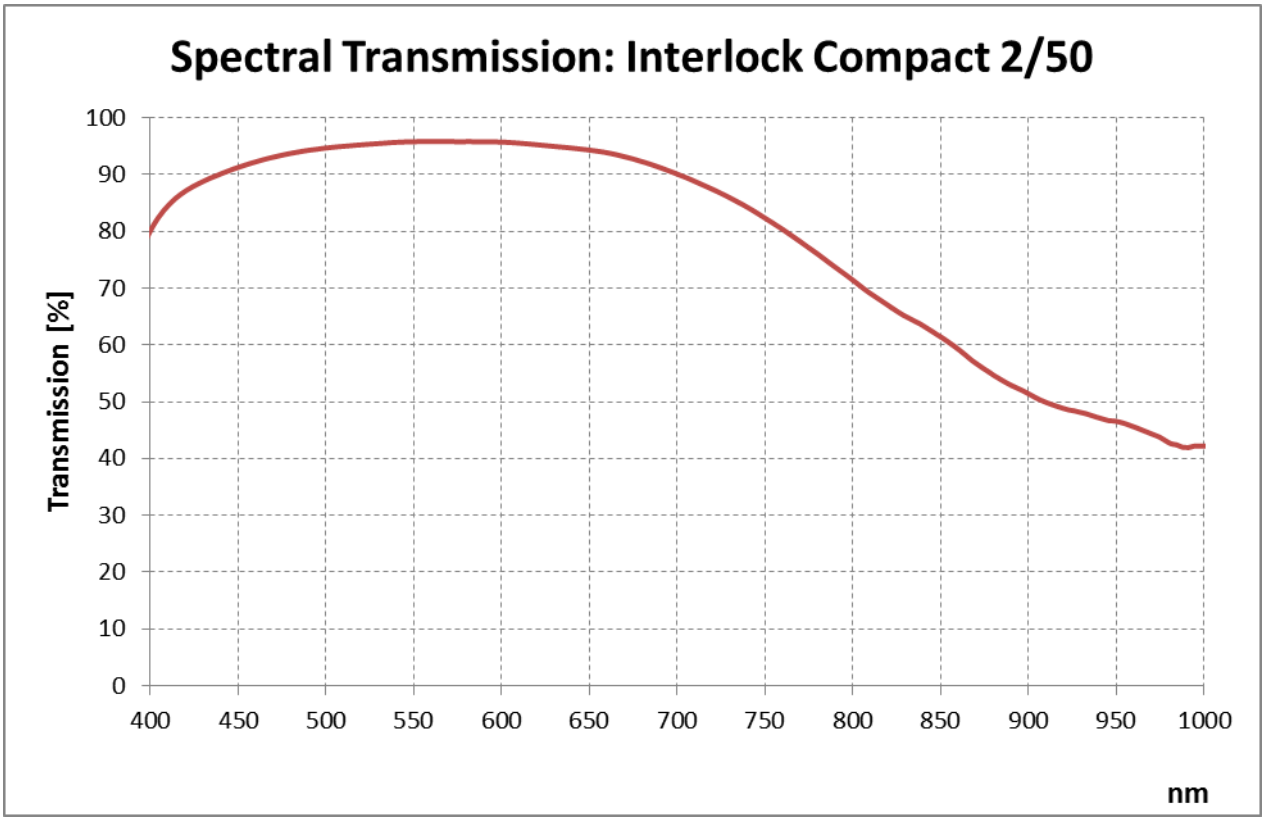
Contrast [%]

F-Number 5.6
__ Sagittal
… Tangential

**Data for infinite focus setting*

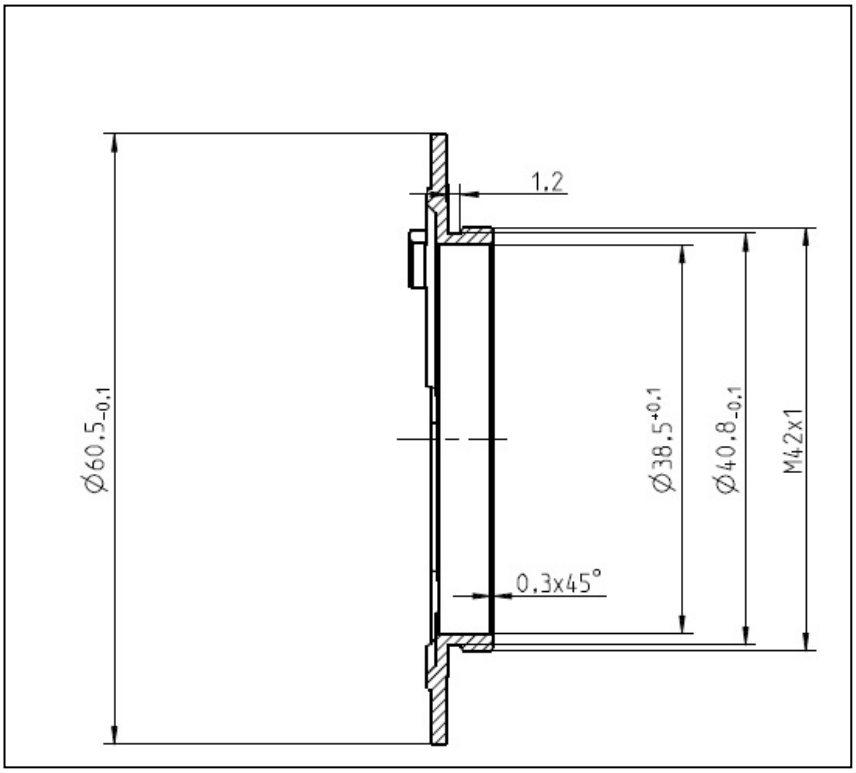
ZEISS Interlock Compact 2/50

Spectral Transmission



ZEISS Interlock Compact 2/50

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!

ZEISS Interlock Compact 2.4/85

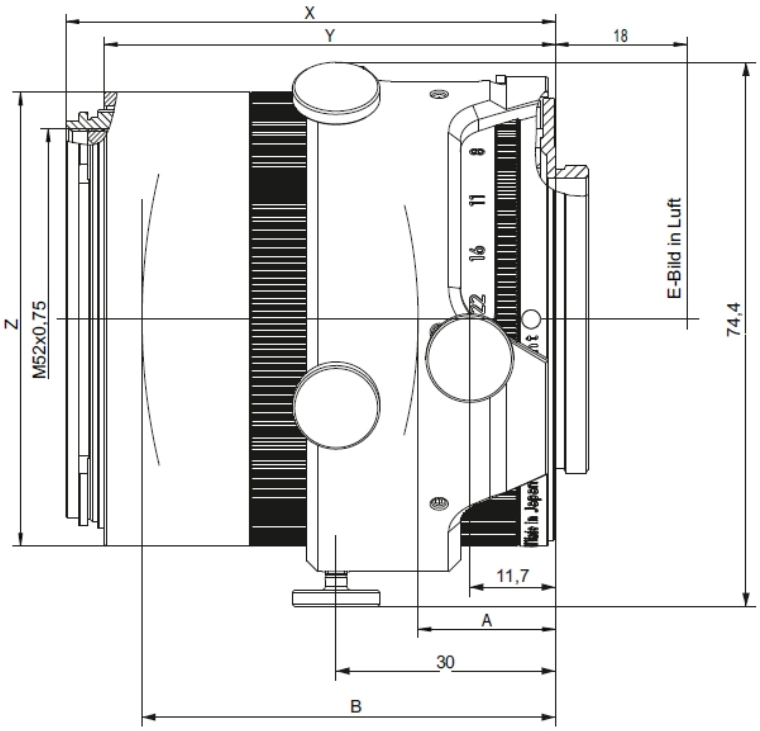
Features

- 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
- High contrast over the entire image field

Camera Mount
M42x1 screw mount
(18 mm FFD)

ZEISS Interlock Compact 2.4/85

Technical Specifications



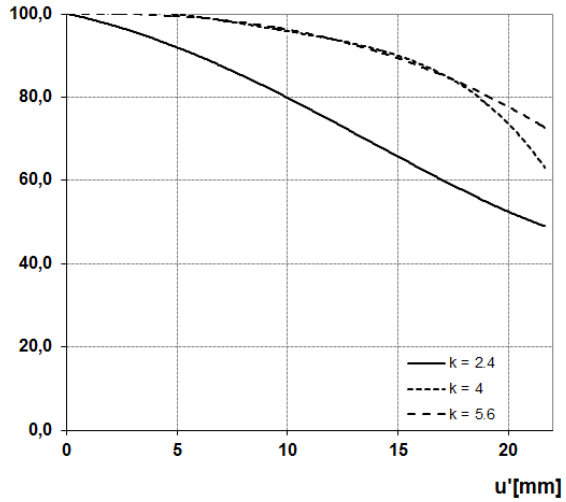
X	Y	Z	A	B
89.77 mm (inf.)	84.5 mm	Ø = 62.5 mm	9.65 mm (inf.)	82.15 mm (inf.)

Focal length	85 mm
Aperture range	f/2.4 – f/22
Number of elements / groups	7 / 7
Min. working distance (object to sensor)	800 mm (2.62 ft.) – ∞
Min. free working distance	685 mm (2.25 ft.) – ∞
Angular field* (diag. / horiz. / vert.)	28.6 / 24.1 / 16.2°
Max. diameter of image field	43.0 mm (1.7")
Flange focal length	18.0 mm
Coverage at close range	258 x 172 mm (10.1 x 6.8"), line 296 mm (11.6")
Image ratio at close range	1:7.2
Filter-thread	M 52 x 0.75
Weight	648 g (1.43 lbs.)
Camera mount	M42 (18.0 mm FFD)

** referring to 24 x 36 mm format resp. 43 mm line*

ZEISS Interlock Compact 2.4/85

Relative Illuminance*

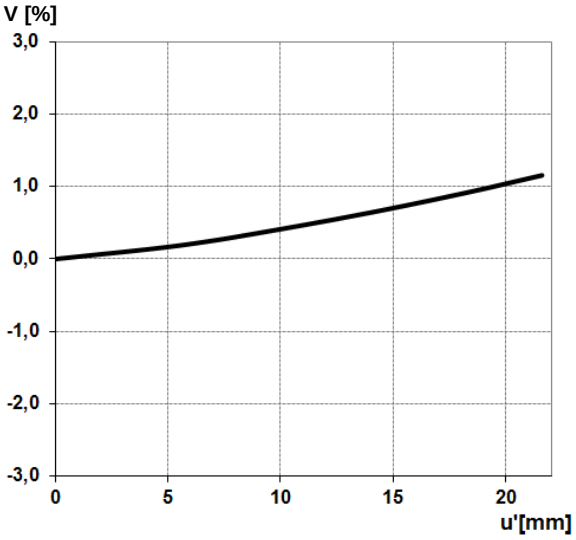


E [%]

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

— f-number = 2.4
– – f-number = 4
- - f-number = 5.6

Relative Distortion*



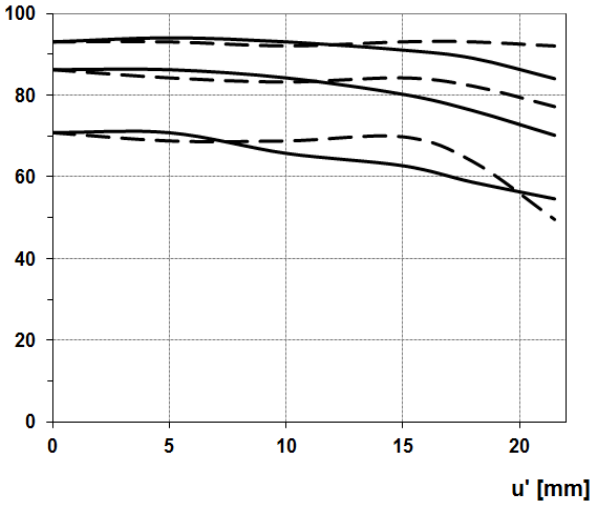
V [%]

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

**Data for infinite focus setting*

ZEISS Interlock Compact 2.4/85

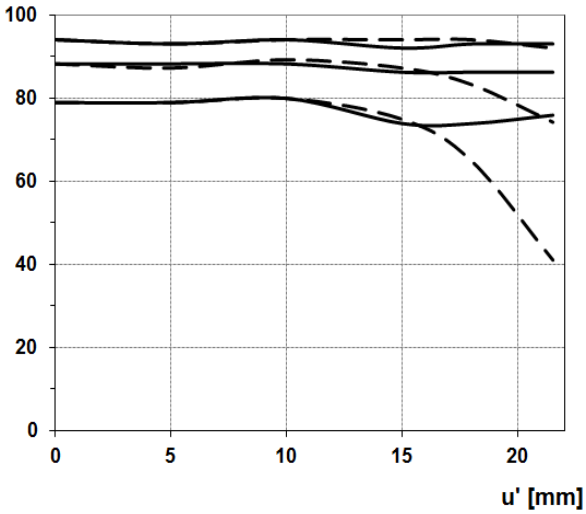
MTF Charts*



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 2.4
__ Sagittal
… Tangential



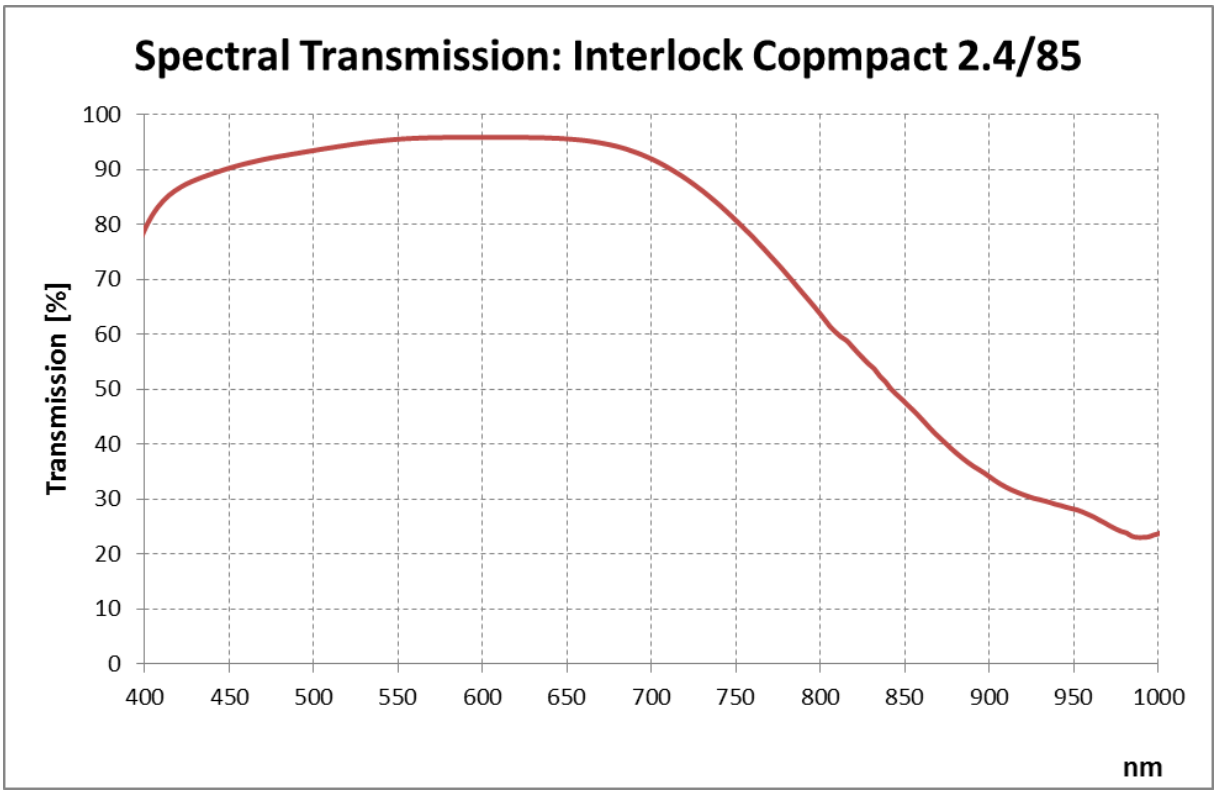
Contrast [%]

F-Number 5.6
__ Sagittal
... Tangential

**Data for infinite focus setting*

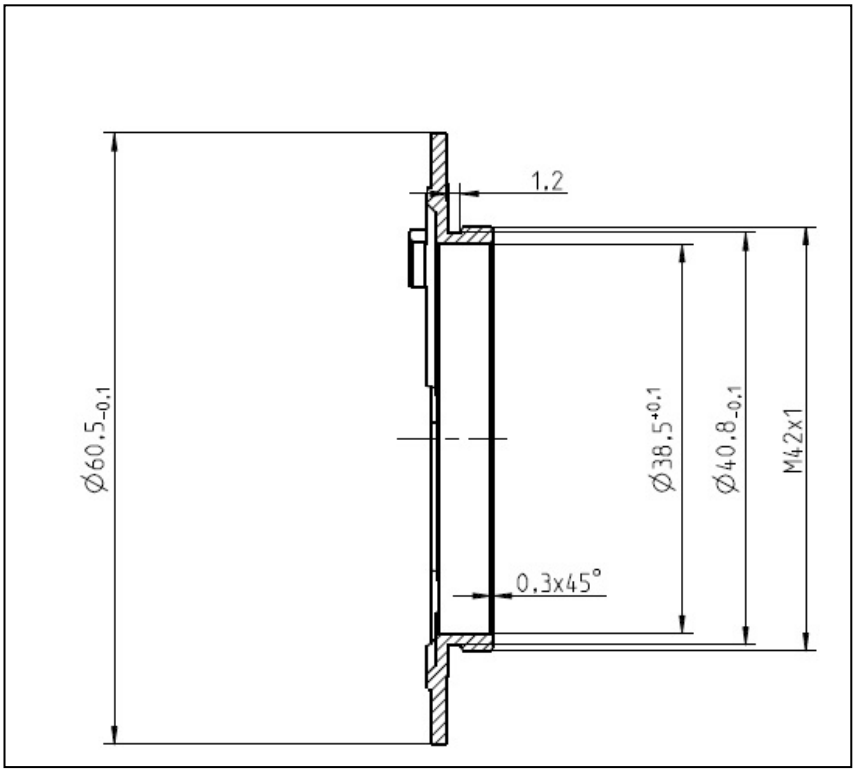
ZEISS Interlock Compact 2.4/85

Spectral Transmission



ZEISS Interlock Compact 2.4/85

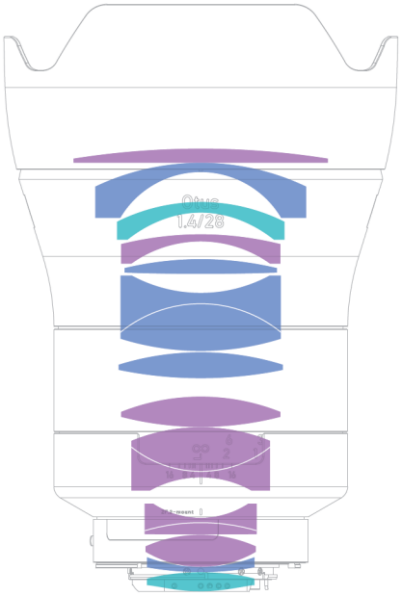
Sketch of the M42x1 Interface (FFD 18.0 mm)



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

ZEISS Otus 1.4/28

Technische Daten/Technical Specifications



Sonderglas / Special glas

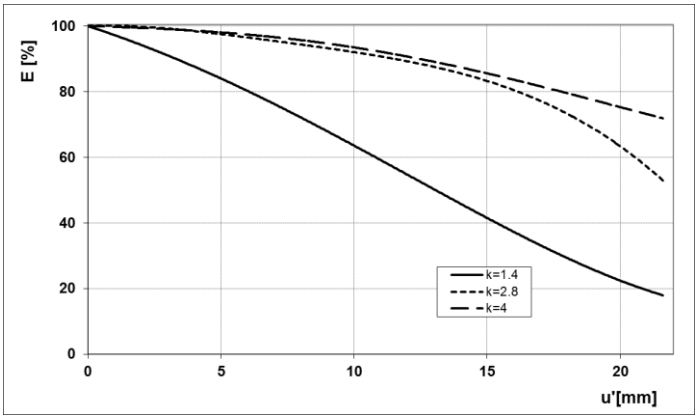
Asphären / Aspheric surface

Brennweite / Focal length	28 mm
Blendenbereich / Aperture range	f/1.4 – f/16
Linsen / Gruppen/Lens elements / Groups	16 / 13
Fokussierbereich / Focusing range	0,30 m (11.81″) – ∞
Arbeitsabstand / Free working distance	0,15 m (5.91″) – ∞
Bildwinkel*/Angular field* (diag. / horiz. / vert.)	75° / 65° / 46°
Bildkreisdurchmesser / Diameter of image field	43,3 mm (1.70″)
Anlagemaß / Flange focal distance	ZF.2: 46,5 mm (1.83″) ZE: 44,0 mm (1.73″)
Objektfeld bei Naheinstellung* / Coverage at close range (MOD)*	203 x 134 mm (7.99 x 5.27″)
Abbildungsmaßstab bei Naheinstellung / Image ratio at MOD	1 : 5.5
Filterdurchmesser / Filter thread	M95 x 1,00
Lage der Eintrittspupille (vor der Bildebene) / Entrance pupil position (in front of image plane)	132,9 mm (5.23'')
Drehwinkel des Fokussierrings (inf – MOD) Rotation angle of focusing ring (inf – MOD)	120 °
Durchmesser max. / Diameter max.	ZF.2: 108,9 mm (4.29'') ZE: 108,9 mm (4.29'')
Durchmesser des Fokussierrings / Diameter of focusing ring	ZF.2: 87,7 mm (3.45'') ZE: 87,7 mm (3.45'')
Länge (ohne Objektivdeckel) / Length (without lens caps)	ZF.2: 135,0 mm (5.31'') ZE: 137,0 mm (5.39'')
Länge (mit Objektivdeckeln) / Length (with lens caps)	ZF.2: 152,0 mm (5.98'') ZE: 154,0 mm (6.06'')
Gewicht (ohne Objektivdeckel) / Weight (without lens caps)	ZF.2: 1350 g (47.62 oz) ZE: 1390 g (49.03 oz)

* bezugnehmend auf das 24x36mm Format / referring to 36mm format

ZEISS Otus 1.4/28

Relative Beleuchtungsstärke / Relative Illuminance

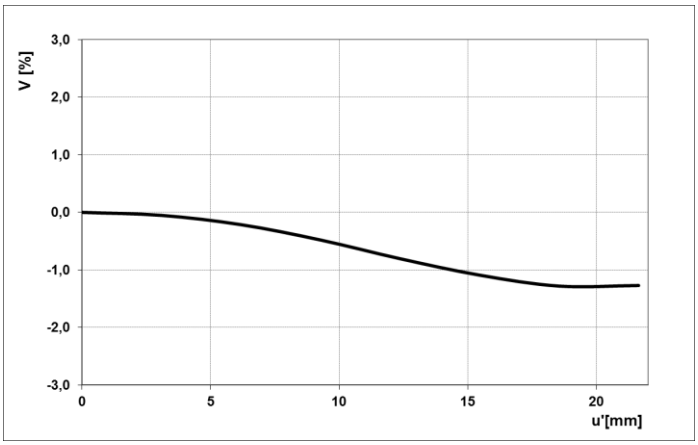


Die relative Beleuchtungsstärke zeigt die Abnahme der Bildhelligkeit von der Mitte des Bildes zu den Ecken. Angabe in Prozent.

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

— Blendenzahl: k = 1.4 / f-number = 1.4
– – Blendenzahl: k = 2.8 / f-number = 2.8
- - Blendenzahl: k = 4 / f-number = 4

Relative Verzeichnung / Relative Distortion



Die relative Verzeichnung zeigt die Abweichung der aktuellen von der idealen Bildhöhe.

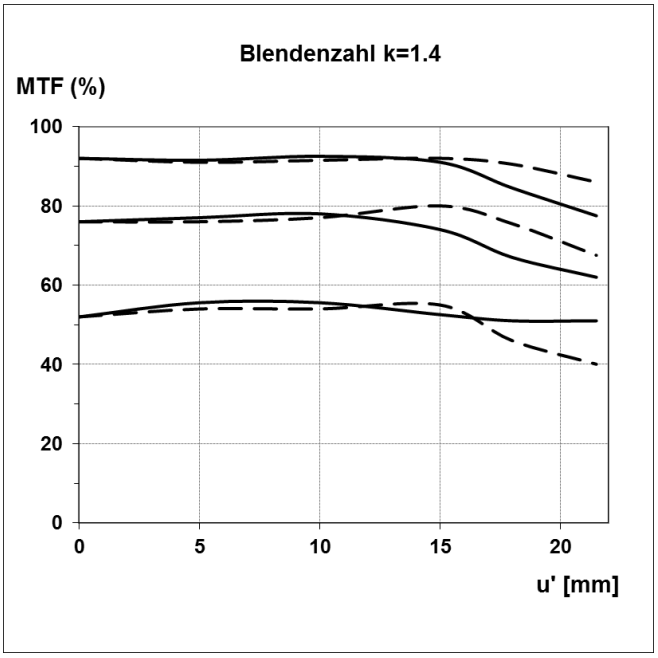
The relative distortion shows in percent the deviation of the actual from the ideal image height.

Angaben für unendlich.
Data for infinity.

ZEISS Otus 1.4/28

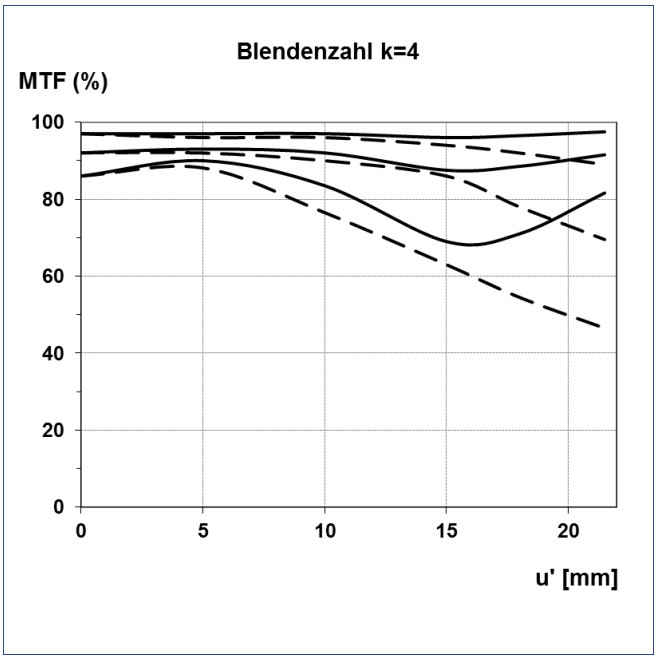
MTF Charts

Unendlich / Infinity



Blendenzahl: k = 1.4 / f-number = 1.4

— Sagittal
- - Tangential



Blendenzahl: k = 4 / f-number = 4

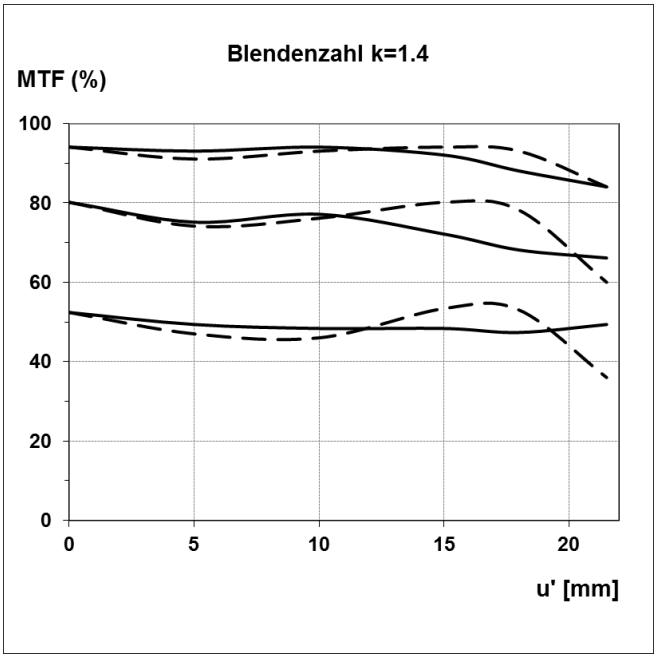
— Sagittal
- - Tangential

Modulationsübertragung MTF als Funktion der Bildhöhe (u') und Spaltorientierung. Weißes Licht. Ortsfrequenzen R=10, 20 und 40 Perioden/mm. // Modulation transfer MTF as a function of the image height (u´) and slit orientation. White light. Spatial frequencies R=10, 20 and 40 cycles/mm.

ZEISS Otus 1.4/28

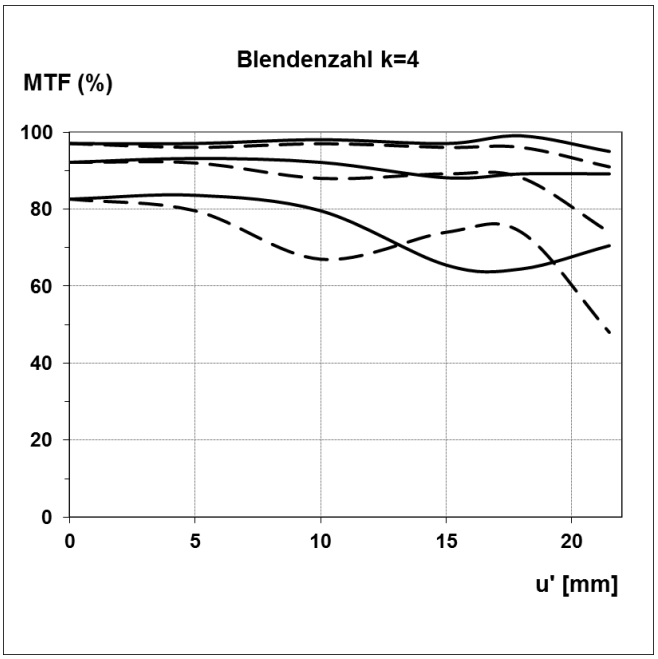
MTF Charts

β = 1 : 20



Blendenzahl: k = 1.4 / f-number = 1.4

— Sagittal
- - Tangential



Blendenzahl: k = 4 / f-number = 4

— Sagittal
- - Tangential

Modulationsübertragung MTF als Funktion der Bildhöhe (u') und Spaltorientierung. Weißes Licht. Ortsfrequenzen R=10, 20 und 40 Perioden/mm. // Modulation transfer MTF as a function of the image height (u´) and slit orientation. White light. Spatial frequencies R=10, 20 and 40 cycles/mm.

ZEISS Otus 1.4/28

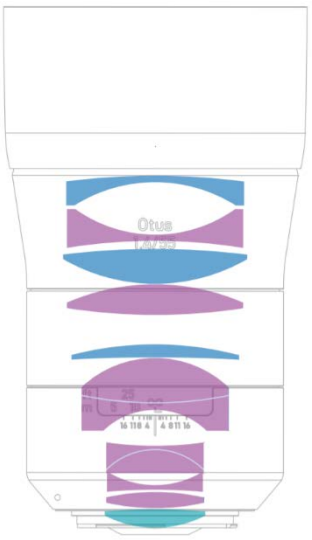
Schärfentiefe/Depth of Field (DOF)*

Engraved Distance	f/1.4		f/2		f/2.8		f/4		f/5.6		f/8		f/11		f/16	
Meter	From	to	From	To	from	To	From	To	From	To	From	To	From	To	from	To
INF	18.7	INF	13.1	INF	9.38	INF	6.59	INF	4.72	INF	3.32	INF	2.43	INF	1.69	INF
2 m	1.82	2.23	1.75	2.34	1.67	2.51	1.55	2.82	1.43	3.39	1.28	4.86	1.13	10.7	0.94	INF
1 m	0.96	1.05	0.94	1.07	0.91	1.11	0.88	1.16	0.84	1.24	0.79	1.38	0.73	1.62	0.66	2.29
0.6 m	0.59	0.62	0.58	0.62	0.57	0.63	0.56	0.65	0.54	0.67	0.52	0.71	0.50	0.76	0.47	0.87
0.4 m	0.39	0.41	0.39	0.41	0.39	0.41	0.38	0.42	0.38	0.43	0.37	0.44	0.36	0.46	0.34	0.49
0.3 m	0.30	0.30	0.30	0.30	0.29	0.31	0.29	0.31	0.29	0.31	0.28	0.32	0.28	0.33	0.27	0.34

* Schärfentiefetabelle für das 24x36mm Format, Zerstreuungskreis 0.030mm (D/1500), gerundet auf 0.01m //
Depth-of-field table for sensor format 24x36mm, circle of confusion 0.030mm (D/1500), rounded to 0.01m

ZEISS Otus 1.4/55

Technische Daten/Technical Specifications



Sonderglas / Special glas

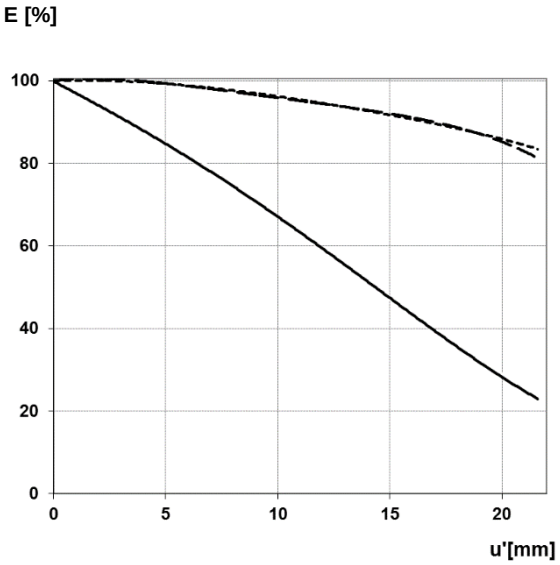
Asphären / Aspheric surface

Brennweite/Focal length	55 mm
Blendenbereich/Aperture range	f/1.4 – f/16
Linsen / Gruppen/Lens elements / Groups	12/10
Fokussierbereich/Focusing range	0,5 m (19.68 ″) – ∞
Arbeitsabstand/Free working distance	0,33 m (13.2″) – ∞
Bildfeld*/Angular field* (diag. / horiz. / vert.)	43,7° / 36,7° / 24,9°
Bildkreisdurchmesser/Diameter of image field	43 mm (1.69″)
Anlagemaß/Flange focal distance	ZF.2: 46,50 mm (1.83″) ZE: 44,00 mm (1.73″)
Objektfeld bei Naheinstellung* Coverage at close range (MOD)*	246 x 163 mm (9.69 x 6.42″)
Abbildungsmaßstab bei Naheinstellung Image ratio at MOD	1:6.8
Filterdurchmesser/Filter thread	M77 x 0.75
Lage der Eintrittspupille (vor der Bildebene) Entrance pupil position (in front of image plane)	101 mm (3.50″)
Drehwinkel des Fokussierrings (inf – MOD) Rotation angle of focusing ring (inf – MOD)	248°
Durchmesser max./Diameter max.	ZF.2: 92.4 mm (3.64″) ZE: 92.4 mm (3.64″)
Durchmesser des Fokussierrings Diameter of focusing ring	ZF.2: 83 mm (3.27″) ZE: 83 mm (3.27″)
Länge (ohne Objektivdeckel)/Length (without lens caps)	ZF.2: 125.3 mm (4.93″) ZE: 127,3 mm (5.01″)
Länge (mit Objektivdeckeln)/Length (with lens caps)	ZF.2: 141 mm (5.55 ″) ZE: 144 mm (5.66″)
Gewicht/Weight	ZF.2: 970 g (2.22 lbs) ZE: 1030 g (2.43 lbs)

* bezugnehmend auf das 24x36mm Format/referring to 36 mm format

ZEISS Otus 1.4/55

Relative Beleuchtungsstärke/Relative Illuminance

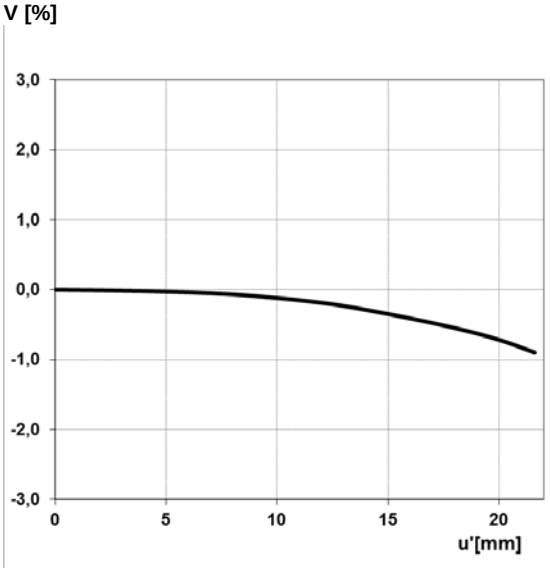


Die relative Beleuchtungsstärke zeigt die Abnahme der Bildhelligkeit von der Mitte des Bildes zu den Ecken. Angabe in Prozent.

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

__ Blendenzahl: k = 1,4 / f-number = 1.4
--- Blendenzahl: k = 4.0 / f-number = 4.0
… Blendenzahl: k = 4.28 / f-number = 4.28

Relative Verzeichnung/Relative Distortion



Die Relative Verzeichnung zeigt die Abweichung der aktuellen von der idealen Bildhöhe.

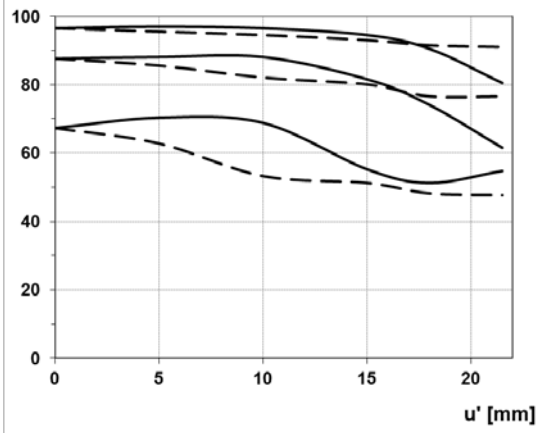
The relative distortion shows in percent the deviation of the actual from the ideal image height.

Angaben für unendlich.
Data for infinity.

ZEISS Otus 1.4/55

MTF Charts

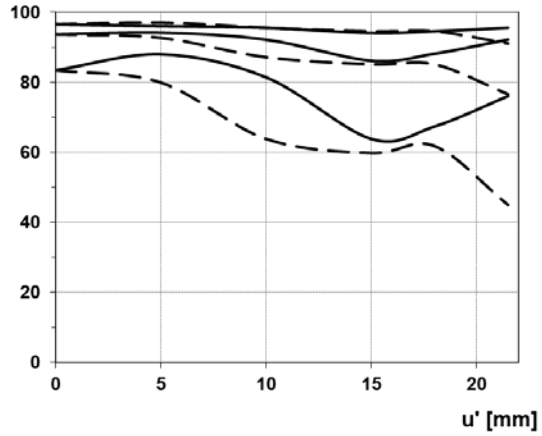
MTF [%]



Blendenzahl: k = 1,4 / f-number = 1.4

__ Sagittal
… Tangential

MTF [%]



Blendenzahl: k = 4 / f-number = 4.0

__ Sagittal
… Tangential

Modulationsübertragung MTF als Funktion der Bildhöhe (u') und Spaltorientierung. Weißes Licht. Ortsfrequenzen R=10, 20 und 40 Perioden/mm. // Modulation transfer MTF as a function of the image height (u') and slit orientation. White light. Spatial frequencies R=10, 20 and 40 cycles/mm.

ZEISS Otus 1.4/55

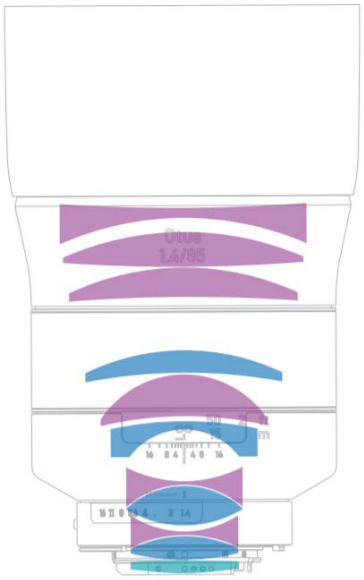
Schärfentiefe/Depth of Field (DOF)*

Engraved Distance	f/1.4		f/2		f/2.8		f/4		f/5.6		f/8		f/11		f/16	
Meter	from	to	from	to	from	to	from	to	from	to	from	to	from	to	from	to
infinity	65.85	INF	52.25	INF	37.34	INF	25.67	INF	17.67	INF	12.24	INF	8.54	INF	6.00	INF
10 m	8.70	11.76	8.42	13.01	7.92	15.10	7.24	18.96	6.43	29.21	5.55	119.7	4.66	INF	3.80	INF
5 m	4.66	5.40	4.58	5.64	4.43	5.99	4.21	6.50	3.93	7.37	3.59	9.06	3.20	13.42	2.78	42.79
3 m	2.88	3.13	2.85	3.21	2.79	3.32	2.71	3.47	2.59	3.69	2.44	4.06	2.26	4.73	2.05	6.18
2 m	1.95	2.06	1.93	2.09	1.91	2.13	1.87	2.19	1.82	2.27	1.74	2.40	1.65	2.61	1.54	2.98
1.50 m	1.47	1.53	1.46	1.55	1.45	1.57	1.43	1.60	1.40	1.64	1.36	1.71	1.30	1.81	1.23	1.97
1.20 m	1.18	1.22	1.18	1.23	1.17	1.24	1.16	1.26	1.14	1.29	1.11	1.32	1.07	1.38	1.03	1.47
1.00 m	0.99	1.01	0.98	1.02	0.98	1.03	0.97	1.04	0.96	1.06	0.94	1.08	0.91	1.12	0.88	1.17
0.80 m	0.79	0.81	0.79	0.81	0.79	0.82	0.78	0.82	0.77	0.83	0.76	0.85	0.75	0.87	0.73	0.90
0.70 m	0.69	0.71	0.69	0.71	0.69	0.71	0.69	0.72	0.68	0.72	0.67	0.73	0.66	0.75	0.65	0.77
0.60 m	0.60	0.60	0.60	0.61	0.59	0.61	0.59	0.61	0.59	0.62	0.58	0.62	0.57	0.63	0.56	0.65
0.50 m	0.50	0.50	0.50	0.50	0.50	0.51	0.49	0.51	0.49	0.51	0.49	0.51	0.48	0.52	0.48	0.53

* Schärfentiefetabelle für das 24x36mm Format, Zerstreuungskreis 0.033mm (D/1500), gerundet auf 0.01m //
Depth-of-field table for sensor format 24x36mm, circle of confusion 0.033mm (D/1500), rounded to 0.01m

ZEISS Otus 1.4/85

Technische Daten/Technical Specifications

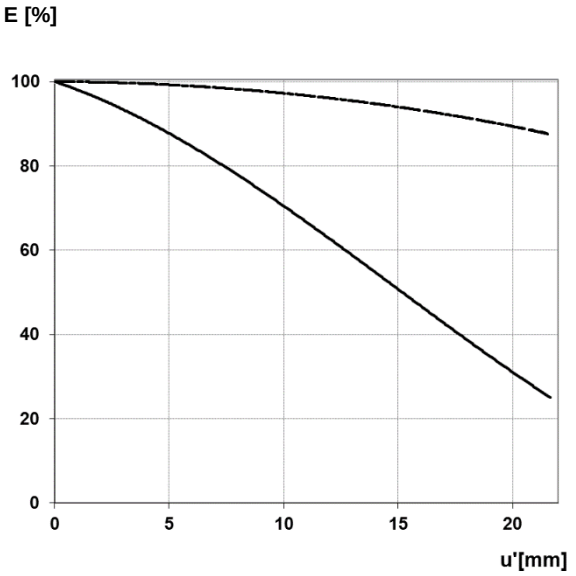


Brennweite/Focal length	85 mm
Blendenbereich/Aperture range	f/1.4 – f/16
Linsen / Gruppen/Lens elements / Groups	11 / 9
Fokussierbereich/Focusing range	0,8 m (31.50'') - ∞
Arbeitsabstand/Free working distance	0,65 m (25.59'') - ∞
Bildfeld*/Angular field* (diag. / horiz. / vert.)	28.24° / 23.71° / 15.97°
Bildkreisdurchmesser/Diameter of image field	43 mm (1.69")
Anlagemaß/Flange focal distance	ZF.2: 46,50 mm (1.83") ZE: 44,00 mm (1.73")
Objektfeld bei Naheinstellung* **Coverage at close range (MOD)***	278,85 mm x 185,61 mm (10.97'' x 7.31'')
Abbildungsmaßstab bei Naheinstellung **Image ratio at MOD**	1 : 7.7
Filterdurchmesser/Filter thread	M86 x 1.00
Lage der Eintrittspupille (vor der Bildebene) **Entrance pupil position (in front of image plane)**	90 mm (3.54'')
Drehwinkel des Fokussierrings (inf – MOD) **Rotation angle of focusing ring (inf – MOD)**	261 °
Durchmesser max./Diameter max.	ZF.2: 101 mm (3.98'') ZE: 101 mm (3.98'')
Durchmesser des Fokussierrings **Diameter of focusing ring**	ZF.2: 92 mm (3.62'') ZE: 92 mm (3.62'')
Länge (ohne Objektivdeckel)/Length (without lens caps)	ZF.2: 122 mm (4.80'') ZE: 124 mm (4.88'')
Länge (mit Objektivdeckeln)/Length (with lens caps)	ZF.2: 138 mm (5.43'') ZE: 141 mm (5.55'')
Gewicht/Weight	ZF.2: 1140g (2.51 lbs) ZE: 1200g (2.64 lbs)

* bezugnehmend auf das 24x36mm Format/referring to 36 mm format

ZEISS Otus 1.4/85

Relative Beleuchtungsstärke/Relative Illuminance

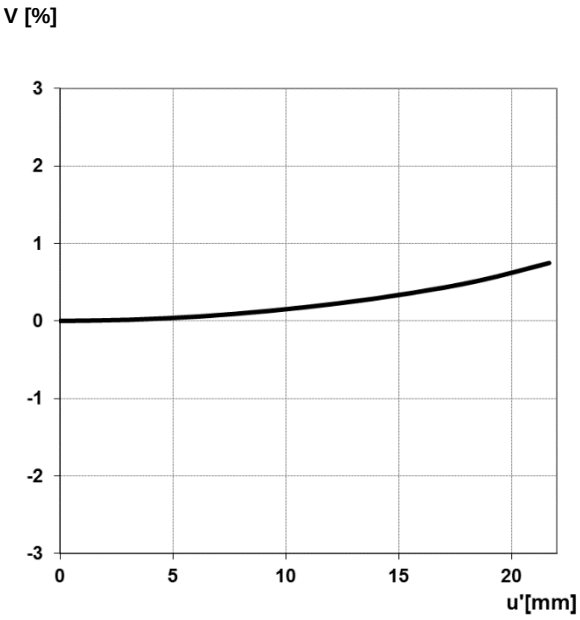


Die relative Beleuchtungsstärke zeigt die Abnahme der Bildhelligkeit von der Mitte des Bildes zu den Ecken. Angabe in Prozent.

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

__ Blendenzahl: k = 1,4 / f-number = 1.4
--- Blendenzahl: k = 4,0 / f-number = 4.0
… Blendenzahl: k = 3,9 / f-number = 3.9

Relative Verzeichnung/Relative Distortion



Die Relative Verzeichnung zeigt die Abweichung der aktuellen von der idealen Bildhöhe.

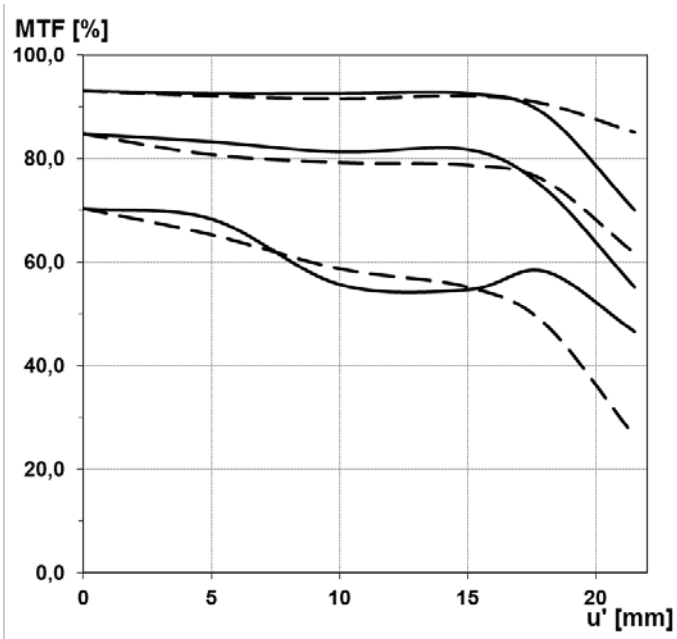
The relative distortion shows in percent the deviation of the actual from the ideal image height.

Angaben für unendlich.
Data for infinity.

ZEISS Otus 1.4/85

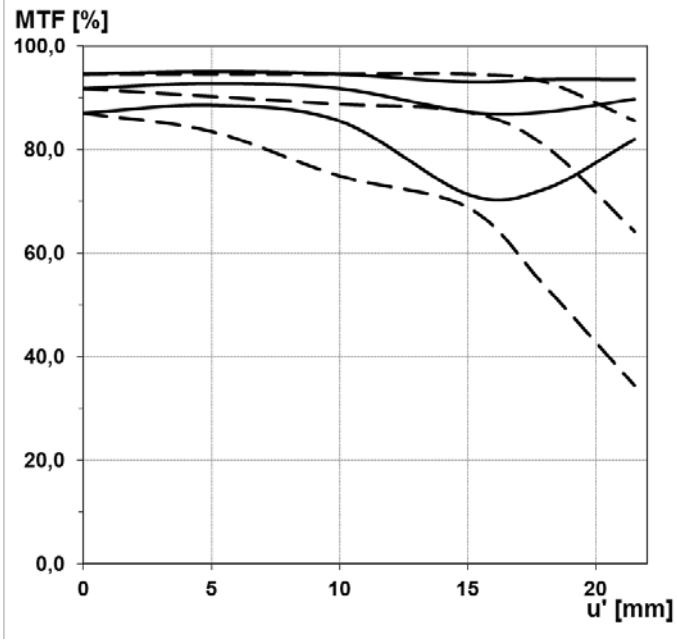
MTF Charts

Unendlich / Infinity



Blendenzahl: k = 1,4 / f-number = 1.4

__ Sagittal
… Tangential



Blendenzahl: k = 4 / f-number = 4.0

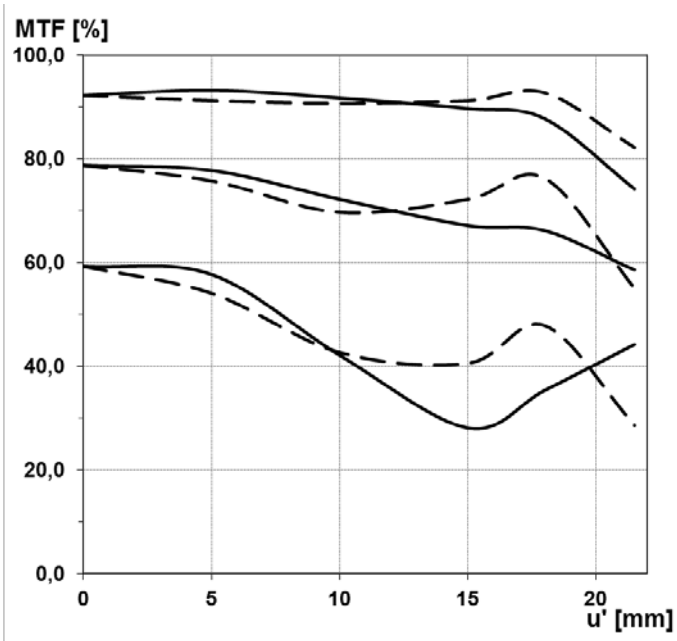
__ Sagittal
… Tangential

Modulationsübertragung MTF als Funktion der Bildhöhe (u') und Spaltorientierung. Weißes Licht. Ortsfrequenzen R=10, 20 und 40 Perioden/mm. // Modulation transfer MTF as a function of the image height (u´) and slit orientation. White light. Spatial frequencies R=10, 20 and 40 cycles/mm.

ZEISS Otus 1.4/85

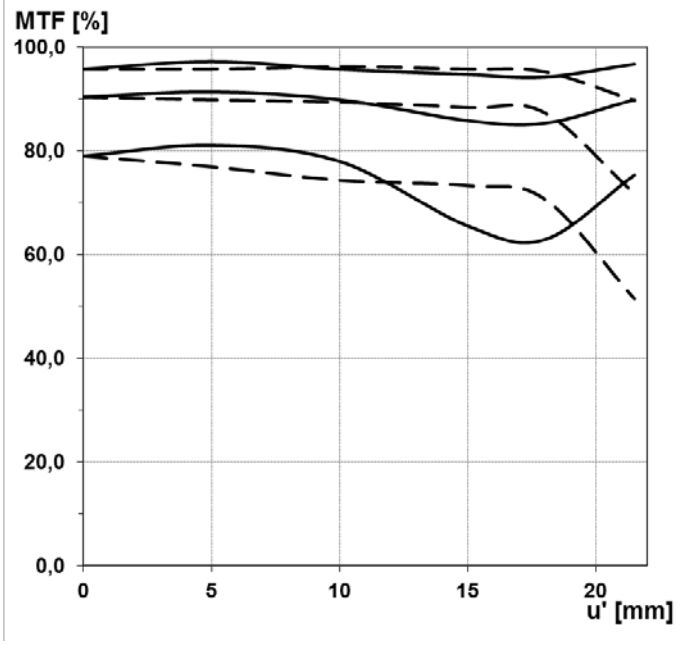
MTF Charts

Naheinstellung / Short focus



Blendenzahl: k = 1,4 / f-number = 1.4

__ Sagittal
… Tangential



Blendenzahl: k = 4 / f-number = 4.0

__ Sagittal
… Tangential

Modulationsübertragung MTF als Funktion der Bildhöhe (u') und Spaltorientierung. Weißes Licht. Ortsfrequenzen R=10, 20 und 40 Perioden/mm. // Modulation transfer MTF as a function of the image height (u´) and slit orientation. White light. Spatial frequencies R=10, 20 and 40 cycles/mm.

ZEISS Otus 1.4/85

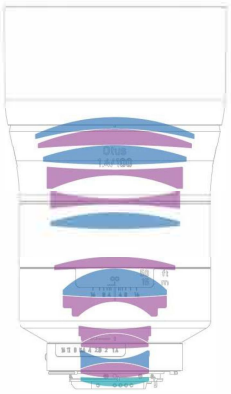
Schärfentiefe/Depth of Field (DOF)*

Engraved Distance	f/1.4		f/2		f/2.8		f/4		f/5.6		f/8		f/11		f/16	
Meter	From	to	From	To	from	To	From	To	From	To	From	To	From	To	from	To
INF	157	inf.	139	inf.	92	inf.	61	inf.	42	inf.	29	inf.	21	inf.	14.2	inf.
15 m	13.7	16.6	13.6	17.9	12.9	19.1	12.1	21 m	11.2	25	9.97	35	8.81	66	7.39	inf.
7 m	6.71	7.31	6.68	7.56	6.53	7.76	6.32	8.09	6.05	8.58	5.70	9.43	5.31	10.8	4.77	14.2
4 m	3.90	4.09	3.90	4.17	3.85	4.23	3.78	4.32	3.68	4.45	3.55	4.66	3.40	4.96	3.18	5.54
3 m	2.95	3.05	2.94	3.09	2.92	3.12	2.88	3.17	2.82	3.24	2.75	3.35	2.66	3.49	2.53	3.76
2.5 m	2.46	2.53	2.46	2.56	2.44	2.58	2.42	2.62	2.38	2.66	2.33	2.73	2.27	2.82	2.17	2.99
2 m	1.97	2.02	1.98	2.04	1.97	2.05	1.95	2.07	1.93	2.10	1.89	2.14	1.85	2.19	1.79	2.29
1.7 m	1.68	1.71	1.68	1.73	1.68	1.74	1.66	1.75	1.65	1.77	1.62	1.80	1.60	1.83	1.55	1.90
1.5 m	1.48	1.51	1.49	1.52	1.48	1.53	1.47	1.54	1.46	1.55	1.44	1.57	1.42	1.60	1.39	1.65
1.2 m	1.19	1.21	1.19	1.21	1.19	1.22	1.18	1.22	1.18	1.23	1.17	1.24	1.15	1.26	1.13	1.28
1 m	0.99	1.00	1.00	1.00	0.99	1.01	0.99	1.01	0.99	1.02	0.98	1.03	0.97	1.04	0.96	1.05
0.9 m	0.89	0.90	0.90	0.91	0.89	0.91	0.89	0.91	0.89	0.91	0.88	0.92	0.88	0.93	0.87	0.94

* Schärfentiefetabelle für das 24x36mm Format, Zerstreuungskreis 0.033mm (D/1500), gerundet auf 0.01m //
Depth-of-field table for sensor format 24x36mm, circle of confusion 0.033mm (D/1500), rounded to 0.01m

Otus 1.4/100

Technische Daten/Technical Specifications

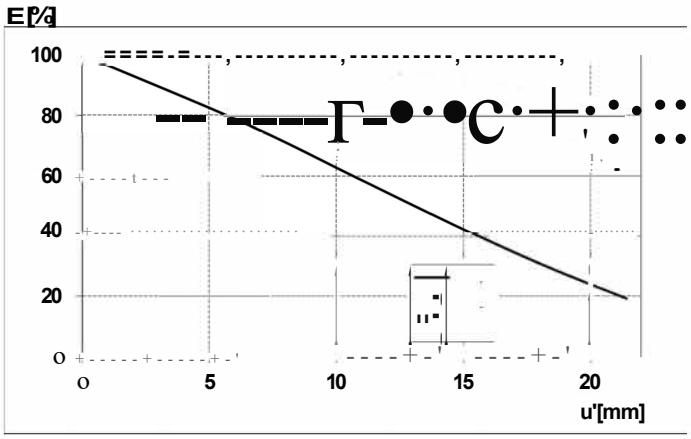


Brennweite/Focal length	100 mm
Blendenbereich/Aperture range	f/1.4-f/16
Linsen / Gruppen/Lens elements / Groups	14/11
Fokussierbereich/Focusing range	1,0 m (39.37")- ∞
Arbeitsabstand/Free working distance	0,83 m (32.68")- ∞
Bildfeld*/Angular field* (diag. / horiz. / vert.)	24, 1o / 20,2° / 13,6°
Bildkreisdurchmesser/Diameter of image field	43 mm (1.69")
AnlagemaB/Flange focal distance	ZF.2: 46,50 mm (1.83") ZE: 44,00 mm (1.73")
ObJektfeld bei Nahe1nstellung* Coverage at close range (MOD)*	206 x309 mm (8.11 x 12.17")
AbbildungsmaBstab bei Naheinstellung Image ratioat MOD	1:8.6
Filterdurchmesser/Filterthread	M86 x 1.00
Lage der Eintrittspupille (vor der Bildebene) Entrance pupil position (in front of image plane)	35,0 mm (1.38")
}Drehwinkel des Fokussierrings (inf- MOD) Rotation angle of focusing ring (inf - MOD)	315°
Durchmesser max./Diameter max.	ZF.2: 1oo,7 mm (3.96") ZE: 100,7 mm (3.9e)
Durchmesser des Fokussierrings Diameter of focusing ring	ZF.2: 90,0 mm (3.54") ZE: 90,0 mm (3.54")
I.ange (ohne Objektivdeckel)/Length (without lens caps)	ZF.2: 126,5 mm (4.98") ZE: 128,8 mm (5.07")
I.ange (mit Objektivdeckeln)/Length (with lens caps)	ZF.2: 150, 1 mm (5.91 ") ZE: 152,3 mm (6.00")
Gewicht/Weight	ZF.2: 1336 g (2.95 lbs) ZE: 1405g(3.101bs)

* bezugnehmend auf das 24x36mm Format/referring to 36 mm format

Otus 1.4/100

Relative Beleuchtungsstarke/Relative Illuminance

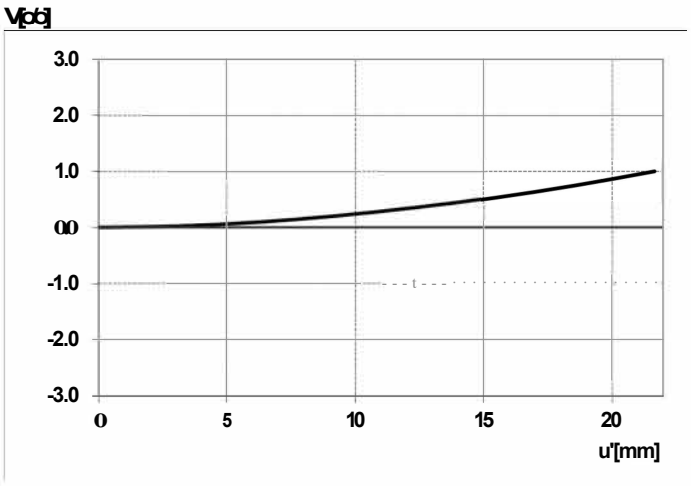


Die relative Beleuchtungsstarke zeigt die Abnahme der Bildhelligkeit von der Mitte des Bildes zu den Ecken. Angabe in Prozent.

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

_ Blendenzahl: k = 1,4 / f-number = 1.4
--- Blendenzahl: k = 2,8 / f-number = 2.8
... Blendenzahl: k = 4 / f-number = 4

Relative Verzeichnung/Relative Distortion



Die Relative Verzeichnung zeigt die Abweichung der aktuellen von der idealen Bildhohe.

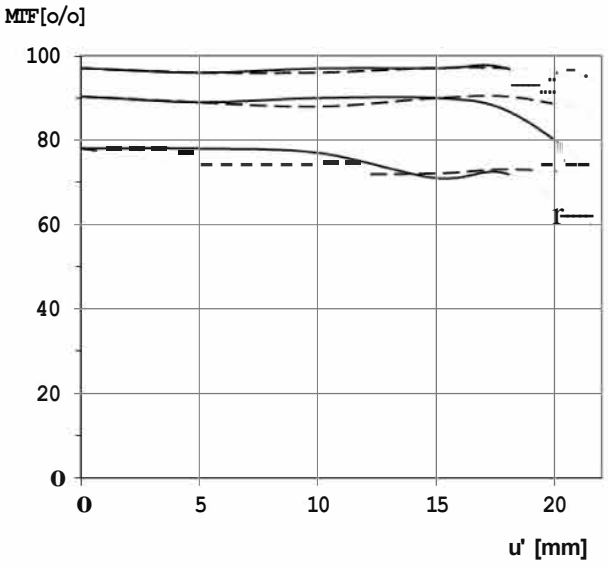
The relative distortion shows in percent the deviation of the actual from the ideal image height.

Angaben fur unendlich.
Data for infinity.

Otus 1.4/100

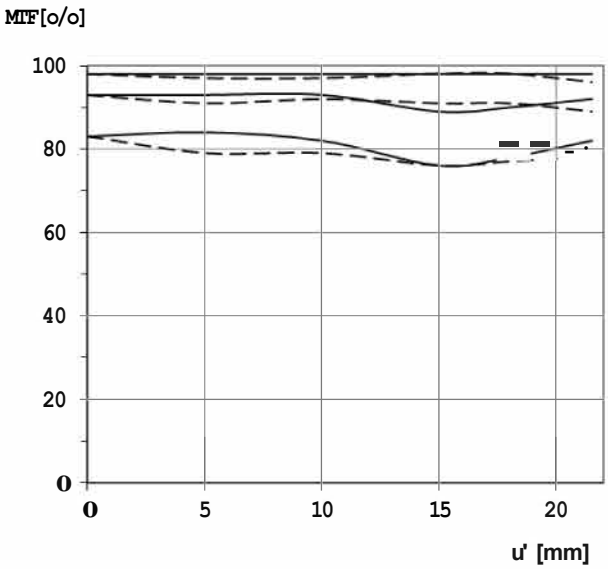
MTF Charts

Unendlich / Infinity



Blendenzahl: k = 1,4 / f-number = 1.4

__ Sagittal
... Tangential



Blendenzahl: k = 4 / f-number = 4

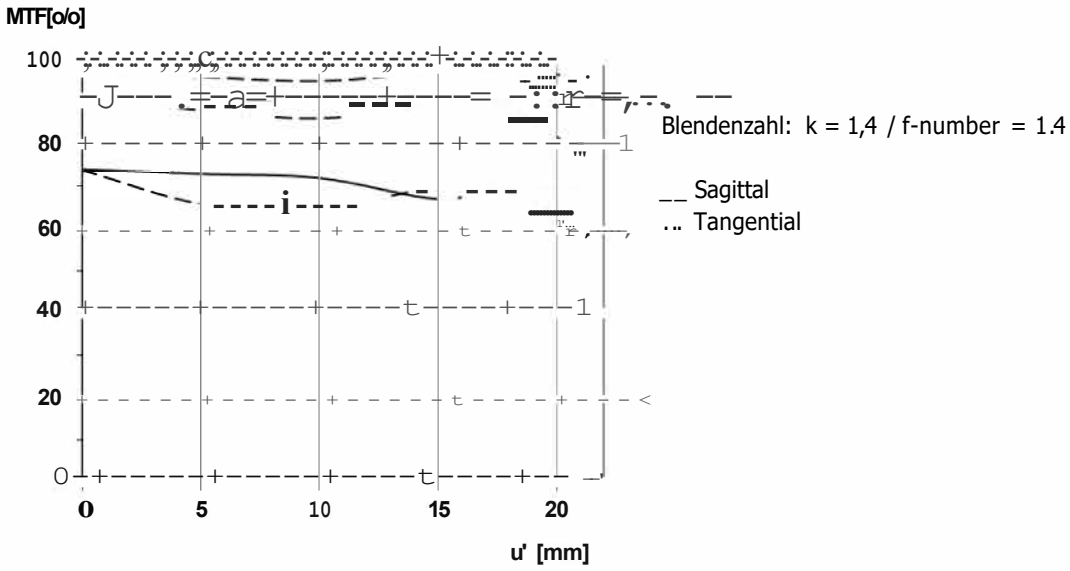
_ Sagittal
... Tangential

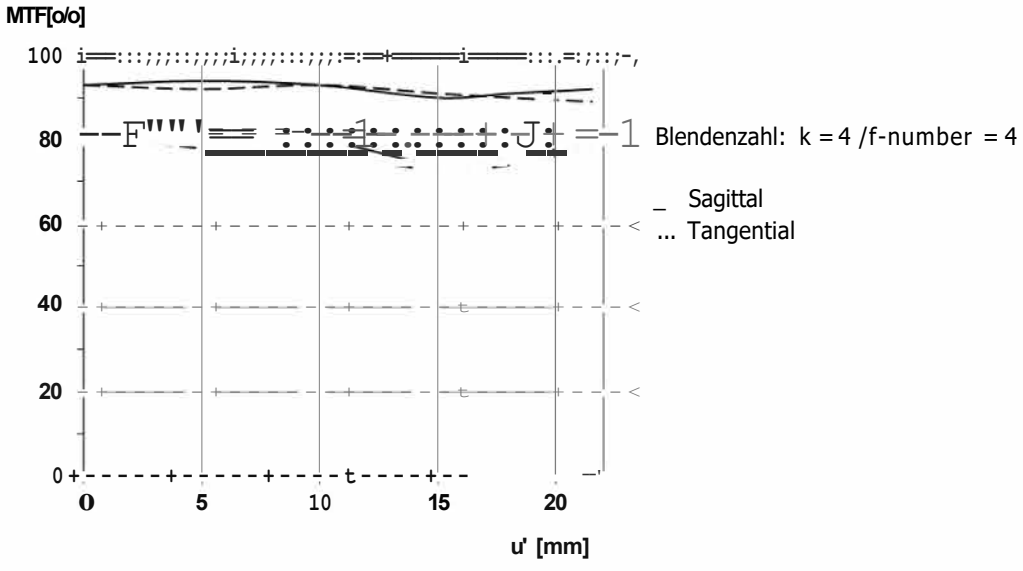
Modulationsubertragung MTF als Funktion der Bildhöhe (u') und Spaltorientierung. Weilses Licht. Ortsfrequenzen R=1 O, 20 und 40 Perioden/mm. // Modulation transfer MTF as a function of the image height (u') and slit orientation. White light. Spatial frequencies R=1 O, 20 and 40 cycles/mm.

Otus 1.4/100

MTF Charts

◆ = 1 : 20





Modulationsubertragung MTF als Funktion der Bildhbhe (u') und Spaltorientierung. Weilses Licht. Ortsfrequenzen R=1 O, 20 und 40 Perioden/mm. // Modulation transfer MTF as a fu nction of the image heig ht (u') and slit orientation. Wh ite lig ht. Spatial frequencies R=1 O, 20 and 40 cycles/mm.

Otus 1.4/100

Scharfentiefe/Depth of Field (DOF)*

Engraved Distance	f/1.4		f/2		f/2.8		f/4		f/5.6		f/8		f/11		f/16	
Meter	from	to	from	to	from	to	from	to	from	to	from	to	from	to	from	to
INF	233	INF	164	INF	118	INF	83	INF	59	INF	42	INF	30	INF	21	INF
15 m	14.1	16.0	13.8	16.4	13.4	17.1	12.8	18.2	12 .1	20	11 .1	23	10.1	29	8.85	51
7m	6.81	7.2	6.73	7.29	6.63	7.41	6.49	7.60	6.30	7.88	6.05	8.33	5.76	8.97	5.33	10.3
4m	3.94	4.06	3.92	4.09	3.88	4.13	3.84	4.18	3.77	4.26	3.68	4.38	3.58	4.54	3.42	4.85
3m	2.97	3.03	2.95	3.05	2.94	3.07	2.91	3.1 O	2.88	3.14	2.82	3.20	2.76	3.28	2.67	3.43
2.5 m	2.48	2.52	2.47	2.53	2.46	2.55	2.44	2.57	2.42	2.59	2.38	2.63	2.34	2.69	2.27	2.78
2.0 m	1.99	2.01	1.98	2.02	1.97	2.03	1.96	2.04	1.95	2.06	1.93	2.08	1.90	2.11	1.86	2.17
1.7 m	1.69	1.71	1.69	1.71	1.68	1.72	1.67	1.73	1.66	1.74	1.65	1.76	1.63	1.78	1.60	1.82
1.5 m	1.49	1.51	1.49	1.51	1.49	1.51	1.48	1.52	1.47	1.53	1.46	1.54	1.45	1.56	1.43	1.59
1.3 m	1.295	1.305	1.293	1.307	1.290	1.31 O	1.286	1.314	1.281	1.320	1.272	1.329	1.262	1.340	1.246	1.360
1.2 m	1.196	1.204	1.194	1.206	1.192	1.208	1.188	1.212	1.184	1.217	1.177	1.224	1.169	1.233	1.156	1.249
1.1 m	1.097	1.103	1.095	1.105	1.093	1.107	1.091	1.109	1.087	1.113	1.082	1.119	1.075	1.127	1.064	1.139
1.0 m	0.997	1.003	0.996	1.004	0.995	1.005	0.993	1.007	0.990	1.01 O	0.986	1.015	0.980	1.021	0.972	1.030

* Scharientiefetabelle fur das 24x36mm Format, Zerstreuungskreis 0.030mm (D/1500), gerundet auf 0.01 m //
Depth-of-field table for sensor format 24x36mm, circle of confusion 0.030mm (D/1500), rounded to 0.01 m

ZEISS Distagon T* 2,8/25

Features

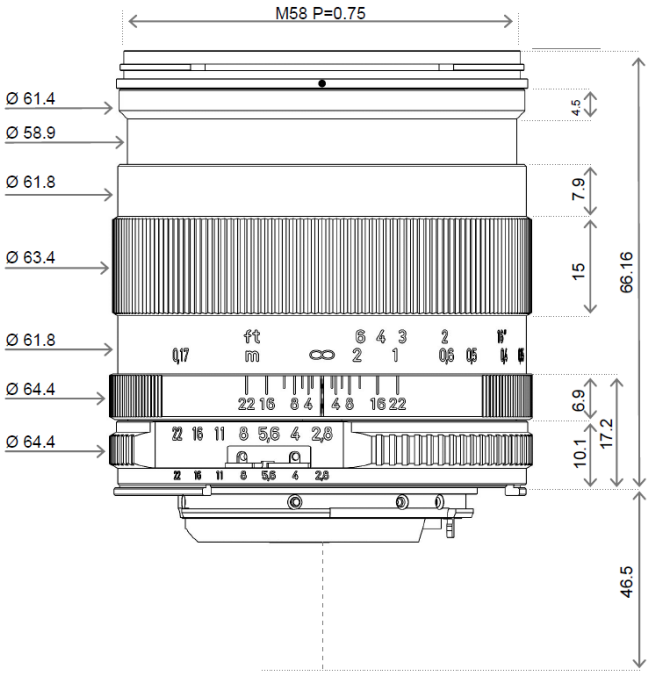
- f/2.8 aperture
- Precise manual focusing
- Robust full-metal construction
- Fixation for focus and aperture
- Identical color reproduction of all models
- For industrial cameras with F-Mount
  up to sensor sizes of 24x36 mm or 43mm line sensors.
- Very short free working distance (60 mm)

ZF-I: Industrial Edition
Features special screws to fix focus and aperture settings even in rough situations.

Camera Mounts
Available with ZF.2 and M42 mount.

ZEISS Distagon T* 2,8/25

Technical Specifications

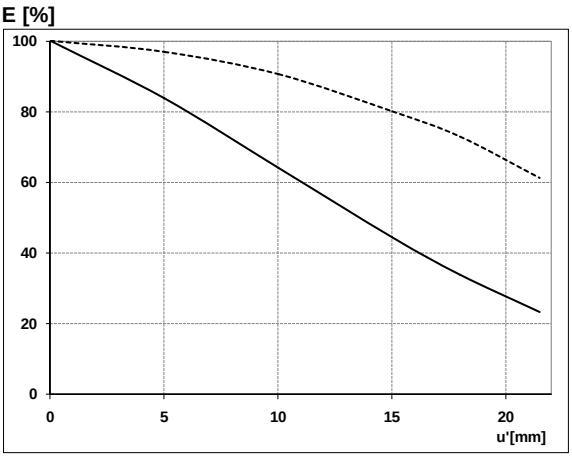


Focal length	25 mm
Aperture range	f/2.8 – f/22 (1/ 2 stop intervals)
Number of elements / groups	10 / 8
Min. working distance (object to sensor)	170 mm (0.56 ft.) – ∞
Min. free working distance	60 mm (0.20 ft.) – ∞
Angular field* (diag. / horiz. / vert.)	80 / 70 / 50°
Max. diameter of image field	43 mm (1.7")
Flange focal length	F-Mount: 46.5 mm (1.8"); M42-Mount: 45,5 mm
Coverage at close range	55 x 83 mm (2.17 x 3.27"), line 98mm (3.8”)
Image ratio at close range	1:2.3
Filter-thread	M 58 x 0.75
Weight	460 g (0.92 lbs)
Camera mount	F bayonet, M42

* referring to 35 mm format

ZEISS Distagon T* 2,8/25

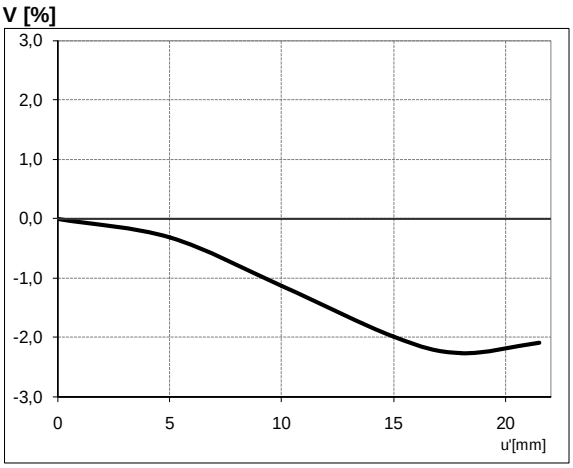
Relative Illuminance*



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

__ f-number 2.8
… f-number 5.6

Relative Distortion*



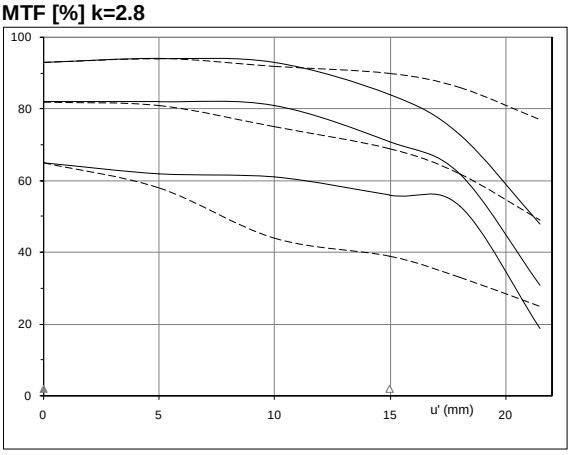
The relative distortion shows the deviation of the actual image height from the ideal one in percent.

**Data for infinite focus setting*

ZEISS Distagon T* 2,8/25

MTF Charts*

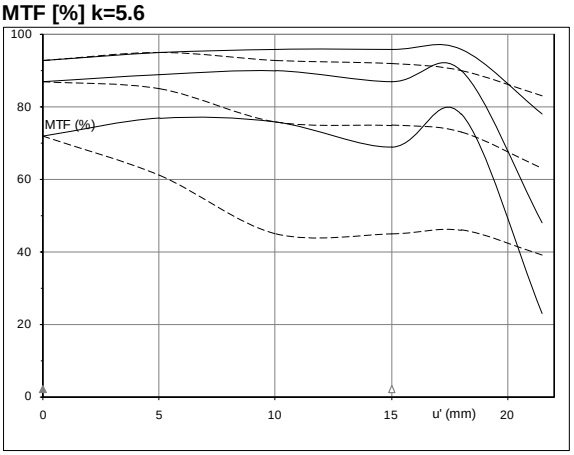
MTF [%] k=2.8



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. The MTF charts are valid for the ZF, ZF-I version and for white light.

f-number 2.8
__ Sagittal
… Tangential

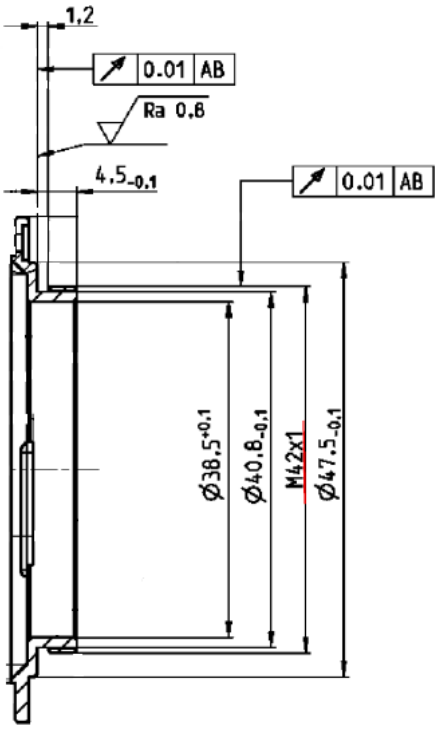
MTF [%] k=5.6



f-number 5.6
__ Sagittal
… Tangential

**Data for infinite focus setting / Not for IR version*

ZEISS Distagon T* 2,8/25



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!

ZEISS Distagon T* 2/28

Features

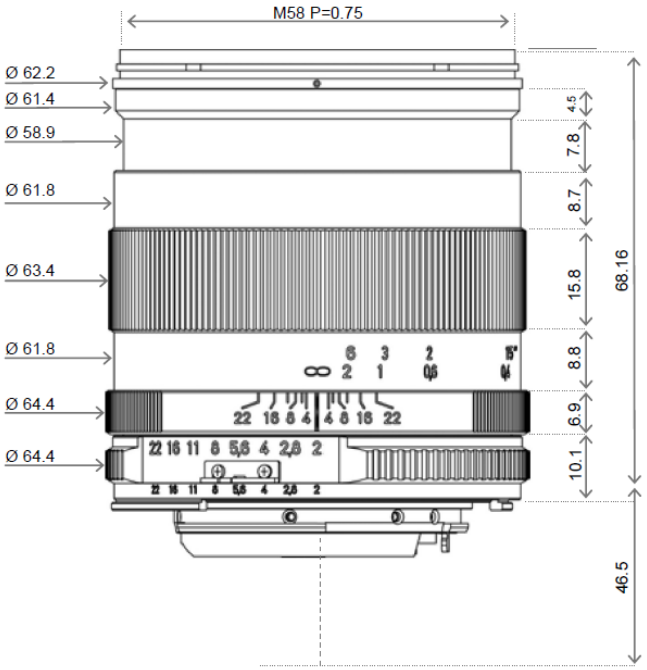
- Fast f/2.0 aperture
- Precise manual focusing
- Robust full-metal construction
- Fixation for focus and aperture
- Identical color reproduction of all models
- For industrial cameras with F-Mount
  up to sensor sizes of 24x36 mm or 43mm line sensors.

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.

ZEISS Distagon T* 2/28

Technical Specifications

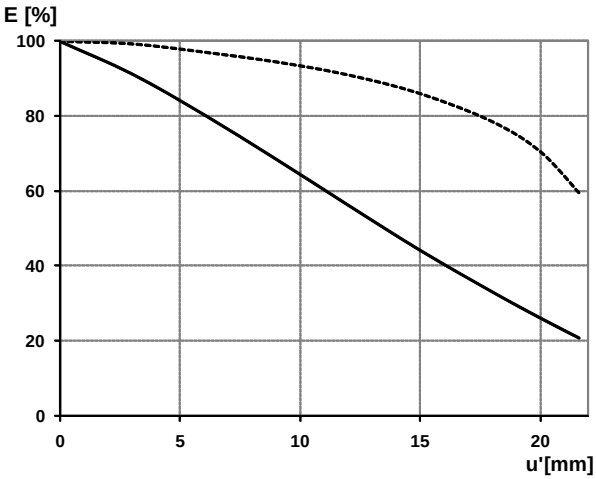


Focal length	28 mm
Aperture range	f/2 – f/22 (1/2 stop intervals)
Number of elements / groups	10 / 8
Min. working distance (object to sensor)	240 mm (0.8 ft.) – ∞
Min. free working distance	120 mm (0.4 ft.) – ∞
Angular field* (diag. / horiz. / vert.)	74 / 65 / 45°
Max. diameter of image field	43 mm (1.7")
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

* referring to 35 mm format

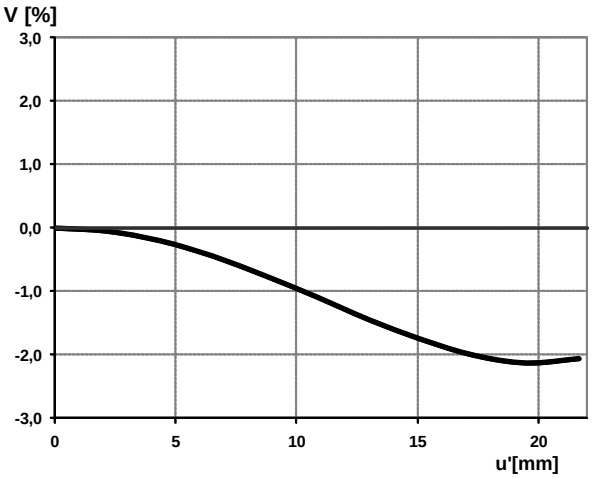
ZEISS Distagon T* 2/28

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

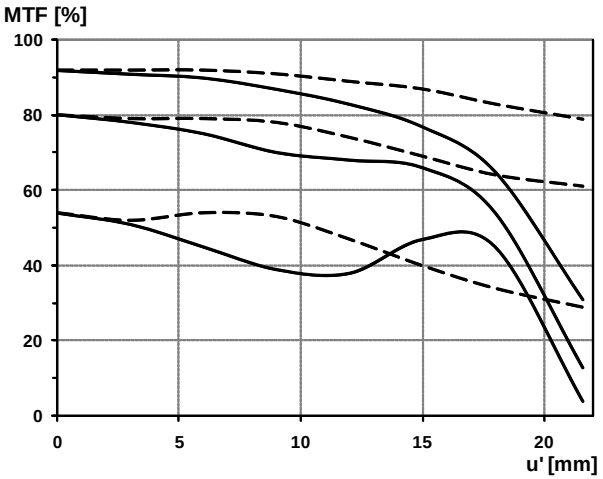


The relative distortion shows the deviation of the actual image height from the ideal one in percent.

**Data for infinite focus setting*

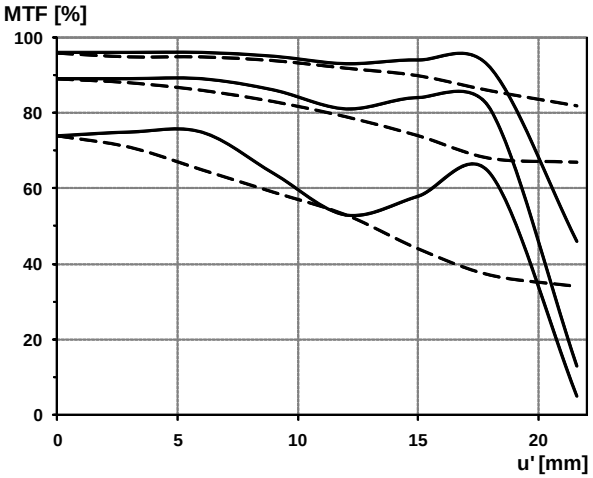
ZEISS Distagon T* 2/28

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.

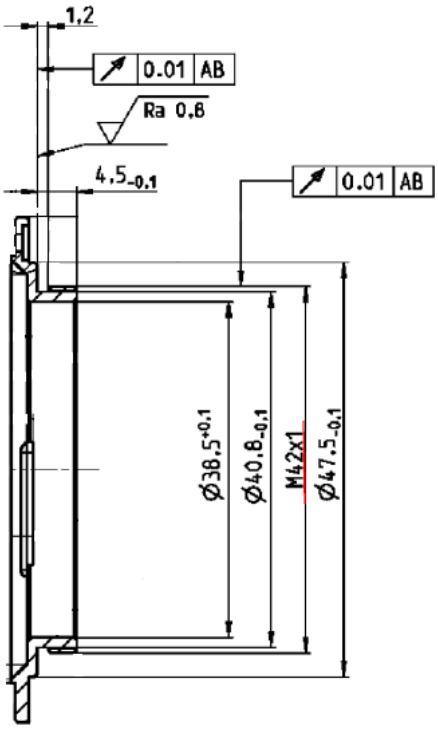
f-number 2
__ Sagittal
… Tangential



f-number 4
__ Sagittal
… Tangential

**Data for infinite focus setting*

ZEISS Distagon T* 2/28



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!

ZEISS Distagon T* 2/35

Features

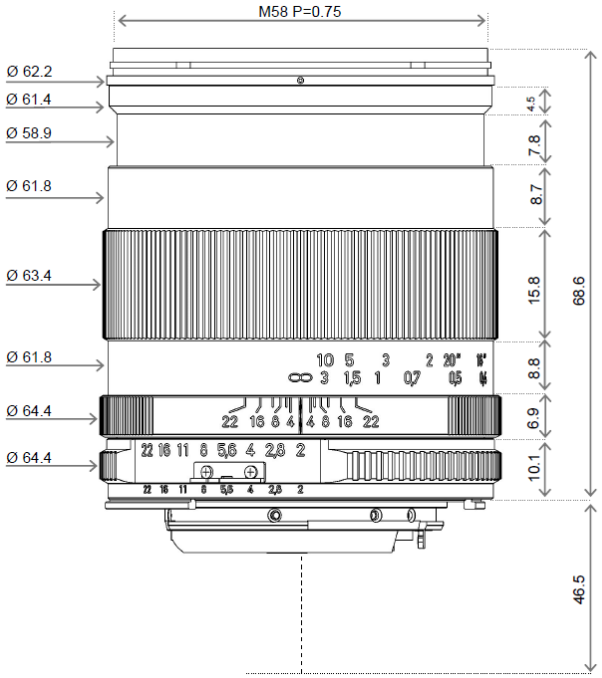
- Fast f/2.0 aperture
- Precise manual focusing
- Robust full-metal construction
- Fixation for focus and aperture
- Identical color reproduction of all models
- For industrial cameras with F-Mount
  up to sensor sizes of 24x36 mm or 43mm line sensors.

ZF-I: Industrial Edition
Features special screws to fix focus and aperture settings even in rough situations.

Camera Mounts
Available with ZF.2 and M42 mount.

ZEISS Distagon T* 2/35

Technical Specifications

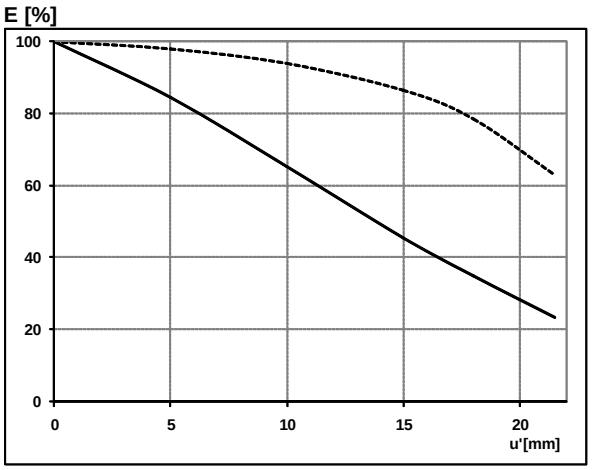


Focal length	35 mm
Aperture range	f/2 – f/22 (1/ 2 stop intervals)
Number of elements / groups	9 / 7
Min. working distance (object to sensor)	300 mm (0.98 ft.) – ∞
Min. free working distance	180 mm (0.59 ft.) – ∞
Angular field* (diag. / horiz. / vert.)	62 / 53 / 37°
Max. diameter of image field	43 mm (1.7")
Flange focal length	F-Mount: 46.5 mm (1.8"); M42-Mount: 45,5 mm
Coverage at close range	128 x 191 mm (5.0 x 7.5"), line 228 mm (8.9”)
Image ratio at close range	1:5.3
Filter-thread	M 58 x 0.75
Weight	530 g (1.06 lbs.)
Camera mount	F bayonet, M42

* referring to 35 mm format

ZEISS Distagon T* 2/35

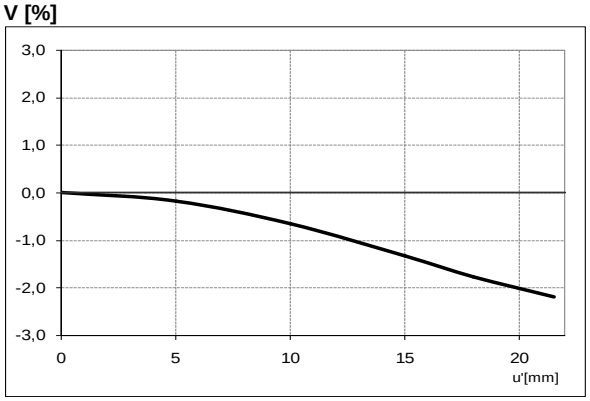
Relative Illuminance*



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*

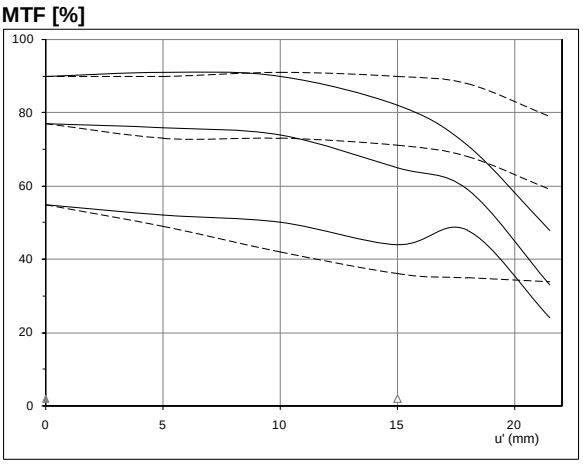


The relative distortion shows the deviation of the actual image height from the ideal one in percent.

**Data for infinite focus setting*

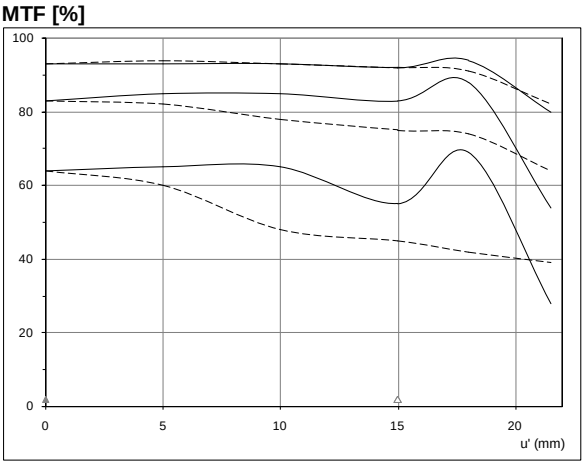
ZEISS Distagon T* 2/35

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.

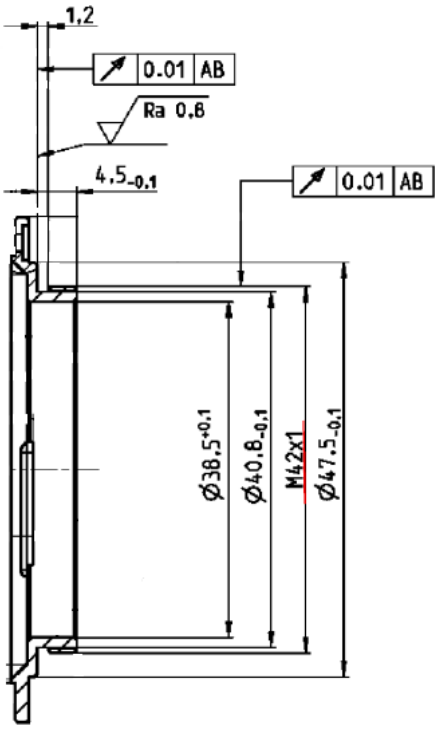
f-number 2
__ Sagittal
… Tangential



f-number 4
__ Sagittal
… Tangential

**Data for infinite focus setting*

ZEISS Distagon T* 2/35



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!

ZEISS Planar T* 1.4/50

Features

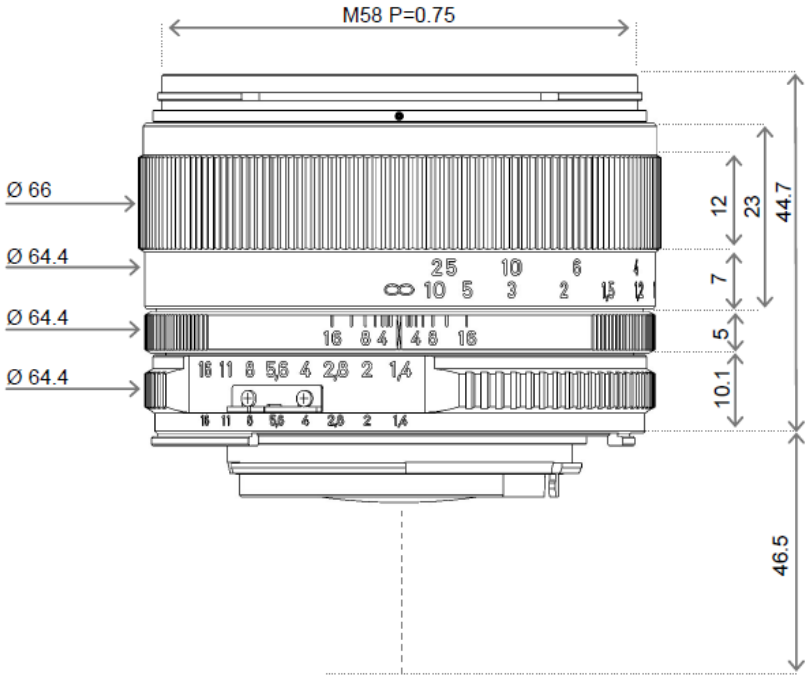
- Fast f/1.4 aperture
- Precise manual focusing
- Robust full-metal construction
- Fixation for focus and aperture
- Identical color reproduction of all models
- For industrial cameras with F-Mount
  up to sensor sizes of 24x36 mm or 43mm line sensors.

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.

ZEISS Planar T* 1.4/50

Technical Specifications

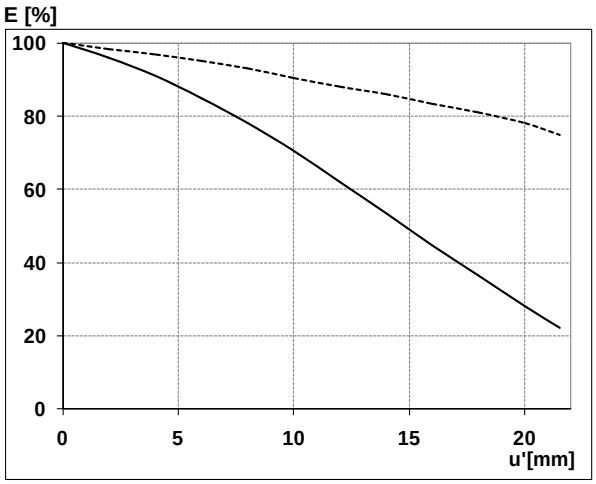


Focal length	50 mm
Aperture range	f/1.4 – f/16 (1/ 2 stop intervals)
Number of elements / groups	7 / 6
Min. working distance (object to sensor)	450 mm (1.48 ft.) – ∞
Min. free working distance	351mm (1.15 ft.) – ∞
Angular field* (diag. / horiz. / vert.)	45 / 38 / 26 °
Max. diameter of image field	43 mm (1.7")
Flange focal length	F-Mount: 46.5 mm (1.8"); M42-Mount: 45,5 mm
Coverage at close range	160 x 240 mm (6.3 x 9.4"), line 288 mm (11”)
Image ratio at close range	1:6.7
Filter-thread	M 58 x 0.75
Weight	330 g (0.66 lbs.)
Camera mount	F bayonet, M42, EF

* referring to 35 mm format

ZEISS Planar T* 1.4/50

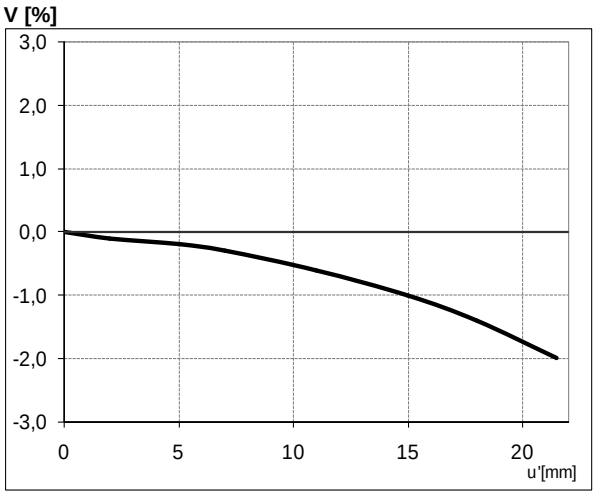
Relative Illuminance*



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

__ f-number 1.4
… f-number 4

Relative Distortion*

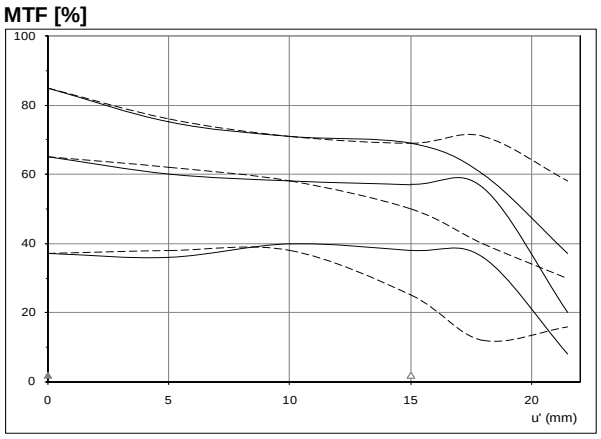


The relative distortion shows the deviation of the actual image height from the ideal one in percent.

**Data for infinite focus setting*

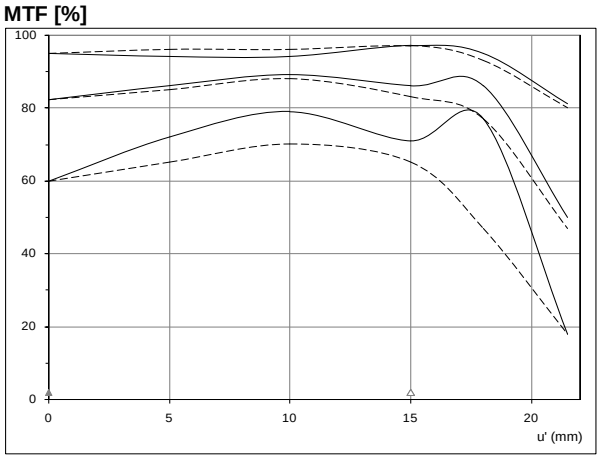
ZEISS Planar T* 1.4/50

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. The MTF charts are valid for the ZF, ZF-I version and for white light.

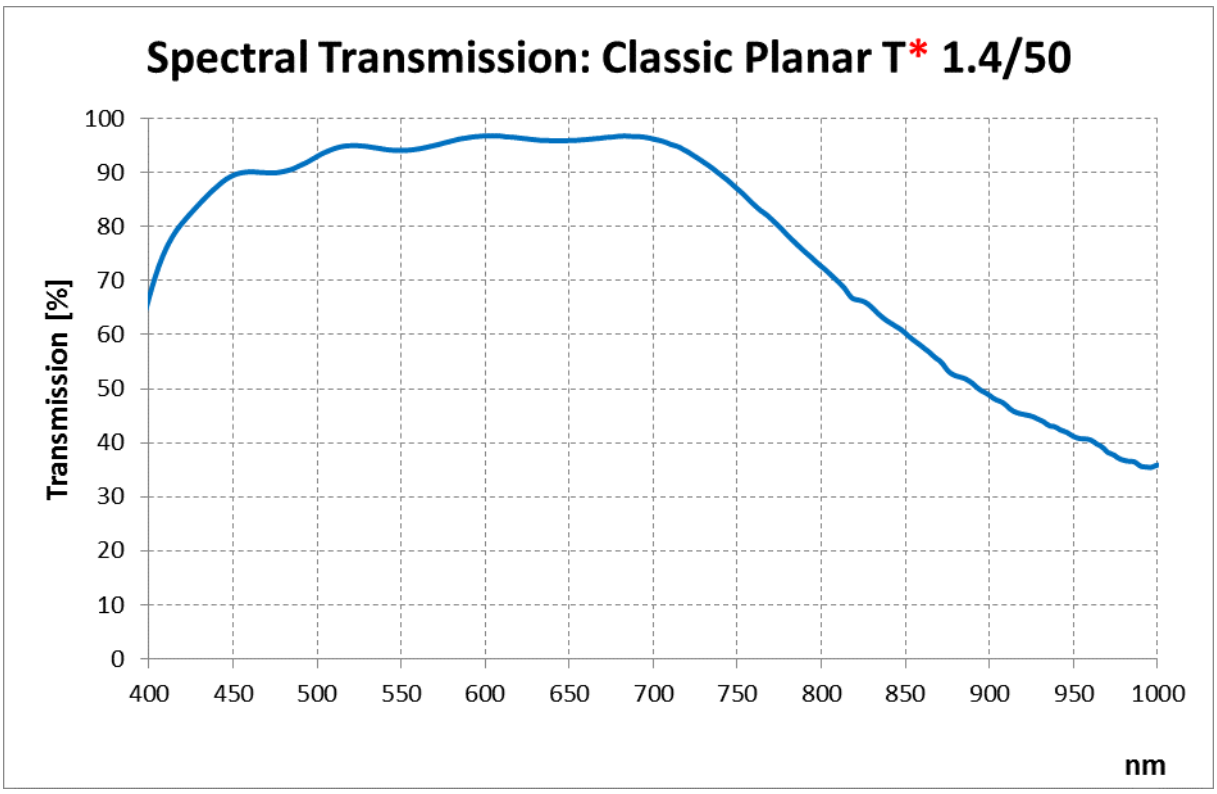
f-number 1.4
__ Sagittal
… Tangential



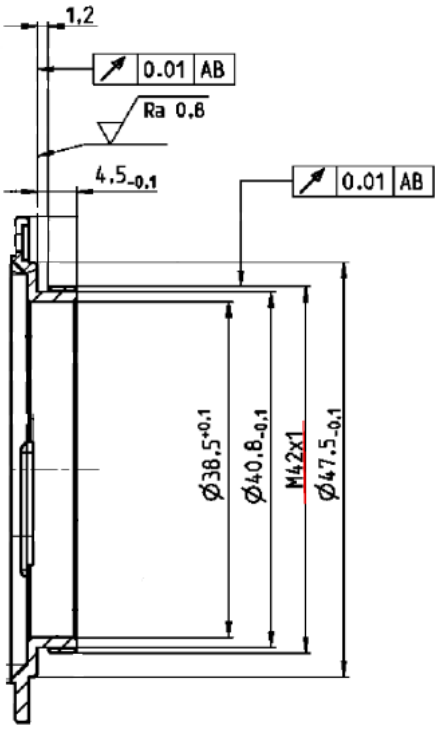
f-number 4
__ Sagittal
… Tangential

**Data for infinite focus setting / Not for IR version*

ZEISS Planar T* 1.4/50



ZEISS Planar T* 1.4/50



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!

ZEISS Planar T* 1.4/85

Features

- Fast f/1.4 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.

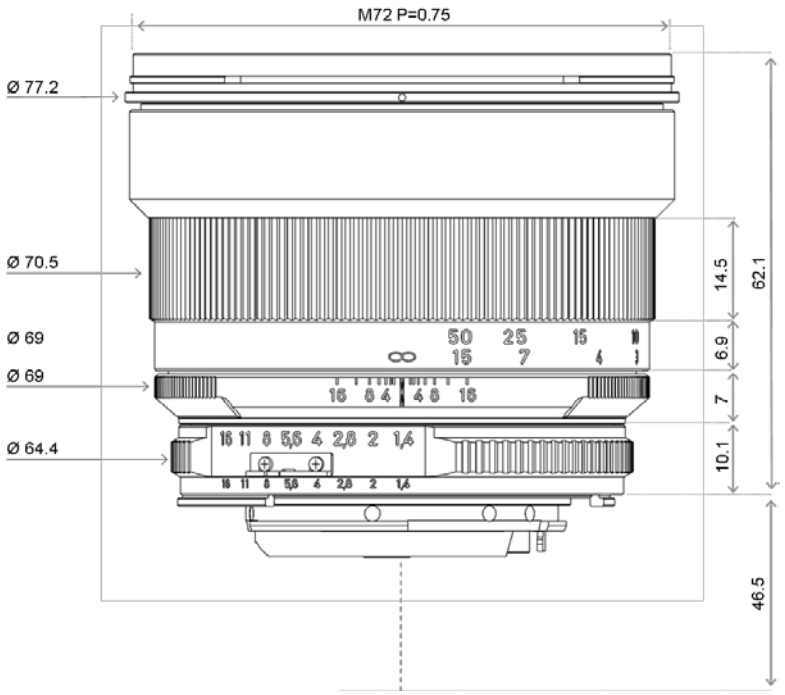
ZF-I: Industrial Edition
Features special screws to fix focus and aperture settings even in rough situations.

ZF-IR: Infrared Edition
Features special coating for optimized performance in near-infrared applications.

Camera Mounts
Available with ZF.2, EF and M42 mount.

ZEISS Planar T* 1.4/85

Technical Specifications

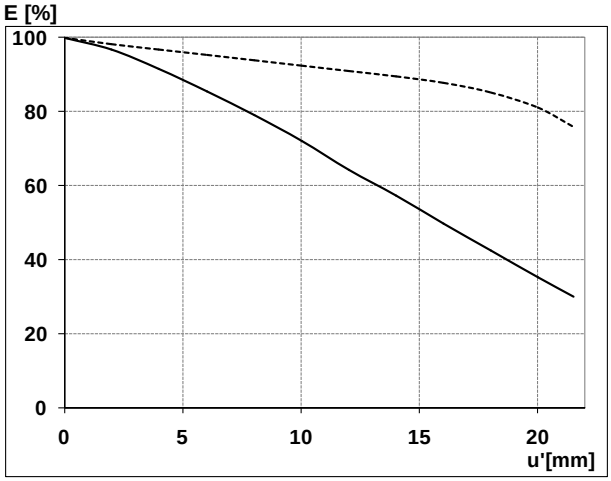


Focal length	85 mm
Aperture range	f/1.4 – f/16 (1/ 2 stop intervals)
Number of elements / groups	6 / 5
Min. working distance (object to sensor)	1000 mm (3.28 ft.) – ∞
Min. free working distance	883 mm (2.90 ft.) – ∞
Angular field* (diag. / horiz. / vert.)	29 / 24 / 16°
Max. diameter of image field	43 mm (1.7")
Flange focal length	F-Mount: 46.5 mm (1.8"); M42-Mount: 45,5 mm
Coverage at close range	240 x 360 mm (9.4 x 14"), line 430 mm (16.5”)
Image ratio at close range	1:10
Filter-thread	M 72 x 0.75
Weight	600 g (1.2 lbs.)
Camera mount	F bayonet, M42, EF

* referring to 35 mm format

ZEISS Planar T* 1.4/85

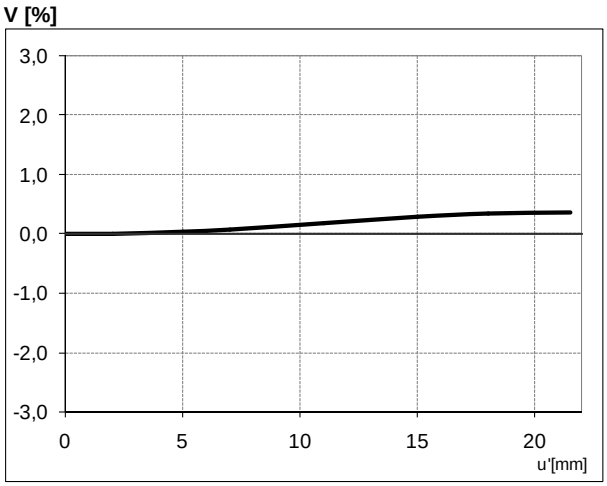
Relative Illuminance*



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

__ f-number 1.4
… f-number 2.8

Relative Distortion*

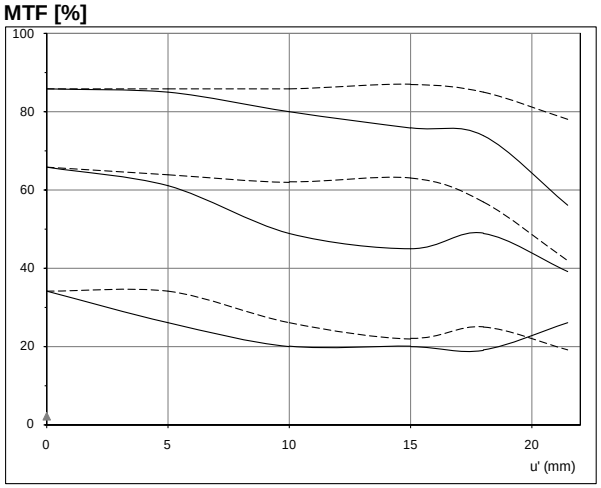


The relative distortion shows the deviation of the actual image height from the ideal one in percent.

**Data for infinite focus setting*

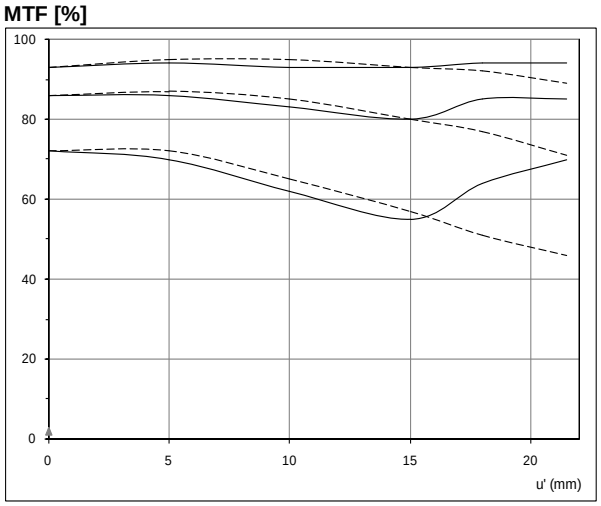
ZEISS Planar T* 1.4/85

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. The MTF charts are valid for the ZF, ZF-I version and for white light.

f-number 1.4
__ Sagittal
… Tangential

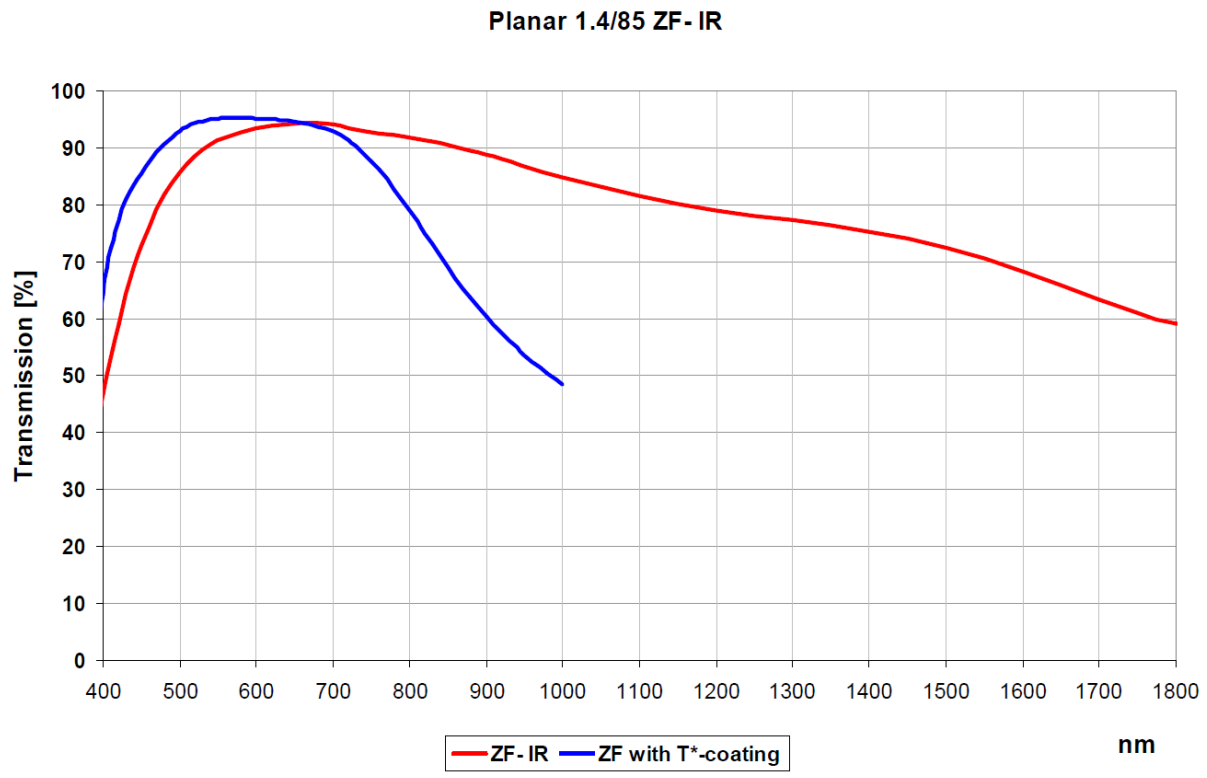


f-number 5.6
__ Sagittal
… Tangential

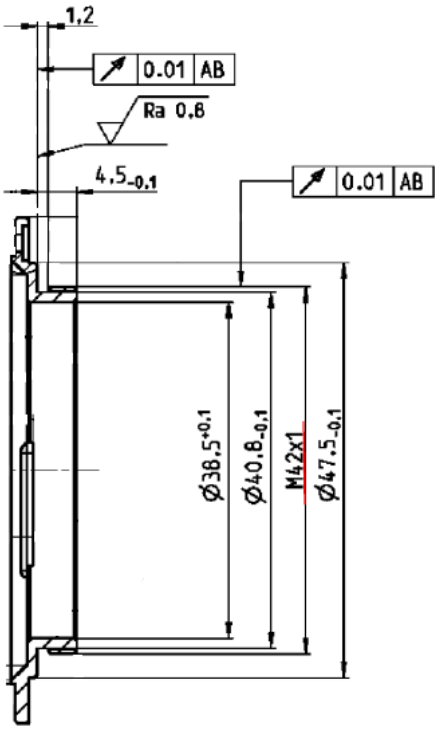
**Data for infinite focus setting / Not for IR version*

ZEISS Planar T* 1.4/85

Spectral Transmission ZF vs. ZF-IR



ZEISS Planar T* 1.4/85



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!

ZEISS Biogon T* 2.8/21 M42-I

Features

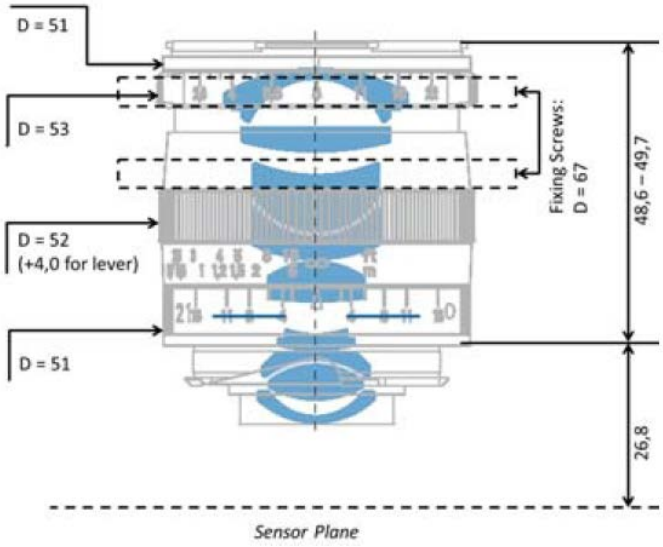
- f/2.8 aperture
- Precise manual focusing
- Robust full-metal construction
- Fixation for focus and aperture
- Outstanding image quality
- Compact and lightweight
- For industrial cameras up to sensor sizes of 24x36 mm or 43mm line sensors

M42-I: Industrial Edition
Features special screws to fix focus and aperture settings even in rough situations.

Camera Mount
Available with M42-Mount.

ZEISS Biogon T* 2.8/21 M42-I

Technical Specifications

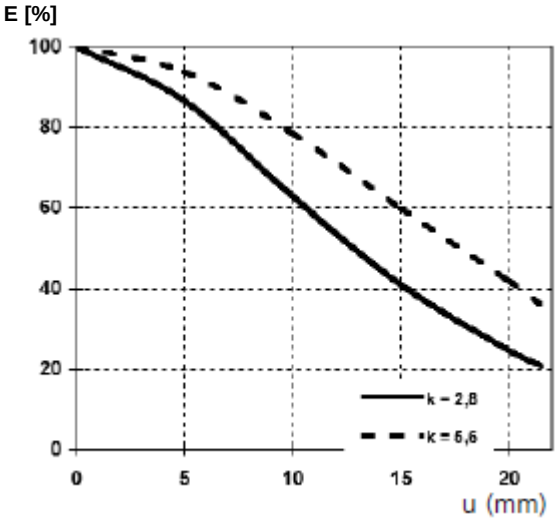


Focal length	21 mm
Aperture range	f/2.8 – f/22 (1/ 3 stop intervals)
Number of elements / groups	9 / 7
Focusing range	0.5 m- infinity
Min. free working distance	420 mm (1.38 ft.)
Angular field* (diag. / horiz. / vert.)	90 / 80 / 58°
Max. diameter of image field	43 mm (1.7")
Flange focal distance	M-42I: 26.8 mm
Coverage at close range*	47 x 71 cm
Image ratio at close range	1:21
Filter-thread	M 46 x 0.75
Weight	300 g (0.66 lbs)
Length	64 mm
Camera mount	M42-I

* referring to 24x36mm sensor format

ZEISS Biogon T* 2.8/21 M42-I

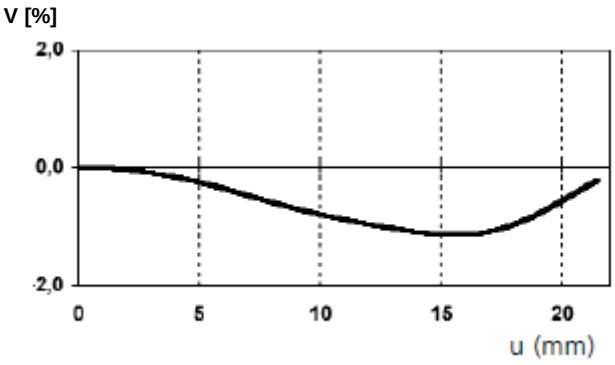
Relative Illuminance*



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

__ f-number 2.8
… f-number 5.6

Relative Distortion*



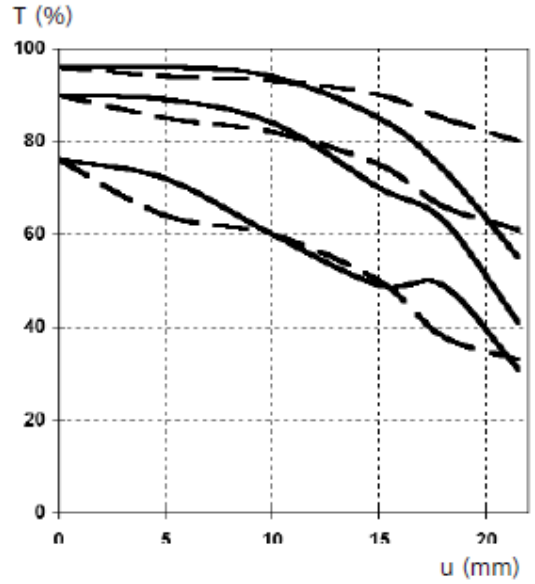
The relative distortion shows the deviation of the actual image height from the ideal one in percent.

* data for infinite focus setting

ZEISS Biogon T* 2.8/21 M42-I

MTF Charts*

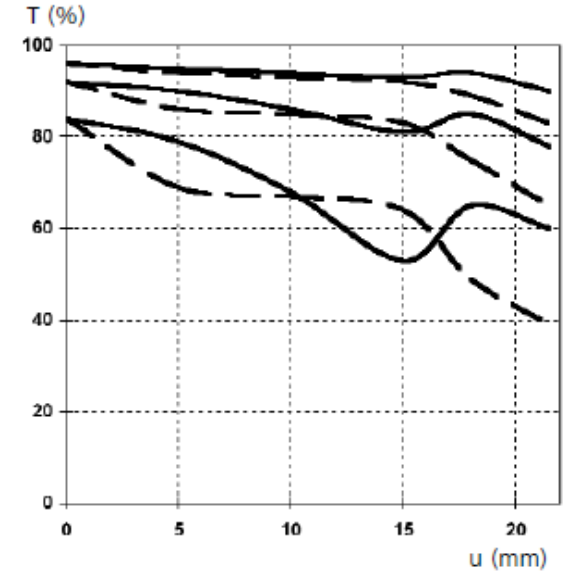
MTF [%] k=2.8



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. The MTF charts are valid for the ZM-version and for white light.

f-number 2.8
__ Sagittal
… Tangential

MTF [%] k=5.6



f-number 5.6
__ Sagittal
… Tangential

* data for infinite focus setting

ZEISS Biogon T* 2/35 M42-I

Features

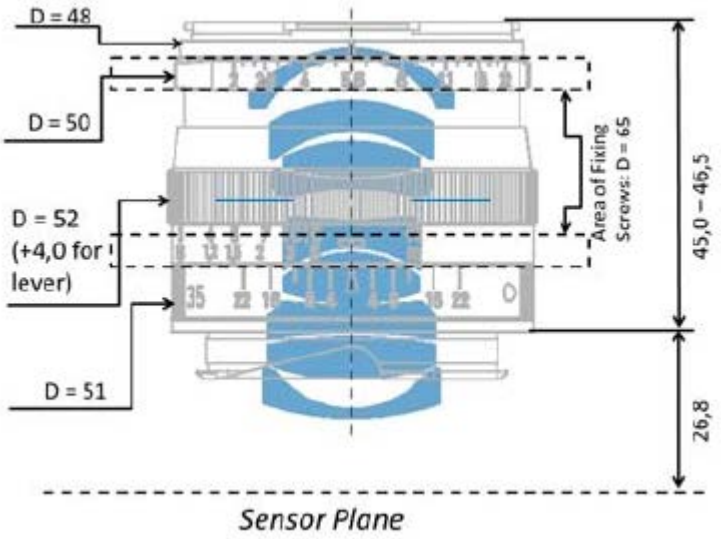
- f/2 aperture
- Moderate wide-angle lens
- Precise manual focusing
- Robust full-metal construction
- Fixation for focus and aperture
- Outstanding image quality
- Compact and lightweight
- For industrial cameras up to sensor sizes of 24x36 mm or 43mm line sensors.

M42-I: Industrial Edition
Features special screws to fix focus and aperture settings even in rough situations.

Camera Mount
Available with M42-Mount.

ZEISS Biogon T* 2/35 M42-I

Technical Specifications

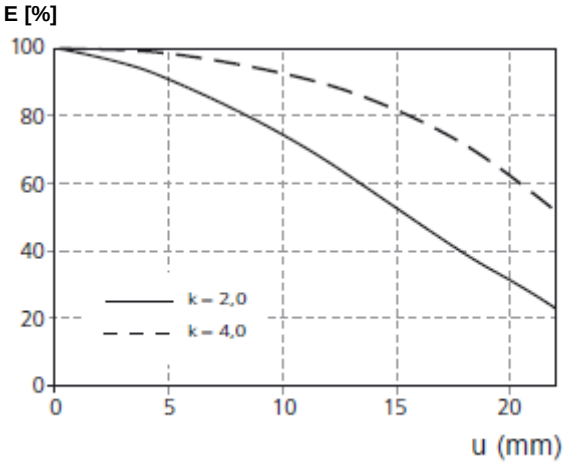


Focal length	35 mm
Aperture range	f/2 – f/22 (1/ 3 stop intervals)
Number of elements / groups	9 / 6
Focusing rage	0.7 m - ∞
Min. free working distance	630 mm (2.07 ft.)
Angular field* (diag. / horiz. / vert.)	63 / 54 / 38°
Max. diameter of image field	43 mm (1.7")
Flange focal distance	M42-I: 26.8 mm
Coverage at close range*	43 x 65 cm
Image ratio at close range	1:18
Filter-thread	M 43 x 0.75
Weight	240 g (0.53 lbs)
Length	56 mm
Camera mount	M42-I

* referring to 24x36mm sensor format

ZEISS Biogon T* 2/35 M42-I

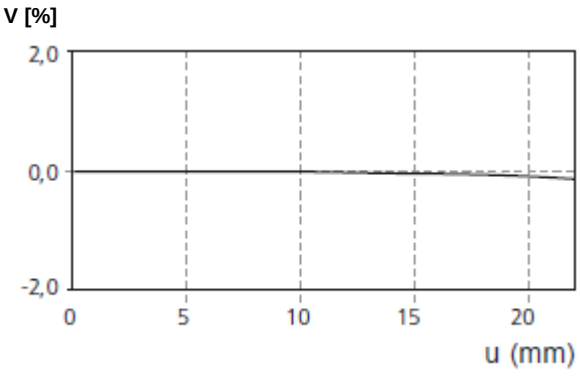
Relative Illuminance*



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

__ f-number 2.0
… f-number 4.0

Relative Distortion*



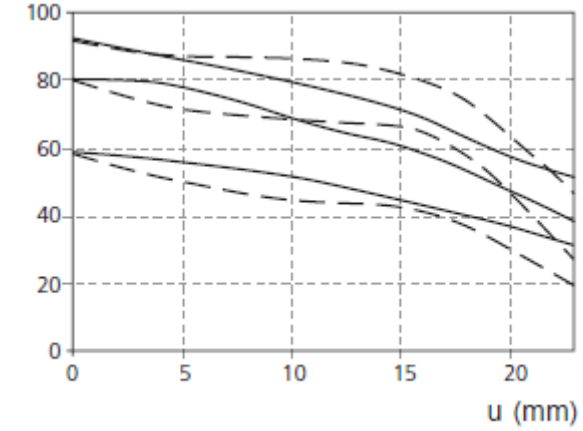
The relative distortion shows the deviation of the actual image height from the ideal one in percent.

* data for infinite focus setting

ZEISS Biogon T* 2/35 M42-I

MTF Charts*

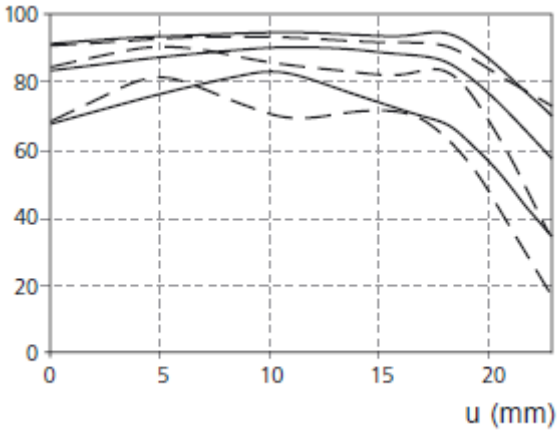
MTF [%] k=2.0



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. The MTF charts are valid for the ZM-version and for white light.

f-number 2.0
__ Sagittal
… Tangential

MTF [%] k=4.0



f-number 4.0
__ Sagittal
… Tangential

* data for infinite focus setting

ZEISS C Sonnar T* 1.5/50 M42-I

Features

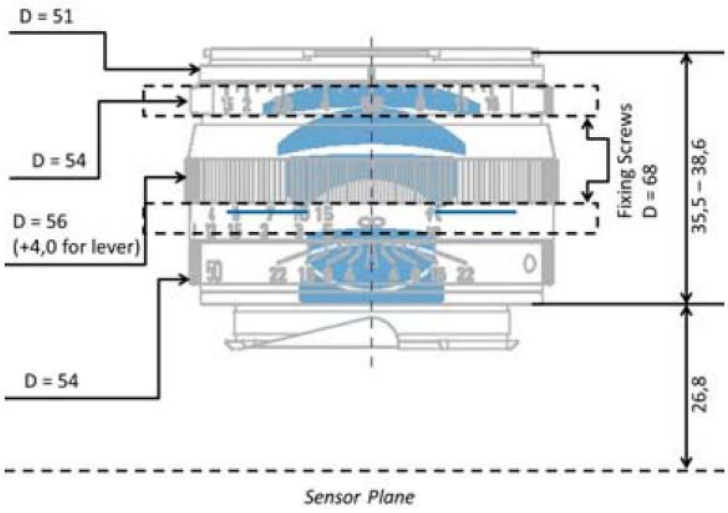
- Fast 1.5 aperture
- compact standard lens
- Precise manual focusing
- Robust full-metal construction
- Fixation for focus and aperture
- Outstanding image quality
- Compact and lightweight
- For industrial cameras up to sensor sizes of 24x36 mm or 43mm line sensors.

M42-I: Industrial Edition
Features special screws to fix focus and aperture settings even in rough situations.

Camera Mount
Available with M42-Mount.

ZEISS C Sonnar T* 1.5/50 M42-I

Technical Specifications

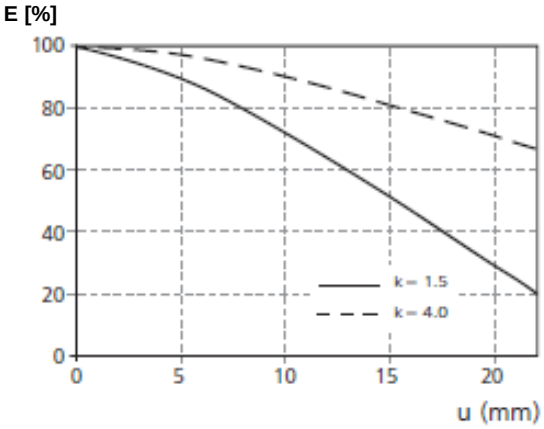


Focal length	50 mm
Aperture range	f/1,5 – f/16 (1/ 3 stop intervals)
Number of elements / groups	6 / 4
Focusing range	0.9 m - ∞
Min. free working distance	830 mm (2.72 ft.)
Angular field* (diag. / horiz. /vert.)	45 / 38 / 26°
Max. diameter of image field	43 mm (1.7")
Flange focal distance	M42-I: 26.8 mm
Coverage at close range*	37 x 55 cm
Image ratio at close range	1:15
Filter-thread	M 46 x 0.75
Weight	250 g (0.55 lbs)
Length	45 mm
Camera mount	M42-I

* referring to 24x36 mm sensor fomat

ZEISS C Sonnar T* 1.5/50 M42-I

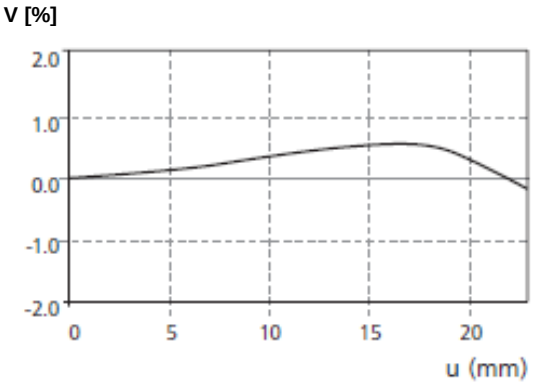
Relative Illuminance*



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

__ f-number 1.5
… f-number 4.0

Relative Distortion*



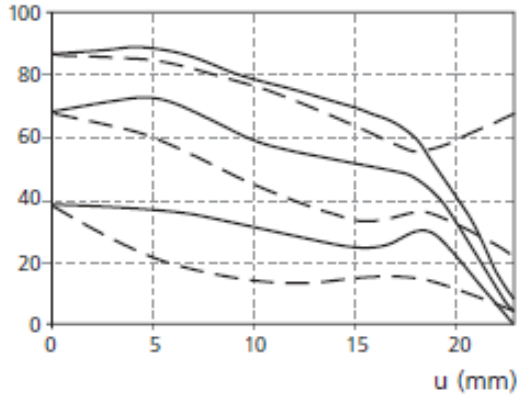
The relative distortion shows the deviation of the actual image height from the ideal one in percent.

* data for infinite focus setting

ZEISS C Sonnar T* 1.5/50 M42-I

MTF Charts*

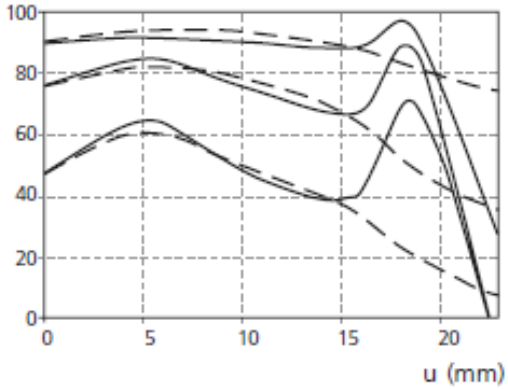
MTF [%] k=1.5



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. The MTF charts are valid for the ZM-version and for white light.

f-number 1.5
__ Sagittal
… Tangential

MTF [%] k=4.0



f-number 4.0
__ Sagittal
… Tangential

* data for infinite focus setting

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