

vicotar® TO112/21.3-500-V-eLD

Short description: telecentric measuring lens, C-mount, sensor max type 4/3, aperture F8-F22, extremely LD
Order number: 2-05-634

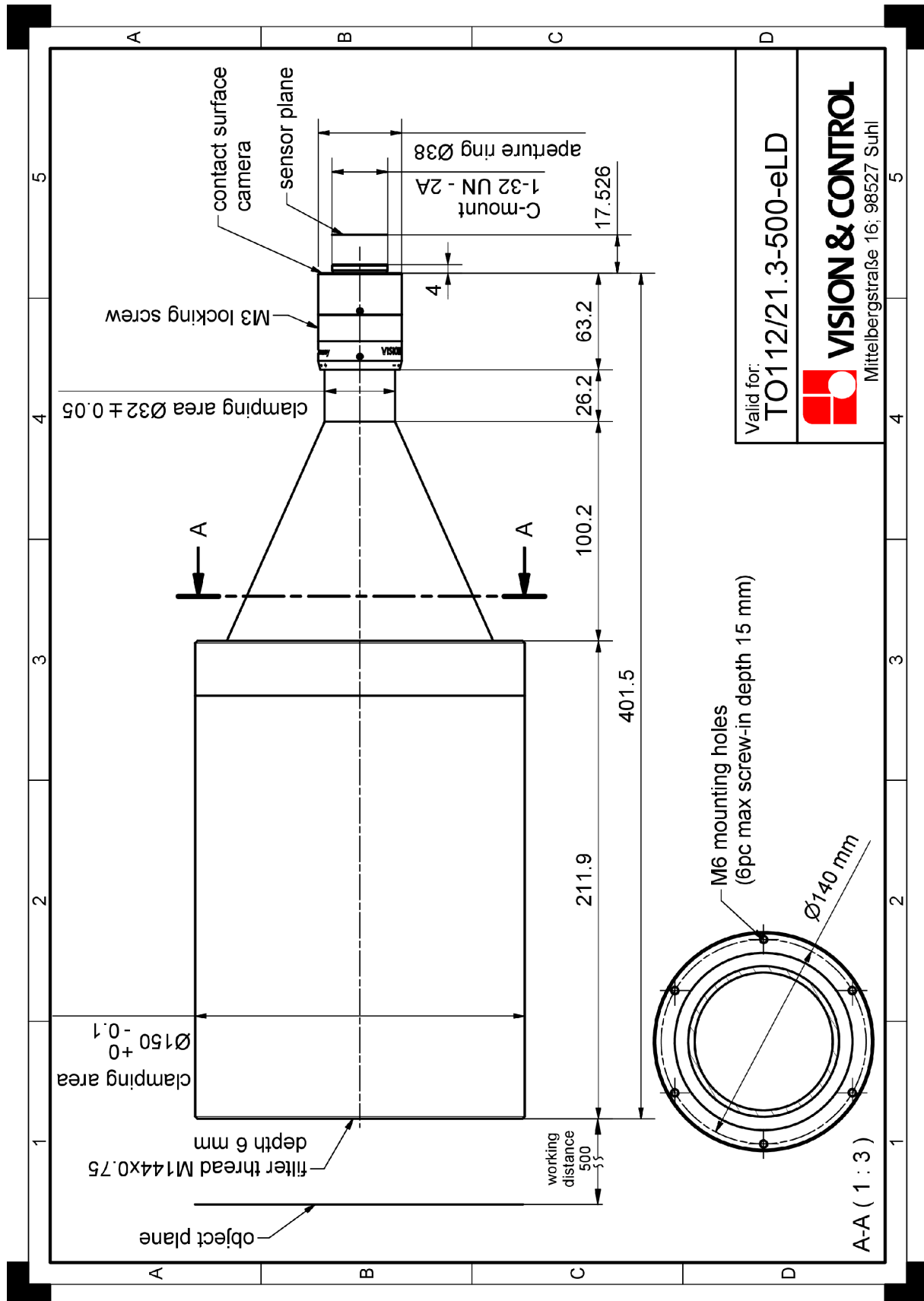
1 CHARACTERISTICS

- telecentric measuring objective with object-sided telecentric beam path
- extremely long working distance
- designed for monochromatic applications
- very well suited for blue LEDs including "deep blue" LEDs
- high resolution, low telecentric error
- adjustable aperture, lockable
- robust industrial design

2 TECHNICAL DATA

Image scale:	0.188 ± 2%
Depth image scale ($\Delta z' / \Delta z$):	0.035
Spectral range:	400 nm – 950 nm (monochromatic)
Working distance:	500 mm ± 2 mm
Camera distance (object-camera flange):	902 mm
Imaging length:	919.1 mm
Object field diagonal (max.):	112 mm
Sensor format (optimal):	Type 4/3
Image field diagonal (max.):	21.3 mm
Suitable for camera resolution:	25 MPixel
Recommended pixel size:	3 µm
Minimal object-side resolvable structure detail:	40 µm (@ 470 nm, F8)
Aperture:	F8 – F22
Depth of field:	31 mm (F11, 525 nm, MTF = 20 % @ 20 LP/mm)
Lens length:	402 mm
Lens diameter (max.):	150 mm
Lens mount:	C-Mount
Filter thread, object-side:	M144 x 0.75
Filter thread, camera-side:	M20.5 x 0.5
Weight:	4500 g
Usable object field with	
• Sensor type 4/3 (17.3 x 13.0 mm²):	90.7 mm x 68.1 mm
• 1" sensor (12.8 x 9.6 mm²):	68.1 mm x 51.1 mm
• 2/3" sensor (8.8 x 6.6 mm²):	46.8 mm x 35.1 mm

3 CUSTOMER DRAWING



4 EXTENSION RINGS

Extension rings mainly shorten the working distance. The magnification also changes, but only very slightly.

The working distance is reduced by approximately the thickness of the extension ring divided by the depth magnification.

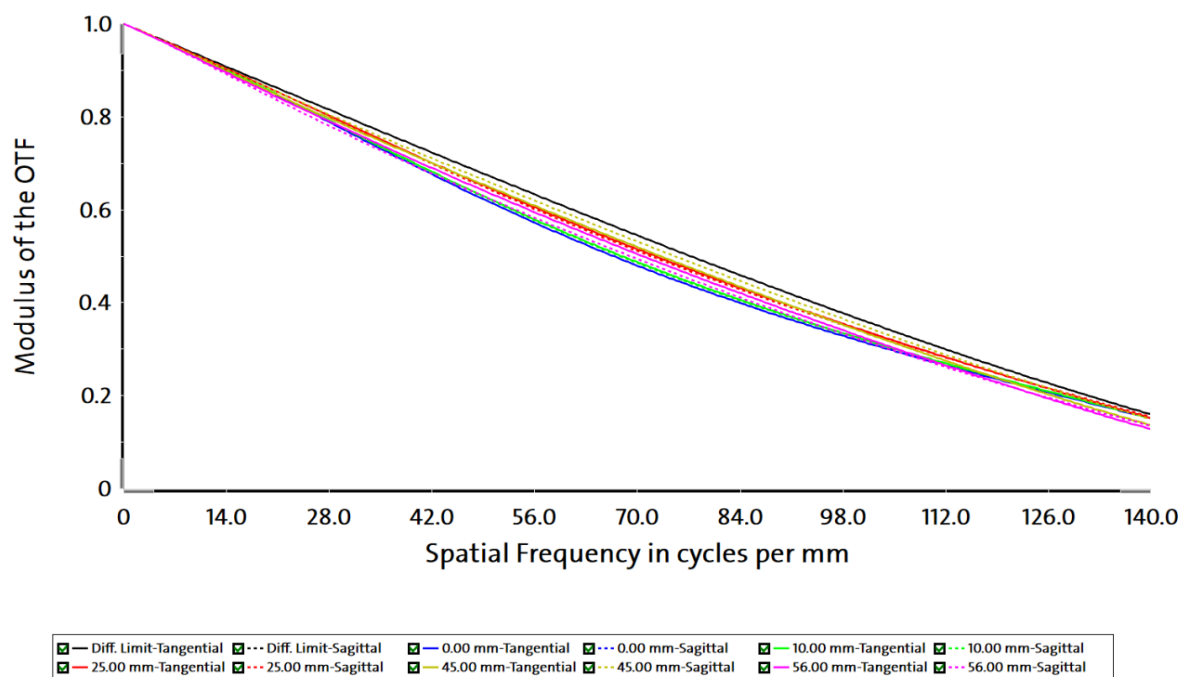
Extension rings can reduce the ideal imaging performance specified in the data sheet.

Parameter	Value
Working distance	500
Working distance with extension ring 0.1 mm	497
Working distance with extension ring 0.2 mm	494
Working distance with extension ring 0.5 mm	486
Working distance with extension ring 1 mm	472

5 OPTICAL CHARACTERISTICS (DESIGN DATA)

5.1 MONOCHROMATIC MTF IN THE IMAGE SPACE DEPENDING ON THE OBJECT FIELD HEIGHT

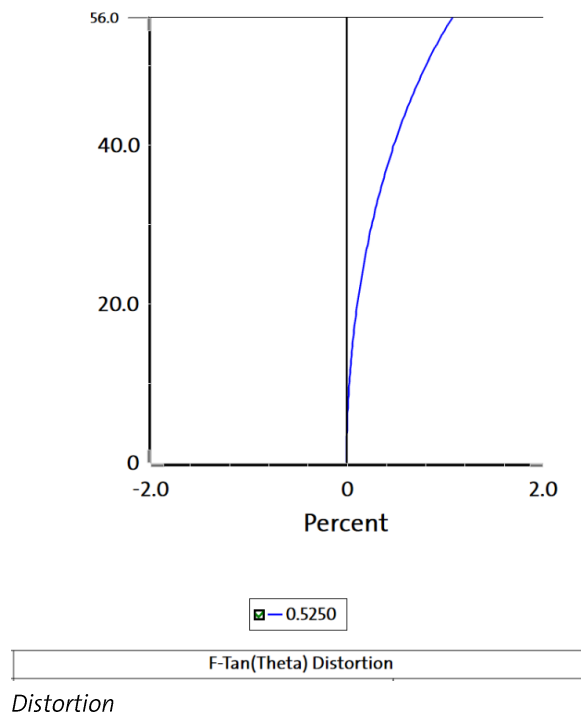
Wavelength: 525 nm



Diffraction MTF

F-number: F10

5.2 DISTORTION



5.3 FARBLÄNGSFEHLER

