
TO44/7.5-287-V-M

Short description: Telecentric measuring lens, C-mount, sensor max. 1/2", f-number F6–F16, VIS/NIR
Order number: 2-05-391

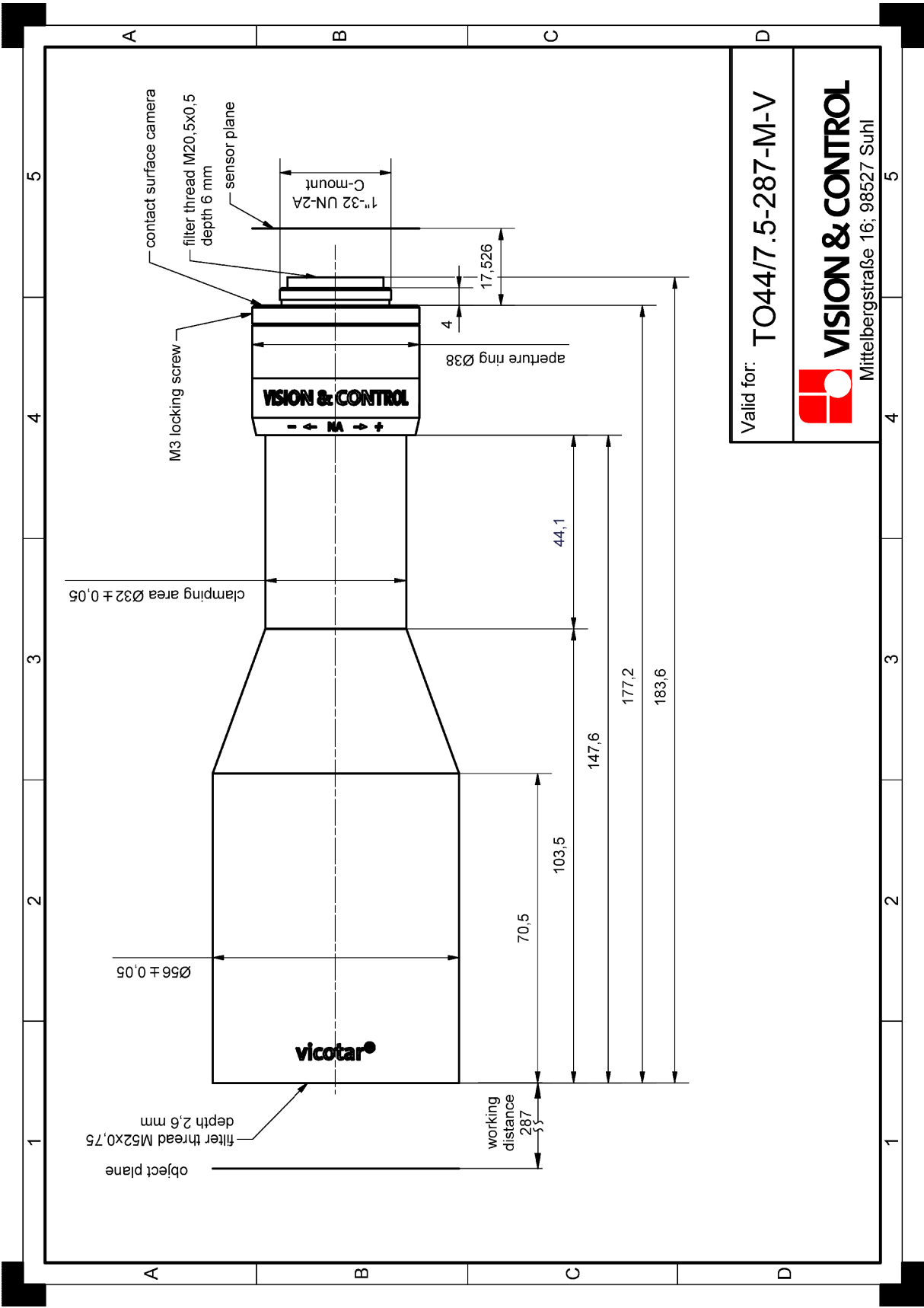
1 CHARACTERISTICS

- telecentric measuring lens with object-sided telecentric beam path
 - monochromatic usable for the visible spectral range and near infrared
 - adjustable aperture, lockable
 - robust industrial design
 - long working distance
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2 TECHNICAL DATA

Image scale:	0.17 ± 2%
Spectral range:	400 nm – 950 nm, monochromatic usable
Working distance:	287 mm ± 3 mm
Camera distance (object-camera flange):	464 mm
Object field diagonal (max):	44 mm
Sensor format (max):	1/2"
Image field diagonal (max):	7.5 mm
Suitable for camera resolution:	2.6 megapixel
Recommended pixel size:	3.45 µm
Aperture:	F6 – F16
Depth of field:	7 mm (F10, 470 nm @ MTF = 20 % @ 50 LP/mm)
Lens length:	177 mm
Lens diameter (max):	56 mm
Lens mount:	C-mount
Filter thread, object-side:	M52 x 0.75
Filter thread, camera-side:	M20.5 x 0.5
Weight:	326 g
Usable object field with	
• 1/2" sensor:	37.6 mm x 28.2 mm
• 1/3" sensor:	28.2 mm x 21.2 mm
• 1/4" sensor:	20 mm x 12.9 mm

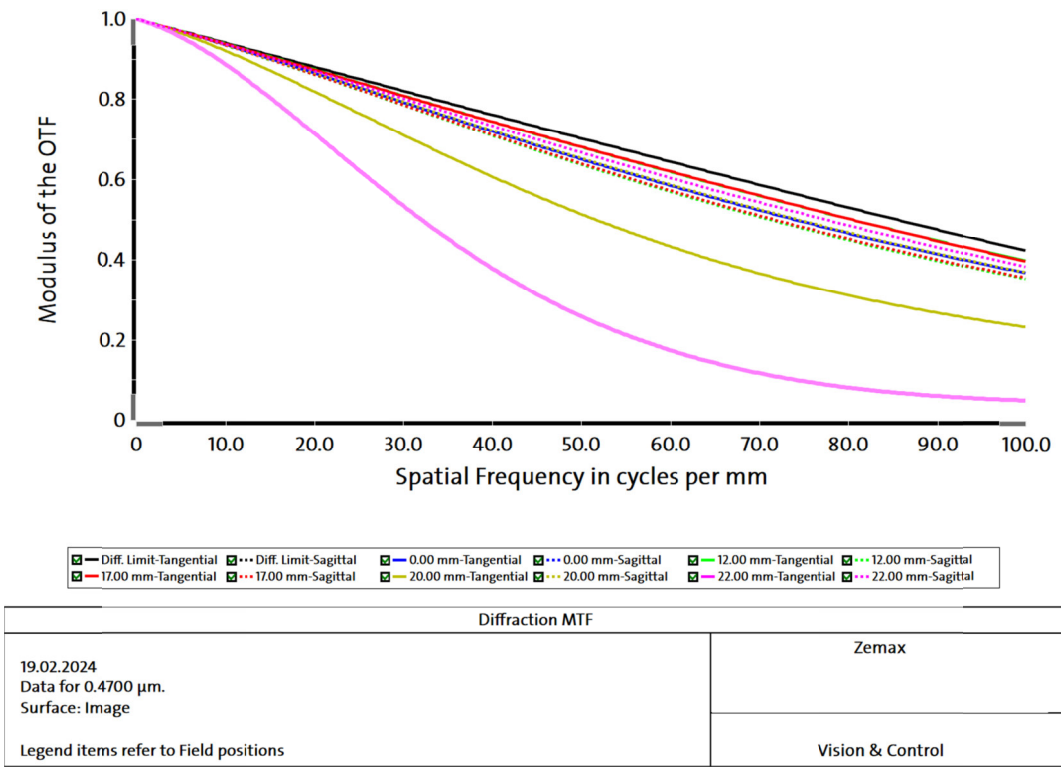
3 CUSTOMER DRAWING



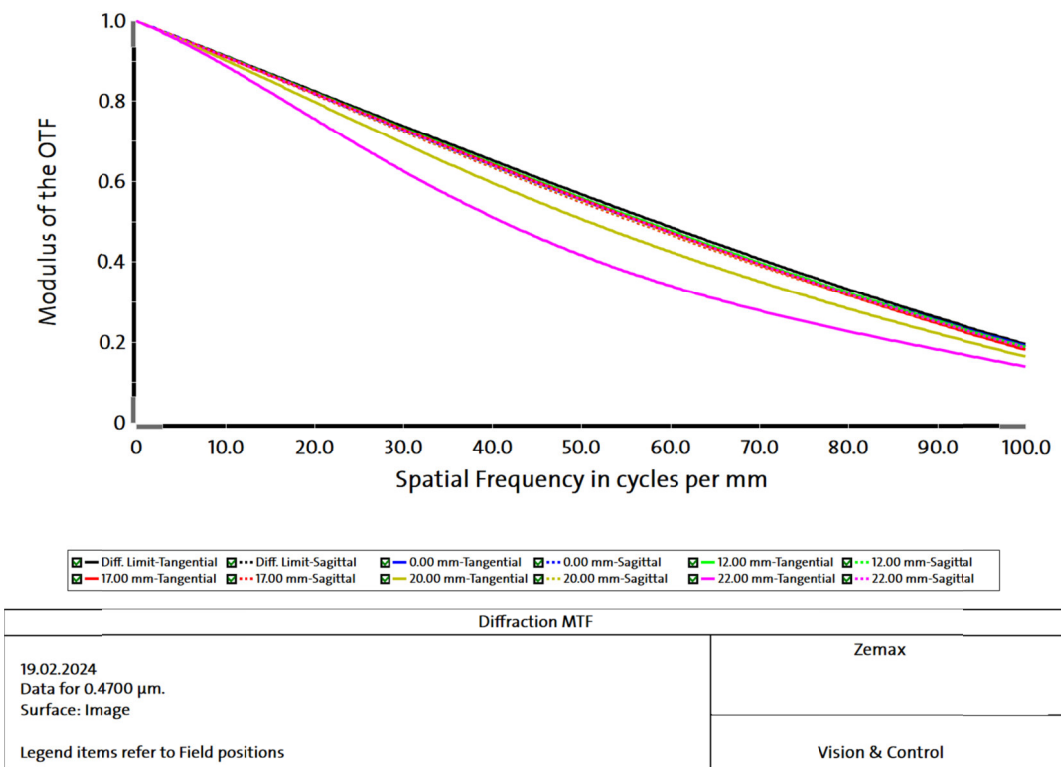
4 OPTICAL CHARACTERISTICS (DESIGN DATA)

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

Wavelength: 470 nm

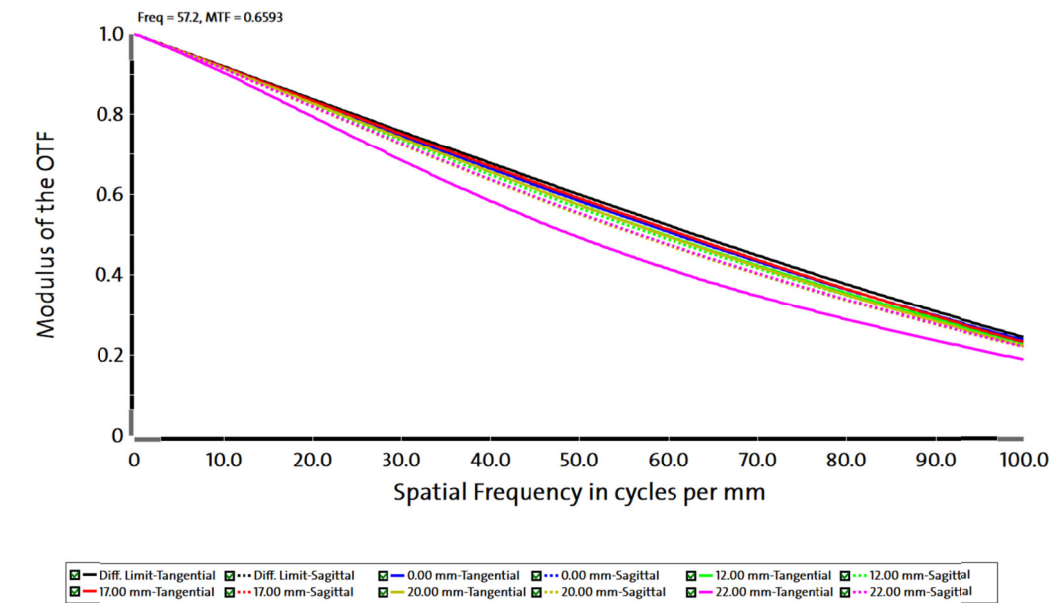


F-number: F10



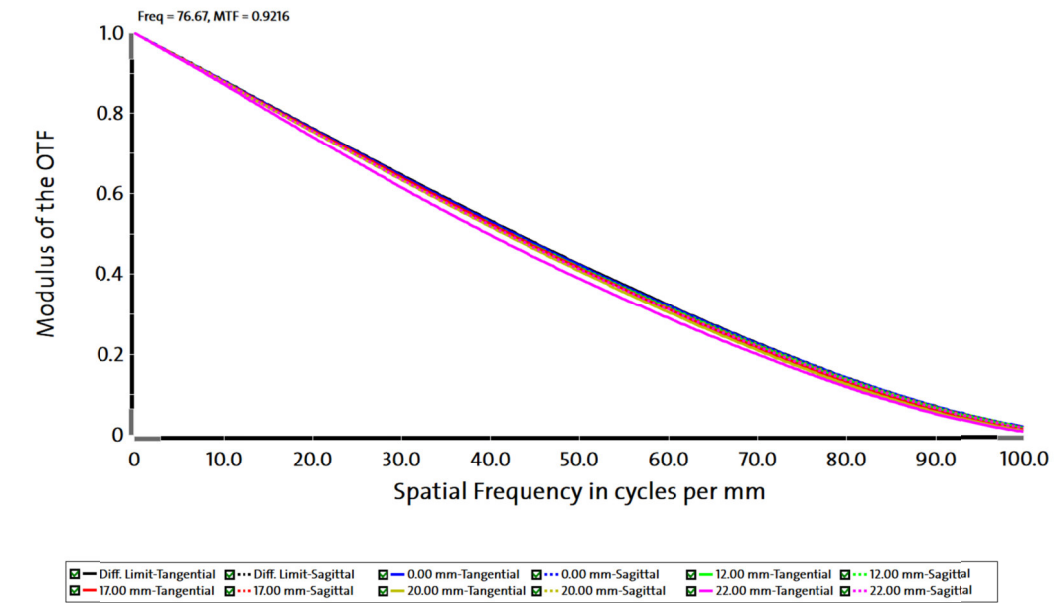
F-number: F15

Wavelength: 635 nm



Diffraction MTF	
19.02.2024 Data for 0.6350 µm. Surface: Image Legend items refer to Field positions	Zemax
	Vision & Control

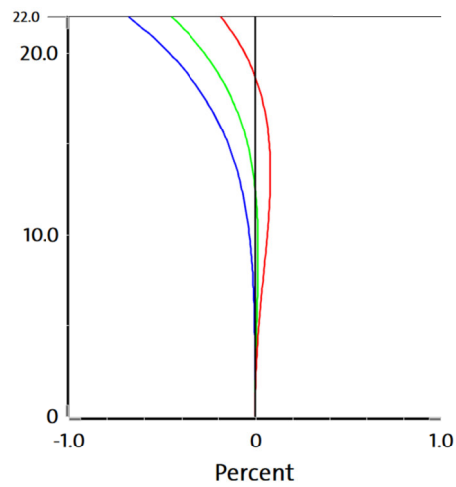
F-number: F10



Diffraction MTF	
19.02.2024 Data for 0.6350 µm. Surface: Image Legend items refer to Field positions	Zemax
	Vision & Control

F-number: F15

4.2 DISTORTION



0.4700 0.5250 0.6350

F-Tan(Theta) Distortion	
19.02.2024 Maximum Field is 22.000 Millimeters. Maximum distortion = 0.6816%	Zemax
	Vision & Control

Distortion, depending on the wavelength