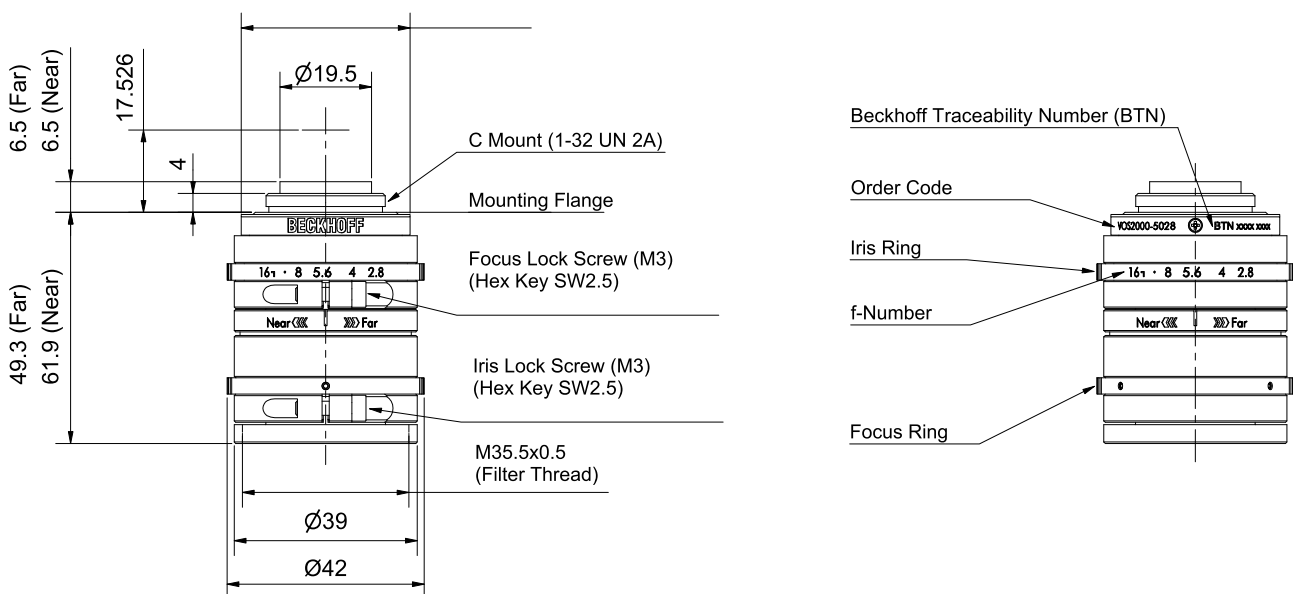


Datasheet | VOS2000 lens series

Industrial-grade high-resolution C-mount lens of the VOS2000 series with broadband anti-reflection coating



Basic data	Value
Focal length (mm)	50.0
Resolution (µm)	2
f-number	2.8 ... 16.0 (continuous)
Working distance (mm)	300 ... infinity
Image circle diameter (mm)	11
Largest suitable sensor	2/3" with 8.1 MP



Mechanical data	Value
Total length (near - far) (mm)	55.8 ... 68.4
Length from lens shoulder (mm)	49.3 ... 61.9
Weight (g)	150
Diameter (mm)	42
Connection	C-mount
Filter thread	M35.5x0.5

Environmental conditions	Value
Vibration resistance ¹ (G)	10
Operating temperature ² (°C)	0 ... 60
Storage temperature ³ (°C)	-10 ... 60

¹ according to JISC60068-2-6 Freq. 10 - 150 [Hz], Test time: X,Y,X axis direction 20 cycles / 8 min total 160 min x 3 = 480 min.

² relative humidity 20 ... 70%, non-condensing

³ non-condensing

Optical data	Symbol	Nominal object distance	Minimum object distance
Working distance (mm)		500	300
Object distance ¹ (mm)	s	506.5	306.5
Focal length (mm)	f, f'	50.0	52.9
Object-side focal length (mm)	s_F	35.98	34.22
Image-side focal length (mm)	s'_F	12.06	12.06
Back focal length of the object-side principal plane (mm)	s_H	14.0	18.7
Back focal length of the image-side principal plane (mm)	s'_H	43.20	51.10
Interstitium (mm)	i	-8.55	-15.45
Distance from object to image (mm)		567.24	372.96
Object distance (mm)	a	520.5	325.2
Image distance (mm)	a'	55.3	63.2
f-number		2.8 ... 16.0	
Back focal length of the entrance pupil (mm)	s_{EP}	21.2	21.2
Back focal length of the exit pupil (mm)	s'_{AP}	36.09	48.7
Diameter of the entrance pupil (mm)		8.0	20.80
Diameter of the exit pupil (mm)		18.20	19.80
Angle of view ² (degrees)	ω_{\max}	12.56	11.87
Lateral magnification	β'	0.106	0.194
Distortion (%)		-0.01	-0.02
Depth of field ³ (mm)		19.8	6.7
Resolution ⁴ (μm)		2	
Relative illumination (%)		76.71	77.66
Image circle diameter (mm)		11	
Sensor size (inch)		2/3	
Flange focal length (mm)	$A_{O'}$	17.526	
Distance between object-side principal plane and lens shoulder (mm)	H_A	29.21	30.23
Available spectral range (nm)		420 ... 1050	

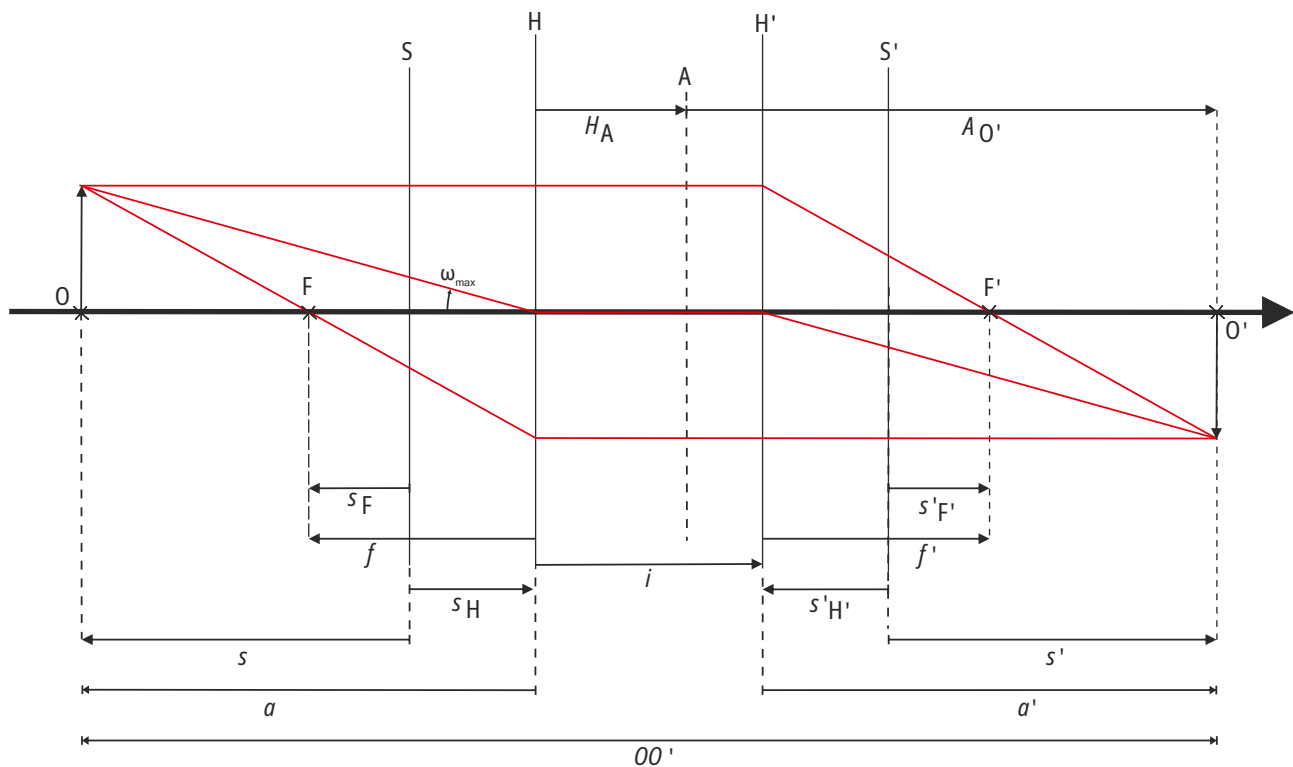
¹ identical with the *object distance* according to DIN 1335:2003-12

² identical with the double *object field angle* according to DIN 1335:2003-12

³ at a circle of confusion diameter of 0.04 mm

⁴ at 550 nm

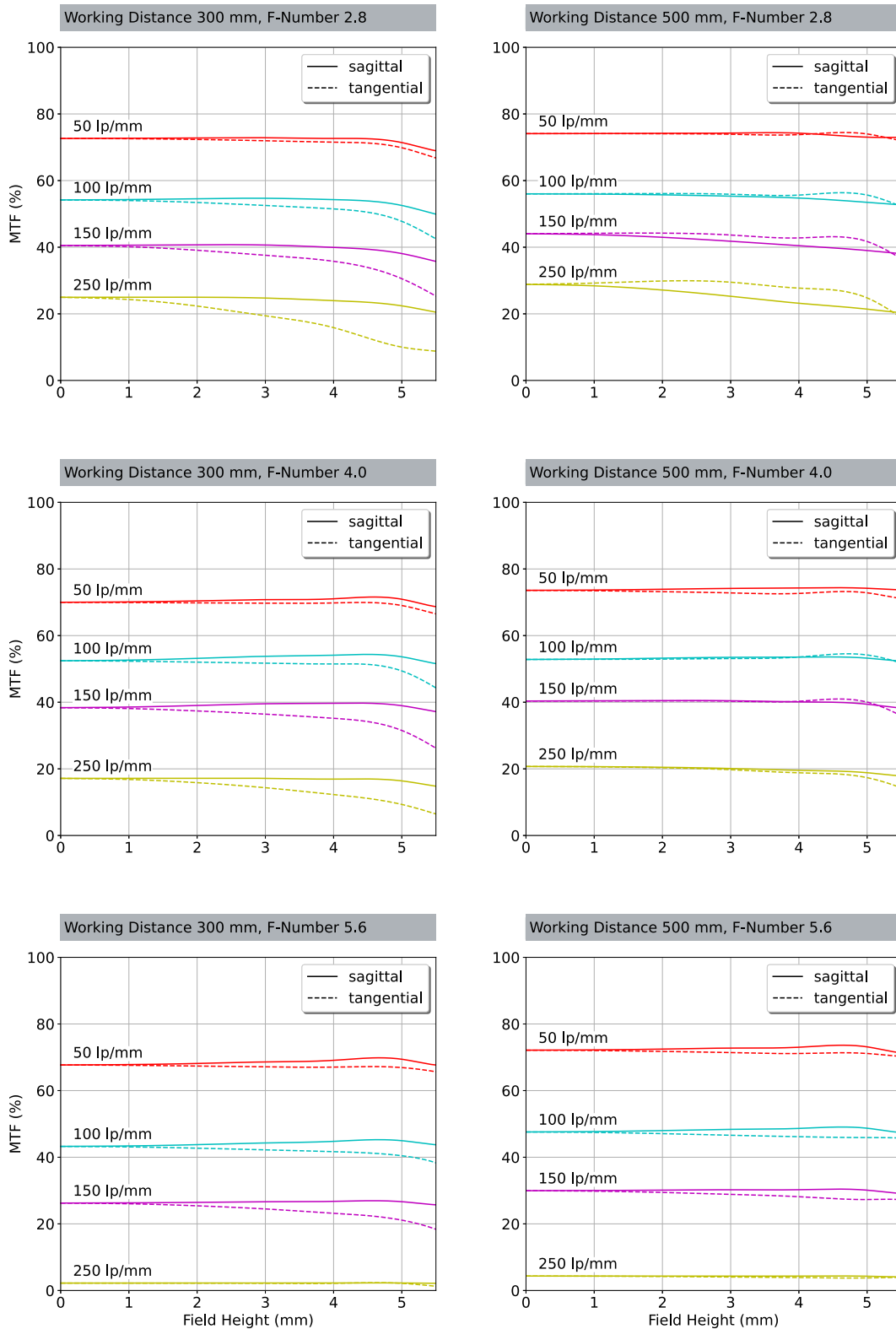
Explanation of symbols



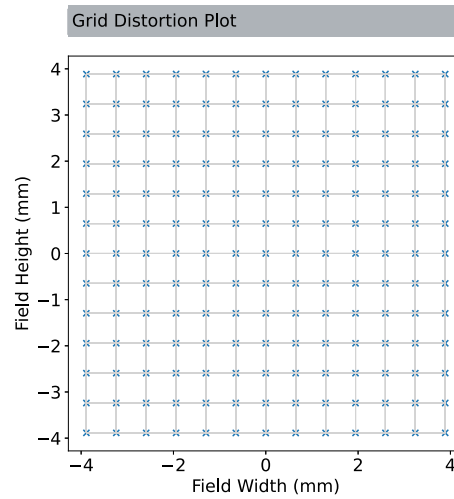
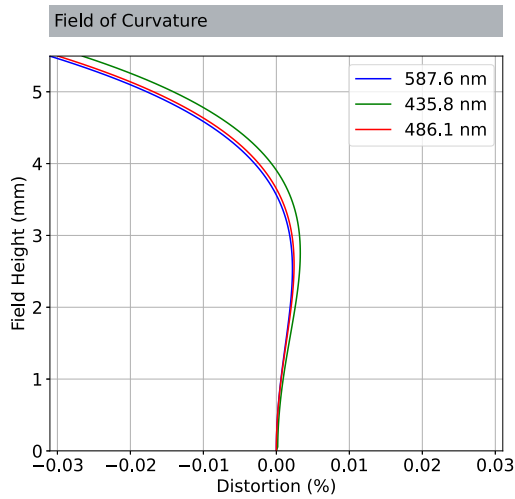
O	Axis point of the object	O'	Axis point of the image
F	object-side focal point	F'	image-side focal point
S	first vertex	S'	last vertex
H	object-side principal point	H'	image-side principal point
A	Lens shoulder	A _{O'}	Flange focal length
s_F	object-side back focal length	$s'_{F'}$	image-side back focal length
f	object-side focal length	f'	image-side focal length
s_H	Back focal length of the object-side principal point	$s'_{H'}$	Back focal length of the image-side principal point
s	Object distance	s'	Flange focal length
a	Object distance	a'	Image distance
H_A	Distance of the object-side principal point to the flange surface	i	Interstitium
ω_{max}	object-side field angle	OO'	Distance of the axis points of object and image

Note: directional routes are indicated by arrows with an arrowhead.

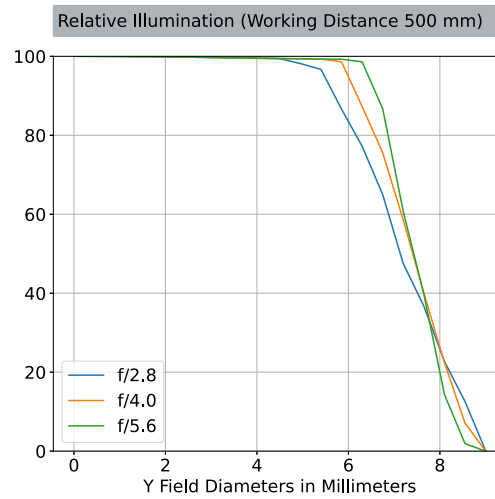
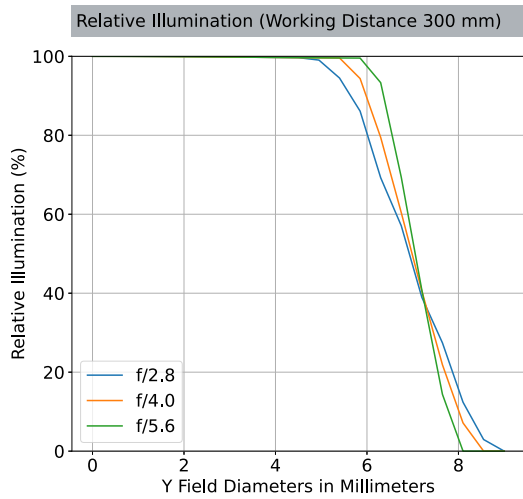
Modulation transfer functions (MTF)



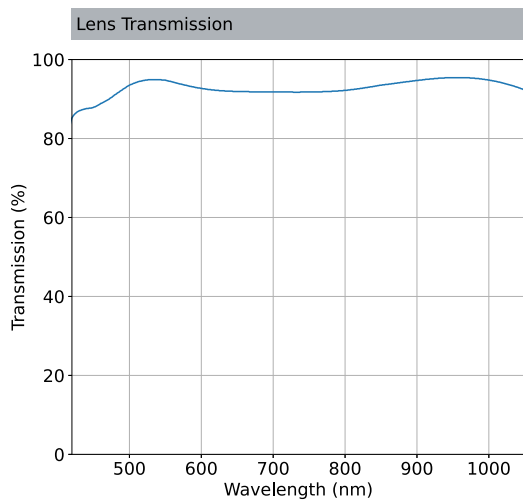
Distortion



Relative illumination



Transmission



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