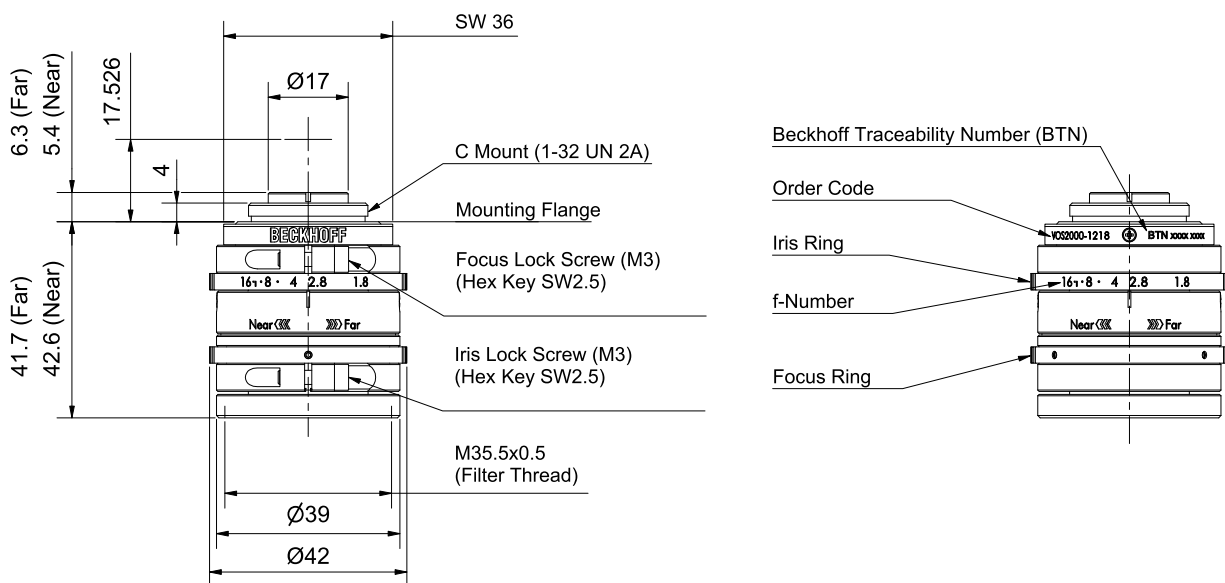


Datasheet | VOS2000 lens series

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



Basic data	Value
Focal length (mm)	12.2
Resolution (µm)	2
f-number	1.8 ... 16.0 (continuous)
Working distance (mm)	150 ... infinity
Image circle diameter (mm)	11
Largest suitable sensor	2/3" with 8.1 MP



Mechanical data	Value
Total length (near - far) (mm)	48.0 ... 48.0
Length from lens shoulder (mm)	41.7 ... 42.6
Weight (g)	120
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	150
Object distance ¹ (mm)	s	505.6	155.0
Focal length (mm)	f, f'	12.2	12.8
Object-side focal length (mm)	s_F	-5.70	-5.70
Image-side focal length (mm)	s'_F	12.23	12.84
Back focal length of the object-side principal plane (mm)	s_H	17.7	17.7
Back focal length of the image-side principal plane (mm)	s'_H	0.05	0.05
Interstitium (mm)	i	23.97	23.95
Distance from object to image (mm)		559.55	209.55
Object distance (mm)	a	523.3	172.7
Image distance (mm)	a'	12.3	12.9
f-number		1.8 ... 16.0	
Back focal length of the entrance pupil (mm)	s_{EP}	11.7	11.7
Back focal length of the exit pupil (mm)	s'_{AP}	12.2	12.2
Diameter of the entrance pupil (mm)		6.70	6.70
Diameter of the exit pupil (mm)		13.40	13.40
Angle of view ² (degrees)	ω_{\max}	49.25	49.25
Lateral magnification	β'	0.023	0.075
Distortion (%)		-0.98	-0.91
Depth of field ³ (mm)		277.6	28.1
Resolution ⁴ (μm)		2	
Relative illumination (%)		40.64	42.64
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	18.72	19.32
Available spectral range (nm)		420 ... 1050	

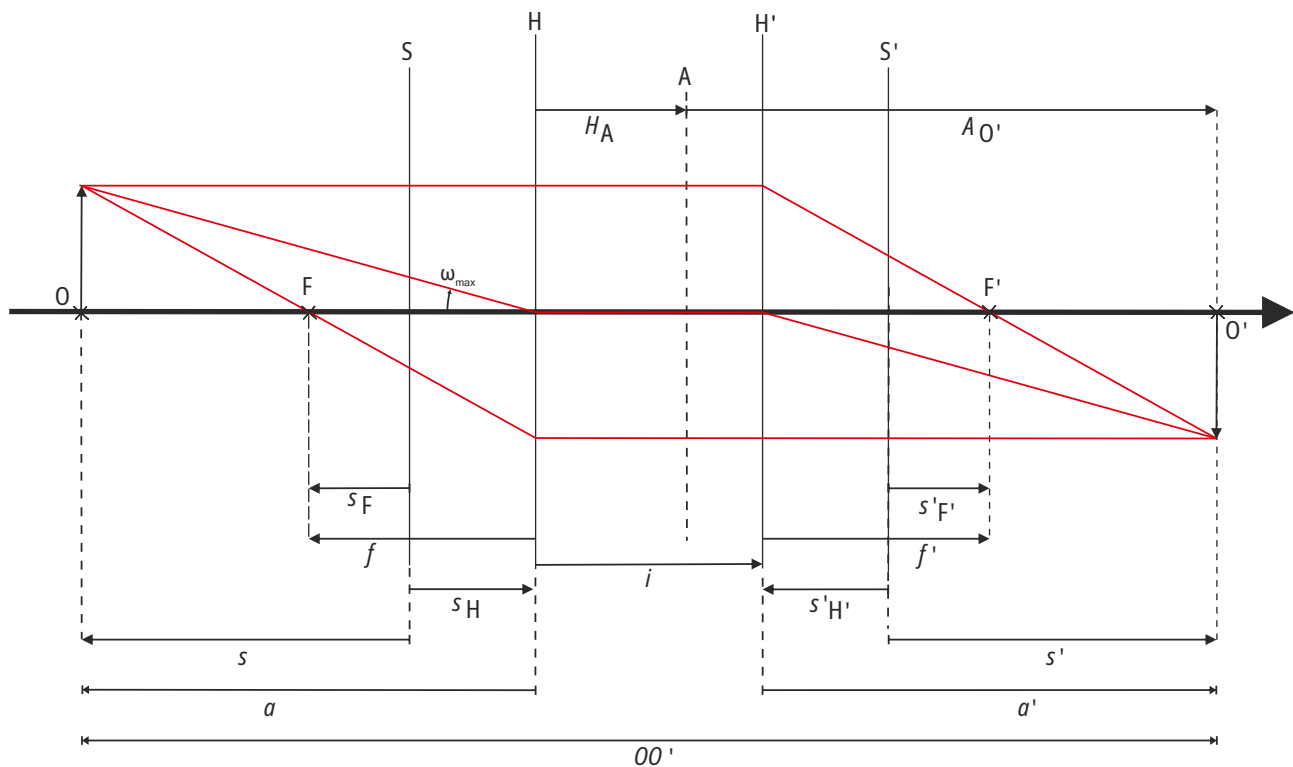
¹ identical with the *object distance* according to DIN 1335:2003-12

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

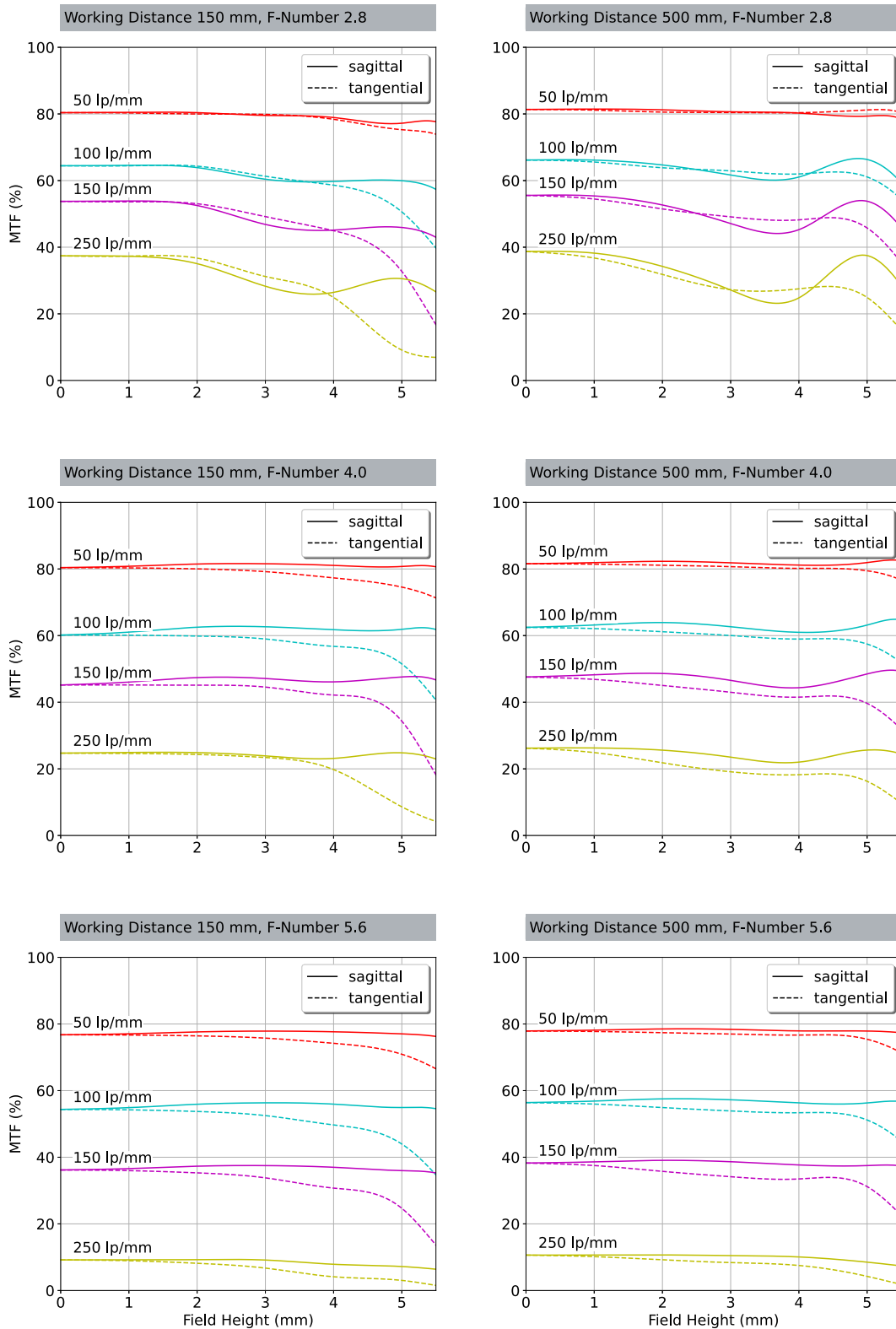
Explanation of symbols



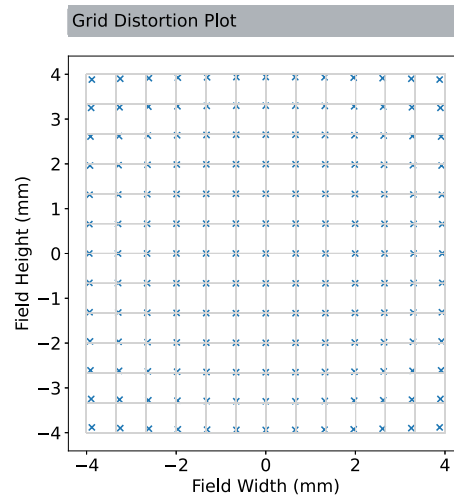
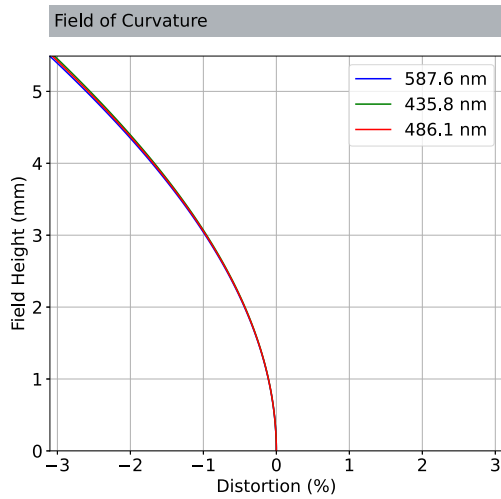
O	Axis point of the object	O'	Axis point of the image
F	object-side focal point	F'	image-side focal point
S	first vertex	S'	last vertex
H	object-side principal point	H'	image-side principal point
A	Lens shoulder	A _{O'}	Flange focal length
s _F	object-side back focal length	s' _{F'}	image-side back focal 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.

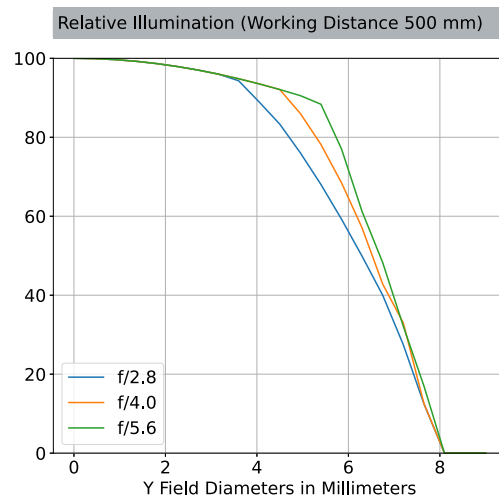
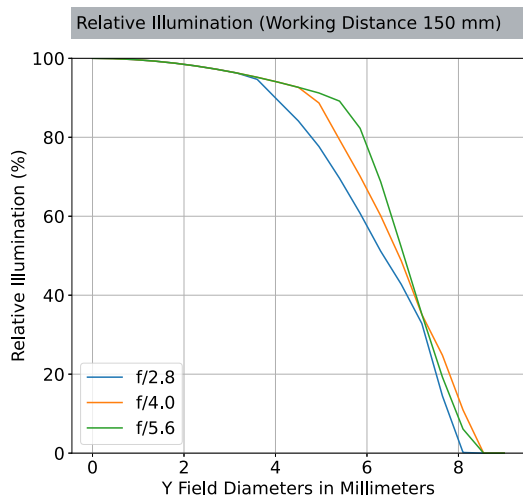
Modulation transfer functions (MTF)



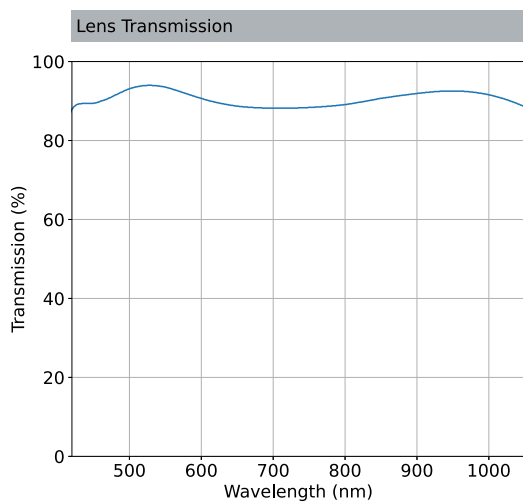
Distortion



Relative illumination



Transmission



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