

The compact 23 mm focal length SWIRON is lens for 2/3" sensor, for SWIR wavelength range. This lens is extremely robust and insensitive to rough ambient conditions, with the result that the lens retains its high optical imaging performance in industrial environments, as in fluid inspection systems.

The secure locking of the iris and focus settings and the SWIR coating of 800 - 1800 nm is standard for this lens. Ideal for LIDAR application and agriculture applications. More SWIRON lenses: 50 mm focal length high resolution and 40 mm large format SWIR lenses both with either C-Mount or V-Mount.



SWIRON 1.4/23

Key features

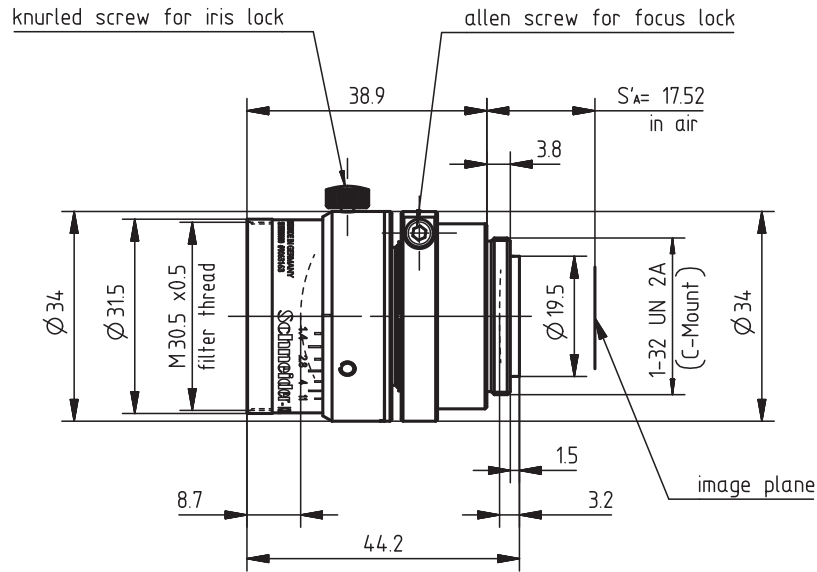
- Suitable for 2/3" sensor
- Minimized focal shift
- Distortion less than 1%
- Designed for 800 nm - 1800 nm

Applications

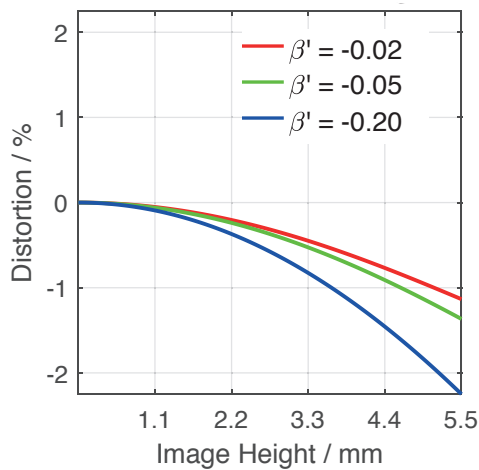
- Bio-pharmaceuticals / medical
- Fluid inspection
- Food control / agriculture
- Plastic waste sorting
- Solar inspection
- LIDAR
- Hyperspectral imaging / material testing

Name	SWIRON 1.4/23
Type	-0904
Focal Length [mm]	23
Magnification	-0.2
Image circle [mm]	11
Resolution [μm]	-
F/# range	1.4 ... 11
NA	0.36
Interface	C-Mount
Working distance [mm]	∞ - 102
AoV [$^\circ$]	26
Focus control	manual
Transmission [nm]	800 - 1800
Filter thread [mm]	M30,5 x 0,5
Dimensions L x D [mm]	44.2 x 34.0

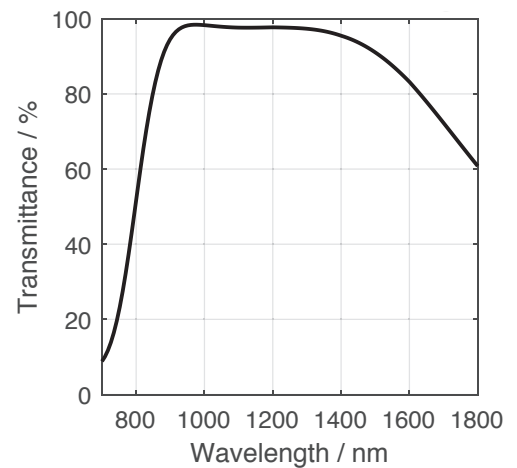
Name	SWIRON 1.4/23
Weight [g]	115
Storage temperature [$^\circ\text{C}$]	-25 ... +70
f'_{eff} [mm]	23.13
S_F [mm]	8.93
S'_F [mm]	15.76
HH' [mm]	-7.17
β'_P	2.337
S_{EP} [mm]	18.82
S'_{AP} [mm]	-38.29
Σd [mm]	32.25
ID	1063163



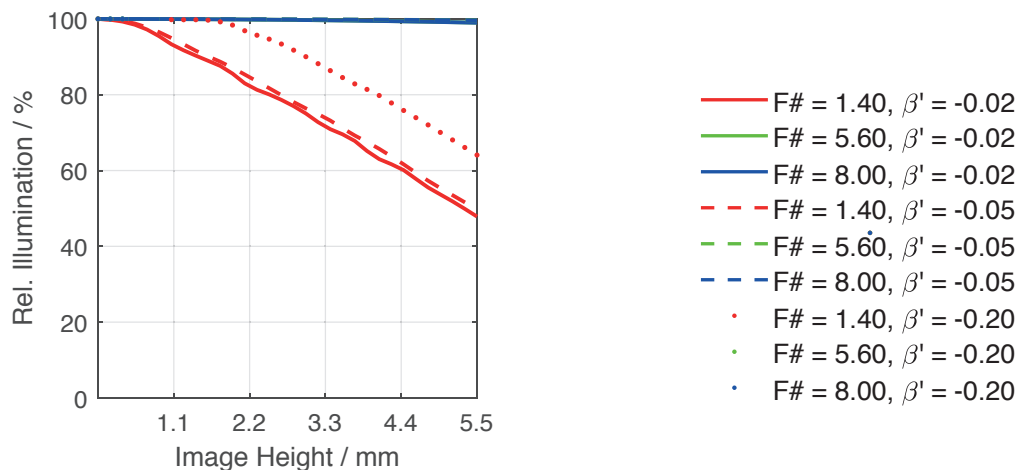
Distortion vs. Image Height



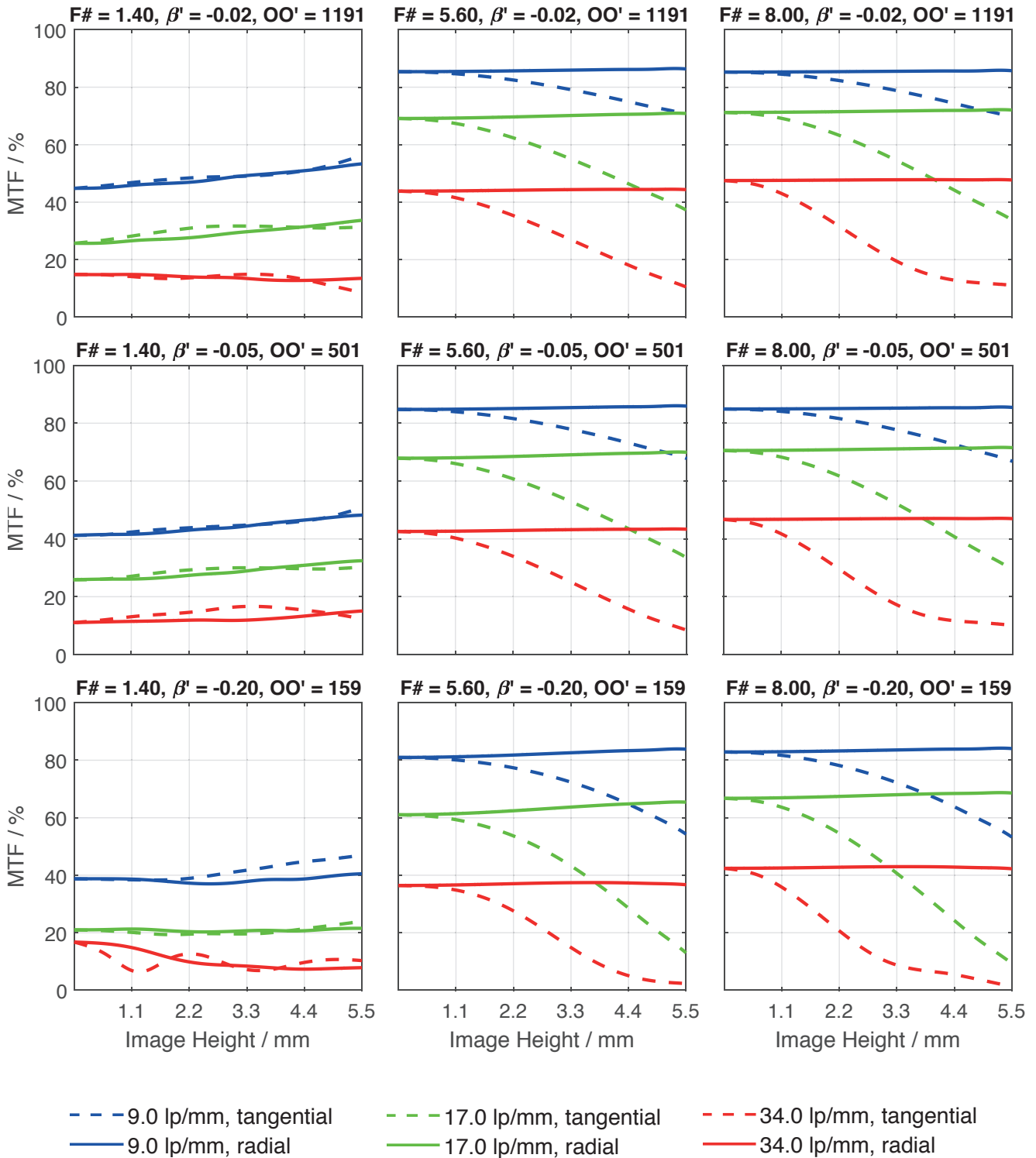
Transmittance vs. Wavelength



Relative Illumination vs. Image Height



Spectrum Name	SWIR					
Wavelengths [nm]	920	1070	1220	1370	1520	1670
Weights	16.9	18.2	17.7	17.1	15.9	14.2



Accessories	Mount	Length	ID
Adapter	CS-Mount Adapter	5 mm	25081
	C-Mount / M42 x 1 Adapter	-	1075817
Ext. Tube	C-Mount	5 mm	39316
	C-Mount	8 mm	39315
	C-Mount	10 mm	39312

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The 40 mm focal length SWIRON is lens with 43.2 mm image field, for SWIR wavelength range. With either C- or V-Mount this lens is extremely robust and insensitive to rough ambient conditions, with the result that the lens retains its high optical imaging performance in industrial environments, as in plastic waste sorting machines.

The secure locking of the iris and focus settings and the SWIR coating of 800 - 1800 nm is standard for this lens. Ideal lens for challenging bio-pharmaceuticals / medical tasks.

More SWIRON lenses: 50 mm focal length high resolution with C-Mount or V-Mount and a 23 mm C-Mount 2/3".



SWIRON 2.8/40

Key features

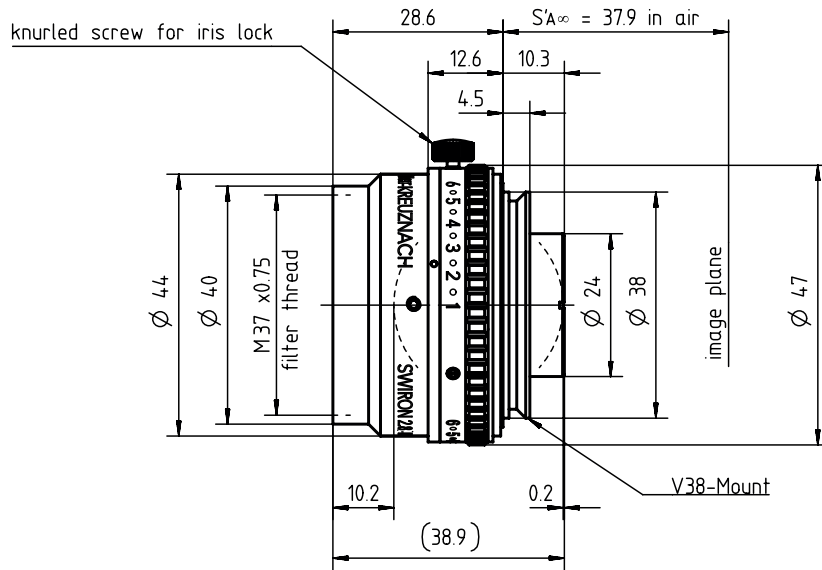
- For up to 43.2 mm image field
- Minimized focal shift
- Distortion less than 1%
- Designed for 800 - 1800 nm

Applications

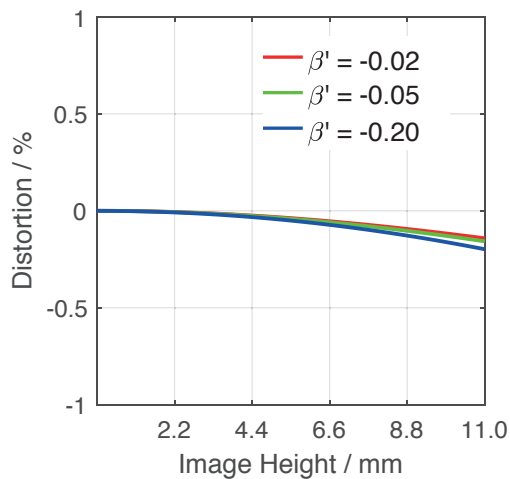
- Bio-pharmaceuticals / medical
- Fluid inspection
- Food control / agriculture
- Plastic waste sorting
- Solar inspection
- LIDAR
- Hyperspectral imaging / material testing

Name	SWIRON 2.8/40
Type	-0015
Focal Length [mm]	40
Magnification	-0.2
Image circle [mm]	43.2
Resolution [μm]	-
F/# range	2.8 ... 16
NA	0.18
Interface	V38-Mount
Working distance [mm]	230
AoV [°]	29
Focus control	manual
Transmission [nm]	800 - 1800
Filter thread [mm]	M37 x 0.75
Dimensions L x D [mm]	39.1 x 47.0

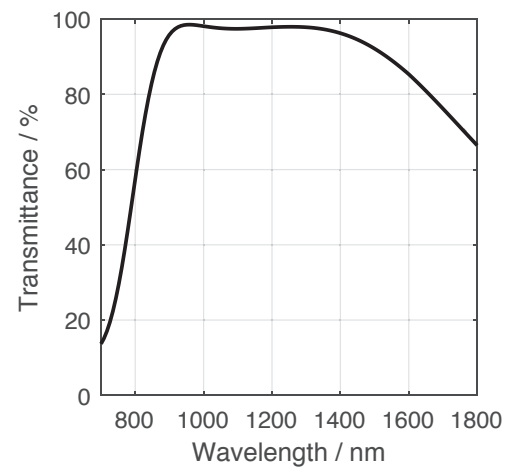
Name	SWIRON 2.8/40
Weight [g]	108
Storage temperature [°C]	-25 ... +70
f'_{eff} [mm]	42.03
S_F [mm]	-25.04
$S'_{F'}$ [mm]	28.38
HH' [mm]	-2.17
β'_P	1.049
S_{EP} [mm]	15.02
S'_{AP} [mm]	-15.72
Σd [mm]	28.47
ID	1063164



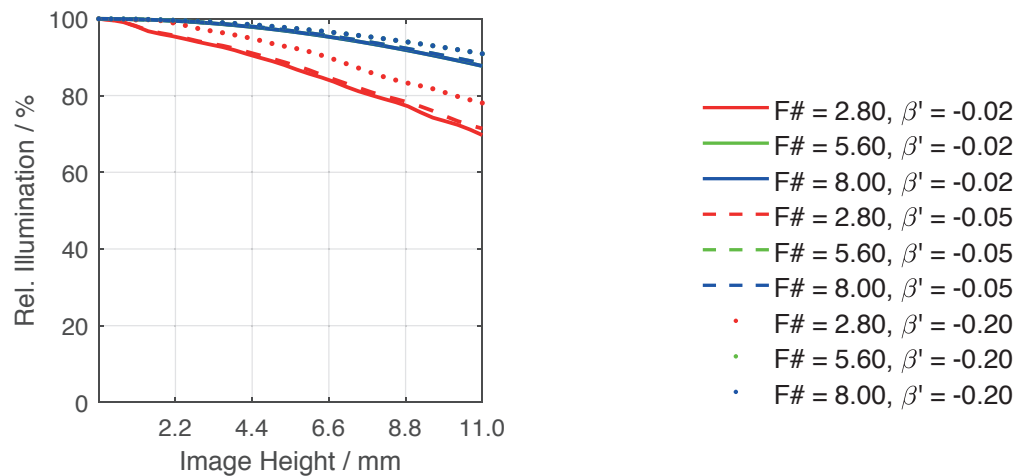
Distortion vs. Image Height



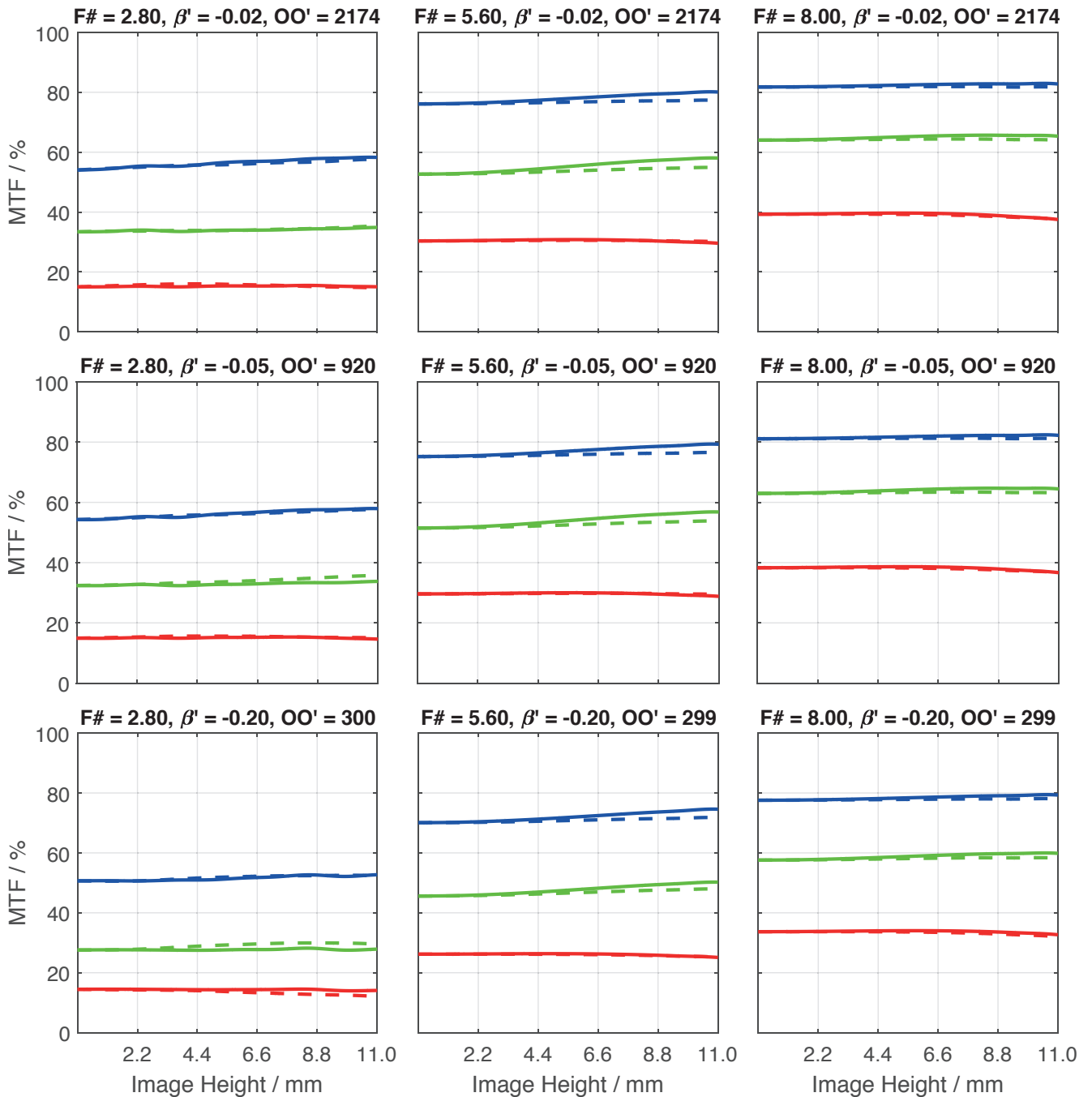
Transmittance vs. Wavelength



Relative Illumination vs. Image Height



Spectrum Name	SWIR					
Wavelengths [nm]	920	1070	1220	1370	1520	1670
Weights	16.9	18.2	17.7	17.1	15.9	14.2



Accessories	Mount	Length	ID
Makro	UNIFOC 12	-	11726
	UNIFOC 7	-	1001041
	UNIFOC 7 (M58 x 0.75)	-	1054532
Ext. Tube	V38 / V38	6 mm	20176
	V38 / V38	8 mm	20177
	V38 / V38	10 mm	20178
	V38 / V38	25 mm	20179
	V38 / V38	50 mm	20154
	V38 / V38	75 mm	20155
Adapter	V38 / C-Mount	-	20052
	V38 / C-Mount Hub V38 / C-Mount	19.2 - 24.2 mm	1011634
	V38 / Leica (M39 x 26 Gg.)	-	20054
	V38 / T2 (M42 x 0.75)	-	20053
	V38 / M42 x 1	-	20059
	V38 / M42 x 1 - Length 35 mm	-	1001692
	V38 / M58 x 0.75	-	1018385
	V38 / Nikon F-Mount	-	21610

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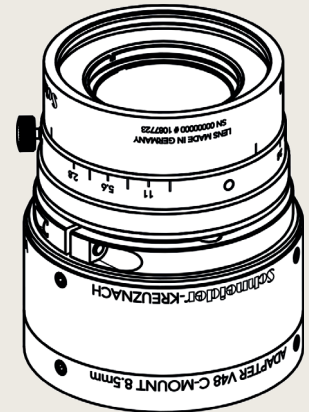
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The 50 mm focal length SWIRON is a high-performance lens corrected for SWIR wavelength range. With either C- or V48-Mount this lens is extremely robust and insensitive to rough ambient conditions, with the result that the lens retains its high optical imaging performance in industrial environments.

The secure locking of the iris and focus settings and the SWIR coating of 900 - 1700 nm is standard for this lens. A special lacquer for stray light reduction guarantees best imaging performance in all applications. Suitable for 25.6 mm sensor with 12.4 μ pixel pitch, featured low distortion needed for solar inspection, while the little focal shift is an advantage in hyperspectral imaging as in material testing tasks. More SWIRON lenses: 40 mm focal length for large format with C-Mount or V-Mount and a 25 mm C-Mount 2/3".



SWIRON 2.8/50

Key features

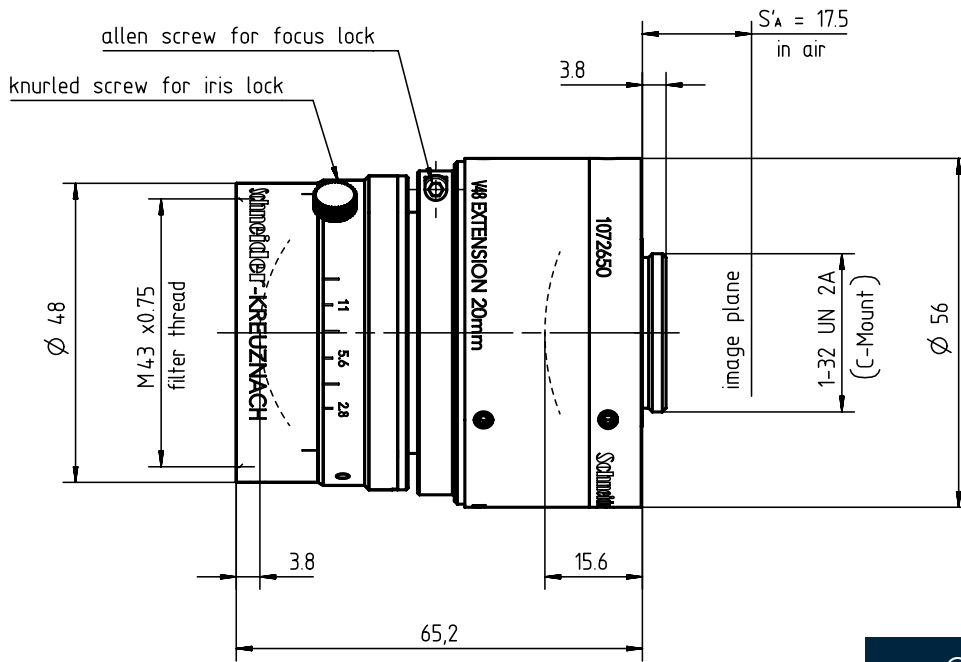
- Suitable for 2048 Pixel sensor with 12.4 μ Pixel pitch
- Minimized focal shift
- Distortion less than 1%
- Designed for 900 nm - 1700 nm
- Usage of highly transparent glass for SWIR range

Applications

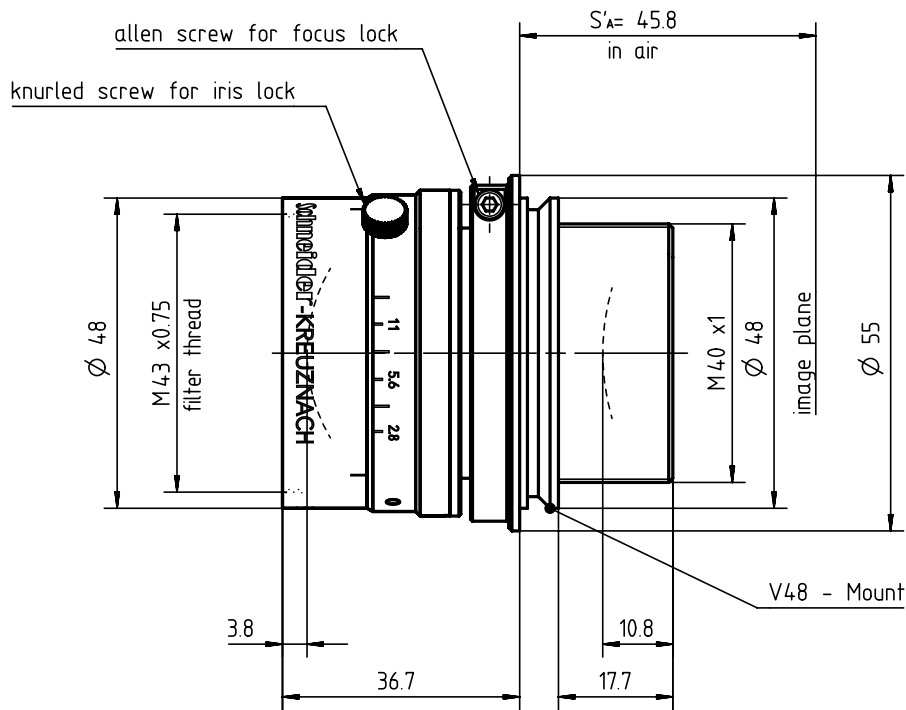
- Bio-pharmaceuticals / medical
- Fluid inspection
- Food control / agriculture
- Plastic waste sorting
- Solar inspection
- LIDAR
- Hyperspectral imaging / material testing

Name	SWIRON 2.8/50
Type	-0006 -0005
Focal Length [mm]	50
Magnification	-0.2
Image circle [mm]	25.4
Resolution [μ m]	6.45
F/# range	2.8 ... 16
NA	0.18
Interface	C-Mount V48-Mount
Working distance [mm]	∞ - 268
AoV [°]	28
Focus control	manual
Transmission [nm]	900 - 1700
Filter thread [mm]	M37 x 0.75
Dimensions L x D [mm]	71.4 x 56.0

Name	SWIRON 2.8/50
Weight [g]	418
Storage temperature [°C]	-25 ... +70
f'_{eff} [mm]	50.74
S_F [mm]	-11.82
$S'_{F'}$ [mm]	33.97
HH' [mm]	-9.94
β'_p	1.252
S_{EP} [mm]	28.71
$S'A_p$ [mm]	-29.56
Σd [mm]	45.75
ID C-Mount	1088501
ID V48-Mount	1087723

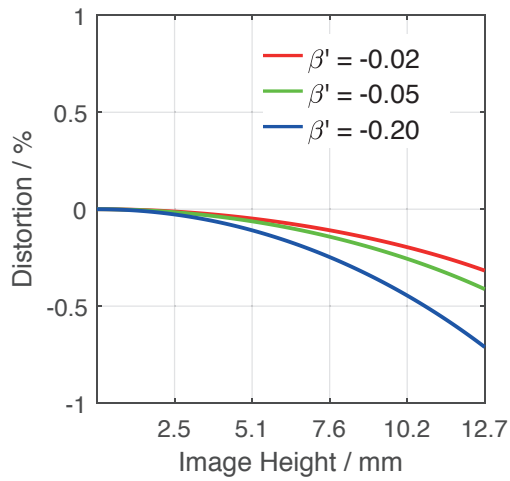


C-Mount

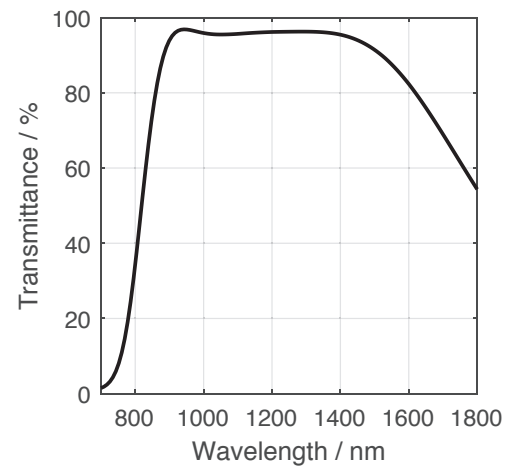


V48-Mount

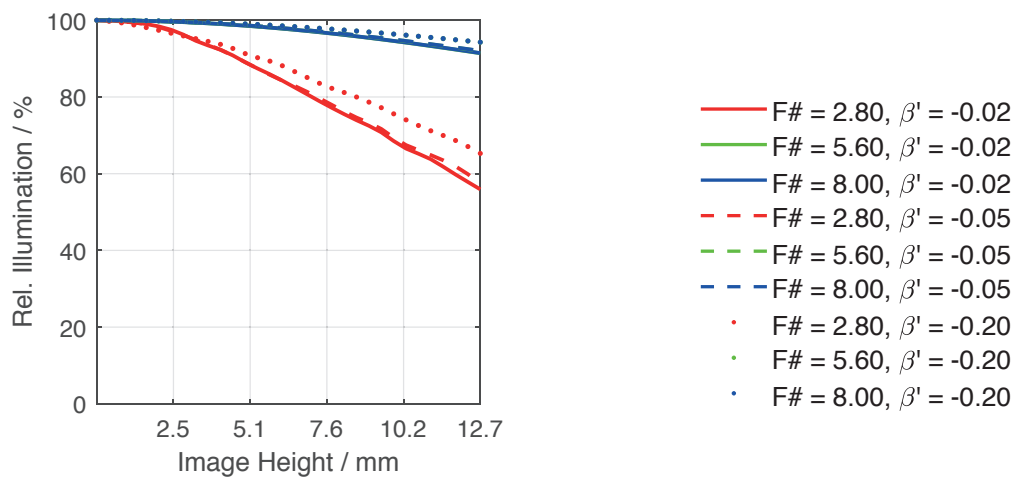
Distortion vs. Image Height



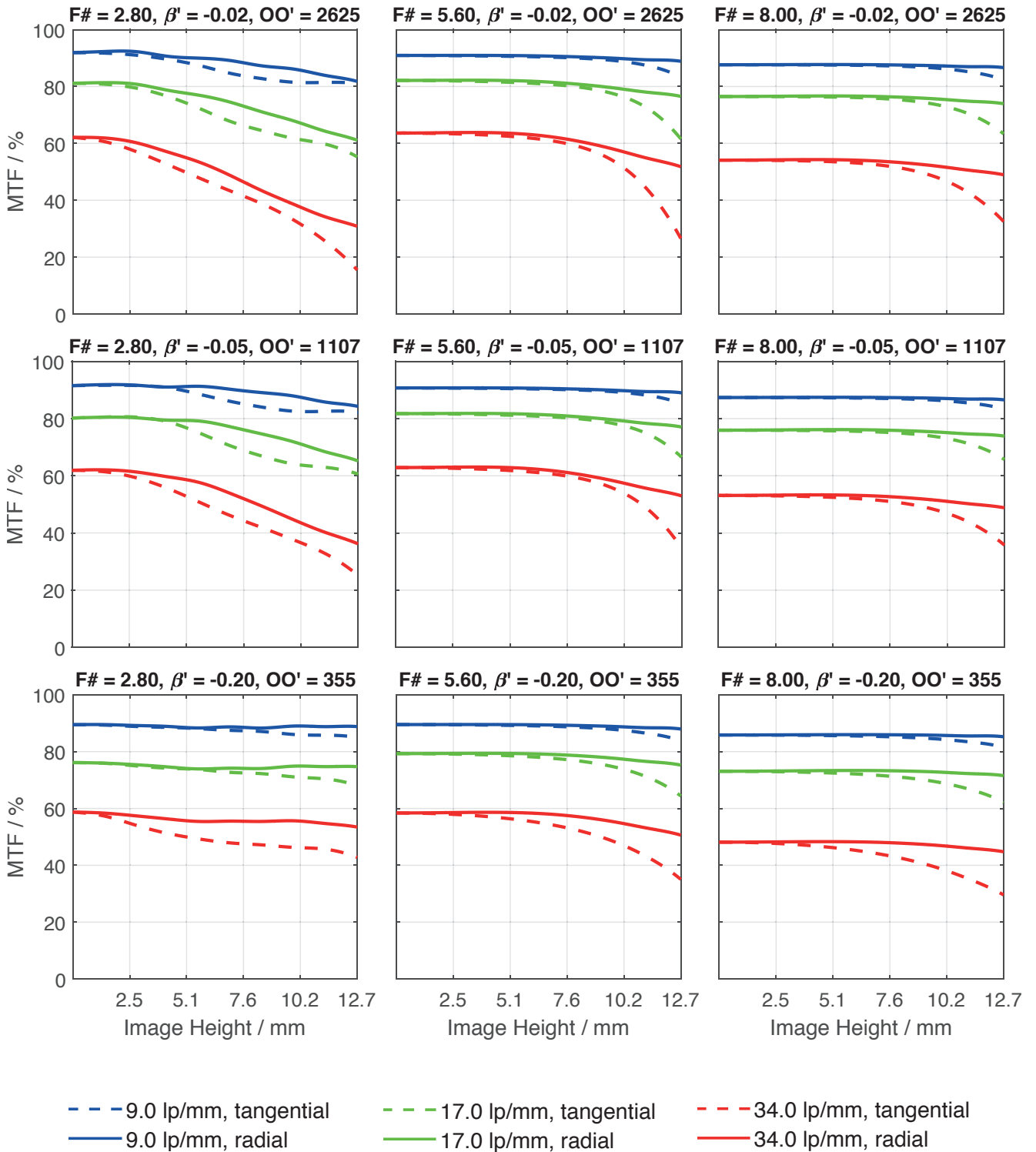
Transmittance vs. Wavelength



Relative Illumination vs. Image Height



Spectrum Name	SWIR					
Wavelengths [nm]	920	1070	1220	1370	1520	1670
Weights	16.9	18.2	17.7	17.1	15.9	14.2



Accessories	Mount	Length	ID
Adapter	CS-Mount Adapter	5 mm	25081
	C-Mount / M42 x 1 Adapter	-	1075817
	M72 x 0.75 / M95 x 1	4 mm	1077013
	M72 x 0.75 / M58 x 0.75	6 mm	1075556
	M72 x 0.75 / M42 x 1	6 mm	1079515
	M72 x 0.75 / M90 x 1	-	1084879
	M58 x 0.75 / M90 x 1	-	1084880
	M95 x 1 / M90 x 1	-	1084889
	M95 x 1 / M72 x 0.75	6.6 mm	1077295
	V48 / C-Mount	-	25081
	V48 / M42 x 1	-	1075817
	V48 / M42 x 0.75	-	1077013
	V48 / M58 x 0.75	-	1075556
	Ext. Tube	C-Mount	5 mm
C-Mount		8 mm	39315
C-Mount		10 mm	39312
V48		10 mm	1072661
V48		25 mm	1072651
V48		50 mm	1072662

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