

Apo-Componon 4.5/90



The Apo-Componon 4.5/90 (Version -0018) is a 90 mm focal length, line scan lens with 86 mm image circle for large format sensors and short working distance. This lens can also be used in reverse position. The modular system with wide-ranging accessories such as helical focus barrel (Unifoc 7 and 12), extension tubes, and adapters for various cameras, can be used for all kind of sophisticated applications from web inspection to surface inspection. This, the fast F/# of 4.5 and low chromatic aberration, as well as extremely low distortion all combined make these lens unique. Vibration insensitivity even when the lens used in harsh industrial environmental, as common in solar inspection systems. The Unifoc series offers 4 more 120 mm focal length line scan lenses with different magnifications and a line macro series plus an enlarging lens series for Unifoc 58 and 76 helicoid focus barrels.



Apo-Componon 4.5/90

Key features

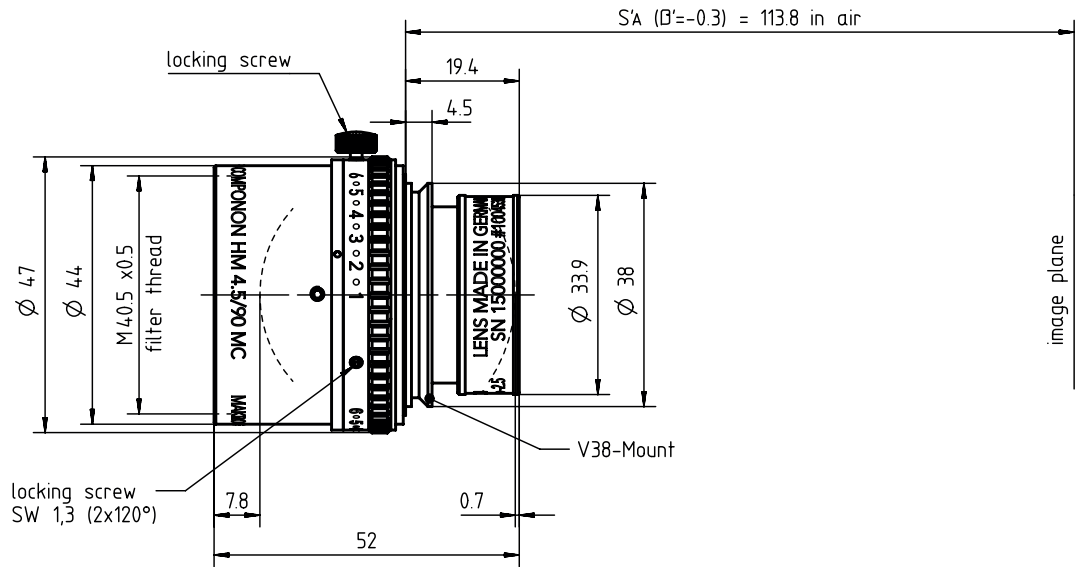
- Large format
- Short working distance
- Resolves 5 μm pixel size
- Modular: Unifoc 7 and 12 focus helical barrels, extension tubes, various camera adapters
- Possibility to be used in retro position
- Vibration insensitivity for stable imaging performance

Applications

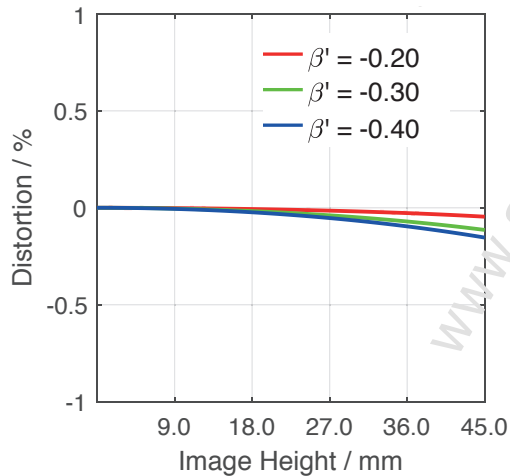
- Solar inspection
- Web inspection
- Surface inspection
- Quality control

Name	Apo-Componon 4.5/90
Type	-0018
Focal Length [mm]	90
Magnification	-0.3
Image circle [mm]	90
Resolution [μm]	5
F/# range	4.5 ... 26
NA	0.11
Interface	V38-Mount
Working distance [mm]	250
AoV [°]	42
Focus control	manual
Transmission [nm]	400 - 680
Filter thread [mm]	M40.5 x 0.5
Dimensions L x D [mm]	52.0 x 47.0

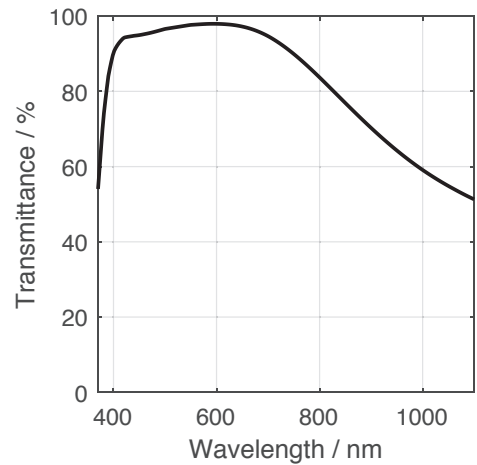
Name	Apo-Componon 4.5/90
Weight [g]	140
Storage temperature [°C]	-25 ... +70
$f'_{e_{ff}}$ [mm]	91.19
S_F [mm]	-67.47
$S'_{F'}$ [mm]	67.77
HH' [mm]	-3.62
β'_p	1.014
S_{EP} [mm]	22.44
S'_{AP} [mm]	-24.72
Σd [mm]	43.52
ID	1004531



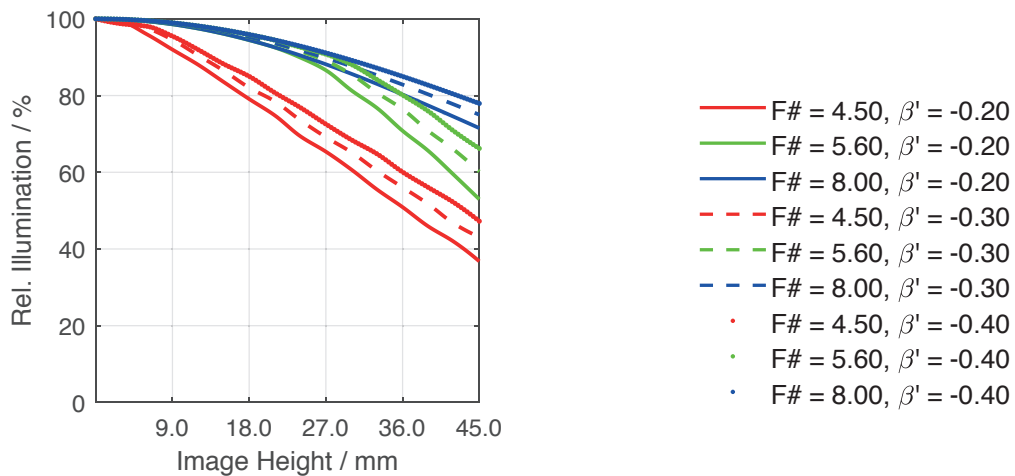
Distortion vs. Image Height



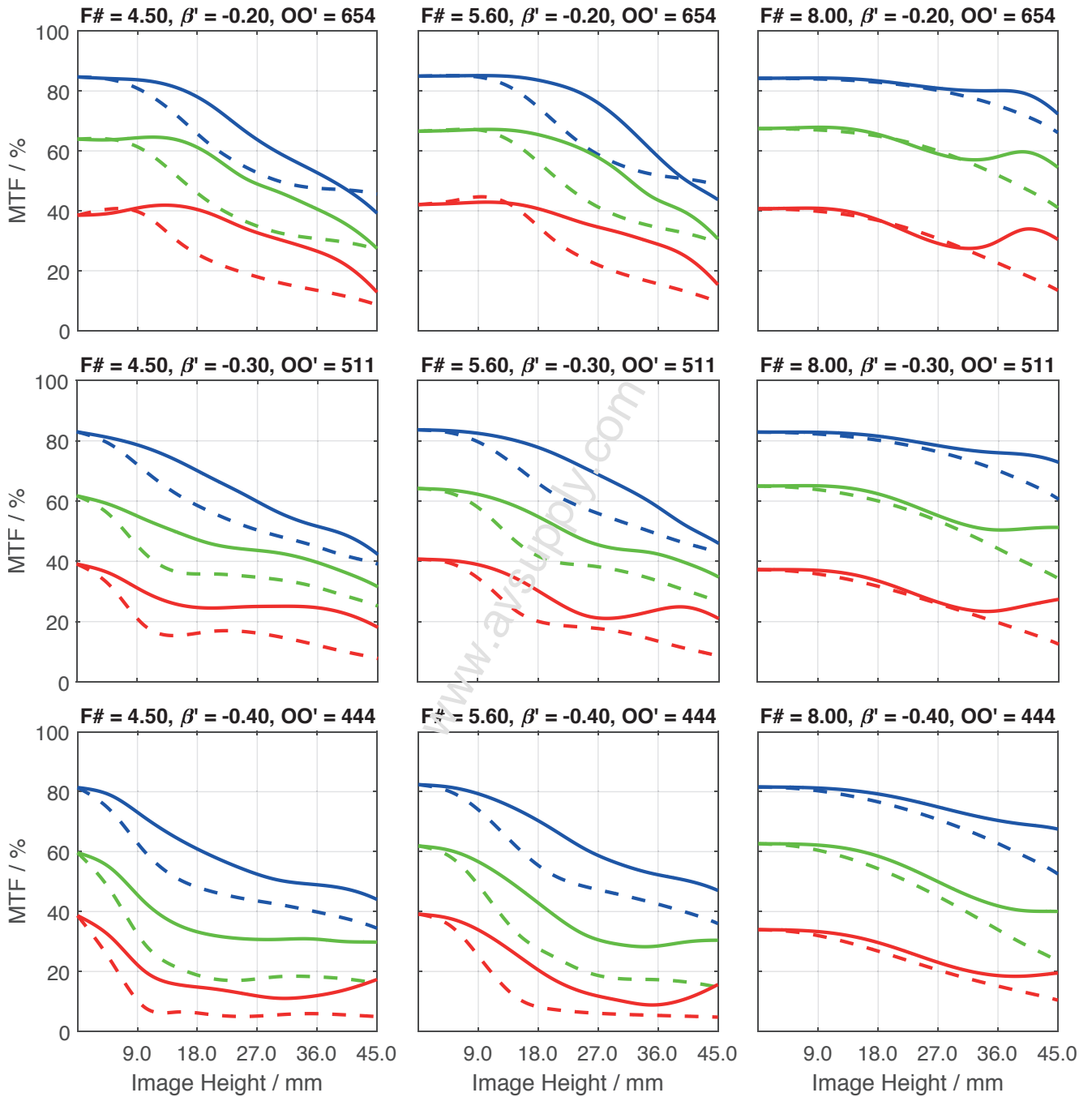
Transmittance vs. Wavelength



Relative Illumination vs. Image Height



Spectrum Name	VIS					
Wavelengths [nm]	425	475	525	575	625	675
Weights	8	16	23	22	19	13



Accessories	Mount	Length	ID
Makro	UNIFOC 12 V38 / V38	-	11726
	UNIFOC 7 V38 / V38	-	1001041
	UNIFOC 7 V38 / 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	10 mm	20052
	V38 / C-Mount	-	1011634
	V38 / Leica	4 mm	20054
	V38 / T2	6 mm	20053
	V38 / M42 x 1	6 mm	20059
	V38 / M42 x 1	-	1001692
	V38 / M58 x 0,75	-	1018385
	M95 x 1 / M72 x 0.75	6.6 mm	1077295

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