



Zoom beam expander  
for high power lasers

x1-x4

### Specifications:

Wavelength*	343; 355; 515; 532; 1030; 1064 nm
Magnification range	x1 - x4
Pointing stability	<0.1 mrad
Optical principle	Ever-expanding beam
Diffraction limited performance	Yes
Number of lenses	5
Transmittance	>99%
LIDT	>2 J/cm <sup>2</sup> @ 355 nm, 10 ns, 100 Hz >5 J/cm <sup>2</sup> @ 532 nm, 10 ns, 100 Hz >8 J/cm <sup>2</sup> @ 1064 nm, 10 ns, 100 Hz
No internal ghosts	Yes
No internal ghosts in reversed use	in range x1-x3
Mounting thread	SM2 on both ends
Clamping	Ø58 x 67 mm cylinder

\* custom wavelengths available

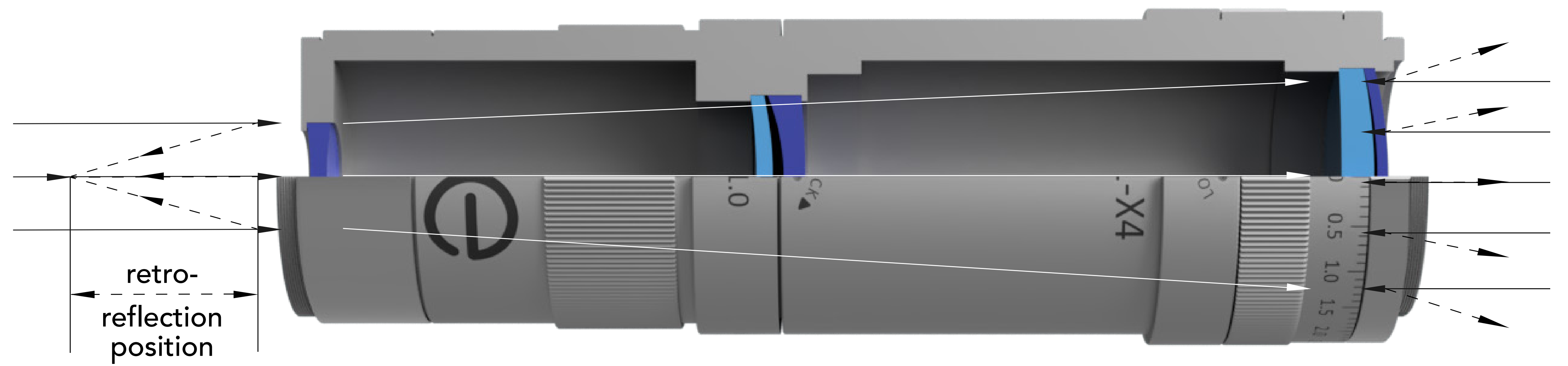
### Max recommended input beam Ø

	343-355 nm	515-532 nm	1030-1064 nm
x1 -	7 mm	8 mm	8 mm
x2 -	8 mm	9 mm	9 mm
x3 -	7 mm	8 mm	8.5 mm
x4 -	6 mm	6.5 mm	7 mm

### Notes

- Max beam diameter (1/e<sup>2</sup>) meeting diffraction limited operation
- Divergence adjustment allows diverging input beam collimation
- Ever-expanding beam optical principle – beam is not contracted inside the system (from magnification x1.5)
- Lockable lens positions
- IBS coated quartz lenses for maximum performance and longevity
- Collimated input beam results in collimated output beam when divergence scale is set to 0

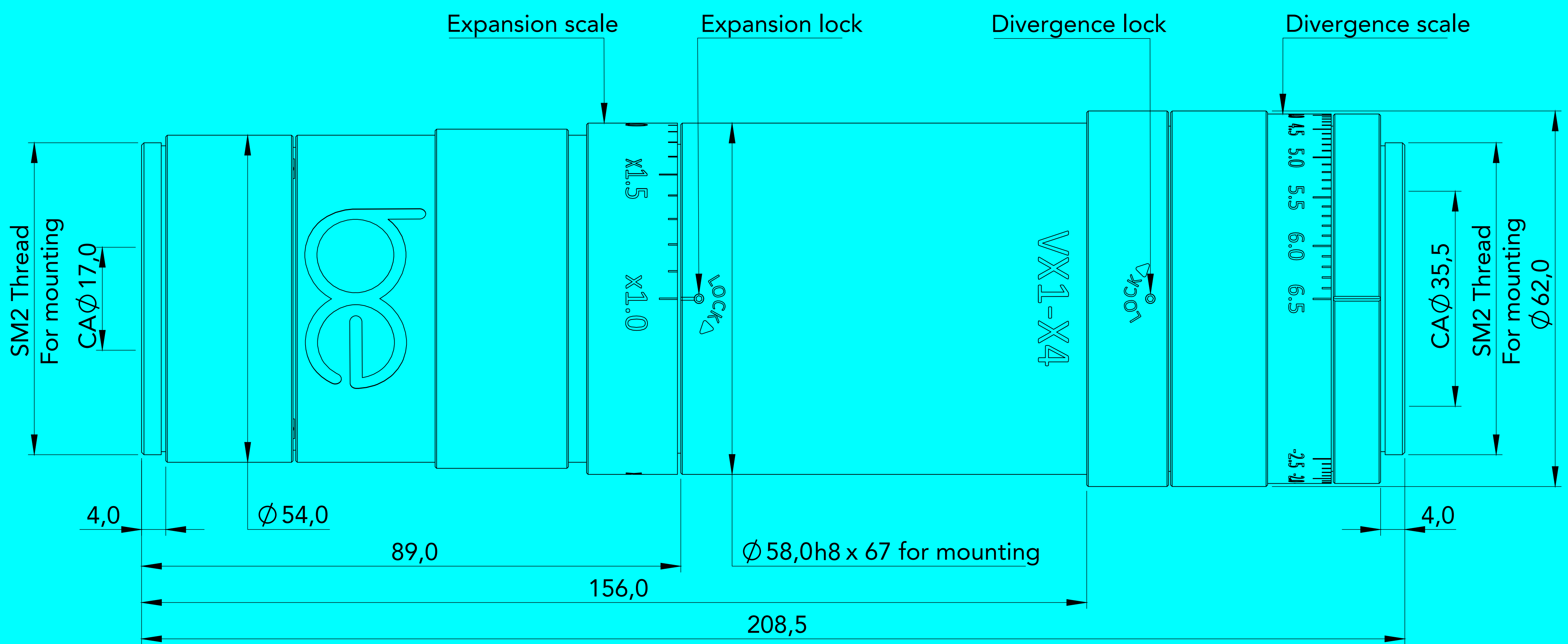
# External retro-reflections



Retro-reflections in regular mode - at **38 mm**

No retro-reflections in reverse (beam reduction) mode

retro-reflection position in reverse mode (none)



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