

Variable Beam Expander 1X-3X @ 343-355 nm

For high power UV industrial applications



Lenses: Fused Silica

Transmitted wavefront distortion:

- P-V: $<\lambda/4$ @ 632.8 nm
- RMS: $<\lambda/10$ @ 632.8 nm

Overall transmission: >98%

Weight: 1675 g

Operational temperature: 23 \pm 5 °C

Recommended maximum beam input diameter

Magnification, times	Max input diameter*
1X	8
1.5X	8.5
2X	6.25
2.25X	6
2.5X	6.25
3X	6

* Maximum input beam diameter at $1/e^2$ intensity level ensuring $\lambda/10$ OPD @ 355 nm.

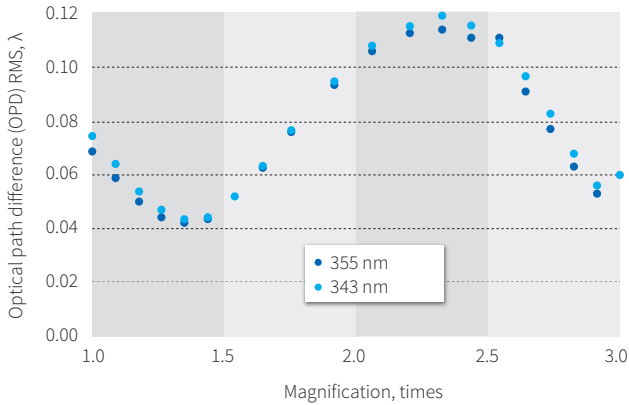
Laser damage threshold (LIDT)

Magnification, times	LIDT*, J/cm ² @ 355 nm, 10 ns
1X	1.85
1.5X	2.72
2X	3.29
2.5X	4.20
3X	4.82

* LIDT is extrapolated based on amount of expansion/reduction of the beam and single lens LIDT measurements when input beam diameter is 6 mm at $1/e^2$ intensity level.

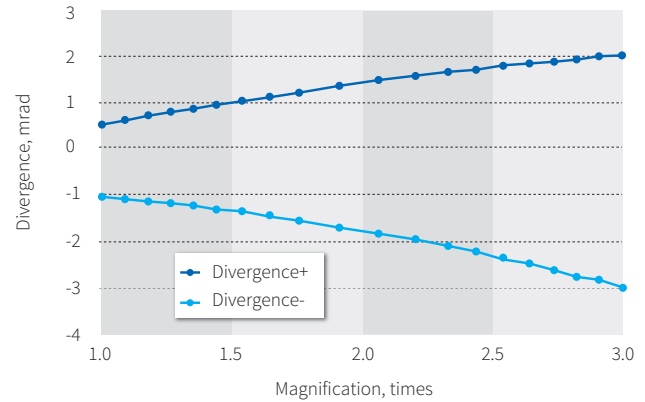
Listed LIDT values vary depending on magnification used as beam reduction inside of the VBE is highest at 1X magnification (25%) and decreases when increasing the magnification. Small beam reduction leads to high LIDT and long lifetime of the product.

Optical quality



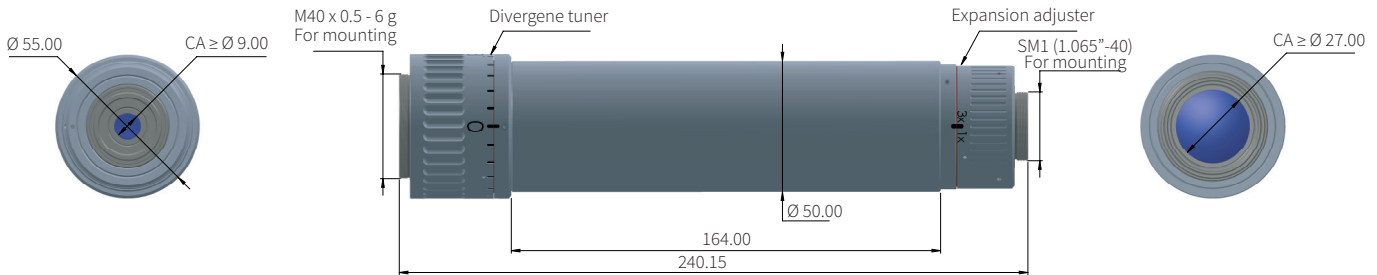
Low optical path difference (OPD) (0.12λ @ 343 nm) assures high optical quality even with input beam diameter up to 6 mm (at $1/e^2$ intensity level) for any magnification.

Divergence acceptance



VBE can accept different divergence range of input beam at different magnifications. Product is designed to accept vast majority of divergence values used in the industrial applications.

Main dimensions



VBE can be mounted at any place along 164 mm long central area.

- Mounting thread (input side): SM1 (1.035"-40)
- Mounting thread (outside): M40 x 0.5 - 6 g