

5. Laser Accessories

5.1. Beam Expanders



Galilean and Keplerian Beam Expanders.

There are two basic types of simple beam expander. The Keplerian beam expander consists of a positive input lens and a positive objective. But the most common type of beam expander is derived from the Galilean telescope which usually has one negative input lens and one positive output lens. The input lens presents a virtual beam focus at the output. For low expansion ratios (1.3-20 times) the Galilean telescope is most often employed due to its simplicity, small package size and low cost.

We offer beamexpander made from two, three, or more sperical lens made from BK7, FS, UVFS or other glass. Also we produce beamexpanders with achromat lenses.

Beam Expanders for any wavelength from 266nm - 2000nm spectral range available on request!

Manually Adjustable 2x - 8x Laser Beam Expanders in four-element design with variable expansion factor 2x to 8x for variable wavelengths: 1064nm, 532nm and 355nm. Other wavelengths also available upon request.

| Code | Name | Expansion ratio | Wavelength | Housing Diameter | Housing Length | Input aperture | Exit aperture | Price (1-2pcs) | Price (3-4pcs) | Price (5-8pcs) | Currency |
|---------------|---------------|-----------------|------------|------------------|----------------|----------------|---------------|----------------|----------------|----------------|----------|
| BE-2X-355 | Beam Expander | 2x | 355nm | 25.4-38.1mm | | >5mm | 25mm | 89,400 | 74,400 | 65,400 | JPY |
| BE-3X-355 | Beam Expander | 3x | 355nm | 25.4-38.1mm | | >5mm | 25mm | 89,400 | 74,400 | 65,400 | JPY |
| BE-5X-355 | Beam Expander | 5x | 355nm | 25.4-mm | | >3mm | 18mm | 91,500 | 76,500 | 67,500 | JPY |
| BE-10X-355 | Beam Expander | 10x | 355nm | 25.4-mm | | >3mm | 18mm | 97,200 | 82,200 | 73,200 | JPY |
| BE-2X-532 | Beam Expander | 2x | 532nm | 25.4-38.1mm | | >5mm | 25mm | 79,500 | 64,500 | 53,400 | JPY |
| BE-3X-532 | Beam Expander | 3x | 532nm | 25.4-38.1mm | | >5mm | 25mm | 79,500 | 64,500 | 53,400 | JPY |
| BE-5X-532 | Beam Expander | 5x | 532nm | 25.4-mm | | >3mm | 18mm | 82,200 | 67,200 | 55,800 | JPY |
| BE-10X-532 | Beam Expander | 10x | 532nm | 25.4-mm | | >3mm | 18mm | 87,000 | 72,000 | 59,700 | JPY |
| BE-2X-1064-S | Beam Expander | 2x | 1064nm | 25.4-38.1mm | | >5mm | 25mm | 73,500 | 58,500 | 46,500 | JPY |
| BE-3X-1064-S | Beam Expander | 3x | 1064nm | 25.4-38.1mm | | >5mm | 25mm | 73,500 | 58,500 | 46,500 | JPY |
| BE-4X-1064-S | Beam Expander | 4x | 1064nm | 25.4-38.1mm | | >5mm | 25mm | 73,500 | 58,500 | 46,500 | JPY |
| BE-5X-1064-S | Beam Expander | 5x | 1064nm | 25.4mm | | >3mm | 18mm | 76,200 | 59,700 | 46,500 | JPY |
| BE-6X-1064-S | Beam Expander | 6x | 1064nm | 25.4mm | | >3mm | 18mm | 76,200 | 59,700 | 46,500 | JPY |
| BE-8X-1064-S | Beam Expander | 8x | 1064nm | 25.4mm | 50mm | >3mm | 18mm | 79,800 | 64,200 | 52,500 | JPY |
| BE-10X-1064-S | Beam Expander | 10x | 1064nm | 25.4mm | | >3mm | 18mm | 81,000 | 65,400 | 53,400 | JPY |
| BE-12X-1064-S | Beam Expander | 12x | 1064nm | 25.4mm | | >3mm | 18mm | 81,000 | 65,400 | 53,700 | JPY |

5.2. Tunable Beam Expanders

| Code | Name | Expansion ratio | Wavelength | Housing Diameter | Housing Length | Input aperture | Exit aperture | Price (1-2pcs) | Price (3-4pcs) | Price (5-8pcs) | Currency |
|------------|-----------------------|-----------------|------------|------------------|----------------|----------------|---------------|----------------|----------------|----------------|----------|
| BE-MA-355 | Tunable Beam Expander | 2x-8x | 355nm | 45-50mm | 114-142mm | 11mm | 33mm | 387,000 | 357,000 | 327,000 | JPY |
| BE-MA-532 | Tunable Beam Expander | 2x-8x | 532nm | 45-50mm | 114-142mm | 11mm | 33mm | 294,000 | 264,000 | 238,500 | JPY |
| BE-MA-1064 | Tunable Beam Expander | 2x-8x | 1064nm | 45-50mm | 114-142mm | 11mm | 33mm | 288,000 | 270,000 | 229,500 | JPY |