



IRADION

Ceramic Core CO₂ Lasers

Iradion Beam Expander for Destiny, Infinity and Eternity series Lasers



Beam expander with extension tube for optimal beam quality



Beam expander direct mount for package size

Small, Lightweight and easy to install, our beam expanders enlarge the beam diameter and optimally collimate your laser's output by 2.5x, 3x, 4x, 5x and 6x. The larger the beam diameter reduced dangerous hot-spots and risk of optical damage during machine operation, especially in harsh operating environments.

Beam expanders are developed for higher power (>100w) CO₂ laser operation without water cooling. The beam expander outer diameter and connecting thread (M30x1) are consistent across the magnification options for easy integration.

FEATURES & BENEFITS

- For collimation of CO₂ laser beams.
- Standard fixed magnifications from 2.5x, 3x, 4x, 5x and 6x.
- Galilean telescope design reduces length of beam expander and avoids intermediate focus.
- Adjustable divergence enables fine tuning of output beam collimation.
- Ruggedly constructed BE beam expanders conveniently and easily mount to the front of Iradion Eternity and Infinity-series lasers for maximum adjustability and perfect alignment.
- Interior optical surfaces of BE beam expanders are shielded from the operating environment.
- BE series are a standard in the industry and were selected for their ideal balance of cost and performance.
- Includes mounting ring and optional extender piece.

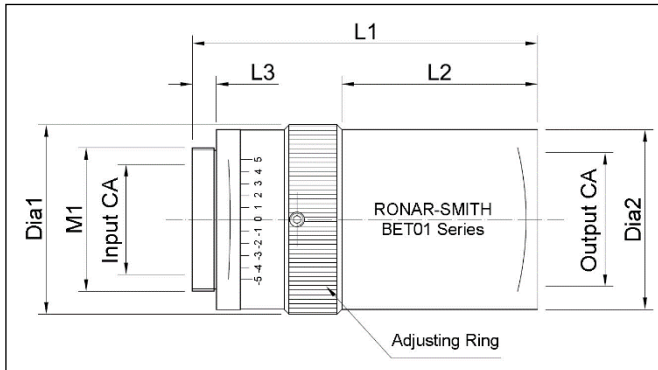
Iradion Laser Inc., One Technology Drive, Uxbridge, MA 01569

+1 (401) 762-5100 | WWW.IRADION.COM | SALES@IRADION.COM



CO₂ Laser Beam Expander

Beam expanders developed for CO₂ laser are made by ZnSe material which has the highest transmission for CO₂ laser. We provide a wide range of magnifications from 1x to 20x. With dedicated mechanical structure, the internal lenses don't rotate during adjustment, which ensures the best alignment accuracy. Adjustable ring with scales makes it more convenient for user's operation.



*Other magnifications available upon request.
Specifications are preliminary and subject to change without notice.

DIMENSIONS:

Part No.	Magnification	Input CA (mm)	Output CA (mm)	Outer Dia (mm)	L1 (mm)	M1 (mm)
BET0101.5	1.5x	20.0	28.0	39.6	75.2	30.0
BET0102A	2.0x	20.0	28.0	39.6	75.0	30.0
BET0102.5	2.5x	20.0	28.0	39.6	75.6	30.0
BET0103A	3.0x	20.0	28.0	39.6	75.0	30.0
BET0104A	4.0x	20.0	28.0	39.6	75.0	30.0
BET0105A	5.0x	20.0	28.0	39.6	75.0	30.0
BET0106A	6.0x	20.0	28.0	39.6	75.0	30.0

Design Notes:

- CO₂ laser collimation for >100 Watts, without the need for water cooling.
- Galilean telescope beam expanders geometry.
- Adjustable output beam divergence for optimizing collimation.



Patents: US 7460577 B2, US 8295319 B2
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