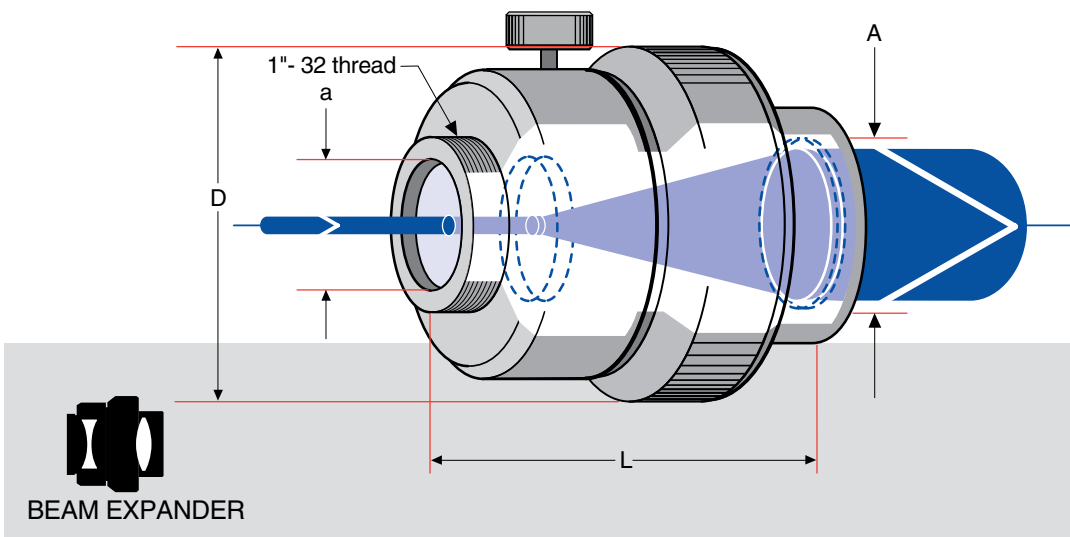


Laser Beam Expanders

- Precise beam expansion permits lower beam divergence
- Designed for use with HeNe lasers
- Anti-Reflection coated for broadband visible spectrum
- Fixed expansions of 3, 5, and 10 times
- Variable expansions from 2.5 to 10 times in a single system



Beam expanders are useful laser accessories when the beam diameter must be increased. However, their main function is in decreasing the divergence of laser beams which are to be projected over long distances. These precision beam expanders have been designed for use with HeNe lasers but they are also useful for any laser working in the visible part of the spectrum (400-700nm). They are provided with a standard accessory thread and a mounting ring which adapts readily to most commercially available lasers. Three fixed ratio expanders are offered covering 3X, 5X, and 10X expansion ratios. There is also a zoom beam expander which can be adjusted for ratios from 2.5X to 10X. Both the fixed and variable ratio beam expanders have a focus adjustment. A fiducial mark shows the position for precise expansion but the focus adjustment can be used to compensate for inherent divergence in the beam and focus the distant laser beam more precisely. Once set, a lock screw may be used to secure the focus ring in place.



Specifications & Tolerances

Magnification:
adjustable by $\pm 5\%$
Surface quality:
20-10
Barrel dimensions:
 $\pm 0.5\text{mm}$
Coating: Broadband
Anti-Reflection
400-700nm
Centration: $\leq 3\text{arcmin}$
Material: Grade A
crown and flint
glasses

Laser Beam Expanders

Expansion Ratio	Input Aperture, a (mm)	Output Aperture, A (mm)	Barrel Diameter, D (mm)	Barrel Length, L (mm)	Price	PART NUMBER
3X	3.5	15	40	45-51		027-2440
5X	2.0	15	40	52-59		027-2450
10X	1.5	25	40	111-118		027-2460
2.5-10X	2.0	25	62	139-159		027-2470
HeNe Adapter	Inch	-	-	-		027-2465
HeNe Adapter	Metric	-	-	-		027-2466

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