Beam Expander
HIGH PRECISION Optics, made in Japan.

GEOMATEC beam expanders are used in many material processing markets including laser marking systems and semiconductor processing devices because of the high quality output beam and attractive pricing. All the fixed beam expanders have the same housing size regardless of the expansion ratio and wavelength.

Features

- Highly transmittance (>96% guaranteed)
- Very compact unified housing size (φ25mm)
- Easy adjustment of output beam divergence
- Very low beam shape distortion
- Custom designed models are available

Beam profile after beam expander:

- Original beam
- Standard EXP-6
- Output beam

Dimensions

Focus ring for adjust output beam divergence
3-M1.6 screw hole for fix the focus ring

Specifications

<table>
<thead>
<tr>
<th>Expansion Ratio</th>
<th>×1.5</th>
<th>×2</th>
<th>×3</th>
<th>×4</th>
<th>×6</th>
<th>×8</th>
<th>×10</th>
</tr>
</thead>
<tbody>
<tr>
<td>1064 nm</td>
<td>EXP-1.5W 63.8 mm</td>
<td>EXP-2W 63.4 mm</td>
<td>EXP-3 62.4 mm</td>
<td>EXP-4 63.5 mm</td>
<td>EXP-6 63.5 mm</td>
<td>EXP-8 65.0 mm</td>
<td>EXP-10 64.8 mm</td>
</tr>
<tr>
<td></td>
<td>EXP(SHG)-3 61.2 mm</td>
<td>EXP(SHG)-4 62.3 mm</td>
<td>EXP(SHG)-6 62.2 mm</td>
<td>EXP(SHG)-8 63.8 mm</td>
<td>EXP(SHG)-10 63.9 mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>532 nm</td>
<td>EXP-1.5W 62.7 mm</td>
<td>EXP-2W 62.5 mm</td>
<td>EXP(SHG)-3 61.2 mm</td>
<td>EXP(SHG)-4 62.3 mm</td>
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<td>EXP(THG)-4 63.3 mm</td>
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<td>EXP(THG)-10 63.9 mm</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>355 nm</td>
<td>EXP-1.5W EXP(SHG)-3 63.8 mm</td>
<td>EXP(SHG)-4 63.6 mm</td>
<td>EXP(SHG)-6 63.7 mm</td>
<td>EXP(SHG)-8 63.3 mm</td>
<td>EXP(SHG)-10 63.9 mm</td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

Maximum input beam diameter:
- 1064 nm: φ8.0 mm
- 532 nm: φ8.5 mm
- 355 nm: φ6.0 mm

Maximum output beam diameter:
- 1064 nm: φ5.0 mm
- 532 nm: φ5.0 mm
- 355 nm: φ2.0 mm

Transmittance: >96%
GEOMATEC zoom expanders are a very compact design but have wide range of adjustment. Precise adjustment of zoom and beam divergence. Controls are isolated so sensitive adjustment of one function does not interact with the other.

**Features**

- Very functionable design with a compact housing
- Wide adjustable range for output beam divergence (0～10mrad)
- Expansion ratio changes linearly

**Dimensions**

**Specifications**

<table>
<thead>
<tr>
<th>Expansion ratio</th>
<th>×1～×3</th>
<th>×3～×7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>EPZ-13C</td>
<td>EPZ-37C</td>
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<tr>
<td>Wavelength</td>
<td>1064 nm</td>
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<tr>
<td>Input Beam Diameter</td>
<td>φ8.0 mm (1×)～φ3.5 mm (3×)</td>
<td>φ4.5 mm (3×)～φ1.8 mm (7×)</td>
</tr>
<tr>
<td>Output Beam Diameter</td>
<td>φ8.0 mm (1×)～φ10.5 mm (3×)</td>
<td>φ13.5 mm (3×)～φ12.6 mm (7×)</td>
</tr>
<tr>
<td>Transmittance</td>
<td>&gt;96%</td>
<td></td>
</tr>
</tbody>
</table>

**Ordering and technical information**

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