

## EOT 70 W Fiber Laser Isolator

EOT's 70 W Fiber Laser Isolators have been specifically designed for pulsed Yb Fiber Lasers used in marking and engraving applications. Marking and engraving of highly reflective metals can result in large levels of back reflection, creating the potential for non-optimal performance of the laser or even damage to the laser. This can result in unacceptable marking quality and significant down time. Utilizing high damage threshold optics, these isolators provide for high transmission of light in the forward direction and strong attenuation of light traveling in the reverse direction. Designed specifically for harsh, industrial environments, an integrated beam expanding telescope assures excellent beam-pointing stability and beam quality, which is required to assure high quality marking and engraving.



### Benefits:

- Rugged, environmentally hardened assembly assures limited down time for marking systems due to laser problems
- Minimal beam distortion results in clear, distinct part marking

### Features:

- Critical components are designed to minimize return loss which can degrade laser performance
- Proper steering and heat sinking of backward traveling light assures isolator performance does not degrade over time due to heating
- Protective armor cabling for fiber is standard
- U.S. Patent 7,306,376; other patents applied for

### Specifications<sup>a</sup>:

Part Number	110-10353-0001
Fiber Types <sup>b</sup>	Contact EOT
Maximum Incident Average Power	70 W
Center Wavelength	1065 nm ± 15 nm
M <sup>2</sup> Degradation	<10%
Standard Output Beam Diameter (1/e <sup>2</sup> ) <sup>c</sup>	3 mm, 5 mm, 7.5 mm, 10 mm
Insertion Loss of light through fiber core <sup>d</sup>	<0.5 dB
Isolation at 10 °C - 50 °C	>20 dB
Isolation at 30 °C	>27 dB
Return Loss	<-50 dB
Reverse Power Handling <sup>e</sup>	77 W for 90 s max.
Maximum Pulse Energy	1 mJ
Peak Power	20 kW
Operating Temperature	10 °C - 50 °C
Storage Temperature	-10°C - 70 °C
Storage Humidity, non-condensing	10% - 90%

<sup>a</sup> Product specifications are subject to change.

<sup>b</sup> Standard fiber length is 3 m, protective Teflon tubing length is 2.15 m in a 2 m armor cable jacket. Customers should contact EOT regarding other fiber requirements.

<sup>c</sup> Unless otherwise specified by customer

<sup>d</sup> Insertion loss of light through fiber cladding is not included in the insertion loss specification.

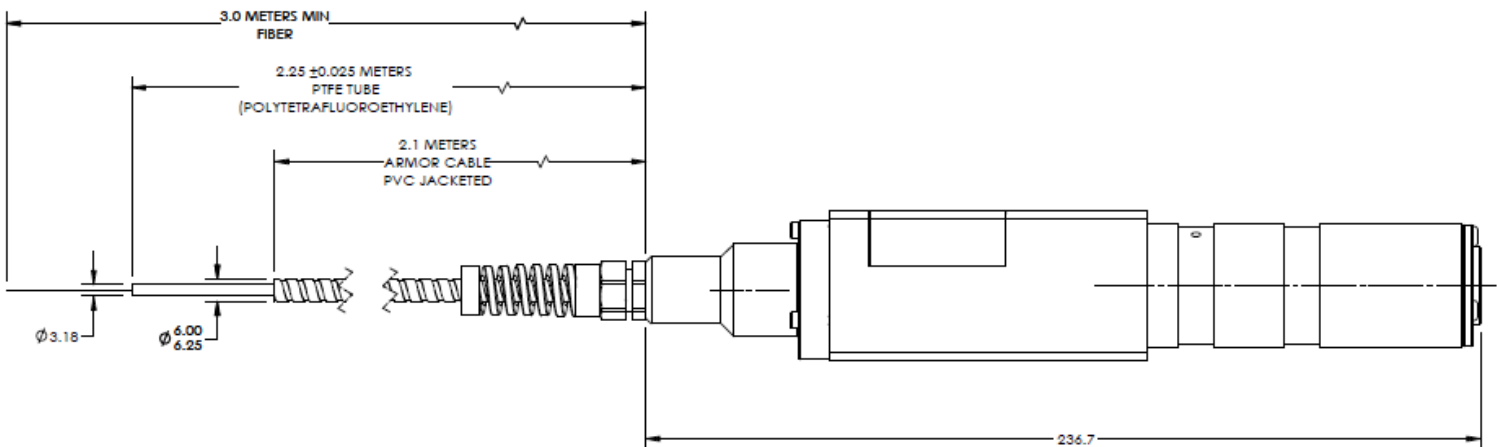
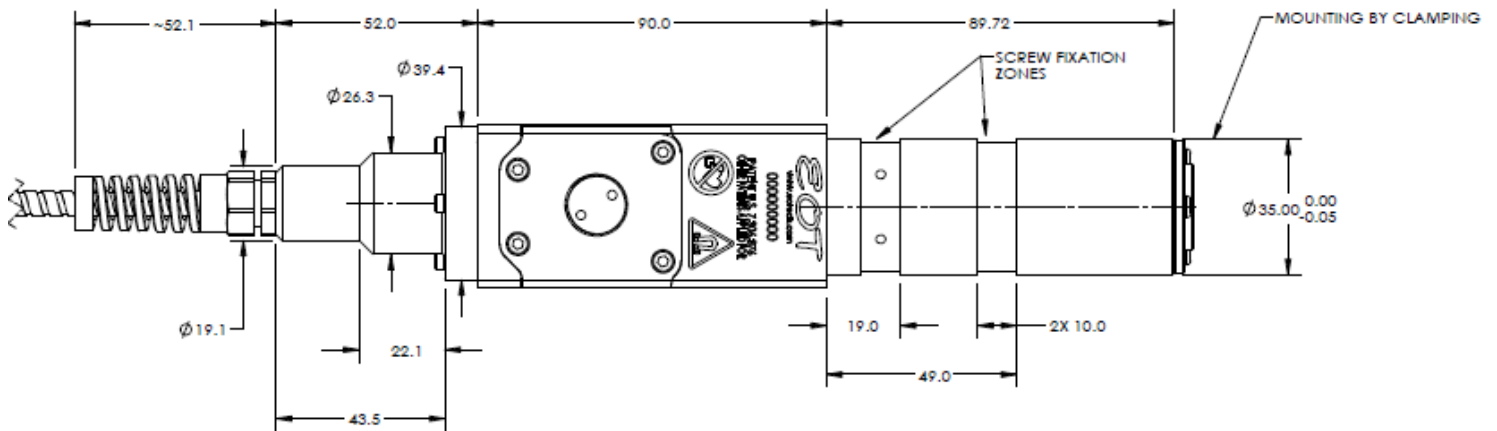
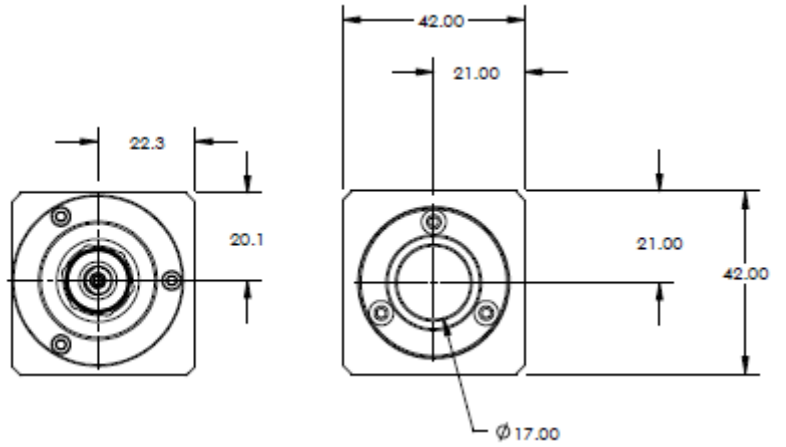
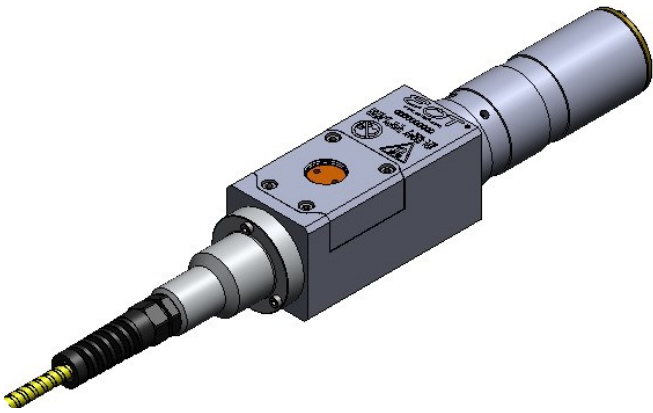
<sup>e</sup> Case temperature ≤ 50 °C

Note: All products are RoHS compliant.

**\*\*** It is recommended that the isolator be attached to the laser enclosure using a compression fitting that secures only the outer, metal reinforced jacket. The inner PTFE tube is meant as an abrasion barrier for the optical fiber and should be allowed to move freely with the fiber.



# EOT 70 W Fiber Laser Isolator Dimensions<sup>a</sup>:



<sup>a</sup> All dimensions in millimeters

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