Single Channel Vacuum Passthru for 10⁻⁷ Torr





FEATURES

- Vacuum Range to 10⁻⁷ Torr
- Sapphire Windows at Connector Interface
- Mounting by Swagelok Ultra-Torr[®] Fitting or 1.33" Mini CF Flange
 - Works with most Philtec D and RC Model Sensors*

* not available for models D6, D12 and RC12

PHILTEC

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Single Channel Vacuum Passthru

PVC/Monocoil Sheathing For Air SS Interlok Sheathing For Vacuum 3.5" Ø 0.375 Ø 0.578" Ultra-Torr Fitting Swagelok SS-6-UT-A-8-BT Epoxied Into CF133 Sapphire Windows **Over Fiberoptics** Sealed To Hold Vacuum Good For 10 E-7 Torr 4" 6 x Ø 0.172" 0.300" **CF133** Ø 1.062" Ultra-Torr/CF133 Ass'y "Floats" On Bv1 Until Tightened 1.33 **Bv1** Assembly PHILTEC, INC. PHILTEC ANNAPOLIS, MD 21409 Bv1 Hardware for 10 E-7 Torr DATE DWG, NO. -20 APR '11 Bv1

Bv1/Bv133

Description

Model Bv1 provides a connectorized sensor cable with:

- Window sealed fiberoptics for operation in a vacuum chamber
- Swagelok Ultra-Torr fitting for bulkhead mounting

Model Bv133 includes a 1.33" Mini-CF Flange for bulkhead mounting

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Single Channel Vacuum Passthru Bv1/Bv133

Operating Principle

Philtec's fiberoptic sensors are comprised of many fibers. The smallest probes have dozens of fibers, the largest have several thousand. These fiber bundles can not be sealed to hold high vacuum.



In the Bv1 and Bv133 vacuum passthru, the sensor's transmitting and receiving light guides are separated at a connector interface. This eliminates all crosstalk between channels, thereby allowing the sensor light signals to be accurately transferred from air to vacuum environments. Sapphire windows are epoxied into the connector end on the vacuum side, sealing the fiberoptics in the vacuum.

Swagelok's Ultra-Torr[®] fittings are designed to provide a vacuum-tight seal with quick, finger-tight assembly and reuseability. A Viton O-Ring is wetted with a thin film of silicone vacuum grease. Ultra-Torr fittings are consistently helium leak-tested to a rate of 4.0×10^{-9} atm. c.c./sec. without leakage.