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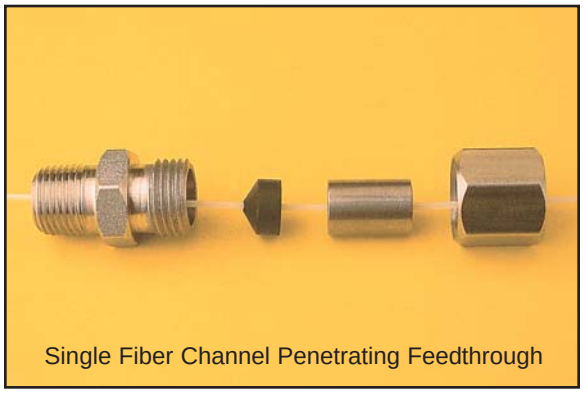
VACUUM PRESSURE FEEDTHROUGH – FIBER OPTIC

FEATURES:

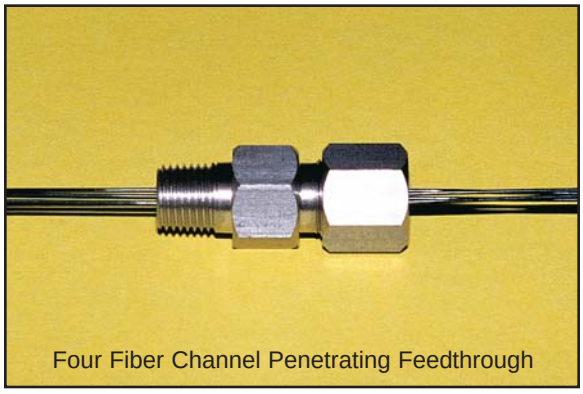
- Vacuum or Pressure Seal
- Fiber in Penetrating Style Can Be Protected in 900µm Loose Tubing or 3mm OD Stainless Steel Cable
- Rugged Design
- Compact
- Low Transmission Loss (Excluding Connecter Losses)
- Easy Installation
- Wide Range of Connector Types
- Single Fiber and Four Fiber Penetrating Versions Available
- Receptacle Type, Penetrating Type
- **LOW COST!**



Single Fiber Channel Penetrating Feedthrough

SPECIFICATIONS:

- **Gas leak rate:** less than $1x10^{-8}$ scc/sec (tested w/100 psig He)
- **Transmission loss:** See Table A
- **Available sealants:** Teflon and Viton
- **Fiber Sizes:** 125 to 1000 micron cladding diameters
- **Weight:** Less than 100 grams
- **Temperature Range: (Excluding Fiber and Jacket)** -35°C to +90°C for receptacle type
  Penetrating type is dependent on the sealant material Viton: -20°C to +230°C
  Teflon: -180°C to +230°C



Four Fiber Channel Penetrating Feedthrough

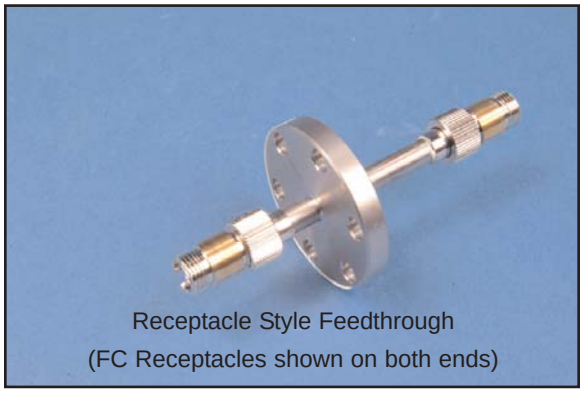
DESCRIPTION:

Fiber optic vacuum feedthroughs provide a simple way to use optical fibers with vacuum and pressure chambers. They are available in two versions - a penetrating feedthrough fiber version and a receptacle style version.

Penetrating versions have the fibers directly installed. One or four fiber versions are available. The fibers are installed in the factory. The fibers pass through a soft sealant material which is compressed by the compressive endcap and internal squeezer of the feedthrough. This conforms the sealant material surrounding the fiber, sealing the hole. A variety of sealant materials can be used. Viton is recommended for most applications up to 230°C, and Teflon for cryogenic applications.

A 1/4" NPT thread vacuum feedthrough is our standard. 1/8" NPT thread is also available for single channel assemblies with no connectors.

The **receptacle** style version contains a short fiber stub, which is sealed using a vacuum rated glue. An O-ring is used between the chamber wall and the flange to seal the system. Adapters for various standard connectors are available.



Receptacle Style Feedthrough
(FC Receptacles shown on both ends)

Table A

Design Wavelength (nm)		1300/1550	980	780	633	488	400	320
Operating Wavelength Range (nm)		1290-1650	980-1550	760-980	600-850	450-650	400-450	320-400
Fiber Core/Cladding Size (microns)		9/125	6/125	5/125	4/125	3.5/125	3/125	2/125
Insertion Loss[1, 2]	Maximum	0.8dB	1.2dB	1.5dB	2.5dB	3.0dB	3.5dB	4.0dB

Notes: 1- As measured using FC connectors, with Super PC Finish (Two connection on each side is considered). For APC Connectors add 0.1dB.
2- As measured when mating to a matching connector.

ORDERING INFORMATION:

Penetrating Feedthrough Type: VAC-0A-S-FMJ-XY-W-a/b-1-L

Feedthrough Type: 1 for Single Channel
4 for Four Fiber Channel

Sealant Material: T for Teflon
V for Viton

Fiber Type: M for Multimode
S for Singlemode
P for Polarization Maintaining
QM for High Power Multimode
QS for High Power Singlemode
QP for High Power PM

Connector Code: 3S = Super NTT-FC/PC
3U = Ultra NTT-FC/PC
3A = Angled NTT-FC/PC
8 = AT&T-ST
8U = Ultra AT&T-ST
SC = SC
SCU = Ultra SC

See Table 6 of the Standard Tables for other connectors.

(For other types we can provide it with hybrid adapters.)

Fiber Length, in meters, on each side of the feedthrough.
a: Compressive End Cap side
b: Feedthrough Body side

Fiber Core/Cladding in Microns:
9/125 for 1300/1550nm SM fiber

See tables 1 to 5 of the Standard Tables for other standard fiber sizes.

Wavelength: Specify in nanometers
(Example: 633 for 633nm)

For multimode fibers specify either UVVIS for ultraviolet/visible wavelengths or IRVIS for visible/infrared wavelengths

Receptacle Type: VAC-XY-W-a/b-F

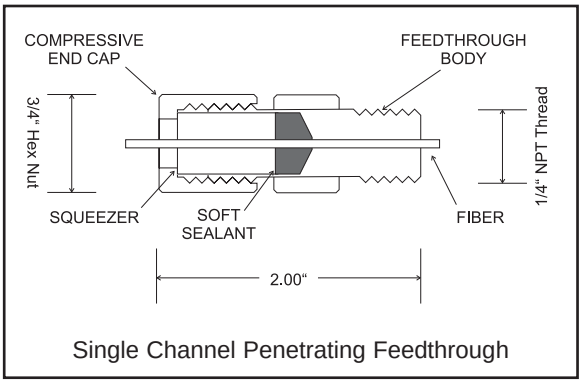
Receptacle Code: (one on each end)
3 = For FC Connectors
3A = Angle polished FC Connector
For other type connectors we can provide receptacle type feedthrough with above mentioned connectors along with applicable hybrid adaptors on each side.

See table 6 of the Standard Tables for other connectors

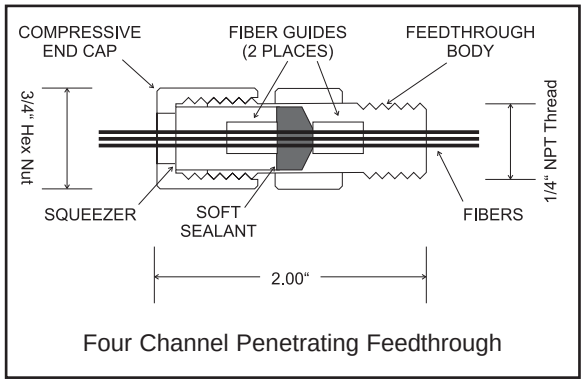
Wavelength: Specify in nanometers
(Example: 1550 for 1550nm)

Fiber Type: M for Multimode
S for Singlemode

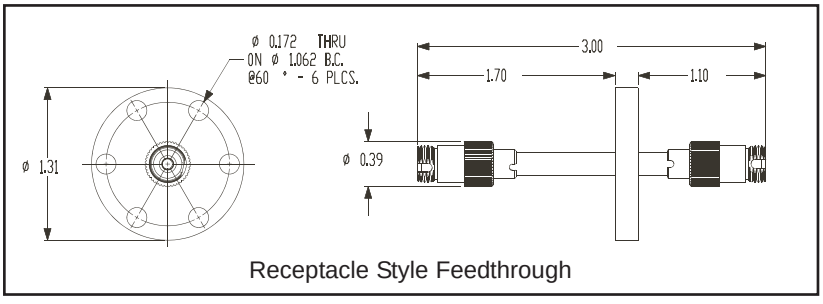
Core/Cladding Diameter, in microns



Single Channel Penetrating Feedthrough



Four Channel Penetrating Feedthrough



Receptacle Style Feedthrough