

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 Connector Losses)
- Easy Installation
- Wide Range of Connector Types
- Single Fiber and Four Fiber Penetrating Versions Available
- Receptacle Type, Penetrating Type
- **LOW COST!**

SPECIFICATIONS:

- **Gas leak rate:** less than 1×10^{-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

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.

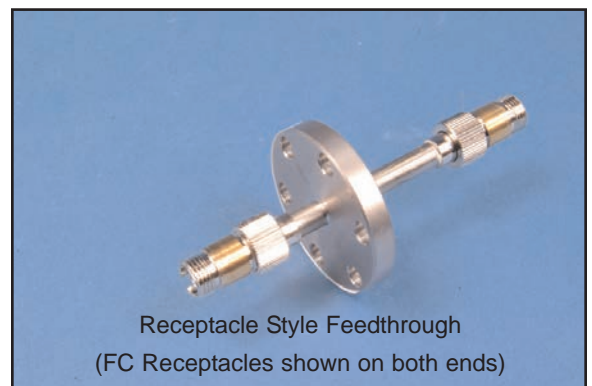
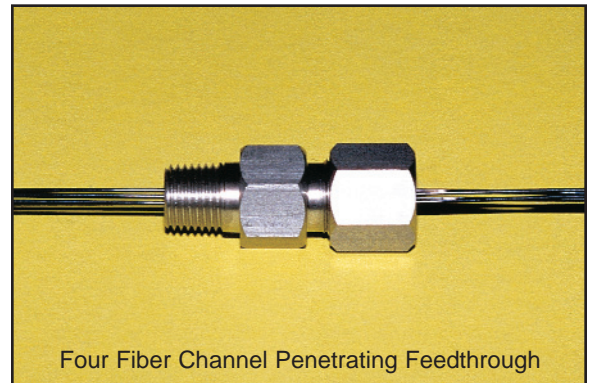
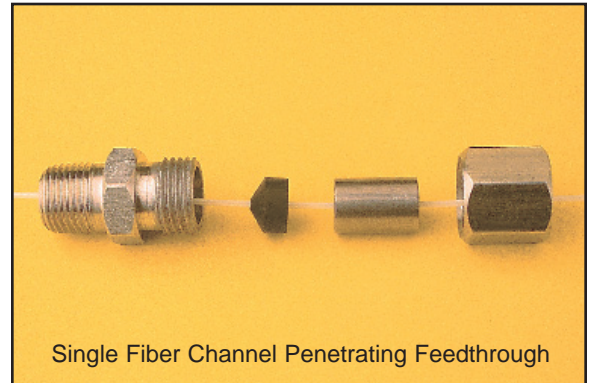


Table A

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

