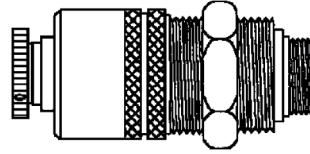


# PFT Series

## Vacuum and Pressure Feedthroughs



**INSTRUCTION SHEET**

**M1009-0507**

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### General Description

Penetrating a pressure barrier, vacuum chamber, or bulkhead with electrical conductors while maintaining a tight pressure seal can be time-consuming and costly. OMEGA<sup>®</sup> feedthroughs offer the ideal solution; they incorporate both the wire and body as one pre-assembled hermetic unit. There is no need to fasten pins to a conventional-type connector or solder conductors to a glass-to-metal seal.

The body is molded from a high-temperature-strength epoxy resin in either an O-ring, NPT, or commercial mil spec design to facilitate installation. Generally, under harsh environmental conditions or extreme physical abuse, the feedthrough can be encased in a standard bushing or metal housing. Each unit is inspected and tested for reliability.

#### Chemical Exposue

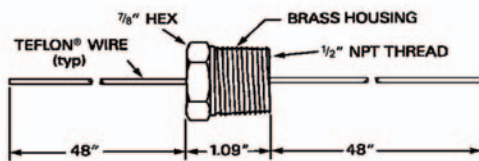
Compatible: Oils, Solvents, Refrigerants, Water, Non-Corrosive Gases

**Avoid:** Strong acids and bases

#### PFT2NPT Series: Hermetic Seal 1/2" NPT Plugs

The PFT2NPT 1/2" NPT plugs feature 10<sup>-8</sup> torr/120 PSI ratings; copper and thermocouple wire; 1, 2, and 4 pair; Teflon<sup>®</sup> wire

MODEL NO.	WIRE	PAIRS
PFT2NPT-1CU	CU	1
PFT2NPT-2CU	CU	2
PFT2NPT-4CU	CU	4
PFT2NPT-1J	J	1
PFT2NPT-2J	J	2
PFT2NPT-4J	J	4
PFT2NPT-1E	E	1
PFT2NPT-2E	E	2
PFT2NPT-4E	E	4
PFT2NPT-1T	T	1
PFT2NPT-2T	T	2
PFT2NPT-4T	T	4
PFT2NPT-1K	K	1
PFT2NPT-2K	K	2
PFT2NPT-4K	K	4



**PFT2NPT: 1/2" NPT BRASS PLUG**

### Specifications

**Pressure Rating:** Maximum pressure: 120 PSI (NPT plug, NPT couple, and multi-pin connector); 2000 PSI (Face Seal)

**Leak Rate Pressure:** Leak rate at 100 PSI:

1 x 10<sup>-8</sup> cc air/sec

**Leak Rates Vacuum:** Leak rate at 10<sup>-8</sup> Torr:

1 x 10<sup>-8</sup> cc He/sec

**Temperature Limits:**

-40 to 121°C (-40 to 250°F)

**Out Gasing:** <0.003% volatile condensable materials:

<0.34% weight loss;

sample at 125°C, cold surface at 25°C

**Wire:** 20 AWG solid with Teflon<sup>®</sup> insulation; length 48" both sides, -200 to 200°C

### Quality Control Test (100% Performed)

**Voltage:** Hipot test to connector specifications, contact to contact and to shell.

Insulation resistance as requested.

**Helium Leak Test:** After thermal exposure, 100% test on mass spectrometer helium leak detector. Less than 1 x 10<sup>-8</sup> std cc/sec Helium in 5-minute exposure. 100% Helium atmosphere on atmosphere side.

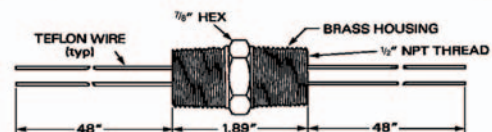
#### PFT2CPL Series: Hermetic Seal 1/2" NPT Couples

The PFT2CPL 1/2" NPT couples feature 10<sup>-8</sup> torr/120 PSI ratings; copper and thermocouple wire; 2 and 4 pair; Teflon<sup>®</sup> wire.

#### PFT2CPL SERIES: HERMETIC SEAL 1/2" NPT COUPLES

The PFT2CPL 1/2" NPT Couples feature 10<sup>-8</sup> Torr/120 PSI ratings; copper and thermocouple wire; 2 and 4 pair; Teflon wire.

MODEL NO.	WIRE	PAIRS
PFT2CPL-2CU	CU	2
PFT2CPL-4CU	CU	4
PFT2CPL-2J	J	2
PFT2CPL-4J	J	4
PFT2CPL-2E	E	2
PFT2CPL-4E	E	4
PFT2CPL-2T	T	2
PFT2CPL-4T	T	4
PFT2CPL-2K	K	2
PFT2CPL-4K	K	4



**PFT2CPL: 1/2" NPT BRASS COUPLE**

### PFTFS Series: Hermetic Face Seals

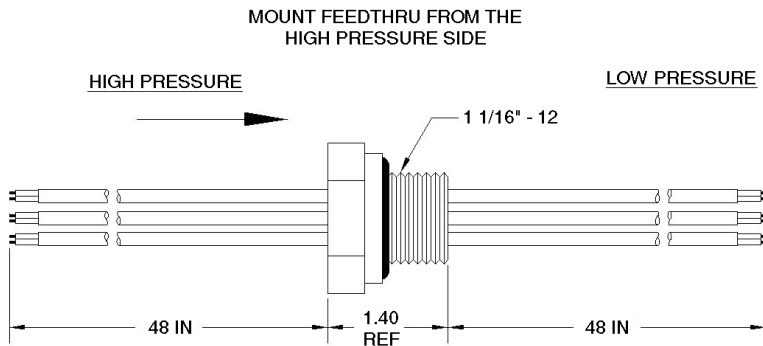
The PFTFS Series face seals feature 10<sup>-8</sup> torr/2000 PSI ratings; 8 wire pairs; stainless steel fittings; Nitrile O-ring and jam nut. O-ring LS 2-121.  
Note: The face seal is the high pressure side, and the thread or jam nut is the low pressure side.

Model No.	Wire	Pairs
PFTFS-8CU	CU	8
PFTFS-8J	J	8
PFTFS-8E	E	8
PFTFS-8T	T	8
PFTFS-8K	K	8

### PFTCC Series : Multi-Pin Connectors

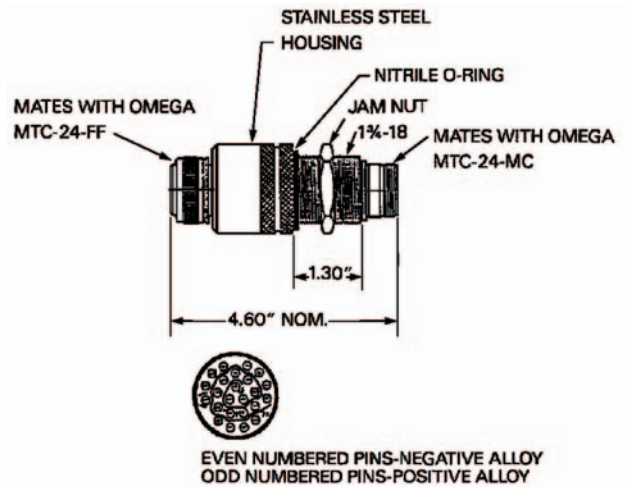
The PFTCC Series multi-pin connectors feature 10<sup>-8</sup> torr/120 PSI ratings; 12 wire pairs; thermocouple alloy or copper pins; fast positive connections; fully compatible with OMEGA® series "MTC-" connectors.

Model No.	Pins Mat'l	Pins (Pairs)
PFTCC-12U	CU	24 (12)
PFTCC-12J	J	24 (12)
PFTCC-12E	E	24 (12)
PFTCC-12T	T	24 (12)
PFTCC-12K	K	24 (12)



Jam nut is 1.38" across the flats, 0.41" thick maximum plate thickness with jam nut is 0.27"

PFTFS: FACE SEAL



PFTCC: MULTI-PIN CONNECTORS



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If the unit malfunctions, it must be returned to the factory for evaluation. OMEGA's Customer Service Department will issue an Authorized Return (AR) number immediately upon phone or written request. Upon examination by OMEGA, if the unit is found to be defective, it will be repaired or replaced at no charge. OMEGA's WARRANTY does not apply to defects resulting from any action of the purchaser, including but not limited to mishandling, improper interfacing, operation outside of design limits, improper repair, or unauthorized modification. This WARRANTY is VOID if the unit shows evidence of having been tampered with or shows evidence of having been damaged as a result of excessive corrosion; or current, heat, moisture or vibration; improper specification; misapplication; misuse or other operating conditions outside of OMEGA's control. Components in which wear is not warranted, include but are not limited to contact points, fuses, and triacs.

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### RETURN REQUESTS/INQUIRIES

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The purchaser is responsible for shipping charges, freight, insurance and proper packaging to prevent breakage in transit.

FOR WARRANTY RETURNS, please have the following information available BEFORE contacting OMEGA:

1. Purchase Order number under which the product was PURCHASED,
2. Model and serial number of the product under warranty, and
3. Repair instructions and/or specific problems relative to the product.

FOR NON-WARRANTY REPAIRS, consult OMEGA for current repair charges. Have the following information available BEFORE contacting OMEGA:

1. Purchase Order number to cover the COST of the repair,
2. Model and serial number of the product, and
3. Repair instructions and/or specific problems relative to the product.

OMEGA's policy is to make running changes, not model changes, whenever an improvement is possible. This affords our customers the latest in technology and engineering.

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