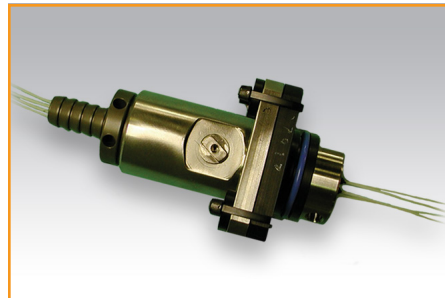


SEACON Penetrators

Underwater Electrical & Optical Penetrators



KEY FEATURES

- Single or multi-way fiber-optic penetrators or "optical feed-throughs"
- Differential pressure rating of 690 bar (10,000 psi) which is equivalent to 7,000m (23,000 feet) for a single channel and 3,200m (10,500 feet) for multi-channel versions
- SMF-28 fiber but suitable for other single-mode or multi-mode fibers
- Boot seal, bend relief on entry and exit
- Suitable for use as a pressure barrier between a 1 atmosphere housing and external pressure environment
- Provides a low-loss optical feed-thru rated internally and externally for up to 10,000 psi
- Modular optical feed thrus, field installable and serviceable

Description

TE Connectivity (TE) manufacture several lines of penetrators that facilitate a cable assembly/harness to penetrate a bulkhead or instrument package without the use of connectors. A penetrator generally has fewer seals and may be physically smaller than a connector pair but hard wiring the cable to the equipment may make it less flexible in use than a connector. A connector set, on the other hand, will allow the cable assembly to be removed without disturbing the hardwiring. Penetrator assemblies have an advantage over connector penetrations in that they do not have the extra set of o-ring seals that are present in a connector set. The penetrator is sealed on the high pressure side (HP) of the cable utilizing the same molding procedures and bond areas as would be seen on the back of a cable connecting plug (CCP).

DESIGN RATINGS

- Differential pressure rating of 690 bar (10,000 psi) which is equivalent to 7,000m (23,000 feet)
- Suitable for use as a pressure barrier between a 1 atmosphere housing and external pressure environment
- Optical insertion loss of better than 0.1dB
- Optical back-reflection of better than -55dB
- Operating temperature range rated to that of the optical fiber, in this case SMF-28 rated from -60°C to +85°C (-76°F to +185°F)

QUALIFICATION TESTING

- Example of qualification testing for single channel detailed in TE's SEACON Qualification Test Report SC-ENG-1026
- Example of qualification testing for multi channel detailed in TE's SEACON Qualification Test Report SC-ENG-1046

TE Components . . . TE Technology . . . TE Know-how . . .

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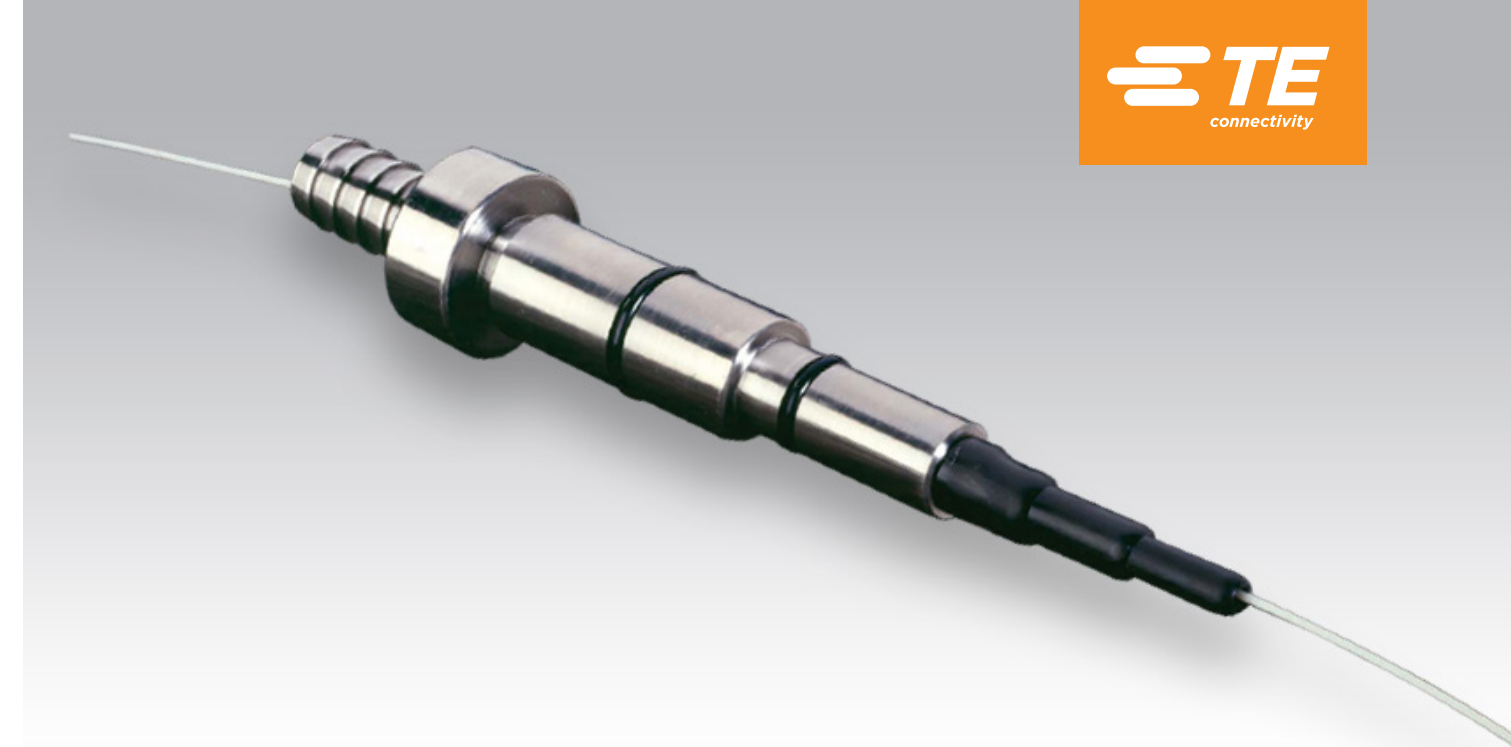
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MARINE, OIL & GAS /// Electrical & Optical Penetrators



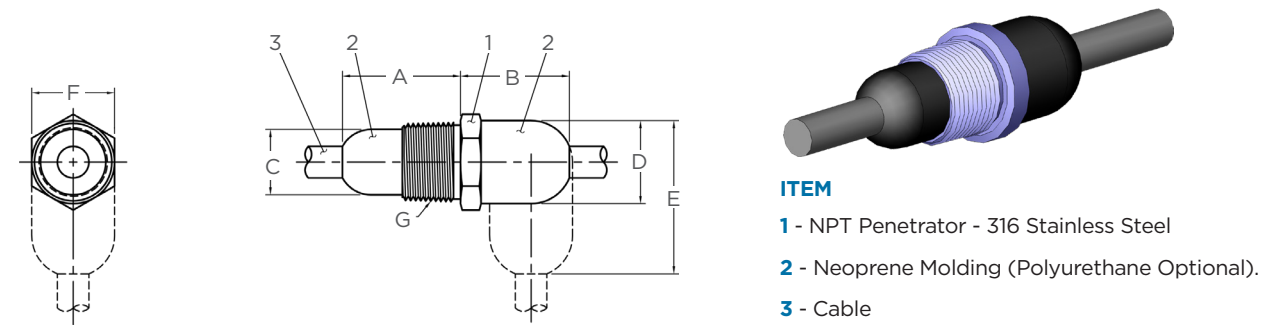
SEACON Penetrators

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NPT (National Pipe Tapered) Penetrator

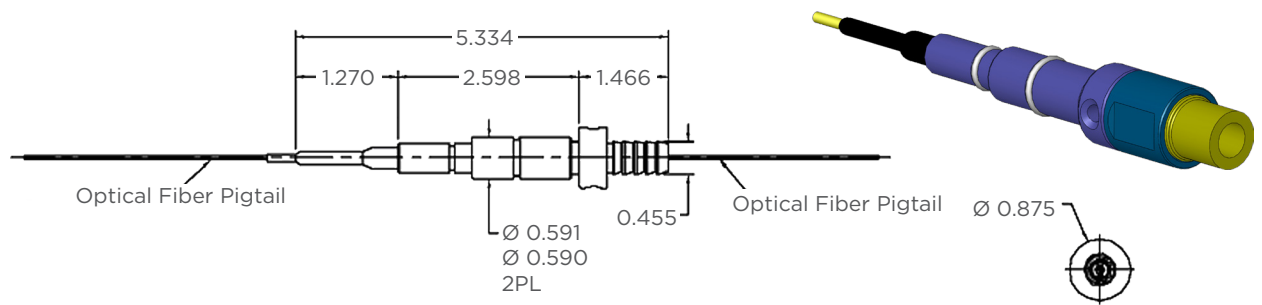


- ITEM**
- 1 - NPT Penetrator - 316 Stainless Steel
 - 2 - Neoprene Molding (Polyurethane Optional).
 - 3 - Cable

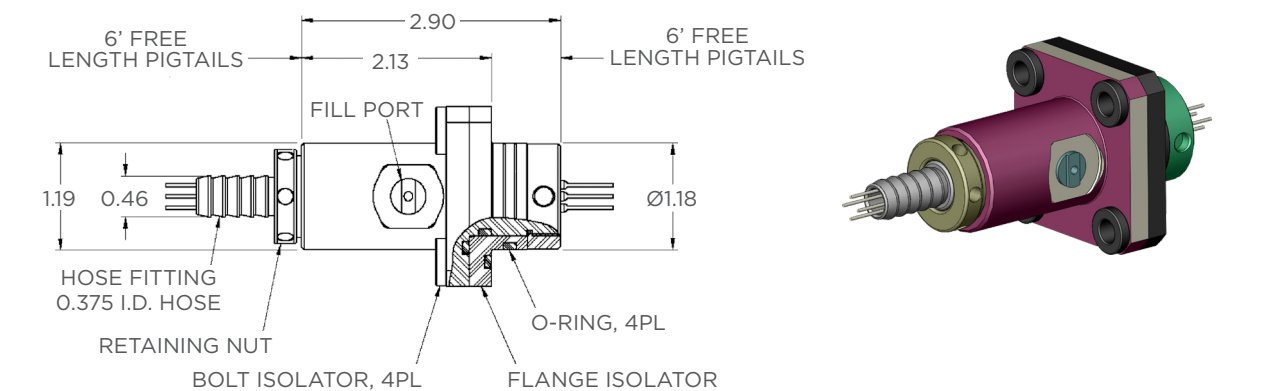
Penetrator Size	A Length (in)	B Length (B)	C Ø (in)	D Ø (in)	E Length (in)	F Hex (in)	G NPT
1" NPT	1.95	1.80	1.08	1.37	2.8	1.37	1-11 1/2
3/4" NPT	1.70	1.80	0.87	0.93	2.5	1.06	3/4-14
1/2" NPT	1.50	1.80	0.62	0.82	2.0	0.87	1/2-14

- Notes:**
- Tin plated contact leads per MIL-T-10727, Type 1, and Fused.
 - Hermetic Seal must withstand 10,000psi test Hydrostatic Pressure.
 - Test voltage 800 VAC for 3 seconds minimum without breakdown.
 - Maximum contact configuration: 8 Pin.

Fiber Optic Single Penetrator



Fiber Optic Four Channel Penetrator



Optical Penetrator Configuration Chart

