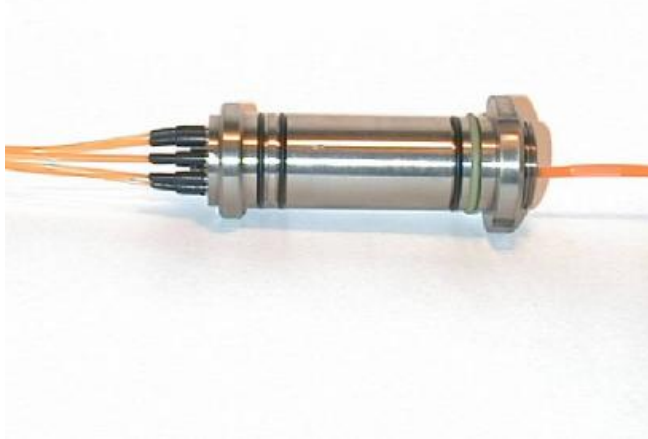


Fibre Optic Penetrator 450 bar



FEATURES

- 450 bar differential pressure
- Dual barrier sealing
- Temperature range: -5 to +50 deg. C
- Attenuation: <0.5dB @ 1310, 1550 & 1625nm within specified temperature and pressure range
- Pressure induced bit error rate at 155 Mb/s: Zero
- Designed for long life applications
- Number of fibres: Acc. to requirements
- Handles both SM and MM fibre elements
- Type of FO element required: SM or MM tight buffer
- Mechanical dimensions determined by pressure rating and number of fibre channels

DESIGN PHILOSOPHY

- Sealing by means of dual barrier mechanical seals and specially designed gland seal.
- Sealing at 900 µm level of the buffer to ensure safe and secure on-site installation.

QUALIFICATION PROGRAM

Several types of tests have been performed on the penetrator in order to investigate whether the pressure barrier contributes to signal degradation (bandwidth limitations) or increased attenuation:

- Attenuation measurements (dB) in all steps of the program.
- Heating and cooling tests.
- Cycling tests 0 - 850 bar.
- Long life testing at 700 bar over a long period of time (Commenced May 2000 and still running).
- BIT error measurements.

Bit error measurements performed at 155 Mb/s revealed no measurable degradation of the bit stream. No significant attenuation can be observed due to the pressure barrier. The results of the above mentioned testing, proves the quality of the pressure barrier with regard to sealing capabilities and signal interference at the mentioned data rates. The pressure barrier has negligible impact on the performance of the fibre optic link.

USE

- **An integrated part of Bennex long life subsea terminations**
- Service Umbilical Terminations/Penetrators
- ROV/ROT penetrators/jumper cables
- Military applications
- Wellhead control distribution systems/jumper cables
- Seismic systems
- Subsea arrays/permanent listening systems