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FSA optical fiber sealing assemblies enable a range of sizes of fiber optic cable to pass through environmental boundaries. Fibers are housed in individual, protective stainless steel tube seals. These may be supplied as a complete integral assembly, with connectors if required, in one of the standard pressure and vacuum sealing glands.

Standard sealing assemblies are generally available from stock. Unlimited custom designs are available for virtually any probe or wire sealing application.

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For more information, a complete technical catalog and for assistance with gland selection and application engineering advice, contact your Conax Technologies representative.

For those truly unique requirements and for specific applications where standard glands, or modified versions, cannot meet customers’ specifications, our custom engineers are ready to put more than 40 years of experience to work designing the perfect solution for your application. Many of our custom designs are now industry standards.

Our knowledgeable, experienced staff would welcome the opportunity to discuss your application and recommend solutions.

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Grafoil is a registered trademark of the UCAR Carbon Company

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Conax Technologies manufactures a complete range of pressure and vacuum sealing gland assemblies to carry probes, sensors, wires, electrodes and other elements, satisfying diverse application requirements across a broad spectrum of industries.

The plastic deformation of a sealant material within a fixed housing is the fundamental concept of the Conax sealing technology. The application of this concept, with a thorough understanding of the behavior of sealant materials, has resulted in a range of assemblies with unequalled adaptability.

There are 10 ranges of pressure and vacuum sealing glands and a number of assemblies that are configured for specific applications, i.e., for bearing sensors and for multiple wire and optical fiber feedthroughs.

**PRESSURE AND VACUUM SEALING ASSEMBLIES**

**‘SOFT’ SEALANT TECHNOLOGY**

A brief description and typical applications for each type of gland assembly is shown.

1. **Glands for single sensors and probes from 0.040” (1.0mm) to 1.75” (44.45mm) dia.** - PG glands

Probe sealing glands are excellent for applications such as single, sheathed thermocouples, resistance thermometers, thermometer probes and other types of sensors. They are easily assembled by simply inserting the sensor element and torquing the cap.

2. **Multiple sensor and probe glands for elements 0.030” (0.5mm) to 0.125” (3.2mm) dia.** - MHS glands

MHC glands enable multiple tubes, probes thermocouples, RTDs, or other sensors to pass through a single gland. Each probe is electrically isolated and its immersion length is adjustable. Elements may be adjusted, removed and replaced individually.

3. **Multiple sensor and probe glands, for non-standard sizes and configurations – MHM glands**

MHM glands can often be used when other types of probe glands are not suitable. They can be customised to accommodate non-standard sizes and a mixture of element sizes, for special hole patterns and for a higher density of elements than can be accommodated by other types of sealing assemblies.

Most glands are shown in 'cut-away' form to illustrate internal components and assembly.

4. **Single and multiple sensor glands with split internal components – PGS, SPG & DSPG glands**

These glands are used when the elements to be sealed can pass through the gland body but not through the internal components. For example, their process ends may be of a larger diameter than at the sealing point, there may be connectors to pass through the gland, elements may be long and difficult to handle, or there are other installation constraints.

PGS glands are for a single element and SPG glands are for multiple elements; their internal components have a single split. DSPG glands are for multiple elements and have internal components with a double split.

5. **Single electrode power glands – with ceramic insulators and a ‘soft’ sealant – EG glands; with a single-piece, Teflon, combined insulator/sealant – EGT glands**

These single conductor sealing glands are used for high voltage and/or high current feedthroughs to vacuum chambers, autoclaves, transformers, motors, reactor vessels and environmental chambers.

EG glands are available with a choice of sealants and have ceramic insulators. Max. rating 2kV/400A. EGT glands employ a single, Teflon, combined insulator/sealant component to surround the electrode. Max. rating 8kV/525A.

Conax sealing gland assemblies can be specified for use over a temperature range -400°F (240°C) to 1600°F (+870°C), and for pressures from vacuum to 10,000 PSI (690 bar), according to the type and size of gland and the sealant material selected.

The five standard 'soft' sealant materials used in Conax sealing glands are Neoprene, Viton, Teflon, Lava and Grafoil.

When an element (probe, sensor, electrode etc.) is inserted in a gland and the cap is torqued to the recommended setting, the torque on the cap translates an axial force on the follower which compresses or crushes the sealant that is contained within the body thus creating a seal on the element. Tension in the body acts to maintain compression; friction between the sealant and the element restrains the element from moving under pressure or vacuum.

Pressure and Vacuum Sealing gland assemblies from Conax Technologies...

- Are used when probes and other elements must pass through a pressure or environmental boundary.
- Maintain the integrity of the seal at the point of feedthrough penetration.
- Employ ‘soft’ sealant technology so that probes can be adjusted, removed and replaced yet are not deformed during installation.
- Satisfy pressure, vacuum and environmental sealing applications in many industries - from process control and power generation to semi-conductor fabrication and steel production.
- Frequently reduce the overall cost of ownership, when compared with other sealing techniques, through reductions in installation time, downtime and the cost of replacement parts.
- Unlike many conventional compression glands, can carry multiple elements (probes, wires, electrodes etc.) in a single gland assembly.
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EGT glands employ a single, Teflon, combined insulator/sealant component to surround the electrode.

Max. rating 8KV/525A

Conductors - copper, nickel or stainless steel.

6. Insulated wire sealing - PL glands

These power lead glands have Kapton, insulated copper wire in a number of wire sizes. They are used to feedthrough power leads to autoclaves and sterilizers, transformers, motors and heaters. Wires are individually marked at both ends and are easily installed or replaced. Max. rating 650Vac/850Vdc@ 50A.

7. Bare wire sealing and insulated wire sealing with 24 AWG Teflon insulated wire – TG glands

TG glands seal multiple bare wires in a range of wire sizes. They can be used for solid bare wire transducers such as thermocouples, strain gauges, thermistors, resistance element leads and low voltage, low current supplies and signal wires to instrumentation.

The same glands can also be specified as complete assemblies, ready for installation, with 24 AWG size Teflon insulated thermocouple material or copper wires. Applications for this variant include sealing of wires exiting compressor bearing housings, pressure vessels and instruments.

8. Bearing sensor wire seals - BSWS

Bearing sensor wire sealing assemblies efficiently seal directly on to the insulated leads of an embedded temperature sensor in an oilfilled bearing housing to prevent oil migrating along the leads. They are suitable for motors, turbines, pumps and journal bearing pedestals.
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