A complete range of
Pressure and Vacuum
Sealing Assemblies

Feedthrough seal fittings for:
• Sensors
• Probes
• Electrodes
• Wires
• Wire Bundles
• Optical Fibers

Conax
TECHNOLOGIES
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Conax Technologies manufactures a complete range of pressure and vacuum seal fitting 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 many ranges of pressure and vacuum seal fittings and a number of assemblies that are configured for specific applications, (i.e., for bearing sensors, multiple wires, optical fiber feedthroughs).

The five standard "soft" sealant materials used in Conax seal fittings are Neoprene, Viton, PTFE, Lava and Grofol. When an element (e.g., probe, sensor, electrode) is inserted in a fitting 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 as a spring to maintain compression; friction between the sealant and the element restrains the element from moving under pressure or vacuum.

Conax seal fitting assemblies can be specified for use over a temperature range of -400°F (-240°C) to 600°F (+315°C) and for pressures from vacuum to 35,000 PSI (2400 bar), according to the type and size of fitting and the sealant material selected.

### Fitting assemblies and applications

#### Fittings for single sensors and probes from 0.020" (0.5mm) to 3.0" (76mm) dia.—PG seal fittings

Conax Technologies offers both standard and non-standard fittings to suit individual applications. The fittings are manufactured to close tolerance to ensure proper alignment of the elements.

### Single and multiple sensor fittings with split internal components—PGS, SPS & DSPG fittings

These fittings are used when the elements to be sealed can pass through the fitting 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 fitting, elements may be long and difficult to handle, or there are other installation constraints.

### Single and multiple probe seal fittings for elements from 0.020" to 3.0" (0.5mm) to 76mm dia.—MHC seal fittings

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

### Multiple sensor and probe seal fittings for non-standard sizes and configurations—MHM seal fittings

MHM seal fittings can often be used when other types of probe fittings are not suitable. They can be customized to accommodate nonstandard 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 fittings are shown in 'cut-away' form to illustrate internal components and assembly.

#### High density, mechanically sealed, wire feedthroughs using single or multiple probe fittings—HD

These feedthrough assemblies comprise a high-density wire feedthrough mounted in a seal fitting. A PTFE-lined, stainless steel tube is swaged over 12, 24, 40 or 60 solid, PTFE-coated, copper and/or thermocouple material wires to make the high-density continuous wire feedthrough for thermocouples, RTDs and low voltage instrumentation.

#### Fiber optic seal assemblies for sealing on optical fiber cables—type FSA

FSA optical fiber seal 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, in one of the standard pressure and vacuum seal fittings.

### Pressure and Vacuum Seal Fitting 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 semiconductor 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 conventional compression fittings, can carry multiple elements (e.g., probes, wires, electrodes) in a single fitting assembly.

### Insulated wire sealing—PL fittings

These power lead fittings have Kapton, insulated copper or thermocouple 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 600Vdc/850Vac at 55A.

### Bare wire sealing and insulated wire sealing with 24 AWG PTFE insulated wire—TG fittings

PTFE fittings have Kapton, insulated copper or thermocouple 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 450Vdc/600Vac at 55A.

### TG fittings seal multiple wires in a range of wire sizes.

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

### Fiber optic cable to pass through environmental boundaries.

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, in one of the standard pressure and vacuum seal fittings.
Conax has the ideas and solutions to help you succeed

The standard ranges of sealing assemblies shown in this brochure can be customized through the use of other materials for fitting bodies, the choice of special sealant materials and by specifying optional mounting and cap threads.

In addition to these variations, we also design fittings for non-threaded mounting. In most cases, our wide variety of off-the-shelf products can be adapted to meet the needs of your application.

For those truly unique requirements and for specific applications where standard fittings, or modified versions, cannot meet your specifications, our custom engineers are ready to put more than 60 years of experience to work designing the perfect solution for your application. Many of our custom designs are now industry standards.

For more information, visit www.conaxtechnologies.com.