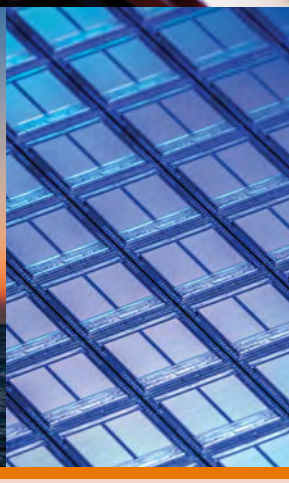
Compression Seal Fittings

The Complete Guide to Vacuum and Pressure Seal Assemblies







Conax™ TECHNOLOGIES

Ideas. Solutions. Success.

+1 716 684 4500 (P) | +1 800 223 2389 (TF) | Conax@ConaxTechnologies.com

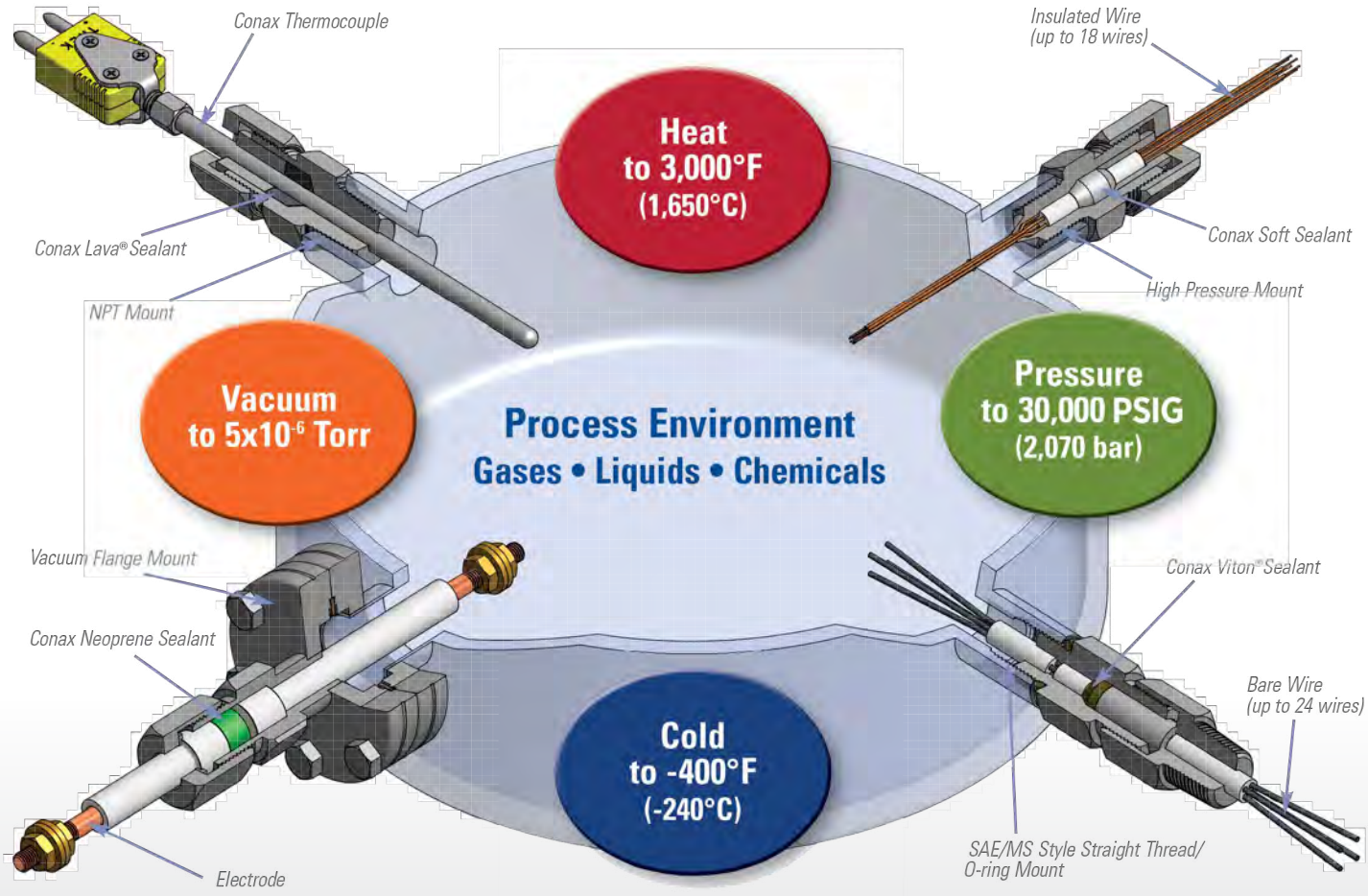
Compression Seal Fittings

The Complete Guide to Vacuum and Pressure Seal Assemblies

Ensure the integrity of your internal process conditions. Provide the highest degree of protection for your external environment.

Single Element—All Purpose
Conax PG
Compression Seal Fitting

High Pressure/Multi-Element
Conax HPPL/PL/HL
Compression Seal Fitting



Single Element for Conductors
Conax EG/EGT
Compression Seal Fitting

Multi-Element/Multi-Hole
Conax TG/MHC/MHM
Compression Seal Fitting

Conax has the ideas and solutions to help you succeeed

Conax Technologies is a global leader in the design and manufacture of temperature sensors, compression seal fittings, and cable harness assemblies for a broad range of industries and applications. For over 60 years, our customers have relied on our experience and technical expertise to provide both standard products and custom-designed solutions.

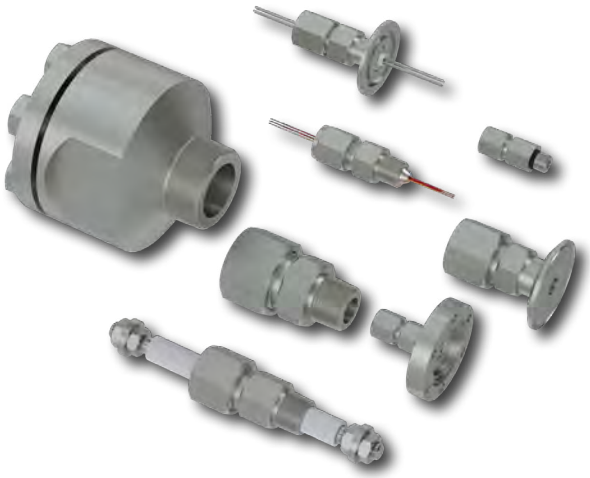
We know that innovative ideas come from collaboration. By taking the time to understand your unique challenges, we develop the ideal solutions that help you—and your customers—succeed. Our commitment to delivering high-quality, leading-edge products on time and at a competitive cost makes us your indispensable partner.

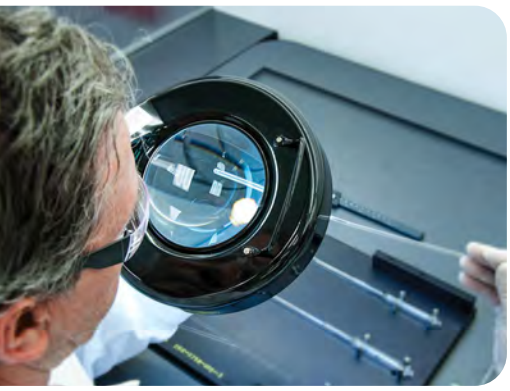
For more information, visit ConaxTechnologies.com.

The Quality and Performance Leader in Compression Seal Fittings

Conax Technologies manufactures more than 600,000 compression seal fitting assemblies in our state-of-the-art production facility. And our sales and engineering staff continue to break new ground with custom designs and problem-solving abilities.

From a simple "off-the-shelf" assembly to the most complicated design challenge, turn to Conax Technologies for quality, innovation, on-time delivery and commitment to customer satisfaction.





Experience, Knowledge and Creativity

During the past 60 years, Conax has developed a reputation as the company to turn to for quality solutions for pressure and vacuum compression seal fittings. Our knowledgeable, multi-disciplinary sales and engineering staff welcomes the opportunity to discuss challenging applications and present solutions.

We have product specialists in virtually all vertical industrial markets—examples include power generation, semiconductor, petrochemical, aerospace, chemical, automotive and pharmaceutical. Visit ConaxTechnologies.com to learn more about our extensive knowledge and capabilities in your market.

Global Presence

We provide professional consultation through our extensive global sales organization. We have sales engineers throughout the world ready to help you when you need it.

If your main business is in one country and your production facilities are in others, our global network can coordinate all aspects of your worldwide supply chain requirements—ordering, shipping, installation and service.

Our customer list includes companies of all sizes, from the largest Fortune 500 companies to the smallest engineering firms. We know how to get the job done no matter how large or small the application.

What Makes Our Compression Seals the Finest in the World?

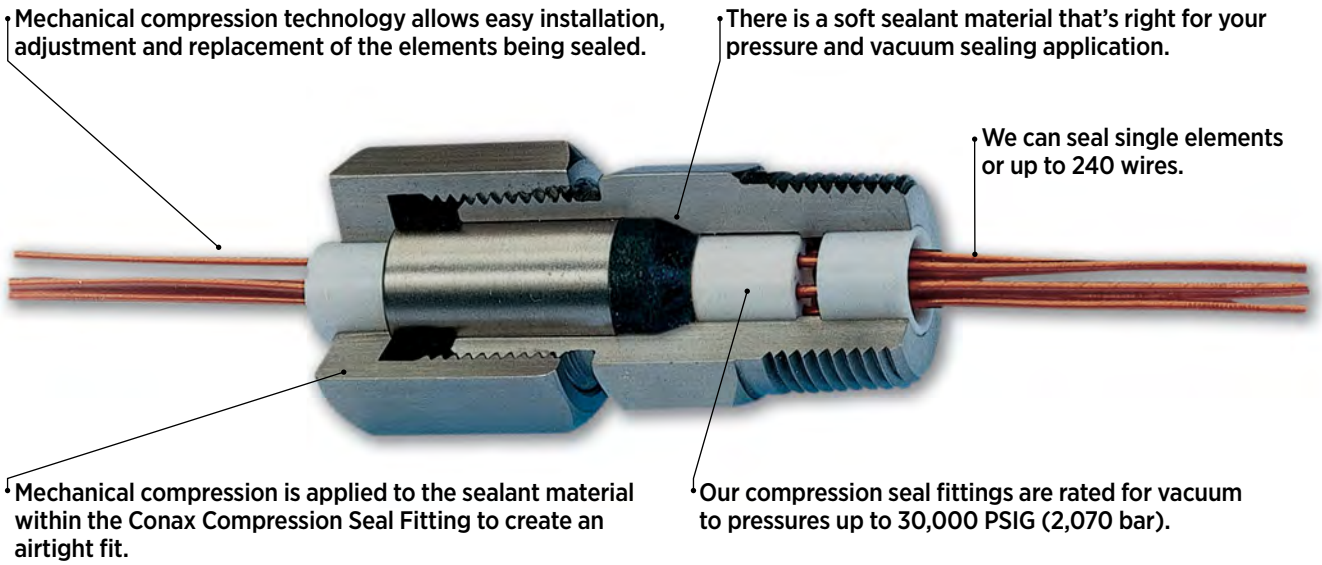
Conax developed the soft sealant method of pressure/vacuum sealing in the 1950s and remains the world's leading manufacturer of this type of sealing device. This soft sealant technology when combined with mechanical compression results in a remarkably secure seal on wires, probes and electrodes that must pass through a pressure or environmental boundary. This technology is also designed for ease of installation, adjustment and replacement of the elements.

Our fittings can seal up to 240 wires and withstand pressure in excess of 30,000 PSIG (2,070 bar).

Conax continues to research and perfect this technology as we expand our capabilities to meet the changing needs of the industry worldwide.

Competitive seals that utilize epoxy fillings are easy to install, but all too often are unreliable in protecting your environment due to incorrect bonding of the epoxy to the elements which allows gases or liquids to escape around the elements. Conax fittings maintain constant compression around the elements throughout the life of the seal to minimize risk of gases or liquids escaping. Conax Compression Seal Fittings are also field re-buildable.

For more information, visit www.conaxtechnologies.com.

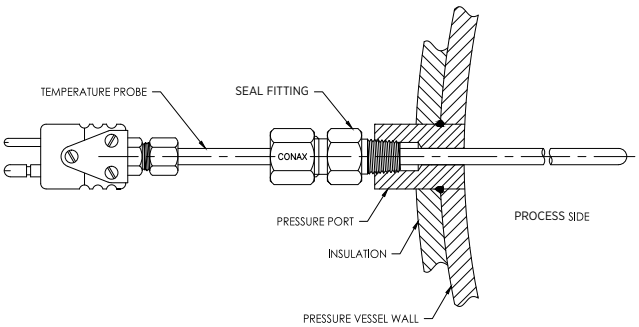


What is a Compression Seal Fitting?

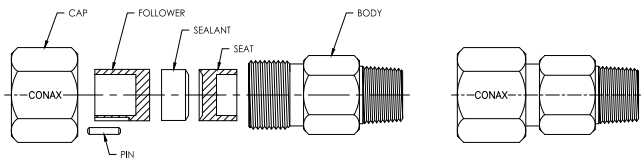
A **compression seal fitting** seals an element (probe, wire, conductor, pipe, tube, fiber optic cable) that must pass through a pressure or environmental boundary. These seals have several important functions:

- Restraining the element from moving, as a result of a pressure delta.
- Prohibiting the leakage of gas/liquid media along the element.
- Electrically isolating the element from the mounting device, in some cases.

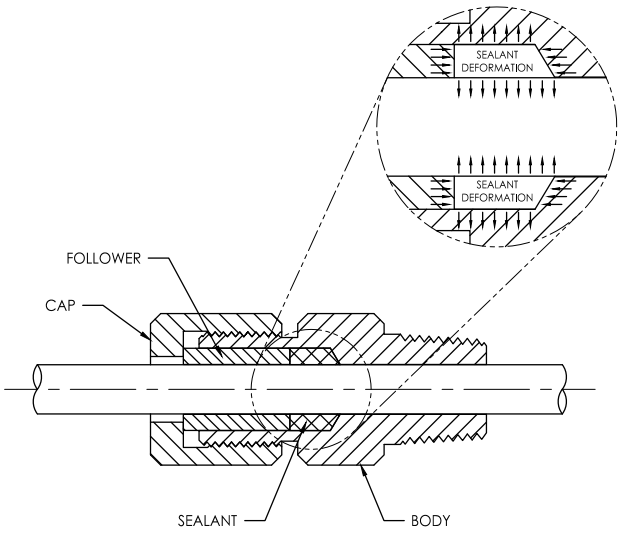
Typical applications include pressure vessels, autoclaves, holding tanks, pipelines, and furnaces—anywhere wires, electrodes or sensors need to pass from the inside to the outside of a vessel or wall where pressure differentials or hazardous environments cause concern.



A compression seal fitting assembly may seal on single or multiple elements. Fittings designed to seal single elements consist of a body, cap, sealant, and follower. When sealing on multiple elements, fitting designs also include a seat and an anti-rotation pin to prevent wires/conductors from twisting and shearing. Most Conax multi-hole fittings now include an integral pin that is machined into the follower for faster, easier, safer assembly. Please see page 112 for details. One or more insulators may also be included when electrical isolation is required.



With Conax Technologies' soft sealants, the element to be sealed passes through the bores in the sealing assembly components. When the cap is torqued to the recommended value, the torque on the cap translates an axial force on the follower. This force compresses the sealant contained within the body housing so that the sealant conforms to the element and fitting body, creating a seal. The elastic nature of the sealant allows it to flow into any voids between the sealant, element and fitting body.



The tension in the torqued body acts as a spring to maintain compression on the element. The static friction force between the sealant and the element restrains the element from moving under pressure.

Styles of Soft Sealant Fittings

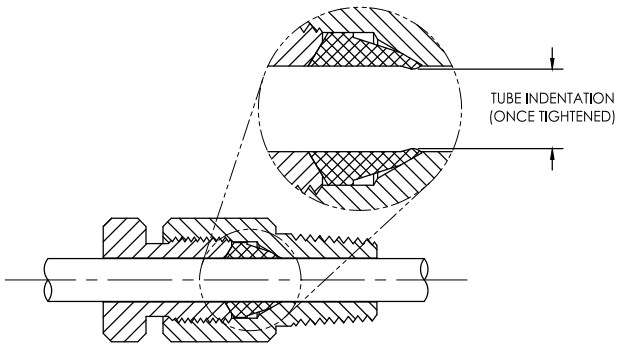
Conax offers numerous styles of compression seal fittings ranging from single bore to multi-hole fittings, which can accommodate hundreds of wires. Our single fittings can routinely accommodate 1 to 24 conductors, ranging from 24 AWG to 1000 MCM (1″ diameter) to handle a voltage range from the millivolt level to 8000 volts. Up to 60 probes, ranging from 0.020″ to 3.00″ diameter, can also be sealed in a single unit.

In this catalog, you'll find additional information on the specifications of all our standard compression seal fitting styles for a variety of applications. For assistance in selecting the right model for your needs, see our fold-out selection guide on pages 14-15.

In addition, custom configurations are never a problem. From process control applications to aerospace, Conax Technologies has the right fitting to meet your needs.

Metal-To-Metal Compression Seal Fittings

Conax Technologies offers one style of fitting that features a stainless steel ferrule instead of a soft sealant. The MK Fitting uses compression to deform the ferrule against the tube/probe without cutting the sheath surface. However, a slight deformation of the tube/probe surface does occur. MK compression seal fittings are freely adjustable until first tightened. After that, they may be opened and resealed at that fixed immersion depth. The MK Fitting is designed to form the seal deep within the fitting body, allowing it to stand up in high vibration applications.



Advantages of Soft Sealant Technology

In an **epoxy seal**, the filled containment is often subjected to cyclical temperature cycles defined by the process in which it is used. The epoxy material, wire/probe and housing have different coefficients of expansion. Rapid or wide ranges of changes in temperature create cracks or voids around the wires and between the housing and the epoxy. With **soft sealant technology**, the continuous tension in the torqued body acts like a spring to maintain compression on the sealant and maintain a positive seal throughout the temperature cycle.

Soft sealant technology allows replacement and adjustment of the sealed element. This is not possible with other technologies, such as epoxy and glass-to-metal sealing.

CAUTION—Interchangeability

Conax Technologies' sealing assemblies are manufactured to exacting standards. The critical interaction of precision parts as designed is essential to reliability and safety. Using parts made by other manufacturers to other tolerances will not result in reliable sealing.

Damage or injury may result from interchanging or mixing parts of Conax Technologies' Compression Seal Fitting assemblies with sealing assemblies made by other manufacturers.

Conax Technologies' warranty becomes null and void should the user elect to modify Conax Technologies components or mix them with that of another supplier.

Factors Affecting Compression Seal Fitting Performance

Torque

As a general rule, increased torque increases compression, which in turn improves seal integrity and enables the fitting to seal against higher pressures. Torquing has limits, however.

Over-torquing can cause:

- excess sealant extrusion
- material fracture in the body's thread relief
- "mushrooming" of the cap and follower
- damage to the element

Under-torquing will result in reduced sealant compression, causing reduced pressure rating or diminished seal integrity.

Torque ratings are provided for each seal fitting, and you will achieve the best results if the fitting is torqued to the proper range. Unless otherwise noted, **Conax Technologies' torque ranges were determined using solid stainless steel elements at 68 °F (20 °C).**

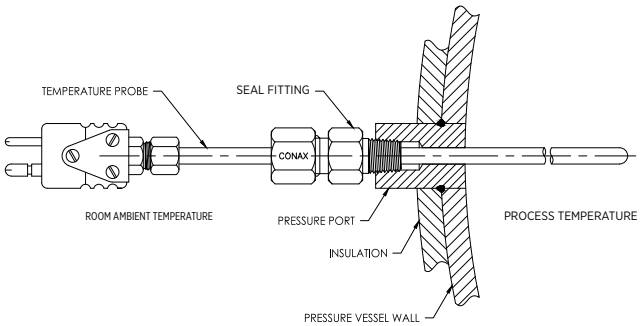
Please note that hollow pipe or tubing, ductile materials (such as copper or platinum wire) and fragile materials (such as glass or ceramic), easily deform or fracture under compression. The torque must be decreased to compensate for these material properties. As a result, the pressure rating will decrease. If elements are sleeved with Teflon™ or other jacketing materials, pressure ratings may also decrease. Please consult our factory for information on proper torque and pressure information for any of these materials.

The torque and pressure ratings provided in this catalog apply only if the bores are drilled by Conax Technologies. We cannot certify the ratings for bores drilled by the customer or any other outside party.

If you have any questions about proper torque and pressure ratings for your application, our skilled sales engineers would be happy to assist you in the selection of the appropriate fitting for your use.

Temperature

Increased temperature also affects the behavior of compression seal fitting assemblies. Pressure ratings generally decrease as temperature increases. The rate of decrease is a function of the type of sealant material. Please talk to us if your application temperature is above 68 °F (20 °C) **at the location of the fitting** (keeping in mind that your process temperature may be considerably higher than the temperature experienced by the fitting at the pressure/environment boundary).



For EG and EGT Series Feedthroughs that seal on electrodes passing current, increased ampacity will increase the temperature of the fitting. The maximum ampacities listed in the Specification Charts for these fittings represent the maximum current recommended to maintain the integrity of the seal. Although the electrode may be able to carry a much higher current, the resulting heat rise will increase the temperature of the sealant in contact with the electrode. This may cause the pressure rating to significantly decrease. If a higher current is required, consider using a compression seal fitting with a larger conductor to offset the heat rise effect. Tables of Derating Values at higher temperatures are provided in the Technical Data section of this catalog, pages 127.

Element Surface Finish

The surface finish of the element to be sealed can affect the seal integrity. Soft sealant compression seal fittings are designed to seal on solid wire or rod. Longitudinal scratches, helical markings and stranded wire can provide leak paths that will not be blocked by the sealant extrusion around the element. Compression seal fittings can be used to seal on the outside of stranded wire jacket if the wire is already sealed by some other device (accelerometer, bearing sensor, etc.).

Lubrication

Improper or inadequate lubrication of the compression seal fitting cap threads and load-bearing surfaces of the cap and follower will affect the torque values that can be achieved. This in turn reduces sealant compression and reduces pressure ratings. Inadequate lubrication may also cause galling of the metal parts.

Conax fittings are supplied factory lubricated. Any time a Conax compression seal fitting assembly is opened for replacement or adjustment of the probe, wires or sealants, the fitting must be relubricated to ensure maximum sealing performance of the fitting. In addition, if the compression seal fitting is cleaned prior to installation, it must be relubricated.

On weld mount models, the heat produced while welding the assembly in place will destroy the factory-supplied lubricant. These fittings must be disassembled for welding, then relubricated and reassembled prior to use.

Conax Technologies offers a compression seal fitting thread lubrication kit (P/N 19-0001-001) featuring the same non-hazardous lubricant supplied on new fittings. This easy-to-use kit provides our factory-recommended lubricant in a single application package with the applicator included so you do not need to purchase or store large amounts of lubricant.

Improper Sizing

Careful selection and sizing is required for optimum compression seal fitting performance. Undersized holes in the sealant, follower, seat or insulator may prevent element installation. Oversized holes through a seat, follower or insulator allow excessive sealant extrusion, reducing sealant compression and reducing the pressure rating. Oversized holes in the sealant may also reduce sealant compression and decrease the pressure rating.

Conax Technologies offers a large variety of standard bore and hole sizes, including pipe sizes and metric sizes. Custom sizes and arrangements are also readily available. Conax Technologies' product sales engineers are available to assist you in selecting the optimal configuration for your application.

Leak and Vacuum Ratings

Conax Technologies provides two statistics to measure the ability of our sealing assemblies to seal against gas and liquids in pressure/vacuum environments.

Helium Leak Rate represents the rate of flow through a leak of a specified gas at a specified pressure on the inlet and outlet sides of the fitting. Conax Technologies uses a dynamic leak test. In this test, the interior is evacuated while a tracer gas (Helium) is applied to the exterior. Any attempt to draw in the tracer gas can be detected with a leak detector. Our Viton™, Neoprene, Teflon™ and GraFoil™ sealants all have Helium Leak Ratings of $1x10^{-6}$ scc/sec (mbar l/s) He at 68 °F (20 °C) or better with 1 atm supplied.

Vacuum Rating represents the ability of a unit to achieve and maintain a perfect vacuum (e.g., zero absolute pressure). Vacuum is primarily measured by its absolute pressure, is typically expressed in torr (1/760 atm), and is directly indicative of the amount of matter in a defined volume.

Materials of Construction

Conax Technologies' standard compression seal fitting bodies are constructed from 303 SST standard for thread mounted fittings or 316L SST standard for weld neck mounts.

Many other materials of construction are available. Some applications may require special construction materials to withstand corrosion or physical attack by the process liquid or gas. When selecting the appropriate material for your application, keep in mind that only the wetted parts (normally the body) actually contact the process media. Caps and followers can usually be constructed of standard materials, although any part of the assembly may be constructed from the material of your choice.

Commonly requested materials include:

HASTELLOY™ C276—Excellent in chlorine gas, hypochlorite, and chlorine dioxide solutions. Also used in ferric and cupric chlorides, hot contaminated mineral acids, solvents, chlorine and chlorine-contaminated media (inorganic and organic), dry chlorine, formic and acetic acids, acetic anhydride, sea water, and brine solutions.

MONEL™ 405—Used in steel pickling processes, desalination processes, and heat exchangers to resist corrosion by chlorinated hydrocarbons; in reboilers and preheaters used in the production of hydrogen to resist pitting by CO_2, in oil wellhead hardware pumps and valves, and in offshore equipment to resist mussel buildup and marine foul-up.

INCONEL™—A nickel-chromium alloy with good oxidation resistance at higher temperatures in the range of 2000 °F (1093 °C); very good in corrosive environments, neutral and alkaline salt solutions, and steam; virtually immune to chlorine ion stress corrosion cracking. Typical applications include chemical and food processing, heat treating, phenol condensers, soap manufacture, vegetable and fatty acid vessels, production of caustic alkalis in the presence of sulfur, production of chlorinated and fluorinated hydrocarbons, and reactor vessel components in boiling water nuclear reactors.

Titanium—Provides superior strength-to-weight ratio and continuous service up to 1000 °F (538 °C), bridging the gap between aluminum and steel. Immune to corrosive attack by salt water or marine atmospheres; exhibits exceptional resistance to a broad range of acids, alkalis, corrosive gases, chemicals, and organic media. Superior resistance to erosion, cavitation or impingement attack makes titanium ideal for use in marine pumps and piping, high-velocity heat exchangers, chemical processing and oil well operations.

If you require some other material of construction, please talk to us.

How To Order Alternate Materials

Throughout this catalog, you will find examples of how to order our compression seal fitting assemblies. Construction materials other than the standard materials are indicated by providing a modifier in parentheses immediately after the fitting model number.

Example:
Standard PG Fitting: PG2-250-A-T
PG Gland with HASTELLOY™ Body: PG2(/HC276)-250-A-T

Common Material Modifiers:

/HC276 – HASTELLOY™ C276

/M405 – MONEL™ 405

/I600 – INCONEL™ 600

/TI7 – Titanium, Grade 7

/S304 – 304 Stainless Steel

/S310 – 310 Stainless Steel

/S316 – 316 Stainless Steel

/S316L – 316L Stainless Steel

Selection of Sealant Materials

Conax Technologies has examined many sealant materials over the years. The standard sealants presented in this catalog represent the materials that have provided consistent, reliable and predictable performance in the widest range of applications. Other sealant materials are available and may be preferable for certain applications. If you are interested in a sealant material not listed here, please consult a Conax Technologies sales engineer for information on our test results and recommendations.

As a general rule among our standard sealants, Viton™, Neoprene and Teflon™ sealants may be reused when the compression seal fitting is loosened and retorqued. GraFoil™ sealants offer limited reusability. Due to its composition, Lava is not reusable.

STANDARD SEALANTS

Common Name (Sealant Code)	Chemical Name	Temperature Range	Vacuum Rating	Electrical Resistivity	Impermeability to Gas	Material Features
Neoprene (N)	Chloroprene	-40 °F to +200 °F (-40 °C to +93 °C)	0.005 microns ($5x10^{-6}$ Torr)	Good	Good	Has resilience of natural rubber, with better resistance to oil, gasoline, ozone, weather and heat. Excellent memory for temperature cycling applications, moderate electrical resistivity, reusable in most cases.
Viton™ (V)	Fluorinated Hydrocarbon	-10 °F to +450 °F (-23 °C to +232 °C)	0.005 microns ($5x10^{-6}$ Torr)	Good	Excellent	Retains mechanical properties at high temperature. Resistant to oils, solvents, fuels, corrosive industrial chemicals. Good electrical properties, reusable in most cases.
Teflon™ (T)	Polytetrafluoroethylene (Teflon™)	-300 °F to +450 °F (-185 °C to +232 °C)	0.005 microns ($5x10^{-6}$ Torr)	Excellent	Good	Most versatile elastomer material, near inert to almost all industrial chemicals and solvents.
Lava (L)	Magnesium Aluminum Silicate $MgO \cdot Al_2O_3 \cdot SiO_2$	-300 °F to +1600 °F (-185 °C to +870 °C)	Not recommended for vacuum – consult factory	Good	Poor	Excellent in high temperatures, crushes to powdered mass under compression, porous to light gases and steam. NOT RECOMMENDED FOR HIGH VACUUM. Not reusable.
GraFoil™ (G)	Graphite (in foil layers)	-400 °F to +925 °F (-240 °C to +495 °C) to +3000 °F (+1650 °C) in non-oxidizing atmosphere	0.005 microns ($5x10^{-6}$ Torr)	Poor	Excellent	Low vapor pressure, low gas permeability, excellent for vacuum applications. Natural lubricity, electrically conductive. Superior sealing capabilities at +925 °F (+495 °C). Not reusable in most cases.

SPECIAL MATERIAL SEALANTS

Common Name (Sealant Code)	Chemical Name	Abbreviations	Temperature Range	Electrical Resistivity	Material Features
EP Rubber (EPDM)	Ethylene Propylene Rubber	EPDM	-60 °F to +300 °F (-51 °C to +149 °C)	Excellent	Excellent water and atmospheric resistance. Poor resistance to mineral oils and di-ester based lubricants.
Silicone Rubber (SR)	Polysiloxane	MQ	-75 °F to +400 °F (-59 °C to +204 °C)	Excellent	Resistant to most solvents, performs well at low temperature, low tear strength.
Buna-N (NBR)	Acrylonitrile	NBR	-65 °F to +250 °F (-54 °C to +121 °C)	Excellent	Good in oil and fuel, low swell.
Boron Nitride (H)	Borazone	BN	+68 °F to +1800 °F (+20 °C to +982 °C)	Good	Processed ceramic material, more homogenous than Lava. NOT RECOMMENDED FOR HIGH VACUUM.
Polysulfone (P)	Amorphous Thermoplastic	PSU	-40 °F to +350 °F (-40 °C to +177 °C)	Excellent	Resistant to nuclear radiation $2x10^8$ Rads.
Tefzel™	Fluoropolymer	ETFE	-300 °F to +300 °F (-185 °C to +149 °C)	Excellent	Resistant to most chemicals and solvents.
Vespel™ (VSP)	Polyimide	PI	-400 °F to +550 °F (-240 °C to +288 °C)	Excellent	Resistant to most hydraulic, automotive and many industrial fluids.
PEEK™ (PK)	Polyetheretherketone	PEEK™	0 °F to +480 °F (-18 °C to +250 °C)	Excellent	Resistant to attack by a very wide range of organic and inorganic chemicals. The only common solvent for PEEK™ is concentrated sulphuric acid. Exceptional hydrolysis resistance.
ULTEM™ 1000	Polyetherimide	PEI	0 °F to +340 °F (-18 °C to +171 °C)	Excellent	Offers excellent chemical resistance and high dielectric strength.

Selection of Conductor Material for EG, EGT & HEGPK Assemblies

EG, EGT and **HEGPK** assemblies offer three material types for their electrical conductors:

Copper offers excellent electrical properties and resists corrosion quite well under most corrosive conditions. Oxidation does occur, however, at high temperatures.

Nickel is a very hard material with good resistance to oxidation and corrosion. Although its electrical conductivity is not as good as copper, nickel can be an excellent choice for higher temperatures where copper would oxidize.

Stainless steel offers similar hardness as nickel and also offers excellent resistance to oxidation and corrosion at a lower cost. It is one of the most common conductor materials used at higher temperatures and in corrosive atmospheres. Its electrical conductivity is significantly reduced, however, as compared with copper and nickel. This reduced electrode ampacity is often offset by the use of a larger diameter electrode.

Comparative **Electrode Resistivity**

Material	Resistivity @ 20 °C in ohm-Cmil/ft.	Ratio to Copper
Copper	10.23	1.00
Nickel	38.50	3.76
Stainless Steel	443.10	42.35

Feedthroughs with no Conductors

Throughout this catalog, feedthroughs (fittings with conductors) that are not supplied with Conax-installed conductors have an “XX” or “XX/XX” designation. Fittings without Conax-installed conductors are not pre-torqued, and it is the end user’s responsibility to properly torque the feedthrough following installation of the conductor(s).

Mounting Methods

Conax Technologies offers all major methods of mounting compression seal fittings to a vessel or pipe. These include standard NPT threads, straight threads for SAE/MS ports, weld neck, and various types of flange mounts. Information on specifications for these mounting types is provided throughout this catalog. A Viton™ O-ring is provided with SAE/MS thread mounted assemblies.

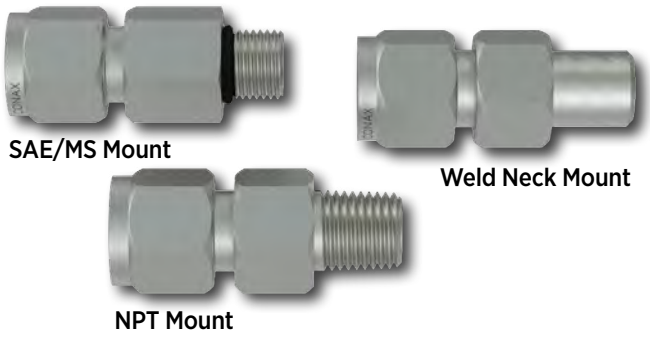
As a general reference, for any mounting style other than standard NPT threads, the mounting style is indicated in parentheses after the compression seal fitting model in the catalog number. These modifiers are provided in the Specification Charts for each fitting or feedthrough model.

Example:
Standard PG Fitting: PG2-250-A-T
PG Fitting with Weld Mount: PG2(SWM2/)-250-A-T

For configurations using a mounting modifier and an alternative body material, both items of information are included in the parentheses.

PG Fitting with Weld Mount and MONEL™ Body: PG2(SWM2/M405)-250-A-T

Catalog products are largely divided by their standard NPT size. In some cases, optional reduced NPT sizes are available on compression seal fitting bodies normally used for larger NPT sizes. These are noted in the Specification Charts. These optional reduced NPTs are machined in our factory. They do not use reducer adapters.



SAE/MS Mount

Weld Neck Mount

NPT Mount

Pressure Ratings on Mounting Styles

Conax Technologies’ NPT threaded assemblies up to 1″ NPT have been consistently tested to 10,000 PSIG. The NPT thread pressure rating meets or exceeds the fitting rating, which may be less than 10,000 PSIG depending on the sealant used.

The ASME has published calculated NPT thread pressure ratings (at reduced pressure) for 316 stainless steel. If required, Conax Technologies can provide certification of our assemblies to ASME B31.3 and B31.1.

Conax Technologies’ sealing assemblies with SAE thread mounts are compatible with SAE J1926/2 and AS4320.

Weld neck mounted assemblies meet our published catalog pressure specifications. Use of the proper welding protocol in installation of these compression seal fittings is the responsibility of the customer.

Custom Configurations

Conax Technologies has a fully-staffed engineering department to assist you in creating non-standard assemblies to fit your application. Examples include multi-hole seal fittings using holes of different sizes or non-standard hole patterns, sealants with non-concentric shapes, or custom mounting styles. Our standard components and assemblies can often be easily adapted to meet unique application needs. We welcome the opportunity to discuss your application and apply our sealing expertise to your situation.

Certifications and Special Ordering Requirements

Conax Technologies' Compression Seal Fittings meet the following standards:

- **CRN**—Canadian Registration Number (OH2915.5CR2)
- **NACE**—National Association for Corrosion Engineers
- **PED**—European Pressure Directive

CRN Registration

Conax Technologies' compression seal fittings manufactured from 316L SST standard or optional materials—including 316 SST, 304 SST, and 304L SST standard—are registered with all 13 Canadian provinces and territories in accordance with the Canadian Boiler, Pressure Vessel & Pressure Piping Code (CSA™ B51). For easy identification, registered bodies carry the assigned CRN number on the seal fitting body.

CRN certified compression seal fittings have maximum pressure ratings, per the following chart. Note that the maximum catalog pressure rating of the Conax Technologies' fitting may be less than the CRN maximum. Not all catalog configurations are available with CRN registration. Consult your Conax Technologies sales engineer for further information.

CRN Pressure Ratings	NPT Size					
Temperature Range	1/16, 1/8, 1/4, 1/2, & 3/4		1		1-1/4 & 1-1/2	
	PSIG	BAR	PSIG	BAR	PSIG	BAR
≤ 220 °F (104 °C)	2,500	172	2500	172	2500	172
+220 °F to +850 °F (+104 °C to +454 °C)	1,500	103	1200 psi	82	600 psi	41
> 850 °F (454 °C)	N/A	N/A	N/A	N/A	N/A	N/A

To order a CRN part, specify the material modifier in parentheses after the seal fitting model (see "How To Order Alternate Materials", page 9) followed by the letters "CRN".

Example:
PG4(/S316LCRN)-250-A-G

NACE

Conax Technologies manufactures sealing assemblies to the specifications of the National Association for Corrosion Engineers, NACE International Standard MR0175 for Metallic Metals in Contact with Sour Environments. To order these assemblies, specify /NC316 or /NC316L in parentheses after the seal fitting model.

Example:
PG4(/NC316L)-250-A-G

European Pressure Directive (PED)

Conax Technologies' Compression Seal Fitting assemblies up to 1" (25.4 mm) bore conform to the Standard Engineering Practice (SEP) requirements of the European Pressure Equipment Directive (PED) 97/23/EC. Contact Conax Technologies for further information.

Conax Technologies Compression Seal Fitting Assembly Selection Guide

Conax Technologies offers a comprehensive range of compression seal fitting assemblies for a wide variety of industries. This selection guide and the specifications pages within each section will help you determine the right solution for your specific application. As you choose your fitting or feedthrough, you'll need to consider the following factors and questions.

Environmental Requirements

- What type of media do you want to seal against?
  - o Is it a gas or liquid?
  - o Will it be corrosive or react with the materials in the body of the fitting or the sealant?
  - o Do you need to worry about out-gassing or chemical reactions with the sealant?
- What pressures do you need to withstand?
- What is the temperature range of the process and the ambient temperature experienced by the actual fitting itself?

Mechanical Requirements

- What will pass through the fitting?
  - o Is it a sensor probe or a wire?
  - o Will electrical isolation be needed?
  - o How many items need to pass through a single port?
  - o How many elements do you need to seal and what are their diameters?
  - o How will the fitting be mounted to your vessel or wall?
  - o Do you need an NPT thread, SAE thread, welded mount or flange; and what size?
  - o Will you need to attach to a terminal head or conduit?

Electrical Requirements

- Do you need to run electrical wire through your sealing assembly?
  - o Will it be bare, solid, stranded or insulated wire?
  - o Will the wire be supplied by Conax or will you provide it?
  - o How many volts (AC or DC) or amps does the assembly need to accommodate?
- Do you need an electrode instead of a wire? At what amperage and voltage?

Special Considerations

Conax Technologies specializes in creating customized solutions for specific needs. Our engineers welcome the opportunity to discuss and develop solutions for your most challenging applications.

The quick guide that follows will help you select the right compression seal fitting series, and the specifications pages within each series will show you the additional choices for each of our standard fittings.

If you need further help or have questions, we're just a phone call away. Contact us at **+1 800 223 2389**.

Single element

Metal Tubing

Metal-to-Metal Seal

Tube or Probe Sealing
MK Series
pp 26-27

Soft Sealant

Tip Diameter > Diameter at Sealing Location

Single Probe Sealing—with Split Internal Components
PGS/SPGA/DSPGA/DSPG Series
pp 64-69

Tip Diameter ≤ Diameter at Sealing Location

Tube or Probe Sealing
PG Series
pp 16-24

Ceramic or Rigid Plastic Tube/Pipe, Temperature Probe or Tubewell

Multi-conductor Cable, Wire Feedthrough or Coaxial Cable

Tube or Probe Sealing
PG Series
pp 16-24

Low Voltage Instrumentation Wire/Cable

Non-insulated (Bare) Wire (millivolts)

Bare Wire Sealing and Insulated Wire Sealing
TG Series
pp 50-53

Insulated Wire (600V)

Insulated Wire Sealing
PL Series
pp 40-45

Bare Electrode

Voltage Rating ≤ 2000VDC

Electrode Series
EG Series
pp 28-31

Voltage Rating ≤ 8000VDC

Electrode Series
EGT/HEGPK Series
pp 32-37

Power Supply

Insulated Wire

Insulated Wire Sealing
PL Series
pp 40-45

Multiple element

Elements of Different Diameter

Tip Diameter > Diameter at Sealing Location

Multiple Tube or Probe Sealing—with Split Internal Components PGS/SPGA/DSPGA/DSPG Series
pp 64-69

Tip Diameter ≤ Diameter at Sealing Location

Custom Multiple Tube or Probe Sealing MHM Series
pp 58-63

Instrument Lead ≤ 50 PSIG (3.5 bar)

Multiple Wire or Probe Sealing BSWS/TWS Series
pp 70-71

Coaxial Cable of Instrument Lead > 50 PSIG (3.5 bar)

Custom Multiple Tube or Probe Sealing MHM Series
pp 58-63

Conax-supplied Insulated Wire

Insulated Wire Sealing PL Series
pp 40-45

24 AWG (Solid) Teflon™ Insulated T/C or Copper Wire (Process Temp up to 450 °F/232 °C)

Insulated Wire Sealing TG24T Series
pp 46-47

Kapton™ Insulated Solid Wire

Insulated Wire Sealing PL Series
pp 40-45

20 or 24 AWG (Solid) Fiberglass Insulated T/C Wire (Process Temp up to 900 °F/482 °C)

Insulated Wire Sealing TGF/TGM Series
pp 48-49

Elements of Same Diameter

Low Voltage Instrumentation Wire/Cable

Bare Wire (T/C or CU)

Bare Wire Sealing and Insulated Wire Sealing TG Series
pp 50-53

Ceramic or Metallic Sheath Probe/Sensor

Tip Diameter > Diameter at Sealing Location

Multiple Tube Or Probe Sealing—with Split Internal Components SPG/DSPG Series
pp 64-69

Power Supply Wire

Insulated Wire Sealing PL Series
pp 40-45

Tip Diameter ≤ Diameter at Sealing Location

Custom Multiple Tube or Probe Sealing MHC Series
pp 54-57

Multiple Element Sealing

Use these products when you need to seal a single element such as a temperature probe, tubewell, pipe, etc. These products are capable of sealing on items made of materials such as metal, glass, ceramic or plastic.

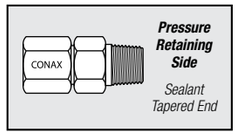
Application Specific Assemblies

Products in this section are for special use applications that Conax Technologies has custom designed. Conax Technologies can provide the innovation you require to produce a custom design for your application.

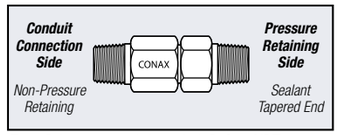
PG Single element sealing

Conax Technologies Model PG Fittings, also known as packing glands, provide pressure/vacuum sealing for tubes, probes, pipe, cable or any single element assembly (not electrically isolating), including thermocouples, RTDs, thermometers, thermistor probes, capillary tubes, tubewells, multi-pair cables and analyzer sample tubes. PG Fittings seal against gases and liquids and resist element movement under pressure.

PG Fitting bodies with NPT threads or SAE threads are constructed from 303 SST standard. Weld neck style fitting bodies are constructed from 316L SST standard. Followers for all styles are constructed from 303 SST standard. Many optional materials are also available, including 316L SST, MONEL™ 405, HASTELLOY™ C276, INCONEL™ and more. For information on alternative materials, see page 9. Cap Style A offers a mounting thread only. Cap Style B provides threading on both ends for attachment to conduit or terminal heads.



Type A cap has mounting thread only.



Type B has cap end threaded. B Cap NPT matches the standard mounting NPT.

Alternative sealant materials and custom bore sizes are available. Please consult a Conax Technologies sales engineer for custom needs.

- Temperature Range: -400 °F to +1600 °F (-240 °C to +870 °C), depending on sealant used. See page 10 for details.
- Pressure Range: Vacuum to 10,000 PSIG (690 bar)—see Pressure Ratings in Specification Charts.

Accessories

The replaceable sealant permits repeated use of the same fitting. Assembly is simple and may be done in the field. Simply insert the element and torque the cap. To replace the sealant and/or element, simply loosen the cap, replace the necessary items, relubricate and retorque the cap.

Fittings are supplied factory lubricated. When reused, the fittings should be relubricated to maintain published torque and pressure ratings. If fittings are cleaned prior to assembly, they should be relubricated. On weld mount models, the heat from the welding process will destroy the lubricant. These models must also be relubricated prior to use. See page 107 for information on our lubrication kit.

To order Replacement Sealant, order RS – (Fitting) –(Diameter) – (Sealant).

Catalog Numbering System

Example: RS-MPG-125-V

Example: *PG5-500-A-V*

- PG Seal Fitting
- Diameter of Tube or Probe
- Cap Style
- Sealant

PG Seal Fitting
- **MIC** 0.040 to 0.062 bore sizes
- **MPG** 0.039 to 0.187 bore sizes
- **PG2** 0.118 to 0.250 bore sizes
- **PG4** 0.187 to 0.375 bore sizes
- **PG5** 0.375 to 0.750 bore sizes

HPG—See page 25 for HPG Fittings

Diameter of Tube or Probe

(in thousandths of an inch)
- **Blank**
- **040**
- **062**
- **093**
- **125**
- **187**
- **250**
- **312**
- **375**
- **500**
- **625**
- **750**

(in metric bore)
- **039** 1 mm
- **118** 3 mm
- **236** 6 mm

(in pipe size)
- **12P** 1/8" pipe
- **25P** 1/4" pipe
- **37P** 3/8" pipe

Custom bore sizes also available. Blanks are provided with no hole in the body, follower and sealant.

Cap Style
- **A** Has mounting thread only
- **B** Has cap end threaded

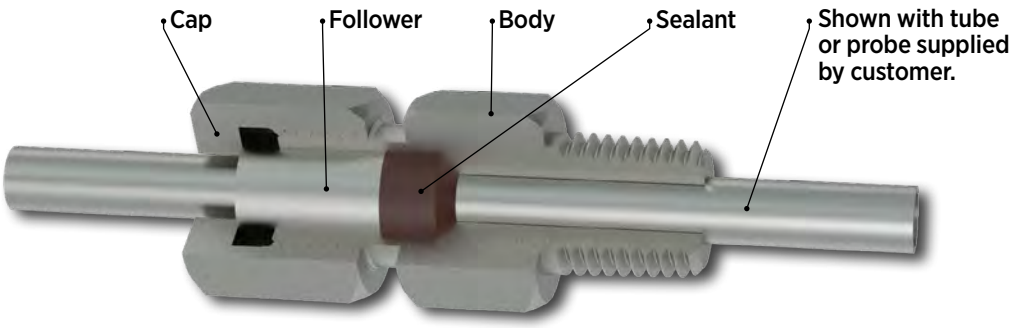
Sealant
- **V** Viton™
- **N** Neoprene
- **T** Teflon™
- **L** Lava
- **G** GraFoil™

Other sealant materials also available.

Note: These seal fittings are available with flanges. See pages 85-107 for flange options.

MIC not available in Neoprene or Teflon™.

Modifiers are added in parentheses to indicate optional mounting methods. See pages 9-11. See Specification Charts for the proper modifiers.

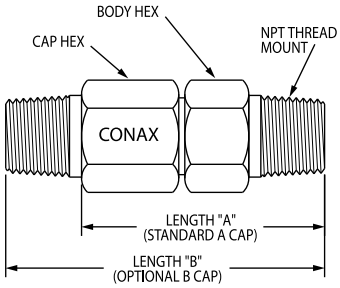


PG Selection Guide		Bore Diameter (thousands of an inch)																	
Model	**NPT Size***	**BLANK**	**039**	**040**	**062**	**093**	**118**	**125**	**187**	**236**	**250**	**312**	**375**	**12P**	**500**	**25P**	**625**	**37P**	**750**
MIC	1/16"			X	X														
MPG	1/8"	X	X	X	X	X	X	X	X										
PG2	1/4"	X					X	X	X	X	X								
PG4	1/2"	X							X	X	X	X	X	X					
PG5	3/4"	X											X	X	X	X	X	X	X

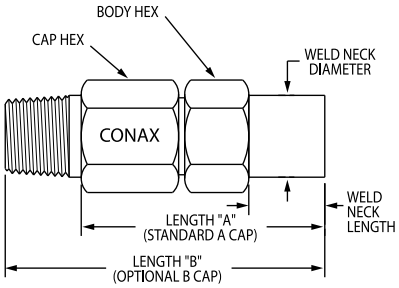
*These are the standard mounting ports for these models. Optional reduced mounting ports may also be available. See the Specification Charts on the subsequent pages for details.

PG Series **Sealant Selection Guide**	
Material	**Temperature Range**
Lava (L)	-300 °F to +1600 °F (-185 °C to +870 °C)
Teflon™ (T)	-300 °F to +450 °F (-185 °C to +232 °C)
Neoprene (N)	-40 °F to +200 °F (-40 °C to +93 °C)
Viton™ (V)	-10 °F to +450 °F (-12 °C to +232 °C)
GraFoil™ (G)	-400 °F to +925 °F in air, +3000 °F in inert or reducing atm. (-240 °C to +495 °C in air, +1650 °C in inert or reducing atm.)

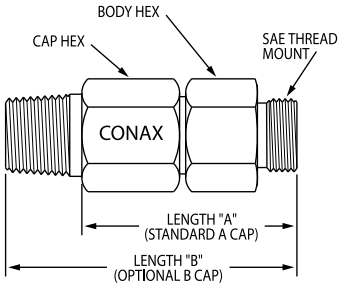
Specifications



Standard NPT



Weld Neck Mount



SAE Thread Mount

PG Series	Tube/Probe Diameter		Length				Hex Size				Pressure Rating									
			Length A		Length B		Body	Cap	Body	Cap	Neoprene		Viton™		Teflon™		Lava		GraFoil™	
Catalog Number	IN	MM	IN	MM	IN	MM	IN	IN	MM	MM	PSIG	BAR	PSIG	BAR	PSIG	BAR	PSIG	BAR	PSIG	BAR
Bore Sizes 0.040 to 0.062 – Model MIC																				
Standard 1/16" NPT																				
MIC-040	0.040	1.02	0.94	23.8	N/A	N/A	0.375	0.343	9.5	8.7	N/A	N/A	N/A	N/A	3,200	220	8,000	551	N/A	N/A
MIC-062	0.062	1.57	0.94	23.8	N/A	N/A	0.375	0.343	9.5	8.7	N/A	N/A	N/A	N/A	3,200	220	8,000	551	10,000	689
Bore Sizes 0.039 to 0.187 – Model MPG																				
Standard 1/8" NPT																				
MPG-BLANK	N/A	N/A	1.19	30.2	1.56	39.7	0.500	0.500	12.7	12.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MPG-039	0.039	0.99	1.19	30.2	1.56	39.7	0.500	0.500	12.7	12.7	2,000	138	1,600	110	1,600	110	2,800	193	1,600	110
MPG-040	0.040	1.02	1.19	30.2	1.56	39.7	0.500	0.500	12.7	12.7	2,000	138	1,600	110	1,600	110	2,800	193	1,600	110
MPG-062	0.062	1.57	1.19	30.2	1.56	39.7	0.500	0.500	12.7	12.7	1,600	110	2,800	193	1,600	110	3,200	220	2,000	138
MPG-093	0.093	2.36	1.19	30.2	1.56	39.7	0.500	0.500	12.7	12.7	1,200	83	1,200	83	800	55	2,000	138	2,400	165
MPG-118	0.118	3.00	1.19	30.2	1.56	39.7	0.500	0.500	12.7	12.7	1,200	83	1,200	83	800	55	2,000	138	2,400	165
MPG-125	0.125	3.18	1.19	30.2	1.56	39.7	0.500	0.500	12.7	12.7	1,200	83	1,200	83	800	55	2,000	138	2,400	165
MPG-187	0.187	4.75	1.19	30.2	1.56	39.7	0.500	0.500	12.7	12.7	1,200	83	1,500	103	1,500	103	2,000	138	800	55
Weld Neck Mount (Weld Neck Length 0.39", Diameter 0.405")*																				
MPG(SWM1/S316L)-BLANK	N/A	N/A	1.19	30.2	1.56	39.7	0.500	0.500	12.7	12.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MPG(SWM1/S316L)-039	0.039	0.99	1.19	30.2	1.56	39.7	0.500	0.500	12.7	12.7	2,000	138	1,600	110	1,600	110	2,800	193	1,600	110
MPG(SWM1/S316L)-040	0.040	1.02	1.19	30.2	1.56	39.7	0.500	0.500	12.7	12.7	2,000	138	1,600	110	1,600	110	2,800	193	1,600	110
MPG(SWM1/S316L)-062	0.062	1.57	1.19	30.2	1.56	39.7	0.500	0.500	12.7	12.7	1,600	110	2,800	193	1,600	110	3,200	220	2,000	138
MPG(SWM1/S316L)-093	0.093	2.36	1.19	30.2	1.56	39.7	0.500	0.500	12.7	12.7	1,200	83	1,200	83	800	55	2,000	138	2,400	165
MPG(SWM1/S316L)-118	0.118	3.00	1.19	30.2	1.56	39.7	0.500	0.500	12.7	12.7	1,200	83	1,200	83	800	55	2,000	138	2,400	165
MPG(SWM1/S316L)-125	0.125	3.18	1.19	30.2	1.56	39.7	0.500	0.500	12.7	12.7	1,200	83	1,200	83	800	55	2,000	138	2,400	165
MPG(SWM1/S316L)-187	0.187	4.75	1.19	30.2	1.56	39.7	0.500	0.500	12.7	12.7	1,200	83	1,500	103	1,500	103	2,000	138	800	55
SAE 3/8-24 Thread Mount (formerly MS)																				
MPG(MSE3/)-BLANK	N/A	N/A	1.19	30.2	1.56	39.7	0.625	0.500	15.9	12.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MPG(MSE3/)-040	0.040	1.02	1.19	30.2	1.56	39.7	0.625	0.500	15.9	12.7	2,000	138	1,600	110	1,600	110	2,800	193	1,600	110
MPG(MSE3/)-062	0.062	1.57	1.19	30.2	1.56	39.7	0.625	0.500	15.9	12.7	1,600	110	2,800	193	1,600	110	3,200	220	2,000	138
SAE 7/16-20 Thread Mount (formerly MS)																				
MPG(MSE4/)-BLANK	N/A	N/A	1.25	31.8	1.63	41.3	0.688	0.500	17.5	12.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MPG(MSE4/)-093	0.093	2.36	1.25	31.8	1.63	41.3	0.688	0.500	17.5	12.7	1,200	83	1,200	83	800	55	2,000	138	2,400	165
MPG(MSE4/)-125	0.125	3.18	1.25	31.8	1.63	41.3	0.688	0.500	17.5	12.7	1,200	83	1,200	83	800	55	2,000	138	2,400	165
SAE 1/2-20 Thread Mount (formerly MS)																				
MPG(MSE5/)-BLANK	N/A	N/A	1.25	31.8	1.63	41.3	0.750	0.500	19.1	12.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MPG(MSE5/)-187	0.187	4.75	1.25	31.8	1.63	41.3	0.750	0.500	19.1	12.7	1,200	83	1,500	103	1,500	103	2,000	138	800	55

Note: The pressure and torque ratings provided in this catalog apply only when bores are drilled by Conax Technologies. Custom bore sizes and/or a blank body, follower and/or sealant may be provided. Consult factory.

* Weld neck models require lubrication prior to use.

N/A = Not Applicable.

PG Series	Tube/Probe Diameter		Length				Hex Size				Pressure Rating									
			Length A		Length B		Body	Cap	Body	Cap	Neoprene		Viton™		Teflon™		Lava		GraFoil™	
Catalog Number	IN	MM	IN	MM	IN	MM	IN	IN	MM	MM	PSIG	BAR	PSIG	BAR	PSIG	BAR	PSIG	BAR	PSIG	BAR
Bore Sizes 0.118 to 0.250 – Model PG2																				
Standard 1/4" NPT																				
PG2-BLANK	N/A	N/A	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PG2-118	0.118	3.00	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	2,800	193	2,800	193	1,600	110	9,000	620	8,000	551
PG2-125	0.125	3.18	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	2,800	193	2,800	193	1,600	110	9,000	620	8,000	551
PG2-187	0.187	4.75	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	2,000	138	4,500	310	1,600	110	8,800	606	4,000	276
PG2-236	0.236	5.99	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	1,800	124	3,000	207	1,200	83	7,500	517	4,000	276
PG2-250	0.250	6.35	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	1,600	110	2,000	138	800	55	7,500	517	4,000	276
PG2 with Optional 1/8" NPT																				
PG2(PTM1/)-118	0.118	3.00	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	2,800	193	2,800	193	1,600	110	9,000	620	8,000	551
PG2(PTM1/)-125	0.125	3.18	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	2,800	193	2,800	193	1,600	110	9,000	620	8,000	551
PG2(PTM1/)-187	0.187	4.75	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	2,000	138	4,500	310	1,600	110	8,800	606	4,000	276
PG2(PTM1/)-236	0.236	5.99	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	1,800	124	3,000	207	1,200	83	7,500	517	4,000	276
PG2(PTM1/)-250	0.250	6.35	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	1,600	110	2,000	138	800	55	7,500	517	4,000	276
PG2 with Optional 3/8" NPT																				
PG2(PTM3/)-118	0.118	3.00	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	2,800	193	2,800	193	1,600	110	9,000	620	8,000	551
PG2(PTM3/)-125	0.125	3.18	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	2,800	193	2,800	193	1,600	110	9,000	620	8,000	551
PG2(PTM3/)-187	0.187	4.75	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	2,000	138	4,500	310	1,600	110	8,800	606	4,000	276
PG2(PTM3/)-236	0.236	5.99	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	1,800	124	3,000	207	1,200	83	7,500	517	4,000	276
PG2(PTM3/)-250	0.250	6.35	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	1,600	110	2,000	138	800	55	7,500	517	4,000	276
Weld Neck Mount (Weld Neck Length 0.59", Diameter 0.540")*																				
PG2(SWM2/S316L)-BLANK	N/A	N/A	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PG2(SWM2/S316L)-118	0.118	3.00	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	2,800	193	2,800	193	1,600	110	9,000	620	8,000	551
PG2(SWM2/S316L)-125	0.125	3.18	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	2,800	193	2,800	193	1,600	110	9,000	620	8,000	551
PG2(SWM2/S316L)-187	0.187	4.75	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	2,000	138	4,500	310	1,600	110	8,800	606	4,000	276
PG2(SWM2/S316L)-236	0.236	5.99	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	1,800	124	3,000	207	1,200	83	7,500	517	4,000	276
PG2(SWM2/S316L)-250	0.250	6.35	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	1,600	110	2,000	138	800	55	7,500	517	4,000	276
SAE 7/16-20 Thread Mount (formerly MS)																				
PG2(MSE4/)-BLANK	N/A	N/A	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PG2(MSE4/)-125	0.125	3.18	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	2,800	193	2,800	193	1,600	110	9,000	620	8,000	551
SAE 1/2-20 Thread Mount (formerly MS)																				
PG2(MSE5/)-BLANK	N/A	N/A	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PG2(MSE5/)-187	0.187	4.75	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	2,000	138	4,500	310	1,600	110	8,800	606	4,000	276
SAE 9/16-18 Thread Mount (formerly MS)																				
PG2(MSE6/)-BLANK	N/A	N/A	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PG2(MSE6/)-250	0.250	6.35	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	1,600	110	2,000	138	800	55	7,500	517	4,000	276
Bore Sizes 0.187 to 0.375 (1/8 Pipe) – Model PG4																				
Standard 1/2" NPT																				
PG4-BLANK	N/A	N/A	2.56	65.0	3.31	84.1	1.000	1.000	25.4	25.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PG4-187	0.187	4.75	2.56	65.0	3.31	84.1	1.000	1.000	25.4	25.4	1,500	103	1,500	103	2,400	165	10,000	689	8,000	551
PG4-236	0.236	5.99	2.56	65.0	3.31	84.1	1.000	1.000	25.4	25.4	1,500	103	1,500	103	1,600	110	10,000	689	7,500	517
PG4-250	0.250	6.35	2.56	65.0	3.31	84.1	1.000	1.000	25.4	25.4	1,500	103	1,500	103	1,600	110	10,000	689	7,500	517
PG4-312	0.312	7.92	2.56	65.0	3.31	84.1	1.000	1.000	25.4	25.4	1,200	83	1,200	83	2,000	138	10,000	689	7,000	482
PG4-375	0.375	9.53	2.56	65.0	3.31	84.1	1.000	1.000	25.4	25.4	1,200	83	500	34	1,400	96	7,500	517	4,500	310
PG4-12P	0.405	10.29	2.56	65.0	3.31	84.1	1.000	1.000	25.4	25.4	C/F	C/F	C/F	C/F	C/F	C/F	C/F	C/F	C/F	C/F

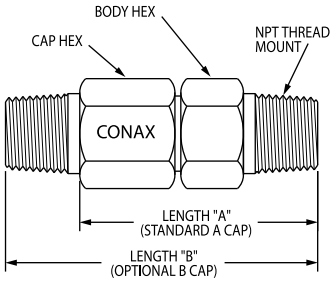
Note: The pressure and torque ratings provided in this catalog apply only when bores are drilled by Conax Technologies. Custom bore sizes and/or a blank body, follower and/or sealant may be provided. Consult factory.

* Weld neck models require lubrication prior to use.

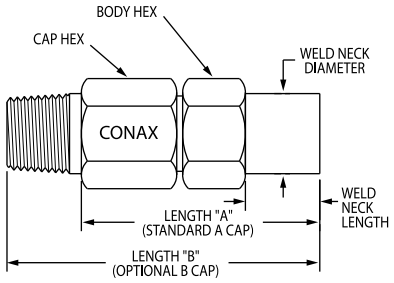
C/F = Consult Factory. N/A = Not Applicable.

All pressure and torque ratings were determined at 68 °F (20 °C) using stainless steel rod as the element. Pressure ratings may degrade at higher temperatures. Pressure rating guide values are provided for fittings with elements restrained by the compressed sealant. Higher pressure may be attained with additional element restraints. Tolerance of tube or probe diameter is ±0.005 (±0.003 for diameters ≤ 0.040). Deviation from the nominal may affect pressure ratings. Standard OD tolerance of pipe is +0.015"/-0.031". Consult factory for details.

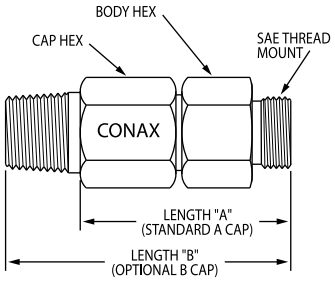
CAUTION: When sealing on soft, fragile or crushable elements, catalog torques may not apply. When catalog torques are applied, compressed sealants generate considerable forces on the element to be sealed. These forces could result in damaging soft or fragile elements such as coax cables or thin-wall materials. Consult factory for these types of applications.



Standard NPT



Weld Neck Mount



SAE Thread Mount

PG Series	Tube/Probe Diameter		Length				Hex Size				Pressure Rating									
			Length A		Length B		Body	Cap	Body	Cap	Neoprene		Viton™		Teflon™		Lava		GraFoil™	
Catalog Number	IN	MM	IN	MM	IN	MM	IN	IN	MM	MM	PSIG	BAR	PSIG	BAR	PSIG	BAR	PSIG	BAR	PSIG	BAR
Bore Sizes 0.187" to 0.375" (1/8" Pipe) – Model PG4																				
PG4 with Optional 1/4" NPT																				
PG4(PTM2/)-187	0.187	4.75	2.56	65.0	3.31	84.1	1.000	1.000	25.4	25.4	1,500	103	1,500	103	2,400	165	10,000	689	8,000	551
PG4(PTM2/)-236	0.236	5.99	2.56	65.0	3.31	84.1	1.000	1.000	25.4	25.4	1,500	103	1,500	103	1,600	110	10,000	689	7,500	517
PG4(PTM2/)-250	0.250	6.35	2.56	65.0	3.31	84.1	1.000	1.000	25.4	25.4	1,500	103	1,500	103	1,600	110	10,000	689	7,500	517
PG4(PTM2/)-312	0.312	7.92	2.56	65.0	3.31	84.1	1.000	1.000	25.4	25.4	1,200	83	1,200	83	2,000	138	10,000	689	7,000	482
PG4(PTM2/)-375	0.375	9.53	2.56	65.0	3.31	84.1	1.000	1.000	25.4	25.4	1,200	83	500	34	1,400	96	7,500	517	4,500	310
PG4 with Optional 3/8" NPT																				
PG4(PTM3/)-187	0.187	4.75	2.56	65.0	3.31	84.1	1.000	1.000	25.4	25.4	1,500	103	1,500	103	2,400	165	10,000	689	8,000	551
PG4(PTM3/)-236	0.236	5.99	2.56	65.0	3.31	84.1	1.000	1.000	25.4	25.4	1,500	103	1,500	103	1,600	110	10,000	689	7,500	517
PG4(PTM3/)-250	0.250	6.35	2.56	65.0	3.31	84.1	1.000	1.000	25.4	25.4	1,500	103	1,500	103	1,600	110	10,000	689	7,500	517
PG4(PTM3/)-312	0.312	7.92	2.56	65.0	3.31	84.1	1.000	1.000	25.4	25.4	1,200	83	1,200	83	2,000	138	10,000	689	7,000	482
PG4(PTM3/)-375	0.375	9.53	2.56	65.0	3.31	84.1	1.000	1.000	25.4	25.4	1,200	83	500	34	1,400	96	7,500	517	4,500	310
PG4 with Optional 3/4" NPT																				
PG4(PTM5/)-187	0.187	4.75	2.56	65.0	3.31	84.1	1.250	1.000	31.8	25.4	1,500	103	1,500	103	2,400	165	10,000	689	8,000	551
PG4(PTM5/)-236	0.236	5.99	2.56	65.0	3.31	84.1	1.250	1.000	31.8	25.4	1,500	103	1,500	103	1,600	110	10,000	689	7,500	517
PG4(PTM5/)-250	0.250	6.35	2.56	65.0	3.31	84.1	1.250	1.000	31.8	25.4	1,500	103	1,500	103	1,600	110	10,000	689	7,500	517
PG4(PTM5/)-312	0.312	7.92	2.56	65.0	3.31	84.1	1.250	1.000	31.8	25.4	1,200	83	1,200	83	2,000	138	10,000	689	7,000	482
PG4(PTM5/)-375	0.375	9.53	2.56	65.0	3.31	84.1	1.250	1.000	31.8	25.4	1,200	83	500	34	1,400	96	7,500	517	4,500	310
Weld Neck Mount (Weld Neck Length 0.78", Diameter 0.84")*																				
PG4(SWM4/S316L)-BLANK	N/A	N/A	2.56	65.0	3.31	84.1	1.000	1.000	25.4	25.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PG4(SWM4/S316L)-187	0.187	4.75	2.56	65.0	3.31	84.1	1.000	1.000	25.4	25.4	1,500	103	1,500	103	2,400	165	10,000	689	8,000	551
PG4(SWM4/S316L)-236	0.236	5.99	2.56	65.0	3.31	84.1	1.000	1.000	25.4	25.4	1,500	103	1,500	103	1,600	110	10,000	689	7,500	517
PG4(SWM4/S316L)-250	0.250	6.35	2.56	65.0	3.31	84.1	1.000	1.000	25.4	25.4	1,500	103	1,500	103	1,600	110	10,000	689	7,500	517
PG4(SWM4/S316L)-312	0.312	7.92	2.56	65.0	3.31	84.1	1.000	1.000	25.4	25.4	1,200	83	1,200	83	2,000	138	10,000	689	7,000	482
PG4(SWM4/S316L)-375	0.375	9.53	2.56	65.0	3.31	84.1	1.000	1.000	25.4	25.4	1,200	83	500	34	1,400	96	7,500	517	4,500	310
PG4(SWM4/S316L)-12P	0.405	10.29	2.56	65.0	3.31	84.1	1.000	1.000	25.4	25.4	C/F	C/F	C/F	C/F	C/F	C/F	C/F	C/F	C/F	C/F
SAE 1/2-20 Thread Mount (formerly MS)																				
PG4(MSE5/)-BLANK	N/A	N/A	2.56	65.0	3.31	84.1	1.000	1.000	25.4	25.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PG4(MSE5/)-187	0.187	4.75	2.56	65.0	3.31	84.1	1.000	1.000	25.4	25.4	1,500	103	1,500	103	2,400	165	9,138	630	8,000	551
SAE 9/16-18 Thread Mount (formerly MS)																				
PG4(MSE6/)-BLANK	N/A	N/A	2.56	65.0	3.31	84.1	1.000	1.000	25.4	25.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PG4(MSE6/)-250	0.250	6.35	2.56	65.0	3.31	84.1	1.000	1.000	25.4	25.4	1,500	103	1,500	103	1,600	110	9,138	630	7,500	517
SAE 3/4-16 Thread Mount (formerly MS)																				
PG4(MSE8/)-BLANK	N/A	N/A	2.56	65.0	3.31	84.1	1.000	1.000	25.4	25.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PG4(MSE8/)-312	0.312	7.92	2.56	65.0	3.31	84.1	1.000	1.000	25.4	25.4	1,200	83	1,200	83	2,000	138	9,138	630	7,000	482
PG4(MSE8/)-375	0.375	9.53	2.56	65.0	3.31	84.1	1.000	1.000	25.4	25.4	1,200	83	500	34	1,400	96	7,500	517	4,500	310

Note: The pressure and torque ratings provided in this catalog apply only when bores are drilled by Conax Technologies. Custom bore sizes and/or a blank body, follower and/or sealant may be provided. Consult factory.

* Weld neck models require lubrication prior to use.

C/F = Consult Factory. N/A = Not Applicable.

PG Series	Tube/Probe Diameter		Length				Hex Size				Pressure Rating									
			Length A		Length B		Body	Cap	Body	Cap	Neoprene		Viton™		Teflon™		Lava		GraFoil™	
Catalog Number	IN	MM	IN	MM	IN	MM	IN	IN	MM	MM	PSIG	BAR	PSIG	BAR	PSIG	BAR	PSIG	BAR	PSIG	BAR
Bore Sizes 0.375" to 0.75" (1/8" TO 3/8" Pipe) – Model PG5																				
Standard 3/4" NPT																				
PG5-BLANK	N/A	N/A	2.88	73.0	3.63	92.1	1.250	1.500	31.8	38.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PG5-250	0.250	6.35	2.88	73.0	3.63	92.1	1.250	1.500	31.8	38.1	400	28	2,400	165	800	55	2,800	193	4,000	276
PG5-375	0.375	9.53	2.88	73.0	3.63	92.1	1.250	1.500	31.8	38.1	400	28	2,400	165	800	55	2,800	193	3,600	248
PG5-12P	0.405	10.29	2.88	73.0	3.63	92.1	1.250	1.500	31.8	38.1	C/F	C/F	C/F	C/F	C/F	C/F	C/F	C/F	C/F	C/F
PG5-500	0.500	12.70	2.88	73.0	3.63	92.1	1.250	1.500	31.8	38.1	800	55	1,200	83	800	55	2,000	138	3,500	241
PG5-25P	0.540	13.72	2.88	73.0	3.63	92.1	1.250	1.500	31.8	38.1	C/F	C/F	C/F	C/F	C/F	C/F	C/F	C/F	C/F	C/F
PG5-625	0.625	15.88	2.88	73.0	3.63	92.1	1.250	1.500	31.8	38.1	400	28	400	28	800	55	3,600	248	2,500	172
PG5-37P	0.675	17.15	2.88	73.0	3.63	92.1	1.250	1.500	31.8	38.1	C/F	C/F	C/F	C/F	C/F	C/F	C/F	C/F	C/F	C/F
PG5-750	0.750	19.05	2.88	73.0	3.63	92.1	1.250	1.500	31.8	38.1	400	28	400	28	400	28	2,800	193	2,000	138
PG5 with Optional 1/2" NPT																				
PG5(PTM4/)-250	0.250	6.35	2.88	73.0	3.63	92.1	1.250	1.500	31.8	38.1	400	28	2,400	165	800	55	2,800	193	1,200	83
PG5(PTM4/)-375	0.375	9.53	2.88	73.0	3.63	92.1	1.250	1.500	31.8	38.1	400	28	2,400	165	800	55	2,800	193	1,200	83
PG5(PTM4/)-500	0.500	12.70	2.88	73.0	3.63	92.1	1.250	1.500	31.8	38.1	800	55	1,200	83	800	55	2,000	138	1,200	83
PG5(PTM4/)-625	0.625	15.88	2.88	73.0	3.63	92.1	1.250	1.500	31.8	38.1	400	28	400	28	800	55	3,600	248	1,200	83
PG5 with Optional 1" NPT																				
PG5(PTM6/)-250	0.250	6.35	3.12	79.2	3.87	98.3	1.500	1.500	38.1	38.1	400	28	2,400	165	800	55	2,800	193	1,200	83
PG5(PTM6/)-375	0.375	9.53	3.12	79.2	3.87	98.3	1.500	1.500	38.1	38.1	400	28	2,400	165	800	55	2,800	193	1,200	83
PG5(PTM6/)-500	0.500	12.70	3.12	79.2	3.87	98.3	1.500	1.500	38.1	38.1	800	55	1,200	83	800	55	2,000	138	1,200	83
PG5(PTM6/)-625	0.625	15.88	3.12	79.2	3.87	98.3	1.500	1.500	38.1	38.1	400	28	400	28	800	55	3,600	248	1,200	83
PG5(PTM6/)-750	0.750	19.05	3.12	79.2	3.87	98.3	1.500	1.500	38.1	38.1	400	28	400	28	400	28	2,800	193	1,200	83
Weld Neck Mount (Weld Neck Length 0.79", Diameter 1.050")*																				
PG5(SWM5/S316L)-BLANK	N/A	N/A	2.88	73.0	3.63	92.1	1.250	1.500	31.8	38.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PG5(SWM5/S316L)-250	0.250	6.35	2.88	73.0	3.63	92.1	1.250	1.500	31.8	38.1	400	28	2,400	165	800	55	2,800	193	1,200	83
PG5(SWM5/S316L)-375	0.375	9.53	2.88	73.0	3.63	92.1	1.250	1.500	31.8	38.1	400	28	2,400	165	800	55	2,800	193	1,200	83
PG5(SWM5/S316L)-12P	0.405	10.29	2.88	73.0	3.63	92.1	1.250	1.500	31.8	38.1	C/F	C/F	C/F	C/F	C/F	C/F	C/F	C/F	C/F	C/F
PG5(SWM5/S316L)-500	0.500	12.70	2.88	73.0	3.63	92.1	1.250	1.500	31.8	38.1	800	55	1,200	83	800	55	2,000	138	1,200	83
PG5(SWM5/S316L)-25P	0.540	13.72	2.88	73.0	3.63	92.1	1.250	1.500	31.8	38.1	C/F	C/F	C/F	C/F	C/F	C/F	C/F	C/F	C/F	C/F
PG5(SWM5/S316L)-625	0.625	15.88	2.88	73.0	3.63	92.1	1.250	1.500	31.8	38.1	400	28	400	28	800	55	3,600	248	1,200	83
PG5(SWM5/S316L)-37P	0.675	17.15	2.88	73.0	3.63	92.1	1.250	1.500	31.8	38.1	C/F	C/F	C/F	C/F	C/F	C/F	C/F	C/F	C/F	C/F
PG5(SWM5/S316L)-750	0.750	19.05	2.88	73.0	3.63	92.1	1.250	1.500	31.8	38.1	400	28	400	28	400	28	2,800	193	1,200	83
SAE 9/16-18 Thread Mount (formerly MS)																				
PG5(MSE6/)-BLANK	N/A	N/A	2.88	73.0	3.63	92.1	1.250	1.500	31.8	38.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PG5(MSE6/)-250	0.250	6.35	2.88	73.0	3.63	92.1	1.250	1.500	31.8	38.1	400	28	2,400	165	800	55	2,800	193	1,200	83
SAE 3/4-16 Thread Mount (formerly MS)																				
PG5(MSE8/)-BLANK	N/A	N/A	2.88	73.0	3.63	92.1	1.250	1.500	31.8	38.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PG5(MSE8/)-375	0.375	9.53	2.88	73.0	3.63	92.1	1.250	1.500	31.8	38.1	400	28	2,400	165	800	55	2,800	193	1,200	83
SAE 1-1/16-12 Thread Mount (formerly MS)																				
PG5(MSE12/)-BLANK	N/A	N/A	2.88	73.0	3.63	92.1	1.375	1.500	34.9	38.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PG5(MSE12/)-500	0.500	12.70	2.88	73.0	3.63	92.1	1.375	1.500	34.9	38.1	800	55	1,200	83	800	55	2,000	138	1,200	83
SAE 1-5/16-12 Thread Mount (formerly MS)																				
PG5(MSE16/)-BLANK	N/A	N/A	2.88	73.0	3.63	92.1	1.625	1.500	41.3	38.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PG5(MSE16/)-625	0.625	15.88	2.88	73.0	3.63	92.1	1.625	1.500	41.3	38.1	400	28	400	28	800	55	3,600	248	1,200	83
PG5(MSE16/)-750	0.750	19.05	2.88	73.0	3.63	92.1	1.625	1.500	41.3	38.1	400	28	400	28	400	28	2,800	193	1,200	83

Note: The pressure and torque ratings provided in this catalog apply only when bores are drilled by Conax Technologies. Custom bore sizes and/or a blank body, follower and/or sealant may be provided. Consult factory.

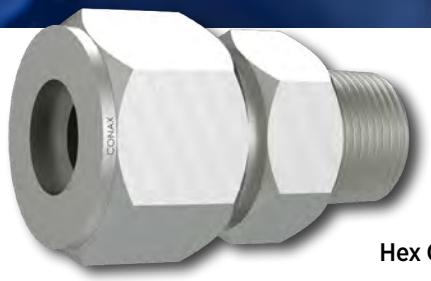
* Weld neck models require lubrication prior to use.

C/F = Consult Factory. N/A = Not Applicable.

All pressure and torque ratings were determined at 68 °F (20 °C) using stainless steel rod as the element. Pressure ratings may degrade at higher temperatures. Pressure rating guide values are provided for fittings with elements restrained by the compressed sealant. Higher pressure may be attained with additional element restraints. Tolerance of tube or probe diameter is ±0.005 (±0.003 for diameters ≤0.040). Deviation from the nominal may affect pressure ratings. Standard OD tolerance of pipe is +0.015"/-0.031". Consult factory for details.

CAUTION: When sealing on soft, fragile or crushable elements, catalog torques may not apply. When catalog torques are applied, compressed sealants generate considerable forces on the element to be sealed. These forces could result in damaging soft or fragile elements such as coax cables or thin-wall materials. Consult factory for these types of applications.

PG Single element sealing—large bore sizes



Hex Cap Style

Flange Cap Style

Conax Technologies Large Bore PG Fittings were designed to seal on pipe, tubes or probes with diameters of 0.750" or greater. Originally designed for applications such as liquid or gas sampling, coupon insertion and securing of commercial pipe, these fittings generally operate at lower pressures than other PG Fittings. Their larger size and rugged design make them ideal for heavy duty industrial applications.

Model PG6 maintains the traditional hex style design. Model PG7 and up feature a flange cap design that provides ease of assembly and reduces the torque requirements that would be encountered with a hex design of that size. Threaded fitting bodies and followers are constructed from 303 SST standard. Bodies constructed of 316L SST are standard for the weld neck models and available as an option on threaded fittings.

Cap Style A offers a mounting thread only. Cap Style B provides threading on both ends for attachment to conduit or terminal heads.

As always, custom materials, bore sizes and optional mounting configurations are available. Please consult a Conax Technologies sales engineer for custom needs.

Accessories

The replaceable sealant permits repeated use of the same fitting. Assembly is simple and may be done in the field. Simply insert the element and torque the cap or cap screws. Large bore fittings are offered with Viton™, Teflon™, Lava and GraFoil™ sealants. The Viton™ and Teflon™ sealants may be reused when the fitting is loosened and retorqued. GraFoil™ offers limited reusability. Due to its composition, Lava is not reusable in these applications.

Fittings are supplied factory lubricated. When reused, the fittings should be relubricated to maintain the published torque and pressure ratings. If fittings are cleaned prior to assembly, they should be relubricated. On weld mount models, the heat from the welding process will destroy the lubricant. These models must also be relubricated prior to use. See page 107 for information on our lubrication kit.

Catalog Numbering System

Example: *PG7-1000-A-V*

- PG Seal Fitting
- Diameter of Tube or Probe
- Cap Style
- Sealant

PG Seal Fitting

- **PG6** •0.750 to 1.000 bore sizes •1/2" pipe
- **PG7** •1.000 to 1.250 bore sizes •1/2" to 1" pipe
- **PG8** •1.250 to 1.500 bore sizes •1" pipe
- **PG9** •1.500 to 1.750 bore sizes •1-1/4" to 1-1/2" pipe
- **PG10** •1.750 to 3.000 bore sizes •1-1/2" to 2-1/2" pipe

Diameter of Tube or Probe

(in thousandths of an inch)

- **750**
- **875**
- **1000**
- **1250**
- **1500**
- **1750**
- **2000**
- **2250**
- **2500**
- **2750**
- **3000**

Custom bore sizes also available.

(in pipe size)

- **50P** 1/2" pipe
- **75P** 3/4" pipe
- **100P** 1" pipe
- **125P** 1-1/4" pipe
- **150P** 1-1/2" pipe
- **200P** 2" pipe
- **250P** 2-1/2" pipe

Cap Style

- **A** Has mounting thread only
- **B** Has cap end threaded

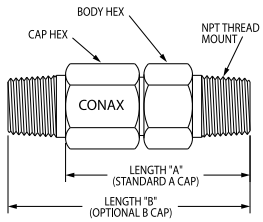
Sealant

- **V** Viton™
- **T** Teflon™
- **L** Lava (not offered with PG6)
- **G** GraFoil™ (not offered with PG6)

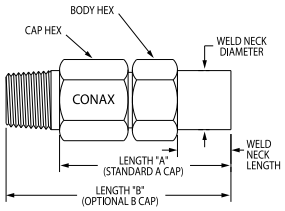
Modifiers are added in parentheses to indicate optional mounting methods. See Specification Charts for the proper modifiers.

Specifications

PG Series Hex Style	Tube/Probe Diameter		Length A		Length B		Hex Size Body	Hex Size Cap			Pressure Rating Viton™		Teflon™		Lava		GraFoil™	
Catalog Number	IN	MM	IN	MM	IN	MM	IN	IN	MM	MM	PSIG	BAR	PSIG	BAR	PSIG	BAR	PSIG	BAR
Model PG6																		
Standard 1" NPT																		
PG6-750	0.750	19.05	3.50	88.9	4.50	114.3	1.750	2.000	44.5	50.8	1,000	69	400	28	N/A	N/A	C/F	C/F
PG6-50P	0.840	21.34	3.50	88.9	4.50	114.3	1.750	2.000	44.5	50.8	1,000	69	400	28	N/A	N/A	C/F	C/F
PG6-875	0.875	22.23	3.50	88.9	4.50	114.3	1.750	2.000	44.5	50.8	1,000	69	400	28	N/A	N/A	C/F	C/F
PG6-1000	1.000	25.40	3.50	88.9	4.50	114.3	1.750	2.000	44.5	50.8	1,000	69	400	28	N/A	N/A	C/F	C/F
Weld Neck Mount (Weld Neck Length 0.98", Diameter 1.315")*																		
PG6(SWM6/S316L)-750	0.750	19.05	3.50	88.9	4.50	114.3	1.750	2.000	44.5	50.8	1,000	69	400	28	N/A	N/A	C/F	C/F
PG6(SWM6/S316L)-50P	0.840	21.34	3.50	88.9	4.50	114.3	1.750	2.000	44.5	50.8	1,000	69	400	28	N/A	N/A	C/F	C/F
PG6(SWM6/S316L)-875	0.875	22.23	3.50	88.9	4.50	114.3	1.750	2.000	44.5	50.8	1,000	69	400	28	N/A	N/A	C/F	C/F
PG6(SWM6/S316L)-1000	1.000	25.40	3.50	88.9	4.50	114.3	1.750	2.000	44.5	50.8	1,000	69	400	28	N/A	N/A	C/F	C/F

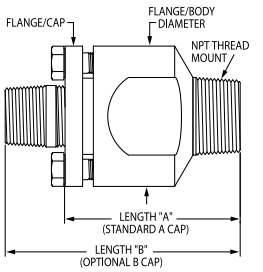


Standard NPT

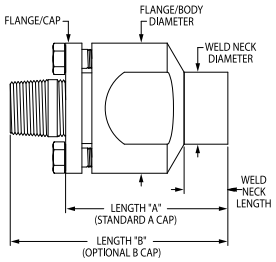


Weld Neck Mount

PG Series Flange Style	Tube/Probe Diameter		Length A		Length B		Flange/Body Diameter		Pressure Rating Viton™		Teflon™		Lava		GraFoil™	
Catalog Number	IN	MM	IN	MM	IN	MM	IN	MM	PSIG	BAR	PSIG	BAR	PSIG	BAR	PSIG	BAR
Model PG7																
Standard 1-1/4" NPT																
PG7-50P	0.840	21.34	3.75	95.3	5.00	127.0	3.000	76.2	1,000	69	C/F	C/F	500	34	750	52
PG7-1000	1.000	25.40	3.75	95.3	5.00	127.0	3.000	76.2	1,000	69	C/F	C/F	500	34	750	52
PG7-75P	1.050	26.67	3.75	95.3	N/A	N/A	3.000	76.2	1,000	69	C/F	C/F	500	34	750	52
PG7-1250	1.250	31.75	3.75	95.3	N/A	N/A	3.000	76.2	1,000	69	C/F	C/F	500	34	750	52
PG7-100P	1.315	33.40	3.75	95.3	N/A	N/A	3.000	76.2	1,000	69	C/F	C/F	500	34	750	52
Weld Neck Mount (Weld Neck Length 1.01", Diameter 1.660")*																
PG7(SWM7/S316L)-50P	0.840	21.34	3.75	95.3	5.00	127.0	3.000	76.2	1,000	69	C/F	C/F	500	34	750	52
PG7(SWM7/S316L)-1000	1.000	25.40	3.75	95.3	5.00	127.0	3.000	76.2	1,000	69	C/F	C/F	500	34	750	52
PG7(SWM7/S316L)-75P	1.050	26.67	3.75	95.3	N/A	N/A	3.000	76.2	1,000	69	C/F	C/F	500	34	750	52
PG7(SWM7/S316L)-1250	1.250	31.75	3.75	95.3	N/A	N/A	3.000	76.2	1,000	69	C/F	C/F	500	34	750	52
PG7(SWM7/S316L)-100P	1.315	33.40	3.75	95.3	N/A	N/A	3.000	76.2	1,000	69	C/F	C/F	500	34	750	52
Model PG8																
Standard 1-1/2" NPT																
PG8-1250	1.250	31.75	4.25	108.0	N/A	N/A	4.000	101.6								
PG8-100P	1.315	33.40	4.25	108.0	N/A	N/A	4.000	101.6								
PG8-1500	1.500	38.10	4.25	108.0	N/A	N/A	4.000	101.6								
Weld Neck Mount (Weld Neck Length 1.03", Diameter 1.900")*																
PG8(SWM8/S316L)-1250	1.250	31.75	4.25	108.0	N/A	N/A	4.000	101.6								
PG8(SWM8/S316L)-100P	1.315	33.40	4.25	108.0	N/A	N/A	4.000	101.6								
PG8(SWM8/S316L)-1500	1.500	38.10	4.25	108.0	N/A	N/A	4.000	101.6								
Model PG9																
Standard 2" NPT																
PG9-1500	1.500	38.10	5.06	128.6	N/A	N/A	5.000	127.0								
PG9-125P	1.660	42.16	5.06	128.6	N/A	N/A	5.000	127.0								
PG9-1750	1.750	44.45	5.06	128.6	N/A	N/A	5.000	127.0								
PG9-150P	1.900	48.26	5.06	128.6	N/A	N/A	5.000	127.0								
Weld Neck Mount (Weld Neck Length 1.06", Diameter 2.375")*																
PG9(SWM9/S316L)-1500	1.500	38.10	5.06	128.6	N/A	N/A	5.000	127.0								
PG9(SWM9/S316L)-125P	1.660	42.16	5.06	128.6	N/A	N/A	5.000	127.0								
PG9(SWM9/S316L)-1750	1.750	44.45	5.06	128.6	N/A	N/A	5.000	127.0								
PG9(SWM9/S316L)-150P	1.900	48.26	5.06	128.6	N/A	N/A	5.000	127.0								



Flange Style NPT



Flange Style Weld Neck Mount

Pressure ratings on large bore models may be influenced by numerous factors and are therefore application specific.

Please consult the factory for details.

Note: The pressure and torque ratings provided in this catalog apply only when bores are drilled by Conax Technologies. Custom bore sizes and/or a blank body, follower and/or sealant may be provided. Consult factory.

* Weld neck models require lubrication prior to use.

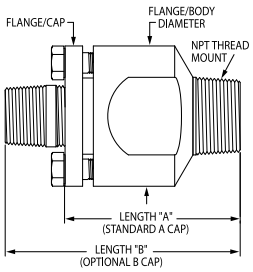
C/F = Consult Factory. N/A = Not Applicable.

All pressure and torque ratings were determined at 68 °F (20 °C) using stainless steel rod as the element. Pressure ratings may degrade at higher temperatures. Pressure rating guide values are provided for fittings with elements restrained by the compressed sealant. Higher pressure may be attained with additional element restraints. Tolerance of tube or probe diameter is ±0.005. Deviation from the nominal may affect pressure ratings. Standard OD tolerance of pipe is +0.015"/-0.031". Consult factory for details. For proper assembly of these seal fittings, see the Assembly Instructions provided on pages 112-126.

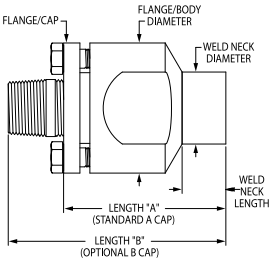
PG Series **Flange Style**	Tube/Probe Diameter		Length A		Length B		Flange/Body Diameter		Pressure Rating Viton™		Teflon™		Lava		GraFoil™	
Catalog Number	IN	MM	IN	MM	IN	MM	IN	MM	PSIG	BAR	PSIG	BAR	PSIG	BAR	PSIG	BAR
Model PG10																
Standard 3" NPT																
PG10-1750	1.750	44.45	6.80	172.7	N/A	N/A	6.000	152.4								
PG10-2000	2.000	50.80	6.80	172.7	N/A	N/A	6.000	152.4								
PG10-2250	2.250	57.15	6.80	172.7	N/A	N/A	6.000	152.4								
PG10-200P	2.375	60.33	6.80	172.7	N/A	N/A	6.000	152.4								
PG10-2500	2.500	63.50	6.80	172.7	N/A	N/A	6.000	152.4								
PG10-2750	2.750	69.85	6.80	172.7	N/A	N/A	6.000	152.4								
PG10-250P	2.875	73.03	6.80	172.7	N/A	N/A	6.000	152.4								
PG10-3000	3.000	76.20	6.80	172.7	N/A	N/A	6.000	152.4								

Pressure ratings on large bore models may be influenced by numerous factors and are therefore application specific.

Please consult the factory for details.



Flange Style NPT



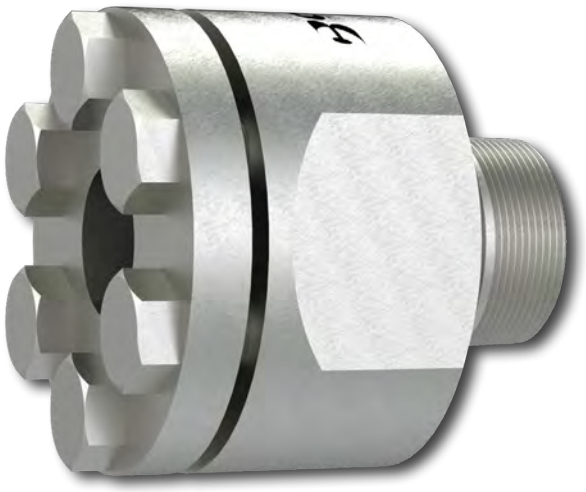
Flange Style Weld Neck Mount

Note: The pressure and torque ratings provided in this catalog apply only when bores are drilled by Conax Technologies. Custom bore sizes and/or a blank body, follower and/or sealant may be provided. Consult factory.

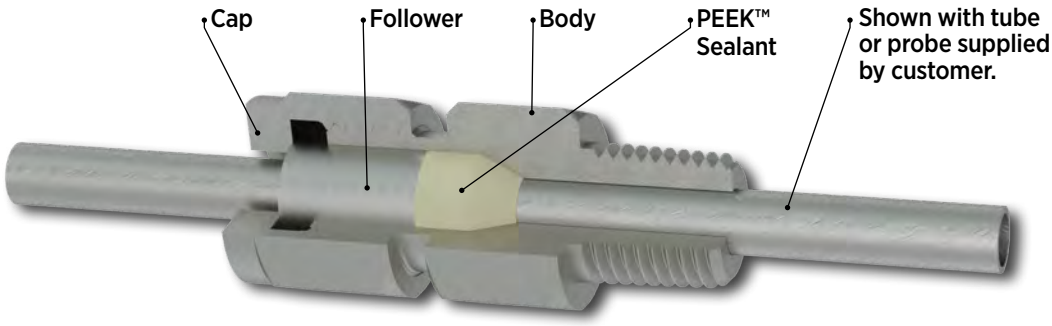
* Weld neck models require lubrication prior to use.

N/A = Not Applicable.

All pressure and torque ratings were determined at 68 °F (20 °C) using stainless steel rod as the element. Pressure ratings may degrade at higher temperatures. Pressure rating guide values are provided for fittings with elements restrained by the compressed sealant. Higher pressure may be attained with additional element restraints. Tolerance of tube or probe diameter is ±0.005. Deviation from the nominal may affect pressure ratings. Standard OD tolerance of pipe is +0.015"/-0.031". Consult factory for details. For proper assembly of these seal fittings, see the Assembly Instructions provided on pages 112-126.



HPG High-Performance PG Series



Employing PEEK™ as a sealant material, the HPG Fitting offers unique properties, such as chemical resistance rivaling Teflon™, higher operating temperatures, a lower expansion rate, and little to no cold flow. Optimizing the fitting design and using a PEEK™ sealant has resulted in an increase in pressure performance by as much as 1700% when compared to an equivalent conventional Conax PG Fitting with a Teflon™ sealant. A comparison table is included for reference. HPG Series bodies have special internal configuration for use with Conax PEEK™ sealants. Use of other parts or materials will result in lower to significantly lower pressure ratings.

The HPG Series Fitting is especially well suited to the unique conditions found in furnaces, autoclaves, environmental chambers, oil and gas applications, and chemical and biochemical reactors; where process temperatures and pressures combine to create challenging environments.

In addition to the bore sizes listed, Conax can also provide fittings with metric or custom bore sizes. HPG Fittings are available with options similar to those available on our PG Fittings:

- Optional materials of construction, see page 9
- Optional mounting methods, see page 11

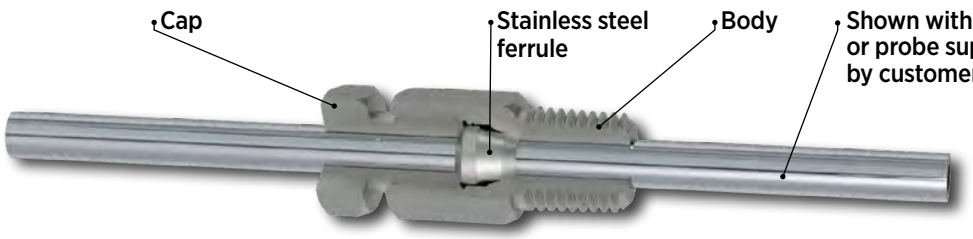
Fitting Example: HPG2-250-A-PK
To order a Replacement Sealant Example: RS-HPG2-250-PK

Specifications

HPG Series **Hex Style**	Tube/Probe Diameter		Length A		Length B		Hex Size Body	Hex Size Cap	Body	Cap	Pressure Rating PEEK™	
Catalog Number	IN	MM	IN	MM	IN	MM	IN	IN	MM	MM	PSIG	BAR
HPG Models												
Standard 1/8" NPT												
HPG2(PTM1/)-125	0.125	3.18	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	2,000	138
HPG2(PTM1/)-187	0.187	4.75	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	5,600	386
Standard 1/4" NPT												
HPG2-125	0.125	3.18	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	2,000	138
HPG2-187	0.187	4.75	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	5,600	386
HPG2-250	0.250	6.35	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	5,600	386
Standard 3/8" NPT												
HPG2(PTM3/)-125	0.125	3.18	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	2,000	138
HPG2(PTM3/)-187	0.187	4.75	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	5,600	386
HPG2(PTM3/)-250	0.250	6.35	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	5,600	386
HPG4(PTM3/)-375	0.375	9.53	2.56	65.0	3.31	84.1	1.000	1.000	25.4	25.4	7,600	524
Standard 1/2" NPT												
HPG2(PTM4/)-250	0.250	6.35	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	5,600	386
HPG4-375	0.375	9.53	2.56	65.0	3.31	84.1	1.000	1.000	25.4	25.4	7,600	524
HPG5(PTM4/)-500	0.500	12.70	2.88	73.0	3.63	92.1	1.250	1.500	31.8	38.1	5,200	358
Standard 3/4" NPT												
HPG4(PTM5/)-375	0.375	9.53	2.56	65.0	3.31	84.1	1.000	1.000	25.4	25.4	7,600	524
HPG5-500	0.500	12.70	2.88	73.0	3.63	92.1	1.250	1.500	31.8	38.1	5,200	358
HPG5-625	0.625	15.88	2.88	73.0	3.63	92.1	1.250	1.500	31.8	38.1	6,800	469
HPG5-750	0.750	19.05	2.88	73.0	3.63	92.1	1.250	1.500	31.8	38.1	7,200	496

Note: The pressure and torque ratings provided in this catalog apply only when bores are drilled by Conax Technologies. Custom bore sizes and/or a blank body, follower and/or sealant may be provided. Consult factory. All pressure and torque ratings were determined at 68 °F (20 °C) using stainless steel rod as the element. Pressure ratings may degrade at higher temperatures. Pressure rating guide values are provided for fittings with elements restrained by the compressed sealant. Higher pressure may be attained with additional element restraints. Tolerance of tube or probe diameter is ±0.005. Deviation from the nominal may affect pressure ratings. Standard OD tolerance of pipe is +0.015"/-0.031". Consult factory for details. For proper assembly of these sealing fittings, see the Assembly Instructions provided on pages 112-126.

MK Metal-to-metal sealing



Conax Technologies Model MK Midlock Fittings seal a single tube or probe. Featuring a metal-to-metal seal rather than our standard soft sealant technology, MK Fittings are used where a joint must be opened and resealed in the same setting. Their unique design forms the seal well within the body housing to provide superior performance in high vibration applications.

The MK Fitting uses compression to deform a stainless steel ferrule against the tube/probe without cutting the sheath surface. A slight deformation of the tube/probe surface may occur, however. MK Fittings are freely adjustable until first tightened. After that, they may be opened and resealed at that fixed immersion depth.

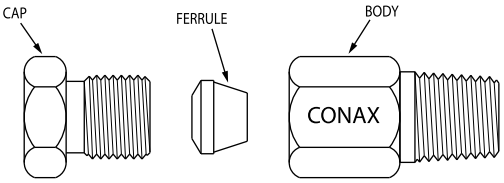
The rugged reusable body and ferrule are constructed from 303 SST standard. (For information on body materials, see page 9.) The single ferrule is self-aligning to prevent lost pieces.

Standard assemblies use Cap Style A with a mounting thread only. Please consult a Conax Technologies sales engineer for custom needs.

- Temperature Range: Cryogenic to +1600 °F (+870 °C)
- Pressure Range: Vacuum to 10,000 PSIG (690 bar)—all models.

Accessories

The replaceable ferrule permits repeated use of the same fitting. The ferrule may be replaced in the field.



Fittings are supplied factory lubricated. If fittings are cleaned prior to assembly or when reused, the fittings should be relubricated to maintain the published torque and pressure ratings. See page 109 for information on our lubrication kit.

To order a Replacement Ferrule, order Ferrule, MK – (Diameter).

Example: Ferrule, MK-062

Catalog Numbering System

Seal Fitting Style
Diameter of Tube or Probe
Cap Style

Example: *MK-062-A*

Seal Fitting Style

MK

Diameter of Tube or Probe

(in thousandths of an inch)

- **062**
- **125**
- **187**
- **250**
- **312**
- **375**

Cap Style

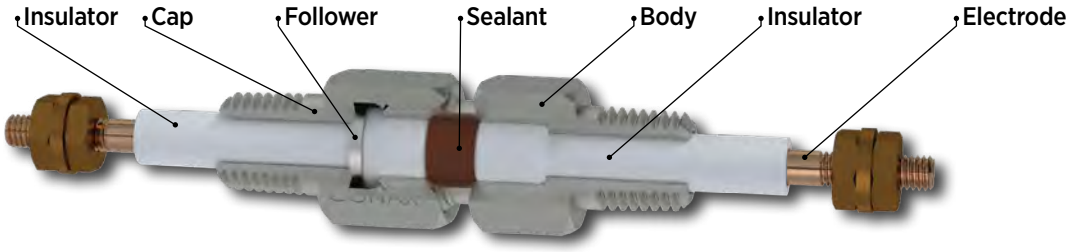
A Has mounting thread only

Specifications

MK Series	Tube/Probe Diameter		Thread	Length		Hex Size				Pressure Rating	
			NPT	Length A		Body	Cap	Body	Cap		
Catalog Number	IN	MM	IN	IN	MM	IN	IN	MM	MM	PSIG	BAR
MK-062-A	0.062	1.57	1/8	1.19	30.2	0.500	0.500	12.7	12.7	10,000	689
MK-125-A	0.125	3.18	1/8	1.19	30.2	0.500	0.500	12.7	12.7	10,000	689
MK-187-A	0.187	4.75	1/8	1.19	30.2	0.500	0.500	12.7	12.7	10,000	689
MK-250-A	0.250	6.35	1/4	1.63	41.3	0.625	0.625	15.9	15.9	10,000	689
MK-312-A	0.312	7.92	1/2	2.00	50.8	1.000	0.750	25.4	19.1	10,000	689
MK-375-A	0.375	9.53	1/2	2.00	50.8	1.000	0.750	25.4	19.1	10,000	689

Note: The pressure and torque ratings provided in this catalog apply only when bores are drilled by Conax Technologies. Custom bore sizes and/or a blank body, follower and/or sealant may be provided. Consult factory.
All pressure and torque ratings were determined at 68 °F (20 °C) using stainless steel rod as the element. Pressure ratings may degrade at higher temperatures. Pressure rating guide values are provided for fittings with elements restrained by the compressed sealant. Higher pressure may be attained with additional element restraints. Tolerance of tube or probe diameter is ±0.005. Deviation from the nominal may affect pressure ratings. Standard OD tolerance of pipe is +0.015"/-0.031". Consult factory for details. For proper assembly of these seal fittings, see the Assembly Instructions provided on pages 112-126.
MK fittings may be supplied with Autoclave Engineers' metal to metal cone seal for higher pressure ratings than when used with an NPT process connection. Please contact Conax for design assistance.

EG Single electrode sealing to 2000VDC

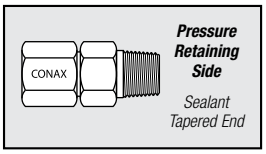


Conax Technologies Model EG (Electrode Gland) Feedthroughs are designed to conduct rated amperage through vessel walls for applications such as vacuum furnaces, autoclaves, transformers, power supplies and other vessels requiring a sealed environment. EG Feedthroughs also electrically and/or thermally isolate single electrodes, tubes, temperature sensors and liquid level probes in pressure/vacuum applications. These bare electrical feedthroughs seal against gases and liquids and resist element movement under pressure.

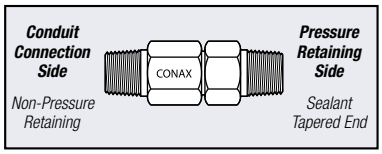
EG Feedthrough bodies with NPT threads or SAE threads are constructed from 303 SST standard. Weld neck style feedthroughs are constructed from 316L SST standard. Followers for all styles are constructed from 303 SST standard. Many optional materials are also available. See page 9 for details.

Cap Style A offers a mounting thread only. Cap Style B provides threading on both ends for attachment to conduit or terminal heads. Alternative sealant materials are available. Please consult a Conax Technologies sales engineer for custom needs.

Conductors are available in Copper, Nickel and 303 SST. Use of Nickel rather than Copper is recommended in oxidizing atmospheres. For further information on conductor selection, see page 11. Custom conductors, such as nickel-plated copper, are available. Please consult factory.



Type A has mounting thread only.



Type B has cap end threaded. B Cap NPT matches the standard mounting NPT.

- Temperature Range: -300 °F to +1600 °F (-185 °C to +870 °C)
- Pressure Range: Vacuum to 8,000 PSIG (551 bar)—see Pressure Ratings in Specification Charts.
- Voltage Rating: to 2000VDC
- Amperage Rating: to 400 amp
- Supplied with or without conductor

Accessories

The replaceable sealant permits repeated use of the same fitting. Electrodes can be easily assembled or replaced in the field. To replace the sealant or element, simply loosen the cap, replace the necessary items, relubricate and retorque the cap.

Feedthroughs are supplied factory lubricated. When reused, the feedthroughs should be relubricated to maintain the published torque and pressure ratings. If feedthroughs are cleaned prior to assembly, they should be relubricated. On weld mount models, the heat from the welding process will destroy the lubricant. These models must be relubricated prior to use. See page 109 for information on our lubrication kit.

Replacement Packing Sets are available. These consist of a sealant and two insulators. Replacement sealants, conductors and insulators may also be ordered separately.

To order a Replacement Packing Set, order RPS – EG (Diameter) – (Sealant).

Example: RPS-EG-093-V

To order a Replacement Sealant only, order RS – EG (Diameter) – (Sealant).

Example: RS-EG-093-V

For replacement insulators and conductors, see Accessories on page 106.

Catalog Numbering System

Diameter of Conductor
EG Seal Feedthrough
Cap Style
Conductor Material
Sealant

Example: *EG-093-B-SS-N*

EG Seal Feedthrough

- **EG**

Modifiers are added in parentheses to indicate optional mounting methods. See Specification Charts for the proper modifiers.

Diameter of Conductor

(in thousandths of an inch)

- **093**
- **125**
- **187**
- **250**
- **312**
- **375**
- **500**
- **750** Flange Style

Cap Style

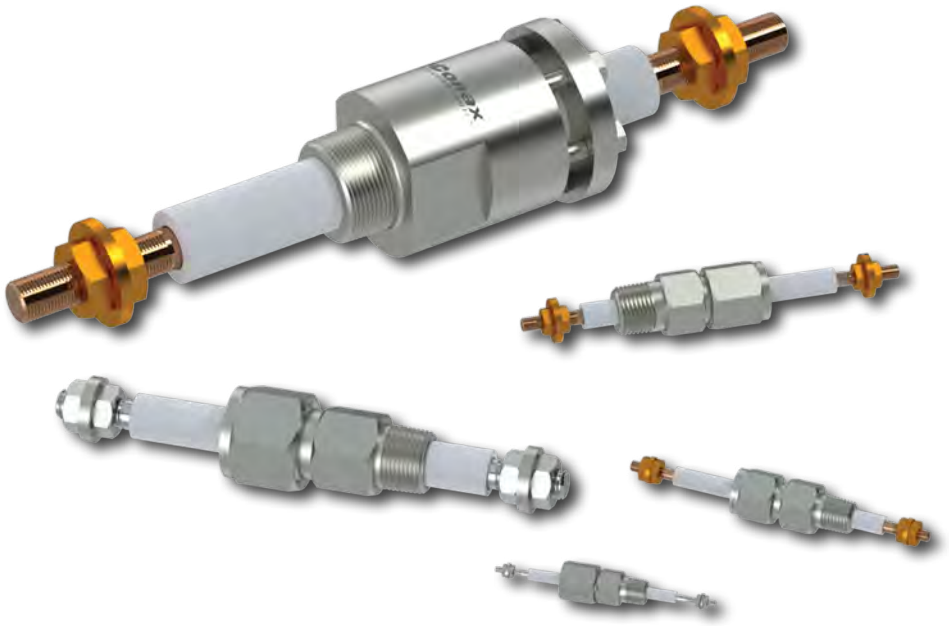
- **A** Has mounting thread only
- **B** Has cap end threaded (not offered on EG-750)

Conductor Material

- **CU** Copper
- **NI** Nickel
- **SS** 303 Stainless Steel
- **XX** No conductor

Sealant

- **V** Viton™
- **N** Neoprene
- **T** Teflon™
- **L** Lava



Specifications

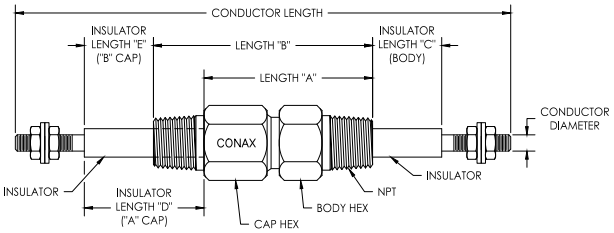
EG Series Single Electrode Sealing—Hex	Conductor				Amperage Rating (@ 30 °C, 90 °C max)			Voltage Rating	Length				Hex Size				Pressure Rating							
	Standard		Standard						Length A		Length B		Body	Cap	Body	Cap	Neoprene		Viton™		Teflon™		Lava	
	Dia.	Length	Dia.	Length																				
Catalog Number	IN	IN	MM	MM	CU	NI	SS	DC	IN	MM	IN	MM	IN	IN	MM	MM	PSIG	BAR	PSIG	BAR	PSIG	BAR	PSIG	BAR
Standard 1/8" NPT																								
EG-093	0.093	3.5	2.36	88.9	20	10	3	2000	1.38	34.9	1.75	44.5	0.500	0.563	12.7	14.3	3,200	220	3,200	220	3,200	220	4,000	276
Weld Neck (Weld Neck Length 0.39", Diameter 0.405")*																								
EG(SWM1/S316L)-093	0.093	3.5	2.36	88.9	20	10	3	2000	1.38	34.9	1.75	44.5	0.500	0.563	12.7	14.3	3,200	220	3,200	220	3,200	220	4,000	276
Standard 1/4" NPT																								
EG-125	0.120	5.0	3.05	127.0	40	15	6	2000	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	5,200	358	3,200	220	5,000	345	8,000	551
EG-187	0.182	5.0	4.62	127.0	60	25	9	2000	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	2,500	172	3,200	220	2,500	172	4,800	331
Weld Neck (Weld Neck Length 0.59", Diameter 0.54")*																								
EG(SWM2/S316L)-125	0.120	5.0	3.05	127.0	40	15	6	2000	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	5,200	358	3,200	220	5,000	345	8,000	551
EG(SWM2/S316L)-187	0.182	5.0	4.62	127.0	60	25	9	2000	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	2,500	172	3,200	220	2,500	172	4,800	331
SAE 3/4-16 Thread Mount (formerly MS)																								
EG(MSE8/)-125	0.120	5.0	3.05	127.0	40	15	6	2000	2.00	50.8	2.63	66.7	1.000	0.750	25.4	19.1	5,200	358	3,200	220	5,000	345	8,000	551
EG(MSE8/)-187	0.182	5.0	4.62	127.0	60	25	9	2000	2.00	50.8	2.63	66.7	1.000	0.750	25.4	19.1	2,500	172	3,200	220	2,500	172	4,800	331
Standard 1/2" NPT																								
EG-250	0.245	6.5	6.22	165.1	95	40	15	2000	2.56	65.1	3.38	85.9	1.000	1.000	25.4	25.4	1,200	83	1,200	83	2,000	138	5,500	379
EG-312	0.307	6.5	7.80	165.1	125	50	20	2000	2.56	65.1	3.38	85.9	1.000	1.000	25.4	25.4	1,600	110	1,200	83	3,200	220	5,500	379
Weld Neck (Weld Neck Length 0.78", Diameter 0.84")*																								
EG(SWM4/S316L)-250	0.245	6.5	6.22	165.1	95	40	15	2000	2.56	65.1	3.38	85.9	1.000	1.000	25.4	25.4	1,200	83	1,200	83	2,000	138	5,500	379
EG(SWM4/S316L)-312	0.307	6.5	7.80	165.1	125	50	20	2000	2.56	65.1	3.38	85.9	1.000	1.000	25.4	25.4	1,600	110	1,200	83	3,200	220	5,500	379
SAE 7/8-14 Thread Mount (formerly MS)																								
EG(MSE10/)-250	0.245	6.5	6.22	165.1	95	40	15	2000	2.56	65.1	3.38	85.9	1.125	1.000	28.6	25.4	1,200	83	1,200	83	2,000	138	5,500	379
EG(MSE10/)-312	0.307	6.5	7.80	165.1	125	50	20	2000	2.56	65.1	3.38	85.9	1.125	1.000	28.6	25.4	1,600	110	1,200	83	3,200	220	5,500	379
Standard 3/4" NPT																								
EG-375	0.370	8.5	9.40	215.9	160	65	24	2000	3.31	84.1	4.06	103.1	1.250	1.500	31.8	38.1	600	41	800	55	2,500	172	4,000	276
EG-500	0.495	8.5	12.57	215.9	200	80	30	2000	3.31	84.1	4.06	103.1	1.250	1.500	31.8	38.1	600	41	600	41	1,600	110	1,500	103
Weld Neck (Weld Neck Length 0.79", Diameter 1.05")*																								
EG(SWM5/S316L)-375	0.370	8.5	9.40	215.9	160	65	24	2000	3.31	84.1	4.06	103.1	1.375	1.500	34.9	38.1	600	41	800	55	2,500	172	4,000	276
EG(SWM5/S316L)-500	0.495	8.5	12.57	215.9	200	80	30	2000	3.31	84.1	4.06	103.1	1.375	1.500	34.9	38.1	600	41	600	41	1,600	110	1,500	103
SAE 1-5/16-12 Thread Mount (formerly MS)																								
EG(MSE16/)-375	0.370	8.5	9.40	215.9	160	65	24	2000	3.31	84.1	4.06	103.1	1.625	1.500	41.3	38.1	600	41	800	55	2,500	172	4,000	276
EG(MSE16/)-500	0.495	8.5	12.57	215.9	200	80	30	2000	3.31	84.1	4.06	103.1	1.625	1.500	41.3	38.1	600	41	600	41	1,600	110	1,500	103

EG Series Single Electrode Sealing—Flange	Conductor				Amperage Rating (@ 30 °C, 90 °C max)			Voltage Rating	Length				Diameter				Pressure Rating							
	Standard		Standard						Length A		Length B		Flange		Body		Neoprene		Viton™		Teflon™		Lava	
	Dia.	Length	Dia.	Length																				
Catalog Number	IN	IN	MM	MM	CU	NI	SS	DC	IN	MM	IN	MM	IN	MM	IN	MM	PSIG	BAR	PSIG	BAR	PSIG	BAR	PSIG	BAR
Standard 1-1/2" NPT																								
EG-750	0.745	15.5	18.92	393.7	400	165	60	2,000	5.00	127.0	N/A	N/A	3.250	82.6	3.000	76.2	N/A	N/A	N/A	N/A	1,800	124	C/F	C/F
Weld Neck (Weld Neck Length 1.03", Diameter 1.90")*																								
EG(SWM8/S316L)-750	0.745	15.5	18.92	393.7	400	165	60	2,000	5.00	127.0	N/A	N/A	3.250	82.6	3.000	76.2	N/A	N/A	N/A	N/A	1,800	124	C/F	C/F

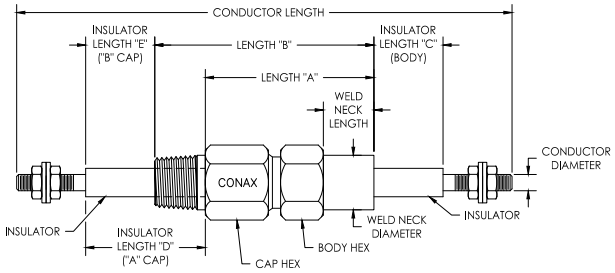
Note: EG-750 is not available with SAE threads.
Note: The pressure and torque ratings provided in this catalog apply only when bores are drilled by Conax Technologies. Custom bore sizes and/or a blank body, follower and/or sealant may be provided. Consult factory.
* Weld neck models require lubrication prior to use.
C/F = Consult Factory. N/A = Not Applicable.
All pressure and torque ratings were determined at 68 °F (20 °C) using stainless steel rod as the element. Pressure ratings may degrade at higher temperatures. Pressure rating guide values are provided for fittings with elements restrained by the compressed sealant. Higher pressure may be attained with additional element restraints. For proper assembly of these seal fittings, see the Assembly Instructions provided on pages 112-126.

EG Series		Length (inches)		
Cap Style	**Process Connection**	**C**	**D**	**E**
Hex	1/8" NPT & 0.405" Weld Neck	0.17	0.56	0.50
Hex	1/4" NPT & 0.540" Weld Neck	0.44	1.03	0.50
Hex	1/2" NPT & 0.840" Weld Neck	0.50	1.28	0.56
Hex	3/4" NPT & 1.050" Weld Neck	0.87	1.66	1.00
Flange	1-1/2" NPT & 1.900" Weld Neck	02.97	1.53	N/A
	For SAE threads, all sizes – Consult Factory	C/F	C/F	C/F

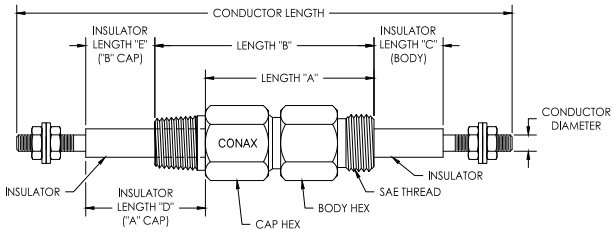
Hex Style



Standard 3/4 NPT

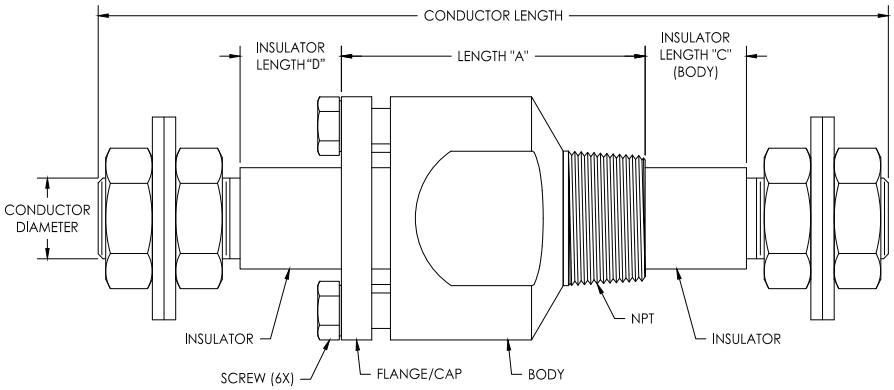


Weld Neck Mount

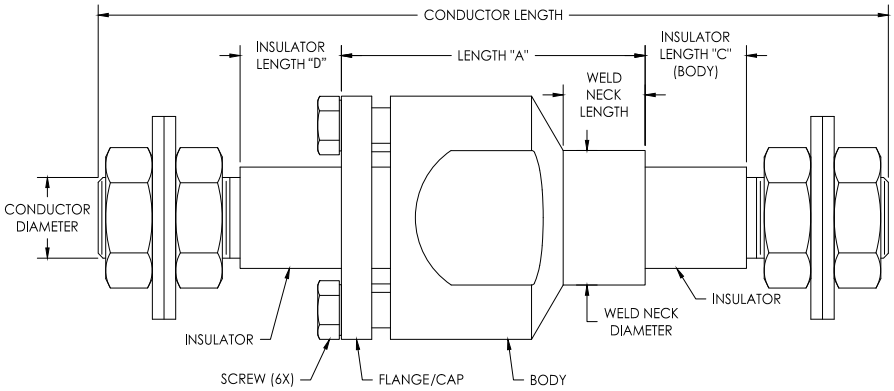


SAE Thread Mount

Flange Style

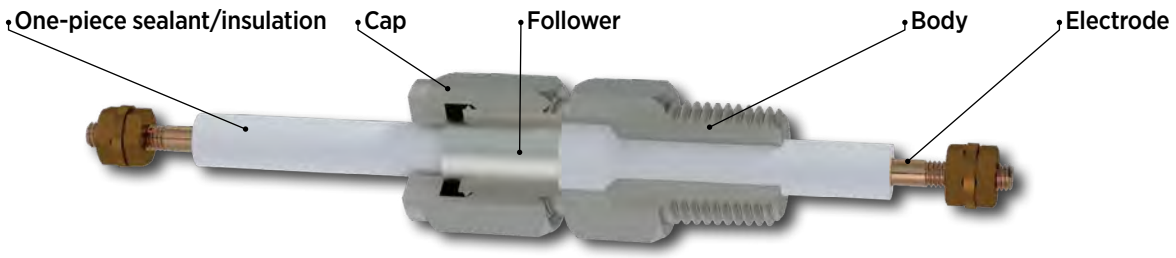


EG-750 NPT



EG-750 Weld Neck Mount

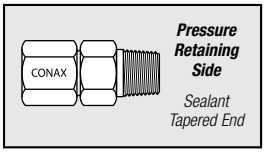
EGT Single electrode sealing to 8000VDC



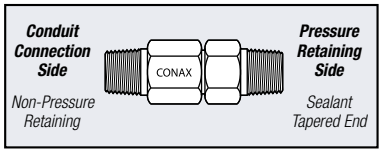
Like the EG Feedthrough, Conax Technologies EGT Feedthroughs electrically and/or thermally isolate single electrodes, tubes or temperature sensors for use in vacuum furnaces, liquid level probes, transformers, environmental chambers, power leads and more. These bare electrical feedthroughs also seal against gases and liquids and resist element movements under pressure. The EGT Feedthrough differs from the EG Feedthrough in that the insulator and sealant are provided as a single continuous Teflon™ piece to accommodate higher voltage/amperage at lower pressures.

EGT Feedthrough bodies with NPT threads or SAE threads are constructed from 303 SST standard. Weld neck style feedthroughs are constructed from 316L SST standard. Followers for all styles are constructed from 303 SST standard. Many optional materials are also available. See page 9 for details.

Cap Style A offers a mounting thread only. Cap Style B provides threading on both ends for attachment to conduit or terminal heads. Alternative sealant materials are available. Please consult a Conax Technologies sales engineer for custom needs.



Type A has mounting thread only.



Type B has cap end threaded. B Cap NPT matches the standard mounting NPT.

Conductors are available in Copper, Nickel and 303 SST. Use of Nickel rather than Copper is recommended in oxidizing atmospheres. For further information on conductor selection, see page 11. Custom conductors, such as nickel-plated copper, are available. Please consult factory.

- Temperature Range: -300 °F to +450 °F (-185 °C to +232 °C)
- Pressure Range: Vacuum to 2,500 PSIG (170 bar)—see Pressure Ratings in Specification Charts.
- Voltage Rating: to 8000VDC
- Amperage Rating: to 525 amp
- Supplied with or without conductor

Accessories

The replaceable sealant permits repeated use of the same fitting. Electrodes can be easily assembled or replaced in the field. To replace the sealant or element, simply loosen the cap, replace the necessary items, relubricate and retorque the cap.

EGTs are supplied factory lubricated. When reused, the EGTs should be relubricated to maintain the published torque and pressure ratings. If EGTs are cleaned prior to assembly, they should be relubricated. On weld mount models, the heat from the welding process will destroy the lubricant. These models must also be relubricated prior to use. See page 109 for information on our lubrication kit.

To order a Replacement Sealant, order RS – (EGT) – (Diameter).

Example: RS-EGT-093

For replacement conductors, see the Accessories section on page 108.

Catalog Numbering System

EGT Seal Feedthrough
Diameter of Conductor
Cap Style
Conductor Material

Example: *EGT-093-B-SS*

EGT Seal Feedthrough

- **EGT**
- **HEGPK** (See page 36)

Modifiers are added in parentheses to indicate optional mounting methods. See Specification Charts for the proper modifiers.

Diameter of Conductor

(in thousandths of an inch)

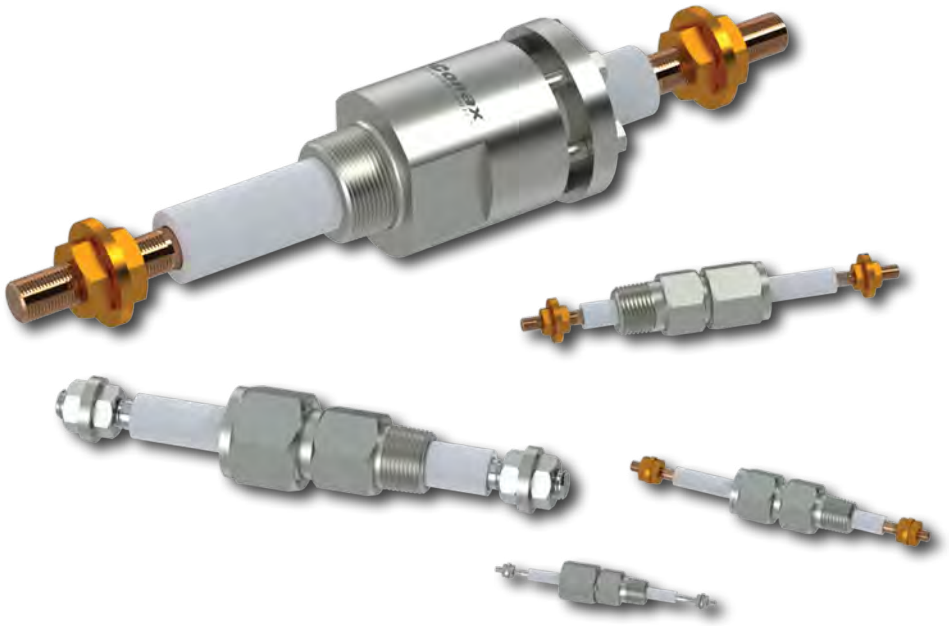
- **093**
- **125**
- **187**
- **250**
- **375**
- **500**
- **750**
- **1000** Flange Style

Cap Style

- **A** Has mounting thread only
- **B** Has cap end threaded

Conductor Material

- **CU** Copper
- **NI** Nickel
- **SS** 303 Stainless Steel
- **XX** No conductor



For High Performance Electrode Fitting with single PEEK™ Insulator (up to 8,000 volts) for pressures up to 7700 PSIG (530 bar). See page 36 for HEGPK.

Specifications

EGT Series Single Electrode Sealing—Hex	Conductor				Amperage Rating (@ 30 °C, 90 °C max)			Voltage Rating	Length				Hex Size				Pressure Rating	
	Standard		Standard						Length A		Length B		Body	Cap	Body	Cap	Teflon™	
	Dia.	Length	Dia.	Length														
Catalog Number	IN	IN	MM	MM	CU	NI	SS	DC	IN	MM	IN	MM	IN	IN	MM	MM	PSIG	BAR
Standard 1/8" NPT																		
EGT-093	0.093	3.2	2.36	81	20	10	3	4,000	1.19	30.2	1.56	39.7	0.500	0.500	12.7	12.7	2,500	172
Weld Neck (Weld Neck Length 0.39", Diameter 0.405")*																		
EGT(SWM1/S316L)-093	0.093	3.2	2.36	81	20	10	3	4,000	1.19	30.2	1.56	39.7	0.500	0.500	12.7	12.7	2,500	172
SAE 1/2-20 Thread Mount (formerly MS)																		
EGT(MSE5/)-093	0.093	3.2	2.36	81	20	10	3	4,000	1.25	31.8	1.63	41.4	0.750	0.500	19.1	12.7	2,500	172
Standard 1/4" NPT																		
EGT-125	0.120	5.0	3.05	127	40	15	6	8,000	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	1,200	83
Weld Neck (Weld Neck Length 0.59", Diameter 0.54")*																		
EGT(SWM2/S316L)-125	0.120	5.0	3.05	127	40	15	6	8,000	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	1,200	83
SAE 9/16-18 Thread Mount (formerly MS)																		
EGT(MSE6/)-125	0.120	5.0	3.05	127	40	15	6	8,000	2.00	50.8	2.63	66.7	0.813	0.750	20.7	19.1	1,200	83
Standard 1/2" NPT																		
EGT-187	0.182	6.5	4.62	165	60	25	9	8,000	2.56	65.1	3.31	84.1	1.000	1.000	25.4	25.4	1,600	110
EGT-250	0.245	6.5	6.22	165	95	40	15	8,000	2.56	65.1	3.31	84.1	1.000	1.000	25.4	25.4	1,200	83
Weld Neck (Weld Neck Length 0.78", Diameter 0.84")*																		
EGT(SWM4/S316L)-187	0.182	6.500	4.62	165	60	25	9	8,000	2.56	65.1	3.31	84.1	1.000	1.000	25.4	25.4	1,600	110
EGT(SWM4/S316L)-250	0.245	6.500	6.22	165	95	40	15	8,000	2.56	65.1	3.31	84.1	1.000	1.000	25.4	25.4	1,200	83
SAE 3/4-16 Thread Mount (formerly MS)																		
EGT(MSE8/)-187	0.182	6.5	4.62	165	60	25	9	8,000	2.56	65.1	3.31	84.1	1.000	1.000	25.4	25.4	1,600	110
EGT(MSE8/)-250	0.245	6.5	6.22	165	95	40	15	8,000	2.56	65.1	3.31	84.1	1.000	1.000	25.4	25.4	1,200	83
Standard 3/4" NPT																		
EGT-375	0.370	8.5	9.40	216	160	65	24	8,000	2.88	73.0	3.63	92.1	1.250	1.500	31.8	38.1	600	41
EGT-500	0.495	8.5	12.57	216	200	80	30	8,000	2.88	73.0	3.63	92.1	1.250	1.500	31.8	38.1	600	41
Weld Neck (Weld Neck Length 0.79", Diameter 1.05")*																		
EGT(SWM5/S316L)-375	0.370	8.5	9.40	216	160	65	24	8,000	2.88	73.0	3.63	92.1	1.250	1.500	31.8	38.1	600	41
EGT(SWM5/S316L)-500	0.495	8.5	12.57	216	200	80	30	8,000	2.88	73.0	3.63	92.1	1.250	1.500	31.8	38.1	600	41
SAE 1-5/16-12 Thread Mount (formerly MS)																		
EGT(MSE16/)-375	0.370	8.5	9.53	216	160	65	24	8,000	2.88	73.0	3.63	92.1	1.625	1.500	41.3	38.1	600	41
EGT(MSE16/)-500	0.495	8.5	12.57	216	200	80	30	8,000	2.88	73.0	3.63	92.1	1.625	1.500	41.3	38.1	600	41
Standard 1" NPT																		
EGT-750	0.745	9.3	18.92	235	400	165	60	8,000	3.50	88.9	4.50	114.3	1.750	2.000	44.5	50.8	600	41
Weld Neck (Weld Neck Length 0.98", Diameter 1.315")*																		
EGT(SWM6/S316L)-750	0.745	9.3	18.92	235	400	165	60	8,000	3.50	88.9	4.50	114.3	1.750	2.000	44.5	50.8	600	41

EGT Series Single Electrode Sealing—Flange	Conductor				Amperage Rating (@ 30 °C, 90 °C max)			Voltage Rating	Length				Diameter		Pressure Rating	
	Standard		Standard						Length A		Length B		Flange/Body		Teflon™	
	Dia.	Length	Dia.	Length												
Catalog Number	IN	IN	MM	MM	CU	NI	SS	DC	IN	MM	IN	MM	IN	MM	PSIG	BAR
Standard 1-1/4" NPT																
EGT-1000	0.995	10.0	25.27	254	525	240	72	8,000	3.75	95.3	N/A	N/A	3.000	76.2	100	7
Weld Neck (Weld Neck Length 1.01", Diameter 1.66")**																
EGT(SWM7/S316L)-1000	0.995	10.0	25.27	254	525	240	72	8,000	3.75	95.3	N/A	N/A	3.000	76.2	100	7

Note: EGT-750 and EGT-1000 are not available with SAE threads.

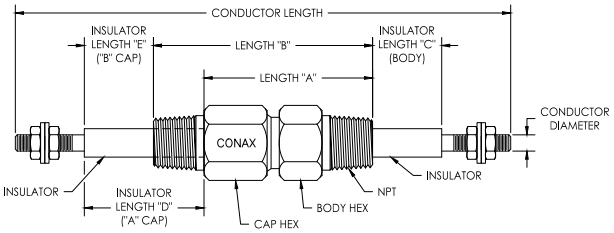
Note: The pressure and torque ratings provided in this catalog apply only when bores are drilled by Conax Technologies. Custom bore sizes and/or a blank body, follower and/or sealant may be provided. Consult factory.

* Weld neck models require lubrication prior to use.

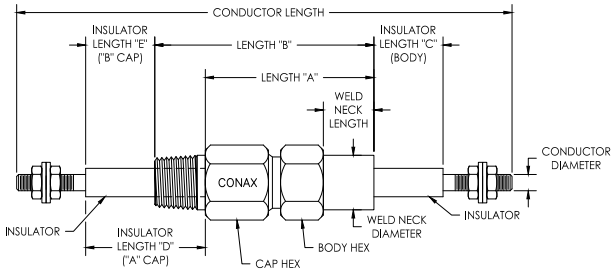
All pressure and torque ratings were determined at 68 °F (20 °C) using stainless steel rod as the element. Pressure ratings may degrade at higher temperatures. Pressure rating guide values are provided for fittings with elements restrained by the compressed sealant. Higher pressure may be attained with additional element restraints. For proper assembly of these seal fittings, see the Assembly Instructions provided on pages 112-126.

EGT Series		Length (inches)		
Cap Style	**Process Connection**	**C**	**D**	**E**
Hex	1/8" NPT & 0.405" Weld Neck	0.19	0.61	0.22
Hex	1/4" NPT & 0.540" Weld Neck	0.52	0.98	0.39
Hex	1/2" NPT & 0.840" Weld Neck	0.72	1.52	0.80
Hex	3/4" NPT & 1.050" Weld Neck	1.09	1.72	0.93
Flange	1" NPT & 1.315" Weld Neck	1.09	1.72	0.93
Flange	1-1/4" NPT & 1.660" Weld Neck	1.09	1.72	0.93
	For SAE threads, all sizes – Consult Factory	C/F	C/F	C/F

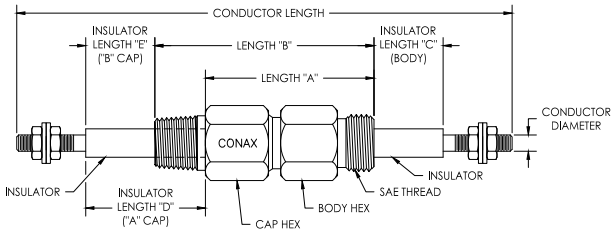
Hex Style



Standard 3/4 NPT

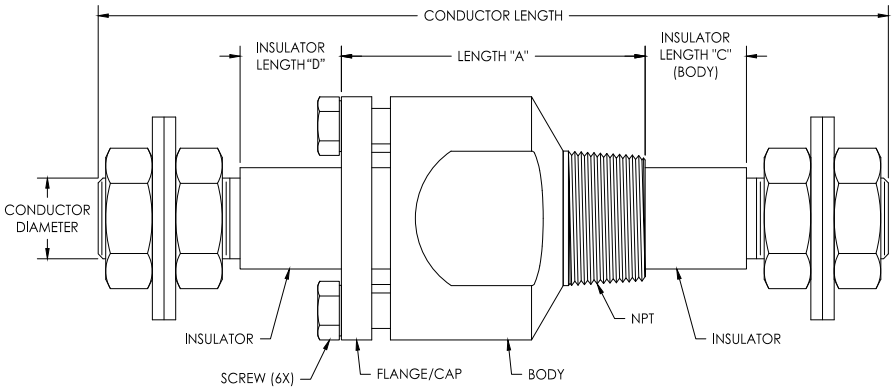


Weld Neck Mount

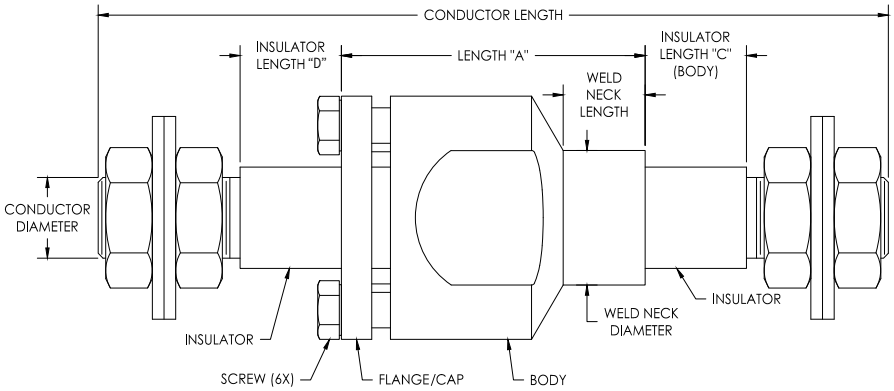


SAE Thread Mount

Flange Style

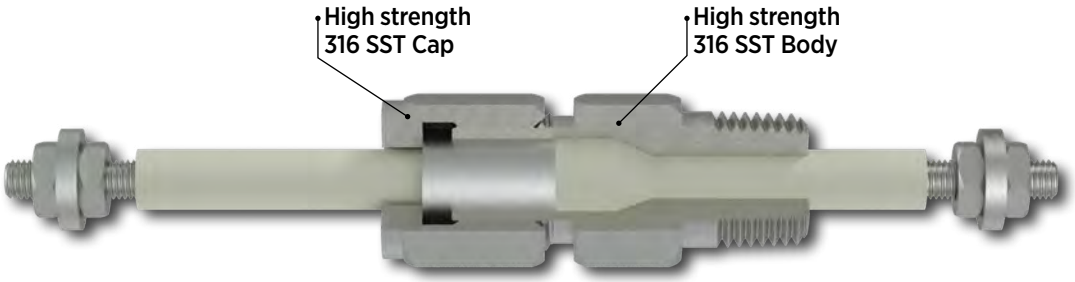


EGT-1000 NPT



EGT-1000 Weld Neck Mount

HEGPK High performance electrode sealing to 8000VDC



Like the EGT Feedthrough, HEGPK Feedthroughs electrically and thermally insulate single electrodes, tubes, temperature sensors, etc. while passing into a vacuum or pressurized environment. These bare electrical feedthroughs also seal against gases and liquids and resist electrode movement under pressure. The HEGPK differs from the EGT in that the single piece insulator/sealant is manufactured from PEEK™, which is recognized as one of the highest performing engineered thermoplastic materials currently available.

The HEGPKs provide several distinct advantages over the EGT:

- HEGPKs have higher pressure ratings at room temperature
- HEGPKs also have improved sealing performance at elevated temperatures.

HEGPK bodies with NPT or SAE threads are constructed from 303 SST standard. Weld neck style are constructed from 316 SST standard. Followers for all styles are constructed from 303 SST standard. Optional materials of construction are available.

Cap Style A offers a process mounting thread only. Cap Style B provides threading on both ends for attachment to conduit or terminal heads. Please consult a Conax Technologies sales engineer for custom needs.

Conductors are available in Copper, Nickel and 303 SST. Use of Nickel rather than Copper is recommended in oxidizing atmospheres. Custom conductors, such as nickel-plated copper, are also available, consult factory.

- Temperature Range: 0 °F to 480 °F
- Pressure Range: Vacuum to 7,700 PSIG (531 bar)
- Voltage Rating: to 8000VDC
- Amperage Rating: to 200 amp
- Supplied with or without conductor

Accessories

The replaceable single piece insulator/sealant permits repeated use of the same fitting. Conductors may be easily assembled or replaced in the field. To replace the insulator/sealant or conductor, simply loosen the cap, replace necessary items, relubricate and retorque the cap. HEGPKs are supplied factory lubricated. When reused, they should be relubricated to maintain the published pressure ratings. If HEGPKs are cleaned prior to assembly, they should be relubricated. On weld models, the heat from the welding process will destroy the lubricant. These models must also be cleaned and relubricated prior to use. See page 107 for information on our lubrication kit. To order a replacement insulator/sealant, order RS-HEGPK-(Diameter).

Catalog Numbering System

- EGT Seal Feedthrough
- Diameter of Conductor
- Cap Style
- Conductor Material

Example: *HEGPK-125-B-SS*

EGT Seal Fitting

- **HEGPK**

Modifiers are added in parentheses to indicate optional mounting methods. See Specification Charts for the proper modifiers.

Diameter of Conductor

(in thousandths of an inch)

- **093**
- **125**
- **187**
- **250**
- **375**
- **500**

Cap Style

- **A** Has mounting thread only
- **B** Has cap end threaded

Conductor Material

- **CU** Copper
- **NI** Nickel
- **SS** 303 Stainless Steel
- **XX** No conductor

Specifications

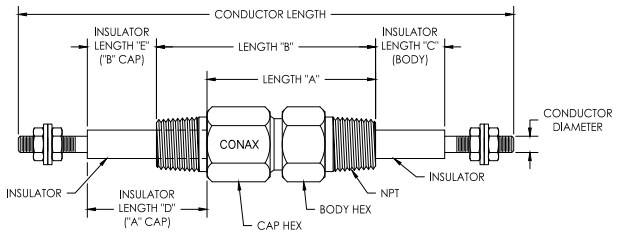
HEGPK Series Single Electrode Sealing—Hex	Conductor				Amperage Rating (@ 30 °C, 90 °C max)			Voltage Rating	Length				Hex Size				Pressure Rating	
	Standard		Standard						Length A		Length B		Body	Cap	Body	Cap	PEEK™	
	Dia.	Length	Dia.	Length														
Catalog Number	IN	IN	MM	MM	CU	NI	SS	DC	IN	MM	IN	MM	IN	IN	MM	MM	PSIG	BAR
Standard 1/4" NPT																		
HEGPK-125	0.120	5.0	3.05	127	40	15	6	8,000	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	7,700	530
Weld Neck (Weld Neck Length 0.59", Diameter 0.54")*																		
HEGPK(SWM2/S316L)-125	0.120	5.0	3.05	127	40	15	6	8,000	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	7,700	530
SAE 9/16-18 Thread Mount (formerly MS)																		
HEGPK(MSE6/)-125	0.120	5.0	3.05	127	40	15	6	8,000	2.00	50.8	2.63	66.7	0.813	0.750	20.7	19.1	7,700	530
Standard 1/2" NPT																		
HEGPK-187	0.182	6.5	4.62	165	60	25	9	8,000	2.56	65.1	3.31	84.1	1.000	1.000	25.4	25.4	6,000	410
HEGPK-250	0.245	6.5	6.22	165	95	40	15	8,000	2.56	65.1	3.31	84.1	1.000	1.000	25.4	25.4	4,200	289
Weld Neck (Weld Neck Length 0.78", Diameter 0.84")*																		
HEGPK(SWM4/S316L)-187	0.182	6.5	4.62	165	60	25	9	8,000	2.56	65.1	3.31	84.1	1.000	1.000	25.4	25.4	6,000	410
HEGPK(SWM4/S316L)-250	0.245	6.5	6.22	165	95	40	15	8,000	2.56	65.1	3.31	84.1	1.000	1.000	25.4	25.4	4,200	289
SAE 3/4-16 Thread Mount (formerly MS)																		
HEGPK(MSE8/)-187	0.182	6.5	4.62	165	60	25	9	8,000	2.56	65.1	3.31	84.1	1.000	1.000	25.4	25.4	6,000	410
HEGPK(MSE8/)-250	0.245	6.5	6.22	165	95	40	15	8,000	2.56	65.1	3.31	84.1	1.000	1.000	25.4	25.4	4,200	289
Standard 3/4" NPT																		
HEGPK-375	0.370	8.5	9.40	216	160	65	24	8,000	2.88	73.0	3.63	92.1	1.250	1.500	31.8	38.1	4,000	275
HEGPK-500	0.495	8.5	12.57	216	200	80	30	8,000	2.88	73.0	3.63	92.1	1.250	1.500	31.8	38.1	3,500	240
Weld Neck (Weld Neck Length 0.79", Diameter 1.05")*																		
HEGPK(SWM5/S316L)-375	0.370	8.5	9.40	216	160	65	24	8,000	2.88	73.0	3.63	92.1	1.250	1.500	31.8	38.1	4,000	275
HEGPK(SWM5/S316L)-500	0.495	8.5	12.57	216	200	80	30	8,000	2.88	73.0	3.63	92.1	1.250	1.500	31.8	38.1	3,500	240
SAE 1-5/16-12 Thread Mount (formerly MS)																		
HEGPK(MSE16/)-375	0.370	8.5	9.53	216	160	65	24	8,000	2.88	73.0	3.63	92.1	1.625	1.500	41.3	38.1	4,000	275
HEGPK(MSE16/)-500	0.495	8.5	12.57	216	200	80	30	8,000	2.88	73.0	3.63	92.1	1.625	1.500	41.3	38.1	3,500	240

* Weld neck models require lubrication prior to use.

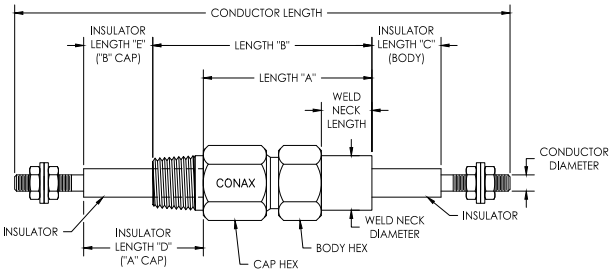
Note: The pressure and torque ratings provided in this catalog apply only when bores are drilled by Conax Technologies. Custom bore sizes and/or a blank body, follower and/or sealant may be provided. Consult factory. All pressure and torque ratings were determined at 68 °F (20 °C) using copper as the element. Pressure ratings may degrade at higher temperatures. Pressure rating guide values are provided for feedthroughs with elements restrained by the compressed sealant. Higher pressure may be attained with additional element restraints. For proper assembly of these feedthroughs, see the Assembly Instructions provided on pages 112-126.

HEGPK Series		Length (inches)		
Cap Style	Process Connection	C	D	E
Hex	1/4" NPT & 0.540" Weld Neck	0.52	0.98	0.39
Hex	1/2" NPT & 0.840" Weld Neck	0.72	1.52	0.80
Hex	3/4" NPT & 1.050" Weld Neck	1.09	1.72	0.93
	For SAE threads, all sizes – Consult Factory	C/F	C/F	C/F

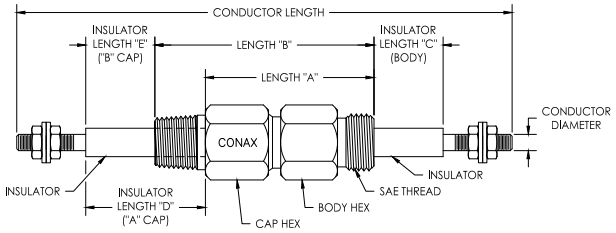
Hex Style



Standard 3/4 NPT



Weld Neck Mount



SAE Thread Mount

HD High density multiple wire feedthroughs

Conax Technologies' HD Series high density mechanically sealed feedthrough assemblies allow multiple insulated wires to be installed through a single port. These assemblies consist of a stainless steel tube swaged over bundled 24 AWG solid Teflon™-insulated thermocouple wire or copper wires. The thermocouple pairs are available with or without junctions. HD assemblies provide an excellent means to pass numerous thermocouple, RTD and low voltage instrumentation wires through a vessel wall without breaching the wall in multiple locations.

HD assemblies can be supplied with or without a Conax Technologies soft seal fitting for pressure/vacuum sealing. When equipped with a fitting, the tube passes through the sealing fitting, providing a continuous wire feedthrough. Assemblies configured with a PG Fitting can accommodate up to 60 conductor wires or 30 thermocouple pairs. An MHM Fitting can accommodate multiple HD assemblies to seal up to 240 conductors or 120 thermocouple pairs. Assemblies can also be furnished with split fittings or MK Fittings.

The stainless steel tube is provided with a 4-1/2" nominal length standard. These feedthroughs are normally furnished with 24 inches of lead wire on each end. Longer lengths may be furnished as required.

- Temperature Range: -112 °F to +250 °F (-80 °C to +120 °C)
- Vacuum Rating: $5x10^{-6}$ mmHg @ 68 °F (20 °C)
- Leak Rate: $1x10^{-9}$ He scc/sec @ 68 °F (20 °C)
- Voltage Rating: to 100VDC
- Amperage Rating: to 500mA
- Feedthrough Pressure Rating @ 68 °F (20 °C): 5,000 PSIG (345 bar). For fitting pressure ratings, see the applicable fitting section. The Assembly Pressure Rating is limited by the lowest element in the assembly (fitting or feedthrough).

Catalog Numbering System

Number of Copper Conductors or Thermocouple Pairs
Tube Length
Feedthrough Diameter
Feedthrough Style
Wire Type
Seal Fitting Type
Wire Length, Cap Side
Wire Length, Body Side

Example (with seal fitting): ***HD25-450 (12K) PG2AT, 24/24***
Example (without seal fitting): ***HD25-450 (12K), 24/24***

Fitting Style
- **HD**

Feedthrough Diameter
- **18** – 0.187" OD
- **25** – 0.250" OD
- **31** – 0.312" OD
- **37** – 0.375" OD

Tube Length
- **450** – 4.5"

Custom tube lengths also available.

Number of Conductors
- **12** – for HD18 12 total conductors or 6 T/C pairs
- **24** – for HD25 24 total conductors or 12 T/C pairs
- **40** – for HD31 40 total conductors or 20 T/C pairs
- **60** – for HD37 60 total conductors or 30 T/C pairs

Wire Type
- **J** Iron/Constantan
- **K** Chromel/Alumel
- **T** Copper/Constantan
- **E** Chromel/Constantan
- **CU** Copper
- **CU (NI)** Nickel-plated Copper
- **CX** Alloy for Tungsten 5% Rhenium/Tungsten 26% Rhenium, 24 AWG only
- **RX/SX** Copper/Copper Nickel alloy
- **N** Nicrosil/Nisil

Seal Fitting Type (Optional)

Select a fitting with a bore size that fits the feedthrough diameter. See the appropriate catalog section for proper fitting callout. If fitting is not required, omit fitting callout. Will accept PG, MK, MHM or split fitting.

Wire Length, Cap Side

(in inches)

Wire Length, Body Side

(in inches)

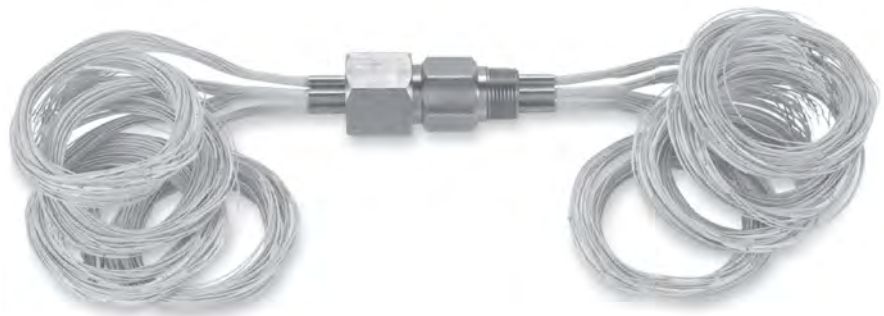
Conax Technologies can provide numerous options for the management of wires in our sealing assemblies:

- Wire Markers with customer nomenclature for easy wire identification of multiple wires
- Twisting of wires in pairs or other groupings for easier identification and management
- Wire Jackets/Sleeving
- Hot Junctions—exposed or encapsulated

Please consult a Conax Technologies sales engineer for details.

High density assemblies with a PG or MK Fitting provide a continuous sealed wire feedthrough accommodating up to 60 wires or 30 thermocouple pairs.

High Density (HD) Thermocouple Feedthrough for Thermal Validation or Mapping of a Pharmaceutical Freeze Dryer, Sterilizer or Lyophilizer. High density assemblies can be fitted with thermocouple junctions and/or connectors as demonstrated in this assembly for the pharmaceutical industry.



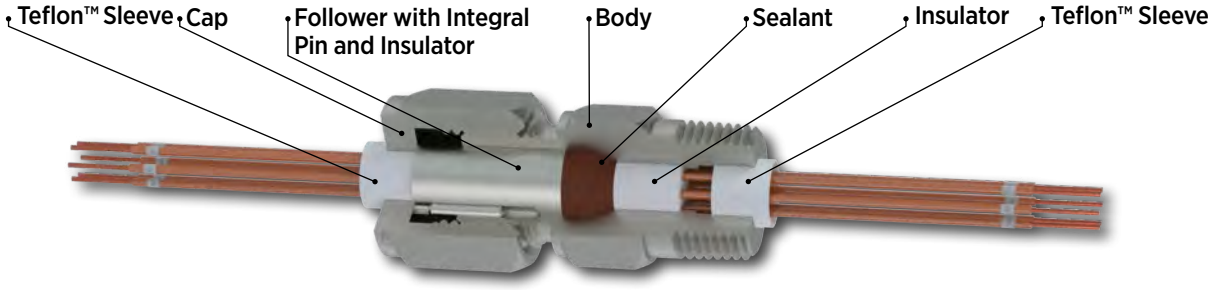
Multiple high density units passing through the multiple holes of an MHM Fitting produce an assembly capable of accommodating hundreds of wires or thermocouple pairs.

HD Series **Capacities**	Feedthrough Diameter		Number of Conductors
Model	IN	MM	
HD18	0.19	4.7	12
HD25	0.25	6.4	24
HD31	0.31	7.9	40
HD37	0.38	9.5	60

Conductor Capacity per Seal Fitting

Seal Fitting	Feedthroughs per Fitting	HD18	HD25	HD31	HD37
MPG-187	1	12			
PG2-187	1	12			
PG2-250	1		24		
PG4-187	1	12			
PG4-250	1		24		
PG4-312	1			40	
PG4-375	1				60
PG5-375	1				60
MHM5-187	2	24			
	3	36			
	4	48			
	5	60			
	6	72			
MHM5-250	2		48		
	3		72		
	4		96		
MHM6-187	8	96			
	10	120			
	12	144			
	14	168			
MHM6-250	5		120		
	6		144		
	7		168		
MHM6-312	2			80	
	3			120	
	4			160	
MHM6-375	2				120
	3				180
	4				240

PL Insulated Lead Wire (Power Lead) Feedthrough



Conax Technologies Model PL (Power Lead) Feedthroughs seal on insulated lead wire for use in transformers, motors, conduit boxes and pressure/vacuum chambers and as power or instrument feedthroughs. The soft sealant technology seals against gases or liquids and resists element movement under pressure. Immersion length adjustments and easy replacement of elements can be accomplished in the field.

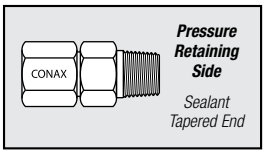
PL Feedthroughs may be purchased with or without wire. If supplied with wire, solid copper wire with Kapton™ insulation is standard.

The PL is provided with 24 inches of wire centered in the feedthrough. Standard sealants are GraFoil™ or Teflon™. Other materials for wire and sealants can be provided for special applications. Consult your Conax Technologies sales engineer for more information on available options.

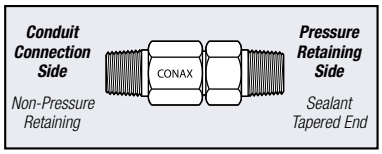
Terminals can be furnished on all wire ends if specified, at additional cost. Bulk wire is available from Conax Technologies for field assembly of PL Feedthroughs. (See the Accessories Section, page 106.)

PL Feedthrough bodies with NPT threads and SAE threads are constructed from 303 SST standard. Weld neck style feedthrough bodies are constructed from 316L SST standard. Followers for all styles are constructed from 303 SST standard. Many optional materials are also available, including 316L SST, MONEL™ 405, HASTELLOY™ C276, INCONEL™ and more. For information on alternative materials, see page 9.

Cap Style A offers a mounting thread only. Cap Style B provides threading on both ends for attachment to conduit or terminal heads. Alternative sealant materials are available. Please consult a Conax Technologies sales engineer for custom needs.



Type A has mounting thread only.



Type B has cap end threaded. B Cap NPT matches the standard mounting NPT.

- Temperature Range: -300 °F to +450 °F (-185 °C to +232 °C)
- Pressure Range: Vacuum to 10,000 PSIG (690 bar) – see Pressure Ratings in Specification Charts
- Voltage Rating: to 600VDC
- Amperage Rating: to 55 amp
- Seals 1-18 Wires
- Easy installation—no "potting"
- Wire Identification Markers applied
- Thermocouple Material conductors available, 18 AWG standard, other wire gauges optional

Accessories

The replaceable sealant permits repeated use of the same fitting. Assembly is simple and may be done in the field. Simply insert the elements and torque the cap. To replace the sealant or elements, simply loosen the cap, replace the necessary items, relubricate and retorque the cap.

Feedthroughs are supplied factory lubricated. When reused, the feedthroughs should be relubricated to maintain the published torque and pressure ratings. If feedthroughs are cleaned prior to assembly, they should be relubricated. On weld mount models, the heat from the welding process will destroy the lubricant. These models must be relubricated prior to use. See page 109 for information on our lubrication kit.

Replacement Packing Sets are available. These consist of a sealant and two insulators. Replacement sealants may also be ordered separately.

To order a Replacement Packing Set, order
RPS – PL – (Wire Gauge) – (Number of Holes) – (Sealant).

Example: RPS-PL-12-3-T

To order a Replacement Sealant only, order
RS – PL – (Wire Gauge) – (Number of Holes) – (Sealant).

Example: RS-PL-12-3-T

Catalog Numbering System

Number of Wires Sealed
Cap Style
Wire Gauge
PL Seal Fitting
Sealant
Wire Length, Cap Side
Wire Length, Body Side

Example (Non-standard Wire Length): *PL-12-A3-T, 24/36*

PL Seal Feedthrough
- **PL**

Wire Gauge
- **20**
- **18**
- **16**
- **14**
- **12**
- **10**
- **8**

Cap Style
- **A** Has mounting thread only
- **B** Has cap end threaded

Number of Wires Sealed
- **1**
- **2**
- **3**
- **4**
- **6**
- **8**
- **10**
- **12**
- **18**

Sealant
- **T** Teflon™
- **G** GraFoil™

Other sealant materials also available.

Wire Length, Cap Side
- (in inches)

Wire Length, Body Side
- (in inches)

Modifiers are added in parentheses to indicate optional mounting methods. See pages 9-11. See Specification Charts for the proper modifiers.

Example (Standard Wire Length):
PL-12-A3-T

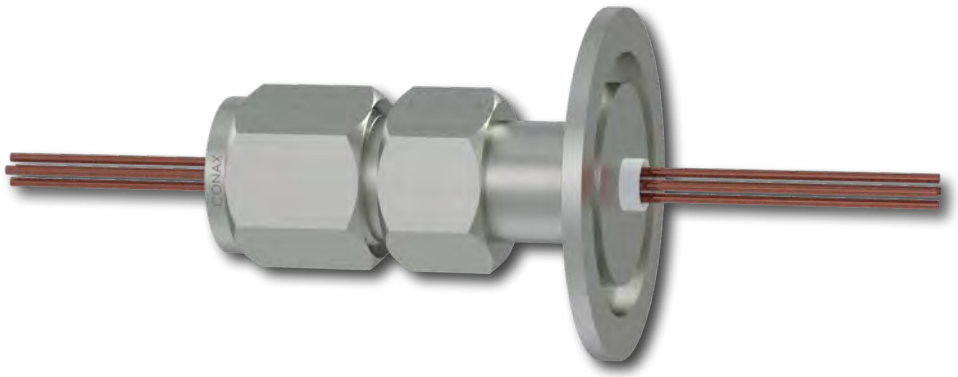
Example (Thermocouple Material Conductors):
PL-18(J)-A2-T, 24/36

Example (Without Conductors):
PL-12-A3-T-XX

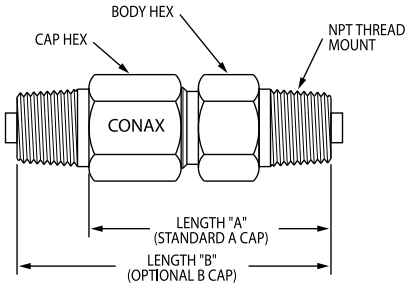
Example (Thermocouple/Copper Wire Mix):
PL-18(4CU/1K)-A6-T

PL Selection Guide	Standard Number of Wires Offered								
Wire Gauge	1	2	3	4	6	8	10	12	18
20		X	X	X	X	X			X
18	X	X	X	X	X	X	X	X	
16		X	X	X	X	X	X	X	
14	X	X	X	X	X	X	X	X	
12		X	X	X	X				
10		X	X	X					
8		X	X						

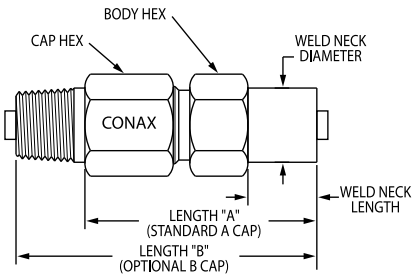
The number of wires offered is dependent on the mounting port size. See the Specifications Charts on the subsequent pages for details.



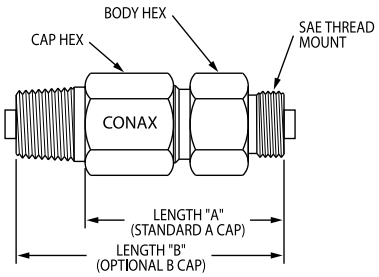
Specifications



Standard NPT



Weld Neck Mount



SAE Thread Mount

PL Series	Wire Gauge	Number of Wires	Amperage Rating per Wire	Length				Hex Size				Pressure Rating			
				Length A		Length B		Body	Cap	Body	Cap	GraFoil™		Teflon™	
Catalog Number				IN	MM	IN	MM	IN	IN	MM	MM	PSIG	BAR	PSIG	BAR
Standard 1/8" NPT															
PL-18-1	18	1	13	1.38	35.1	1.75	44.5	0.500	0.563	12.7	14.3	10,000	689	1,600	110
PL-14-1	14	1	24	1.38	35.1	1.75	44.5	0.500	0.563	12.7	14.3	10,000	689	800	55
Weld Neck (Weld Neck Length 0.39", Diameter 0.405")*															
PL(SWM1/S316L)-18-1	18	1	13	1.38	35.1	1.75	44.5	0.500	0.563	12.7	14.3	10,000	689	1,600	110
PL(SWM1/S316L)-14-1	14	1	24	1.38	35.1	1.75	44.5	0.500	0.563	12.7	14.3	10,000	689	800	55
SAE 7/16-20 Thread Mount (formerly MS)															
PL(MSE4/)-18-1	18	1	13	1.70	43.2	2.06	52.3	0.688	0.563	17.5	14.3	9,138	630	1,600	110
PL(MSE4/)-14-1	14	1	24	1.70	43.2	2.06	52.3	0.688	0.563	17.5	14.3	9,138	630	800	55
Standard 1/2" NPT															
PL-20-2	20	2	9	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	10,000	689	5,000	345
PL-20-3	20	3	9	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	10,000	689	5,000	345
PL-20-4	20	4	9	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	10,000	689	5,000	345
PL-18-2	18	2	13	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	10,000	689	4,000	276
PL-18-3	18	3	13	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	10,000	689	4,000	276
PL-18-4	18	4	13	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	10,000	689	4,000	276
PL-16-2	16	2	17	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	10,000	689	3,000	207
PL-16-3	16	3	17	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	10,000	689	3,000	207
PL-16-4	16	4	17	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	10,000	689	3,000	207
PL-14-2	14	2	24	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	10,000	689	1,500	103
PL-14-3	14	3	24	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	10,000	689	2,000	138
PL-14-4	14	4	24	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	10,000	689	1,600	110
Optional 1/4" NPT															
PL(PTM2/)-20-2	20	2	9	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	10,000	689	5,000	345
PL(PTM2/)-20-3	20	3	9	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	10,000	689	5,000	345
PL(PTM2/)-20-4	20	4	9	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	10,000	689	5,000	345
PL(PTM2/)-18-2	18	2	13	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	10,000	689	4,000	276
PL(PTM2/)-18-3	18	3	13	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	10,000	689	4,000	276
PL(PTM2/)-18-4	18	4	13	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	10,000	689	4,000	276
PL(PTM2/)-16-2	16	2	17	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	10,000	689	3,000	207
PL(PTM2/)-16-3	16	3	17	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	10,000	689	3,000	207
PL(PTM2/)-16-4	16	4	17	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	10,000	689	3,000	207
PL(PTM2/)-14-2	14	2	24	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	10,000	689	1,500	103

Note: The pressure and torque ratings provided in this catalog apply only when bores are drilled by Conax Technologies. Custom bore sizes and/or a blank body, follower and/or sealant may be provided. Consult factory.

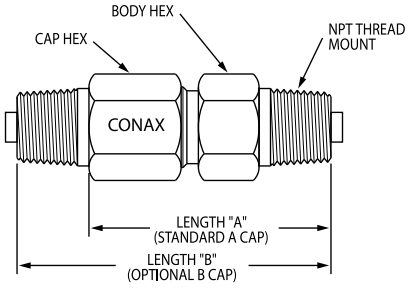
* Weld neck models require lubrication prior to use.

PL Series	Wire Gauge	Number of Wires	Amperage Rating per Wire	Length				Hex Size				Pressure Rating			
				Length A		Length B		Body	Cap	Body	Cap	GraFoil™		Teflon™	
Catalog Number				IN	MM	IN	MM	IN	IN	MM	MM	PSIG	BAR	PSIG	BAR
Weld Neck (Weld Neck Length 0.78", Diameter 0.840")*															
PL(SWM4/S316L)-20-2	20	2	9	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	10,000	689	5,000	345
PL(SWM4/S316L)-20-3	20	3	9	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	10,000	689	5,000	345
PL(SWM4/S316L)-20-4	20	4	9	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	10,000	689	5,000	345
PL(SWM4/S316L)-18-2	18	2	13	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	10,000	689	4,000	276
PL(SWM4/S316L)-18-3	18	3	13	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	10,000	689	4,000	276
PL(SWM4/S316L)-18-4	18	4	13	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	10,000	689	4,000	276
PL(SWM4/S316L)-16-2	16	2	17	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	10,000	689	3,000	207
PL(SWM4/S316L)-16-3	16	3	17	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	10,000	689	3,000	207
PL(SWM4/S316L)-16-4	16	4	17	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	10,000	689	3,000	207
PL(SWM4/S316L)-14-2	14	2	24	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	10,000	689	1,500	103
PL(SWM4/S316L)-14-3	14	3	24	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	10,000	689	2,000	138
PL(SWM4/S316L)-14-4	14	4	24	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	10,000	689	1,600	110
SAE 3/4-16 Thread Mount (formerly MS)															
PL(MSE8/)-20-2	20	2	9	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	9,138	630	5,000	345
PL(MSE8/)-20-3	20	3	9	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	9,138	630	5,000	345
PL(MSE8/)-20-4	20	4	9	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	9,138	630	5,000	345
PL(MSE8/)-18-2	18	2	13	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	9,138	630	4,000	276
PL(MSE8/)-18-3	18	3	13	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	9,138	630	4,000	276
PL(MSE8/)-18-4	18	4	13	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	9,138	630	4,000	276
PL(MSE8/)-16-2	16	2	17	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	9,138	630	3,000	207
PL(MSE8/)-16-3	16	3	17	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	9,138	630	3,000	207
PL(MSE8/)-16-4	16	4	17	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	9,138	630	3,000	207
PL(MSE8/)-14-2	14	2	24	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	9,138	630	1,500	103
SAE 7/8-14 Thread Mount (formerly MS)															
PL(MSE10/)-14-3	14	3	24	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	7,600	524	2,000	138
PL(MSE10/)-14-4	14	4	24	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	7,600	524	1,600	110
Standard 3/4" NPT															
PL-20-6	20	6	9	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	10,000	689	3,200	220
PL-20-8	20	8	9	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	10,000	689	3,200	220
PL-20-18	20	18	9	2.88	73.0	3.63	92.1	1.250	1.500	31.8	38.1	10,000	689	2,400	165
PL-18-6	18	6	13	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	10,000	689	2,700	186
PL-18-8	18	8	13	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	10,000	689	2,700	186
PL-18-10	18	10	13	2.88	73.0	3.63	92.1	1.250	1.500	31.8	38.1	10,000	689	2,100	145
PL-18-12	18	12	13	2.88	73.0	3.63	92.1	1.250	1.500	31.8	38.1	10,000	689	2,100	145
PL-16-6	16	6	17	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	10,000	689	2,700	186
PL-16-8	16	8	17	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	10,000	689	2,700	186
PL-16-10	16	10	17	2.88	73.0	3.63	92.1	1.250	1.500	31.8	38.1	10,000	689	1,700	117
PL-16-12	16	12	17	2.88	73.0	3.63	92.1	1.250	1.500	31.8	38.1	10,000	689	1,700	117
PL-14-6	14	6	24	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	10,000	689	1,600	110
PL-14-8	14	8	24	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	10,000	689	1,600	110
PL-14-10	14	10	24	2.88	73.0	3.63	92.1	1.250	1.500	31.8	38.1	10,000	689	1,400	96
PL-14-12	14	12	24	2.88	73.0	3.63	92.1	1.250	1.500	31.8	38.1	10,000	689	1,400	96
PL-12-2	12	2	30	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	8,800	606	1,200	83
PL-12-3	12	3	30	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	8,800	606	1,200	83
PL-12-4	12	4	30	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	8,800	606	1,200	83
PL-12-6	12	6	30	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	8,800	606	1,200	83
PL-10-2	10	2	40	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	8,000	551	1,200	83
PL-10-3	10	3	40	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	8,000	551	1,200	83
PL-10-4	10	4	40	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	8,000	551	1,200	83
PL-8-2	8	2	55	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	8,000	551	800	55
PL-8-3	8	3	55	2.88	73.0	3.63	92.1	1.250	1.500	31.8	38.1	8,000	551	800	55

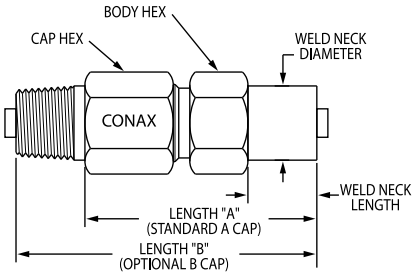
Note: The pressure and torque ratings provided in this catalog apply only when bores are drilled by Conax Technologies. Custom bore sizes and/or a blank body, follower and/or sealant may be provided. Consult factory.

* Weld neck models require lubrication prior to use.

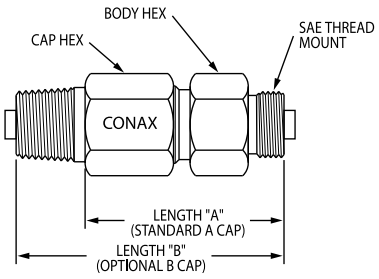
All pressure and torque ratings were determined at 68 °F (20 °C) using solid Kapton™-insulated copper conductors as the element. Pressure ratings may degrade at higher temperatures. Pressure rating guide values are provided for feedthroughs with elements restrained by the compressed sealant. Higher pressure may be attained with additional element restraints. Tolerance of tube or probe diameter is ±0.005. Deviation from the nominal may affect pressure ratings.



Standard NPT



Weld Neck Mount



SAE Thread Mount

PL Series	Wire Gauge	Number of Wires	Amperage Rating per Wire	Length				Hex Size				Pressure Rating			
				Length A		Length B		Body	Cap	Body	Cap	GraFoil™		Teflon™	
Catalog Number				IN	MM	IN	MM	IN	IN	MM	MM	PSIG	BAR	PSIG	BAR
Optional 1/2" NPT															
PL(PTM4/)-20-6	20	6	9	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	10,000	689	3,200	220
PL(PTM4/)-20-8	20	8	9	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	10,000	689	3,200	220
PL(PTM4/)-18-6	18	6	13	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	10,000	689	2,700	186
PL(PTM4/)-18-8	18	8	13	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	10,000	689	2,700	186
PL(PTM4/)-16-6	16	6	17	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	10,000	689	2,700	186
PL(PTM4/)-16-8	16	8	17	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	10,000	689	2,700	186
PL(PTM4/)-14-6	14	6	24	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	10,000	689	1,600	110
PL(PTM4/)-14-8	14	8	24	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	10,000	689	1,600	110
PL(PTM4/)-12-2	12	2	30	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	8,800	606	1,200	83
PL(PTM4/)-12-3	12	3	30	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	8,800	606	1,200	83
PL(PTM4/)-12-4	12	4	30	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	8,800	606	1,200	83
PL(PTM4/)-12-6	12	6	30	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	8,800	606	1,200	83
PL(PTM4/)-10-2	10	2	40	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	8,000	551	1,200	83
PL(PTM4/)-10-3	10	3	40	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	8,000	551	1,200	83
PL(PTM4/)-10-4	10	4	40	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	8,000	551	1,200	83
PL(PTM4/)-8-2	8	2	55	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	8,000	551	800	55
Weld Neck (Weld Neck Length 0.79", Diameter 1.050")*															
PL(SWM5/S316L)-20-6	20	6	9	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	10,000	689	3,200	220
PL(SWM5/S316L)-20-8	20	8	9	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	10,000	689	3,200	220
PL(SWM5/S316L)-20-18	20	18	9	2.88	73.0	3.63	92.1	1.250	1.500	31.8	38.1	10,000	689	2,400	165
PL(SWM5/S316L)-18-6	18	6	13	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	10,000	689	2,700	186
PL(SWM5/S316L)-18-8	18	8	13	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	10,000	689	2,700	186
PL(SWM5/S316L)-18-10	18	10	13	2.88	73.0	3.63	92.1	1.250	1.500	31.8	38.1	10,000	689	2,100	145
PL(SWM5/S316L)-18-12	18	12	13	2.88	73.0	3.63	92.1	1.250	1.500	31.8	38.1	10,000	689	2,100	145
PL(SWM5/S316L)-16-6	16	6	17	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	10,000	689	2,700	186
PL(SWM5/S316L)-16-8	16	8	17	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	10,000	689	2,700	186
PL(SWM5/S316L)-16-10	16	10	17	2.88	73.0	3.63	92.1	1.250	1.500	31.8	38.1	10,000	689	1,700	117
PL(SWM5/S316L)-16-12	16	12	17	2.88	73.0	3.63	92.1	1.250	1.500	31.8	38.1	10,000	689	1,700	117
PL(SWM5/S316L)-14-6	14	6	24	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	10,000	689	1,600	110
PL(SWM5/S316L)-14-8	14	8	24	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	10,000	689	1,600	110
PL(SWM5/S316L)-14-10	14	10	24	2.88	73.0	3.63	92.1	1.250	1.500	31.8	38.1	10,000	689	1,400	96
PL(SWM5/S316L)-14-12	14	12	24	2.88	73.0	3.63	92.1	1.250	1.500	31.8	38.1	10,000	689	1,400	96
PL(SWM5/S316L)-12-2	12	2	30	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	8,800	606	1,200	83
PL(SWM5/S316L)-12-3	12	3	30	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	8,800	606	1,200	83
PL(SWM5/S316L)-12-4	12	4	30	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	8,800	606	1,200	83
PL(SWM5/S316L)-12-6	12	6	30	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	8,800	606	1,200	83
PL(SWM5/S316L)-10-2	10	2	40	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	8,000	551	1,200	83
PL(SWM5/S316L)-10-3	10	3	40	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	8,000	551	1,200	83
PL(SWM5/S316L)-10-4	10	4	40	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	8,000	551	1,200	83
PL(SWM5/S316L)-8-2	8	2	55	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	8,000	551	800	55
PL(SWM5/S316L)-8-3	8	3	55	2.88	73.0	3.63	92.1	1.250	1.500	31.8	38.1	8,000	551	800	55

Note: The pressure and torque ratings provided in this catalog apply only when bores are drilled by Conax Technologies. Custom bore sizes and/or a blank body, follower and/or sealant may be provided. Consult factory.

* Weld neck models require lubrication prior to use.

All pressure and torque ratings were determined at 68 °F (20 °C) using solid Kapton™-insulated copper conductors as the element. Pressure ratings may degrade at higher temperatures. Pressure rating guide values are provided for feedthroughs with elements restrained by the compressed sealant. Higher pressure may be attained with additional element restraints. Tolerance of tube or probe diameter is ±0.005. Deviation from the nominal may affect pressure ratings.

PL Series	Wire Gauge	Number of Wires	Amperage Rating per Wire	Length				Hex Size				Pressure Rating			
				Length A		Length B		Body	Cap	Body	Cap	GraFoil™		Teflon™	
Catalog Number				IN	MM	IN	MM	IN	IN	MM	MM	PSIG	BAR	PSIG	BAR
SAE 7/8-14 Thread Mount (formerly MS)															
PL(MSE10/)-20-6	20	6	9	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	7,600	524	3,200	220
PL(MSE10/)-20-8	20	8	9	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	7,600	524	3,200	220
PL(MSE10/)-18-6	18	6	13	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	7,600	524	2,700	186
PL(MSE10/)-18-8	18	8	13	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	7,600	524	2,700	186
PL(MSE10/)-16-6	16	6	17	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	7,600	524	2,700	186
PL(MSE10/)-16-8	16	8	17	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	7,600	524	2,700	186
PL(MSE10/)-14-6	14	6	24	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	7,600	524	1,600	110
PL(MSE10/)-14-8	14	8	24	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	7,600	524	1,600	110
PL(MSE10/)-12-2	12	2	30	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	7,600	524	1,200	83
PL(MSE10/)-12-3	12	3	30	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	7,600	524	1,200	83
PL(MSE10/)-12-4	12	4	30	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	7,600	524	1,200	83
PL(MSE10/)-12-6	12	6	30	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	7,600	524	1,200	83
PL(MSE10/)-10-2	10	2	40	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	7,600	524	1,200	83
PL(MSE10/)-10-3	10	3	40	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	7,600	524	1,200	83
PL(MSE10/)-10-4	10	4	40	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	7,600	524	1,200	83
PL(MSE10/)-8-2	8	2	55	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	7,600	524	800	55

PL Series	Wire Gauge	Number of Wires	Amperage Rating per Wire	Length				Hex Size				Pressure Rating			
				Length A		Length B		Body	Cap	Body	Cap	GraFoil™		Teflon™	
Catalog Number				IN	MM	IN	MM	IN	IN	MM	MM	PSIG	BAR	PSIG	BAR
SAE 1-5/16-12 Thread Mount (formerly MS)															
PL(MSE16/)-20-18	20	18	9	2.88	73.0	3.63	92.1	1.625	1.500	41.3	38.1	5,802	400	2,400	165
PL(MSE16/)-18-10	18	10	13	2.88	73.0	3.63	92.1	1.625	1.500	41.3	38.1	5,802	400	2,100	145
PL(MSE16/)-18-12	18	12	13	2.88	73.0	3.63	92.1	1.625	1.500	41.3	38.1	5,802	400	2,100	145
PL(MSE16/)-16-10	16	10	17	2.88	73.0	3.63	92.1	1.625	1.500	41.3	38.1	5,802	400	1,700	117
PL(MSE16/)-16-12	16	12	17	2.88	73.0	3.63	92.1	1.625	1.500	41.3	38.1	5,802	400	1,700	117
PL(MSE16/)-14-10	14	10	24	2.88	73.0	3.63	92.1	1.625	1.500	41.3	38.1	5,802	400	1,400	96
PL(MSE16/)-14-12	14	12	24	2.88	73.0	3.63	92.1	1.625	1.500	41.3	38.1	5,802	400	1,400	96
PL(MSE16/)-8-3	8	3	55	2.88	73.0	3.63	92.1	1.625	1.500	41.3	38.1	5,802	400	800	55

Note: The pressure and torque ratings provided in this catalog apply only when bores are drilled by Conax Technologies. Custom bore sizes and/or a blank body, follower and/or sealant may be provided. Consult factory.

* Weld neck models require lubrication prior to use.

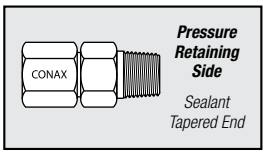
All pressure and torque ratings were determined at 68 °F (20 °C) using solid Kapton™-insulated copper conductors as the element. Pressure ratings may degrade at higher temperatures. Pressure rating guide values are provided for feedthroughs with elements restrained by the compressed sealant. Higher pressure may be attained with additional element restraints. Tolerance of tube or probe diameter is ±0.005. Deviation from the nominal may affect pressure ratings.

TG-24T Sealing for Insulated Lead Wire

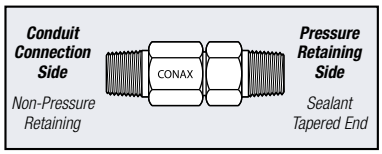
Conax Technologies' TG-24T Feedthrough assemblies are provided with a Teflon™ or GraFoil™ sealant and 24 AWG solid Teflon™ insulated thermocouple grade wires or copper wires. These assemblies are ideal for sealing wires exiting compressor bearing housings, pressure vessels, instruments, furnaces and reactors.

- Pressure Rating: from vacuum to 8000 PSIG (551 bar), depending on the feedthrough size
- Wire Rating: 100VDC, 500 °F (260 °C)

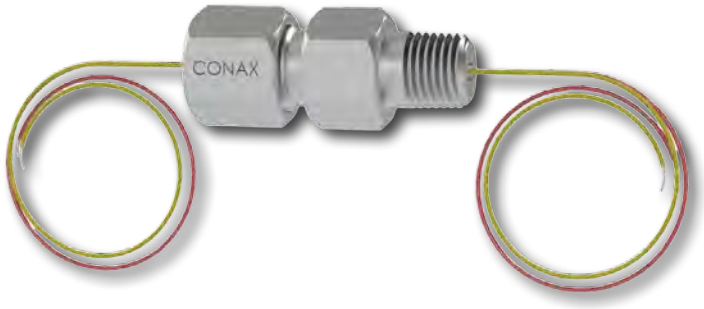
Feedthrough bodies and followers are constructed from 303 SST standard. (For information on alternative body materials, see page 9.) Cap Style A offers a mounting thread only. Cap Style B provides threading on both ends for attachment to conduit or terminal heads. The feedthrough is furnished with 24 inches of wire on each side. Longer wire lengths can be furnished as needed.



Type A has mounting thread only.



Type B has cap end threaded. B Cap NPT matches the standard mounting NPT.



Conax Technologies can provide numerous options for the management of wires in our sealing assemblies:

- Wire Markers with customer nomenclature for easy wire identification of multiple wires
- Twisting of wires in pairs or other groupings for easier identification and management
- Wire Jackets/Sleeving
- Hot Junctions—exposed or encapsulated

Please consult a Conax Technologies sales engineer for details.

Catalog Numbering System

Cap Style
Wire Type
Wire Gauge & Insulation
TG Style Feedthrough
Number of Elements Sealed
Sealant
Wire Length, Cap Side
Wire Length, Body Side

Example: *TG-24T (J) -A2-T, 24/36*

TG Style Feedthrough
- **MTG**
- **TG**

Wire Gauge & Insulation
- **24T** 24 AWG solid, Teflon™ coated

Wire Type
- **J** Iron/ Constantan
- **K** Chromel/ Alumel
- **T** Copper/ Constantan
- **E** Chromel/Constantan
- **CU** Copper
- **CU (NI)** Nickel-plated Copper
- **CX** Alloy for Tungsten 5% Rhenium/ Tungsten 26% Rhenium, 24 AWG only
- **RX/SX** Copper/Copper Nickel alloy
- **N** Nicrosil/Nisil

Cap Style
- **A** Has mounting thread only
- **B** Has cap end threaded

Number of Elements Sealed
- **2**
- **4**
- **6**
- **8**
- **12**
- **16**
- **24**

Sealant
- **T** Teflon™
- **G** GraFoil™

Wire Length Cap Side
- (in inches)

Wire Length Body Side
- (in inches)

Modifiers are added in parentheses to indicate optional mounting methods. See pages 9-11. See Specification Charts for the proper modifiers.

Accessories

The replaceable sealant permits repeated use of the same fitting. Elements can be easily assembled or replaced in the field. To replace the sealant or elements, simply loosen the cap, replace the necessary items, relubricate and retorque the cap.

Feedthroughs are supplied factory lubricated. If feedthroughs are cleaned prior to assembly or when reused, the feedthroughs should be relubricated to maintain the published torque and pressure ratings. On weld neck models, the heat from the welding process will destroy the lubricant. These models must also be relubricated prior to use. See page 109 for information on our lubrication kit.

To order a Replacement Packing Set, order RPS – TG-24T – (Number of Holes) – (Sealant).

Example: RPS-TG-24T-2-T

To order a Replacement Sealant, order RS – TG-24T – (Number of Holes) – (Sealant)

Example: RS-TG-24T-2-T

Specifications

TG-24T Series	Number of Wires	Length				Hex Size				Pressure Rating			
		Length A		Length B		Body	Cap	Body	Cap	Teflon™		GraFoil™	
Catalog Number		IN	MM	IN	MM	IN	IN	MM	MM	PSIG	BAR	PSIG	BAR
Model MTG-24T													
Standard 1/8" NPT													
MTG-24T(X)-2	2	1.38	34.9	1.75	44.5	0.500	0.563	12.70	14.29	3,200	220	4,800	331
MTG-24T(X)-4	4	1.38	34.9	1.75	44.5	0.500	0.563	12.70	14.29	3,200	220	4,800	331
Weld Neck Mount (Weld Neck Mount Length 0.39", Diameter 0.405")*													
MTG(SWM1/S316L)-24T(X)-2	2	1.38	34.9	1.75	44.5	0.500	0.563	12.70	14.29	3,200	220	4,800	331
MTG(SWM1/S316L)-24T(X)-4	4	1.38	34.9	1.75	44.5	0.500	0.563	12.70	14.29	3,200	220	4,800	331
Model TG-24T													
Standard 1/4" NPT													
TG-24T(X)-2	2	2.00	50.8	2.63	66.7	0.750	0.750	19.05	19.05	4,400	303	7,600	524
TG-24T(X)-4	4	2.00	50.8	2.63	66.7	0.750	0.750	19.05	19.05	4,400	303	7,600	524
TG-24T (2 & 4 hole) with Optional 1/8" NPT													
TG(PTM1)-24T(X)-2	2	2.00	50.8	2.63	66.7	0.750	0.750	19.05	19.05	4,400	303	7,600	524
TG(PTM1)-24T(X)-4	4	2.00	50.8	2.63	66.7	0.750	0.750	19.05	19.05	4,400	303	7,600	524
Weld Neck Mount (Weld Neck Mount Length 0.59", Diameter 0.540")*													
TG(SWM2/S316L)-24T(X)-2	2	2.00	50.8	2.63	66.7	0.750	0.750	19.05	19.05	4,400	303	7,600	524
TG(SWM2/S316L)-24T(X)-4	4	2.00	50.8	2.63	66.7	0.750	0.750	19.05	19.05	4,400	303	7,600	524
Standard 1/2" NPT													
TG-24T(X)-6	6	2.63	66.7	3.38	85.7	1.000	1.000	25.40	25.40	3,200	220	8,000	551
TG-24T(X)-8	8	2.63	66.7	3.38	85.7	1.000	1.000	25.40	25.40	3,200	220	8,000	551
TG-24T (6 & 8 hole) with Optional 1/4" NPT													
TG(PTM2/)-24T(X)-6	6	2.63	66.7	3.38	85.7	1.000	1.000	25.40	25.40	3,200	220	8,000	551
TG(PTM2/)-24T(X)-8	8	2.63	66.7	3.38	85.7	1.000	1.000	25.40	25.40	3,200	220	8,000	551
Weld Neck Mount (Weld Neck Mount Length 0.78", Diameter 0.840")*													
TG(SWM4/S316L)-24T(X)-6	6	2.63	66.7	3.38	85.7	1.000	1.000	25.40	25.40	3,200	220	8,000	551
TG(SWM4/S316L)-24T(X)-8	8	2.63	66.7	3.38	85.7	1.000	1.000	25.40	25.40	3,200	220	8,000	551
Standard 3/4" NPT													
TG-24T(X)-12	12	2.88	73.0	3.63	92.1	1.125	1.250	28.58	31.75	3,200	220	6,000	413
TG-24T(X)-16	16	2.88	73.0	3.63	92.1	1.125	1.250	28.58	31.75	3,200	220	6,000	413
TG-24T(X)-24	24	2.88	73.0	3.63	92.1	1.250	1.500	31.75	38.10	1,200	83	2,800	193
TG-24T (12 & 16 hole) with Optional 1/2" NPT													
TG(PTM4/)-24T(X)-12	12	2.88	73.0	3.63	92.1	1.125	1.250	28.58	31.75	3,200	220	6,000	413
TG(PTM4/)-24T(X)-16	16	2.88	73.0	3.63	92.1	1.125	1.250	28.58	31.75	3,200	220	6,000	413
Weld Neck Mount (Weld Neck Mount Length 0.79", Diameter 1.050")*													
TG(SWM5/S316L)-24T(X)-12	12	2.88	73.0	3.63	92.1	1.125	1.250	28.58	31.75	3,200	220	6,000	413
TG(SWM5/S316L)-24T(X)-16	16	2.88	73.0	3.63	92.1	1.125	1.250	28.58	31.75	3,200	220	6,000	413

Note: (X) refers to the wire calibration/type.
Note: The pressure and torque ratings provided in this catalog apply only when bores are drilled by Conax Technologies. Custom bore sizes and/or a blank body, follower and/or sealant may be provided. Consult factory.
* Weld neck models require lubrication prior to use.
All pressure and torque ratings were determined at 68 °F (20 °C) using stainless steel rod as the element. Pressure ratings may degrade at higher temperatures. Pressure rating guide values are provided for feedthroughs with elements restrained by the compressed sealant. Higher pressure may be attained with additional element restraints.

TGF/TGM Sealing for Process Temperatures up to 1400 °F (760 °C)

Conax Technologies TGF/TGM assemblies with fiberglass-insulated thermocouple wire are specially designed for applications where the sensor wire is exposed to process temperatures reaching up to 900 °F (482 °C).

This assembly is particularly targeted for use with pressure vessels, autoclaves, vacuum and/or inert gas back-filled furnaces with **vessel wall temperatures up to 200 °F (93.3 °C) and pressures not exceeding 300 PSIG**.

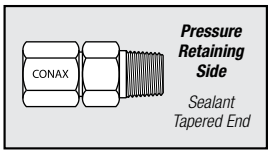
The assembly consists of bonded fiberglass-insulated/ silicone impregnated thermocouple grade wires on the body side, with stripped bare wires passing through the Conax-manufactured feedthrough.

An alternative high-temperature fiberglass for Type K wire is also available with temperature capabilities up to 1400 °F (760 °C).

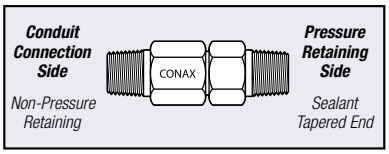
Sleeved insulation material on the wires exiting the cap side may be fiberglass/silicone impregnated, Teflon™ or polyolefin.

Feedthrough bodies, caps and followers are constructed from 303 SST standard. (For information on body materials, see page 9.)

Cap Style A offers a mounting thread only. Cap Style B provides threading on both ends for attachment to conduit or terminal heads. These assemblies are offered with Viton™ or Teflon™ sealants. Alternative sealants are available. Please consult a Conax Technologies sales engineer for custom needs.



Type A has mounting thread only.



Type B has cap end threaded. B Cap NPT matches the standard mounting NPT.

Catalog Numbering System

Cap Style
Wire Type
Insulation, Body Side
Wire Gauge
TG Style Feedthrough
Number of Elements Sealed
Sealant
Wire Length, Cap Side
Exit Wire Insulation
Wire Length, Body Side

Example: ***TG-24F (J) -A2-T, 24P/36***

TG Style Feedthrough	Wire Gauge	Insulation, Body Side	Wire Type	Cap Style	Number of Elements Sealed	Sealant	Wire Length, Cap Side	Exit Wire Insulation	Wire Length, Body Side
MTG **TG**	**20** 20 AWG solid **24** 24 AWG solid	**F** Fiberglass/ Silicone Impregnated – Use up to 900 °F (480 °C) **M** High Temperature Fiberglass – Magnesia alumina silicate vitreous fiber braid for Type K, 24 and 20 AWG, and Type J 20 AWG. Standard use up to 1400 °F (760 °C)	**J** Iron/ Constantan **K** Chromel/ Alumel **T** Copper/ Constantan **E** Chromel/ Constantan **BX** Copper **CX** Alloy for Tungsten 5% Rhenium/Tungsten 26% Rhenium, 24 AWG only **RX/SX** Copper/Copper Nickel alloy	**A** Has mounting thread only **B** Has cap end threaded	**2** **4** **6** **8** **16** **24**	**V** Viton™ **T** Teflon™ **L** Lava Consult factory for details.	(in inches)	**P** Polyolefin **F** Fiberglass **T** Teflon™	(in inches)

TGM Example:
TG-24M (K) -A2-T, 24P/36

Specifications (TGM available in Type K wire only for applicable models below.)

TGF/TGM Series	Wire Gauge	Number of Wires	Length				Hex Size				Pressure Rating	
			Length A		Length B		Body	Cap	Body	Cap	Viton™/Teflon™	
Catalog Number			IN	MM	IN	MM	IN	IN	MM	MM	PSIG	BAR
Model MTG-F												
Standard 1/8" NPT												
MTG-24F(X)-2	24	2	1.38	34.9	1.75	44.5	0.500	0.563	12.7	14.3	300	21
MTG-24F(X)-4	24	4	1.38	34.9	1.75	44.5	0.500	0.563	12.7	14.3	300	21
MTG-20F(X)-2	20	2	1.38	34.9	1.75	44.5	0.500	0.563	12.7	14.3	300	21
Model TG-F												
Standard 1/4" NPT												
TG-24F(X)-2	24	2	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	300	21
TG-24F(X)-4	24	4	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	300	21
TG-20F(X)-2	20	2	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	300	21
Standard 1/2" NPT												
TG-20F(X)-14-2	20	2	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	300	21
TG-20F(X)-14-4	20	4	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	300	21
TG-20F(X)-6	20	6	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	300	21
TG-20F(X)-8	20	8	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	300	21
Standard 3/4" NPT												
TG-24F(X)-16	24	16	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	300	21
TG-24F(X)-24	24	24	2.88	73.0	3.63	92.1	1.250	1.500	31.8	38.1	300	21

Note: (X) refers to the wire calibration/type.
Note: The pressure and torque ratings provided in this catalog apply only when bores are drilled by Conax Technologies. Custom bore sizes and/or a blank body, follower and/or sealant may be provided. Consult factory.
All pressure and torque ratings were determined at 68 °F (20 °C) using stainless steel rod as the element. Pressure ratings may degrade at higher temperatures. Pressure rating guide values are provided for feedthroughs with elements restrained by the compressed sealant. Higher pressure may be attained with additional element restraints. For proper assembly of these sealing feedthroughs, see the Assembly Instructions provided on pages 110-124.
Per ASTM E230-03, the suggested temperature range for BX, CX, and RX/SX extension grade wire is 32 °F to 400 °F (0 °C to 204 °C).

High Temperature Jack Panel Assembly (JP) 1200 °F (649 °C) Maximum Rating

Conax Technologies' High Temperature Jack Panel Assembly (JP) is designed for mounting directly inside virtually any industrial furnace or autoclave. It provides the ideal complement to our TGF high-temperature feedthrough assemblies in that it provides a rugged platform to securely and efficiently connect internally mounted thermocouple plugs when changing out production loads. The Jack Panel Assembly comes with 2-12 openings.

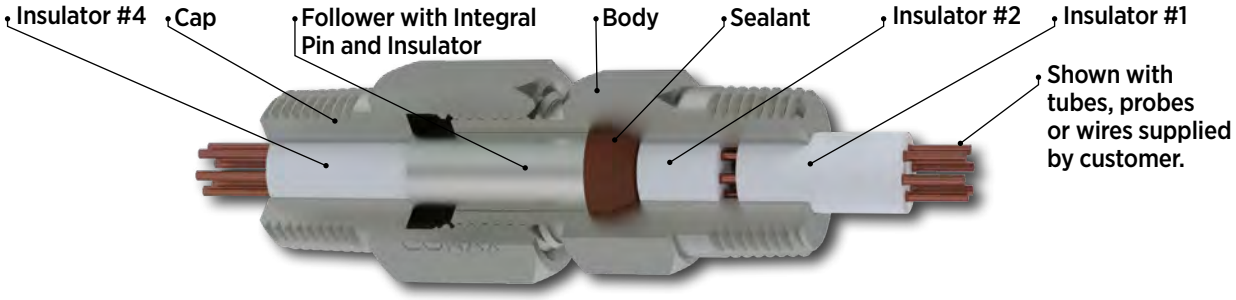
Features

- Non out-gassing stainless steel and ceramic components
- Vertical or horizontal mounting options
- Laser marked plug locations with your logo
- Supplied unassembled for field assembly of TC wires
- Supplied with brackets and bracket hardware

Application Ideas

- Composite curing autoclaves
- Heat treating furnaces
- Vacuum furnaces

TG Bare Wire Sealing



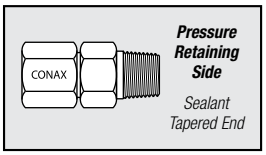
Conax Technologies Model TG (Transducer-Gland) Fittings provide pressure/vacuum sealing of solid bare wire transducers, including thermocouples, strain gauges, thermistors and RTD leads; or bare solid conductors supplying current **at low voltage (millivolts)** through a pressure vessel to instrumentation within the vessel. Bare wire may be replaced with insulated solid wire with an equivalent outer diameter to provide a higher voltage capability (see TG-24T on page 46).

In addition to electrical isolation, the TG Fittings seal against gases and liquids and resists element movements under pressure.

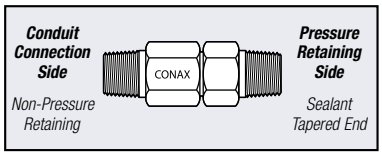
TG Fitting bodies with NPT threads or SAE threads are constructed from 303 SST standard. Weld neck style fittings are constructed from 316L SST standard. Followers on all styles are constructed from 303 SST standard. Many optional materials are also available, including 316L SST, INCONEL™ and more. For information on alternative materials, see page 9.

Cap Style A offers a mounting thread only. Cap Style B provides threading on both ends for attachment to conduit or terminal heads. Alternative sealant materials are available. Please consult a Conax Technologies sales engineer for custom needs.

- Temperature Range: -300 °F to +1600 °F (-185 °C to +870 °C)
- Pressure Range: Vacuum to 10,000 PSIG (690 bar)—see Pressure Ratings in Specification Charts
- Seals 1–24 Elements



Type A has mounting thread only.



Type B has cap end threaded. B Cap NPT matches the standard mounting NPT.

Accessories

The replaceable sealant permits repeated use of the same fitting. Wires can be easily assembled or replaced in the field. Simply insert the element and torque the cap. To replace the sealant or wires, simply loosen the cap, replace the necessary items, relubricate and retorque the cap.

Fittings are supplied factory lubricated. When reused, the fittings should be relubricated to maintain published torque and pressure ratings. If fittings are cleaned prior to assembly, they should be relubricated. On weld mount models, the heat from the welding process will destroy the lubricant. These models must also be relubricated prior to use. See page 109 for information on our lubrication kit.

Replacement Packing Sets are available. These consist of a sealant and four ceramic insulators. Replacement sealants may also be ordered separately (without insulators).

To order a Replacement Packing Set, order
RPS – (TG) – (Wire Gauge) – (Number of Holes) – (Sealant).

Example: RPS-TG-20-2-V

To order a Replacement Sealant only, order
RS – (TG) – (Wire Gauge) – (Number of Holes) – (Sealant).

Example: RS-TG-20-2-V

Catalog Numbering System

Wire Gauge
TG Style Seal Fitting
Cap Style
Number of Wires Sealed
Sealant

Example: *TG-20-B2-N*

TG Style Seal Fitting
- **MTG**
- **TG**

Wire Gauge
- **24**
- **20**
- **18**
- **14**
- **8**

Cap Style
- **A** Has mounting thread only
- **B** Has cap end threaded

Modifiers are added in parentheses to indicate optional mounting methods. See pages 9-11. See Specification Charts for the proper modifiers.

Number of Wires Sealed
- **1**
- **2**
- **3**
- **4**
- **6**
- **8**
- **16**
- **24**

See the TG Selection Guide to determine the number of elements offered with each model.

Sealant
- **V** Viton™
- **N** Neoprene
- **T** Teflon™
- **L** Lava

Other sealant materials also available.

TG Selection Guide

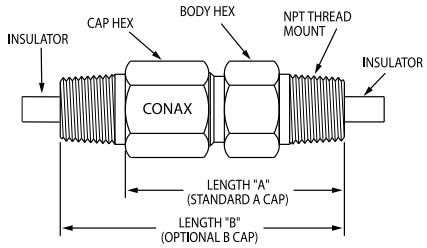
Model	Wire Gauge	Number of Elements Offered							
		1	2	3	4	6	8	16	24
MTG	24		X		X				
	20		X		X				
	14	X							
TG	24		X		X				
	20		X		X	X	X	X	X
	18					X	X		
	14	X	X	X	X	X	X		
	8		X						

Note: The number of elements offered depends on the mounting port size. See the Specification Charts on the subsequent pages for details.

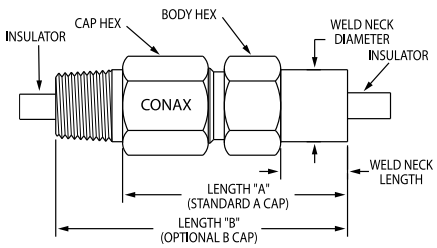
TG Series Sealant Selection Guide

Material	Temperature Range
Lava (L)	-300 °F to +1600 °F (-185 °C to +870 °C)
Teflon™ (T)	-300 °F to +450 °F (-185 °C to +232 °C)
Neoprene (N)	-40 °F to +200 °F (-40 °C to +93 °C)
Viton™ (V)	-10 °F to +450 °F (-23 °C to +232 °C)

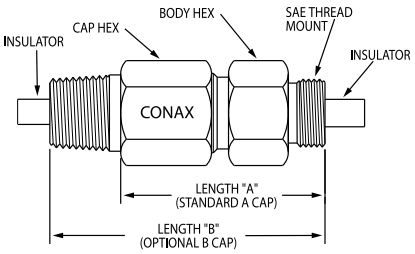
Specifications



Standard NPT



Weld Neck Mount



SAE Thread Mount

TG Series	Wire Gauge	Number of Wires	Length				Hex Size				Pressure Rating							
			Length A		Length B		Body	Cap	Body	Cap	Neoprene		Viton™		Teflon™		Lava	
Catalog Number			IN	MM	IN	MM	IN	IN	MM	MM	PSIG	BAR	PSIG	BAR	PSIG	BAR	PSIG	BAR
Model MTG																		
Standard 1/8" NPT																		
MTG-24-2	24	2	1.38	34.9	1.75	44.5	0.500	0.563	12.7	14.3	10,000	689	10,000	689	10,000	689	10,000	689
MTG-24-4	24	4	1.38	34.9	1.75	44.5	0.500	0.563	12.7	14.3	10,000	689	10,000	689	10,000	689	10,000	689
MTG-20-2	20	2	1.38	34.9	1.75	44.5	0.500	0.563	12.7	14.3	10,000	689	10,000	689	10,000	689	10,000	689
MTG-20-4	20	4	1.38	34.9	1.75	44.5	0.500	0.563	12.7	14.3	10,000	689	10,000	689	10,000	689	10,000	689
MTG-14-1	14	1	1.38	34.9	1.75	44.5	0.500	0.563	12.7	14.3	8,000	551	8,000	551	8,000	551	8,000	551
Weld Neck Mount (Weld Mount Length 0.39", Diameter 0.405")*																		
MTG(SWM1/S316L)-24-2	24	2	1.38	34.9	1.75	44.5	0.500	0.563	12.7	14.3	10,000	689	10,000	689	10,000	689	10,000	689
MTG(SWM1/S316L)-24-4	24	4	1.38	34.9	1.75	44.5	0.500	0.563	12.7	14.3	10,000	689	10,000	689	10,000	689	10,000	689
MTG(SWM1/S316L)-20-2	20	2	1.38	34.9	1.75	44.5	0.500	0.563	12.7	14.3	10,000	689	10,000	689	10,000	689	10,000	689
MTG(SWM1/S316L)-20-4	20	4	1.38	34.9	1.75	44.5	0.500	0.563	12.7	14.3	10,000	689	10,000	689	10,000	689	10,000	689
MTG(SWM1/S316L)-14-1	14	1	1.38	34.9	1.75	44.5	0.500	0.563	12.7	14.3	8,000	551	8,000	551	8,000	551	8,000	551
SAE 7/16-20 Thread Mount (formerly MS)																		
MTG(MSE4/)-24-2	24	2	1.70	43.2	2.06	52.3	0.688	0.563	17.5	14.3	9,138	630	9,138	630	9,138	630	9,138	630
MTG(MSE4/)-24-4	24	4	1.70	43.2	2.06	52.3	0.688	0.563	17.5	14.3	9,138	630	9,138	630	9,138	630	9,138	630
MTG(MSE4/)-20-2	20	2	1.70	43.2	2.06	52.3	0.688	0.563	17.5	14.3	9,138	630	9,138	630	9,138	630	9,138	630
MTG(MSE4/)-20-4	20	4	1.70	43.2	2.06	52.3	0.688	0.563	17.5	14.3	9,138	630	9,138	630	9,138	630	9,138	630
MTG(MSE4/)-14-1	14	1	1.70	43.2	2.06	52.3	0.688	0.563	17.5	14.3	8,000	551	8,000	551	8,000	551	8,000	551
Model TG																		
Standard 1/4" NPT																		
TG-24-2	24	2	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	10,000	689	10,000	689	10,000	689	10,000	689
TG-24-4	24	4	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	10,000	689	10,000	689	10,000	689	10,000	689
TG-20-2	20	2	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	10,000	689	10,000	689	10,000	689	10,000	689
TG-20-4	20	4	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	10,000	689	10,000	689	10,000	689	10,000	689
TG-14-1	14	1	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	10,000	689	10,000	689	10,000	689	10,000	689
TG with Optional 1/8" NPT																		
TG(PTM1/)-24-2	24	2	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	10,000	689	10,000	689	10,000	689	10,000	689
TG(PTM1/)-24-4	24	4	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	10,000	689	10,000	689	10,000	689	10,000	689
TG(PTM1/)-20-2	20	2	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	10,000	689	10,000	689	10,000	689	10,000	689
TG(PTM1/)-20-4	20	4	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	10,000	689	10,000	689	10,000	689	10,000	689
TG(PTM1/)-14-1	14	1	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	10,000	689	10,000	689	10,000	689	10,000	689
Weld Neck Mount (Weld Mount Length 0.59", Diameter 0.540")*																		
TG(SWM2/S316L)-24-2	24	2	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	10,000	689	10,000	689	10,000	689	10,000	689
TG(SWM2/S316L)-24-4	24	4	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	10,000	689	10,000	689	10,000	689	10,000	689
TG(SWM2/S316L)-20-2	20	2	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	10,000	689	10,000	689	10,000	689	10,000	689
TG(SWM2/S316L)-20-4	20	4	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	10,000	689	10,000	689	10,000	689	10,000	689
TG(SWM2/S316L)-14-1	14	1	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	10,000	689	10,000	689	10,000	689	10,000	689
SAE 7/16-20 Thread Mount (formerly MS)																		
TG(MSE4/)-24-2	24	2	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	9,138	630	9,138	630	9,138	630	9,138	630
TG(MSE4/)-24-4	24	4	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	9,138	630	9,138	630	9,138	630	9,138	630
TG(MSE4/)-20-2	20	2	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	9,138	630	9,138	630	9,138	630	9,138	630
TG(MSE4/)-20-4	20	4	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	9,138	630	9,138	630	9,138	630	9,138	630
TG(MSE4/)-14-1	14	1	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	9,138	630	9,138	630	9,138	630	9,138	630

Note: The pressure and torque ratings provided in this catalog apply only when bores are drilled by Conax Technologies. Custom bore sizes and/or a blank body, follower and/or sealant may be provided. Consult factory.

* Weld neck models require lubrication prior to use.

TG Series	Wire Gauge	Number of Wires	Length				Hex Size				Pressure Rating							
			Length A		Length B		Body	Cap	Body	Cap	Neoprene		Viton™		Teflon™		Lava	
Catalog Number			IN	MM	IN	MM	IN	IN	MM	MM	PSIG	BAR	PSIG	BAR	PSIG	BAR	PSIG	BAR
Standard 1/2" NPT																		
TG-20-6	20	6	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	10,000	689	10,000	689	10,000	689	10,000	689
TG-20-8	20	8	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	10,000	689	10,000	689	10,000	689	10,000	689
TG-18-6	18	6	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	10,000	689	10,000	689	10,000	689	10,000	689
TG-18-8	18	8	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	10,000	689	10,000	689	10,000	689	10,000	689
TG-14-2	14	2	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	8,000	551	10,000	689	8,000	551	10,000	689
TG-14-3	14	3	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	8,000	551	10,000	689	8,000	551	10,000	689
TG-14-4	14	4	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	8,000	551	10,000	689	8,000	551	10,000	689
TG with Optional 1/4" NPT																		
TG(PTM2/)-20-6	20	6	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	10,000	689	10,000	689	10,000	689	10,000	689
TG(PTM2/)-20-8	20	8	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	10,000	689	10,000	689	10,000	689	10,000	689
TG(PTM2/)-18-6	18	6	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	10,000	689	10,000	689	10,000	689	10,000	689
TG(PTM2/)-18-8	18	8	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	10,000	689	10,000	689	10,000	689	10,000	689
TG(PTM2/)-14-2	14	2	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	8,000	551	10,000	689	8,000	551	10,000	689
TG(PTM2/)-14-3	14	3	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	8,000	551	10,000	689	8,000	551	10,000	689
TG(PTM2/)-14-4	14	4	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	8,000	551	10,000	689	8,000	551	10,000	689
Weld Neck Mount (Weld Mount Length 0.78", Diameter 0.840")*																		
TG(SWM4/S316L)-20-6	20	6	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	10,000	689	10,000	689	10,000	689	10,000	689
TG(SWM4/S316L)-20-8	20	8	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	10,000	689	10,000	689	10,000	689	10,000	689
TG(SWM4/S316L)-18-6	18	6	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	10,000	689	10,000	689	10,000	689	10,000	689
TG(SWM4/S316L)-18-8	18	8	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	10,000	689	10,000	689	10,000	689	10,000	689
TG(SWM4/S316L)-14-2	14	2	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	8,000	551	10,000	689	8,000	551	10,000	689
TG(SWM4/S316L)-14-3	14	3	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	8,000	551	10,000	689	8,000	551	10,000	689
TG(SWM4/S316L)-14-4	14	4	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	8,000	551	10,000	689	8,000	551	10,000	689
SAE 3/4-16 Thread Mount (formerly MS)																		
TG(MSE8/)-20-6	20	6	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	9,138	630	9,138	630	9,138	630	9,138	630
TG(MSE8/)-20-8	20	8	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	9,138	630	9,138	630	9,138	630	9,138	630
TG(MSE8/)-18-6	18	6	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	9,138	630	9,138	630	9,138	630	9,138	630
TG(MSE8/)-18-8	18	8	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	9,138	630	9,138	630	9,138	630	9,138	630
TG(MSE8/)-14-2	14	2	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	8,000	551	9,138	630	8,000	551	9,138	630
TG(MSE8/)-14-3	14	3	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	8,000	551	9,138	630	8,000	551	9,138	630
TG(MSE8/)-14-4	14	4	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	8,000	551	9,138	630	8,000	551	9,138	630
Standard 3/4" NPT																		
TG-20-16	20	16	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	10,000	689	8,000	551	8,000	551	10,000	689
TG-20-24	20	24	2.88	73.0	3.63	92.1	1.250	1.500	31.8	38.1	N/A	N/A	7,200	496	2,800	193	10,000	689
TG-14-6	14	6	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	8,000	551	10,000	689	8,000	551	10,000	689
TG-14-8	14	8	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	8,000	551	10,000	689	10,000	689	10,000	689
TG-8-2	8	2	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	3,000	207	4,000	276	6,000	413	10,000	689
TG with Optional 1/2" NPT																		
TG(PTM4/)-20-16	20	16	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	10,000	689	8,000	551	8,000	551	10,000	689
TG(PTM4/)-14-6	14	6	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	8,000	551	10,000	689	8,000	551	10,000	689
TG(PTM4/)-14-8	14	8	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	8,000	551	10,000	689	10,000	689	10,000	689
TG(PTM4/)-8-2	8	2	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	3,000	207	4,000	276	6,000	413	10,000	689
Weld Neck Mount (Weld Mount Length 0.79", Diameter 1.050")*																		
TG(SWM5/S316L)-20-16	20	16	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	10,000	689	8,000	551	8,000	551	10,000	689
TG(SWM5/S316L)-14-6	14	6	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	8,000	551	10,000	689	8,000	551	10,000	689
TG(SWM5/S316L)-14-8	14	8	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	8,000	551	10,000	689	10,000	689	10,000	689
TG(SWM5/S316L)-8-2	8	2	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	3,000	207	4,000	276	6,000	413	10,000	689
SAE 7/8-14 Thread Mount (formerly MS)																		
TG(MSE10/)-20-16	20	16	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	7,600	524	7,600	524	7,600	524	7,600	524
TG(MSE10/)-14-6	14	6	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	7,600	524	7,600	524	7,600	524	7,600	524
TG(MSE10/)-14-8	14	8	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	7,600	524	7,600	524	7,600	524	7,600	524
TG(MSE10/)-8-2	8	2	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	3,000	207	4,000	276	6,000	413	7,600	524

Note: The pressure and torque ratings provided in this catalog apply only when bores are drilled by Conax Technologies. Custom bore sizes and/or a blank body, follower and/or sealant may be provided. Consult factory.

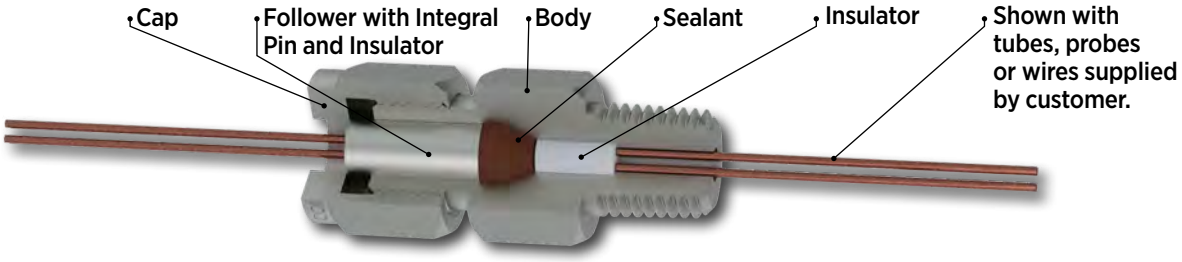
* Weld neck models require lubrication prior to use.

N/A = Not Applicable

All pressure and torque ratings were determined at 68 °F (20 °C) using stainless steel rod as the element. Pressure ratings may degrade at higher temperatures. Pressure rating guide values are provided for fittings with elements restrained by the compressed sealant. Higher pressure may be attained with additional element restraints.

CAUTION: When sealing on soft, fragile or crushable elements, catalog torques may not apply. When catalog torques are applied, compressed sealants generate considerable forces on the element to be sealed. These forces could result in damaging soft or fragile elements such as coax cables or thin-wall materials. Consult factory for these types of applications.

MHC Multiple Element Sealing (Multi-hole Ceramic Fittings)



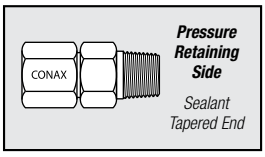
Conax Technologies Model MHC (Multi-hole Ceramic) Fittings seal multiple thermocouple, RTD or thermistor probes, tube bundles and liquid level sensors or a variety of devices within a single fitting.

The soft sealant technology seals against gases or liquids and resists element movement under pressure. Immersion lengths can be easily adjusted in the field. Individual elements can be set at different lengths to facilitate monitoring of multiple points. MHC Fittings also allow easy replacement of elements.

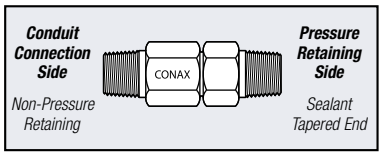
MHC Fitting bodies with NPT threads or SAE threads are constructed from 303 SST standard. Weld neck style fittings are constructed from 316L SST standard. Followers for all styles are constructed from 303 SST standard. Insulators are ceramic. Many optional materials are also available, including 316L SST, MONEL™ 405, HASTELLOY™ C276, INCONEL™ and more. For information on alternative materials, see page 9.

Cap Style A offers a mounting thread only. Cap Style B provides threading on both ends for attachment to conduit or terminal heads. Alternative sealant materials are available. Please consult a Conax Technologies sales engineer for custom needs.

- Temperature Range: -400 °F to +1600 °F (-240 °C to +870 °C)
- Pressure Range: Vacuum to 10,000 PSIG (690 bar)—see Pressure Ratings in the Specification Charts on page 56-57.
- Seals 1–24 Elements



Type A has mounting thread only.



Type B has cap end threaded. B Cap NPT matches the standard mounting NPT.

Accessories

The replaceable sealant permits repeated use of the same fitting. Elements can be easily assembled or replaced in the field. Simply insert the element and torque the cap. To replace the sealant or elements, simply loosen the cap, replace the necessary items, relubricate and retorque the cap.

Fittings are supplied factory lubricated. When reused, the fittings should be relubricated to maintain the published torque and pressure ratings. If fittings are cleaned prior to assembly, they should be relubricated. On weld mount models, the heat from the welding process will destroy the lubricant. These models must also be relubricated prior to use. See page 107 for information on our lubrication kit.

Replacement packing sets are available. These consist of a sealant and two ceramic insulators. Replacement sealants may also be ordered separately (without insulators).

To order a Replacement Packing Set, order RPS – (MHC) – (Diameter) – (Number of Holes) - (Sealant).

Example: RPS-MHC4-040-6-T

To order a Replacement Sealant only, order RS – (MHC) – (Diameter) – (Number of Holes) - (Sealant).

Example: RS-MHC4-040-6-T

Catalog Numbering System

Diameter of Element Sealed
MHC Style Seal Fitting
Cap Style
Number of Elements Sealed
Sealant

Example: *MHC4-040-B6-T*

MHC Style Seal Fitting
- **MHC1**
- **MHC2**
- **MHC4**
- **MHC5**

Diameter of Element Sealed
(in thousandths of an inch)
- **020**
- **032**
- **040**
- **062**
- **125**

Modifiers are added in parentheses to indicate optional mounting methods. See pages 9-11. See Specification Charts for the proper modifiers.

Cap Style
- **A** Has mounting thread only
- **B** Has cap end threaded

Number of Elements Sealed
- **1**
- **2**
- **3**
- **4**
- **6**
- **8**
- **16**
- **24**

See MHC Selection Guide to determine the number of elements offered with each model.

Sealant
- **V** Viton™
- **N** Neoprene
- **T** Teflon™
- **L** Lava
- **G** GraFoil™

Other sealant materials also available.

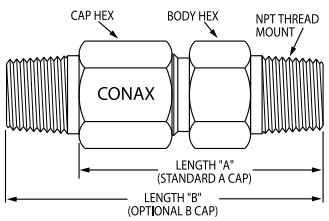
MHC Selection Guide

Model	Diameter	Number of Elements Offered							
		1	2	3	4	6	8	16	24
MHC1	020		X		X				
	032		X		X				
	062	X							
MHC2	020		X		X				
	032		X		X				
	040		X		X				
	062	X							
MHC4	032					X	X		
	040					X	X		
	062		X	X	X				
MHC5	032							X	X
	062					X	X		
	118		X						
	125		X						

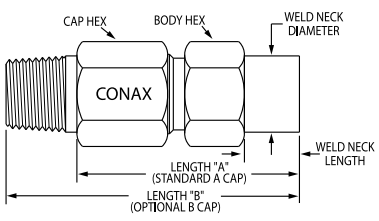
MHC Series Sealant Selection Guide

Model	Temperature Range
Lava (L)	-300 °F to +1600 °F (-185 °C to +870 °C)
Teflon™ (T)	-300 °F to +450 °F (-185 °C to +232 °C)
Neoprene (N)	-40 °F to +200 °F (-40 °C to +93 °C)
Viton™ (V)	-10 °F to +450 °F (-23 °C to +232 °C)
GraFoil™ (G)	-400 °F to +925 °F in air, +3000 °F in inert or reducing atm. (-240 °C to +495 °C in air, +1650 °C in inert or reducing atm.)

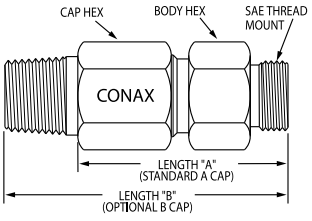
Specifications



Standard NPT



Weld Neck Mount



SAE Thread Mount

MHC Series	Tube/Probe Diameter		Number of Probes	Length				Hex Size				Pressure Rating									
				Length A		Length B		Body	Cap	Body	Cap	Neoprene		Viton™		Teflon™		Lava		GraFoil™	
Catalog Number	IN	MM		IN	MM	IN	MM	IN	IN	MM	MM	PSIG	BAR	PSIG	BAR	PSIG	BAR	PSIG	BAR	PSIG	BAR
Model MHC1																					
Standard 1/8" NPT																					
MHC1-020-2	0.020	0.51	2	1.38	34.9	1.75	44.5	0.500	0.563	12.7	14.3	10,000	689	10,000	689	10,000	689	10,000	689	10,000	689
MHC1-020-4	0.020	0.51	4	1.38	34.9	1.75	44.5	0.500	0.563	12.7	14.3	10,000	689	10,000	689	10,000	689	10,000	689	10,000	689
MHC1-032-2	0.032	0.81	2	1.38	34.9	1.75	44.5	0.500	0.563	12.7	14.3	10,000	689	10,000	689	10,000	689	10,000	689	10,000	689
MHC1-032-4	0.032	0.81	4	1.38	34.9	1.75	44.5	0.500	0.563	12.7	14.3	10,000	689	10,000	689	10,000	689	10,000	689	10,000	689
MHC1-062-1	0.062	1.57	1	1.38	34.9	1.75	44.5	0.500	0.563	12.7	14.3	8,000	551	8,000	551	8,000	551	8,000	551	10,000	689
Weld Neck Mount (Weld Neck Length 0.39", Diameter 0.405")*																					
MHC1(SWM1/S316L)-020-2	0.020	0.51	2	1.38	34.9	1.75	44.5	0.500	0.563	12.7	14.3	10,000	689	10,000	689	10,000	689	10,000	689	10,000	689
MHC1(SWM1/S316L)-020-4	0.020	0.51	4	1.38	34.9	1.75	44.5	0.500	0.563	12.7	14.3	10,000	689	10,000	689	10,000	689	10,000	689	10,000	689
MHC1(SWM1/S316L)-032-2	0.032	0.81	2	1.38	34.9	1.75	44.5	0.500	0.563	12.7	14.3	10,000	689	10,000	689	10,000	689	10,000	689	10,000	689
MHC1(SWM1/S316L)-032-4	0.032	0.81	4	1.38	34.9	1.75	44.5	0.500	0.563	12.7	14.3	10,000	689	10,000	689	10,000	689	10,000	689	10,000	689
MHC1(SWM1/S316L)-062-1	0.062	1.57	1	1.38	34.9	1.75	44.5	0.500	0.563	12.7	14.3	8,000	551	8,000	551	8,000	551	8,000	551	10,000	689
SAE 7/16-20 Thread Mount (formerly MS)																					
MHC1(MSE4/)-020-2	0.020	0.51	2	1.70	43.2	2.06	52.3	0.688	0.563	17.5	14.3	9,138	630	9,138	630	9,138	630	9,138	630	9,138	630
MHC1(MSE4/)-020-4	0.020	0.51	4	1.70	43.2	2.06	52.3	0.688	0.563	17.5	14.3	9,138	630	9,138	630	9,138	630	9,138	630	9,138	630
MHC1(MSE4/)-032-2	0.032	0.81	2	1.70	43.2	2.06	52.3	0.688	0.563	17.5	14.3	9,138	630	9,138	630	9,138	630	9,138	630	9,138	630
MHC1(MSE4/)-032-4	0.032	0.81	4	1.70	43.2	2.06	52.3	0.688	0.563	17.5	14.3	9,138	630	9,138	630	9,138	630	9,138	630	9,138	630
MHC1(MSE4/)-062-1	0.062	1.57	1	1.70	43.2	2.06	52.3	0.688	0.563	17.5	14.3	8,000	551	8,000	551	8,000	551	8,000	551	9,138	630
Model MHC2																					
Standard 1/4" NPT																					
MHC2-020-2	0.020	0.51	2	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	10,000	689	10,000	689	10,000	689	10,000	689	10,000	689
MHC2-020-4	0.020	0.51	4	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	10,000	689	10,000	689	10,000	689	10,000	689	10,000	689
MHC2-032-2	0.032	0.81	2	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	10,000	689	10,000	689	10,000	689	10,000	689	10,000	689
MHC2-032-4	0.032	0.81	4	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	10,000	689	10,000	689	10,000	689	10,000	689	10,000	689
MHC2-040-2	0.040	1.02	2	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	10,000	689	10,000	689	10,000	689	10,000	689	10,000	689
MHC2-040-4	0.040	1.02	4	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	10,000	689	10,000	689	10,000	689	10,000	689	10,000	689
MHC2-062-1	0.062	1.57	1	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	10,000	689	10,000	689	10,000	689	10,000	689	10,000	689
MHC2 with Optional 1/8" NPT																					
MHC2(PTM1/)-020-2	0.020	0.51	2	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	10,000	689	10,000	689	10,000	689	10,000	689	10,000	689
MHC2(PTM1/)-020-4	0.020	0.51	4	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	10,000	689	10,000	689	10,000	689	10,000	689	10,000	689
MHC2(PTM1/)-032-2	0.032	0.81	2	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	10,000	689	10,000	689	10,000	689	10,000	689	10,000	689
MHC2(PTM1/)-032-4	0.032	0.81	4	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	10,000	689	10,000	689	10,000	689	10,000	689	10,000	689
MHC2(PTM1/)-040-2	0.040	1.02	2	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	10,000	689	10,000	689	10,000	689	10,000	689	10,000	689
MHC2(PTM1/)-040-4	0.040	1.02	4	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	10,000	689	10,000	689	10,000	689	10,000	689	10,000	689
MHC2(PTM1/)-062-1	0.062	1.57	1	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	10,000	689	10,000	689	10,000	689	10,000	689	10,000	689
Weld Neck Mount (Weld Neck Length 0.59", Diameter 0.540")*																					
MHC2(SWM2/S316L)-020-2	0.020	0.51	2	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	10,000	689	10,000	689	10,000	689	10,000	689	10,000	689
MHC2(SWM2/S316L)-020-4	0.020	0.51	4	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	10,000	689	10,000	689	10,000	689	10,000	689	10,000	689
MHC2(SWM2/S316L)-032-2	0.032	0.81	2	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	10,000	689	10,000	689	10,000	689	10,000	689	10,000	689
MHC2(SWM2/S316L)-032-4	0.032	0.81	4	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	10,000	689	10,000	689	10,000	689	10,000	689	10,000	689
MHC2(SWM2/S316L)-040-2	0.040	1.02	2	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	10,000	689	10,000	689	10,000	689	10,000	689	10,000	689
MHC2(SWM2/S316L)-040-4	0.040	1.02	4	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	10,000	689	10,000	689	10,000	689	10,000	689	10,000	689
MHC2(SWM2/S316L)-062-1	0.062	1.57	1	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	10,000	689	10,000	689	10,000	689	10,000	689	10,000	689
SAE 7/16-20 Thread Mount (formerly MS)																					
MHC2(MSE4/)-020-2	0.020	0.51	2	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	9,138	630	9,138	630	9,138	630	9,138	630	9,138	630
MHC2(MSE4/)-020-4	0.020	0.51	4	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	9,138	630	9,138	630	9,138	630	9,138	630	9,138	630
MHC2(MSE4/)-032-2	0.032	0.81	2	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	9,138	630	9,138	630	9,138	630	9,138	630	9,138	630
MHC2(MSE4/)-032-4	0.032	0.81	4	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	9,138	630	9,138	630	9,138	630	9,138	630	9,138	630

Note: The pressure and torque ratings provided in this catalog apply only when bores are drilled by Conax Technologies. Custom bore sizes and/or a blank body, follower and/or sealant may be provided. Consult factory.

* Weld neck models require lubrication prior to use.

All pressure and torque ratings were determined at 68 °F (20 °C) using stainless steel rod as the element. Pressure ratings may degrade at higher temperatures. Pressure rating guide values are provided for fittings with elements restrained by the compressed sealant. Higher pressure may be attained with additional element restraints.

CAUTION: When sealing on soft, fragile or crushable elements, catalog torques may not apply. When catalog torques are applied, compressed sealants generate considerable forces on the element to be sealed. These forces could result in damaging soft or fragile elements such as coax cables or thin-wall materials. Consult factory for these types of applications.

MHC Series	Tube/Probe Diameter		Number of Probes	Length				Hex Size				Pressure Rating									
				Length A		Length B		Body	Cap	Body	Cap	Neoprene		Viton™		Teflon™		Lava		GraFoil™	
Catalog Number	IN	MM		IN	MM	IN	MM	IN	IN	MM	MM	PSIG	BAR	PSIG	BAR	PSIG	BAR	PSIG	BAR	PSIG	BAR
SAE 7/16-20 Thread Mount (formerly MS)																					
MHC2(MSE4/)-040-2	0.040	1.02	2	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	9,138	630	9,138	630	9,138	630	9,138	630	9,138	630
MHC2(MSE4/)-040-4	0.040	1.02	4	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	9,138	630	9,138	630	9,138	630	9,138	630	9,138	630
MHC2(MSE4/)-062-1	0.062	1.57	1	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	9,138	630	9,138	630	9,138	630	9,138	630	9,138	630
Model MHC4																					
Standard 1/2" NPT																					
MHC4-032-6	0.032	0.81	6	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	10,000	689	10,000	689	10,000	689	10,000	689	10,000	689
MHC4-032-8	0.032	0.81	8	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	10,000	689	10,000	689	10,000	689	10,000	689	10,000	689
MHC4-040-6	0.040	1.02	6	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	10,000	689	10,000	689	10,000	689	10,000	689	10,000	689
MHC4-040-8	0.040	1.02	8	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	10,000	689	10,000	689	10,000	689	10,000	689	10,000	689
MHC4-062-2	0.062	1.57	2	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	8,000	551	10,000	689	8,000	551	10,000	689	10,000	689
MHC4-062-3	0.062	1.57	3	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	8,000	551	10,000	689	8,000	551	10,000	689	10,000	689
MHC4-062-4	0.062	1.57	4	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	8,000	551	10,000	689	8,000	551	10,000	689	10,000	689
MHC4 with Optional 1/4" NPT																					
MHC4(PTM2/)-032-6	0.032	0.81	6	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	10,000	689	10,000	689	10,000	689	10,000	689	10,000	689
MHC4(PTM2/)-032-8	0.032	0.81	8	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	10,000	689	10,000	689	10,000	689	10,000	689	10,000	689
MHC4(PTM2/)-040-6	0.040	1.02	6	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	10,000	689	10,000	689	10,000	689	10,000	689	10,000	689
MHC4(PTM2/)-040-8	0.040	1.02	8	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	10,000	689	10,000	689	10,000	689	10,000	689	10,000	689
MHC4(PTM2/)-062-2	0.062	1.57	2	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	8,000	551	10,000	689	8,000	551	10,000	689	10,000	689
MHC4(PTM2/)-062-3	0.062	1.57	3	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	8,000	551	10,000	689	8,000	551	10,000	689	10,000	689
MHC4(PTM2/)-062-4	0.062	1.57	4	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	8,000	551	10,000	689	8,000	551	10,000	689	10,000	689
Weld Neck Mount (Weld Neck Length 0.78", Diameter 0.840")*																					
MHC4(SWM4/S316L)-032-6	0.032	0.81	6	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	10,000	689	10,000	689	10,000	689	10,000	689	10,000	689
MHC4(SWM4/S316L)-032-8	0.032	0.81	8	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	10,000	689	10,000	689	10,000	689	10,000	689	10,000	689
MHC4(SWM4/S316L)-040-6	0.040	1.02	6	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	10,000	689	10,000	689	10,000	689	10,000	689	10,000	689
MHC4(SWM4/S316L)-040-8	0.040	1.02	8	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	10,000	689	10,000	689	10,000	689	10,000	689	10,000	689
MHC4(SWM4/S316L)-062-2	0.062	1.57	2	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	8,000	551	10,000	689	8,000	551	10,000	689	10,000	689
MHC4(SWM4/S316L)-062-3	0.062	1.57	3	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	8,000	551	10,000	689	8,000	551	10,000	689	10,000	689
MHC4(SWM4/S316L)-062-4	0.062	1.57	4	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	8,000	551	10,000	689	8,000	551	10,000	689	10,000	689
SAE 3/4-16 Thread Mount (formerly MS)																					
MHC4(MSE8/)-032-6	0.032	0.81	6	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	9,138	630	9,138	630	9,138	630	9,138	630	9,138	630
MHC4(MSE8/)-032-8	0.032	0.81	8	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	9,138	630	9,138	630	9,138	630	9,138	630	9,138	630
MHC4(MSE8/)-040-6	0.040	1.02	6	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	9,138	630	9,138	630	9,138	630	9,138	630	9,138	630
MHC4(MSE8/)-040-8	0.040	1.02	8	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	9,138	630	9,138	630	9,138	630	9,138	630	9,138	630
MHC4(MSE8/)-062-2	0.062	1.57	2	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	8,000	551	9,138	630	8,000	551	9,138	630	9,138	630
MHC4(MSE8/)-062-3	0.062	1.57	3	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	8,000	551	9,138	630	8,000	551	9,138	630	9,138	630
MHC4(MSE8/)-062-4	0.062	1.57	4	2.63	66.7	3.38	85.7	1.000	1.000	25.4	25.4	8,000	551	9,138	630	8,000	551	9,138	630	9,138	630
Model MHC5																					
Standard 3/4" NPT																					
MHC5-032-16	0.032	0.81	16	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	8,000	551	8,000	551	8,000	551	10,000	689	10,000	689
MHC5-032-24	0.032	0.81	24	2.88	73.0	3.63	92.1	1.250	1.500	31.8	38.1	N/A	N/A	7,200	496	2,800	193	10,000	689	10,000	689
MHC5-062-6	0.062	1.57	6	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	8,000	551	10,000	689	8,000	551	10,000	689	10,000	689
MHC5-062-8	0.062	1.57	8	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	8,000	551	10,000	689	10,000	689	10,000	689	10,000	689
MHC5-118-2	0.118	3.00	2	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	3,000	207	4,000	276	6,000	413	10,000	689	10,000	689
MHC5-125-2	0.125	3.18	2	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	3,000	207	4,000	276	6,000	413	10,000	689	10,000	689
MHC5 with Optional 1/2" NPT																					
MHC5(PTM4/)-032-16	0.032	0.81	16	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	8,000	551	8,000	551	8,000	551	10,000	689	10,000	689
MHC5(PTM4/)-062-6	0.062	1.57	6	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	8,000	551	10,000	689	8,000	551	10,000	689	10,000	689
MHC5(PTM4/)-062-8	0.062	1.57	8	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	8,000	551	10,000	689	10,000	689	10,000	689	10,000	689
MHC5(PTM4/)-125-2	0.125	3.18	2	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	3,000	207	4,000	276	6,000	413	10,000	689	10,000	689
Weld Neck Mount (Weld Neck Length 0.79", Diameter 1.05")*																					
MHC5(SWM5/S316L)-032-16	0.032	0.81	16	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	8,000	551	8,000	551	8,000	551	10,000	689	10,000	689
MHC5(SWM5/S316L)-062-6	0.062	1.57	6	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	8,000	551	10,000	689	8,000	551	10,000	689	10,000	689
MHC5(SWM5/S316L)-062-8	0.062	1.57	8	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	8,000	551	10,000	689	10,000	689	10,000	689	10,000	689
MHC5(SWM5/S316L)-125-2	0.125	3.18	2	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	3,000	207	4,000	276	6,000	413	10,000	689	10,000	689
SAE 7/8-14 Thread Mount (formerly MS)																					
MHC5(MSE10/)-032-16	0.032	0.81	16	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	7,600	524	7,600	524	7,600	524	7,600	524	7,600	524
MHC5(MSE10/)-062-6	0.062	1.57	6	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	7,600	524	7,600	524	7,600	524	7,600	524	7,600	524
MHC5(MSE10/)-062-8	0.062	1.57	8	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	7,600	524	7,600	524	7,600	524	7,600	524	7,600	524
MHC5(MSE10/)-125-2	0.125	3.18	2	2.88	73.0	3.63	92.1	1.125	1.250	28.6	31.8	3,000	207	4,000	276	6,000	413	7,600	524	7,600	524

Note: The pressure and torque ratings provided in this catalog apply only when bores are drilled by Conax Technologies. Custom bore sizes and/or a blank body, follower and/or sealant may be provided. Consult factory.

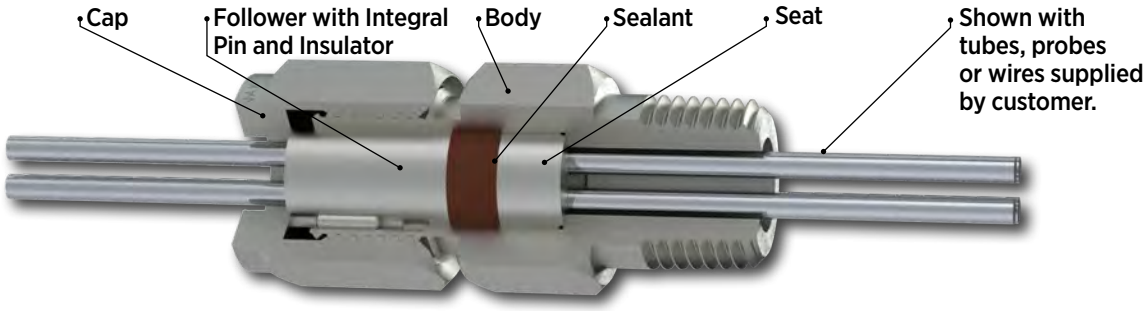
* Weld neck models require lubrication prior to use.

N/A = Not Applicable.

All pressure and torque ratings were determined at 68 °F (20 °C) using stainless steel rod as the element. Pressure ratings may degrade at higher temperatures. Pressure rating guide values are provided for fittings with elements restrained by the compressed sealant. Higher pressure may be attained with additional element restraints.

CAUTION: When sealing on soft, fragile or crushable elements, catalog torques may not apply. When catalog torques are applied, compressed sealants generate considerable forces on the element to be sealed. These forces could result in damaging soft or fragile elements such as coax cables or thin-wall materials. Consult factory for these types of applications.

MHM Multiple Element Sealing (Multi-hole Metal Fittings)



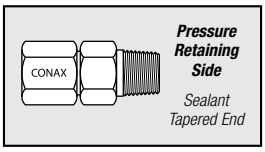
Conax Technologies Model MHM (Multi-hole Metal) Fittings can be customized to accommodate special hole patterns, irregular shapes and high density requirements. Like the MHC Fittings, MHM Fittings can be used to seal gradient thermocouple, RTD or thermistor probes, tube bundles or a variety of devices within a single fitting.

The soft sealant technology seals against gases or liquids and resists element movement under pressure. Immersion lengths can be easily adjusted in the field. Individual elements can be set at different lengths to facilitate monitoring of multiple points. This style fitting also allows easy replacement of elements.

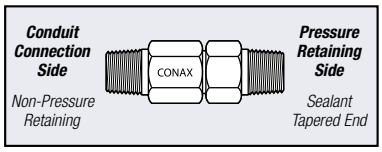
MHM Fitting bodies with NPT threads or SAE threads are constructed from 303 SST standard. Weld neck style fitting bodies are constructed from 316L SST standard. Seats and followers for all styles are constructed from 303 SST standard. Many optional materials are also available, including 316L SST, INCONEL™ and more. For information on alternative materials, see page 9.

Cap Style A offers a mounting thread only. Cap Style B provides threading on both ends for attachment to conduit or terminal heads. Alternative sealant materials and custom bore sizes are available. Please consult a Conax Technologies sales engineer for custom needs.

- Temperature Range: -400 °F to +1600 °F (-240 °C to +870 °C)
- Pressure Range: Vacuum to 10,000 PSIG (690 bar)—see Pressure Ratings in the Specifications Chart.
- Seals 1-27 Elements (standard)



Type A has mounting thread only.



Type B has cap end threaded. B Cap NPT matches the standard mounting NPT.

Accessories

The replaceable sealant permits repeated use of the same fitting. Elements can be easily assembled or replaced in the field. To replace the sealant or elements, simply loosen the cap, replace the necessary items, relubricate and retorque the cap.

Fittings are supplied factory lubricated. When reused, the fittings should be relubricated to maintain the published torque and pressure ratings. If fittings are cleaned prior to assembly, they should be relubricated. On weld mount models, the heat from the welding process will destroy the lubricant. These models must also be relubricated prior to use. See page 107 for information on our lubrication kit.

To order a Replacement Packing Set, including sealant, seat and follower, order RPS – (MHM Size Fitting) – (Diameter) – (Number of Holes) – (Sealant).

Example: RPS-MHM5-040-16-T

To order a Replacement Sealant only, order RS – (MHM Size Fitting) – (Diameter) – (Number of Holes) – (Sealant).

Example: RS-MHM5-040-16-T

Catalog Numbering System

Diameter of Element Sealed
MHM Style Seal Fitting
Cap Style
Number of Elements Sealed
Sealant

Example: *MHM5-040-B16-T*

MHM Style Seal Fitting
- **MHM2**
- **MHM4**
- **MHM5**
- **MHM6** Flange Style

Diameter of Element Sealed

(in thousandths of an inch)
- **Blank**
- **040**
- **062**
- **125**
- **187**
- **250**
- **312**
- **375**

(in metric bore)
- **039** 1 mm
- **118** 3 mm
- **236** 6 mm

Custom bore sizes also available. Blanks are provided with no hole in the body, follower and sealant.

Cap Style
- **A** Has mounting thread only
- **B** Has cap end threaded

Number of Elements Sealed
- **2**
- **3**
- **4**
- **5**
- **6**
- **7**
- **8**
- **10**
- **12**
- **14**
- **16**
- **18**
- **22**
- **27**

Sealant
- **V** Viton™
- **N** Neoprene (not offered with MHM6)
- **T** Teflon™
- **L** Lava (not offered with MHM6)
- **G** GraFoil™

Other sealant materials also available.

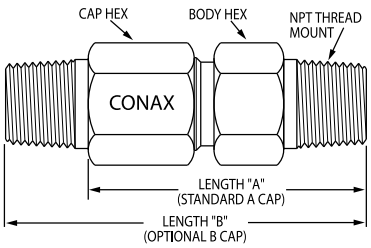
See MHM selection guide to determine the standard number of elements offered with each model. For custom configurations, consult factory.

Modifiers are added in parentheses to indicate optional mounting methods. See pages 9-11. See Specification Charts for the proper modifiers.

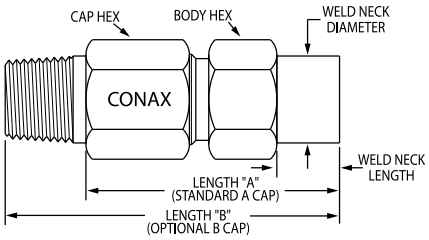
MHM Selection Guide	Diameter	Standard Number of Elements Offered														Max Hole Density
Model		2	3	4	5	6	7	8	10	12	14	16	18	22	27	
MHM2	039				X											8
	040				X											8
	062				X											5
MHM4	118		X	X												5
	125		X	X												4
MHM5	039								X	X		X				60
	040								X	X		X				60
	062								X	X		X				37
	118					X		X								15
	125					X		X								14
	187	X	X	X	X	X										6
	236	X	X	X												4
	250	X	X	X												4
MHM6	118								X				X	X	X	29
	125								X				X	X	X	27
	187							X	X	X	X					14
	236				X	X	X									8
	250				X	X	X									7
	312	X	X	X												5
	375	X	X	X												4

*Consult factory for pressure ratings.

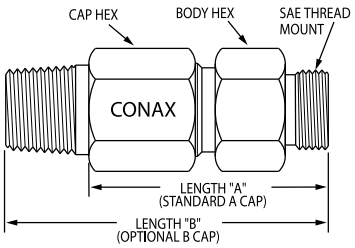
Specifications



Standard NPT



Weld Neck Mount



SAE Thread Mount

MHM Series	Tube/Probe Diameter		Number of Probes	Length				Hex Size				Pressure Rating									
				Length A		Length B		Body	Cap	Body	Cap	Neoprene		Viton™		Teflon™		Lava		GraFoil™	
Catalog Number	IN	MM		IN	MM	IN	MM	IN	IN	MM	MM	PSIG	BAR	PSIG	BAR	PSIG	BAR	PSIG	BAR	PSIG	BAR
Model MHM2																					
Standard 1/4" NPT																					
MHM2-BLANK	N/A	N/A	0	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MHM2-039-5	0.039	0.99	5	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	N/A	N/A	10,000	689	3,200	220	10,000	689	8,000	551
MHM2-040-5	0.040	1.02	5	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	N/A	N/A	10,000	689	3,200	220	10,000	689	8,000	551
MHM2-062-5	0.062	1.57	5	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	4,000	276	10,000	689	2,400	165	10,000	689	6,400	441
Weld Neck Mount (Weld Neck Mount Length 0.59", Diameter 0.540")*																					
MHM2(SWM2/S316L)-BLANK	N/A	N/A	0	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MHM2(SWM2/S316L)-039-5	0.039	0.99	5	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	N/A	N/A	10,000	689	3,200	220	10,000	689	8,000	551
MHM2(SWM2/S316L)-040-5	0.040	1.02	5	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	N/A	N/A	10,000	689	3,200	220	10,000	689	8,000	551
MHM2(SWM2/S316L)-062-5	0.062	1.57	5	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	4,000	276	10,000	689	2,400	165	10,000	689	6,400	441
SAE 3/4-16 Thread Mount (formerly MS)																					
MHM2(MSE8/)-BLANK	N/A	N/A	0	2.00	50.8	2.63	66.7	1.000	0.750	25.4	19.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MHM2(MSE8/)-039-5	0.039	0.99	5	2.00	50.8	2.63	66.7	1.000	0.750	25.4	19.1	N/A	N/A	9,138	630	3,200	220	9,138	630	8,000	551
MHM2(MSE8/)-040-5	0.040	1.02	5	2.00	50.8	2.63	66.7	1.000	0.750	25.4	19.1	N/A	N/A	9,138	630	3,200	220	9,138	630	8,000	551
MHM2(MSE8/)-062-5	0.062	1.57	5	2.00	50.8	2.63	66.7	1.000	0.750	25.4	19.1	4,000	276	9,138	630	2,400	165	9,138	630	6,400	441
Model MHM4																					
Standard 1/2" NPT																					
MHM4-BLANK	N/A	N/A	0	2.56	65.1	3.38	85.7	1.000	1.000	25.4	25.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MHM4-118-3	0.118	3.00	3	2.56	65.1	3.38	85.7	1.000	1.000	25.4	25.4	8,000	551	5,000	345	8,000	551	10,000	689	10,000	689
MHM4-118-4	0.118	3.00	4	2.56	65.1	3.38	85.7	1.000	1.000	25.4	25.4	8,000	551	5,000	345	8,000	551	10,000	689	10,000	689
MHM4-125-3	0.125	3.18	3	2.56	65.1	3.38	85.7	1.000	1.000	25.4	25.4	8,000	551	5,000	345	8,000	551	10,000	689	10,000	689
MHM4-125-4	0.125	3.18	4	2.56	65.1	3.38	85.7	1.000	1.000	25.4	25.4	8,000	551	5,000	345	8,000	551	10,000	689	10,000	689
Weld Neck Mount (Weld Neck Mount Length 0.78", Diameter 0.840")*																					
MHM4(SWM4/S316L)-BLANK	N/A	N/A	0	2.56	65.1	3.38	85.7	1.000	1.000	25.4	25.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MHM4(SWM4/S316L)-118-3	0.118	3.00	3	2.56	65.1	3.38	85.7	1.000	1.000	25.4	25.4	8,000	551	5,000	345	8,000	551	10,000	689	10,000	689
MHM4(SWM4/S316L)-118-4	0.118	3.00	4	2.56	65.1	3.38	85.7	1.000	1.000	25.4	25.4	8,000	551	5,000	345	8,000	551	10,000	689	10,000	689
MHM4(SWM4/S316L)-125-3	0.125	3.18	3	2.56	65.1	3.38	85.7	1.000	1.000	25.4	25.4	8,000	551	5,000	345	8,000	551	10,000	689	10,000	689
MHM4(SWM4/S316L)-125-4	0.125	3.18	4	2.56	65.1	3.38	85.7	1.000	1.000	25.4	25.4	8,000	551	5,000	345	8,000	551	10,000	689	10,000	689
SAE 7/8-14 Thread Mount (formerly MS)																					
MHM4(MSE10/)-BLANK	N/A	N/A	0	2.56	65.1	3.38	85.7	1.375	1.000	34.9	25.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MHM4(MSE10/)-118-3	0.118	3.00	3	2.56	65.1	3.38	85.7	1.375	1.000	34.9	25.4	8,000	551	5,000	345	8,000	551	9,138	630	9,138	630
MHM4(MSE10/)-118-4	0.118	3.00	4	2.56	65.1	3.38	85.7	1.375	1.000	34.9	25.4	8,000	551	5,000	345	8,000	551	9,138	630	9,138	630
MHM4(MSE10/)-125-3	0.125	3.18	3	2.56	65.1	3.38	85.7	1.375	1.000	34.9	25.4	8,000	551	5,000	345	8,000	551	9,138	630	9,138	630
MHM4(MSE10/)-125-4	0.125	3.18	4	2.56	65.1	3.38	85.7	1.375	1.000	34.9	25.4	8,000	551	5,000	345	8,000	551	9,138	630	9,138	630

Note: The pressure and torque ratings provided in this catalog apply only when bores are drilled by Conax Technologies. Custom bore sizes and/or a blank body, follower and/or sealant may be provided. Consult factory.

* Weld neck models require lubrication prior to use.

N/A = Not Applicable.

All pressure and torque ratings were determined at 68 °F (20 °C) using stainless steel rod as the element. Pressure ratings may degrade at higher temperatures. Pressure rating guide values are provided for fittings with elements restrained by the compressed sealant. Higher pressure may be attained with additional element restraints.

CAUTION: When sealing on soft, fragile or crushable elements, catalog torques may not apply. When catalog torques are applied, compressed sealants generate considerable forces on the element to be sealed. These forces could result in damaging soft or fragile elements such as coax cables or thin-wall materials. Consult factory for these types of applications.

MHM Series	Tube/Probe Diameter		Number of Probes	Length				Hex Size				Pressure Rating									
				Length A		Length B		Body	Cap	Body	Cap	Neoprene		Viton™		Teflon™		Lava		GraFoil™	
Catalog Number	IN	MM		IN	MM	IN	MM	IN	IN	MM	MM	PSIG	BAR	PSIG	BAR	PSIG	BAR	PSIG	BAR	PSIG	BAR
Model MHM5																					
Standard 3/4" NPT																					
MHM5-BLANK	N/A	N/A	0	3.31	84.1	4.06	103.1	1.250	1.500	31.8	38.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MHM5-039-10	0.039	0.99	10	3.31	84.1	4.06	103.1	1.250	1.500	31.8	38.1	5,200	358	6,800	469	4,500	310	2,000	138	4,000	276
MHM5-039-12	0.039	0.99	12	3.31	84.1	4.06	103.1	1.250	1.500	31.8	38.1	5,200	358	6,800	469	4,500	310	2,500	172	4,500	310
MHM5-039-16	0.039	0.99	16	3.31	84.1	4.06	103.1	1.250	1.500	31.8	38.1	5,200	358	6,800	469	4,500	310	3,000	207	4,500	310
MHM5-040-10	0.040	1.02	10	3.31	84.1	4.06	103.1	1.250	1.500	31.8	38.1	5,200	358	6,800	469	4,500	310	2,000	138	4,000	276
MHM5-040-12	0.040	1.02	12	3.31	84.1	4.06	103.1	1.250	1.500	31.8	38.1	5,200	358	6,800	469	4,500	310	2,500	172	4,500	310
MHM5-040-16	0.040	1.02	16	3.31	84.1	4.06	103.1	1.250	1.500	31.8	38.1	5,200	358	6,800	469	4,500	310	3,000	207	4,500	310
MHM5-062-10	0.062	1.57	10	3.31	84.1	4.06	103.1	1.250	1.500	31.8	38.1	3,200	220	7,200	496	6,000	413	7,000	482	6,500	448
MHM5-062-12	0.062	1.57	12	3.31	84.1	4.06	103.1	1.250	1.500	31.8	38.1	3,200	220	7,200	496	6,000	413	7,000	482	6,500	448
MHM5-062-16	0.062	1.57	16	3.31	84.1	4.06	103.1	1.250	1.500	31.8	38.1	3,200	220	7,200	496	6,000	413	7,000	482	6,500	448
MHM5-118-6	0.118	3.00	6	3.31	84.1	4.06	103.1	1.250	1.500	31.8	38.1	4,000	276	4,500	310	4,500	310	6,000	413	4,500	310
MHM5-118-8	0.118	3.00	8	3.31	84.1	4.06	103.1	1.250	1.500	31.8	38.1	4,000	276	4,500	310	4,500	310	6,000	413	4,500	310
MHM5-125-6	0.125	3.18	6	3.31	84.1	4.06	103.1	1.250	1.500	31.8	38.1	4,000	276	4,500	310	4,500	310	6,000	413	4,500	310
MHM5-125-8	0.125	3.18	8	3.31	84.1	4.06	103.1	1.250	1.500	31.8	38.1	4,000	276	4,500	310	4,500	310	6,000	413	4,500	310
MHM5-187-2	0.187	4.75	2	3.31	84.1	4.06	103.1	1.250	1.500	31.8	38.1	1,200	83	6,800	469	1,600	110	8,400	579	8,000	551
MHM5-187-3	0.187	4.75	3	3.31	84.1	4.06	103.1	1.250	1.500	31.8	38.1	1,200	83	6,800	469	1,600	110	8,400	579	8,000	551
MHM5-187-4	0.187	4.75	4	3.31	84.1	4.06	103.1	1.250	1.500	31.8	38.1	1,200	83	6,800	469	1,600	110	8,400	579	8,000	551
MHM5-187-5	0.187	4.75	5	3.31	84.1	4.06	103.1	1.250	1.500	31.8	38.1	1,200	83	6,800	469	1,600	110	8,400	579	8,000	551
MHM5-187-6	0.187	4.75	6	3.31	84.1	4.06	103.1	1.250	1.500	31.8	38.1	1,200	83	6,800	469	1,600	110	8,400	579	8,000	551
MHM5-236-2	0.236	5.99	2	3.31	84.1	4.06	103.1	1.250	1.500	31.8	38.1	4,300	296	5,000	345	1,600	110	6,700	462	4,500	310
MHM5-236-3	0.236	5.99	3	3.31	84.1	4.06	103.1	1.250	1.500	31.8	38.1	4,300	296	5,000	345	1,600	110	6,700	462	4,500	310
MHM5-236-4	0.236	5.99	4	3.31	84.1	4.06	103.1	1.250	1.500	31.8	38.1	4,300	296	5,000	345	1,600	110	6,700	462	4,500	310
MHM5-250-2	0.250	6.35	2	3.31	84.1	4.06	103.1	1.250	1.500	31.8	38.1	4,300	296	5,000	345	1,600	110	6,700	462	4,500	310
MHM5-250-3	0.250	6.35	3	3.31	84.1	4.06	103.1	1.250	1.500	31.8	38.1	4,300	296	5,000	345	1,600	110	6,700	462	4,500	310
MHM5-250-4	0.250	6.35	4	3.31	84.1	4.06	103.1	1.250	1.500	31.8	38.1	4,300	296	5,000	345	1,600	110	6,700	462	4,500	310
Weld Neck Mount (Weld Neck Mount Length 0.79", Diameter 1.050")*																					
MHM5(SWM5/S316L)-BLANK	N/A	N/A	0	3.31	84.1	4.06	103.1	1.250	1.500	31.8	38.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MHM5(SWM5/S316L)-039-10	0.039	0.99	10	3.31	84.1	4.06	103.1	1.250	1.500	31.8	38.1	5,200	358	6,800	469	4,500	310	2,000	138	4,000	276
MHM5(SWM5/S316L)-039-12	0.039	0.99	12	3.31	84.1	4.06	103.1	1.250	1.500	31.8	38.1	5,200	358	6,800	469	4,500	310	2,500	172	4,500	310
MHM5(SWM5/S316L)-039-16	0.039	0.99	16	3.31	84.1	4.06	103.1	1.250	1.500	31.8	38.1	5,200	358	6,800	469	4,500	310	3,000	207	4,500	310
MHM5(SWM5/S316L)-040-10	0.040	1.02	10	3.31	84.1	4.06	103.1	1.250	1.500	31.8	38.1	5,200	358	6,800	469	4,500	310	2,000	138	4,000	276
MHM5(SWM5/S316L)-040-12	0.040	1.02	12	3.31	84.1	4.06	103.1	1.250	1.500	31.8	38.1	5,200	358	6,800	469	4,500	310	2,500	172	4,500	310
MHM5(SWM5/S316L)-040-16	0.040	1.02	16	3.31	84.1	4.06	103.1	1.250	1.500	31.8	38.1	5,200	358	6,800	469	4,500	310	3,000	207	4,500	310
MHM5(SWM5/S316L)-062-10	0.062	1.57	10	3.31	84.1	4.06	103.1	1.250	1.500	31.8	38.1	3,200	220	7,200	496	6,000	413	7,000	482	6,500	448
MHM5(SWM5/S316L)-062-12	0.062	1.57	12	3.31	84.1	4.06	103.1	1.250	1.500	31.8	38.1	3,200	220	7,200	496	6,000	413	7,000	482	6,500	448
MHM5(SWM5/S316L)-062-16	0.062	1.57	16	3.31	84.1	4.06	103.1	1.250	1.500	31.8	38.1	3,200	220	7,200	496	6,000	413	7,000	482	6,500	448
MHM5(SWM5/S316L)-118-6	0.118	3.00	6	3.31	84.1	4.06	103.1	1.250	1.500	31.8	38.1	4,000	276	4,500	310	4,500	310	6,000	413	4,500	310
MHM5(SWM5/S316L)-118-8	0.118	3.00	8	3.31	84.1	4.06	103.1	1.250	1.500	31.8	38.1	4,000	276	4,500	310	4,500	310	6,000	413	4,500	310
MHM5(SWM5/S316L)-125-6	0.125	3.18	6	3.31	84.1	4.06	103.1	1.250	1.500	31.8	38.1	4,000	276	4,500	310	4,500	310	6,000	413	4,500	310
MHM5(SWM5/S316L)-125-8	0.125	3.18	8	3.31	84.1	4.06	103.1	1.250	1.500	31.8	38.1	4,000	276	4,500	310	4,500	310	6,000	413	4,500	310
MHM5(SWM5/S316L)-187-2	0.187	4.75	2	3.31	84.1	4.06	103.1	1.250	1.500	31.8	38.1	1,200	83	6,800	469	1,600	110	8,400	579	8,000	551

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N/A = Not Applicable.

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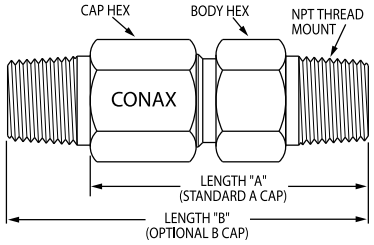
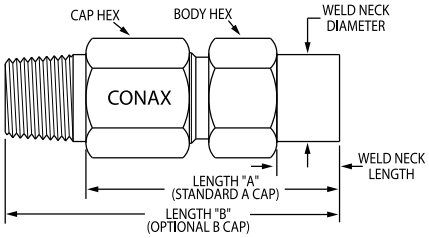
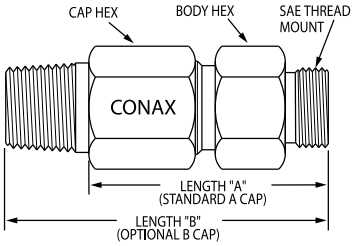


Standard NPT



Weld Neck Mount



SAE Thread Mount

MHM Series	Tube/Probe Diameter		Number of Probes	Length				Hex Size				Pressure Rating									
				Length A		Length B		Body	Cap	Body	Cap	Neoprene		Viton™		Teflon™		Lava		GraFoil™	
Catalog Number	IN	MM		IN	MM	IN	MM	IN	IN	MM	MM	PSIG	BAR	PSIG	BAR	PSIG	BAR	PSIG	BAR	PSIG	BAR
Model MHM5																					
Weld Neck Mount (Weld Neck Mount Length 0.79", Diameter 1.050")*																					
MHM5(SWM5/S316L)-187-3	0.187	4.75	3	3.31	84.1	4.06	103.1	1.250	1.500	31.8	38.1	1,200	83	6,800	469	1,600	110	8,400	579	8,000	551
MHM5(SWM5/S316L)-187-4	0.187	4.75	4	3.31	84.1	4.06	103.1	1.250	1.500	31.8	38.1	1,200	83	6,800	469	1,600	110	8,400	579	8,000	551
MHM5(SWM5/S316L)-187-5	0.187	4.75	5	3.31	84.1	4.06	103.1	1.250	1.500	31.8	38.1	1,200	83	6,800	469	1,600	110	8,400	579	8,000	551
MHM5(SWM5/S316L)-187-6	0.187	4.75	6	3.31	84.1	4.06	103.1	1.250	1.500	31.8	38.1	1,200	83	6,800	469	1,600	110	8,400	579	8,000	551
MHM5(SWM5/S316L)-236-2	0.236	5.99	2	3.31	84.1	4.06	103.1	1.250	1.500	31.8	38.1	4,300	296	5,000	345	1,600	110	6,700	462	4,500	310
MHM5(SWM5/S316L)-236-3	0.236	5.99	3	3.31	84.1	4.06	103.1	1.250	1.500	31.8	38.1	4,300	296	5,000	345	1,600	110	6,700	462	4,500	310
MHM5(SWM5/S316L)-236-4	0.236	5.99	4	3.31	84.1	4.06	103.1	1.250	1.500	31.8	38.1	4,300	296	5,000	345	1,600	110	6,700	462	4,500	310
MHM5(SWM5/S316L)-250-2	0.250	6.35	2	3.31	84.1	4.06	103.1	1.250	1.500	31.8	38.1	4,300	296	5,000	345	1,600	110	6,700	462	4,500	310
MHM5(SWM5/S316L)-250-3	0.250	6.35	3	3.31	84.1	4.06	103.1	1.250	1.500	31.8	38.1	4,300	296	5,000	345	1,600	110	6,700	462	4,500	310
MHM5(SWM5/S316L)-250-4	0.250	6.35	4	3.31	84.1	4.06	103.1	1.250	1.500	31.8	38.1	4,300	296	5,000	345	1,600	110	6,700	462	4,500	310
SAE 1-5/16-12 Thread Mount (formerly MS)																					
MHM5(MSE16/)-BLANK	N/A	N/A	0	3.31	84.1	4.06	103.1	1.625	1.500	41.3	38.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MHM5(MSE16/)-039-10	0.039	0.99	10	3.31	84.1	4.06	103.1	1.625	1.500	41.3	38.1	5,200	358	5,802	400	4,500	310	2,000	138	4,000	276
MHM5(MSE16/)-039-12	0.039	0.99	12	3.31	84.1	4.06	103.1	1.625	1.500	41.3	38.1	5,200	358	5,802	400	4,500	310	2,500	172	4,500	310
MHM5(MSE16/)-039-16	0.039	0.99	16	3.31	84.1	4.06	103.1	1.625	1.500	41.3	38.1	5,200	358	5,802	400	4,500	310	3,000	207	4,500	310
MHM5(MSE16/)-040-10	0.040	1.02	10	3.31	84.1	4.06	103.1	1.625	1.500	41.3	38.1	5,200	358	5,802	400	4,500	310	2,000	138	4,000	276
MHM5(MSE16/)-040-12	0.040	1.02	12	3.31	84.1	4.06	103.1	1.625	1.500	41.3	38.1	5,200	358	5,802	400	4,500	310	2,500	172	4,500	310
MHM5(MSE16/)-040-16	0.040	1.02	16	3.31	84.1	4.06	103.1	1.625	1.500	41.3	38.1	5,200	358	5,802	400	4,500	310	3,000	207	4,500	310
MHM5(MSE16/)-062-10	0.062	1.57	10	3.31	84.1	4.06	103.1	1.625	1.500	41.3	38.1	3,200	220	5,802	400	5,802	400	5,802	400	5,802	400
MHM5(MSE16/)-062-12	0.062	1.57	12	3.31	84.1	4.06	103.1	1.625	1.500	41.3	38.1	3,200	220	5,802	400	5,802	400	5,802	400	5,802	400
MHM5(MSE16/)-062-16	0.062	1.57	16	3.31	84.1	4.06	103.1	1.625	1.500	41.3	38.1	3,200	220	5,802	400	5,802	400	5,802	400	5,802	400
MHM5(MSE16/)-118-6	0.118	3.00	6	3.31	84.1	4.06	103.1	1.625	1.500	41.3	38.1	4,000	276	4,500	310	4,500	310	5,802	400	4,500	310
MHM5(MSE16/)-118-8	0.118	3.00	8	3.31	84.1	4.06	103.1	1.625	1.500	41.3	38.1	4,000	276	4,500	310	4,500	310	5,802	400	4,500	310
MHM5(MSE16/)-125-6	0.125	3.18	6	3.31	84.1	4.06	103.1	1.625	1.500	41.3	38.1	4,000	276	4,500	310	4,500	310	5,802	400	4,500	310
MHM5(MSE16/)-125-8	0.125	3.18	8	3.31	84.1	4.06	103.1	1.625	1.500	41.3	38.1	4,000	276	4,500	310	4,500	310	5,802	400	4,500	310
MHM5(MSE16/)-187-2	0.187	4.75	2	3.31	84.1	4.06	103.1	1.625	1.500	41.3	38.1	1,200	83	5,802	400	1,600	110	5,802	400	5,802	400
MHM5(MSE16/)-187-3	0.187	4.75	3	3.31	84.1	4.06	103.1	1.625	1.500	41.3	38.1	1,200	83	5,802	400	1,600	110	5,802	400	5,802	400
MHM5(MSE16/)-187-4	0.187	4.75	4	3.31	84.1	4.06	103.1	1.625	1.500	41.3	38.1	1,200	83	5,802	400	1,600	110	5,802	400	5,802	400
MHM5(MSE16/)-187-5	0.187	4.75	5	3.31	84.1	4.06	103.1	1.625	1.500	41.3	38.1	1,200	83	5,802	400	1,600	110	5,802	400	5,802	400
MHM5(MSE16/)-187-6	0.187	4.75	6	3.31	84.1	4.06	103.1	1.625	1.500	41.3	38.1	1,200	83	5,802	400	1,600	110	5,802	400	5,802	400
MHM5(MSE16/)-236-2	0.236	5.99	2	3.31	84.1	4.06	103.1	1.625	1.500	41.3	38.1	4,300	296	5,000	345	1,600	110	5,802	400	4,500	310
MHM5(MSE16/)-236-3	0.236	5.99	3	3.31	84.1	4.06	103.1	1.625	1.500	41.3	38.1	4,300	296	5,000	345	1,600	110	5,802	400	4,500	310
MHM5(MSE16/)-236-4	0.236	5.99	4	3.31	84.1	4.06	103.1	1.625	1.500	41.3	38.1	4,300	296	5,000	345	1,600	110	5,802	400	4,500	310
MHM5(MSE16/)-250-2	0.250	6.35	2	3.31	84.1	4.06	103.1	1.625	1.500	41.3	38.1	4,300	296	5,000	345	1,600	110	5,802	400	4,500	310
MHM5(MSE16/)-250-3	0.250	6.35	3	3.31	84.1	4.06	103.1	1.625	1.500	41.3	38.1	4,300	296	5,000	345	1,600	110	5,802	400	4,500	310
MHM5(MSE16/)-250-4	0.250	6.35	4	3.31	84.1	4.06	103.1	1.625	1.500	41.3	38.1	4,300	296	5,000	345	1,600	110	5,802	400	4,500	310

Note: The pressure and torque ratings provided in this catalog apply only when bores are drilled by Conax Technologies. Custom bore sizes and/or a blank body, follower and/or sealant may be provided. Consult factory.

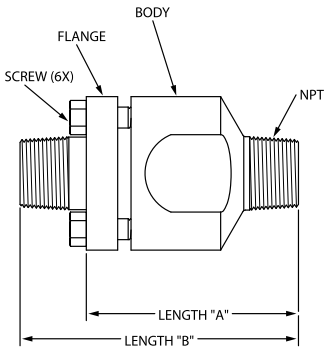
* Weld neck models require lubrication prior to use.

N/A = Not Applicable.

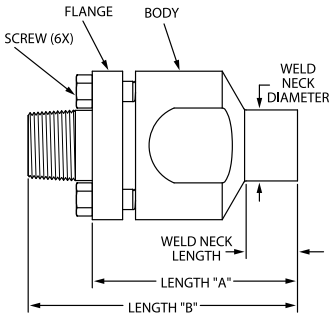
All pressure and torque ratings were determined at 68 °F (20 °C) using stainless steel rod as the element. Pressure ratings may degrade at higher temperatures. Pressure rating guide values are provided for fittings with elements restrained by the compressed sealant. Higher pressure may be attained with additional element restraints.

CAUTION: When sealing on soft, fragile or crushable elements, catalog torques may not apply. When catalog torques are applied, compressed sealants generate considerable forces on the element to be sealed. These forces could result in damaging soft or fragile elements such as coax cables or thin-wall materials. Consult factory for these types of applications.

MHM Series	Tube/Probe Diameter		Number of Probes	Length				Flange/Body Diameter		Pressure Rating					
				Length A		Length B				Viton™		Teflon™		GraFoil™	
Catalog Number	IN	MM		IN	MM	IN	MM	IN	MM	PSIG	BAR	PSIG	BAR	PSIG	BAR
Model MHM6															
Standard 1" NPT															
MHM6-BLANK	N/A	N/A	0	3.80	96.5	5.00	127.0	2.75	69.9	N/A	N/A	N/A	N/A	N/A	N/A
MHM6-118-10	0.118	3.0	10	3.80	96.5	5.00	127.0	2.75	69.9	10,000	689	1,500	103	2,400	165
MHM6-118-18	0.118	3.0	18	3.80	96.5	5.00	127.0	2.75	69.9	10,000	689	1,500	103	2,400	165
MHM6-118-22	0.118	3.0	22	3.80	96.5	5.00	127.0	2.75	69.9	10,000	689	1,500	103	2,400	165
MHM6-118-27	0.118	3.0	27	3.80	96.5	5.00	127.0	2.75	69.9	10,000	689	1,500	103	2,400	165
MHM6-125-10	0.125	3.2	10	3.80	96.5	5.00	127.0	2.75	69.9	10,000	689	1,500	103	2,400	165
MHM6-125-18	0.125	3.2	18	3.80	96.5	5.00	127.0	2.75	69.9	10,000	689	1,500	103	2,400	165
MHM6-125-22	0.125	3.2	22	3.80	96.5	5.00	127.0	2.75	69.9	10,000	689	1,500	103	2,400	165
MHM6-125-27	0.125	3.2	27	3.80	96.5	5.00	127.0	2.75	69.9	10,000	689	1,500	103	2,400	165
MHM6-187-8	0.187	4.7	8	3.80	96.5	5.00	127.0	2.75	69.9	6,000	413	1,000	69	1,000	69
MHM6-187-10	0.187	4.7	10	3.80	96.5	5.00	127.0	2.75	69.9	6,000	413	1,000	69	1,000	69
MHM6-187-12	0.187	4.7	12	3.80	96.5	5.00	127.0	2.75	69.9	6,000	413	1,000	69	1,000	69
MHM6-187-14	0.187	4.7	14	3.80	96.5	5.00	127.0	2.75	69.9	6,000	413	1,000	69	1,000	69
MHM6-236-5	0.236	6.0	5	3.80	96.5	5.00	127.0	2.75	69.9	6,000	413	1,000	69	1,000	69
MHM6-236-6	0.236	6.0	6	3.80	96.5	5.00	127.0	2.75	69.9	6,000	413	1,000	69	1,000	69
MHM6-236-7	0.236	6.0	7	3.80	96.5	5.00	127.0	2.75	69.9	6,000	413	1,000	69	1,000	69
MHM6-250-5	0.250	6.4	5	3.80	96.5	5.00	127.0	2.75	69.9	6,000	413	1,000	69	1,000	69
MHM6-250-6	0.250	6.4	6	3.80	96.5	5.00	127.0	2.75	69.9	6,000	413	1,000	69	1,000	69
MHM6-250-7	0.250	6.4	7	3.80	96.5	5.00	127.0	2.75	69.9	6,000	413	1,000	69	1,000	69
MHM6-312-2	0.312	7.9	2	3.80	96.5	5.00	127.0	2.75	69.9	3,000	207	1,000	69	1,000	69
MHM6-312-3	0.312	7.9	3	3.80	96.5	5.00	127.0	2.75	69.9	3,000	207	1,000	69	1,000	69
MHM6-312-4	0.312	7.9	4	3.80	96.5	5.00	127.0	2.75	69.9	3,000	207	1,000	69	1,000	69
MHM6-375-2	0.375	9.5	2	3.80	96.5	5.00	127.0	2.75	69.9	3,000	207	1,000	69	1,000	69
MHM6-375-3	0.375	9.5	3	3.80	96.5	5.00	127.0	2.75	69.9	3,000	207	1,000	69	1,000	69
MHM6-375-4	0.375	9.5	4	3.80	96.5	5.00	127.0	2.75	69.9	3,000	207	1,000	69	1,000	69
Weld Neck Mount (Weld Neck Mount Length 0.98", Diameter 1.315")*															
MHM6-BLANK	N/A	N/A	0	3.80	96.5	5.00	127.0	2.75	69.9	N/A	N/A	N/A	N/A	N/A	N/A
MHM6(SWM6/S316L)-118-10	0.118	3.0	10	3.80	96.5	5.00	127.0	2.75	69.9	10,000	689	1,500	103	2,400	165
MHM6(SWM6/S316L)-118-18	0.118	3.0	18	3.80	96.5	5.00	127.0	2.75	69.9	10,000	689	1,500	103	2,400	165
MHM6(SWM6/S316L)-118-22	0.118	3.0	22	3.80	96.5	5.00	127.0	2.75	69.9	10,000	689	1,500	103	2,400	165
MHM6(SWM6/S316L)-118-27	0.118	3.0	27	3.80	96.5	5.00	127.0	2.75	69.9	10,000	689	1,500	103	2,400	165
MHM6(SWM6/S316L)-125-10	0.125	3.2	10	3.80	96.5	5.00	127.0	2.75	69.9	10,000	689	1,500	103	2,400	165
MHM6(SWM6/S316L)-125-18	0.125	3.2	18	3.80	96.5	5.00	127.0	2.75	69.9	10,000	689	1,500	103	2,400	165
MHM6(SWM6/S316L)-125-22	0.125	3.2	22	3.80	96.5	5.00	127.0	2.75	69.9	10,000	689	1,500	103	2,400	165
MHM6(SWM6/S316L)-125-27	0.125	3.2	27	3.80	96.5	5.00	127.0	2.75	69.9	10,000	689	1,500	103	2,400	165
MHM6(SWM6/S316L)-187-8	0.187	4.7	8	3.80	96.5	5.00	127.0	2.75	69.9	6,000	413	1,000	69	1,000	69
MHM6(SWM6/S316L)-187-10	0.187	4.7	10	3.80	96.5	5.00	127.0	2.75	69.9	6,000	413	1,000	69	1,000	69
MHM6(SWM6/S316L)-187-12	0.187	4.7	12	3.80	96.5	5.00	127.0	2.75	69.9	6,000	413	1,000	69	1,000	69
MHM6(SWM6/S316L)-187-14	0.187	4.7	14	3.80	96.5	5.00	127.0	2.75	69.9	6,000	413	1,000	69	1,000	69
MHM6(SWM6/S316L)-236-5	0.236	6.0	5	3.80	96.5	5.00	127.0	2.75	69.9	6,000	413	1,000	69	1,000	69
MHM6(SWM6/S316L)-236-6	0.236	6.0	6	3.80	96.5	5.00	127.0	2.75	69.9	6,000	413	1,000	69	1,000	69
MHM6(SWM6/S316L)-236-7	0.236	6.0	7	3.80	96.5	5.00	127.0	2.75	69.9	6,000	413	1,000	69	1,000	69
MHM6(SWM6/S316L)-250-5	0.250	6.4	5	3.80	96.5	5.00	127.0	2.75	69.9	6,000	413	1,000	69	1,000	69
MHM6(SWM6/S316L)-250-6	0.250	6.4	6	3.80	96.5	5.00	127.0	2.75	69.9	6,000	413	1,000	69	1,000	69
MHM6(SWM6/S316L)-250-7	0.250	6.4	7	3.80	96.5	5.00	127.0	2.75	69.9	6,000	413	1,000	69	1,000	69
MHM6(SWM6/S316L)-312-2	0.312	7.9	2	3.80	96.5	5.00	127.0	2.75	69.9	3,000	207	1,000	69	1,000	69
MHM6(SWM6/S316L)-312-3	0.312	7.9	3	3.80	96.5	5.00	127.0	2.75	69.9	3,000	207	1,000	69	1,000	69
MHM6(SWM6/S316L)-312-4	0.312	7.9	4	3.80	96.5	5.00	127.0	2.75	69.9	3,000	207	1,000	69	1,000	69
MHM6(SWM6/S316L)-375-2	0.375	9.5	2	3.80	96.5	5.00	127.0	2.75	69.9	3,000	207	1,000	69	1,000	69
MHM6(SWM6/S316L)-375-3	0.375	9.5	3	3.80	96.5	5.00	127.0	2.75	69.9	3,000	207	1,000	69	1,000	69
MHM6(SWM6/S316L)-375-4	0.375	9.5	4	3.80	96.5	5.00	127.0	2.75	69.9	3,000	207	1,000	69	1,000	69



Flange Style NPT



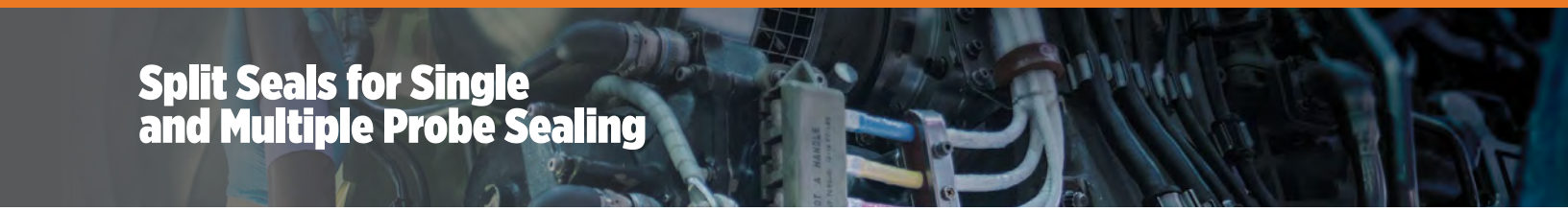
Flange Style Weld Neck Mount

Note: The pressure and torque ratings provided in this catalog apply only when bores are drilled by Conax Technologies. Custom bore sizes and/or a blank body, follower and/or sealant may be provided. Consult factory.

* Weld neck models require lubrication prior to use.

N/A = Not Applicable.

All pressure and torque ratings were determined at 68 °F (20 °C) using stainless steel rod as the element. Pressure ratings may degrade at higher temperatures. Pressure rating guide values are provided for fittings with elements restrained by the compressed sealant. Higher pressure may be attained with additional element restraints.



Split Seals for Single and Multiple Probe Sealing

Conax Technologies offers several models of split seal fittings designed to facilitate assembly and sealant replacement when the diameter of the probe tip is larger than the diameter of the element(s) at the location of the seal. Split fittings provide removable body internals including split seats, split sealants, and split followers to facilitate easy sealant change without removing the element(s) from the fitting.

Possible applications include the sealing of analyzer sampling probes with blow-out collars, gas-filled capillary bulb temperature sensors, cable assemblies with factory-installed connectors or to facilitate easy assembly and disassembly of long cable/sheath lengths.

- PGS Series assemblies seal on single elements
- SPGA and SPG Series assemblies seal on multiple elements with a single split
- DSPGA and DSPG Series assemblies seal on multiple elements with a double split
- PGS, SPGA and DSPGA fittings have factory-developed torque values and associated pressure ratings. The legacy SPG and DSPG fittings are qualified by customer-determined torque values and associated customer-determined pressure ratings. Dependent on the sealant, fitting temperature range is within -400 °F to +1600 °F (-240 °C to +870 °C)

Optional materials of construction are available for Bodies, Caps, Followers and Seats. See page 9 for details.

Cap Style A offers a mounting thread only. Cap Style B provides threading on both ends for attachment to conduit or terminal heads.

Split fittings are offered with Viton™, Teflon™, Lava and GraFoil™ sealants, however, due to the complexities of construction, not all hole densities are available in all sealant materials. Alternative sealant materials and custom bore sizes are available. Please consult a Conax sales engineer for custom needs.

Accessories

The replaceable sealant permits repeated use of the same fitting. Elements can be easily assembled or replaced in the field. To replace the sealant or elements, simply loosen the cap, replace the necessary items, relubricate and retorque the cap. Fittings are supplied factory lubricated. If fittings are cleaned prior to assembly or when reused, the fittings should be relubricated to maintain the published torque and pressure ratings. See page 109 for information on our lubrication kit.

To order a Replacement Packing Set for a PGS, including sealant, seat and follower, order RPS – (Fitting Type/Size) – (Diameter) – (Number of Holes) – (Sealant).

Example: RPS-PG2S-032-T

To order a Replacement Sealant for PGS models, order RS – (Fitting Type/Size) – (Diameter) – (Number of Holes) – (Sealant).

Example: RS-PG2S-032-T

To order a Replacement Sealant only for SPGA and DSPGA models, order RS – (SPGA [size]) – (Diameter) – (Sealant).

Example: RS-SPGA100-062-2-T

To order a Replacement Packing Set, including sealant, seat and follower, order RPS – (SPGA [size]) – (Diameter) – (Sealant).

Example: RPS-SPGA100-062-2-T

Catalog Numbering System for PGS

PGS Style Seal Fitting
Diameter of Tube or Probe
Cap Style
Sealant

Example: *PG2S-093-A-T*

PGS Style Seal Fitting

- **PG2S**
  - 0.062 to 0.250 bore sizes – max bulb diameter 0.32″
- **PG4S**
  - 0.093 to 0.375 bore sizes – max bulb diameter 0.45″
- **PG5S**
  - 0.187 to 0.500 bore sizes – max bulb diameter 0.78″

Diameter of Tube or Probe

(in thousandths of an inch)

- **062**
- **093**
- **125**
- **187**
- **250**
- **312**
- **375**
- **500**

(in metric bore)

- **039** 1 mm
- **118** 3 mm
- **236** 6 mm

Custom bore sizes also available.

Cap Style

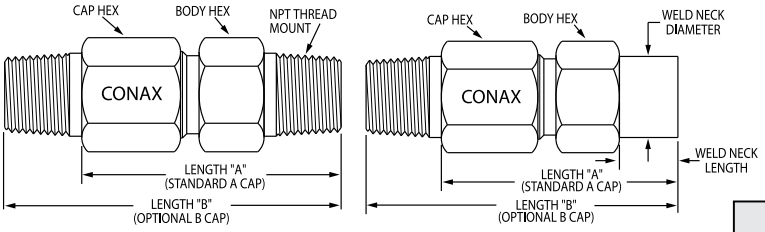
- **A** Has mounting thread only
- **B** Has cap end threaded

Sealant

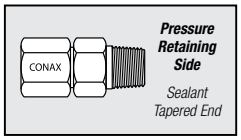
- **V** Viton™
- **T** Teflon™
- **L** Lava
- **G** GraFoil™

Other sealant materials also available.

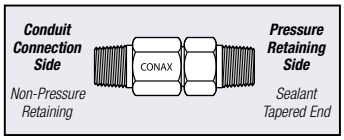
Modifiers are added in parentheses to indicate optional mounting methods. See pages 9-11. See Specification Charts for the proper modifiers.



Standard NPT ***Weld Neck Mount***



Type A has mounting thread only.



Type B has cap end threaded. B Cap NPT matches the standard mounting NPT.

PGS Series	Tube/Probe Diameter		Length				Hex Size				Pressure Rating							
			Length A		Length B		Body	Cap	Body	Cap	Viton™		Teflon™		Lava		GraFoil™	
Catalog Number	IN	MM	IN	MM	IN	MM	IN	IN	MM	MM	PSIG	BAR	PSIG	BAR	PSIG	BAR	PSIG	BAR
Standard 1/4" NPT																		
PG2S-062	0.062	1.57	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	10,000	689	3,200	220	10,000	689	10,000	689
PG2S-093	0.093	2.36	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	2,800	193	1,900	131	9,000	620	8,000	551
PG2S-125	0.125	3.18	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	2,800	193	1,400	96	9,000	620	7,200	496
PG2S-187	0.187	4.75	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	4,500	310	900	62	8,800	606	4,000	276
PG2S-250	0.250	6.35	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	2,000	138	720	50	7,500	517	3,600	248
Weld Neck Mount (Weld Neck Mount Length 0.59", Diameter 0.540")*																		
PG2S(SWM2/S316L)-062	0.062	1.57	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	10,000	689	3,200	220	10,000	689	10,000	689
PG2S(SWM2/S316L)-093	0.093	2.36	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	2,800	193	1,900	131	9,000	620	8,000	551
PG2S(SWM2/S316L)-125	0.125	3.18	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	2,800	193	1,400	96	9,000	620	7,200	496
PG2S(SWM2/S316L)-187	0.187	4.75	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	4,500	310	900	62	8,800	606	4,000	276
PG2S(SWM2/S316L)-250	0.250	6.35	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	2,000	138	720	50	8,000	517	3,600	248
Standard 1/2" NPT																		
PG4S-093	0.093	2.36	2.56	65.1	3.38	85.7	1.000	1.000	25.4	25.4	1,500	103	1,600	110	10,000	689	10,000	689
PG4S-125	0.125	3.18	2.56	65.1	3.38	85.7	1.000	1.000	25.4	25.4	1,500	103	1,600	110	10,000	689	10,000	689
PG4S-187	0.187	4.75	2.56	65.1	3.38	85.7	1.000	1.000	25.4	25.4	1,500	103	1,600	110	10,000	689	8,000	551
PG4S-250	0.250	6.35	2.56	65.1	3.38	85.7	1.000	1.000	25.4	25.4	1,500	103	1,600	110	10,000	689	5,000	345
PG4S-312	0.312	7.92	2.56	65.1	3.38	85.7	1.000	1.000	25.4	25.4	1,200	83	2,000	138	10,000	689	5,000	345
PG4S-375	0.375	9.53	2.56	65.1	3.38	85.7	1.000	1.000	25.4	25.4	500	34	1,400	96	7,500	517	4,500	310
Weld Neck Mount (Weld Neck Mount Length 0.78", Diameter 0.840")*																		
PG4S(SWM4/S316L)-093	0.093	2.36	2.56	65.1	3.38	85.7	1.000	1.000	25.4	25.4	1,500	103	1,600	110	10,000	689	10,000	689
PG4S(SWM4/S316L)-125	0.125	3.18	2.56	65.1	3.38	85.7	1.000	1.000	25.4	25.4	1,500	103	1,600	110	10,000	689	10,000	689
PG4S(SWM4/S316L)-187	0.187	4.75	2.56	65.1	3.38	85.7	1.000	1.000	25.4	25.4	1,500	103	1,600	110	10,000	689	8,000	551
PG4S(SWM4/S316L)-250	0.250	6.35	2.56	65.1	3.38	85.7	1.000	1.000	25.4	25.4	1,500	103	1,600	110	10,000	689	5,000	345
PG4S(SWM4/S316L)-312	0.312	7.92	2.56	65.1	3.38	85.7	1.000	1.000	25.4	25.4	1,200	83	2,000	138	10,000	689	5,000	345
PG4S(SWM4/S316L)-375	0.375	9.53	2.56	65.1	3.38	85.7	1.000	1.000	25.4	25.4	500	34	1,400	96	7,500	517	4,500	310
Standard 3/4" NPT																		
PG5S-187	0.187	4.75	3.31	84.1	4.19	106.4	1.250	1.500	31.8	38.1	2,100	145	800	55	2,000	138	1,200	83
PG5S-250	0.250	6.35	3.31	84.1	4.19	106.4	1.250	1.500	31.8	38.1	1,600	110	800	55	2,000	138	900	62
PG5S-375	0.375	9.53	3.31	84.1	4.19	106.4	1.250	1.500	31.8	38.1	1,000	69	800	55	2,800	193	600	41
PG5S-500	0.500	12.70	3.31	84.1	4.19	106.4	1.250	1.500	31.8	38.1	800	55	800	55	2,000	138	480	33
Weld Neck Mount (Weld Neck Mount Length 0.79", Diameter 1.050")*																		
PG5S(SWM5/S316L)-187	0.187	4.75	3.31	84.1	4.19	106.4	1.250	1.500	31.8	38.1	2,100	145	800	55	2,000	138	1,200	83
PG5S(SWM5/S316L)-250	0.250	6.35	3.31	84.1	4.19	106.4	1.250	1.500	31.8	38.1	1,600	110	800	55	2,000	138	900	62
PG5S(SWM5/S316L)-375	0.375	9.53	3.31	84.1	4.19	106.4	1.250	1.500	31.8	38.1	1,000	69	800	55	2,800	193	600	41
PG5S(SWM5/S316L)-500	0.500	12.70	3.31	84.1	4.19	106.4	1.250	1.500	31.8	38.1	800	55	800	55	2,000	138	480	33

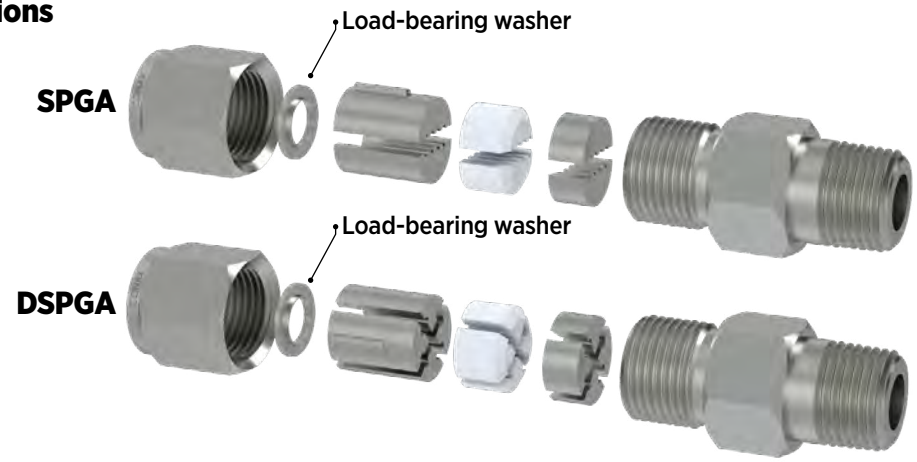
Note: The pressure and torque ratings provided in this catalog apply only when bores are drilled by Conax Technologies. Custom bore sizes and/or a blank body, follower and/or sealant may be provided. Consult factory.

* Weld neck models require lubrication prior to use.

All pressure and torque ratings were determined at 68 °F (20 °C) using stainless steel rod as the element. Pressure ratings may degrade at higher temperatures. Pressure rating guide values are provided for fittings with elements restrained by the compressed sealant. Higher pressure may be attained with additional element restraints.

CAUTION: When sealing on soft, fragile or crushable elements, catalog torques may not apply. When catalog torques are applied, compressed sealants generate considerable forces on the element to be sealed. These forces could result in damaging soft or fragile elements such as coax cables or thin-wall materials. Consult factory for these types of applications.

Specifications



Our tightest split seal fitting ever

Conax now offers split seal fittings with pressure ratings that are higher than typical ratings achieved with our legacy SPG and DSPG multi-hole split compression seal fittings.

Conax SPGA and DSPGA fittings are our first multi-hole split seal fittings that carry both hydraulic and pneumatic catalog pressure ratings. There's no need to consult the factory when your application falls within the catalog ratings and no need for users to develop their own torque values and associated pressure ratings.

Because the amount of pressure transmitted from the cap to the load-bearing washer, follower, sealant, and seat set is higher, the SPGA and DSPGA create higher sealing pressures that result in a tighter seal on the fitting body and elements. Viton™, Lava and GraFoil™ sealants are available.

The following chart compares the new split fittings to their legacy counterparts. **NOTE: Seats and Followers are NOT interchangeable between new and legacy split fittings.**

New **SPGA** & **DSPGA** vs Legacy **SPG** & **DSPG**

Availability	New SPGA/DSPGA	Legacy SPG/DSPG
1/4" NPT Body	N	Y
1/2" & 3/4" NPT Body	Y	Y
Follower with Integral Pin	Y	Y
Load Bearing Washer	Y	N
High-Strength Cap & Follower	Y	N
Pneumatic Pressure Rating	Y	N
Hydraulic Pressure Rating	Y	N
Tight-toleranced Bore for Seat & Follower	Y	N

Catalog Numbering System for SPGA and DSPGA

Diameter of Tube or Probe
SPGA or DSPGA Series
Cap Style
Number of Elements Sealed
Sealant

Example: *SPGA100-062-A2-G*

SPGA or DSPGA Series

- **SPGA100**
  DSPGA100
  - 1/2 NPT
  - Max bulb diameter 0.45"
- **SPGA150**
  DSPGA150
  - 3/4 NPT
  - Max bulb diameter 0.78"

Diameter of Tube or Probe

(in thousandths of an inch)

- **040**
- **062**
- **125**
- **250**

Custom bore sizes also available.

Cap Style

- **A** Has mounting thread only
- **B** Has cap end threaded

Number of Elements Sealed

- **1**
- **2**
- **3**
- **4**
- **5**
- **7**
- **9**
- **10**
- **11**
- **12**

Sealant

- **V** Viton™
- **L** Lava
- **G** GraFoil™

Other sealant materials also available.

Modifiers are added in parentheses to indicate optional mounting methods. See pages 9-11. See Specification Charts for the proper modifiers.

Specifications

SPGA Series	Maximum Number of holes	GraFoil™				Viton™				Lava			
		Pneumatic		Hydraulic		Pneumatic		Hydraulic		Pneumatic*		Hydraulic	
Catalog Number		PSIG	BAR	PSIG	BAR	PSIG	BAR	PSIG	BAR	PSIG	BAR	PSIG	BAR
SPGA100-040	4	6,000	413	7,700	530	6,000	413	9,100	627	2,200	151	10,000	689
SPGA100-062	4	6,000	413	9,700	668	6,000	413	9,100	627	2,200	151	10,000	689
SPGA100-125	2	6,000	413	7,400	510	6,000	413	9,100	627	1,800	124	10,000	689
SPGA150-062	5	3,400	234	3,400	234	2,200	151	2,200	151	500	34	6,800	468
SPGA150-125	4	4,500	310	4,500	310	1,800	124	1,800	124	500	34	5,100	351
SPGA150-250	2	3,100	213	3,100	213	900	62	900	62	500	34	5,700	393

DSPGA Series	Maximum Number of holes	GraFoil™				Viton™				Lava			
		Pneumatic		Hydraulic		Pneumatic		Hydraulic		Pneumatic*		Hydraulic	
Catalog Number		PSIG	BAR	PSIG	BAR	PSIG	BAR	PSIG	BAR	PSIG	BAR	PSIG	BAR
DSPGA100-040-G	8	4,500	310	6,000	413	4,500	310	7,100	489	500	34	8,400	579
DSPGA100-062-G	4	4,500	310	7,500	517	4,500	310	7,100	489	500	34	8,400	579
DSPGA150-062-G	12	3,000	206	4,000	275	1,200	82	1,200	82	500	34	4,400	303
DSPGA150-250-G	4	2,700	186	2,400	165	900	62	900	62	500	34	4,000	275

Note: The pressure and torque ratings provided in this data sheet apply only when bores are drilled by Conax Technologies. Custom bore sizes and/or a blank body, follower and/or sealant may be provided. Consult factory.
All pressure and torque ratings were determined at 68 °F (20 °C) using mineral insulated metal sheath material as the element. Pressure ratings may degrade at higher temperatures. Pressure rating guide values are provided for fittings with elements unrestrained by the compressed sealant.
• Lava sealant not recommended for gaseous applications.

Legacy Specifications

Legacy SPG

Legacy DSPG

Catalog Numbering System for Legacy SPG and DSPG

Diameter of Tube or Probe
SPG or DSPG Series
Cap Style
Number of Elements Sealed
Sealant

Example: *SPG75-062-A2-T*

SPG or DSPG Series

- **SPG75**
  DSPG75
  • 1/4 NPT
  • Max bulb diameter 0.32″
- **SPG100**
  DSPG100
  • 1/2 NPT
  • Max bulb diameter 0.45″
- **SPG150**
  DSPG150
  • 3/4 NPT
  • Max bulb diameter 0.78″

Diameter of Tube or Probe

(in thousandths of an inch)

- **020** (SPG only)
- **032**
- **040**
- **062**
- **093**
- **125**
- **187**
- **250**

(in metric bore)

- **039** 1 mm
- **118** 3 mm
- **236** 6 mm

Custom bore sizes also available.

Cap Style

- **A** Has mounting thread only
- **B** Has cap end threaded

Number of Elements Sealed

- **1**
- **2**
- **3**
- **4**
- **5**
- **7**
- **9**
- **10**
- **11**
- **13**
- **17**

Sealant

- **V** Viton™
- **T** Teflon™
- **L** Lava
- **G** GraFoil™

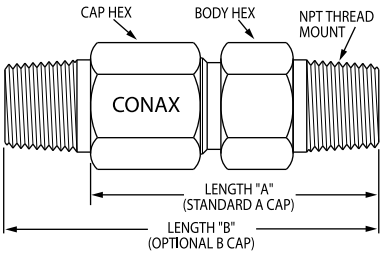
Other sealant materials also available.

Modifiers are added in parentheses to indicate optional mounting methods. See pages 9-11. See Specification Charts for the proper modifiers.

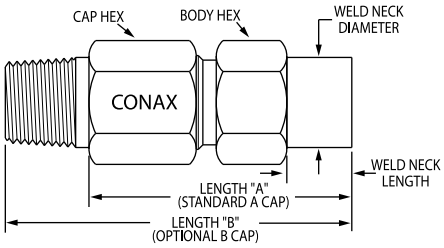
Legacy **SPG** & **DSPG** Series **Maximum Probe Density**

Probe Diameter	SPG75	SPG100	SPG150	DSPG75	DSPG100	DSPG150
0.020	5	7	11	N/O	N/O	N/O
0.032	4	5	10	5	9	17
0.040	3	5	9	5	9	17
0.062	2	4	7	4	5	13
0.093	2	3	5	N/O	5	9
0.125	1	2	4	N/O	4	6
0.187	1	1	3	N/O	N/O	5
0.250	1	1	2	N/O	N/O	4

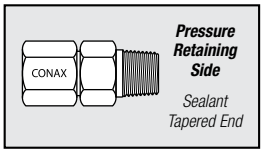
SPG and DSPG assemblies are not available in all sealant materials and/or hole densities.
Please consult factory for availability. N/O = Not Offered



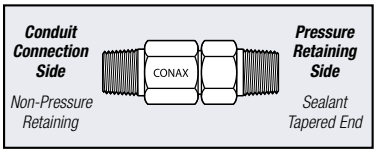
Standard NPT



Weld Neck Mount



Type A has mounting thread only.



Type B has cap end threaded. B Cap NPT matches the standard mounting NPT.

Legacy **SPG** & **DSPG** Series	Length				Hex Size				Pressure Rating	
	Length A		Length B		Body	Cap	Body	Cap		
Catalog Number	**IN**	**MM**	**IN**	**MM**	**IN**	**IN**	**MM**	**MM**	**PSIG**	**BAR**
Standard 1/4" NPT										
SPG75	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	C/F	C/F
DSPG75	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	C/F	C/F
Weld Neck Mount (Weld Neck Mount Length 0.59", Diameter 0.540")*										
SPG75(SWM2/S316L)	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	C/F	C/F
DSPG75(SWM2/S316L)	2.00	50.8	2.63	66.7	0.750	0.750	19.1	19.1	C/F	C/F
Standard 1/2" NPT										
SPG100	2.56	65.1	3.38	85.7	1.000	1.000	25.4	25.4	C/F	C/F
DSPG100	2.56	65.1	3.38	85.7	1.000	1.000	25.4	25.4	C/F	C/F
Weld Neck Mount (Weld Neck Mount Length 0.78", Diameter 0.840")*										
SPG100(SWM4/S316L)	2.56	65.1	3.38	85.7	1.000	1.000	25.4	25.4	C/F	C/F
DSPG100(SWM4/S316L)	2.56	65.1	3.38	85.7	1.000	1.000	25.4	25.4	C/F	C/F
Standard 3/4" NPT										
SPG150	3.31	84.1	4.06	103.1	1.250	1.500	31.8	38.1	C/F	C/F
DSPG150	3.31	84.1	4.06	103.1	1.250	1.500	31.8	38.1	C/F	C/F
Weld Neck Mount (Weld Neck Mount Length 0.79", Diameter 1.050")*										
SPG150(SWM5/S316L)	3.31	84.1	4.06	103.1	1.250	1.500	31.8	38.1	C/F	C/F
DSPG150(SWM5/316L)	3.31	84.1	4.06	103.1	1.250	1.500	31.8	38.1	C/F	C/F

Note: The pressure and torque ratings provided in this catalog apply only when bores are drilled by Conax Technologies. Custom bore sizes and/or a blank body, follower and/or sealant may be provided. Consult factory.

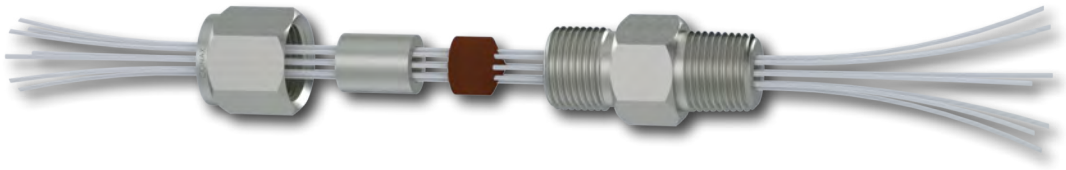
* Weld neck models require lubrication prior to use.

N/A = Not Applicable.

All pressure and torque ratings were determined at 68 °F (20 °C) using stainless steel rod as the element. Pressure ratings may degrade at higher temperatures. Pressure rating guide values are provided for fittings with elements restrained by the compressed sealant. Higher pressure may be attained with additional element restraints.

C/F = Consult Factory

BSWS/TWS Sensor Wire Seals



Conax Technologies Sensor Wire Seals are designed to seal virtually any transducer, sensor or detector elements in a wide range of vacuum or pressure boundaries.

The most common use of these seals is for instrument leads on vibration transducers, proximity probes, pressure sensors, temperature sensors, flow meters, and strain gages. Virtually any sensor lead that passes through a pressure boundary can be sealed using one of our compression seal fitting styles.

Don't hesitate to contact our sales engineers directly with your specific needs.

Bearing Sensor Wire Seals (BSWS)

Conax Technologies BSWS assemblies were originally designed for use with embedded bearing temperature sensors to prevent oil migrating along the sensor leads. They seal on the individual insulated leads exiting an oil-filled bearing house. They may also be used to seal all types of insulated instrumentation lead wire. These sealing assemblies can be found in large motors, generators, turbines, pumps, compressors and journal bearing pedestals.

Construction consists of 303 SST standard bodies, followers with a Viton™ sealant. Standard assemblies seal 2-14 wires in a variety of wire gauges. Please consult a Conax Technologies sales engineer for custom needs.

- Temperature Range: Ambient to +100 °F (+38 °C)
- Pressure Range: Vacuum to 50 PSIG (3.4 bar)

Accessories

The replaceable sealant permits repeated use of the same fitting. Elements can be easily assembled or replaced in the field. To replace the sealant or elements, simply loosen the cap, replace the necessary items, relubricate and retorque the cap.

Fittings are supplied factory lubricated. If fittings are cleaned prior to assembly or when reused, the fittings should be relubricated to maintain the published torque and pressure ratings. See page 107 for information on our lubrication kit.

Sealants with hole slits [V(S)] may be specified to:

- Ease installation of long lead wires
- Allow installation of transduces without removing connectors
- Seal SS braid wire by removing braid in seal area

To order a Replacement Sealant, order
RS – (BSWS [size]) – (Element) – (Number of Holes) – (Sealant).

Example: RS-BSWS4-20-2-V

Catalog Numbering System

Element Size
BSW Style Seal Fitting
Cap Style
Number of Elements Sealed
Sealant

Example: *BSWS4-20-A3-V*

BSW Style Seal Fitting

- **BSWS4** •1/2 NPT
- **BSWS5** •3/4 NPT

Element Size

- **20** •0.044-0.059" dia. over insulation
- **22** •0.037-0.051" dia. over insulation
- **24** •0.032-0.045" dia. over insulation
- **26** •0.028-0.041" dia. over insulation
- **125** •0.123-0.127" dia. over insulation

Cap Style

- **A** Has mounting thread only
- **B** Has cap end threaded

Number of Elements Sealed

- **2**
- **3**
- **4**
- **5**
- **6**
- **7**
- **8**
- **9**
- **10**
- **11**
- **12**
- **13**
- **14**

See Specification Charts for maximum wires accommodated by each model.

Sealant

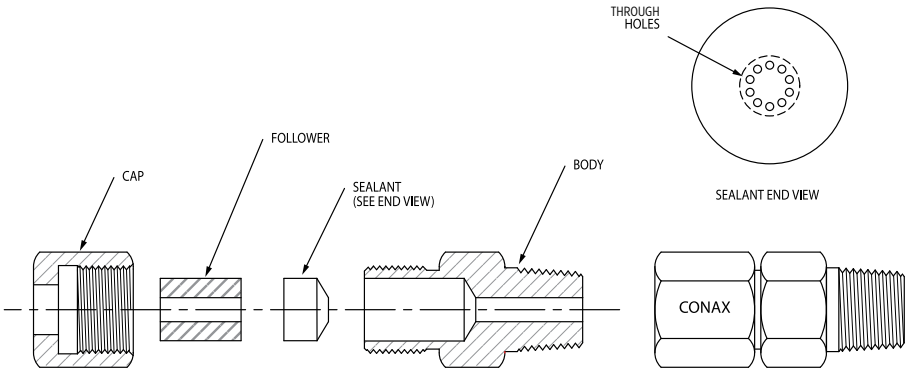
- **V** Viton™
- **V(S)** Viton™ with slit holes

Modifiers are added in parentheses to indicate optional mounting methods. See pages 9-11. See Specification Charts for the proper modifiers.

Specifications

BSWS Series	Number of Wires	Diameter Over Insulation		Thread NPT	Length				Hex Size				Pressure Rating	
					Length A		Length B		Body	Cap	Body	Cap	Viton™	
Catalog Number		IN	MM	IN	IN	IN	MM	MM	IN	IN	MM	MM	PSIG	BAR
BSWS4-20	2-8	0.044-0.059	1.1-1.5	1/2	2.50	63.5	3.25	82.6	1.000	1.000	25.4	25.4	50	3
BSWS4-22	2-8	0.037-0.051	0.9-1.3	1/2	2.50	63.5	3.25	82.6	1.000	1.000	25.4	25.4	50	3
BSWS4-24	2-8	0.032-0.045	0.8-1.1	1/2	2.50	63.5	3.25	82.6	1.000	1.000	25.4	25.4	50	3
BSWS4-26	2-8	0.028-0.041	0.7-1.0	1/2	2.50	63.5	3.25	82.6	1.000	1.000	25.4	25.4	50	3
BSWS5-20	2-14	0.044-0.059	1.1-1.5	3/4	2.88	73.0	3.63	92.1	1.250	1.500	31.8	38.1	50	3
BSWS5-22	2-14	0.037-0.051	0.9-1.3	3/4	2.88	73.0	3.63	92.1	1.250	1.500	31.8	38.1	50	3
BSWS5-24	2-14	0.032-0.045	0.8-1.1	3/4	2.88	73.0	3.63	92.1	1.250	1.500	31.8	38.1	50	3
BSWS5-26	2-14	0.028-0.041	0.7-1.0	3/4	2.88	73.0	3.63	92.1	1.250	1.500	31.8	38.1	50	3
BSWS5-125	2-4	0.123-0.127	3.1-3.2	3/4	2.88	73.0	3.63	92.1	1.250	1.500	31.8	38.1	50	3

Note: The pressure and torque ratings provided in this catalog apply only when bores are drilled by Conax Technologies. Custom bore sizes and/or a blank body, follower and/or sealant may be provided. Consult factory.
BSWS assemblies may be purchased with SAE/MS thread mount, weld neck or flange style mounts. Consult factory for details.
All pressure and torque ratings were determined at 68 °F (20 °C) using stainless steel rod as the element. Pressure ratings may degrade at higher temperatures. Pressure rating guide values are provided for fittings with elements restrained by the compressed sealant. Higher pressure may be attained with additional element restraints. For proper assembly of these seal fittings, see the Assembly Instructions provided on pages 110-124.



Transducer Wire Seals (TWS)

This version of the Conax sensor wire seal is designed to seal transducer cables entering low-pressure oil-filled cavities in rotating equipment. Since these transducers are typically manufactured with a factory assembled sensor and connector, the seal fitting has split internals to seal the outside jacket of the transducer's cable.

The Transducer Wire Seal comes standard with a four hole split Viton™ sealant and with four split Teflon™ backing disks. The backing disks will have 1, 2, or 3 holes so one seal fitting can seal up to four vibration, proximity and pressure transducer sensor cables.

Example: TWS-125-B2-V

And unlike competitors' designs, the Conax design requires only one Teflon™ backing disk and does not require the end user to punch out the holes.

Call Conax today to learn more about our complete line of sensor wire seals—and how we can customize a solution for your application.

HL Fittings for Hazardous Locations

CSA™ Certified in the U.S. and Canada with a Pressure Rating of 500 PSIG

Conax Technologies' HL Compression Seal Fitting is designed for protection in a wide variety of hazardous environments.

The Conax HL Fitting has been CSA™ certified in the U.S. and Canada for use in hazardous locations defined by the NEC™ as Class I, Div. 1 and 2, Groups B, C, and D; Class II, Div. 1 and 2, Groups E, F, and G; and Class III.

HL Fitting Features

- CSA™ certified in the U.S. and Canada
- Pressure rated to 500 PSIG
- Suitable for gas or liquid
- GraFoil™ sealant
- Teflon™ sleeves to protect wires from damage as they leave fitting
- Two body styles—small (1/2" NPT) and large (3/4" NPT)
- 303 SST body and cap material
- Wire, solid 14, 16 or 18 AWG supplied by customer or Conax
- Minimum 18" leads on both ends
- Wires that are easily assembled in the field
- Temperature Range: -4 °F to +130 °F (-20 °C to +55 °C)

The Conax HL Compression Seal Fitting is a superior solution to Chico™ and similar conduit sealing compound fittings commonly used in hazardous environments. With a mechanically sealed Conax HL Fitting, you won't need to worry about:

- Cracks in compound sealant or incorrectly installed compound sealants that allow explosive gases or liquids to leak in the conduit system
- Migration of explosive gases through stranded conductors due to a pressure differential in the conduit system

Both situations have the potential for explosive gases or liquids to cause corrosion to instrumentation or, even more problematic, to ignite when in the presence of instrumentation causing damage to property and possible injury to people.

Catalog Numbering System

HL X X - XX XX - X X - X - L 1 / L2 WIRE COLOR CONFIGURATION

- **Wire Length Body Side (inches)**
- **Wire Length Cap Side (inches)**
  XX/XX for Fitting less Conductors
- **Sealant Material:** G = GraFoil™
- **Number of Holes**
- **Cap Style:** B
- **Wire Type:** Per table
- **Wire Gauge:** 14, 16 or 18
- **Mounting Thread of Body:**
  4 = 1/2-14 NPT
  5 = 3/4-14 NPT
- **Body Style:**
  S = Small
  L = Large
- **Model Prefix:** HL = Hazardous Location

Example:

HL S 4 - 14 A1 - B 3 - G - 24 / 36 TWO RED, ONE WHITE

- **36"** Wire on Body Side
- **24"** Wire on Cap Side
- **G** = GraFoil™
- **3** Holes
- **Cap Style B**
- **THHN or THWN Solid Wire**
- **14 AWG**
- **4** = 1/2-14 NPT
- **S = Small Body Style**
- **HL** = Hazardous Location

Example:

HL S 4 - 14 A1 - B 3 - G - XX / XX (without conductors)

Specifications

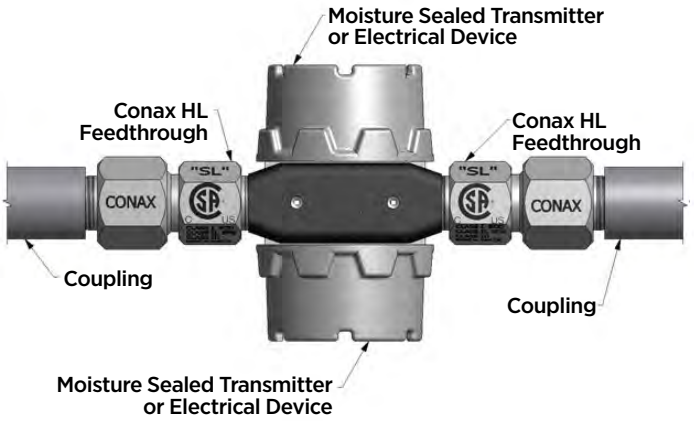
Product Selection Guide

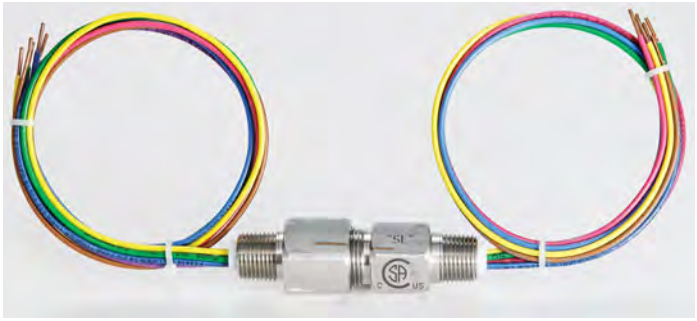
Model Number	NPT	Number of Conductors	Torque (ft-lbs) GraFoil™
HLS4-14A1-B2-G	1/2-14	2	160-165
HLS4-14A1-B3-G		3	
HLS4-14A1-B4-G		4	
HLS4-14A1-B6-G		6	
HLL5-14A1-B2-G	3/4-14	2	160-165
HLL5-14A1-B3-G		3	
HLL5-14A1-B4-G		4	
HLL5-14A1-B6-G		6	
HLS4-16B1-B2-G	1/2-14	2	160-165
HLS4-16B1-B3-G		3	
HLS4-16B1-B4-G		4	
HLS4-16B1-B6-G		6	
HLL5-16B1-B2-G	3/4-14	2	160-165
HLL5-16B1-B3-G		3	
HLL5-16B1-B4-G		4	
HLL5-16B1-B6-G		6	
HLS4-18B1-B2-G	1/2-14	2	160-165
HLS4-18B1-B3-G		3	
HLS4-18B1-B4-G		4	
HLS4-18B1-B6-G		6	
HLS4-18B1-B8-G		8	
HLL5-18B1-B2-G	3/4-14	2	160-165
HLL5-18B1-B3-G		3	
HLL5-18B1-B4-G		4	
HLL5-18B1-B6-G		6	
HLL5-18B1-B8-G		8	

Wire Diameter Guide (Diameter with Insulation)

Model Number	Wire Type	14 AWG	16 AWG	18 AWG
A1	THHN, THWN	.100-.110	—	—
B1	TFN	—	.088-.098	.078-.088

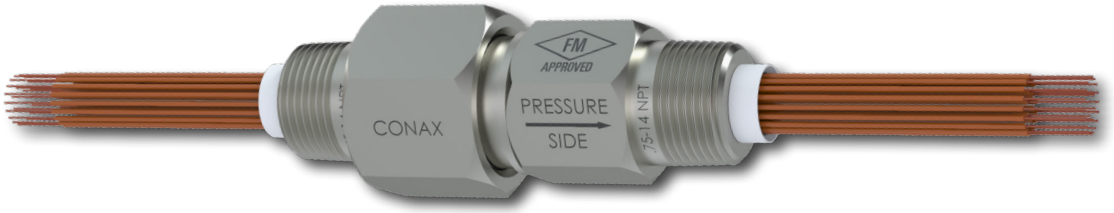
Typical Installation





When HL Fittings are supplied with factory-installed wires from Conax, the fittings are factory torqued. A bar is laser engraved across the Body and Cap to allow user to verify that the fitting is still properly torqued.

HLPL Hazardous Location Power Lead Feedthrough



HLPL power lead fittings provide pressure/vacuum sealing on Kapton™ insulated solid leadwires. HLPL glands seal against gasses and liquids, resist element movement under pressure, and are certified to:

- **ATEX, Ex db IIC Gb/Ex eb IIC Gb/Ex ta IIIC Da/Ex II 2G II 1D -40 °C ≤ Ta ≤ 200 °C**
- **IECEx, Ex db IIC T3 Gb/EX eb IIC T3 Gb/Ex ta IIIC T200 °C Da; -40 °C ≤ Ta ≤ 200 °C)**

Ingress Protection (IP): 66, 67 and 68 (5 meters for 1 hour)

HLPL is a Hazardous Location Power Lead Fitting providing pressure/vacuum sealing on Kapton solid insulated copper lead wires and solid thermocouple wires, type T, J, K, E, and N.

HLPL fittings seal against gases and liquids and resist wire movement under pressure and are constructed of 316SST Body, 303SST Cap and 316SST follower with a Grafoil sealant. The Grafoil sealant once torqued and compressed provides a minimum 20mm flame path seal.

Several material options are available for the body and cap with additional mounting options per Conax scheduled drawing which includes A and B cap styles.

Catalog Numbering System

HLPL(/ S316 / S316L)- 6 - B 3 - G , 18.00"/18.00"

- **Body Side conductor length L2**
- **Cap Side conductor length L 1**
- **Sealant material:** G = GraFoil™
- **Number of wires:** 3 = 3 wires
- **Cap type:** B = B CAP (threaded)
- **Wire gauge size:** 6 = 6 gauge wire
- **Body material modifier code as certified:** 316/316L stainless steel

HLPL Features

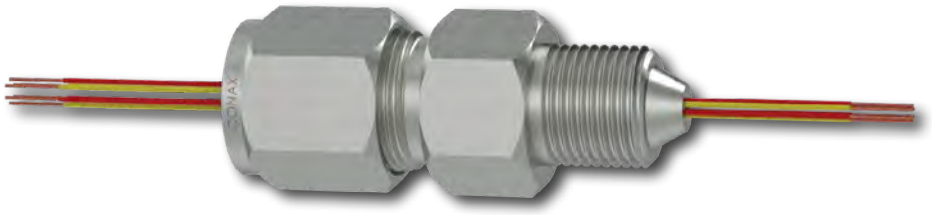
- Pressure rated to 1500 PSI max, NPT threads only
- Suitable for gas or liquid
- GraFoil™ sealant
- Teflon™ sleeves to protect wires from damage as they exit either end of feedthrough
- 316/316L SST body and 303 SST B cap, different SST grades to minimize potential galling issues on standard offerings
- Supplied with 18" (minimum) leads on both sides, contact factory for longer lengths
- Additional mounting and material options may be applied per specific customer application. Consult factory for details.

Specifications

HLPL Series

Description	Number of Conductors	Standard NPT (Body and "B" Cap)	Amperage Rating Per Wire
HLPL-24-XX-G, XX/XX	2, 4, OR 6	.500-14 NPT	7
	8 OR 12	.750-14 NPT	
HLPL-20-XX-G, XX/XX	2, 3 OR 4	.500-14 NPT	9
	6 OR 8	.750-14 NPT	
	18	.750-14 NPT	
HLPL-18-XX-G, XX/XX	2, 3 OR 4	.500-14 NPT	13
	6 OR 8	.750-14 NPT	
	10 OR 12	.750-14 NPT	
HLPL-16-XX-G, XX/XX	2, 3 OR 4	.500-14 NPT	17
	6 OR 8	.750-14 NPT	
	10 OR 12	.750-14 NPT	
HLPL-14-XX-G, XX/XX	2	.500-14 NPT	24
	3 OR 4	.500-14 NPT	
	6 OR 8	.750-14 NPT	
	10 OR 12	.750-14 NPT	
HLPL-12-XX-G, XX/XX	2, 3, 4 OR 6	.750-14 NPT	30
HLPL-10-XX-G, XX/XX	2, 3 OR 4	.750-14 NPT	40
HLPL-8-XX-G, XX/XX	2	.750-14 NPT	55
	3	.750-14 NPT	
HLPL-6-XX-G, XX/XX	3	.750-14 NPT	60

HPPL High Pressure Sealing Assemblies up to 30,000 PSIG



Conax Technologies manufactures high pressure seals [up to 30,000 PSIG at 68 °F (20 °C)] for instrument signal wires. High pressure seals are designed for installation onto the pressure vessel wall using threaded mounting configurations only. High pressure assemblies are factory torqued, so disassembly and reassembly in the field is not recommended.

These assemblies feature body and caps constructed from high strength 316 SST standard and a proprietary sealant. HPPL assemblies are provided with Kapton™-insulated 26 gauge solid copper wire or 24 gauge thermocouple wire. Standard assemblies include 24″ of wire on each side. To order other wire lengths, indicate the desired lengths after the catalog number.

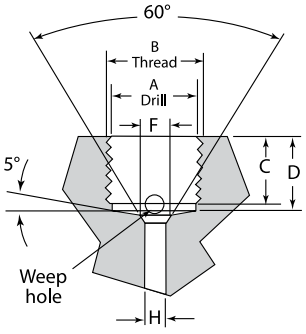
A 1/2″ NPT thread can be added to the assembly cap to allow mounting a terminal box or other type of enclosure. Consult factory for ordering details.

For other types of high pressure applications such as electrode sealing, please consult the factory.

HPPL Series	Wire Gauge	Number of Wires	Length		Thread Size	Hex Size				Pressure Rating	
						Body	Cap	Body	Cap		
Catalog Number			IN	MM	IN	IN	IN	MM	MM	PSIG	BAR
HPPL14(AM2/S316B)-26-A(/S316B)*-CGL	26	2 - 4	2.89	73.4	9/16-18	1.00	1.00	25.4	25.4	30,000	2,067
HPPL14(AM3/S316B)-26-A(/S316B)*-CGL	26	2 - 7	3.00	76.2	3/4-16	1.25	1.00	31.8	25.4	30,000	2,067
HPPL8(AM5/S316B)-26-A(/S316B)*-CGL	26	2 - 10	3.00	76.2	1-1/8-12	1.25	1.25	31.8	31.8	20,000	1,378
HPPL14(AM3/S316B)-24-A(/S316B)*-CGL	24	2 - 6	3.00	76.2	3/4-16	1.25	1.00	31.8	25.4	20,000	1,378
HPPL8(AM5/S316B)-24-A(/S316B)*-CGL	24	2 - 8	3.00	76.2	1-1/8-12	1.25	1.25	31.8	31.8	20,000	1,378

Feedthrough Connection Port Dimensions—Autoclave Engineers FC Port

Tube OD	AE Port Type	Conax Designation	Dimensions inches (mm)					
			A	B	C	D	F	H
1/4	F250C	AM2	33/64 (13.1)	9/16-18	0.38 (9.7)	0.44 (11.1)	0.17 (4.3)	0.094 (2.4)
3/8	F375C	AM3	11/16 (17.4)	3/4-16	0.53 (13.5)	0.62 (15.7)	0.26 (6.6)	0.125 (3.2)
9/16	F562C	AM5	1-3/64 (26.6)	1-1/8-12	0.62 (15.7)	0.75 (19.1)	0.38 (9.7)	0.188 (4.8)
9/16	F562C40	AM5	1-3/64 (26.6)	1-1/8-12	0.62 (15.7)	0.75 (19.1)	0.38 (9.7)	0.250 (6.4)



Note: All dimensions are shown for reference only and should not be considered as actual machining dimensions.
All threads are manufactured to a class 2A or 2B fit.
* Body side wire length 80″ (203.2 cm) maximum. Consult factory for longer lengths.

Example: ***HPPL14(AM3/S316B)-26-A(/S316B)2-CGL, 30/45***

- Wire Length in inches, Cap Side
- Wire Length in inches, Body Side

HPEG High Pressure Sealing Assemblies up to 20,000 PSIG

Conax Technologies manufactures high pressure seals [up to 20,000 PSIG at 68 °F (20 °C)] for electrode feedthroughs. High pressure seals are designed for installation onto the pressure vessel wall using threaded mounting configurations only. High pressure assemblies are factory torqued, so disassembly and reassembly in the field is not recommended.

These assemblies feature body and caps constructed from high strength 316 SST standard and a proprietary sealant.

Each unit has a stepped electrode. The larger diameter electrode is on the body side. SST nuts and washers are used for nickel and stainless steel, and brass is used for copper.

The electrode is copper (CU), stainless steel (SS) or nickel (NI).

The voltage rating is 2000VDC. All HPEG assemblies are factory pressure tested at 68 °F (20 °C).

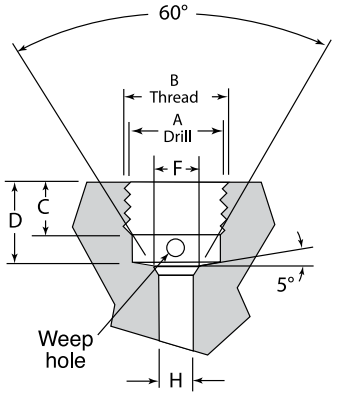
HPEG Series	Thread Size (IN)	Max Amperage Rating		
Catalog Number		CU	SS	NI
HPEG(ASM5/S316)-093/187-A-CU-V	13/16-16UNF-2A	20	10	3
HPEG(ASM7/S316)-187/312-A-CU-V	3/4-14NPSM	60	25	9

Note: HPEG with ASM5 mates with Snap-tite/Autoclave Engineers part type SF562CX10.
HPEG with ASM7 mates with Snap-tite/Autoclave Engineers part type SF750CX10.

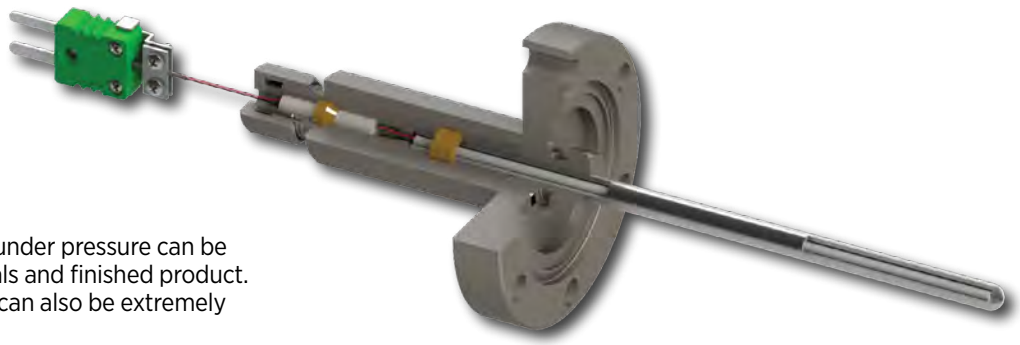
Tube Connection Dimensions—Autoclave Medium Pressure SFCX

Tube OD	Connection Type	Dimensions inches (mm)					
		A	B	C	D	F	H
9/16"	SF562CX10	3/4" (19.1)	13/16-16	0.44 (11.1)	0.75 (19.1)	0.50 (12.7)	0.359 (9.1)
3/4"	SF750CX10	61/64" (24.2)	3/4-14	0.50 (12.7)	0.94 (23.9)	0.62 (15.7)	0.516 (13.1)

Note: All dimensions are shown for reference only and should not be considered as actual machining dimensions.
All threads are manufactured to a class 2A or 2B fit.



CB Conax Combo Fittings



Eliminate the risk of catastrophic leaks

In-process leaks under vacuum or under pressure can be costly in terms of lost time, materials and finished product. Under certain circumstances, they can also be extremely dangerous.

When customers asked us for a solution that would eliminate the risk of in-process leaks caused by sheath failures, Conax devised the idea for a Combo Fitting that has a seal for the thermocouple sheath and a secondary seal for the wires. The dual seals ensure that, if the sheath breaks or wears out, there will still be no leak into or out of the process.

Vacuum leaks

Conax Combo Fittings are ideal for processes that take many days to complete, utilize expensive raw materials, or when it would be especially costly to lose the finished product due to a vacuum leak into the process.

For example, a solar manufacturer with a 20-day poly-crystalline ingot growth cycle experienced a leak into the chamber during a cycle, ruining the ingot and costing the customer time and money. Now, our Combo Fittings eliminate the risk for potential loss in the future.

Pressure leaks

Leaks out of the process chamber can be even more serious for processes that contain deadly or explosive chemicals.

For example, a Conax customer was running a process to dispose of old chemical weapons. During this process, the bomb would be sealed in a chamber and detonated. Then, the atmospheric temperature inside the chamber would be raised to destroy the chemical contaminates. They came to Conax for a solution that would ensure no lethal gas would leak from the chamber during the disposal process.

Customized Combo Fittings

Conax routinely creates fittings using a combination of our PG and MTG Fittings. However, we can customize a Combo Fitting to your unique needs using any two Conax fittings.

Talk to us today to find out if a Conax Combo Fitting is right for your process.

HPEG SERIES ◀ CB SERIES

Progressive Description Example

Optional

Combo Fitting	Fitting Description for Non-Process Side of Combo Fitting See Catalog 5001 for fitting options.	Fitting Description for Process Side of Combo Fitting See Catalog 5001 for fitting options.	Mounting Method See Catalog 5001 for details.	Material Modifier See Catalog 5001 for details.
CB	MTG	PG2	PTM4	S316L
	PG2	MHM4	CFNC1	I600
	...	...	...	...

Example 1 ***CB(MHM2-062A4V/PG2-250AG)***

Example 2 ***CB(MHC4-040A4V/PG4-250AV)-(KF9)***

Example 3 ***CB(MTG-24A2V/PG2-250DV)-(CFNC1W/S316L)***

FSA Fiber Optic Sealing Assemblies

Conax Technologies has adapted our proven soft sealant capability to include the ability to compress a soft sealant material around the outside diameter of a fiber optic cable. The fiber optic cable is encased within a rugged stainless steel sheath that protects the cable from damage during the sealing process. This sheath is then placed through a seal fitting. This process allows the fiber optic cable to be sealed without the use of epoxies and with minimal outgassing.

The fiber optic feedthrough sub-assembly can be used with various Conax Technologies Seal Fittings, including multiple hole fittings, and can be adapted for special applications.

Features

- Wide range of connector terminations: ST, SMA, FC, FC/APC, FC/PC and SC/APC
- Standard fiber core sizes: 8.3, 62.5, 100, 200, 400, 600, 700 micron and larger
- Adaptable to customer-supplied fiber
- Can seal outside buffer diameters from 400 to 1040 microns
- Protection Tubing: Standard furcation tube (black in color) is constructed of a polypropylene inner tube with a dried Kevlar™ Aramid yarn strength member and a 3.0 mm outer polyethylene jacket.
- Models FSA2 and FSA4 are available with a low-outgassing furcation tube. Please specify FSA2B or FSA4B for this feature.

Specifications

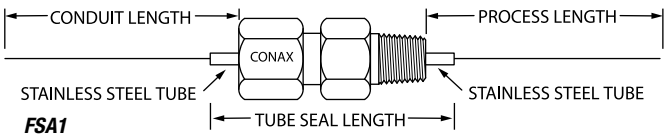
- Helium Leak Rate: $1x10^{-6}$ scc/sec typical
- Transmission Loss: Less than 0.3 db typical (not including connectors)
- Pressure Range: 1000 PSIG (70 bar) standard
- Temperature Range: -4 °F to +185 °F (-20 °C to +85 °C). Higher temperature models are available in some configurations. Please consult factory.

Catalog Numbering System

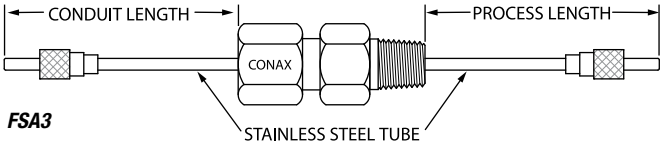
PG Seal Fitting
Tube Seal Length
Fiber Core Size
Model Type
Conduit Length
Process Length
Connector Termination, Conduit Side
Connector Termination, Process Side

Example: ***FSA2-4-2-PG2AT-2000/1500-906/ST***

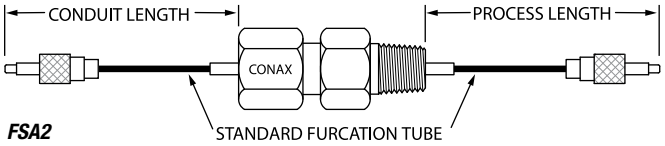
Model Type	Fiber Core Size	Tube Seal Length	Mounting Seal Fitting (Optional)	Conduit Length	Process Length	Connector Termination, Conduit Side	Connector Termination, Process Side
FSA1	**0** 8.3 µm	**1** 55 mm (2.0") not available for Model FSA3	**XX** No Fitting	(in mm)	(in mm)	**XX** No Connector	**XX** No Connector
FSA2	**1** 62.5 µm	**2** 76 mm (3.0")	See the appropriate catalog section to determine proper seal fitting callout. Will accept PG, MK, MHM, MHC or PGS style fitting.			**905** SMA 905	**905** SMA 905
FCA2B low outgassing	**2** 100 µm	**3** 102 mm (4.0")				**906** SMA 906	**906** SMA 906
FSA3	**3** 200 µm	**4** 114 mm (4.5")				**ST** ST	**ST** ST
FSA4	**4** 400 µm	**5** 127 mm (5.0")				**FST** ST with female adapter	**FST** ST with female adapter
FCA4B low outgassing	**6** 600 µm	**6** 152 mm (6.0")				**FC** FC	**FC** FC
	7 700 µm					**FC/PC** FC with PC Polish	**FC/PC** FC with PC Polish
	9 Customer supplied fiber					**FC/APC** FC with APC, 8 ° Angle Polish	**FC/APC** FC with APC, 8 ° Angle Polish
						SC/APC SC with APC, 8 ° Angle Polish	**SC/APC** SC with APC, 8 ° Angle Polish



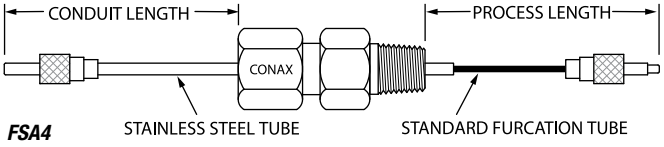
FSA1



FSA3

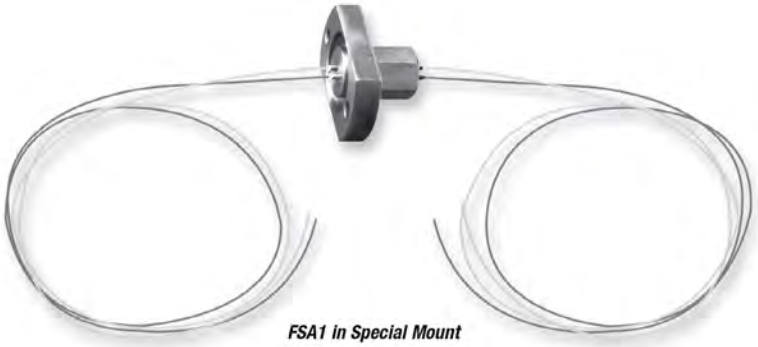


FSA2



FSA4

FSA2 in Multi-Hole Fitting Arrangement



FSA1 in Special Mount

FSA2

FSA2

FSA4

FCA High Performance Fiber Cable Assemblies

Conax Technologies offers high performance cable assemblies for use in applications such as laser delivery systems, telecommunications, fiber-to-fiber connections, test & measurement systems, and research. These cable assemblies feature high quality, reliable factory terminations and are available in a variety of lengths, fiber types and connection styles. Each cable assembly can be optically tested for connection losses.

Features

- Available with or without connector terminations
- Standard fiber core sizes available: 8.3, 62.5, 100, 200, 400 micron and larger
- Can build cable using customer-supplied fiber
- Protection Tubing: Models FCA1 and FCA2 use a standard furcation tube (black in color) constructed of a polypropylene inner tube with a dried Kevlar™ Aramid yarn strength member and a 3.0 mm outer polyethylene jacket. These models are also available with a low outgassing furcation tube (blue in color) constructed of a PVDF inner jacket with a dried Kevlar™ Aramid yarn strength member and a 3.0 mm PVDF outer jacket.
- Model FCA3 uses the standard furcation tube with a stainless steel overbraid. Please specify FCA1B or FCA2B for this feature.

Specifications

- Transmission Loss: Less than 0.3 db typical (not including connectors)
- Temperature Range: -4 °F to +185 °F (-20 °C to +85 °C). Higher temperature models are available in some configurations. Please consult factory.

Benefits

- Rugged construction
- Fiber optic cable is protected inside the sheath
- Uses low outgassing materials

FSA SERIES ▲
FCA SERIES

Catalog Numbering System

Fiber Core Size
Low Outgassing Tube
Model Type
Overall Length
Connector Termination, Conduit Side
Connector Termination, Process Side

Example: *FCA2B-4-1000-ST/ST*

Model Type	Fiber Core Size	Overall Length	Connector Termination, Conduit Side	Connector Termination, Process Side
FCA1	**0** 8.3 µm	(in mm)	**XX** No Connector	**XX** No Connector
FCA1B low outgassing	**1** 62.5 µm		**905** SMA 905	**905** SMA 905
FCA2	**2** 100 µm		**906** SMA 906	**906** SMA 906
FCA2B low outgassing	**3** 200 µm		**ST** ST	**ST** ST
FCA3	**4** 400 µm		**FST** ST with female adapter	**FST** ST with female adapter
	6 600 µm		**FC** FC	**FC** FC
	7 700 µm		**FC/PC** FC with PC Polish	**FC/PC** FC with PC Polish
	9 Customer supplied fiber		**FC/APC** FC with APC, 8 ° Angle Polish	**FC/APC** FC with APC, 8 ° Angle Polish
			SC/APC SC with APC, 8 ° Angle Polish	**SC/APC** SC with APC, 8 ° Angle Polish

FCA1

FCA3

FCA2

FCA2 with stainless steel connector on one end and ST-to-ST adapter on the opposite end.

SPA/RSA Process Analyzer Sample Probe Assembly (SPA) with a Conax Packing (PG) Compression Seal Fitting

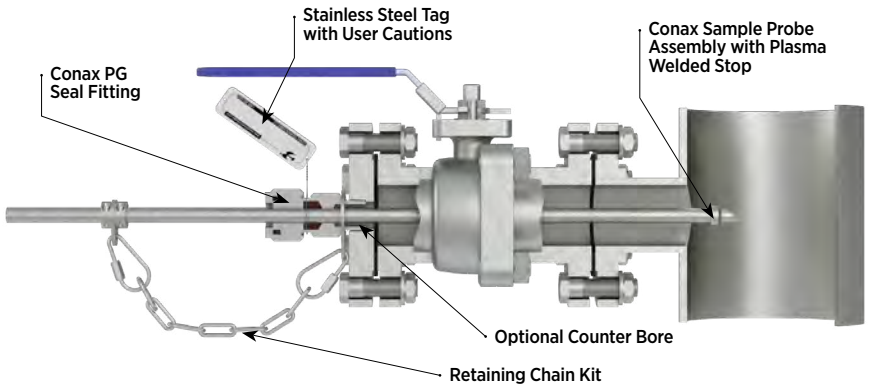
Features & Options

- Plasma welded stop collar
- Retaining Chain Kit, required as a safety measure
- Wake frequency calculations
- Various probe ends and valve types available

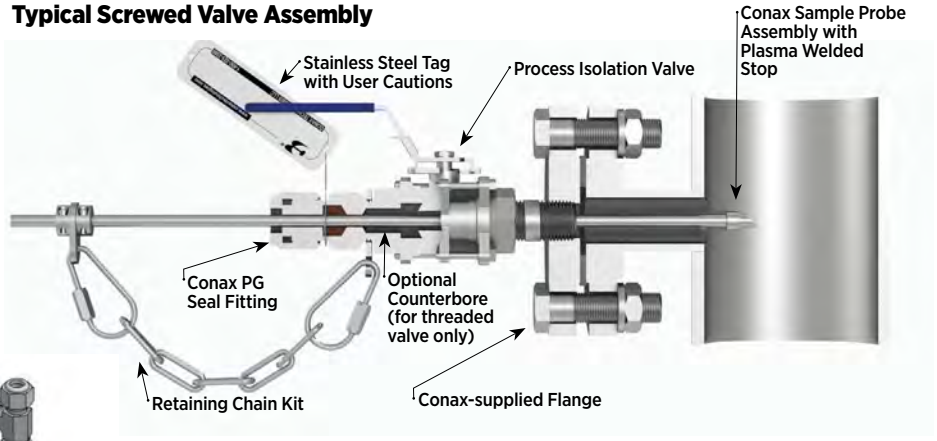
For Unique Applications

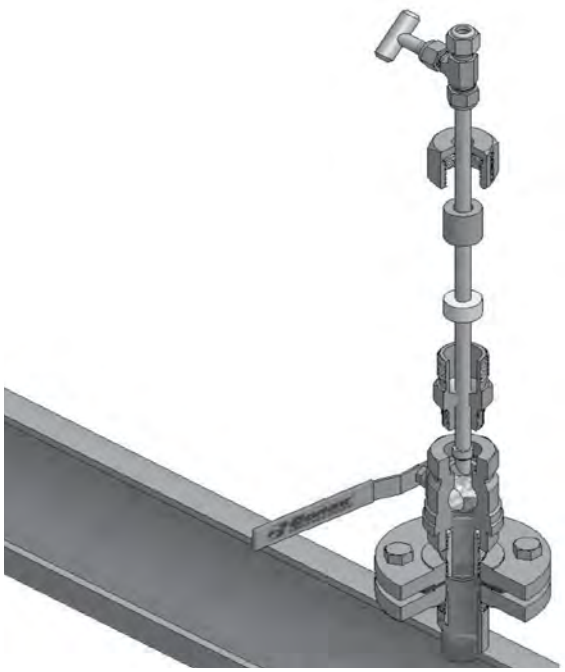
- Process analyzing
- Flare stack emissions
- Chemical injection quills
- Waste water analysis
- Potable water quality sampling
- Hot tapping liquid or gas streams

Typical Flanged Valve Assembly



Typical Screwed Valve Assembly





Sample Probe Assembly

The Conax Technologies' Sample Probe Assembly (SPA) is used to hot-tap a probe into a process through a process isolation valve.

Temperature and Pressure Ratings

Refer to the appropriate sections of this catalog for temperature and pressure ratings for static conditions. Pressure ratings are reduced when the seal fitting cap is loosened to allow for the insertion or extraction of the sample probe.

Material Options

- Optional materials for the Sample Probe Assembly and the Conax Technologies' PG Fitting body (wetted components) are available. Available options include 316L SST, 316 NACE SST, 316L CRN, MONEL™ 405, HASTELLOY™ C276 and INCONEL™ 600.
- Sample Probe Assemblies and/or PG Fitting bodies can be supplied with a Silcolloy™ 1000 (Silcosteel™-CR) or SilcoNert™ 2000 (Siltek™/Sulfinert™) coating.
- Standard Sealants are Teflon™, PEEK™, and GraFoil™. Other sealants are available for special applications.

How to Configure the Model Number of an SPA Assembly

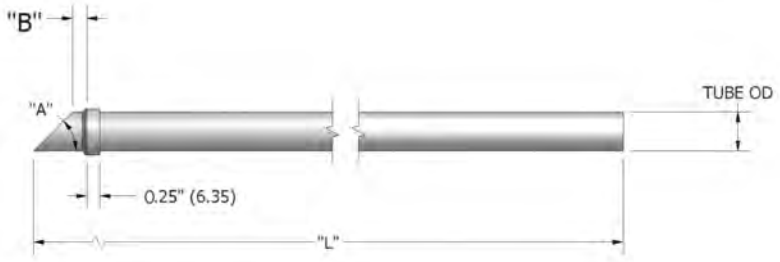
Standard Conax Packing (PG) Compression Seal Fitting model numbers and configurations apply. Compression seal fittings are supplied loose unless otherwise indicated.

Example model number: SPA/PG5-500-A-T/500X120W(S304)-45-1-36

Sample Probe **Configurator**

Product Name	Compression Seal Fitting Used if none indicate "X"	Tube OD	Tube Wall	Tube Material (S304 or S316, M405, HC276, I600)	A Tube End Angle (90 °, 60 °, 45 °, 30 °)	B Dimension (1/4" increments 1 = 1/4")	L Overall Tube Length (inches)
SPA	PG5-500-A-T	500	120W	S304	45	1	36

Standard diameter for the welded stop collar is 0.125" larger than the sample probe. Special sizes available upon request.



Standard Tube Sizes* (Please refer to bulletin 6066DS.)

Standard **Tube Sizes**

OD (mm)	Wall (in)	Wall (mm)	ID (in)	ID (mm)	Material
0.250" (6.35)	0.025"	0.64	0.200"	5.08	S304
	0.035"	0.89	0.180"	4.57	S304
	0.025"	0.64	0.200"	5.08	S316
	0.035"	0.89	0.180"	4.57	S316
	0.035"	0.89	0.180"	4.57	MONEL™ 400
	0.035"	0.89	0.180"	4.57	Hast C276
0.375" (9.53)	0.040"	1.02	0.295"	7.49	S304
	0.065"	1.65	0.245"	6.22	S304
	0.040"	1.02	0.295"	7.49	S316
	0.058"	1.47	0.259"	6.58	S316
	0.065"	1.65	0.245"	6.22	MONEL™ 400
	0.035"	0.89	0.305"	7.75	Hast C276
	0.065"	1.65	0.245"	6.22	Hast C276

*Tubing is seamless or welded and annealed.

Standard **Tube Sizes**

OD (mm)	Wall (in)	Wall (mm)	ID (in)	ID (mm)	Material
0.500" (12.70)	0.035"	0.89	0.430"	10.92	S304
	0.049"	1.25	0.402"	10.21	S304
	0.065"	1.65	0.375"	9.53	S304
	0.120"	3.05	0.260"	6.60	S304
	0.049"	1.25	0.402"	10.21	S316
	0.065"	1.65	0.370"	9.40	MONEL™ 400
	0.049"	1.25	0.402"	10.21	Hast C276
0.625" (15.88)	0.065"	1.65	0.495"	12.53	S304
0.750" (19.05)	0.095"	2.41	0.560"	14.22	S316
	0.065"	1.65	0.620"	15.75	MONEL™ 400
1.000" (25.40)	0.120"	3.05	0.760"	19.30	S316

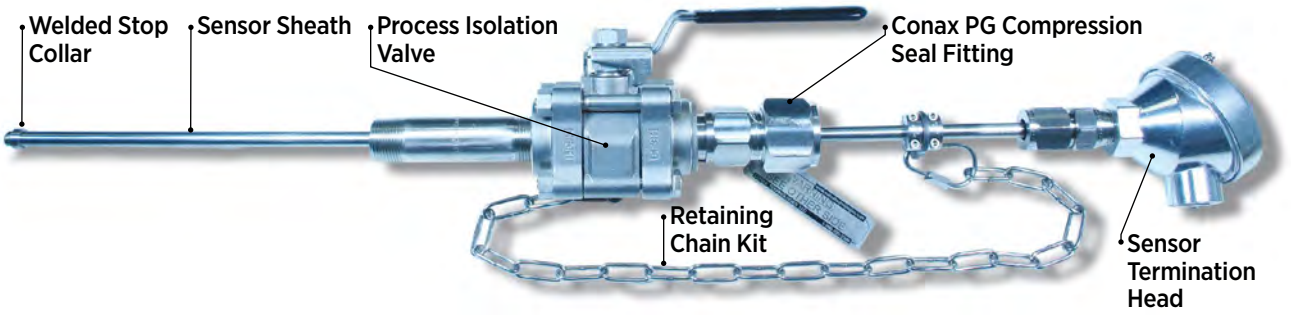
Conax PG Compression Seal Fittings

PG Series **Compression Seal Fittings**

Model	NPT Size (in)	Sample Probe Tubing Diameter in inches (mm)						Sample Probe Pipe Diameter in inches (mm)							
		0.250 (6.35)	0.375 (9.53)	0.500 (12.70)	0.625 (15.88)	0.750 (19.05)	1.000 (25.40)	1/8" 0.405" OD (10.29)	1/4" 0.54" OD (13.72)	3/8" 0.675" OD (17.15)	1/2" 0.84" OD (21.34)	3/4" 1.05" OD (26.67)	1" 1.315" OD (33.40)	1.25" 1.66" OD (42.16)	1.50" 1.90" OD (48.25)
PG2	1/4"	X													
PG4	1/2"	X	X					X							
PG5 (PTM4)	1/2"	X	X	X				X	X						
PG5	3/4"	X	X	X	X	X		X	X	X					
PG5 (PTM6)	1"	X	X	X	X	X		X	X	X					
PG6	1"					X	X				X				
PG7	1-1/4"										X	X	X		
PG8	1-1/2"												X		
PG9	2"													X	X

Other sizes and materials available upon request. All Conax PG Fittings are available with an optional welded or threaded ASME/ANSI Raised-face Flange mount.

Retractable Sensor Assembly (RSA) with Conax PG Compression Seal Fitting



Features and Benefits

- Complete factory engineered and assembled designs
- RTD and Thermocouple designs
- Plasma welded stop collar
- Retaining Chain Kit, required as a safety measure
- Wake Frequency Calculations available on request
- Available in Direct Immersion (see photo) or Retractable Thermowell Designs
- Various materials are available for the sensor sheath, thermowell and the Conax PG Compression Seal Fitting body

Improved Design—Superior Performance

Conax Technologies has designed an innovative and unique approach to inserting and extracting a temperature sensor into a pressurized process through a process isolation valve in conjunction with a Conax Compression Seal Fitting.

The Conax Retractable Sensor Assembly (RSA) is specifically designed for applications requiring the insertion and extraction of a temperature sensor in process pipelines, flare stack emissions and storage tanks.

Temperature and Pressure Ratings

Please refer to the appropriate sections of Conax Catalog 5001 for temperature and pressure ratings for static conditions. Pressure ratings are reduced when the seal fitting cap is loosened to allow for the insertion or extraction of the RSA.

Retaining Chain Kit

The Conax retaining chain kit is constructed from stainless steel and is specifically designed to function with the Conax RSA Compression Seal Fitting. This kit is required as a safety measure.

Technical Sales Support

Conax Technologies' Technical Team can help you solve your problems. Call our inside sales team and you'll get the support you need to make the right choices.

Ensure your SPA meets ASME and IEC standards with our online calculator

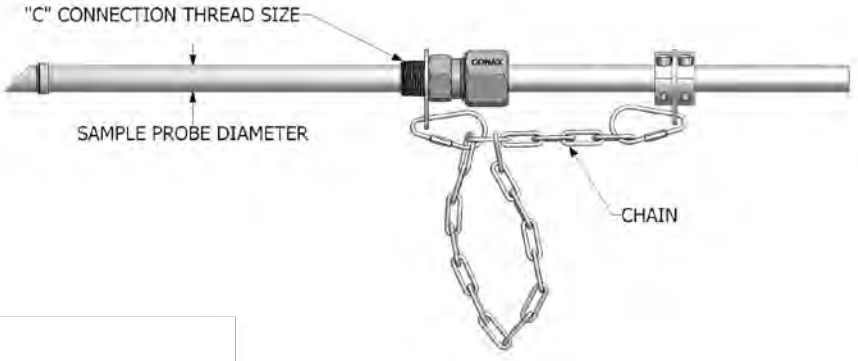
To help ensure you're choosing the proper Sample Probe Assembly (SPA) for a specific application, we created the Conax Technologies Wake Frequency Solution Builder™—our user-friendly online calculator.

This tool enables you to enter data for the specific SPA you need and receive immediate calculation results, based on ASME PTC 19.3 TW-2010 and/or IEC/TR 61831 standards. If there are problems with the configuration of your SPA, you'll see exactly what needs to be adjusted. If the design is approved, you'll see confirmation that each element tested has passed, and you can contact Conax to purchase the SPA.

The Wake Frequency Solution Builder™ provides you with an instant pass or fail rating online. And you'll receive comprehensive Sample Probe Design Calculation Datasheets based on ASME PTC 19.3 TW-2010 and/or IEC/TR 61831 calculations with your SPA order at no additional charge. We understand there may be times when you'll need a higher level of help, so we've included a button on the calculator page that enables you to request help.

Retaining Chain Kit

The Conax Retaining Chain Kit is constructed from 300 series SST and is specifically designed to function with the Conax Process Analyzer Sample Probe Assembly (SPA) or with Conax's Retractable Sensor Assembly (RSA) utilizing a Conax PG Compression Seal Fitting.



Catalog Numbering System

18	0005	N		
Drawing Prefix		"C" Connection Thread Size (2 decimal places NPT)	Sample Probe Diameter	Chain Length in Whole Inches

- **025N** = 1/4" NPT
- **038N** = 3/8" NPT
- **050N** = 1/2" NPT
- **075N** = 3/4" NPT
- **100N** = 1" NPT

- **25** = 0.25" (6.35 mm)
- **38** = 0.38" (9.53 mm)
- **50** = 0.50" (12.70 mm)
- **63** = 0.625" (15.88 mm)
- **75** = 0.75" (19.05 mm)
- **100** = 1.00" (25.40 mm)

Drawing Prefix
"C" Connection Thread Size
Sample Probe Diameter
Chain Length

Conax Part Number series:

18-0005-XXXN-XX-XX: Base design Retaining Chain Kit Assembly.

18-0037-XXXN-XX-XX: Retaining Chain Kit Assembly for high vibration applications with a Retaining Washer plasma welded to the Sample Probe Collar.

Examples: 18–0005–025N–25–12
18–0037–025N–25–12

Installation Instructions for the Conax Retaining Chain Kit

To Install Shaft Collars:

1. Loosen collar screws
2. Place collar or welded collar/washer (Item 2) and shaft collar (Item 3) over probe as shown.
3. Position collar (Item 3), tight against (Item 2) washer such that there are no visible gaps.
4. Tighten collar screws.

   For 0.250" probe, tighten to 8 in-lbs

   For 0.375" probe, tighten to 15 in-lbs

   For 0.500" probe, tighten to 28 in-lbs

   For 0.625" probe, tighten to 45 in-lbs

   For 0.750" & 1.000" probes, tighten to 110 in-lbs

   Please consult factory for other sizes.

To Adjust Safety Chain:

1. Unscrew threaded connector (Item 5) link at process side of probe.
2. Take up all extra chain links and loop over the threaded connector.
3. Screw threaded connector back together and wrench tighten (5 in-lbs recommended).

User Cautions

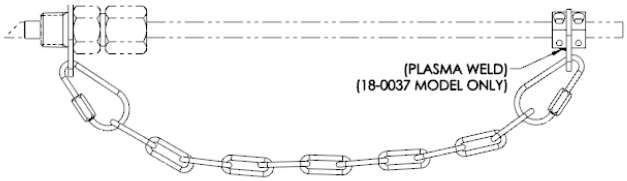
Sample Probe Assembly

- The end user must take the necessary safety precautions when loosening the cap of the Conax PG Fitting when inserting or extracting the Sample Probe into pressurized environments.
- The end user is responsible to control any leakage of process that may occur during insertion or extraction of the Sample Probe.
- The end user is responsible for determining the appropriate Sample Probe material, diameter and wall thickness for the process environment and flow rates.
- Conax Technologies is not responsible for the operation of the Conax PG Fitting assembly once the cap is loosened to allow for the insertion or extraction of the Sample Probe.
- Typically, when properly installed, the angled Sample Probe tip should have the long side upstream. This reduces the particulates entering the Sample Probe and into the process analyzer filter.
- The Sample Probe immersion length should be designed to obtain a process sample close to the center third of the pipe.
- It is suggested that the end user mark the Sample Probe end with an indelible ink marker relative to the angled end for proper orientation into the process.

Retaining Chain Kit

- Retaining chain assembly is not intended to assist or control the insertion/extraction of the sample probe. The operator is responsible for restraint of the sample probe at all times.
- Chain must be kept as short as possible to function properly. Some minor slack in the chain will be present when sample probe is inserted. The retaining chain kit is not intended for impact loads. If it is subject to an impact load, all parts must be inspected/replaced as required.
- Periodically inspect restraint system. Re-torque probe collar and threaded connector. Replace parts as necessary.
- Maximum design pressure for the retaining chain kit is 500 PSIG. (≤ .500" (12.70 mm) Sample Probe diameter).
- Prior to installing the PG Fitting into the process valve port, install the front retaining washer (Item 1) over the PG Fitting pipe thread.

Retaining Washer plasma welded to the Sample Probe Collar.



Note: After the Sample Probe is properly inserted and the Conax PG Fitting is properly assembled and tightened to the recommended factory torque requirement, ensure the chain length is as short as possible using the Threaded Connectors. This requires the qualified user to adjust the chain prior to loosening the PG Fitting cap to allow retraction of the Sample Probe.

Refer to Conax PG Compression Seal Fitting Assembly Instructions Bulletin 6026 Rev D as supplied with shipment or available at http://www.conaxtechnologies.com/product/assembly-instructions-fittings-feedthroughs.

Introduction to Flanges

Conax Technologies provides four flange styles to accompany its compression seal fittings. All flanges are constructed of 304 SST, 316 SST or carbon steel. Alternate materials and grades are available—consult the factory with your requirements

KF (ISO) Vacuum Flange Mounts

KF Vacuum Flange Mounts offer fast assembly and disassembly. They mate to Varian Klamp-Flange®, MDC Kwik-Flange® and similar vacuum flanges. This mounting style is ideal for roughing and high vacuum applications requiring frequent changeover, including sintering furnaces, vacuum furnaces, and semiconductor and powder metal fabrication processes.

See pages 86-90 for details.

CF (NW) Vacuum Flange Mounts

Designed to mate with Varian Con-Flat®, MDC Del-Seal® or similar vacuum flanges, the Conax Technologies CF Vacuum Flange Mount provides high performance and reliable sealing in all types of vacuum applications.

See pages 91-95 for details.

SFA Sanitary Flange Mounts

SFA Flange Mounts are designed to mount to Tri-Clover 16 AMP sanitary flanges and equivalent. These mounts provide pressure/vacuum sealing against gases and liquids in pharmaceutical, food and dairy processing.

See pages 96-103 for details.

ASME/ANSI Flange Mounts

Conax Technologies' Seal Fittings may be welded or threaded to ASME B16.5 flanges to create a rugged mounting for environmental sealing and/or securing the position of instrumentation sensor probes. Use of flanges eliminates the need to weld mounting adapters to the pipe or vessel. Common applications include petrochemical processing and distribution, industrial furnaces, bulk cargo carriers, gas sampling coupons and gas storage silos.

See pages 104-105 for details.

KF (ISO) Vacuum Flange Mount

KF Vacuum Flange Mounts offer fast assembly and disassembly. They mate to Varian Klamp-Flange®, MDC Kwik-Flange® and similar vacuum flanges. This mounting style is ideal for roughing and high vacuum applications requiring frequent changeover, including sintering furnaces, vacuum furnaces, and semiconductor and powder metal fabrication processes.

Conax Technologies' KF flanges are constructed from 304 SST standard. The fittings use 316L SST standard bodies with 303 SST standard followers.

For those who would prefer a non-welded assembly, a threaded female adapter is available for mating to a male NPT fitting (see below).

Alternative sealant materials and custom bore sizes are available. Please consult a Conax Technologies sales engineer for custom needs.

Available accessories include hinged aluminum clamps, replacement Viton™ O-rings, centering rings (with Viton™ O-rings), and replacement sealants.

- Vacuum Rating at 68 °F (20 °C): $5x10^{-6}$ Torr
- Operating Temperature Range: -10 °F to +300 °F (-23 °C to +150 °C)
- Helium Leak Rate at 68 °F (20 °C): $1x10^{-6}$ scc/sec typical

For accessories, see page 104.

Catalog Numbering System Incorporating a Flange: PG Fitting Example

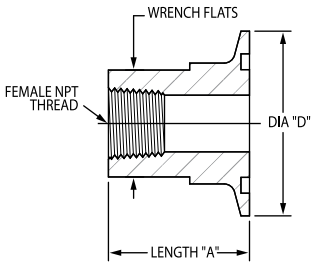
Conax Technologies incorporates a flange into it's catalog numbering system by adding a parenthesis after the fitting type. Inside the parenthesis is the information describing the flange (highlighted in grey).

PG5	(KF8W / S316L)	- 500	- A	- V
PG Fitting	Flange Size / Fitting Body Construction Material	Tube or Probe Diameter	Cap Style	Sealant

Female Pipe Adaptor (Thermometer Cap)

For use with male NPT thread mount on compression seal fittings (sold separately).

Female NPT	Tube OD	Conax Designation	Diameter IN	Diameter MM	Length "A" IN	Length "A" MM	Wrench Flats IN	Wrench Flats MM	Part Number
1/4"	1"	KF6T-250	1.58	40.1	1.04	26.4	0.75	19.1	41-0015-25-25
1/4"	1-1/2"	KF8T-250	2.17	55.1	1.04	26.4	0.75	19.1	41-0015-40-25
1/2"	1-1/2"	KF8T-500	2.17	55.1	1.65	41.9	1.13	28.7	41-0015-40-50
3/4"	1-1/2"	KF8T-750	2.17	55.1	1.65	41.9	1.25	31.8	41-0015-40-75
1/4"	2"	KF9T-250	2.95	74.9	1.04	26.4	0.75	19.1	41-0015-50-25
1/2"	2"	KF9T-500	2.95	74.9	1.65	41.9	1.13	28.7	41-0015-50-50
3/4"	2"	KF9T-750	2.95	74.9	1.65	41.9	1.25	31.8	41-0015-50-75
1"	2"	KF9T-1000	2.95	74.9	1.65	41.9	1.56	39.6	41-0015-50-100



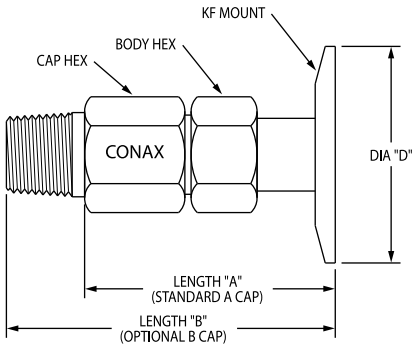
Conax Technologies recommends the use of Teflon™ tape as a thread sealant during assembly.
If you wish to purchase the fittings pre-assembled, please contact the factory.

PG Seal Fitting **Flange Selection Guide**

Part Number	Conax Flange Style/ISO Equivalent		
	KF6W/NW25	KF8W/NW40	KF9W/NW50
MPG	X	X	X
PG2	X	X	X
PG4		X	X
PG5		X	X
PG6			X

PG Seal Fitting **Dimensions**

Flange	Type	Dimensions					
		D Diameter		Overall Length A-Cap		Overall Length B-Cap	
		IN	MM	IN	MM	IN	MM
KF6W	MPG	1.58	40.1	1.19	30.2	1.56	39.7
	PG2	1.58	40.1	2.00	50.8	2.63	66.8
KF8W	MPG	2.17	55.1	1.19	30.2	1.56	39.7
	PG2	2.17	55.1	2.00	50.8	2.63	66.8
	PG4	2.17	55.1	2.50	63.5	3.25	82.6
	PG5	2.17	55.1	2.88	73.0	3.63	92.1
KF9W	MPG	2.95	74.9	1.19	30.2	1.56	39.7
	PG2	2.95	74.9	2.00	50.8	2.63	66.8
	PG4	2.95	74.9	2.50	63.5	3.25	82.6
	PG5	2.95	74.9	2.88	73.0	3.63	92.1
	PG6	2.95	74.9	3.50	88.9	4.50	114.3



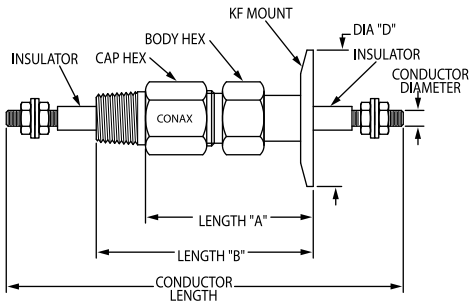
EG Seal Feedthrough **Flange Selection Guide**

Part Number	Conax Flange Style/ISO Equivalent		
	KF6W/NW25	KF8W/NW40	KF9W/NW50
EG-093	X	X	X
EG-125	X	X	X
EG-187	X	X	X
EG-250		X	X
EG-312		X	X
EG-375		X	X
EG-500		X	X
EG-750			X

EG Seal Feedthrough **Dimensions**

Flange	Type	Dimensions					
		D Diameter		Overall Length A-Cap		Overall Length B-Cap	
		IN	MM	IN	MM	IN	MM
KF6W	EG-093	1.58	40.1	1.38	35.1	1.75	44.4
	EG-125/187	1.58	40.1	2.00	50.8	2.63	66.8
KF8W	EG-093	2.17	55.1	1.38	35.1	1.75	44.4
	EG-125/187	2.17	55.1	2.00	50.8	2.63	66.8
	EG-250/312	2.17	55.1	2.56	64.5	3.38	85.9
	EG-375/500	2.17	55.1	3.31	84.1	4.06	103.1
KF9W	EG-093	2.95	74.9	1.38	35.1	1.75	44.4
	EG-125/187	2.95	74.9	2.00	50.8	2.63	66.8
	EG-250/312	2.95	74.9	2.56	64.5	3.38	85.9
	EG-375/500	2.95	74.9	3.31	84.1	4.06	103.1
	EG-750	2.95	74.9	5.00	127.0	N/O	N/O

N/O = Not offered.

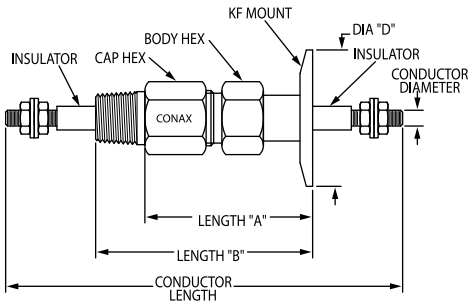


EGT Seal Feedthrough **Flange Selection Guide**

Part Number	Conax Flange Style/ISO Equivalent		
	KF6W/NW25	KF8W/NW40	KF9W/NW50
EGT-093	X	X	X
EGT-125	X	X	X
EGT-187		X	X
EGT-250		X	X
EGT-375		X	X
EGT-500		X	X
EGT-750			X

EGT Seal Feedthrough **Dimensions**

Flange	Type	Dimensions					
		D Diameter		Overall Length A-Cap		Overall Length B-Cap	
		IN	MM	IN	MM	IN	MM
KF6W	EGT-093	1.58	40.1	1.19	30.2	1.56	39.7
	EGT-125	1.58	40.1	2.00	50.8	2.63	66.8
KF8W	EGT-093	2.17	55.1	1.19	30.2	1.56	39.7
	EGT-125	2.17	55.1	2.00	50.8	2.63	66.8
	EGT-187/250	2.17	55.1	2.50	63.5	3.25	82.6
	EGT-375/500	2.17	55.1	2.88	73.0	3.63	92.1
KF9W	EGT-093	2.95	74.9	1.19	30.2	1.56	39.7
	EGT-125	2.95	74.9	2.00	50.8	2.63	66.8
	EGT-187/250	2.95	74.9	2.50	63.5	3.25	82.6
	EGT-375/500	2.95	74.9	2.88	73.0	3.63	92.1
	EGT-750	2.95	74.9	3.50	88.9	4.50	114.3

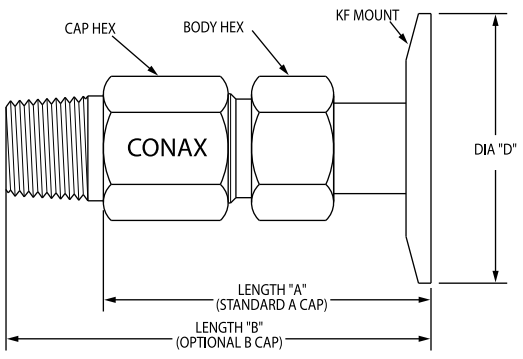


MHC Seal Fitting **Flange Selection Guide**

Part Number	Conax Flange Style/ISO Equivalent		
	KF6W/NW25	KF8W/NW40	KF9W/NW50
MHC1	X	X	X
MHC2	X	X	X
MHC4		X	X
MHC5		X	X

MHC Seal Fitting **Dimensions**

Flange	Type	Holes	Dimensions					
			D Diameter		Overall Length A-Cap		Overall Length B-Cap	
			IN	MM	IN	MM	IN	MM
KF6W	MHC1-020/032	2,4	1.58	40.1	1.38	35.1	1.75	44.4
	MHC1-062	1	1.58	40.1	1.38	35.1	1.75	44.4
	MHC2-020/032	2,4	1.58	40.1	2.00	50.8	2.63	66.8
	MHC2-062	1	1.58	40.1	2.00	50.8	2.63	66.8
KF8W	MHC1-020/032	2,4	2.17	55.1	1.38	35.1	1.75	44.4
	MHC1-062	1	2.17	55.1	1.38	35.1	1.75	44.4
	MHC2-020/032	2,4	2.17	55.1	2.00	50.8	2.63	66.8
	MHC2-062	1	2.17	55.1	2.00	50.8	2.63	66.8
	MHC4-032/040	6,8	2.17	55.1	2.63	66.8	3.38	85.9
	MHC4-062	2,3,4	2.17	55.1	2.63	66.8	3.38	85.9
	MHC5-032	16	2.17	55.1	2.88	73.2	3.63	92.2
	MHC5-062	6,8	2.17	55.1	2.88	73.2	3.63	92.2
	MHC5-125	2	2.17	55.1	2.88	73.2	3.63	92.2
KF9W	MHC1-020/032	2,4	2.95	74.9	1.38	35.1	1.75	44.4
	MHC1-062	1	2.95	74.9	1.38	35.1	1.75	44.4
	MHC2-020/032	2,4	2.95	74.9	2.00	50.8	2.63	66.8
	MHC2-062	1	2.95	74.9	2.00	50.8	2.63	66.8
	MHC4-032/040	6,8	2.95	74.9	2.63	66.8	3.38	85.9
	MHC4-062	2,3,4	2.95	74.9	2.63	66.8	3.38	85.9
	MHC5-032	16	2.95	74.9	2.88	73.2	3.63	92.2
	MHC5-062	6,8	2.95	74.9	2.88	73.2	3.63	92.2
	MHC5-125	2	2.95	74.9	2.88	73.2	3.63	92.2

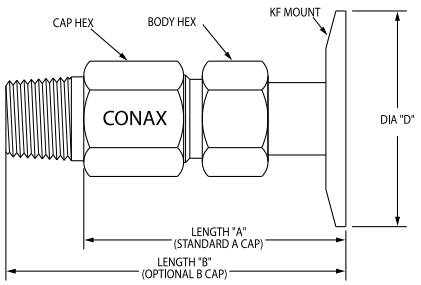


MHM Seal Fitting **Flange Selection Guide**

Part Number	Conax Flange Style/ISO Equivalent		
	KF6W/NW25	KF8W/NW40	KF9W/NW50
MHM2	X	X	X
MHM4		X	X
MHM5		X	X
MHM6			X

MHM Seal Fitting **Dimensions**

Flange	Type	Dimensions					
		D Diameter		Overall Length A-Cap		Overall Length B-Cap	
		IN	MM	IN	MM	IN	MM
KF6W	MHM2	1.58	40.1	2.00	50.8	2.63	66.8
KF8W	MHM2	2.17	55.1	2.00	50.8	2.63	66.8
	MHM4	2.17	55.1	2.56	65.0	3.38	85.9
	MHM5	2.17	55.1	3.31	84.1	4.06	103.1
KF9W	MHM2	2.95	74.9	2.00	50.8	2.63	66.8
	MHM4	2.95	74.9	2.56	65.0	3.38	85.9
	MHM5	2.95	74.9	3.31	84.1	4.06	103.1
	MHM6	2.95	74.9	3.80	96.5	5.00	127.0

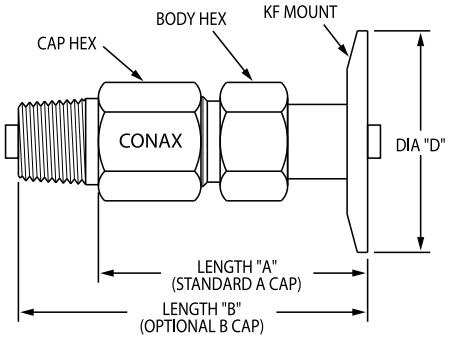


PL Seal Feedthrough **Flange Selection Guide**

Part Number	Holes	Conax Flange Style/ISO Equivalent		
		KF6W/NW25	KF8W/NW40	KF9W/NW50
PL-20	2-18		X	X
PL-18	1	X	X	X
PL-18	2-12		X	X
PL-16	2-12		X	X
PL-14	1	X	X	X
PL-14	2-12		X	X
PL-12	2-6		X	X
PL-10	2-4		X	X
PL-8	2,3		X	X

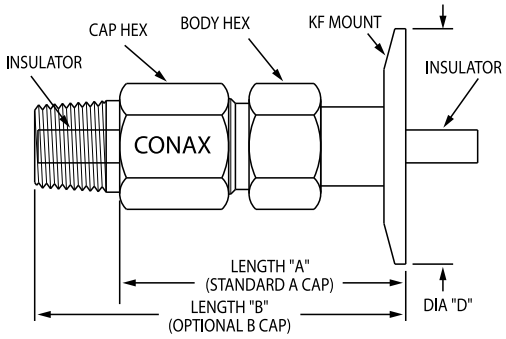
PL Seal Feedthrough **Dimensions**

Flange	Type	Dimensions							
		Holes	D Diameter		Overall Length A-Cap		Overall Length B-Cap	
			IN	MM	IN	MM	IN	MM
KF6W	PL-18/14	1	1.58	40.1	1.38	35.1	1.75	44.5
KF8W	PL-18/14	1	2.17	55.1	1.38	35.1	1.75	44.5
	PL-20/18/16	2,3,4	2.17	55.1	2.63	66.8	3.38	85.9
	PL-14	2	2.17	55.1	2.63	66.8	3.38	85.9
	PL-14	3,4	2.17	55.1	2.88	73.2	3.63	92.2
	PL-20/18/16/14	6,8	2.17	55.1	2.88	73.2	3.63	92.2
	PL-20	18	2.17	55.1	2.88	73.2	3.63	92.2
	PL-18/16/14	10,12	2.17	55.1	2.88	73.2	3.63	92.2
	PL-12	2,3,4,6	2.17	55.1	2.88	73.2	3.63	92.2
	PL-10	2,3,4	2.17	55.1	2.88	73.2	3.63	92.2
	PL-8	2	2.17	55.1	2.88	73.2	3.63	92.2
	PL-8	3	2.17	55.1	2.88	73.2	3.63	92.2
KF9W	PL-18/14	1	2.95	74.9	1.47	37.3	1.84	46.7
	PL-20/18/16	2,3,4	2.17	55.1	2.63	66.8	3.38	85.9
	PL-14	2	2.95	74.9	2.63	66.8	3.38	85.9
	PL-14	3,4	2.95	74.9	2.88	73.2	3.63	92.2
	PL-20/18/16/14	6,8	2.95	74.9	2.88	73.2	3.63	92.2
	PL-20	18	2.95	74.9	2.88	73.2	3.63	92.2
	PL-18/16/14	10,12	2.95	74.9	2.88	73.2	3.63	92.2
	PL-12	2,3,4,6	2.95	74.9	2.88	73.2	3.63	92.2
	PL-10	2,3,4	2.95	74.9	2.88	73.2	3.63	92.2
	PL-8	2	2.95	74.9	2.88	73.2	3.63	92.2
	PL-8	3	2.95	74.9	2.88	73.2	3.63	92.2



TG Seal Fitting **Flange Selection Guide**		Conax Flange Style/ISO Equivalent		
Part Number	**Holes**	**KF6W/NW25**	**KF8W/NW40**	**KF9W/NW50**
MTG-24	2,4	X	X	X
MTG-20	2,4	X	X	X
MTG-14	1	X	X	X
TG-24	2,4	X	X	X
TG-20	2,4	X	X	X
TG-20	6,8		X	X
TG-20	16		X	X
TG-18	6,8		X	X
TG-14	1	X	X	X
TG-14	2,3,4		X	X
TG-14	6,8		X	X
TG-8	2		X	X

TG Seal Fitting **Dimensions**			Dimensions					
			D Diameter		Overall Length A-Cap		Overall Length B-Cap	
Flange	**Type**	**Holes**	**IN**	**MM**	**IN**	**MM**	**IN**	**MM**
KF6W	MTG-24/20	2,4	1.58	40.1	1.38	35.1	1.75	44.4
	MTG-14	1	1.58	40.1	1.38	35.1	1.75	44.4
	TG-24/20	2,4	1.58	40.1	2.00	50.8	2.63	66.8
	TG-14	1	1.58	40.1	2.00	50.8	2.63	66.8
KF8W	MTG-24/20	2,4	2.17	55.1	1.38	35.1	1.75	44.4
	MTG-14	1	2.17	55.1	1.38	35.1	1.75	44.4
	TG-24/20	2,4	2.17	55.1	2.00	50.8	2.63	66.8
	TG-14	1	2.17	55.1	2.00	50.8	2.63	66.8
	TG-20/18	6,8	2.17	55.1	2.63	66.8	3.38	85.9
	TG-14	2,3,4	2.17	55.1	2.63	66.8	3.38	85.9
	TG-20	16	2.17	55.1	2.88	73.2	3.63	92.2
	TG-14	6,8	2.17	55.1	2.88	73.2	3.63	92.2
	TG-8	2	2.17	55.1	2.88	73.2	3.63	92.2
KF9W	MTG-24/20	2,4	2.95	74.9	1.38	35.1	1.75	44.4
	MTG-14	1	2.95	74.9	1.38	35.1	1.75	44.4
	TG-24/20	2,4	2.95	74.9	2.00	50.8	2.63	66.8
	TG-14	1	2.95	74.9	2.00	50.8	2.63	66.8
	TG-20/18	6,8	2.95	74.9	2.63	66.8	3.38	85.9
	TG-14	2,3,4	2.95	74.9	2.63	66.8	3.38	85.9
	TG-20	16	2.95	74.9	2.88	73.2	3.63	92.2
	TG-14	6,8	2.95	74.9	2.88	73.2	3.63	92.2
	TG-8	2	2.95	74.9	2.88	73.2	3.63	92.2



CF (NW) Vacuum Flange Mount

Designed to mate with Varian Con-Flat®, MDC Del-Seal® or similar vacuum flanges, the Conax Technologies Fitting with CF Vacuum Flange Mount provides high performance and reliable sealing in all types of vacuum applications.

A non-rotatable 304 SST standard flange with non-tapped throughholes is welded to a 316L SST standard fitting body. The flange is available with an oxygen-free copper gasket or a Viton™ gasket for unbaked applications. The fitting is available with a Viton™ or GraFoil™ sealant.

Alternative sealant materials and custom bore sizes are available. Please consult a Conax Technologies sales engineer for custom needs.

- Vacuum Rating at 68 °F (20 °C): $5x10^{-6}$ Torr
- Temperature Range: -328 °F to +842 °F (-200 °C to +450 °C) with metal gasket
- Temperature Range: -4 °F to +302 °F (-20 °C to +150 °C) with Viton™ gasket
- Helium Leak Rate at 68 °F (20 °C): $1x10^{-6}$ scc/sec typical

See pages 106-109 for accessories.

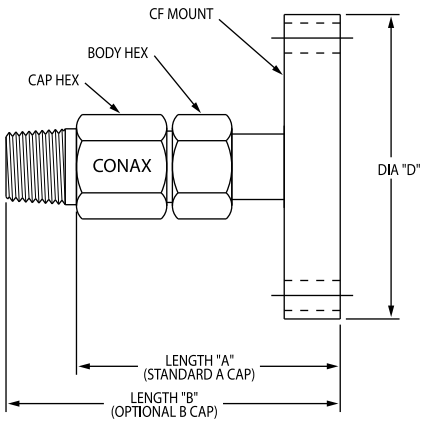
Catalog Numbering System Incorporating a Flange: PG Fitting Example

Conax Technologies incorporates a flange into its catalog numbering system by adding a parenthesis after the fitting type. Inside the parenthesis is the information describing the flange (highlighted in grey).

PG5	(	CFNC4W	/	S316L	)	-	500	-	A	-	V
PG Fitting		Flange Size		Fitting Body Construction Material			Tube or Probe Diameter		Cap Style		Sealant

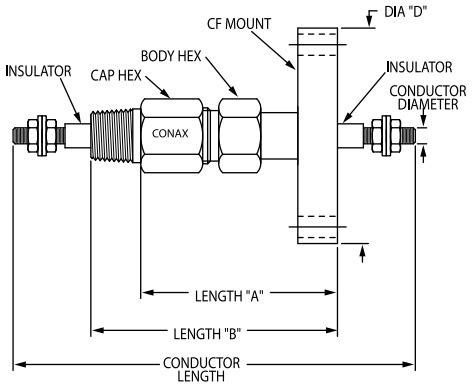
PG Seal Fitting **Flange Selection Guide**	Conax Flange Style/ISO Equivalent			
Part Number	CFNC1/NW16CF	CFNC2/NW25CF	CFNC3/NW35CF	CFNC4/NW50CF
MPG	X	X	X	X
PG2	X	X	X	X
PG4		X	X	X
PG5			X	X
PG6				X

PG Seal Fitting **Dimensions**		Dimensions					
		D Diameter		Overall Length A-Cap		Overall Length B-Cap	
Flange	Type	IN	MM	IN	MM	IN	MM
CFNC1W	MPG	1.33	33.8	1.27	32.3	1.64	41.7
	PG2	1.33	33.8	2.08	52.8	2.71	68.8
CFNC2W	MPG	2.13	56.3	1.40	35.6	1.77	45.0
	PG2	2.13	56.3	2.21	56.1	2.84	72.1
	PG4	2.13	56.3	2.77	70.4	3.52	89.4
CFNC3W	MPG	2.75	69.9	1.40	35.6	1.77	45.0
	PG2	2.75	69.9	2.21	56.1	2.84	72.1
	PG4	2.75	69.9	2.77	70.4	3.52	89.4
	PG5	2.75	69.9	3.09	78.5	3.84	97.5
CFNC4W	MPG	3.38	85.7	1.42	36.1	1.79	45.5
	PG2	3.38	85.7	2.23	56.6	2.86	72.6
	PG4	3.38	85.7	2.79	70.9	3.55	90.2
	PG5	3.38	85.7	3.11	80.0	3.86	98.0
	PG6	3.38	85.7	3.73	94.7	4.73	120.1



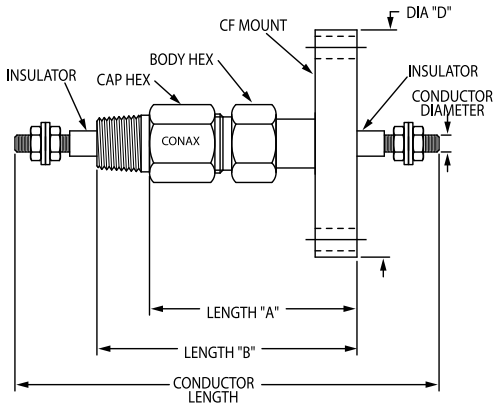
EG Seal Feedthrough **Flange Selection Guide**	Conax Flange Style/ISO Equivalent			
Part Number	**CFNC1/NW16CF**	**CFNC2/NW25CF**	**CFNC3/NW35CF**	**CFNC4/NW50CF**
EG-093	X	X	X	X
EG-125	X	X	X	X
EG-187	X	X	X	X
EG-250		X	X	X
EG-312		X	X	X
EG-375			X	X
EG-500			X	X

EG Seal Feedthrough **Dimensions**		Dimensions					
		D Diameter		Overall Length A-Cap		Overall Length B-Cap	
Flange	**Type**	**IN**	**MM**	**IN**	**MM**	**IN**	**MM**
CFNC1	EG-093	1.33	33.8	1.46	37.1	1.83	46.5
	EG-125/187	1.33	33.8	2.08	52.8	2.71	68.8
CFNC2	EG-093	2.13	56.3	1.59	40.4	1.96	49.8
	EG-125/187	2.13	56.3	2.21	56.1	2.84	72.1
	EG-250/312	2.13	56.3	2.77	70.4	3.51	89.2
CFNC3	EG-093	2.75	69.9	1.59	40.4	1.96	49.8
	EG-125/187	2.75	69.9	2.21	56.1	2.84	72.1
	EG-250/312	2.75	69.9	2.77	70.4	3.51	89.2
	EG-375/500	2.75	69.9	3.52	89.4	4.27	108.5
CFNC4	EG-093	3.38	85.7	1.61	40.9	1.98	50.3
	EG-125/187	3.38	85.7	2.21	56.1	2.86	72.6
	EG-250/312	3.38	85.7	2.79	70.9	3.61	91.7
	EG-375/500	3.38	85.7	3.55	90.2	4.29	109.0



EGT Seal Feedthrough **Flange Selection Guide**	Conax Flange Style/ISO Equivalent			
Part Number	**CFNC1/NW16CF**	**CFNC2/NW25CF**	**CFNC3/NW35CF**	**CFNC4/NW50CF**
EGT-093	X	X	X	X
EGT-125	X	X	X	X
EGT-187		X	X	X
EGT-250		X	X	X
EGT-375			X	X
EGT-500			X	X
EGT-750				X

EGT Seal Feedthrough **Dimensions**		Dimensions					
		D Diameter		Overall Length A-Cap		Overall Length B-Cap	
Flange	**Type**	**IN**	**MM**	**IN**	**MM**	**IN**	**MM**
CFNC1	EGT-093	1.33	33.8	1.27	32.3	1.64	41.7
	EGT-125	1.33	33.8	2.08	52.8	2.71	68.8
CFNC2	EGT-093	2.13	56.3	1.40	35.6	1.77	45.0
	EGT-125	2.13	56.3	2.21	56.1	2.84	72.1
	EGT-187/250	2.13	56.3	2.77	70.4	3.52	89.4
CFNC3	EGT-093	2.75	69.9	1.40	35.6	1.77	45.0
	EGT-125	2.75	69.9	2.21	56.1	2.84	72.1
	EGT-187/250	2.75	69.9	2.77	70.4	3.52	89.4
	EGT-375/500	2.75	69.9	3.09	78.5	3.84	97.5
CFNC4	EGT-093	3.38	85.7	1.42	36.1	1.79	45.5
	EGT-125	3.38	85.7	2.23	56.6	2.86	72.6
	EGT-187/250	3.38	85.7	2.79	70.9	3.55	90.2
	EGT-375/500	3.38	85.7	3.11	79.0	3.86	98.0
	EGT-750	3.38	85.7	3.73	94.7	4.73	120.1

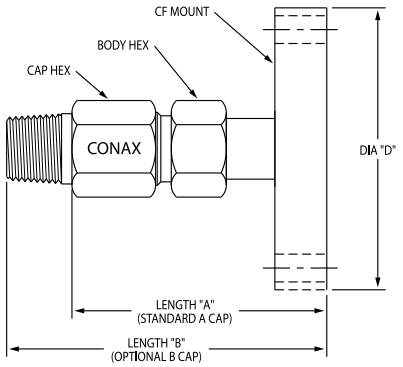


MHC Seal Fitting **Flange Selection Guide**

Part Number	Holes	Conax Flange Style/ISO Equivalent			
		CFNC1/NW16CF	CFNC2/NW25CF	CFNC3/NW35CF	CFNC4/NW50CF
MHC1	2,4	X	X	X	X
MHC2	2,4	X	X	X	X
MHC4	6,8		X	X	X
MHC5	16			X	X

MHC Seal Fitting **Dimensions**

Flange	Type	Holes	Dimensions					
			D Diameter		Overall Length A-Cap		Overall Length B-Cap	
			IN	MM	IN	MM	IN	MM
CFNC1	MHC1	2,4	1.33	33.8	1.46	37.1	1.83	46.5
	MHC2	2,4	1.33	33.8	2.08	52.8	2.71	68.8
CFNC2	MHC1	2,4	2.13	56.3	1.59	40.4	1.96	49.8
	MHC2	2,4	2.13	56.3	2.21	56.1	2.84	72.1
	MHC4	6,8	2.13	56.3	2.84	72.1	3.59	91.2
CFNC3	MHC1	2,4	2.75	69.9	1.59	40.4	1.96	49.8
	MHC2	2,4	2.75	69.9	2.21	56.1	2.84	72.1
	MHC4	6,8	2.75	69.9	2.84	72.1	3.59	91.2
	MHC5	16	2.75	69.9	3.09	78.5	3.84	97.5
CFNC4	MHC1	2,4	3.38	85.7	1.71	43.4	2.08	52.8
	MHC2	2,4	3.38	85.7	2.23	56.6	2.86	72.6
	MHC4	6,8	3.38	85.7	2.86	72.6	3.61	91.7
	MHC5	16	3.38	85.7	3.11	79.0	3.86	98.0

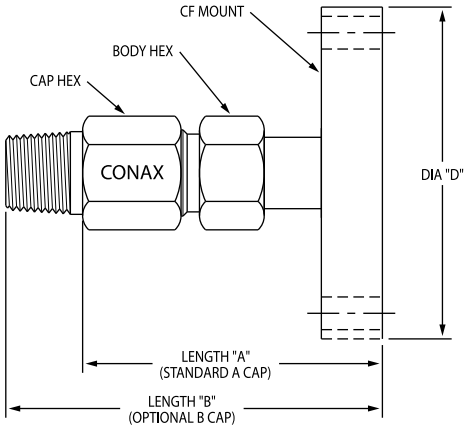


MHM Seal Fitting **Flange Selection Guide**

Part Number	Conax Flange Style/ISO Equivalent				
	CFNC1/NW16CF	CFNC2/NW25CF	CFNC3/NW35CF	CFNC4/NW50CF	CFNC5/NW63CF
MHM2	X	X	X	X	
MHM4		X	X	X	
MHM5			X	X	
MHM6					X

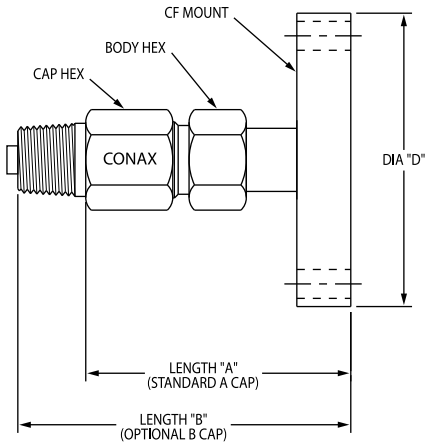
MHM Seal Fitting **Dimensions**

Flange	Type	Dimensions					
		D Diameter		Overall Length A-Cap		Overall Length B-Cap	
		IN	MM	IN	MM	IN	MM
CFNC1	MHM2	1.33	33.8	2.08	52.8	2.71	68.8
CFNC2	MHM2	2.13	56.3	2.21	56.1	2.84	72.1
	MHM4	2.13	56.3	2.77	70.4	3.59	91.2
CFNC3	MHM2	2.75	69.9	2.21	56.1	2.84	72.1
	MHM4	2.75	69.9	2.77	70.4	3.59	91.2
	MHM5	2.75	69.9	3.52	89.4	4.27	108.5
CFNC4	MHM2	3.38	85.7	2.23	56.6	2.86	72.6
	MHM4	3.38	85.7	2.79	70.1	3.61	91.7
	MHM5	3.38	85.7	3.55	90.2	4.29	109.0
CFNC5	MHM6	4.47	113.5	4.03	102.4	5.25	133.0



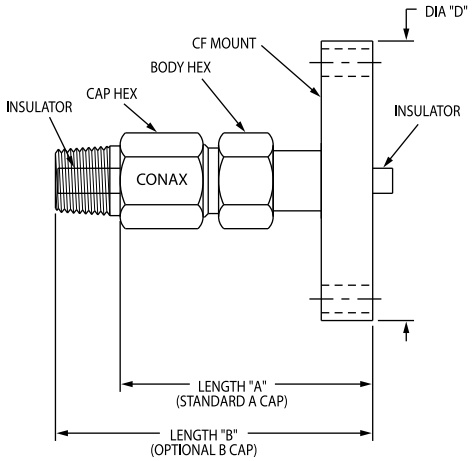
PL Seal Feedthrough **Flange Selection Guide**		Conax Flange Style/ISO Equivalent			
Part Number	**Holes**	**CFNC1/NW16CF**	**CFNC2/NW25CF**	**CFNC3/NW35CF**	**CFNC4/NW50CF**
PL-18	1	X	X	X	X
PL-14	1	X	X	X	X
PL-20	2,3,4		X	X	X
PL-18	2,3,4		X	X	X
PL-16	2,3,4		X	X	X
PL-14	2		X	X	X
PL-14	3,4			X	X
PL-20	6-18			X	X
PL-18	6-12			X	X
PL-16	6-12			X	X
PL-14	6-12			X	X
PL-12	2,3,4,6			X	X
PL-10	2,3,4			X	X
PL-8	2,3			X	X

PL Seal Feedthrough **Dimensions**		Dimensions						
			D Diameter		Overall Length A-Cap		Overall Length B-Cap	
Flange	**Type**	**Holes**	**IN**	**MM**	**IN**	**MM**	**IN**	**MM**
CFNC1	PL-18/14	1	1.33	33.8	1.46	37.1	1.83	46.5
CFNC2	PL-18/14	1	2.13	56.3	1.59	40.4	1.96	49.8
	PL-20/18/16	2,3,4	2.13	56.3	2.84	72.1	3.59	91.2
	PL-14	2	2.13	56.3	2.84	72.1	3.59	91.2
CFNC3	PL-18/14	1	2.75	69.9	1.59	40.4	1.96	49.8
	PL-20/18/16	2,3,4	2.75	69.9	2.84	72.1	3.59	91.2
	PL-14	2	2.75	69.9	2.84	72.1	3.59	91.2
	PL-14	3,4	2.75	69.9	3.09	78.5	3.84	97.5
	PL-20/18/16	6,8	2.75	69.9	3.09	78.5	3.84	97.5
	PL-20	18	2.75	69.9	3.09	78.5	3.84	97.5
	PL-18/16/14	10,12	2.75	69.9	3.09	78.5	3.84	97.5
	PL-12	2,3,4,6	2.75	69.9	3.09	78.5	3.84	97.5
	PL-10	2,3,4	2.75	69.9	3.09	78.5	3.84	97.5
	PL-8	2	2.75	69.9	3.09	78.5	3.84	97.5
	PL-8	3	2.75	69.9	3.09	78.5	3.84	97.5
CFNC4	PL-18/14	1	3.38	85.7	1.71	43.4	2.08	52.8
	PL-20/18/16	2,3,4	3.38	85.7	2.86	72.6	3.61	91.7
	PL-14	2	3.38	85.7	2.86	72.6	3.61	91.7
	PL-14	3,4	3.38	85.7	3.11	79.0	3.86	98.0
	PL-20/18/16/14	6,8	3.38	85.7	3.11	79.0	3.86	98.0
	PL-20	18	3.38	85.7	3.11	79.0	3.86	98.0
	PL-18/16/14	10,12	3.38	85.7	3.11	79.0	3.86	98.0
	PL-12	2,3,4,6	3.38	85.7	3.11	79.0	3.86	98.0
	PL-10	2,3,4	3.38	85.7	3.11	79.0	3.86	98.0
	PL-8	2	3.38	85.7	3.11	79.0	3.86	98.0
	PL-8	3	3.38	85.7	3.11	79.0	3.86	98.0



TG Seal Fitting **Flange Selection Guide**		Conax Flange Style/ISO Equivalent			
Part Number	**Holes**	**CFNC1/NW16CF**	**CFNC2/NW25CF**	**CFNC3/NW35CF**	**CFNC4/NW50CF**
MTG-24	2,4	X	X	X	X
MTG-20	2,4	X	X	X	X
MTG-14	1	X	X	X	X
TG-24	2,4	X	X	X	X
TG-20	2,4	X	X	X	X
TG-20	6,8		X	X	X
TG-20	16			X	X
TG-18	6,8		X	X	X
TG-14	1	X	X	X	X
TG-14	2,3,4		X	X	X
TG-14	6,8			X	X
TG-8	2			X	X

TG Seal Fitting **Dimensions**			Dimensions					
			D Diameter		Overall Length A-Cap		Overall Length B-Cap	
Flange	**Type**	**Holes**	**IN**	**MM**	**IN**	**MM**	**IN**	**MM**
CFNC1	MTG-24/20	2,4	1.33	33.8	1.46	37.1	1.83	46.5
	MTG-14	1	1.33	33.8	1.46	37.1	1.83	46.5
	TG-24/20	2,4	1.33	33.8	2.08	52.8	2.71	68.8
	TG-14	1	1.33	33.8	2.08	52.8	2.71	68.8
CFNC2	MTG-24/20	2,4	2.13	56.3	1.59	40.4	1.96	49.8
	MTG-14	1	2.13	56.3	1.59	40.4	1.96	49.8
	TG-24/20	2,4	2.13	56.3	2.21	56.1	2.84	72.1
	TG-14	1	2.13	56.3	2.21	56.1	2.84	72.1
	TG-20/18	6,8	2.13	56.3	2.84	72.1	3.59	91.2
	TG-14	2,3,4	2.13	56.3	2.84	72.1	3.59	91.2
CFNC3	MTG-24/20	2,4	2.75	69.9	1.59	40.4	1.96	49.8
	MTG-14	1	2.75	69.9	1.59	40.4	1.96	49.8
	TG-24/20	2,4	2.75	69.9	2.21	56.1	2.84	72.1
	TG-14	1	2.75	69.9	2.21	56.1	2.84	72.1
	TG-20/18	6,8	2.75	69.9	2.84	72.1	3.59	91.2
	TG-14	2,3,4	2.75	69.9	2.84	72.1	3.59	91.2
	TG-20	16	2.75	69.9	3.09	78.5	3.84	97.5
	TG-14	6,8	2.75	69.9	3.09	78.5	3.84	97.5
	TG-8	2	2.75	69.9	3.09	78.5	3.84	97.5
CFNC4	MTG-24/20	2,4	3.38	85.7	1.71	43.4	2.08	52.8
	MTG-14	1	3.38	85.7	1.71	43.4	2.08	52.8
	TG-24/20	2,4	3.38	85.7	2.23	56.6	2.86	72.6
	TG-14	1	3.38	85.7	2.23	56.6	2.86	72.6
	TG-20/18	6,8	3.38	85.7	2.86	72.6	3.61	91.7
	TG-14	2,3,4	3.38	85.7	2.86	72.6	3.61	91.7
	TG-20	16	3.38	85.7	3.11	79.0	3.86	98.0
	TG-14	6,8	3.38	85.7	3.11	79.0	3.86	98.0
	TG-8	2	3.38	85.7	3.11	79.0	3.86	98.0



SFA Sanitary Flange Mount

SFA Flange Mounts are designed to mount to Tri-Clover® 16 AMP sanitary flanges and equivalent. These mounts provide pressure/vacuum sealing against gases and liquids in pharmaceutical, food and dairy processing.

Conax Technologies SFA flanges are constructed from 316L SST standard. The fittings use 316L SST standard bodies. Standard finish on the flange face is 32 Ra. Optional 16 Ra finish is also available. Viton™ and Teflon™ sealants are offered.

For those who would prefer a non-welded assembly, a threaded female adapter is available for mating to a male NPT PG Seal Fitting (see below). Teflon™ tape is standard as the thread sealant.

Alternative sealant materials and custom bore sizes are available. Please consult a Conax Technologies sales engineer for custom needs.

- Vacuum Rating at 68 °F (20 °C): $5x10^{-6}$ Torr
- Assembly Pressure Rating is determined by the lowest of the following: clamp rating, fitting rating or 500 PSIG
- Operating Temperature Range: -10 °F to +400 °F (+23 °C to +204 °C)
- Helium Leak Rate at 68 °F (20 °C): $1x10^{-6}$ scc/sec typical

See pages 106-109 for accessories.

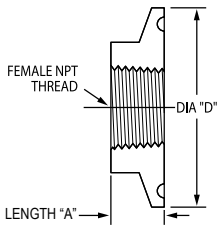
Catalog Numbering System Incorporating a Flange: PG Fitting Example

Conax Technologies incorporates a flange into its catalog numbering system by adding a parenthesis after the fitting type. Inside the parenthesis is the information describing the flange (highlighted in grey).

PG5	(	SFA20W	/	S316L	)	-	500	-	A	-	V
PG Fitting		Flange Size		Fitting Body Construction Material			Tube or Probe Diameter		Cap Style		Sealant

Female Pipe Adaptor (Thermometer Cap) — For use with male NPT thread mount on compression seal fittings (sold separately).

Female NPT	Tube OD	Conax Designation	Diameter IN	Diameter MM	Length "A" IN	Length "A" MM	Part Number
1/4"	1/2" & 3/4"	SFA05T-250	0.98	25.4	0.63	16.0	318820-007
1/2"	1" & 1-1/2"	SFA10T-500	1.98	50.3	0.63	16.0	318820-006
3/4"	1" & 1-1/2"	SFA10T-750	1.98	50.3	0.63	16.0	318820-001
3/4"	2"	SFA20T-750	2.52	64.0	0.63	16.0	318820-002
3/4"	2-1/2"	SFA25T-750	3.05	77.5	0.63	16.0	318820-003
3/4"	3"	SFA30T-750	3.58	90.0	0.63	16.0	318820-004
3/4"	4"	SFA40T-750	4.68	119.0	0.63	16.0	318820-005



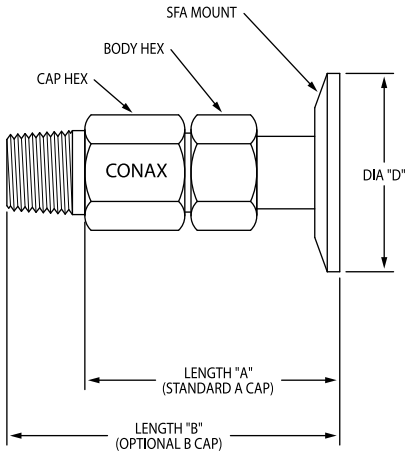
Conax Technologies recommends the use of Teflon™ tape as a thread sealant during assembly.
If you wish to purchase the fittings pre-assembled, please contact the factory.

PG Seal Fitting **Flange Selection Guide**

Part Number Tube OD	SFA05 1/2 & 3/4	SFA10 1 & 1-1/2	SFA20 2	SFA25 2-1/2	SFA30 3	SFA40 4
MPG	X	X	X	X	X	X
PG2		X	X	X	X	X
PG4		X	X	X	X	X
PG5		X	X	X	X	X
PG6			X	X	X	X

PG Seal Fitting **Dimensions**

			Dimensions					
			D Diameter		Overall Length A-Cap		Overall Length B-Cap	
Flange	Type	Tube OD	IN	MM	IN	MM	IN	MM
SFA05W	MPG	1/2" & 3/4"	0.98	24.9	1.19	30.2	1.56	39.7
SFA10W	MPG	1" & 1-1/2"	1.98	50.3	1.19	30.2	1.56	39.7
	PG2	1" & 1-1/2"	1.98	50.3	2.00	50.8	2.63	66.8
	PG4	1" & 1-1/2"	1.98	50.3	2.50	63.5	3.25	82.6
	PG5	1" & 1-1/2"	1.98	50.3	2.88	73.0	3.63	92.1
SFA20W	MPG	2"	2.52	64.0	1.19	30.2	1.56	39.7
	PG2	2"	2.52	64.0	2.00	50.8	2.63	66.8
	PG4	2"	2.52	64.0	2.56	65.0	3.31	84.1
	PG5	2"	2.52	64.0	2.88	73.0	3.63	92.1
	PG6	2'	2.52	64.0	3.50	88.9	4.50	114.3
SFA25W	MPG	2-1/2"	3.05	77.5	1.19	30.2	1.56	39.7
	PG2	2-1/2"	3.05	77.5	2.00	50.8	2.63	66.8
	PG4	2-1/2"	3.05	77.5	2.56	65.0	3.31	84.1
	PG5	2-1/2"	3.05	77.5	2.88	73.0	3.63	92.1
	PG6	2-1/2"	3.05	77.5	3.50	88.9	4.50	114.3
SFA30W	MPG	3"	3.58	90.9	1.19	30.2	1.56	39.7
	PG2	3"	3.58	90.9	2.00	50.8	2.63	66.8
	PG4	3"	3.58	90.9	2.56	65.0	3.31	84.1
	PG5	3"	3.58	90.9	2.88	73.0	3.63	92.1
	PG6	3"	3.58	90.9	3.50	88.9	4.50	114.3
SFA40W	MPG	4"	4.68	119.0	1.19	30.2	1.56	39.7
	PG2	4"	4.68	119.0	2.00	50.8	2.63	66.8
	PG4	4"	4.68	119.0	2.56	65.0	3.31	84.1
	PG5	4"	4.68	119.0	2.88	73.0	3.63	92.1
	PG6	4"	4.68	119.0	3.50	88.9	4.50	114.3



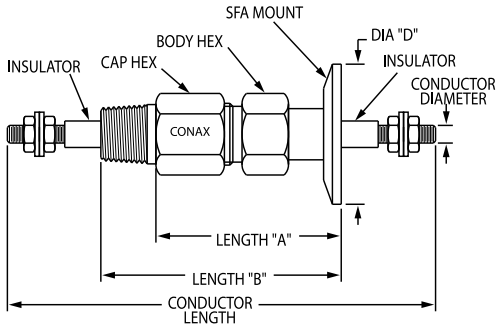
EG Seal Feedthrough **Flange Selection Guide**

Part Number / Tube OD	SFA05 1/2 & 3/4	SFA10 1 & 1-1/2	SFA20 2	SFA25 2-1/2	SFA30 3	SFA40 4
EG-093	X	X	X	X	X	X
EG-125		X	X	X	X	X
EG-187		X	X	X	X	X
EG-250		X	X	X	X	X
EG-312		X	X	X	X	X
EG-375		X	X	X	X	X
EG-500		X	X	X	X	X
EG-750			X	X	X	X

EG Seal Feedthrough **Dimensions**

Flange	Type	Tube OD	Thickness IN	Thickness MM	D Diameter IN	D Diameter MM	Overall Length A-Cap IN	Overall Length A-Cap MM	Overall Length B-Cap IN	Overall Length B-Cap MM
SFA05	EG-093	1/2" & 3/4"	0.19	4.7	0.98	24.9	1.38	35.1	1.75	44.4
SFA10	EG-093	1" & 1-1/2"	0.25	6.4	1.98	50.3	1.38	35.1	1.75	44.4
	EG-125/187	1" & 1-1/2"	0.25	6.4	1.98	50.3	2.00	50.8	2.63	66.8
	EG-250/312	1" & 1-1/2"	0.25	6.4	1.98	50.3	2.56	64.5	3.38	85.9
	EG-375/500	1" & 1-1/2"	0.25	6.4	1.98	50.3	3.31	84.1	4.06	103.1
SFA20	EG-093	2"	0.25	6.4	2.52	64.0	1.38	35.1	1.75	44.4
	EG-125/187	2"	0.25	6.4	2.52	64.0	2.00	50.8	2.63	66.8
	EG-250/312	2"	0.25	6.4	2.52	64.0	2.56	64.5	3.38	85.9
	EG-375/500	2"	0.25	6.4	2.52	64.0	3.31	84.1	4.06	103.1
	EG-750	2"	0.25	6.4	2.52	64.0	5.00	127.0	N/O	N/O
SFA25	EG-093	2-1/2"	0.25	6.4	3.05	77.5	1.38	35.1	1.75	44.4
	EG-125/187	2-1/2"	0.25	6.4	3.05	77.5	2.00	50.8	2.63	66.8
	EG-250/312	2-1/2"	0.25	6.4	3.05	77.5	2.56	64.5	3.38	85.9
	EG-375/500	2-1/2"	0.25	6.4	3.05	77.5	3.31	84.1	4.06	103.1
	EG-750	2-1/2"	0.25	6.4	3.05	77.5	5.00	127.0	N/O	N/O
SFA30	EG-093	3"	0.25	6.4	3.58	90.9	1.38	35.1	1.75	44.4
	EG-125/187	3"	0.25	6.4	3.58	90.9	2.00	50.8	2.63	66.8
	EG-250/312	3"	0.25	6.4	3.58	90.9	2.56	64.5	3.38	85.9
	EG-375/500	3"	0.25	6.4	3.58	90.9	3.31	84.1	4.06	103.1
	EG-750	3"	0.25	6.4	3.58	90.9	5.00	127.0	N/O	N/O
SFA40	EG-093	4"	0.25	6.4	4.68	119.0	1.38	35.1	1.75	44.4
	EG-125/187	4"	0.25	6.4	4.68	119.0	2.00	50.8	2.63	66.8
	EG-250/312	4"	0.25	6.4	4.68	119.0	2.56	64.5	3.38	85.9
	EG-375/500	4"	0.25	6.4	4.68	119.0	3.31	84.1	4.06	103.1
	EG-750	4"	0.25	6.4	4.68	119.0	5.00	127.0	N/O	N/O

N/O = Not Offered.



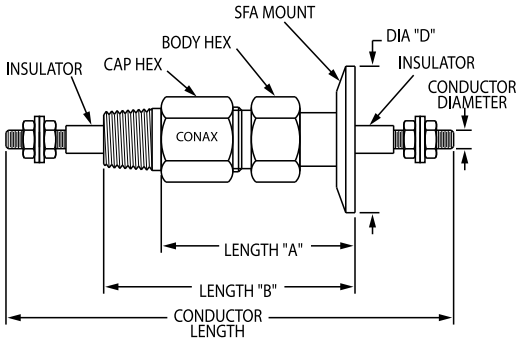
EGT Seal Feedthrough **Flange Selection Guide**

Part Number Tube OD	SFA05 1/2 & 3/4	SFA10 1 & 1-1/2	SFA20 2	SFA25 2-1/2	SFA30 3	SFA40 4
EGT-093	X	X	X	X	X	X
EGT-125		X	X	X	X	X
EGT-187		X	X	X	X	X
EGT-250		X	X	X	X	X
EGT-375		X	X	X	X	X
EGT-500		X	X	X	X	X
EGT-750			X	X	X	X

Note: EGT-1000 is not offered with SFA flange mount.

EGT Seal Feedthrough **Dimensions**

		Dimensions						
			D Diameter		Overall Length A-Cap		Overall Length B-Cap	
Flange	Type	Tube OD	IN	MM	IN	MM	IN	MM
SFA05	EGT-093	1/2" & 3/4"	0.98	24.9	1.19	30.2	1.56	39.7
SFA10	EGT-093	1" & 1-1/2"	1.98	50.3	1.19	30.2	1.56	39.7
	EGT-125	1" & 1-1/2"	1.98	50.3	2.00	50.8	2.63	66.8
	EGT-187/250	1" & 1-1/2"	1.98	50.3	2.56	64.5	3.31	84.1
	EGT-375/500	1" & 1-1/2"	1.98	50.3	2.88	73.0	3.63	92.1
SFA20	EGT-093	2"	2.52	64.0	1.19	30.2	1.56	39.7
	EGT-125	2"	2.52	64.0	2.00	50.8	2.63	66.8
	EGT-187/250	2"	2.52	64.0	2.56	64.5	3.31	84.1
	EGT-375/500	2"	2.52	64.0	2.88	73.0	3.63	92.1
	EGT-750	2"	2.52	64.0	3.50	88.9	4.50	114.3
SFA25	EGT-093	2-1/2"	3.05	77.5	1.19	30.2	1.56	39.7
	EGT-125	2-1/2"	3.05	77.5	2.00	50.8	2.63	66.8
	EGT-187/250	2-1/2"	3.05	77.5	2.56	64.5	3.31	84.1
	EGT-375/500	2-1/2"	3.05	77.5	2.88	73.0	3.63	92.1
	EGT-750	2-1/2"	3.05	77.5	3.50	88.9	4.50	114.3
SFA30	EGT-093	3"	3.58	90.9	1.19	30.2	1.56	39.7
	EGT-125	3"	3.58	90.9	2.00	50.8	2.63	66.8
	EGT-187/250	3"	3.58	90.9	2.56	64.5	3.31	84.1
	EGT-375/500	3"	3.58	90.9	2.88	73.0	3.63	92.1
	EGT-750	3"	3.58	90.9	3.50	88.9	4.50	114.3
SFA40	EGT-093	4"	4.68	119.0	1.19	30.2	1.56	39.7
	EGT-125	4"	4.68	119.0	2.00	50.8	2.63	66.8
	EGT-187/250	4"	4.68	119.0	2.56	64.5	3.31	84.1
	EGT-375/500	4"	4.68	119.0	2.88	73.0	3.63	92.1
	EGT-750	4"	4.68	119.0	3.50	88.9	4.50	114.3

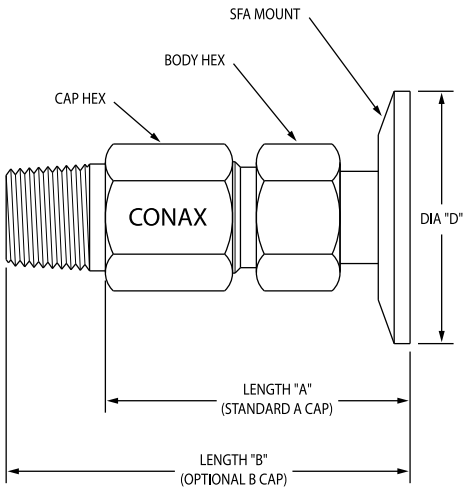


MHC Seal Fitting **Flange Selection Guide**

Part Number / Tube OD	SFA05 1/2 & 3/4	SFA10 1 & 1-1/2	SFA20 2	SFA25 2-1/2	SFA30 3	SFA40 4
MHC1	X	X	X	X	X	X
MHC2		X	X	X	X	X
MHC4		X	X	X	X	X
MHC5		X	X	X	X	X

MHC Seal Fitting **Dimensions**

				Dimensions					
				D Diameter		Overall Length A-Cap		Overall Length B-Cap	
Flange	Type	Holes	Tube OD	IN	MM	IN	MM	IN	MM
SFA05	MHC1-020/032	2,4	1/2" & 3/4"	0.98	24.9	1.38	35.1	1.75	44.4
	MHC1-062	1	1/2" & 3/4"	0.98	24.9	1.38	35.1	1.75	44.4
SFA10	MHC1-020/032	2,4	1" & 1-1/2"	1.98	50.3	1.38	35.1	1.75	44.4
	MHC1-062	1	1" & 1-1/2"	1.98	50.3	1.38	35.1	1.75	44.4
	MHC2-020/032	2,4	1" & 1-1/2"	1.98	50.3	2.00	50.8	2.63	66.8
	MHC2-062	1	1" & 1-1/2"	1.98	50.3	2.00	50.8	2.63	66.8
	MHC4-032/040	6,8	1" & 1-1/2"	1.98	50.3	2.63	66.8	3.38	85.9
	MHC4-062	2,3,4	1" & 1-1/2"	1.98	50.3	2.63	66.8	3.38	85.9
	MHC5-032	16	1" & 1-1/2"	1.98	50.3	2.88	73.2	3.63	92.2
	MHC5-062	6,8	1" & 1-1/2"	1.98	50.3	2.88	73.2	3.63	92.2
	MHC5-125	2	1" & 1-1/2"	1.98	50.3	2.88	73.2	3.63	92.2
SFA20	MHC1-020/032	2,4	2"	2.52	64.0	1.38	35.1	1.75	44.4
	MHC1-062	1	2"	2.52	64.0	1.38	35.1	1.75	44.4
	MHC2-020/032	2,4	2"	2.52	64.0	2.00	50.8	2.63	66.8
	MHC2-062	1	2"	2.52	64.0	2.00	50.8	2.63	66.8
	MHC4-032/040	6,8	2"	2.52	64.0	2.63	66.8	3.38	85.9
	MHC4-062	2,3,4	2"	2.52	64.0	2.63	66.8	3.38	85.9
	MHC5-032	16	2"	2.52	64.0	2.88	73.2	3.63	92.2
	MHC5-062	6,8	2"	2.52	64.0	2.88	73.2	3.63	92.2
	MHC5-125	2	2"	2.52	64.0	2.88	73.2	3.63	92.2
SFA25	MHC1-020/032	2,4	2-1/2"	3.05	77.5	1.38	35.1	1.75	44.4
	MHC1-062	1	2-1/2"	3.05	77.5	1.38	35.1	1.75	44.4
	MHC2-020/032	2,4	2-1/2"	3.05	77.5	2.00	50.8	2.63	66.8
	MHC2-062	1	2-1/2"	3.05	77.5	2.00	50.8	2.63	66.8
	MHC4-032/040	6,8	2-1/2"	3.05	77.5	2.63	66.8	3.38	85.9
	MHC4-062	2,3,4	2-1/2"	3.05	77.5	2.63	66.8	3.38	85.9
	MHC5-032	16	2-1/2"	3.05	77.5	2.88	73.2	3.63	92.2
	MHC5-062	6,8	2-1/2"	3.05	77.5	2.88	73.2	3.63	92.2
	MHC5-125	2	2-1/2"	3.05	77.5	2.88	73.2	3.63	92.2
SFA30	MHC1-020/032	2,4	3"	3.58	90.9	1.38	35.1	1.75	44.4
	MHC1-062	1	3"	3.58	90.9	1.38	35.1	1.75	44.4
	MHC2-020/032	2,4	3"	3.58	90.9	2.00	50.8	2.63	66.8
	MHC2-062	1	3"	3.58	90.9	2.00	50.8	2.63	66.8
	MHC4-032/040	6,8	3"	3.58	90.9	2.63	66.8	3.38	85.9
	MHC4-062	2,3,4	3"	3.58	90.9	2.63	66.8	3.38	85.9
	MHC5-032	16	3"	3.58	90.9	2.88	73.2	3.63	92.2
	MHC5-062	6,8	3"	3.58	90.9	2.88	73.2	3.63	92.2
	MHC5-125	2	3"	3.58	90.9	2.88	73.2	3.63	92.2
SFA40	MHC1-020/032	2,4	4"	4.68	119.0	1.38	35.1	1.75	44.4
	MHC1-062	1	4"	4.68	119.0	1.38	35.1	1.75	44.4
	MHC2-020/032	2,4	4"	4.68	119.0	2.00	50.8	2.63	66.8
	MHC2-062	1	4"	4.68	119.0	2.00	50.8	2.63	66.8
	MHC4-032/040	6,8	4"	4.68	119.0	2.63	66.8	3.38	85.9
	MHC4-062	2,3,4	4"	4.68	119.0	2.63	66.8	3.38	85.9
	MHC5-032	16	4"	4.68	119.0	2.88	73.2	3.63	92.2
	MHC5-062	6,8	4"	4.68	119.0	2.88	73.2	3.63	92.2
	MHC5-125	2	4"	4.68	119.0	2.88	73.2	3.63	92.2

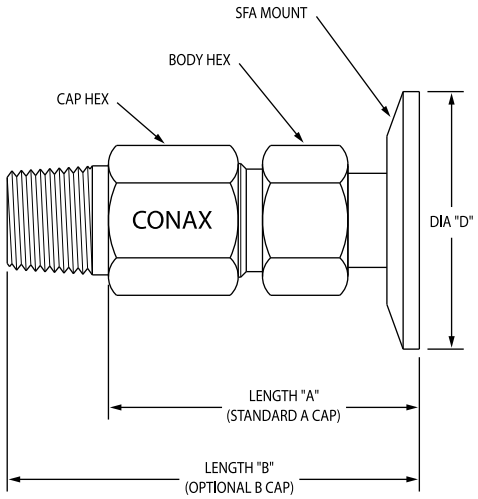


MHM Seal Fitting **Flange Selection Guide**

Part Number Tube OD	SFA10 1 & 1-1/2	SFA20 2	SFA25 2-1/2	SFA30 3	SFA40 4
MHM2	X	X	X	X	X
MHM4	X	X	X	X	X
MHM5	X	X	X	X	X
MHM6		X	X	X	X

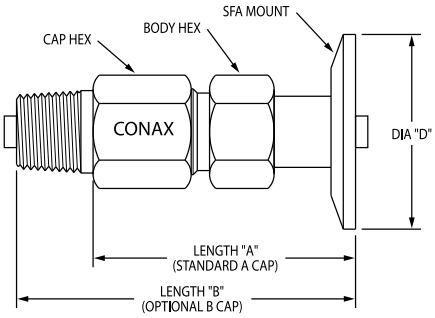
MHM Seal Fitting **Dimensions**

			Dimensions					
			D Diameter		Overall Length A-Cap		Overall Length B-Cap	
Flange	Type	Tube OD	IN	MM	IN	MM	IN	MM
SFA10	MHM2	1" & 1-1/2"	1.98	50.3	2.00	50.8	2.63	66.8
	MHM4	1" & 1-1/2"	1.98	50.3	2.56	65.0	3.38	85.6
	MHM5	1" & 1-1/2"	1.98	50.3	3.31	84.1	4.19	106.0
SFA20	MHM2	2"	2.52	64.0	2.00	50.8	2.63	66.8
	MHM4	2"	2.52	64.0	2.56	65.0	3.38	85.6
	MHM5	2"	2.52	64.0	3.31	84.1	4.19	106.0
	MHM6	2"	2.52	64.0	3.75	95.3	5.00	127.0
SFA25	MHM2	2-1/2"	3.05	77.5	2.00	50.8	2.63	66.8
	MHM4	2-1/2"	3.05	77.5	2.56	65.0	3.38	85.6
	MHM5	2-1/2"	3.05	77.5	3.31	84.1	4.19	106.0
	MHM6	2-1/2"	3.05	77.5	3.75	95.3	5.00	127.0
SFA30	MHM2	3"	3.58	90.9	2.00	50.8	2.63	66.8
	MHM4	3"	3.58	90.9	2.56	65.0	3.38	85.6
	MHM5	3"	3.58	90.9	3.31	84.1	4.19	106.0
	MHM6	3"	3.58	90.9	3.75	95.3	5.00	127.0
SFA40	MHM2	4"	4.68	119.0	2.00	50.8	2.63	66.8
	MHM4	4"	4.68	119.0	2.56	65.0	3.38	85.6
	MHM5	4"	4.68	119.0	3.31	84.1	4.19	106.0
	MHM6	4"	4.68	119.0	3.75	95.3	5.00	127.0



PL Seal Feedthrough Flange Selection Guide

Part Number Tube OD	Number of Wires	SFA05 1/2 & 3/4	SFA10 1 & 1-1/2	SFA20 2	SFA25 2-1/2	SFA30 3	SFA40 4
PL-20	2-18		X	X	X	X	X
PL-18	1	X	X	X	X	X	X
PL-18	2-12		X	X	X	X	X
PL-16	2-12		X	X	X	X	X
PL-14	1	X	X	X	X	X	X
PL-14	2-12		X	X	X	X	X
PL-12	2-6		X	X	X	X	X
PL-10	2-4		X	X	X	X	X
PL-8	2,3		X	X	X	X	X



PL Seal Feedthrough Dimensions

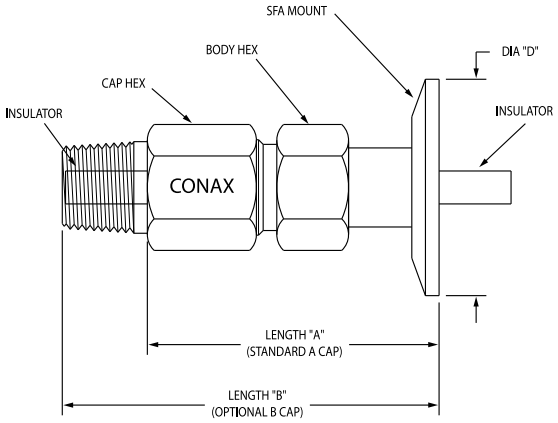
Flange	Type	Holes	Tube OD	D Diameter IN	D Diameter MM	Overall Length A-Cap IN	Overall Length A-Cap MM	Overall Length B-Cap IN	Overall Length B-Cap MM
SFA05	PL-18/14	1	1/2" & 3/4"	0.98	24.9	1.38	35.1	1.75	44.5
SFA10	PL-18/14	1	1" & 1-1/2"	1.98	50.3	1.38	35.1	1.75	44.5
	PL-20/18/16	2,3,4	1" & 1-1/2"	1.98	50.3	2.63	66.8	3.38	85.9
	PL-14	2	1" & 1-1/2"	1.98	50.3	2.63	66.8	3.38	85.9
	PL-14	3,4	1" & 1-1/2"	1.98	50.3	2.88	73.2	3.63	92.2
	PL-20/18/16/14	6,8	1" & 1-1/2"	1.98	50.3	2.88	73.2	3.63	92.2
	PL-20	18	1" & 1-1/2"	1.98	50.3	2.88	73.2	3.63	92.2
	PL-18/16/14	10,12	1" & 1-1/2"	1.98	50.3	2.88	73.2	3.63	92.2
	PL-12	2,3,4,6	1" & 1-1/2"	1.98	50.3	2.88	73.2	3.63	92.2
	PL-10	2,3,4	1" & 1-1/2"	1.98	50.3	2.88	73.2	3.63	92.2
	PL-8	2	1" & 1-1/2"	1.98	50.3	2.88	73.2	3.63	92.2
	PL-8	3	1" & 1-1/2"	1.98	50.3	2.88	73.2	3.63	92.2
SFA20	PL-18/14	1	2"	2.52	64.0	1.38	35.1	1.75	44.5
	PL-20/18/16	2,3,4	2"	2.52	64.0	2.63	66.8	3.38	85.9
	PL-14	2	2"	2.52	64.0	2.63	66.8	3.38	85.9
	PL-14	3,4	2"	2.52	64.0	2.88	73.2	3.63	92.2
	PL-20/18/16/14	6,8	2"	2.52	64.0	2.88	73.2	3.63	92.2
	PL-20	18	2"	2.52	64.0	2.88	73.2	3.63	92.2
	PL-18/16/14	10,12	2"	2.52	64.0	2.88	73.2	3.63	92.2
	PL-12	2,3,4,6	2"	2.52	64.0	2.88	73.2	3.63	92.2
	PL-10	2,3,4	2"	2.52	64.0	2.88	73.2	3.63	92.2
	PL-8	2	2"	2.52	64.0	2.88	73.2	3.63	92.2
	PL-8	3	2"	2.52	64.0	2.88	73.2	3.63	92.2
SFA25	PL-18/14	1	2-1/2"	3.05	77.5	1.38	35.1	1.75	44.5
	PL-20/18/16	2,3,4	2-1/2"	3.05	77.5	2.63	66.8	3.38	85.9
	PL-14	2	2-1/2"	3.05	77.5	2.63	66.8	3.38	85.9
	PL-14	3,4	2-1/2"	3.05	77.5	2.88	73.2	3.63	92.2
	PL-20/18/16/14	6,8	2-1/2"	3.05	77.5	2.88	73.2	3.63	92.2
	PL-20	18	2-1/2"	3.05	77.5	2.88	73.2	3.63	92.2
	PL-18/16/14	10,12	2-1/2"	3.05	77.5	2.88	73.2	3.63	92.2
	PL-12	2,3,4,6	2-1/2"	3.05	77.5	2.88	73.2	3.63	92.2
	PL-10	2,3,4	2-1/2"	3.05	77.5	2.88	73.2	3.63	92.2
	PL-8	2	2-1/2"	3.05	77.5	2.88	73.2	3.63	92.2
	PL-8	3	2-1/2"	3.05	77.5	2.88	73.2	3.63	92.2
SFA30	PL-18/14	1	3"	3.58	90.9	1.38	35.1	1.75	44.5
	PL-20/18/16	2,3,4	3"	3.58	90.9	2.63	66.8	3.38	85.9
	PL-14	2	3"	3.58	90.9	2.63	66.8	3.38	85.9
	PL-14	3,4	3"	3.58	90.9	2.88	73.2	3.63	92.2
	PL-20/18/16/14	6,8	3"	3.58	90.9	2.88	73.2	3.63	92.2
	PL-20	18	3"	3.58	90.9	2.88	73.2	3.63	92.2
	PL-18/16/14	10,12	3"	3.58	90.9	2.88	73.2	3.63	92.2
	PL-12	2,3,4,6	3"	3.58	90.9	2.88	73.2	3.63	92.2
	PL-10	2,3,4	3"	3.58	90.9	2.88	73.2	3.63	92.2
	PL-8	2	3"	3.58	90.9	2.88	73.2	3.63	92.2
	PL-8	3	3"	3.58	90.9	2.88	73.2	3.63	92.2
SFA40	PL-18/14	1	4"	4.68	119.0	1.38	35.1	1.75	44.5
	PL-20/18/16	2,3,4	4"	4.68	119.0	2.63	66.8	3.38	85.9
	PL-14	2	4"	4.68	119.0	2.63	66.8	3.38	85.9
	PL-14	3,4	4"	4.68	119.0	2.88	73.2	3.63	92.2
	PL-20/18/16/14	6,8	4"	4.68	119.0	2.88	73.2	3.63	92.2
	PL-20	18	4"	4.68	119.0	2.88	73.2	3.63	92.2
	PL-18/16/14	10,12	4"	4.68	119.0	2.88	73.2	3.63	92.2
	PL-12	2,3,4,6	4"	4.68	119.0	2.88	73.2	3.63	92.2
	PL-10	2,3,4	4"	4.68	119.0	2.88	73.2	3.63	92.2
	PL-8	2	4"	4.68	119.0	2.88	73.2	3.63	92.2
	PL-8	3	4"	4.68	119.0	2.88	73.2	3.63	92.2

TG Seal Fitting Flange Selection Guide

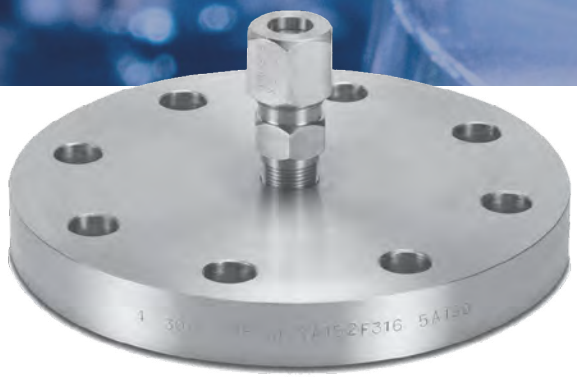
Part Number Tube OD	Holes	SFA05 1/2 & 3/4	SFA10 1 & 1-1/2	SFA20 2	SFA25 2-1/2	SFA30 3	SFA40 4
MTG-24	2,4	X	X	X	X	X	X
MTG-20	2,4	X	X	X	X	X	X
MTG-14	1	X	X	X	X	X	X
TG-24	2,4		X	X	X	X	X
TG-20	2,4		X	X	X	X	X
TG-20	6,8		X	X	X	X	X
TG-20	16		X	X	X	X	X
TG-18	6,8		X	X	X	X	X
TG-14	1		X	X	X	X	X
TG-14	2,3,4		X	X	X	X	X
TG-14	6,8		X	X	X	X	X
TG-8	2		X	X	X	X	X

TG Seal Fitting Dimensions

Flange	Type	Holes	Tube OD	D Diameter IN	D Diameter MM	Overall Length A-Cap IN	Overall Length A-Cap MM	Overall Length B-Cap IN	Overall Length B-Cap MM
SFA05	MTG-24/20	2,4	1/2" & 3/4"	0.98	24.9	1.38	35.1	1.75	44.4
	MTG-14	1	1/2" & 3/4"	0.98	24.9	1.38	35.1	1.75	44.4
SFA10	MTG-24/20	2,4	1" & 1-1/2"	1.98	50.3	1.38	35.1	1.75	44.4
	MTG-14	1	1" & 1-1/2"	1.98	50.3	1.38	35.1	1.75	44.4
	TG-24/20	2,4	1" & 1-1/2"	1.98	50.3	2.00	50.8	2.63	66.8
	TG-14	1	1" & 1-1/2"	1.98	50.3	2.00	50.8	2.63	66.8
	TG-20/18	6,8	1" & 1-1/2"	1.98	50.3	2.63	66.8	3.38	85.9
	TG-14	2,3,4	1" & 1-1/2"	1.98	50.3	2.63	66.8	3.38	85.9
	TG-20	16	1" & 1-1/2"	1.98	50.3	2.88	73.2	3.63	92.2
	TG-14	6,8	1" & 1-1/2"	1.98	50.3	2.88	73.2	3.63	92.2
	TG-8	2	1" & 1-1/2"	1.98	50.3	2.88	73.2	3.63	92.2
SFA20	MTG-24/20	2,4	2"	2.52	64.0	1.38	35.1	1.75	44.4
	MTG-14	1	2"	2.52	64.0	1.38	35.1	1.75	44.4
	TG-24/20	2,4	2"	2.52	64.0	2.00	50.8	2.63	66.8
	TG-14	1	2"	2.52	64.0	2.00	50.8	2.63	66.8
	TG-20/18	6,8	2"	2.52	64.0	2.63	66.8	3.38	85.9
	TG-14	2,3,4	2"	2.52	64.0	2.63	66.8	3.38	85.9
	TG-20	16	2"	2.52	64.0	2.88	73.2	3.63	92.2
	TG-14	6,8	2"	2.52	64.0	2.88	73.2	3.63	92.2
	TG-8	2	2"	2.52	64.0	2.88	73.2	3.63	92.2
SFA25	MTG-24/20	2,4	2-1/2"	3.05	77.5	1.38	35.1	1.75	44.4
	MTG-14	1	2-1/2"	3.05	77.5	1.38	35.1	1.75	44.4
	TG-24/20	2,4	2-1/2"	3.05	77.5	2.00	50.8	2.63	66.8
	TG-14	1	2-1/2"	3.05	77.5	2.00	50.8	2.63	66.8
	TG-20/18	6,8	2-1/2"	3.05	77.5	2.63	66.8	3.38	85.9
	TG-14	2,3,4	2-1/2"	3.05	77.5	2.63	66.8	3.38	85.9
	TG-20	16	2-1/2"	3.05	77.5	2.88	73.2	3.63	92.2
	TG-14	6,8	2-1/2"	3.05	77.5	2.88	73.2	3.63	92.2
	TG-8	2	2-1/2"	3.05	77.5	2.88	73.2	3.63	92.2
SFA30	MTG-24/20	2,4	3"	3.58	90.9	1.38	35.1	1.75	44.4
	MTG-14	1	3"	3.58	90.9	1.38	35.1	1.75	44.4
	TG-24/20	2,4	3"	3.58	90.9	2.00	50.8	2.63	66.8
	TG-14	1	3"	3.58	90.9	2.00	50.8	2.63	66.8
	TG-20/18	6,8	3"	3.58	90.9	2.63	66.8	3.38	85.9
	TG-14	2,3,4	3"	3.58	90.9	2.63	66.8	3.38	85.9
	TG-20	16	3"	3.58	90.9	2.88	73.2	3.63	92.2
	TG-14	6,8	3"	3.58	90.9	2.88	73.2	3.63	92.2
	TG-8	2	3"	3.58	90.9	2.88	73.2	3.63	92.2
SFA40	MTG-24/20	2,4	4"	4.68	119.0	1.38	35.1	1.75	44.4
	MTG-14	1	4"	4.68	119.0	1.38	35.1	1.75	44.4
	TG-24/20	2,4	4"	4.68	119.0	2.00	50.8	2.63	66.8
	TG-14	1	4"	4.68	119.0	2.00	50.8	2.63	66.8
	TG-20/18	6,8	4"	4.68	119.0	2.63	66.8	3.38	85.9
	TG-14	2,3,4	4"	4.68	119.0	2.63	66.8	3.38	85.9
	TG-20	16	4"	4.68	119.0	2.88	73.2	3.63	92.2
	TG-14	6,8	4"	4.68	119.0	2.88	73.2	3.63	92.2
	TG-8	2	4"	4.68	119.0	2.88	73.2	3.63	92.2



ASME/ANSI Raised-face Flange Mount



Conax Technologies' seal fittings can be welded or threaded to ASME B16.5 flanges to create a rugged mounting for environmental sealing and/or securing the position of instrumentation sensor probes. Use of flanges eliminates the need to weld mounting adapters to the pipe or vessel. Common applications include petrochemical processing and distribution, industrial furnaces, bulk cargo carriers, gas sampling coupons and gas storage silos.

Conax Technologies' ASME/ANSI flanges are constructed from 304 SST standard, 316 SST standard or carbon steel. Alternate materials and grades are available. Please consult factory. Bodies are constructed from 316L SST standard for welded assemblies or 303 SST standard for threaded fittings (316L SST is available as an option on threaded assemblies). Optional materials are available. See page 9 for details.

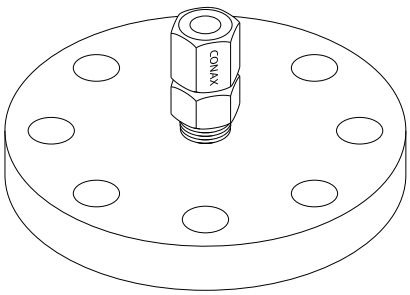
Single or multiple fittings may be attached to the flange. Multiple fittings may consist of multiple fittings of the same type or a combination of various Conax Technologies Seal Fitting types.

- Specifications are shown here for Class 150 and Class 300 flanges. Class 600 – Class 2500 flanges are also available. Please consult factory.
- Pressure ratings for flange/fitting combinations are determined by the lowest-rated element in the assembly (flange or fitting). Flange pressure ratings may decrease when assembled with multiple sealing assemblies.
- Flat-faced flanges are also available. Please consult factory.

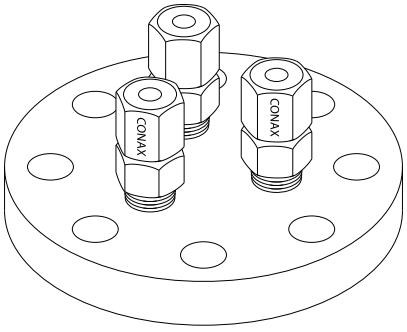
Catalog Numbering System Incorporating a Flange: PG Fitting Example

Conax Technologies incorporates a flange into its catalog numbering system by adding a parenthesis after the fitting type. Inside the parenthesis is the information describing the flange (highlighted in grey).

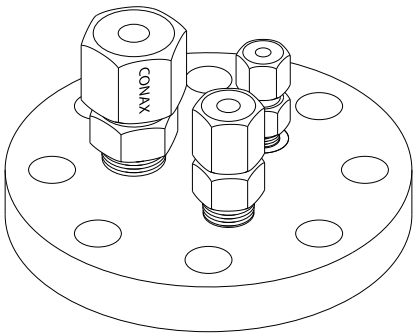
PG5	(	RF	1	15	T	cs	/	S303	)	-	500	-	A	-	V
PG Fitting		Flange Designator	Flange Class	Flange Pipe Size	Attachment Style	Flange Construction Material		Fitting Body Construction Material			Tube or Probe Diameter		Cap Style		Sealant



ASME/ANSI Flange with Single Fitting



ASME/ANSI Flange with Multiple Fittings (Same Size)



ASME/ANSI Flange with Multiple Fittings (Different Sizes)

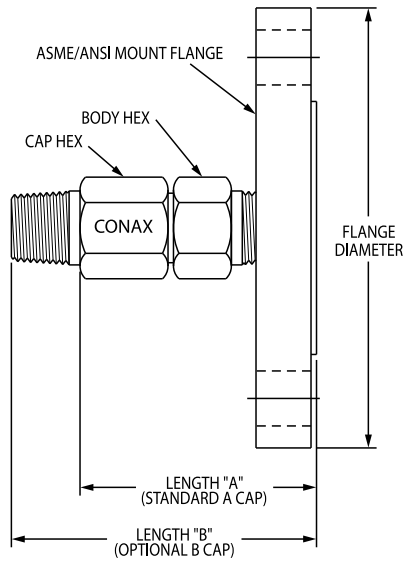
Note: Flange pressure ratings may decrease when assembled with multiple sealing assemblies.

ASME/ANSI Raised-Face **Flange Selection Guide**		Flange Thickness		Flange Diameter									
Part Number	Flange Size	IN	MM	IN	MM	1/8" NPT	1/4" NPT	1/2" NPT	3/4" NPT	1" NPT	1-1/4" NPT	1-1/2" NPT	2" NPT
RF14	1/2 – 150#	0.438	11.1	3.5"	88.9	X		X					
RF15	3/4 – 150#	0.500	12.7	3.875"	98.4	X			X				
RF16	1 – 150#	0.563	14.3	4.25"	108.0	X	X			X			
RF18	1-1/2 – 150#	0.688	17.5	5.0"	127.0	X	X	X	X			X	
RF19	2 – 150#	0.750	19.1	6.0"	152.4	X	X	X	X				X
RF111	3 – 150#	0.938	23.8	7.5"	190.5	X	X	X	X	X			
RF113	4 – 150#	0.938	23.8	9.0"	228.6	X	X	X	X	X	X		
RF114	5 – 150#	0.938	23.8	10.0"	254.0	X	X	X	X	X	X	X	
RF115	6 – 150#	1.000	25.4	11.0"	279.4	X	X	X	X	X	X	X	X
RF24	1/2 – 300#	0.563	14.3	3.75"	95.3	X	X	X					
RF25	3/4 – 300#	0.625	15.9	4.625"	117.5	X	X		X				
RF26	1 – 300#	0.688	17.5	4.875"	123.8	X	X	X	X	X			
RF28	1-1/2 – 300#	0.813	20.7	6.125"	155.6	X	X	X	X	X		X	
RF29	2 – 300#	0.875	22.2	6.5"	165.1	X	X	X	X	X			X
RF211	3 – 300#	1.125	28.6	8.25"	209.6	X	X	X	X	X			
RF213	4 – 300#	1.250	31.8	10.0"	254.0	X	X	X	X	X	X		
RF214	5 – 300#	1.375	34.9	11.0"	279.4	X	X	X	X	X	X	X	
RF215	6 – 300#	1.438	36.5	12.5"	317.5	X	X	X	X	X	X	X	X

Important! Determining the Length of an Assembly

Calculate the overall length of a compression seal joined to a flange by using this formula and the length of the thread engagement from the chart below.

Length "A" or "B" = Fitting Length + Flange Thickness – Thread Engagement



Example: PG Fitting with ASME/ANSI Raised Flange

ASME/ANSI Thread Engagement Chart		
NPT	IN	MM
1/16"	0.27	6.4
1/8"	0.27	6.4
1/4"	0.39	9.9
1/2"	0.53	13.5
3/4"	0.55	14.0
1"	0.66	16.8
1-1/4"	0.68	17.3
1-1/2"	0.68	17.3
2"	0.70	17.8

Conax Accessories

Replacement Sealants

The replaceable sealant used in Conax Technologies' sealing assemblies allows repeated use of the same fitting. Replacement sealants are available in Neoprene, Viton™, Teflon™, Lava or GraFoil™, depending on the sealing assembly type.

Instructions on how to order replacement sealants are provided in the catalog section for the appropriate seal fitting series.

Replacement Conductors/Electrodes

Conax Technologies supplies conductors/electrodes for Conax EG and EGT assemblies in stainless steel, copper or nickel and in sizes from 0.093" to 1.00". Each set is supplied with 4 nuts and 4 washers.

To order replacement electrode, order Conductor, (Fitting) – (Diameter) – (Material).

Conductor/Electrode Guide

Electrode Material	Amperage Rating	Nuts/Washers
Copper	20 to 525 amps	Brass
Nickel	8 to 240 amps	Stainless Steel
Stainless Steel	3 to 72 amps	Stainless Steel

Replacement Packing Sets

Replacement Packing Sets for MHC, TG, PL and EG series assemblies consist of one replacement sealant with the appropriate number of ceramic insulators for that specific assembly.

Replacement Packing Sets for MHM, SPG, DSPG and PGS series assemblies consist of one replacement sealant with a seat and follower.

Replacement sealants provided in the packing sets are available in Neoprene, Viton™, Teflon™, Lava or GraFoil™, depending on the sealing assembly type. Instructions on how to order replacement packing sets are provided in the catalog section for the appropriate fitting series.

Power Lead/Insulated Wire

Conax Technologies can supply bulk Kapton™-insulated, solid conductor power lead wire, rated to 600 volts, in wire gauges from 20 to 8. Minimum order is 50 ft.

Wire Gauge Chart

Part Number	Gauge
44-0098-020-CU	20
44-0098-018-CU	18
44-0098-016-CU	16
44-0098-014-CU	14
44-0098-012-CU	12
44-0098-010-CU	10
44-0098-008-CU	8

Replacement Insulators

In addition to Replacement Packing Sets, Conax Technologies can supply individual Alumina (AL2O3) Ceramic Insulators appropriate for use with copper wire, thermocouple wire for thermocouple calibrations J, K, E, T, R, S, B and C, or electrodes.

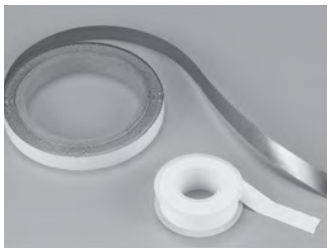
To order replacement insulators, order Insulator, (Fitting) – (Wire Gauge) – (Number of Holes).

Example:
Insulator, TG24T-20-2

Please specify if the insulators are to be used with GraFoil™ sealants.

Thread Seal Materials

Use of mounting thread environmental seal materials maximizes the efficiency of the NPT seal. Conax Technologies recommends Teflon™ tape for use up to 450 °F (232 °C) and GraFoil™ tape for use between 450 °F (232 °C) and 900 °F (482 °C).



Thread Seal Materials Guide

Part Number	Material	Width	Roll Length	Temperature Range
44-0135-001	Teflon™	0.5"	40 ft.	-300 °F to +450 °F (-185 °C to +232 °C)
47-0040-001	GraFoil™	0.5"	25 ft.	-400 °F to +925 °F (-240 °C to +495 °C)

Seal Fitting Lubrication Kit

Conax Technologies' sealing assemblies are supplied factory lubricated. This lubricant is used on the internal cap threads and followers to reduce friction at metal-to-metal contact points and to ensure maximum transfer of torque for sealant compression when screwing the assembly together. If cleaned before assembly or any time the fitting is loosened and retorqued, the assembly should be relubricated. The same lubricant used by the factory can be purchased in small, one-application disposable packages with the applicator included. The use of this convenient kit ensures consistent sealing performance without the need to purchase and store large quantities of lubricant.

Part Number 19-0001-001

Torque Wrenches and Adaptors

For the convenience of our customers, Conax Technologies offers Stanley® PROTO® Micrometer Ratchet Head "Click" Style Torque Wrenches and associated socket adaptors. When the desired torque is reached, the wrench produces an audible click and a "feel impulse" and the wrench automatically resets.

- Retains calibration for 30,000 cycles under normal use
- Clockwise and counter-clockwise torque capability
- Ratchet wheels are made from tool steel for strength and durability
- Bimaterial grip handles for non-slip grip
- Positive locking mechanism—dial and lock in the desired torque
- Dual scale
- Calibrated to ±3% of torque reading clockwise and ±6% counter-clockwise at 20% to 100% of full scale

Wrench Guide

Part Number	Torque Range	Torque Range (metric)	Drive Size (inches)	Length (inches)
CV-0105-1	40-200 in-lbs	58-242 cmkg	1/4"	11-3/8"
CV-0105-2	20-100 ft-lbs	3.5-14.5 mkg	3/8"	16-7/16"
CV-0105-3	30-150 ft-lbs	4.8-21.4 mkg	1/2"	20-3/4"
CV-0105-4	60-300 ft-lbs	10.4-43.6 mkg	3/4"	32-11/16"
CV-0105-5	90-600 ft-lbs	14.5-85.0 mkg	3/4"	41-1/2"

Socket Adaptor Guide

Part Number	Female to Male Drive
CV-0106-1	1/4" F to 3/8" M
CV-0106-2	1/2" F to 3/8" M

Hex Reducer Bushings

Conax Technologies supplies stainless steel reducer bushings used to reduce large NPT sizes to smaller NPT sizes.

Standard offering 150 PSIG (10 bar). Higher pressures available—consult the factory.

Hex Reducer Bushing Guide

Part Number	Size
6812-01	1/8" NPT x 1/4" NPT
6812-02	1/8" NPT x 1/2" NPT
6812-03	1/8" NPT x 3/4" NPT
6812-04	1/4" NPT x 1/2" NPT
6812-05	1/4" NPT x 3/4" NPT
6812-06	1/2" NPT x 3/4" NPT
6812-07	1/2" NPT x 1" NPT
6812-08	3/4" NPT x 1" NPT

Hex Reducer Adaptors

Conax Technologies supplies stainless steel reducer adaptors used to reduce large NPT sizes to smaller NPT sizes.

Hex Reducer Adaptor Guide

Part Number	Size
319006-001	1/8" NPT x 1/16" NPT
319006-005	1/2" NPT x 1/8" NPT
319006-006	1/2" NPT x 1/4" NPT
319006-007	1/2" NPT x 3/8" NPT
319006-009	3/4" NPT x 3/8" NPT
319006-010	3/4" NPT x 1/2" NPT

KF Flange Accessories

Blank Flange

Stainless steel blanks (304 SST standard) are provided to cap off KF flange mounts when not in use.

Blank Flange Guide

Flange Style	ISO Equivalent	Part Number
KF6W	NW25	318921-002
KF8W	NW40	318921-003
KF9W	NW50	318921-004

O-Rings

Conax Technologies offers Viton™ replacement O-rings for KF Flanges. Buna-N O-rings are also available. Please consult factory.

O-Ring Guide

Flange Style	ISO Equivalent	Part Number
KF6W	NW25	47-0067-003-VTN
KF8W	NW40	47-0067-004-VTN
KF9W	NW50	47-0067-005-VTN

Centering O-Ring Assemblies

Conax Technologies offers stainless steel centering ring assemblies with Viton™ O-ring included. Buna-N O-rings are also available. Please consult factory.

Centering O-Ring Guide

Flange Style	ISO Equivalent	Part Number
KF6W	NW25	47-0066-003-VTN
KF8W	NW40	47-0066-004-VTN
KF9W	NW50	47-0066-005-VTN

Clamps

KF Quick Clamps feature all-aluminum construction and wing nut closure.

Clamp Guide

Flange Style	ISO Equivalent	Part Number
KF6W	NW25	48-0071-002
KF8W	NW40	48-0071-003
KF9W	NW50	48-0071-004

CF Flange Accessories

Blank Flange

Conax Technologies provides non-rotatable blanks with clearance holes to cap off CF flange mounts when not in use.

Blank Flange Guide

Flange Style	ISO Equivalent	Part Number
CFNC1	NW16F	318743-001
CFNC2	NW25F	318744-001
CFNC3	NW35F	310218-001
CFNC4	NW50F	41-0019-001
CFNC5	NW63F	41-0020-001

Gaskets

Oxygen-free copper and Viton™ gaskets are available for use with CF flanges.

Gasket Guide

Gasket Material	Flange Style	ISO Equivalent	Part Number
Copper	CFNC1	NW16F	47-0068-001-CU
Copper	CFNC2	NW25F	47-0068-002-CU
Copper	CFNC3	NW35F	47-0068-003-CU
Copper	CFNC4	NW50F	47-0068-004-CU
Copper	CFNC5	NW63F	47-0068-005-CU
Viton™	CFNC1	NW16F	47-0068-001-VTN
Viton™	CFNC2	NW25F	47-0068-002-VTN
Viton™	CFNC3	NW35F	47-0068-003-VTN
Viton™	CFNC4	NW50F	47-0068-004-VTN
Viton™	CFNC5	NW63F	47-0068-005-VTN

Sanitary Flange Accessories

Blank Flange

Conax Technologies offers 16AMP solid end caps in 316L SST standard or 304 SST standard to cap off SFA flange mounts when not in use.

Blank Flange Guide

Flange Style	Tube OD IN	Tube OD MM	Part Number (316L SST)	Part Number (304 SST)
SFA05	1/2" & 3/4"	12.7 & 19.5	313131-003	313131-012
SFA10	1" & 1-1/2"	25.4 & 19.1	313131-004	313131-013
SFA20	2"	50.80	313131-001	313131-010
SFA25	2-1/2"	63.50	313131-005	313131-014
SFA30	3"	76.20	313131-002	313131-011
SFA40	4"	101.60	313131-006	313131-015

Clamps for Sanitary (SFA) Flanges

Conax Technologies offers two types of clamps for sanitary flange assemblies. The high pressure clamp is constructed from 304 SST standard and incorporates a twin bolt design. A heavy weight clamp for lower pressures is also available.

High Pressure Clamp Guide

Flange Style	Tube OD IN	Tube OD MM	Pressure Rating at 70 °F (21 °C) PSIG	Pressure Rating at 70 °F (21 °C) BAR	Pressure Rating at 250 °F (121 °C) PSIG	Pressure Rating at 250 °F (121 °C) BAR	Part Number
SFA10	1" & 1-1/2"	25.4 & 38.1	1,500	103	1,200	83	48-0069-001
SFA20	2"	50.8	1,000	69	800	55	48-0069-002
SFA25	2-1/2"	63.5	1,000	69	800	55	48-0069-003
SFA30	3"	76.2	1,000	69	800	55	48-0069-004
SFA40	4"	101.6	800	55	600	41	48-0069-005

*Bolts tightened to 20 ft-lbs torque.

Heavy Weight Clamp Guide

Flange Style	Tube OD IN	Tube OD MM	Pressure Rating at 70 °F (21 °C) PSIG	Pressure Rating at 70 °F (21 °C) BAR	Pressure Rating at 250 °F (121 °C) PSIG	Pressure Rating at 250 °F (121 °C) BAR	Part Number
SFA10	1" & 1-1/2"	25.4 & 38.1	500	34	300	21	48-0070-001
SFA20	2"	50.8	450	31	300	21	48-0070-002
SFA25	2-1/2"	63.5	400	28	200	14	48-0070-003
SFA30	3"	76.2	350	24	195	13	48-0070-004
SFA40	4"	101.6	250	17	150	10	48-0070-005

*Wing nut tightened to 25 in-lbs.

Clamp Gaskets for Sanitary Flange Clamps

Clamp gaskets for high pressure sanitary flange clamps are offered in Viton™ and Buna-N. Other available materials include Teflon™, silicone rubber and EP rubber (EPDM). Please consult the factory for information on gaskets made from these materials.

Sanitary Flange Gasket Guide

Flange Style	Tube OD IN	Tube OD MM	Part Number (Buna-N)	Part Number (Viton™)
SFA10	1" & 1-1/2"	25.4 & 38.1	47-0065-001-NBR	47-0065-001-VTN
SFA20	2"	50.80	47-0065-002-NBR	47-0065-002-VTN
SFA25	2-1/2"	63.50	47-0065-003-NBR	47-0065-003-VTN
SFA30	3"	76.20	47-0065-004-NBR	47-0065-004-VTN
SFA40	4"	101.60	47-0065-005-NBR	47-0065-005-VTN

Fitting and Feedthrough Assembly Instructions

CAUTION: Conax Technologies Seal Fittings should be installed by suitably qualified personnel in accordance with relevant safety rules and with proper regard to safe working practices.

Conax Technologies Seal Fittings have lubricant applied at the factory. Substitution of factory-supplied lubricant will affect seal integrity. Lubrication prevents thread galling and minimizes friction between mating metallic components to maximize seal fitting performance when a catalog-specified torque is applied. Weld mount models should be relubricated after the body is welded in place. If the fitting has been cleaned before assembly, it should also be relubricated prior to assembly.

Lubricant should be used any time a seal fitting assembly is opened for replacement or adjustment of the probe(s), wires or sealant. By re-lubricating the fitting body threads and load bearing surface of the cap, proper load transfer (sealant compression) can be achieved. See page 124 for lubrication instructions.

Conax Technologies recommends the use of thread sealant tape or dopant on NPT threads during installation of the fitting to the vessel.

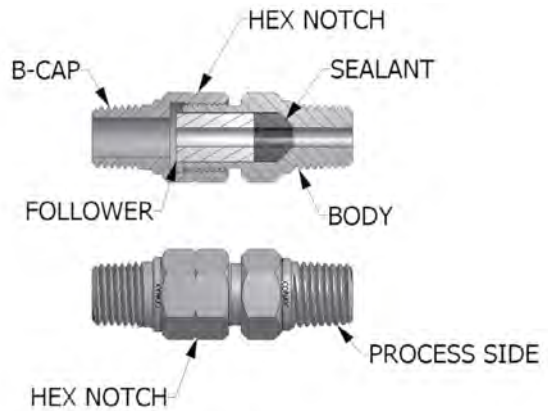
Flange mounted fittings should be assembled prior to mounting to the vessel.

CAUTION: Torque ratings are developed using solid stainless steel elements at 68 °F (20 °C). When sealing on soft, fragile or crushable elements, catalog torques may not apply. When catalog torques are applied, compressed sealants generate considerable forces on the element to be sealed. These forces could result in damaging soft or fragile elements such as coax cables or thin-wall materials. Consult factory for these types of applications.

A note on B Caps:

When using a seal fitting assembly with a B Cap, it is sometimes easy to confuse which NPT thread screws into the process side. If installed backwards, leakage will occur between the cap and body straight thread.

A hex notch (as shown below) has been added to the cap to simplify identification. When properly installed, the hex notch will appear on the non-process side of the assembly.



Please note: Fittings previously purchased may have "Conax" engraved on a cap hex surface in lieu of the hex notch. When properly installed, the lettering or hex notch will appear on the non-process side of the assembly (the cap). Please consult the factory with any questions before installing.

Throughout this catalog, feedthroughs (fittings with conductors) that are not supplied with Conax-installed conductors have an "XX" or "XX/XX" designation. Fittings without Conax-installed conductors are not pre-torqued, and it is the end user's responsibility to properly torque the feedthrough following installation of the conductor(s).

A note on Followers with Pins:

Many Conax fittings with multiple holes have followers with anti-rotation pins. In our Legacy products, the follower has a key way into which a separate pin (key) is inserted. Conax's current product line has followers with integral pins. As you read the numbered assembly instructions throughout this document, numbered steps with a letter "a" suffix (14a for example) will explain the process for assembling a fitting with separate pin (key). If a step has a "b" suffix (14b for example), this step describes the assembly process when using a follower with integral pin.

14a

Separate follower and pin

14b

Follower with integral pin

Guidelines for Sealant Replacement

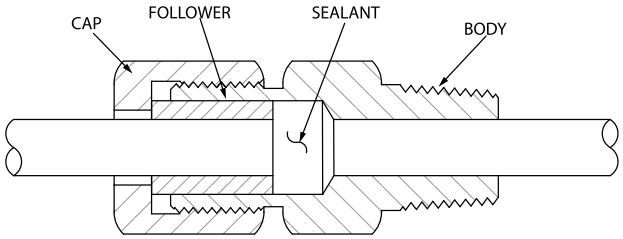
Conax Technologies recommends the following procedures to facilitate sealant replacement:

1. Ensure that all system pressurization has been removed before beginning sealant replacement.
2. Untorque and remove the seal fitting cap.
3. Remove the follower and sealant. Depending on the application, the element may also need to be removed.

   Follower Removal: Tight manufacturing tolerances are used between the follower OD and the bore of the seal fitting body. As the follower is extracted, a vacuum can be created between the follower and sealant, making it difficult to remove the follower by hand. It may be necessary to clamp the exposed portion of the follower with pliers or a similar tool to gain the additional clamping force needed to remove the follower. If this is necessary, take care to avoid damage to the follower.

   Sealant Removal: Teflon™, Neoprene, and Viton™ sealants can generally be removed in one piece. GraFoil™ and Lava sealants must be removed in multiple pieces, using a rigid "picking" instrument to break apart the sealant. During this process, be careful to avoid damage to the seal fitting body. Deep scratches or gouges may result in potential leak paths during future use of the fitting assembly.
4. Thoroughly clean the internal configuration of the seal fitting body with de-ionized water or cleaning alcohol (depending on the application) to remove any sealant residue.
5. Reassemble per applicable assembly instructions.

For Hex-Style PG/HPG Series Fittings



For assembly separate from the vessel:

1. Verify that the total probe length is sufficient for your desired immersion.
2. Thread the cap over the probe with the female thread facing the process (see diagram).
3. Thread the follower over the probe. For MPG and PG2 assemblies with bores smaller than 0.093", the follower may have a larger bore on one side. The larger bore diameter must be adjacent to the cap and the smaller bore diameter adjacent to the sealant.
4. Be sure you are using the correct sealant for your working pressure and temperature. Thread the sealant over the probe with the cone facing the process.
5. Thread the fitting body over the probe.
6. Slide the sealant into the fitting body.
7. Slide the follower after the sealant.
8. Push on the follower until the sealant is firmly seated.
9. Thread the cap on finger tight.
10. Secure the fitting body into a vice.
11. Make the final adjustment of immersion length.
12. Using a torque wrench, tighten the cap to the specified torque (see chart).
13. The assembly is now ready for use. Apply a wrench to the fitting body flats—not the cap—for mounting to the vessel.

For assembly directly into a vessel:

1. Verify that the total probe length is sufficient for your desired immersion.
2. Mount the fitting body into the vessel wall. This may be done by threading or welding, depending on the mounting style. When using a weld mount, the fitting must be disassembled prior to welding to protect the sealant.
3. Thread the cap over the probe with the female thread facing the process (see diagram).
4. Thread the follower over the probe so that the follower is between the cap and the process. For MPG and PG2 assemblies with bores smaller than 0.093", the follower may have a larger bore on one side. The larger bore diameter must be adjacent to the cap and the smaller bore diameter adjacent to the sealant.
5. Be sure you are using the correct sealant for your working pressure and temperature. Thread the sealant over the probe so that the sealant is between the follower and the process, and the cone of the sealant faces the process.
6. Insert the probe through the body into the process.
7. Slide the sealant into the fitting body.
8. Slide the follower after the sealant.
9. Push on the follower until the sealant is firmly seated.
10. Thread the cap on finger tight.
11. Make the final adjustment of immersion length.
12. Apply a backer wrench to the fitting body flats to prevent rotation during torquing.
13. While holding the backer wrench firmly in place, use a torque wrench to tighten the cap to the specified torque (see chart).
14. The assembly is now ready for use.

PG Series Torque Requirements

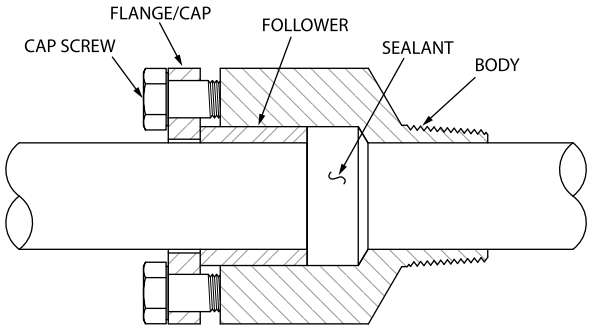
Part Number	Neoprene/Viton™		Teflon™		Lava		GraFoil™	
	ft-lbs	N-m	ft-lbs	N-m	ft-lbs	N-m	ft-lbs	N-m
MIC	N/O	N/O	7-9 in-lbs	0.8-1	45-50 in-lbs	5-5.6	45-50 in-lbs	5-5.6
MPG	55-60 in-lbs	6.2-6.7	55-60 in-lbs	6.2-6.7	75-80 in-lbs	8-9	55-60 in-lbs	6.2-6.7
PG2	30-35	40-48	15-20	20-27	40-45	54-61	35-40	48-54
PG4	55-60	74-82	55-60	74-82	125-140	170-190	90-100	122-136
PG5	55-60	74-82	90-100	122-136	200-220	272-299	180	244
PG6	165-170	224-231	300-325	408-442	N/O	N/O	N/O	N/O

N/O = Not Offered.

HPG Series Torque Requirements

Part Number	PEEK™	
	ft-lbs	N-m
HPG2	30	40
HPG4	75	102
HPG5	180	244

For Large Bore, Flange/Cap PG Series Fittings



For assembly separate from the vessel:

1. Verify that the total length of the cable/probe provides sufficient length for your desired immersion and leads.
2. Thread the flange/cap over the probe (see diagram).
3. Thread the follower over the probe.
4. Be sure you are using the correct sealant for your working pressure and temperature. Thread the sealant over the probe with the cone facing the process. (Sealant may be in more than one layer.)
5. Thread the fitting body over the probe.
6. Slide the sealant into the fitting body.
7. Slide the follower after the sealant.
8. Push on the follower until the sealant is firmly seated.

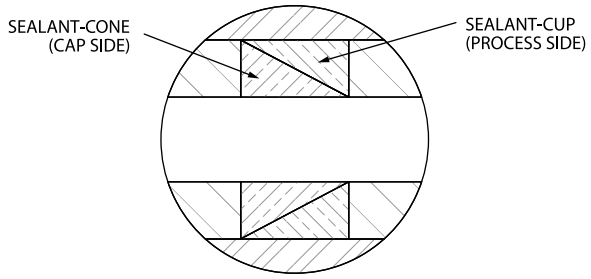
9. Slide the flange/cap into place after the follower.
10. Insert the 6 cap screws in place and finger tighten.
11. Secure the fitting body into a vice.
12. Make the final adjustment of immersion length.
13. Using a torque wrench, tighten the cap screws to the specified torque (see chart). The cap screws should be progressively tightened in the order 1-4-2-5-3-6.
14. The assembly is now ready for use. Apply a wrench to the fitting body flats for mounting to the vessel.

Large Bore PG Series **Torque Requirements**

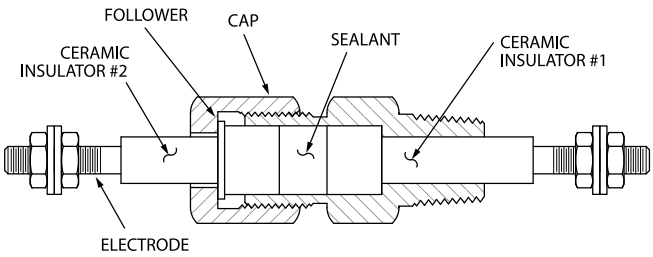
Part Number	Viton™		Lava		GraFoil™		Teflon™
	ft-lbs	N-m	ft-lbs	N-m	ft-lbs	N-m	
Standard 1-1/4 NPT							
PG7-50	35	48	35	48	35	48	C/F
PG7-1000	14	19	35	48	35	48	C/F
PG7-75P	35	48	35	48	35	48	C/F
PG7-1250	14	19	35	48	35	48	C/F
PG7-100P	35	48	35	48	35	48	C/F
Weld Neck Mount (Weld Neck Length 1.01")							
PG7(SWM7/S316L)-50P	35	48	35	48	35	48	C/F
PG7(SWM7/S316L)-1000	14	19	35	48	35	48	C/F
PG7(SWM7/S316L)-75P	35	48	35	48	35	48	C/F
PG7(SWM7/S316L)-1250	14	19	35	48	35	48	C/F
PG7(SWM7/S316L)-100P	35	48	35	48	35	48	C/F

C/F = Consult Factory. For PG8 and PG9 torques, please consult factory.

For Hex-Style EG Series



CONE AND CUP SEALANT



EG Series Seal Fittings are shipped from the factory already torqued to the correct value and ready for installation. These instructions are provided in the event you choose to disassemble and need to reassemble the fitting or if you provide your own electrode. Weld mount styles are shipped untorqued, as the fitting must be disassembled prior to welding to protect the sealant.

For assembly separate from the vessel:

1. Be sure you are using the correct sealant for your working pressure and temperature.
2. Thread one ceramic insulator over the electrode (see diagram).
3. Thread the sealant over the electrode. The tapered end of the sealant should face the process. Note: EG-375 and EG-500 Lava sealants use a two-piece cone and cup design. Insert the cup first with the tapered end facing away from the process. Then insert the cone so that the tapered end fits inside the cup. The cone must face the process.
4. Thread the second ceramic insulator over the electrode.
5. Insert the insulators, sealant and electrode as assembled into the fitting body until the ceramic insulator is stopped by the shoulder in the fitting. Hold the electrode to prevent it from dropping through.
6. Thread the follower over the insulator. Seat the undercut edge onto the insulator shoulder.
7. Thread the cap onto the body until finger tight.
8. Secure the fitting body into a vice.
9. Adjust the electrode to the correct position ensuring that the ceramic insulators are firmly seated and aligned.
10. Using a torque wrench, tighten the cap to the specified torque (see chart).
11. Install the nuts and washers on the non-process side of the assembly.
12. Mount the assembly to the vessel. Apply a wrench to the fitting body flats—not the cap—when mounting to the vessel.
13. Install the nuts and washers on the process side of the assembly.
14. Make the appropriate electrical connections to the electrode using ring-tongue, lug-type or spade terminals. These are positioned between the washers. The nuts should be tightened securely.
15. The assembly is now ready for use.

For assembly directly into a vessel:

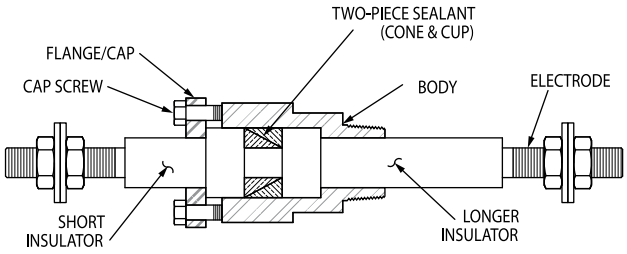
1. Be sure you are using the correct sealant for your working pressure and temperature.
2. Mount the fitting body into the vessel wall. This may be done by threading or welding, depending on the mounting style. When using a weld mount, the fitting must be disassembled prior to welding to protect the sealant.
3. Thread one ceramic insulator over the electrode (see diagram).
4. Thread the sealant over the electrode. The tapered end of the sealant should face the process. Note: EG-375 and EG-500 Lava sealants use two-piece cone and cup designs. Insert the cup first with the tapered end facing away from the process. Then insert the cone so that the tapered end fits inside the cup. The cone must face the process.
5. Thread the second ceramic insulator over the electrode.
6. Insert the insulators, sealant and electrode as assembled into the cap thread end of the fitting body until the ceramic insulator is stopped by the shoulder in the fitting. Hold the electrode to prevent it from dropping through.

7. Thread the follower over the insulator. Seat the undercut edge onto the insulator shoulder.
8. Thread the cap onto the body until finger tight.
9. Adjust the electrode to the correct position ensuring that the ceramic insulators are firmly seated and aligned.
10. Apply a backer wrench to the fitting body flats to prevent rotation during torquing.
11. While holding the backer wrench firmly in place, use a torque wrench to tighten the cap to the specified torque (see chart).
12. Install the nuts and washers on the non-process side of the assembly.
13. Install the nuts and washers on the process side of the assembly.
14. Make the appropriate electrical connections to the electrode using ring-tongue, lug-type or spade terminals. These are positioned between the washers. The nuts should be tightened securely.
15. The assembly is now ready for use.

EG Series **Torque Requirements**

Part Number	Neoprene/Teflon™/Viton™		Lava	
	ft-lbs	N-m	ft-lbs	N-m
EG-093	17-20	23-27	10-12	13-16
EG-125	25-30	34-40	25-30	34-40
EG-187	25-30	34-40	25-30	34-40
EG-250	40-45	54-61	60-65	81-88
EG-312	35-40	48-54	50-55	68-74
EG-375	50-55	68-74	180-200	244-272
EG-500	50-55	68-74	180-200	244-272

For EG-750 (Flange/Cap)



EG Series Seal Fittings are shipped from the factory already torqued to the correct value and ready for installation. These instructions are provided in the event you choose to disassemble and need to reassemble the fitting or if you provide your own electrode. When using a weld mount, the fitting must be disassembled prior to welding to protect the sealant.

For assembly separate from the vessel:

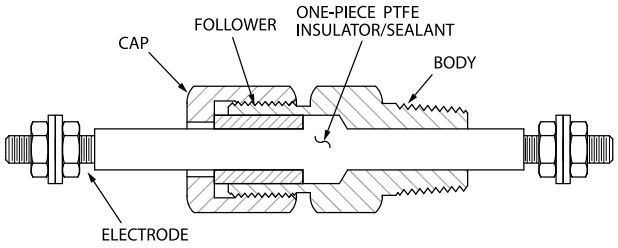
1. Be sure you are using the correct sealant for your working pressure and temperature.
2. Thread one ceramic insulator over the electrode (see diagram). Note: The longer insulator must be used on the body side (toward the process).
3. Thread the sealant over the electrode. The tapered end of the sealant should face the process. Note: Lava sealants use two-piece cone and cup designs. Insert the cup first with the tapered end facing the process. Then insert the cone so that the tapered end fits inside the cup. The cone must face the process.
4. Thread the short ceramic insulator over the electrode.
5. Insert the insulators, sealant and electrode as assembled into the fitting body until the ceramic insulator is stopped by the shoulder in the fitting. Hold the electrode to prevent it from dropping through.
6. Slide the flange/cap into place after the insulator.
7. Insert the 6 cap screws in place and finger tighten.
8. Secure the fitting body into a vice.
9. Adjust the electrode to the correct position ensuring that the ceramic insulators are firmly seated and aligned.
10. Use a torque wrench to tighten the cap screws to 10-12 ft-lbs (13-16 N-m) per bolt for Teflon™ or 25-30 ft-lbs (34-40 N-m) per bolt for Lava. The cap screws should be progressively tightened in the order 1-4-2-5-3-6.
11. Install the nuts and washers on the non-process side of the assembly.
12. Mount the assembly to the vessel. Apply a wrench to the fitting body flats when mounting to the vessel.
13. Install the nuts and washers on the process side of the assembly.
14. Make the appropriate electrical connections to the electrode using ring-tongue, lug-type or spade terminals. These are positioned between the washers. The nuts should be tightened securely.
15. The assembly is now ready for use.

For assembly directly into a vessel:

1. Be sure you are using the correct sealant for your working pressure and temperature.
2. Mount the fitting body into the vessel wall. This may be done by threading or welding, depending on the mounting style. When using a weld mount, the fitting must be disassembled prior to welding to protect the sealant.
3. Thread one ceramic insulator over the electrode (see diagram). Note: The longer insulator must be used on the body side (toward the process).
4. Thread the sealant over the electrode. The tapered end of the sealant should face the process. Note: Lava sealants use two-piece cone and cup designs. Insert the cup first with the flat side facing the process. Then insert the cone so that the tapered end fits inside the cup. The cone must face the process.
5. Thread the short ceramic insulator over the electrode.
6. Insert the insulators, sealant and electrode as assembled into the cap thread end of the fitting body until the ceramic insulator is stopped by the shoulder in the fitting. Hold the electrode to prevent it from dropping through.
7. Slide the flange/cap into place after the insulator.
8. Insert the 6 cap screws in place and finger tighten.
9. Adjust the electrode to the correct position ensuring that the ceramic insulators are firmly seated and aligned.

10. Use a torque wrench to tighten the cap screws to 10-12 ft-lbs (13-16 N-m) per bolt for Teflon™ or 25-30 ft-lbs (34-40 N-m) per bolt for Lava. The cap screws should be progressively tightened in the order 1-4-2-5-3-6.
11. Install the nuts and washers on the non-process side of the assembly.
12. Install the nuts and washers on the process side of the assembly.
13. Make the appropriate electrical connections to the electrode using ring-tongue, lug-type or spade terminals. These are positioned between the washers. The nuts should be tightened securely.
14. The assembly is now ready for use.

For Hex-Style EGT/HEGPK Series



EGT and HEGPK Series Seal Fittings are shipped from the factory already torqued to the correct value and ready for installation. These instructions are provided in the event you choose to disassemble and need to reassemble the fitting or if you provide your own electrode. When using a weld mount, the fitting must be disassembled prior to welding to protect the Teflon™ sealant.

For assembly separate from the vessel:

1. Thread the Teflon™/PEEK™ sealant/insulator over the electrode. The tapered end must face the process (see diagram).
2. Insert the sealant/insulator and electrode as assembled into the fitting body until the sealant/insulator is stopped by the shoulder in the fitting. Hold the electrode to prevent it from dropping through the body.
3. Insert the follower.
4. Thread the cap onto the body until finger tight.
5. Secure the fitting body into a vice.
6. Adjust the electrode to the correct position ensuring that the sealant/insulator is firmly seated.
7. Using a torque wrench, tighten the cap to the specified torque (see chart).
8. Install the nuts and washers on the non-process side of the assembly.
9. Mount the assembly to the vessel. Apply a wrench to the fitting body flats—not the cap—when mounting to the vessel.
10. Install the nuts and washers on the process side of the assembly.
11. Make the appropriate electrical connections to the electrode using ring-tongue, lug-type or spade terminals. These are positioned between the washers. The nuts should be tightened securely.
12. The assembly is now ready for use.

For assembly directly into a vessel:

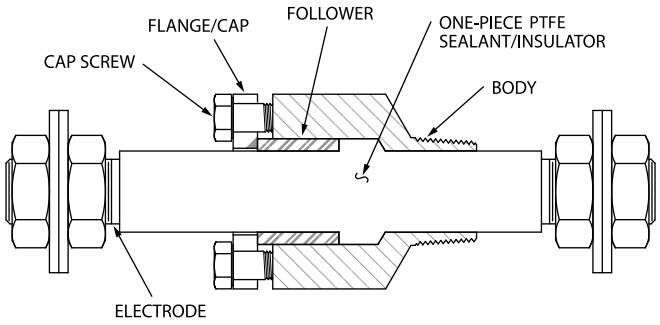
1. Mount the fitting body into the vessel wall. This may be done by threading or welding, depending on the mounting style. When using a weld mount, the fitting must be disassembled prior to welding to protect the sealant.
2. Thread the Teflon™ sealant/insulator over the electrode. The tapered end must face the process (see diagram).
3. Insert the sealant/insulator and electrode as assembled into the cap thread end of the fitting body until the sealant/insulator is stopped by the shoulder in the fitting. Hold the electrode to prevent it from dropping through the body.
4. Insert the follower.
5. Thread the cap onto the body until finger tight.
6. Adjust the electrode to the correct position ensuring that the sealant/insulator is firmly seated and aligned.
7. Apply a backer wrench to the fitting body flats to prevent rotation during torquing.
8. While holding the backer wrench firmly in place, use a torque wrench to tighten the cap to the specified torque (see chart).
9. Install the nuts and washers on the non-process side of the assembly.
10. Install the nuts and washers on the process side of the assembly.
11. Make the appropriate electrical connections to the electrode using ring-tongue, lug-type or spade terminals. These are positioned between the washers. The nuts should be tightened securely.
12. The assembly is now ready for use.

EGT/HEGPK Series Torque Requirements

Part Number	EGT Teflon™		HEGPK PEEK™	
	ft-lbs	N-m	ft-lbs	N-m
EGT-093	5-6	6-8	N/O	N/O
EGT/HEGPK-125	10-15	13-20	30	41
EGT/HEGPK-187	25-30	34-40	75	102
EGT/HEGPK-250	25-30	34-40	75	102
EGT/HEGPK-375	35-40	48-54	180	244
EGT/HEGPK-500	35-40	48-54	180	244
EGT-750	75-80	102-108	N/O	N/O

N/O = Not Offered.

For EGT-1000 (Flange/Cap)



EGT Series Seal Fittings are shipped from the factory already torqued to the correct value and ready for installation. These instructions are provided in the event you choose to disassemble and need to reassemble the fitting or if you provide your own electrode. When using a weld mount, the fitting must be disassembled prior to welding to protect the Teflon™ sealant.

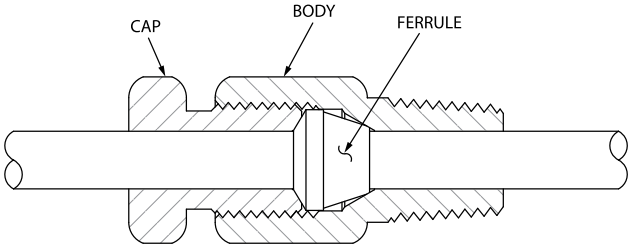
For assembly separate from the vessel:

1. Thread the Teflon™ sealant/insulator over the electrode. The tapered end must face the process (see diagram).
2. Insert the sealant/insulator and electrode as assembled into the fitting body until the sealant/insulator is stopped by the shoulder in the fitting. Hold the electrode to prevent it from dropping through the body.
3. Insert the follower.
4. Slide the flange/cap into place after the follower.
5. Thread the 6 cap screws in place and finger tighten.
6. Secure the fitting body into a vice.
7. Adjust the electrode to the correct position ensuring that the sealant/insulator is firmly seated.
8. Use a torque wrench to tighten the cap screws to 54-60 in-lbs (6-7 N-m) per bolt. The cap screws should be progressively tightened in the order 1-4-2-5-3-6.
9. Install the nuts and washers on the non-process side of the assembly.
10. Mount the assembly to the vessel. Apply a wrench to the fitting body flats when mounting to the vessel.
11. Install the nuts and washers on the process side of the assembly.
12. Make the appropriate electrical connections to the electrode using ring-tongue, lug-type or spade terminals. These are positioned between the washers. The nuts should be tightened securely.
13. The assembly is now ready for use.

For assembly directly into a vessel:

1. Mount the fitting body into the vessel wall. This may be done by threading or welding, depending on the mounting style. When using a weld mount, the fitting must be disassembled prior to welding to protect the sealant.
2. Thread the Teflon™ sealant/insulator over the electrode. The tapered end must face the process (see diagram).
3. Insert the sealant/insulator and electrode as assembled into the fitting body until the sealant/insulator is stopped by the shoulder in the fitting. Hold the electrode to prevent it from dropping through the body.
4. Insert the follower.
5. Slide the flange/cap into place after the follower.
6. Insert the 6 cap screws in place and finger tighten.
7. Adjust the electrode to the correct position ensuring that the sealant/insulator is firmly seated and aligned.
8. Use a torque wrench to tighten the cap screws to 54-60 in-lbs (6-7 N-m) per bolt. The cap screws should be progressively tightened in the order 1-4-2-5-3-6.
9. Install the nuts and washers on the non-process side of the assembly.
10. Install the nuts and washers on the process side of the assembly.
11. Make the appropriate electrical connections to the electrode using ring-tongue, lug-type or spade terminals. These are positioned between the washers. The nuts should be tightened securely.
12. The assembly is now ready for use.

For MK Series



For assembly separate from the vessel:

1. Verify that the total length of the wire/probe provides sufficient length for your desired immersion and leads.
2. Thread the cap over the probe with the male thread facing the process (see diagram).
3. Thread the ferrule over the probe with the cone facing the process.
4. Thread the fitting body over the probe.
5. Slide the ferrule into the fitting body.
6. Thread the cap on finger tight.
7. Secure the fitting body into a vice.
8. Make the final adjustment of immersion length.
9. Using a torque wrench, tighten the cap to the specified torque (see chart).
10. The assembly is now ready for use. Apply a wrench to the fitting body flats for mounting to the vessel.

For assembly directly into a vessel:

1. Verify that the total length of the wire/probe provides sufficient length for your desired immersion and leads.
2. Mount the fitting body into the vessel wall.
3. Thread the cap over the probe with the male thread facing the process (see diagram).
4. Thread the ferrule over the probe with the cone facing the process.

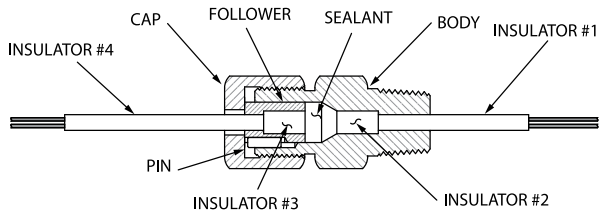
5. Insert the probe through the body into the process.
6. Insert the ferrule into the fitting body.
7. Thread the cap on finger tight.
8. Make the final adjustment of immersion length.
9. Apply a backer wrench to the fitting body flats to prevent rotation during torquing.
10. While holding the backer wrench firmly in place, use a torque wrench to tighten the cap to the specified torque (see chart).
11. The assembly is now ready for use.

MK Series **Torque Requirements**

Part Number	Torque	
	ft-lbs	N-m
MK-062-A	10	13
MK-125-A	12	16
MK-187-A	18	24
MK-250-A	30	40
MK-375-A	50	68

For TG Series

For Models TG-14-1; TG-20, 2 & 4 hole; TG-24, 2 & 4 hole, all MTGs



For assembly separate from the vessel:

1. Verify that the total length of wire provides a sufficient length for your desired immersion and leads.
2. Thread the cap over the wires.
3. Thread the follower over the wires so that the keyway faces the cap.
4. Thread on insulator #4 (see diagram).
5. Thread on insulator #3.
6. Be sure you are using the correct sealant for your working pressure and temperature. Thread on the sealant so that the cone of the sealant faces the process.
7. Thread on insulator #2.
8. Thread insulator #1 over the wire.
9. Pass the process side of the wires through the body.
10. Slide the insulators and sealant into the body.
11. Slide the follower on over insulator #4 and insulator #3 until it completely covers insulator #3.
12. Push on the follower until the sealant and insulators are firmly seated. Be careful not to crimp the wires between the insulators and sealant.

13a. Align the follower keyway and body keyway to create a full keyway, then place pin into the keyway.

13b. Align follower with integral pin with body keyway, then insert follower/integral pin into the fitting body/keyway.

14. Thread the cap on finger tight.
15. Secure the feedthrough body into a vice.
16. Adjust the wires to the correct position.
17. Using a torque wrench, tighten the cap to the specified torque (see chart).
18. The assembly is now ready for use. Apply a wrench to the feedthrough body flats—not the cap—for mounting to the vessel.

For assembly directly into a vessel:

1. Verify that the total length of wire provides a sufficient length for your desired immersion and leads.
2. Mount the feedthrough body into the vessel wall. This may be done by threading or welding, depending on the mounting style. When using a weld mount, the feedthrough must be disassembled prior to welding to protect the sealant.
3. Thread the cap over the wires.
4. Thread the follower over the wires so that the keyway faces the cap.
5. Thread on insulator #4 (see diagram).
6. Thread on insulator #3.
7. Be sure you are using the correct sealant for your working pressure and temperature. Thread on the sealant so that the cone of the sealant faces the process.
8. Thread on insulator #2.
9. Thread insulator #1 over the wire.
10. Pass the process side of the wires through the body.
11. Slide the insulators and sealant into the body.
12. Slide the follower on over insulator #4 and insulator #3 until it completely covers insulator #3.
13. Push on the follower until the sealant and insulators are firmly seated. Be careful not to crimp the wires between the insulators and sealant.

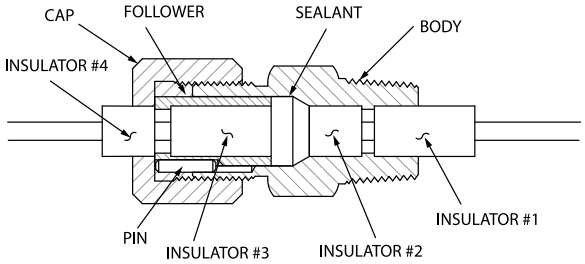
14a. Align the follower keyway and body keyway to create a full keyway, then place pin into the keyway.

14b. Align follower with integral pin with body keyway, then insert follower/integral pin into the fitting body/keyway.

15. Thread the cap on finger tight.
16. Adjust the wires to the correct position.
17. Apply a backer wrench to the feedthrough body wrench flats to prevent rotation during torquing.
18. While holding the backer wrench firmly in place, use a torque wrench to tighten the cap to the specified torque (see chart).
19. The assembly is now ready for use.

For TG Series

For Models TG-8-2; TG-14, 2-8 hole; TG-18, 6 & 8 hole; TG-20, 6-16 hole



For assembly separate from the vessel:

1. Verify that the total length of wire provides a sufficient length for your desired immersion and leads.
2. Thread insulator #4 (see diagram) over the wire.
3. Thread the cap over the wire.
4. Thread the follower over the wires so that the keyway faces the cap.
5. Thread on insulator #3.
6. Be sure you are using the correct sealant for your working pressure and temperature. Thread on the sealant with the cone facing the process.
7. Thread on insulator #2.
8. Insert the wires and insulator assembly through the process end of the feedthrough body.
9. Thread insulator #1 over the wire until the insulator is stopped by the body shoulder.
10. Slide insulator #2 into the body until the insulator is stopped by the body shoulder.
11. Slide the sealant, followed by the follower, into the body.
12. Push on the follower until the sealant and insulators are firmly seated. Be careful not to crimp the wires between the insulators and sealant.
13. Slide insulator #4 so that it butts against the follower.

14a. Align the follower keyway and body keyway to create a full keyway, then place pin into the keyway.

14b. Align follower with integral pin with body keyway, then insert follower/integral pin into the fitting body/keyway.

15. Thread the cap on finger tight.
16. Secure the feedthrough body into a vice.
17. Adjust the wires to the correct position.
18. Using a torque wrench, tighten the cap to the specified torque (see chart).
19. The assembly is now ready for use. Apply a wrench to the feedthrough body flats—not the cap—for mounting to the vessel.

For assembly directly into a vessel:

1. Verify that the total length of wire provides a sufficient length for your desired immersion and leads.
2. Mount the feedthrough body into the vessel wall. This may be done by threading or welding, depending on the mounting style. When using a weld mount, the feedthrough must be disassembled prior to welding to protect the sealant.
3. Thread insulator #4 (see diagram) over the wire.
4. Thread the cap over the wire.
5. Thread the follower over the wires so that the keyway faces the cap.
6. Thread on insulator #3.
7. Be sure you are using the correct sealant for your working pressure and temperature. Thread on the sealant with the cone facing the process.
8. Thread on insulator #2.
9. Insert the wires and insulator assembly through the process end of the feedthrough body.
10. Thread insulator #1 over the wire from the inside of the vessel and through the process side of the feedthrough body until the insulator is stopped by the body shoulder.
11. Slide insulator #2 into the body until the insulator is stopped by the body shoulder.
12. Slide the sealant, followed by the follower, into the body.
13. Push on the follower until the sealant and insulators are firmly seated. Be careful not to crimp the wires between the insulators and sealant.
14. Slide insulator #4 so that it butts against the follower.

15a. Align the follower keyway and body keyway to create a full keyway, then place pin into the keyway.

15b. Align follower with integral pin with body keyway, then insert follower/integral pin into the fitting body/keyway.

16. Thread the cap on finger tight.
17. Adjust the wires to the correct position.
18. Apply a backer wrench to the feedthrough body wrench flats to prevent rotation during torquing.
19. While holding the backer wrench firmly in place, use a torque wrench to tighten the cap to the specified torque (see chart).
20. The assembly is now ready for use.

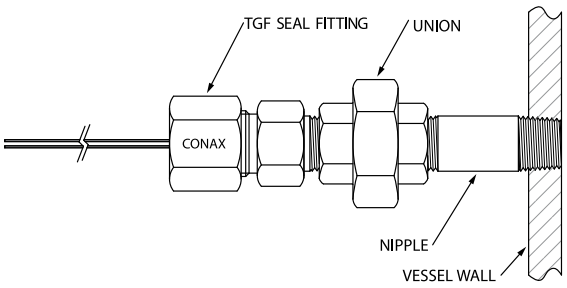
TG Series Torque Requirements

Part Number	Holes	Neoprene		Viton™		Teflon™		Lava	
		ft-lbs	N-m	ft-lbs	N-m	ft-lbs	N-m	ft-lbs	N-m
MTG-24	2,4	20-25	27-34	20-25	27-34	20-25	27-34	30-35	40-48
MTG-20	2,4	20-25	27-34	20-25	27-34	20-25	27-34	30-35	40-48
MTG-14	1	20-25	27-34	20-25	27-34	20-25	27-34	30-35	40-48
TG-24	2,4	25-30	34-40	25-30	34-40	30-35	40-48	40-45	54-61
TG-20	2,4	25-30	34-40	25-30	34-40	30-35	40-48	40-45	54-61
TG-20	6,8	45-50	61-68	45-50	61-68	50-55	68-74	125-140	170-190
TG-20	16	75-85	102-115	75-85	102-115	75-85	102-115	200-220	272-299
TG-18	6,8	45-50	61-68	45-50	61-68	50-55	68-74	125-140	170-190
TG-14	1	25-30	34-40	25-30	34-40	30-35	40-48	40-45	54-61
TG-14	2,3,4	45-50	61-68	45-50	61-68	50-55	68-74	125-140	170-190
TG-14	6,8	75-85	102-115	75-85	102-115	75-85	102-115	200-220	272-299
TG-8	2	75-85	102-115	75-85	102-115	75-85	102-115	200-220	272-299
TG-20	24	N/A	N/A	95-100	129-136	95-100	129-136	300-310	408-422

N/A = Not Applicable.

Model TGF – TG Assembly with High Temperature Wire

Model TG-24T – TG Assembly with 24AWG Teflon™ Insulated Wire



Model TGF and TG-24T Series Seal Feedthroughs are shipped from the factory already torqued to the correct value and ready for installation. These instructions are provided for installation of the assembled feedthrough. In the event you choose to disassemble and need to reassemble the feedthrough, see the instructions for the MHC Series.

When using a weld mount, the feedthrough must be disassembled prior to welding to protect the sealant.

Recommended Method Using a Nipple-Union

Required Materials: Pipe Nipple, Schedule 40, Carbon Steel or Stainless Steel Union, 150 lb., Carbon Steel or Stainless Steel.

For longer length lead wires, this mounting method eliminates additional stress and potential wire entanglement caused by the rotation of the wires during the mounting operation.

1. Install the nipple and half union assembly into the vessel wall.
2. Uncoil and straighten the leads on the pressure side of the feedthrough.
3. Thread the mating half of the union over the leads.
4. Assemble the union onto the mounting thread of the seal feedthrough. Use the feedthrough body flats to hold/secure the feedthrough while mating the feedthrough with the union.
5. Pass the leads through the nipple-union assembly mounted on the vessel wall.
6. Position the two parts of the union and assemble the nipple-union assembly.
7. Remove wire markers on the process side after installation, as the adhesive-backed material could contaminate the process (depending on the application).

TGF Series Torque Requirements

Catalog Number	Holes	Viton™/Teflon™	
		ft-lbs	N-m
MTG-F	2,4	72-78 in-lbs	8-9
TG-24F	2,4	10-12	13-16
TG-20F	2,4	10-12	13-16
TG-20F-14	2,4	25-30	34-40
TG-20F	6,8	25-30	34-40
TG-20F	16	60-65	81-88
TG-20F	24	70-75	95-102

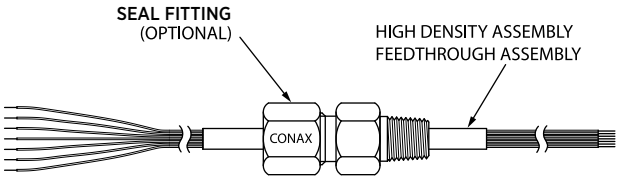
TG-24T Series Torque Requirements

Catalog Number	Holes	Torque for Teflon™ Sealant w/ T/C Wire Except Type T		Torque for GraFoil™ Sealant and Teflon™ w/ Copper or Type T Wire	
		ft-lbs	N-m	ft-lbs	N-m
MTG-24T	2,4	20-25	24-34	72-78 in-lbs	8-9
TG-24T	2,4	30-35	40-48	10-12	13-16
TG-24T	6,8	50-55	68-74	25-30	34-40
TG-24T	12,16	75-85	102-115	60-65	81-88
TG-24T	24	95-100	129-136	70-75	95-102

Optional Method for TG-24T

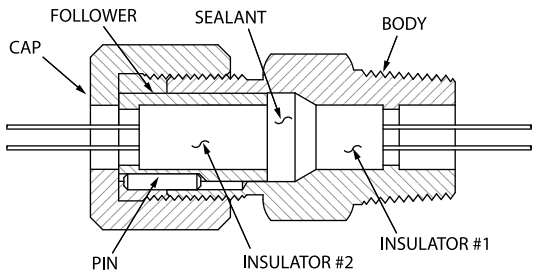
1. Uncoil and straighten the leads on the pressure side.
2. Pass the leads through the mounting thread port on the vessel.
3. Screw/tighten the feedthrough into the vessel. Apply the wrench to the feedthrough body flats, not the cap.
4. Remove wire markers on the process side after installation, as the adhesive-backed material could contaminate the process (depending on the application).

For High Density Assemblies – HD Series



1. HD Feedthroughs may be supplied preinstalled on fitting either factory-torqued or loose (HD held in place with temporary tape). If factory-torqued, the HD/feedthrough assembly is ready for installation into your process. If the fitting is not factory-torqued onto the HD(s), then you should turn to the installation instructions for the appropriate fitting to review the proper torque rate to apply following installation of the feedthrough to the process and the HD to the fitting by using the following steps.
2. Secure the feedthrough body into the vessel wall. The remaining feedthrough parts are best assembled on a flat surface, such as a work table or a clean floor.
3. Install the seat and insulators if applicable, depending on the feedthrough type (see instructions for that feedthrough type).
4. Install the sealant.
5. Install the follower and pin if applicable.
6. Insert the leads through the feedthrough body and insert the high density assembly (as now assembled) into the body until the seat or insulator is firmly seated. Position the stainless steel sheath so that an approximately equal amount extends on each side of the feedthrough.
7. Thread the cap on finger tight.
8. Apply a backer wrench to the feedthrough body flats. Using a torque wrench, apply the appropriate torque for that feedthrough style.
9. The assembly is now ready for use.

MHC Series



For assembly separate from the vessel:

1. Verify that the total length of wire/probes provides a sufficient length for your desired immersion and leads.
2. Thread the cap over the wires.
3. Thread the follower over the wires so that the keyway faces the cap.
4. Thread on insulator #2 (see diagram).
5. Be sure you are using the correct sealant for your working pressure and temperature. Thread on the sealant with the cone facing the process.
6. Thread on insulator #1.
7. Pass the process side of the wires/probes through the body.
8. Slide the insulators, sealant and follower into the body.
9. Push on the follower until the sealant and insulators are firmly seated. For wire assemblies, be careful not to crimp the wires between the insulators and sealant.

10a. Align the follower keyway and body keyway to create a full keyway, then place pin into the keyway.

10b. Align follower with integral pin with body keyway, then insert follower/integral pin into the fitting body/keyway.

11. Thread the cap on finger tight.
12. Secure the feedthrough body into a vice.
13. Adjust the wires to the correct position.
14. Using a torque wrench, tighten the cap to the specified torque (see chart).
15. The assembly is now ready for use. Apply a wrench to the feedthrough body flats—not the cap—for mounting to the vessel.

For assembly directly into a vessel:

1. Verify that the total length of wire/probes provides a sufficient length for your desired immersion and leads.
2. Mount the feedthrough body into the vessel wall. This may be done by threading or welding, depending on the mounting style. When using a weld mount, the feedthrough must be disassembled prior to welding to protect the sealant.
3. Thread the cap over the wires.
4. Thread the follower over the wires so that the keyway faces the cap.
5. Thread on insulator #2 (see diagram).
6. Be sure you are using the correct sealant for your working pressure and temperature. Thread on the sealant with the cone facing the process.
7. Thread on insulator #1.
8. Pass the process side of the wires/probes through the body.
9. Slide the insulators, sealant and follower into the body.
10. Push on the follower until the sealant and insulators are firmly seated. For wire assemblies, be careful not to crimp the wires between the insulators and sealant.

11a. Align the follower keyway and body keyway to create a full keyway, then place pin into the keyway.

11b. Align follower with integral pin with body keyway, then insert follower/integral pin into the fitting body/keyway.

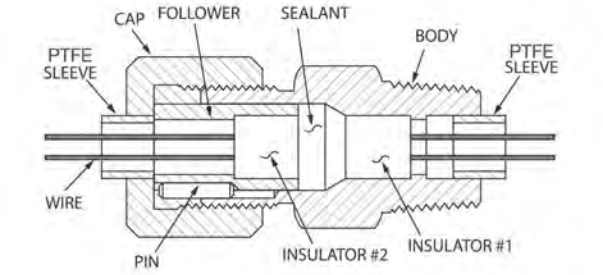
12. Thread the cap on finger tight.
13. Adjust the wires to the correct position.
14. Apply a backer wrench to the fitting body wrench flats to prevent rotation during torquing.
15. While holding the backer wrench firmly in place, use a torque wrench to tighten the cap to the specified torque (see chart).
16. The assembly is now ready for use.

MHC Series Torque Requirements

Catalog Number	Neoprene		Viton™		Teflon™		Lava		GraFoil™	
	ft-lbs	N-m	ft-lbs	N-m	ft-lbs	N-m	ft-lbs	N-m	ft-lbs	N-m
MHC1	20-25	27-34	20-25	27-34	20-25	27-34	30-35	40-48	25-30	34-40
MHC2-020	25-30	34-40	25-30	34-40	30-35	40-48	40-45	54-61	35-40	48-54
MCH2-032	25-30	34-40	25-30	34-40	30-35	40-48	40-45	54-61	35-40	48-54
MHC2-040	25-30	34-40	25-30	34-40	30-35	40-48	40-45	54-61	40-45	54-61
MHC2-062	25-30	34-40	25-30	34-40	30-35	40-48	40-45	54-61	40-45	54-61
MCH4	45-50	61-68	45-50	61-68	50-55	68-74	125-140	170-190	90-100	122-136
MHC5	75-85	102-115	75-85	102-115	75-85	102-115	200-220	272-299	150-165	204-224
MHC5-032-24	N/O	N/O	95-100	129-136	95-100	129-136	300-310	408-422	250-265	340-360

N/O = Not Offered.

PL Series



PL Feedthroughs are shipped from the factory already torqued to the correct value and ready for installation. These instructions are provided in the event you choose to disassemble and reassemble the feedthrough. Weld mount styles are shipped untorqued as the feedthrough must be disassembled prior to welding to protect the sealant. PL Feedthroughs are provided with Teflon™ sleeves on the body and cap to protect against wire chafing. Do not remove these sleeves. When using a GraFoil™ sealant, the insulators on PL Feedthroughs are chamfered around the holes. Insulators for other sealants are not chamfered. Do not interchange.

For assembly separate from the vessel:

1. Verify that the total length of wire provides a sufficient length for your desired immersion and leads.
2. Thread on insulator #1 (see diagram).

3. Be sure you are using the correct sealant for your working pressure and temperature. Thread on the sealant with the cone facing the process.
4. Thread on insulator #2.
5. Slide on the follower, so that the keyway faces the cap.
6. Pass the process side of the wires through the body.
7. Push on the follower until the sealant and insulators are firmly seated. Be careful not to crimp the wires between the insulators and sealant.

8a. Align the follower keyway and body keyway to create a full keyway, then place pin into the keyway.

8b. Align follower with integral pin with body keyway, then insert follower/integral pin into the fitting body/keyway.

9. Thread the cap on finger tight.
10. Secure the feedthrough body into a vice.
11. Adjust the wires to the correct position.
12. Using a torque wrench, tighten the cap to the specified torque (see chart).
13. The assembly is now ready for use. Apply a wrench to the feedthrough body flats—not the cap—for mounting to the vessel.

For assembly directly into a vessel:

1. Verify that the total length of wire/probes provides a sufficient length for your desired immersion and leads.
2. Mount the feedthrough body into the vessel wall. This may be done by threading or welding, depending on the mounting style. When using a weld mount, the feedthrough must be disassembled prior to welding to protect the sealant.
3. Thread on insulator #1 (see diagram).
4. Be sure you are using the correct sealant for your working pressure and temperature. Thread on the sealant with the cone facing the process.
5. Thread on insulator #2.
6. Slide on the follower, so that the keyway faces the cap.
7. Pass the process side of the wires through the body.
8. Push on the follower until the sealant and insulators are firmly seated. Be careful not to crimp the wires between the insulators and sealant.

9a. Align the follower keyway and body keyway to create a full keyway, then place pin into the keyway.

9b. Align follower with integral pin with body keyway, then insert follower/integral pin into the fitting body/keyway.

10. Thread the cap on finger tight.
11. Adjust the wires to the correct position.
12. Apply a backer wrench to the feedthrough body flats to prevent rotation during torquing.
13. While holding the backer wrench firmly in place, use a torque wrench to tighten the cap to the specified torque (see chart).
14. The assembly is now ready for use.

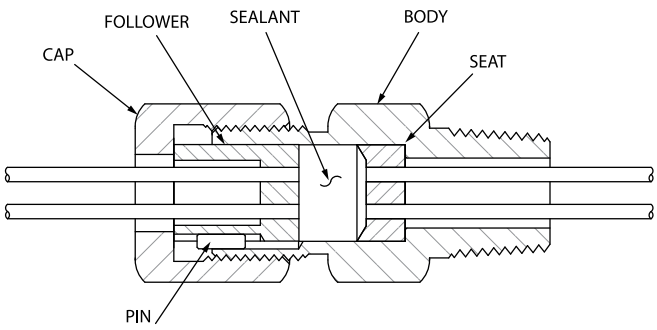
PL Series Torque Requirements

Catalog Number	Number of Holes	GraFoil™		Teflon™	
		ft-lbs	N-m	ft-lbs	N-m
PL-20	2,3,4	90-100	122-136	60-70	81-95
PL-20	6,8	150-165	204-224	90-100	122-136
PL-20	18	250-265	340-360	125-140	170-190
PL-18	1	20-30	27-40	12-15	16-20
PL-18	2,3,4	90-100	122-136	60-70	81-95
PL-18	6,8	150-165	204-224	90-100	122-136
PL-18	10,12	250-265	340-360	125-140	170-190
PL-16	2,3,4	90-100	122-136	60-70	81-95
PL-16	6,8	150-165	204-224	90-100	122-136
PL-16	10,12	250-265	340-360	125-140	170-190
PL-14	1	25-30	34-40	12-15	16-20
PL-14	2	90-100	122-136	60-70	81-95
PL-14	3,4,6,8	150-165	204-224	90-100	122-136
PL-14	10,12	250-265	340-360	125-140	170-190
PL-12	2,3,4,6	150-165	204-224	90-100	122-136
PL-10	2,3,4	150-165	204-224	80-90	108-122
PL-8	2	150-165	204-224	75-85	102-115
PL-8	3	250-265	340-360	125-140	170-190

Minimum recommended wire bend radius – 10 times the wire diameter.

MHM Series

For Hex-Style Models MHM2-MHM5



For assembly separate from the vessel:

1. Verify that the probe length is sufficient for your desired immersion.
2. Thread the cap over the probes with the female thread facing the process (see diagram).
3. Thread the follower over the probes with the keyway towards the cap.
4. Be sure you are using the correct sealant for your working pressure and temperature. Thread the sealant over the probes with the cone facing the process.
5. Thread the seat over the probes with the concave side facing the sealant.
6. Thread the feedthrough body over the probes.
7. Push on the follower until the sealant and seat are firmly positioned in the feedthrough body.

8a. Align the follower keyway and body keyway to create a full keyway, then place pin into the keyway.

8b. Align follower with integral pin with body keyway, then insert follower/integral pin into the fitting body/keyway.

9. Thread the cap on finger tight.
10. Secure the feedthrough body into a vice.
11. Make the final adjustment of immersion length.
12. Using a torque wrench, tighten the cap to the specified torque (see chart).
13. The assembly is now ready for use. Apply a wrench to the feedthrough body flats—not the cap—for mounting to the vessel.

For assembly directly into a vessel:

1. Verify that the probe length is sufficient for your desired immersion.
2. Mount the feedthrough body into the vessel wall. This may be done by threading or welding, depending on the mounting style. When using a weld mount, the feedthrough must be disassembled prior to welding to protect the sealant.
3. Thread the cap over the probes with the female thread facing the process (see diagram).
4. Thread the follower over the probes with the keyway towards the cap.
5. Be sure you are using the correct sealant for your working pressure and temperature. Thread the sealant over the probes with the cone facing the process.
6. Thread the seat over the probes with the concave side facing the sealant.
7. Insert the probes through the body into the process.
8. Push on the follower until the sealant and seat are firmly positioned in the feedthrough body.

9a. Align the follower keyway and body keyway to create a full keyway, then place pin into the keyway.

9b. Align follower with integral pin with body keyway, then insert follower/integral pin into the fitting body/keyway.

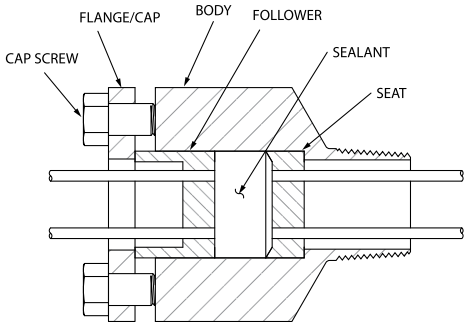
10. Thread the cap on finger tight.
11. Make the final adjustment of immersion length.
12. Apply a backer wrench to the feedthrough body flats to prevent rotation during torquing.
13. While holding the backer wrench firmly in place, use a torque wrench to tighten the cap to the specified torque (see chart).
14. The assembly is now ready for use.

MHM Series Torque Requirements

Catalog Number	Neoprene		Viton™		Teflon™		Lava		GraFoil™	
	ft-lbs	N-m	ft-lbs	N-m	ft-lbs	N-m	ft-lbs	N-m	ft-lbs	N-m
MHM2	25-30	34-40	25-30	34-40	25-30	34-40	25-30	34-40	25-30	34-40
MHM4	80-90	108-122	80-90	108-122	80-90	108-122	125-140	170-190	110-120	150-163
MHM5	120-130	163-176	120-130	163-176	150-165	204-224	200-220	272-299	175-190	238-258

MHM Series

Flange/Cap Models



For assembly separate from the vessel:

1. Verify that the probe length is sufficient for your desired immersion.
2. Thread the flange/cap over the probes (see diagram).
3. Thread the follower over the probes with the counterbore towards the cap.
4. Be sure you are using the correct sealant for your working pressure and temperature. Thread the sealant over the probes with the cone facing the process. (Sealant may be in more than one layer.)
5. Thread the seat over the probes with the concave side facing the sealant.
6. Thread the feedthrough body over the probes.
7. Push on the follower until the sealant and seat are firmly positioned in the feedthrough body.
8. Slide the flange/cap into place after the follower.
9. Thread the 6 cap screws in place and finger tighten.
10. Secure the feedthrough body into a vice.
11. Make the final adjustment of immersion length.
12. Using a torque wrench, tighten the cap screws to 30-35 ft-lbs (40-48 N-m) per bolt. The cap screws should be progressively tightened in the order 1-4-2-5-3-6.
13. The assembly is now ready for use. Apply a wrench to the feedthrough body flats for mounting to the vessel.

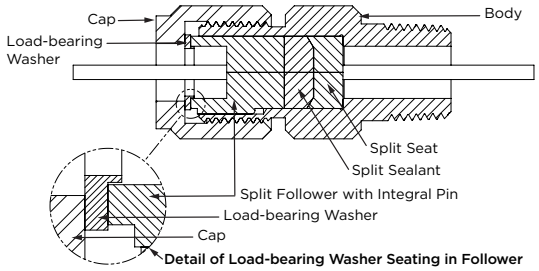
For assembly directly into a vessel:

1. Verify that the probe length is sufficient for your desired immersion.
2. Mount the feedthrough body into the vessel wall. This may be done by threading or welding, depending on the mounting style. When using a weld mount, the feedthrough must be disassembled prior to welding to protect the sealant.
3. Thread the flange/cap over the probes (see diagram).
4. Thread the follower over the probes with the counterbore towards the flange/cap.
5. Be sure you are using the correct sealant for your working pressure and temperature. Thread the sealant over the probes with the cone facing the process. (Sealant may be in more than one layer.)
6. Thread the seat over the probes with the concave side facing the sealant.
7. Insert the assembly through the body.

8. Push on the follower until the sealant and seat are firmly positioned in the feedthrough body.
9. Slide the flange/cap into place to contact the follower.
10. Thread the 6 cap screws in place and finger tighten.
11. Make the final adjustment of immersion length.
12. Use a torque wrench to tighten the cap screws to 30-35 ft-lbs (40-48 N-m) per bolt. The cap screws should be progressively tightened in the order 1-4-2-5-3-6.
13. The assembly is now ready for use.

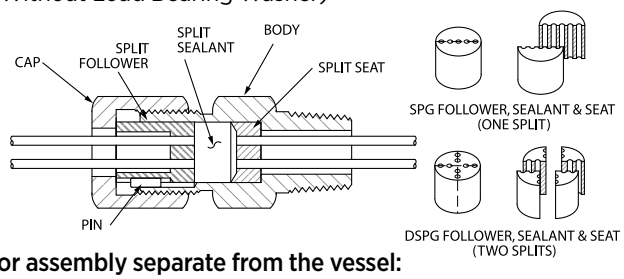
SPGA and DSPGA Series

(With Load Bearing Washer)



Legacy SPG and DSPG Series

(Without Load Bearing Washer)



For assembly separate from the vessel:

1. Verify that the probe length is sufficient for your desired immersion.
2. Secure the fitting body into a vice.
3. Thread the cap (and load bearing washer if so equipped) over the probes/wires with the female thread facing the process (see diagram).
4. Insert the probes/wires through the body.
5. Assemble the mating halves or quarters of the seat around the probes/wires with the concave side facing away from the process. (Note: Only SPG Series have concave sides.)
6. Slide the assembled seat into the body.
7. Be sure you are using the correct sealant for your working pressure and temperature. Assemble the mating halves or quarters of the sealant around the probes/wires with the cone facing the process. GraFoil™ sealants are numbered sequentially and must be assembled in sequence.
8. Slide the assembled sealant into the body.
9. Assemble the mating halves or quarters of the follower around the probes/wires with the keyway facing the cap.
10. Slide the assembled follower into the body.
11. Push on the follower until the sealant and seat are firmly positioned in the fitting body.

12a. Align the follower keyway and body keyway to create a full keyway, then place pin into the keyway.

12b. Align follower with integral pin with body keyway, then insert follower/integral pin into the fitting body/keyway.

13a. For SPGA or DSPGA with load bearing washer, place washer onto follower with flat side facing cap (see diagram).

13b. For Legacy SPG or DSPG, skip this step.

14. Thread the cap on finger tight. If equipped with load bearing washer, ensure proper seating.
15. Make the final adjustment of immersion length.
16. Using a torque wrench, tighten the cap to the specified torque (see chart).
17. The assembly is now ready for use. Apply a wrench to the fitting body flats—not the cap—for mounting to the vessel.

For assembly directly into a vessel:

1. Verify that the probe length is sufficient for your desired immersion.
2. Mount the fitting body into the vessel wall. This may be done by threading or welding, depending on the mounting style. When using a weld mount, the fitting must be disassembled prior to welding to protect the sealant.
3. Thread the cap (and load bearing washer if so equipped) over the probes/wires with the female thread facing the process (see diagram).
4. Insert the probes/wires through the body.
5. Assemble the mating halves or quarters of the seat around the probes/wires with the concave side facing away from the process. (Note: Only SPG Series have concave sides.)
6. Slide the assembled seat into the body.
7. Be sure you are using the correct sealant for your working pressure and temperature. Assemble the mating halves or quarters of the sealant around the probes/wires with the cone facing the process.
8. Slide the assembled sealant into the body.
9. Assemble the mating halves or quarters of the follower around the probes/wires with the keyway facing the cap.
10. Slide the assembled follower into the body.
11. Push on the follower until the sealant and seat are firmly positioned in the fitting body.

12a. Align the follower keyway and body keyway to create a full keyway, then place pin into the keyway.

12b. Align follower with integral pin with body keyway, then insert follower/integral pin into the fitting body/keyway.

13a. For SPGA or DSPGA with load bearing washer, place washer onto follower with flat side facing cap (see diagram).

13b. For Legacy SPG or DSPG, skip this step.

14. Thread the cap on finger tight. If equipped with load bearing washer, ensure proper seating.
15. Make the final adjustment of immersion length.
16. Apply a backer wrench to the fitting body flats to prevent rotation during torquing.
17. While holding the backer wrench firmly in place, use a torque wrench to tighten the cap to the specified torque (see chart).

18. The assembly is now ready for use.

SPGA/DSPGA Series Torque Requirements
with load bearing washer

Catalog Number	GraFoil™		Lava		Viton™	
	ft-lbs	N-m	ft-lbs	N-m	ft-lbs	N-m
Standard 1/2 NPT						
SPGA100 and DSPGA100	150	204	140	190	90	122
Standard 3/4 NPT						
SPGA150 and DSPGA150	300*	408*	300	408	130	176

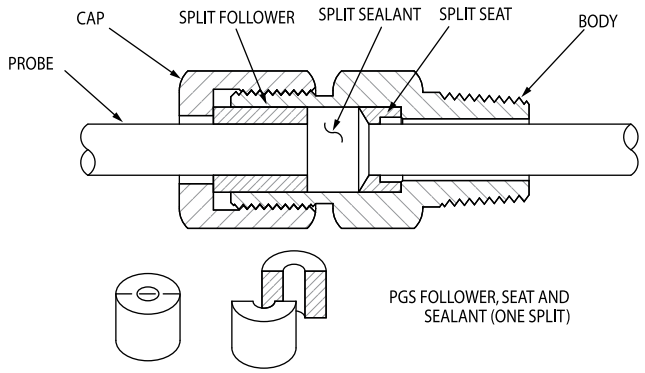
* When applying torque to SPGA150 & DSPGA150 models containing GraFoil™ sealants, torque to 275 ft-lbs, then retorque to 300 ft-lbs after 24 hours.

Legacy SPG/DSPG Series Torque Requirements
without load bearing washer

Catalog Number	GraFoil™		Lava		Viton™		Teflon™	
	ft-lbs	N-m	ft-lbs	N-m	ft-lbs	N-m	ft-lbs	N-m
Standard 1/4 NPT								
SPG75 and DSPG75	N/O	N/O	25-30	34-40	25-30	34-40	25-30	34-40
Standard 1/2 NPT								
SPG100 and DSPG100	110-120	150-163	125-140	170-190	80-90	108-122	80-90	108-122
Standard 3/4 NPT								
SPG150 and DSPG150	175-225†	238-306†	200-220	272-299	120-130	163-176	150-165	204-224

N/O = Not Offered.

For Split Fittings – PGS Series



For assembly separate from the vessel:

1. Verify that the probe length is sufficient for your desired immersion.
2. Secure the fitting body into a vice.
3. Thread the cap over the probe with the female thread facing the process (see diagram).
4. Insert the probe through the body.
5. Assemble the mating halves of the seat around the probe with the concave side facing away from the process.
6. Slide the assembled seat into the body.
7. Be sure you are using the correct sealant for your working pressure and temperature. Assemble the mating halves of the sealant around the probe with the cone facing the process.
8. Slide the assembled sealant into the body.
9. Assemble the mating halves of the follower around the probe with the counterbore facing the cap.
10. Slide the assembled follower into the body.
11. Push on the follower until the sealant and seat are firmly positioned in the fitting body.
12. Thread the cap on finger tight.
13. Make the final adjustment of immersion length.
14. Using a torque wrench, tighten the cap to the specified torque (see chart).
15. The assembly is now ready for use. Apply a wrench to the fitting body flats—not the cap—for mounting to the vessel.

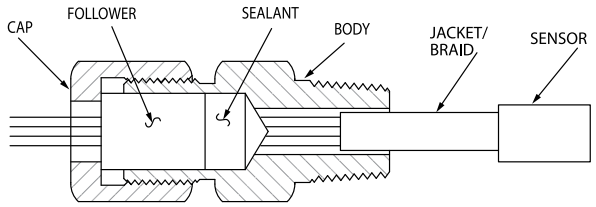
For assembly directly into a vessel:

1. Verify that the probe length is sufficient for your desired immersion.
2. Mount the fitting body into the vessel wall. This may be done by threading or welding, depending on the mounting style. When using a weld mount, the fitting must be disassembled prior to welding to protect the sealant.
3. Thread the cap over the probe with the female thread facing the process (see diagram).
4. Insert the probe through the body.
5. Assemble the mating halves of the seat around the probe with the concave side facing away from the process.
6. Slide the assembled seat into the body.
7. Be sure you are using the correct sealant for your working pressure and temperature. Assemble the mating halves of the sealant around the probe with the cone facing the process.
8. Slide the assembled sealant into the body.
9. Assemble the mating halves of the follower around the probe with the counterbore facing the cap.
10. Slide the assembled follower into the body.
11. Push on the follower until the sealant and seat are firmly positioned in the fitting body.
12. Thread the cap on finger tight.
13. Make the final adjustment of immersion length.
14. Apply a backer wrench to the fitting body flats to prevent rotation during torquing.
15. While holding the backer wrench firmly in place, use a torque wrench to tighten the cap to the specified torque (see chart).
16. The assembly is now ready for use.

PGS Series Torque Requirements

Catalog Number	Viton™		Teflon™		Lava		GraFoil™	
	ft-lbs	N-m	ft-lbs	N-m	ft-lbs	N-m	ft-lbs	N-m
PG2S	30-35	40-48	15-20	20-27	40-45	54-61	35-40	48-54
PG4S	55-60	74-81	55-60	74-81	125-140	170-190	90-100	122-136
PG5S	55-60	74-81	90-100	122-136	200-220	272-299	90-100	122-136

BSWS Series



1. Identify the type of fitting to be assembled. If the sensor leads have an outer jacket or braid, trim this back to the point where it will enter the fitting body when installed (see diagram). This will expose the individual insulated leads.
2. Install the sensor securely in its housing. Place the fitting body over the leads and mount it in the enclosure or bearing housing mounting thread.
3. Slide the sealant with the cone facing the process over the leads into the fitting body until seated. Individual holes are provided for each lead.
4. Slide the follower over the leads and insert it into the fitting body. Ensure that the wires are correctly positioned.
5. Place the cap over the leads and finger tighten.
6. Make the final adjustment of lead length.
7. Apply a backer wrench to the fitting body flats to prevent rotation during torquing.
8. While holding the backer wrench firmly in place, use a torque wrench to tighten the cap to the specified torque (see chart).
9. The assembly is now ready for use.

BSWS Series Torque Requirements

Catalog Number	Viton™	
	ft-lbs	N-m
BSWS4	3-5	4-6
BSWS5	12-15	16-20

Lubricant Application Instructions

Conax Technologies Seal Fittings have lubricant applied at the factory. Substitution of factory-supplied lubricant will affect seal integrity. Lubrication prevents thread galling and minimizes friction between mating metallic components to maximize seal fitting performance when a catalog-specified torque is applied. Lubrication should be used any time a seal fitting assembly is opened for replacement or adjustment of the probe(s), wires or sealant.

By re-lubricating the fitting body threads and load bearing surface of the cap, proper load transfer (sealant compression) can be achieved.

Lubricant kits are available from Conax Technologies in convenient, single application, disposable packages with the applicator included. Conax Technologies recommends use of this lubricant to ensure fitting performance.

CAUTION: Lubricant may cause mild eye irritation. Do not use for lubrication of aluminum or magnesium parts. This product is not an OSHA hazardous material, as defined in 29 CFR1910.120. This product contains CAS# 9002839, Ethene, chlorotrifluoro-homopolymer. 24-Hour Emergency Phone 1-800-733-3665. HMIS Rating System: Health 0, Flammability 0, Reactivity 1. For industrial use only.

Hex-Style Seal Fittings

MK Series

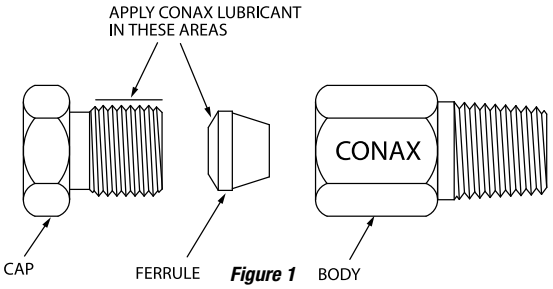


Figure 1

1. Apply a small amount of lubricant, a tear drop equivalent, in two to three places, equally spaced, to the ferrule top. Refer to Figure 1.
2. Apply a single line of lubricant to the full length of the straight thread on the cap. Refer to Figure 1.
3. Assemble the seal fitting per MK Seal Fitting instructions.

PG, MHM, MHC, TG, PL, EG, EGT, SPG, DSPG, PGS and BSWS Series

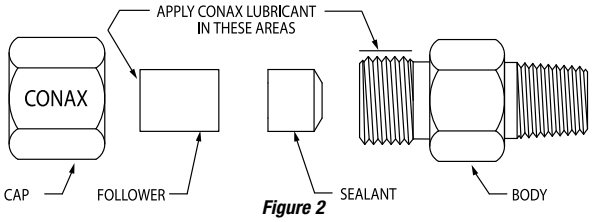


Figure 2

1. Apply a small amount of lubricant, tear drop equivalent, in two to three places, equally spaced, to the top of the follower. Do not allow the lubricant to directly contact the sealant or the elements you are sealing. Refer to Figure 2.
2. Apply a single line of lubricant to the full length of the straight thread on the fitting body. Refer to Figure 2.
3. Assemble the seal fitting per applicable seal fitting instructions.

Flange/Cap Style Seal Fittings

PG, MHM, EG and EGT Series

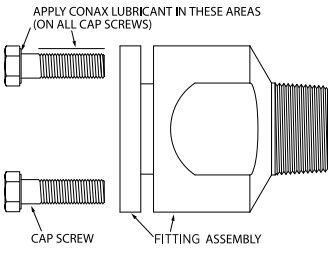


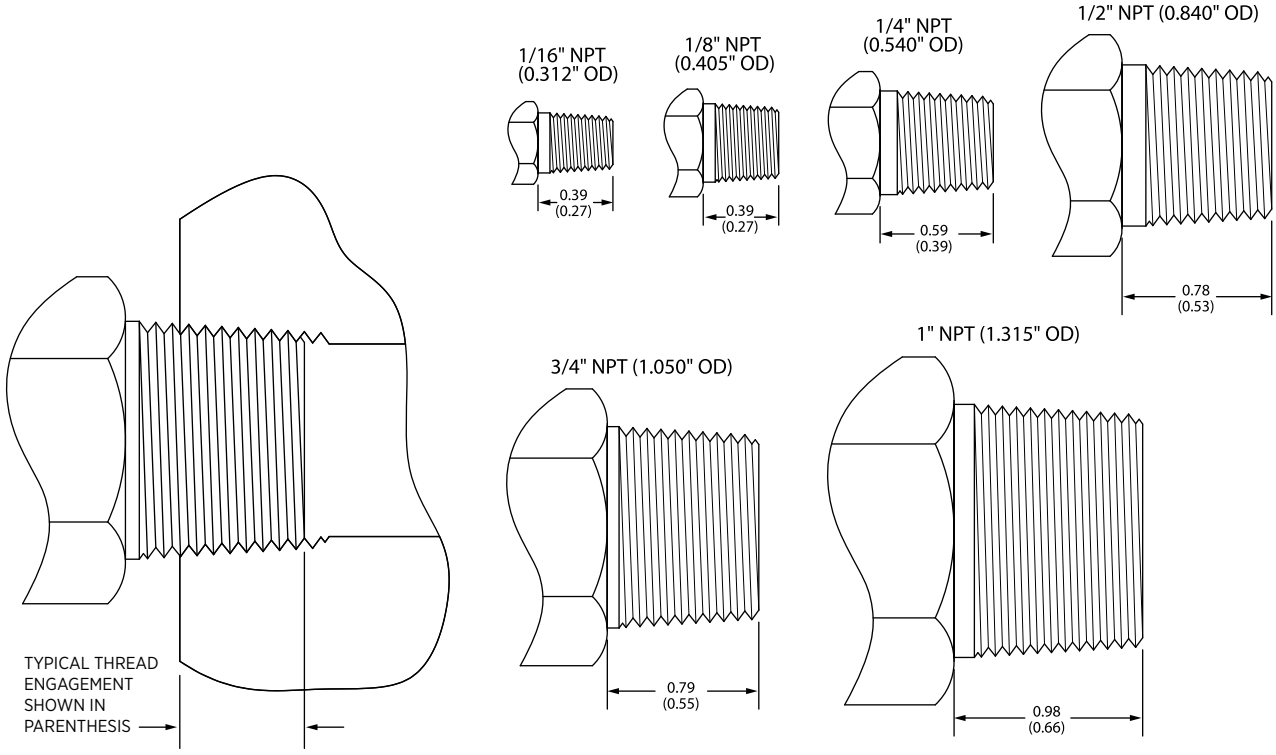
Figure 3

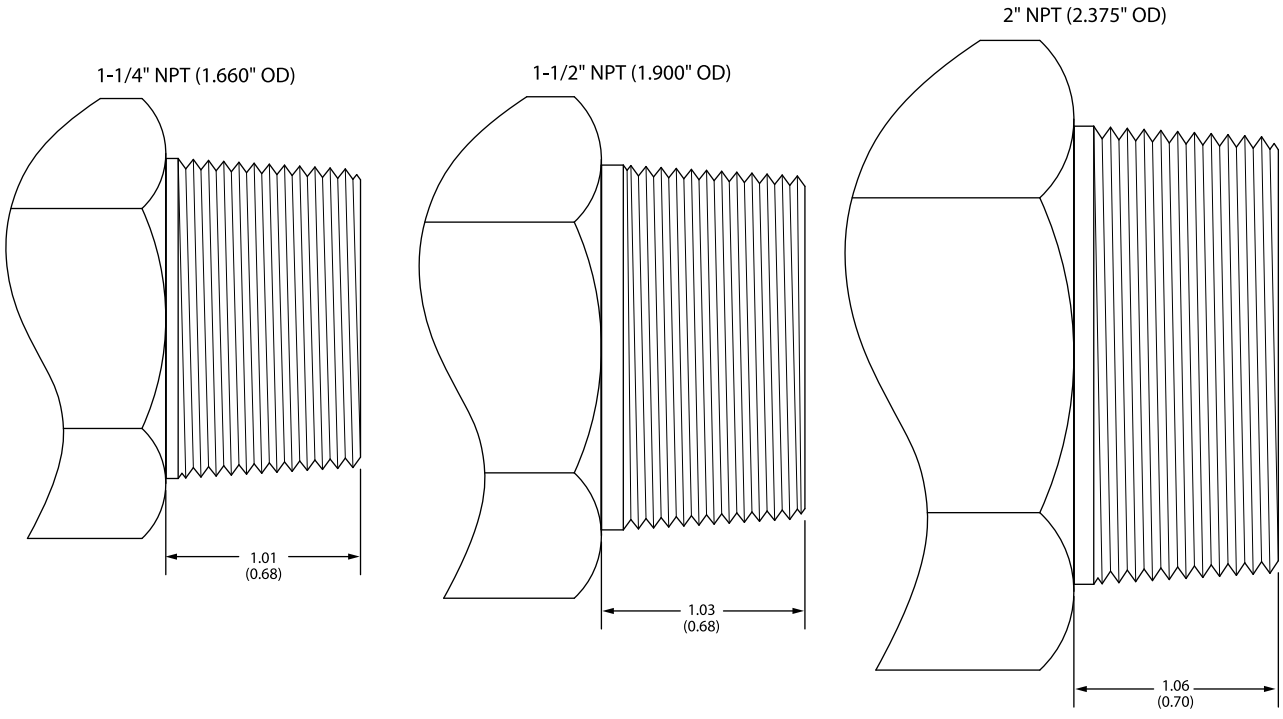
1. Apply a small amount of lubricant, tear drop equivalent, in two to three places, equally spaced, to the underside of the hex cap screw on each of the six (6) hex cap screws. Do not allow the lubricant to directly contact the sealant or the elements you are sealing. Refer to Figure 3.
2. Apply a single line of lubricant to the full thread length on each of the six (6) hex head screws. Refer to Figure 3.
3. Assemble the seal fitting. Apply torque per applicable fitting chart.

Technical Data

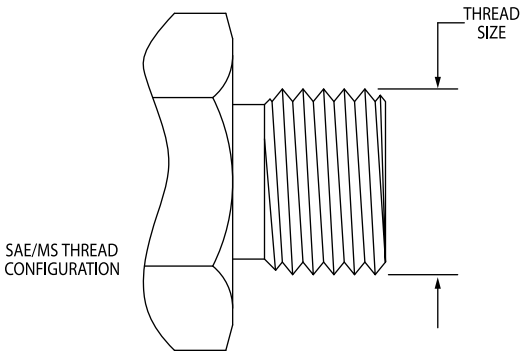
NPT Pipe Thread Sizes

Supplied pipe thread dimensions are reference only.
Typical thread engagement is shown in parentheses.





SAE/MS Thread Specifications



SAE/MS Thread Specifications Guide

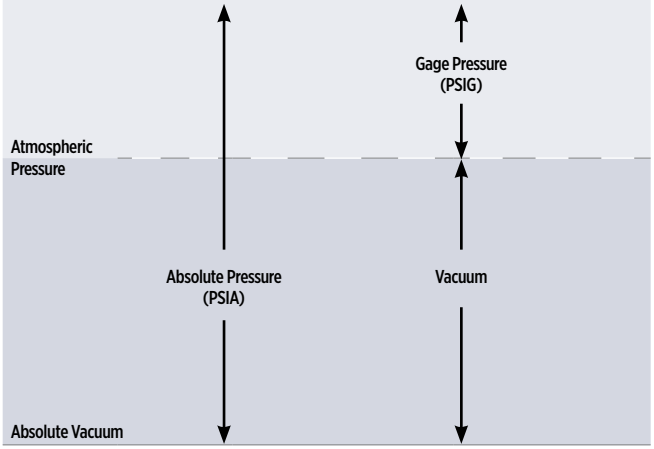
Thread Callout	Thread Size	Pressure Rating* PSIG (MPa)
MSE3	3/8-24	9138 [63]
MSE4	7/16-20	9138 [63]
MSE5	1/2-20	9138 [63]
MSE6	9/16-18	9138 [63]
MSE8	3/4-16	9138 [63]
MSE10	7/8-14	9138 [63]
MSE12	1-1/16-12	5802 [40]
MSE14	1-3/16-12	5802 [40]
MSE16	1-5/16-12	5802 [40]

*Thread pressure ratings per SAE J1926/2

Vacuum Units of Measure

	Absolute Pressure			
	PSIA	Torr (mm Hg)	mtorr (micron)	Pa (N/m^2)
Atmospheric Pressure	14.696	760	760,000	101,292
Low Vacuum	↓	↓	↓	↓
Medium Vacuum	0.193 ↓	1 ↓	1000 ↓	133.28 ↓
High Vacuum	$1.93x10^{-5}$ ↓	$1.00x10^{-3}$ ↓	1 ↓	0.133 ↓
▲ **Conax Technologies Seal Fitting Vacuum Rating** (Neoprene, Viton™, Teflon™ & GraFoil™) $5x10^{-6}$ Torr				
Very High Vacuum	$1.93x10^{-8}$ ↓	$1.00x10^{-6}$ ↓	$1.00x10^{-3}$ ↓	$0.133x10^{-4}$ ↓
Ultra High Vacuum	$1.93x10^{-11}$ ↓	$1.00x10^{-9}$ ↓	$1.00x10^{-6}$ ↓	$0.133x10^{-7}$ ↓
Absolute Vacuum	0	0	0	0

Relative Magnitude of Pressure Differential



ASME/ANSI Flange Pressure Ratings Guide (PSIG)

Temperature (°F)/Class	304 Stainless		316 Stainless		Carbon Steel	
	150	300	150	300	150	300
-20 to 100	275	720	275	720	285	740
200	230	600	235	620	260	675
300	205	540	215	560	230	655
400	190	495	195	515	200	635
500	170	465	170	480	170	600
600	140	435	140	450	140	550
700	110	425	110	430	110	535
800	80	405	80	420	80	410
900	50	390	50	415	50	170
1000	20	320	20	350	20	50

Information per ANSI B16.5

Conax Technologies Uses Kapton™ Film for Our Insulated Conductors

Conax Technologies uses only DuPont Kapton™ film type FN in the construction of our insulated conductors. Underwriters Laboratories has approved this film up to 464 °F (240 °C) under UL Card No. E39505. Conax can provide a copy of this card upon request. Or visit the DuPont website for more information – **www.dupont.com/Kapton™**.

The insulated conductors are fabricated to a Conax Technologies' proprietary specification that was originally developed for the nuclear power generation industry. The construction of these Kapton™ insulators consists of 1 mil thick layer of Kapton™ sandwiched between 1/2 mil layers of FEP Teflon™. The resultant 2 mil thick film is then spirally wrapped in one direction around the conductor with a 50% minimum overlap, and then repeated in the opposite direction, again with a 50% minimum overlap, yielding a minimum of 4 layers (or 8-10 mils total thickness). The layers are then fused together to form a cohesive, leak-tight bond.

Electrode/Conductor Ampacities
(@26 °C, 90 °C Max)

Conductor Size	Nominal Diameter	Copper	Nickel	303 SST
093	0.093	20	10	3
125	0.120	40	15	6
187	0.182	60	25	9
250	0.245	95	40	15
312	0.307	125	50	20
375	0.370	160	65	24
500	0.495	200	80	30
750	0.745	400	165	60
1000	0.995	525	240	72

Electrode/Conductor Derating Values
for Ambient Temperatures Other Than 26 °C

Ambient Temperature Range (°C)	Delta from Ambient Temperature (°C)	Derating for Electrode (NEC™)
21–25	-5	1.04
26–30	0	1
31–35	5	0.96
36–40	10	0.91
41–45	15	0.87
46–50	20	0.82
51–55	25	0.76
56–60	30	0.71
61–70	35	0.58
71–80	45	0.41

American Wire Gauge
Size to Inches

American Wire Gauge (AWG)	Size OD IN
6/0	0.5800
5/0	0.5165
4/0	0.4600
3/0	0.4096
2/0	0.3648
1/0	0.3249
1	0.2893
2	0.2576
3	0.2294
4	0.2043
5	0.1819
6	0.1620
7	0.1443
8	0.1285
9	0.1144
10	0.1019
11	0.0907
12	0.0808
13	0.0720
14	0.0641
15	0.0571
16	0.0508
17	0.0453
18	0.0403
19	0.0359
20	0.0320
21	0.0285
22	0.0253

American Wire Gauge (AWG)	Size OD IN
23	0.0226
24	0.0201
25	0.0179
26	0.0159
27	0.0142
28	0.0126
29	0.0113
30	0.0100
31	0.00893
32	0.00795
33	0.00708
34	0.00630
35	0.00561
36	0.00500
37	0.00445
38	0.00396
39	0.00353
40	0.00314
41	0.00280
42	0.00249
43	0.00222
44	0.00198
45	0.00176
46	0.00157
47	0.00140
48	0.00124
49	0.00111
50	0.00099

Helpful Conversion Factors

Description	To Convert	Multiply By	To Obtain
Length	inches (in)	25.4	millimeters (mm)
	inches (in)	2.54	centimeters (cm)
	inches (in)	$2.54x10^{-2}$	meters (m)
	feet (ft)	304.8	millimeters (mm)
	feet (ft)	30.48	centimeters (cm)
	feet (ft)	0.3048	meters (m)
	millimeters (mm)	$3.94x10^{-2}$	inches (in)
	millimeters (mm)	$3.28x10^{-3}$	feet (ft)
	centimeters (cm)	0.394	inches (in)
	centimeters (cm)	$3.28x10^{-2}$	feet (ft)
	meters (m)	39.37	inches (in)
	meters (m)	3.28	feet (ft)
Torque	inch-pounds (in-lbs)	$8.33x10^{-2}$	foot-pounds (ft-lbs)
	inch-pounds (in-lbs)	0.113	newton-meters (N-m)
	foot-pounds (ft-lbs)	12	inch-pounds (in-lbs)
	foot-pounds (ft-lbs)	1.36	newton-meters (N-m)
	newton-meters (N-m)	8.85	inch-pounds (in-lbs)
	newton-meters (N-m)	0.738	foot-pounds (ft-lbs)
Pressure	psi or lbs/in^2	144	psf or lbs/ft^2
	psi or lbs/in^2	6,894.8	pascals (Pa) or N/m^2
	psi or lbs/in^2	51.715	torr or mm Hg
	psi or lbs/in^2	51.715	mtorr or micron Hg
	psi or lbs/in^2	$6.893x10^{-2}$	bars
	psi or lbs/in^2	68.93	millibars
	psi or lbs/in^2	$6.805x10^{-2}$	atmospheres (atm)
	psf or lbs/ft^2	$6.94x10^{-3}$	psi or lbs/in^2
	psf or lbs/ft^2	47.9	pascals (Pa)
	pascals (Pa) or N/m^2	$1.4504x10^{-4}$	psi or lbs/in^2
	pascals (Pa) or N/m^2	$2.09x10^{-2}$	psf or lbs/ft^2
	pascals (Pa) or N/m^2	$1.00x10^{-3}$	kilo-pascals (KPa)
	pascals (Pa) or N/m^2	$1.00x10^{-6}$	mega-pascals (MPa)
	pascals (Pa) or N/m^2	$7.5028x10^{-3}$	torr or mm Hg
	pascals (Pa) or N/m^2	$7.5028x10^{-6}$	mtorr or micron Hg
	pascals (Pa) or N/m^2	$1.00x10^{-5}$	bars
	pascals (Pa) or N/m^2	$1.00x10^{-2}$	millibars
	pascals (Pa) or N/m^2	$9.87x10^{-6}$	atmospheres (atm)
	kilo-pascals (KPa)	1,000	pascals (Pa) or N/m^2
	mega-pascals (MPa)	1,000,000	pascals (Pa) or N/m^2
	torr or mm Hg	$1.934x10^{-2}$	psi or lbs/in^2
	torr or mm Hg	1,000	mtorr or micron Hg
	torr or mm Hg	133.28	pascals (Pa)
	torr or mm Hg	$1.3328x10^{-3}$	bars
	torr or mm Hg	1.3328	millibars
	torr or mm Hg	$1.32x10^{-3}$	atmospheres (atm)
	mtorr or micron Hg	$1.00x10^{-3}$	torr or mm Hg
	mtorr or micron Hg	$1.93x10^{-5}$	psi or lbs/in^2
	mtorr or micron Hg	0.133	pascals (Pa) or N/m^2
	mtorr or micron Hg	$1.33x10^{-6}$	bars
	mtorr or micron Hg	$1.33x10^{-3}$	millibars
	mtorr or micron Hg	$1.32x10^{-6}$	atmospheres (atm)
	bar	750.2838	torr or mm Hg
	bar	$7.5028x10^{5}$	mtorr or micron Hg
	bar	14.508	psi or lbs/in^2
	bar	$1.00x10^{5}$	pascals (Pa) or N/m^2
	bar	1,000	millibars
	bar	0.9872	atmospheres (atm)

Ask about Conax temperature sensors and cable & harness assemblies





2300 Walden Avenue, Buffalo, New York 14225
+1 800 223 2389 (P) | **+1 716 684 7433** (F)
Conax@ConaxTechnologies.com

Catalog 5001, Rev E'

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