

# Metal seals meet, exceed energy, oil and gas industry performance demands

## Typical Applications

Metal seals are ideal for use in multi-port subsea control systems, oil and gas pipeline and valve connections, actuator valves and many other applications. Valley Seal's engineers can assist with the development of custom solutions for new designs and prototypes.

## Gask-O-Seals®

These volume/void seal products consist of a metal or plastic carrier plate with an elastomeric sealing element molded directly into a groove.

Gask-O-Seals are capable of sealing high pressures (in excess of 10,000 psi) as well as vacuums.

Advantages include:

- Multi-port sealing with one component
- Ability to seal complex flange geometry
- Simple, visually verifiable installation
- Solid metal-to-metal contact insures stable joint with no re-torquing required
- Redundant seals can be incorporated into one component
- No machined grooves required in mating flanges
- Wide range of seal elastomers and retainers



## Pipe Flange Gask-O-Seal®

Designed to provide the ultimate sealing solution for ASME B16.5 pipe flanges, Pipe Flange Gask-O-Seal offers these advantages:



- Accommodates 150 lb to 2500 lb flanges
- Available sizes from 1" to 24"
- Low fastening torque and no re-torquing
- Retainers available in low carbon steel, stainless steel, aluminum and other specialty metals
- Available in a large selection of seal elastomers

## Integral Seal®

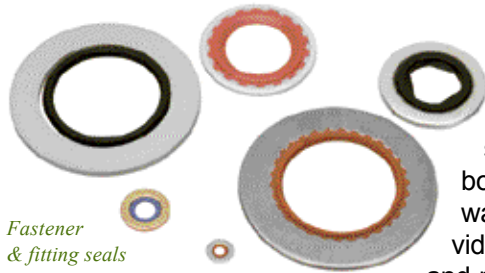
This product consists of a rubber sealing element bonded to the edge of a metal carrier. The Integral seal offers many of the same advantages as the Gask-O-Seal but is recommended for use where a Gask-O-Seal can not be accommodated due to thickness or other geometry constraints. In high volume applications, Integral seals also offer a more economical alternative. Advantages include:



- Sealing up to 5,000 psi
- Retainers available in low carbon steel, stainless steel, aluminum, other specialty metals
- Available in a wide range of seal elastomers

## Fastener and Fitting Seals

Most fluid systems have fasteners that must be sealed. The fastener seal designs feature an elastomeric sealing element molded and bonded in place within a metal retainer (washer). Although they resemble a simple O-ring groove concept, the molded-in-place fastener seal offers numerous advantages.



Fastener & fitting seals

### Stat-O-Seal®

fastener seals consist of a unique rubber sealing element bonded to a metal washer. They provide the simplest and most reliable

method of sealing directly under a fastener head. Stat-O-Seals are available in most standard fastener sizes from #6 to 3" and metric fastener sizes from 5mm to 22mm.

**ThredSeal®** fastener seals consist of a unique rubber sealing element bonded to a metal washer and are intended for sealing directly onto the fastener threads. The 750 series ThredSeal can be used for sealing both UNF and UNC threads and are available in most English sizes from #6 to 1½".

## Metal Seals

Parker's highly-engineered metal seal designs offer customized solutions for more demanding applications, where extreme temperature, corrosive media, high vacuum, near-zero leakage or long life concerns are present. As materials used in a resilient metal seal preclude effects of gaseous permeation, these seals provide exceptional performance in critical vacuum applications. Resilient metal seals are made-to-order for specific applications, and offered in many configurations, including:



Metal sealing products

- Machined Metal V-Seals
- Metal C-Rings
- Vented and Non-Vented Metal O-Rings
- Spring Energized Metal C-Rings
- Metal E-Ring

## Parker Elastomers For Sealing

The elastomeric compounds you know and trust are available for use in engineered Gask-O-Seals, Fastener Seals and Integral Seals. The table below contains information about some of our most popular sealing elastomers. Contact the Composite Sealing Systems Division for information on other available compounds.

Family	Parker Number	Description/ Applications	Recommended Operating Temperature (°F)
<b>Ethylene Propylene</b>	E1832-80	Excellent for sealing water and steam. Very ozone and weather resistant.	-65 to 250
<b>HNBR</b>	N1922-75	Good substitute for regular NBR in applications requiring a higher level of heat resistance.	-25 to 300
<b>Fluorocarbon</b>	V720-75	Air, petroleum fluids, hydrocarbons, silicone fluids, many acids, and vacuum applications.	-15 to 400
<b>Fluorosilicone</b>	L1830-60	Excellent for low temperature applications. Good for sealing petroleum and silicone fluids.	-85 to 350
<b>Nitrile (NBR)</b>	N406-60	Economical compound good for general industrial environments and most petroleum fluids.	-40 to 225
<b>Nitrile (NBR)</b>	N1840-90	Tough, explosive decompression and extrusion resistant compound. Excellent for high pressure applications.	-30 to 225
<b>Parofluor™ (perfluorinated elastomer)</b>	V8545-75	Excellent for high temperatures and extremely aggressive fluids such as organic and inorganic acids.	-15 to 550
<b>Silicone</b>	S604-70	Good for air, weathering and gases	-65 to 400