FR-PITA

Combines VSP’s patented PITA® gasket and OPRA™ reduced area technologies in an engineered design for low bolt load FRP flanges. The bolt load is concentrated on the insert corrugations leading to a higher tightness seal with concentric sealing rings while the reduced area allows for higher contact stress on the gasket.

FR-PITA Addresses FRP Flange Assembly Problems that Lead to Poor Results with Conventional PTFE/ePTFE Technology

- **Flanges**
  - Brittle materials
  - Increased risk of flange breakage

- **Gaskets**
  - Full-face type gaskets required
  - Most PTFE materials are too hard
  - Molded ePTFE gaskets require higher load than is available

- **Bolting**
  - Low bolt torque required to prevent flange breakage
  - Most PTFE materials are too hard

- **Corrugated peaks**—defined contact points result in lower stress to seal than conventional virgin, filled PTFE or ePTFE gaskets

VSP Technologies deploys a team of Engineers and Fluid Sealing Specialists who provide engineered solutions for your unique sealing requirements.
**SPRING ENERGIZED CONSTRUCTION**

**FR-PITA maintains 10X lower leak rate than full-face molded ePTFE**

FR-PITA combines patented OPRA and PITA technology to reduce gasket area/contact area

FR-PITA® for FRP Piping & Equipment Flanges | U.S. Patents 7,455,301 & 8,066,843

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**Product Specifications**

- **Temperature Range**: Max= 600°F Min= -330°F
- **Pressure Resistance**: Full vacuum to maximum flange rating
- **Chemical Resistance**: All chemical services (pH 0-14) except molten alkali metals, elemental fluorine and aggressive tri-fluoride compounds
- **ASME Gasket Factors**: m=2.5 \( y = 1,200 \text{ psi} \)
- **PVRC Gasket Factors (PVRC ROTT)**: \( G_x = 263 \text{ psi} \)
  \( a = 0.299 \)
  \( G_z = 2.93 \times 10^{-10} \text{ psi} \)
- **Tightness & Sealability (PVRC ROTT)**: \( T_{p_{(max)}} = 33,749 \)
  \( T_{p_{(min)}} = 13,454 \)
- **Stress Required to Achieve Helium Leak Rate of 1.02E-04 (mg/sec) @ 150 psig (NPS 4x150 Ring Gasket)**: 2,078 psi
- **Safe Reserve Operating Temperature (HOBT2 with Cycles)**: 500°F ASME Class 150 Service
  450°F ASME Class 300 Service
- **Standard Insert Metallurgy**: Hastelloy® C-276, 316 SS available

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**Minimum Required Assembly Torque**

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<th>NPS</th>
<th>TORQUE (Ft-Lb)</th>
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<td>24</td>
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</tbody>
</table>

Note: When using minimum assembly torque, the insert metallurgy should be compatible with the process.

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**FR-PITA Minimum Recommended Assembly Torque**

ASME Class 150

FR-PITA technology available in custom designs for vessel manways and covers.