

VacuSeal™ Fittings

Introduction

Parker UHP products are designed as leak-free components for critical applications where ultra-high pure conditions are required. VacuSeal™ products, with their mating gasket and toroid design, provide a metal-to-metal seal with leak-free service from vacuum to positive pressure.

Featured Products

- **TorqTite™** gasket to seal damaged toroids and virtually eliminate loosening of componentry due to thermocycling and vibration.
- **High-Purity Nickel and Hastelloy C-22®** glands for extremely corrosive applications.
- **Non-Rotational Female Nut** to prevent transmission of torque during make-up and therefore minimize twist of componentry which causes stress concentration.
- **Anti-Galling Female Nut** to ensure consistent make-up without plating or lubrication.

Materials

Typical Raw Material Specifications

FITTING MATERIAL	BAR STOCK	FORGINGS	RECOMMENDED TUBING SPECIFICATIONS
Stainless Steel 316	ASTM A276 ASME SA479	ASME SA182	ASME SA213, ASTM A213, ASTM A249
Stainless Steel 316L	ASTM A276, ASME SA479	ASME SA182	ASME SA213, ASTM A213, ASTM A249
Stainless Steel 316L VAR (Vacuum Arc Remelt)	ASTM A276, ASME SA479	ASME SA182	ASTM A269, MIL T8504, MIL T8506
Stainless Steel 316L VIM/VAR (Vacuum Induction Melt/Vacuum Arc Remelt)	ASTM A276, ASME SA479	ASME SA182	ASTM A269, MIL T8504, MIL T8506

Material is marked with heat code to ensure raw material traceability.

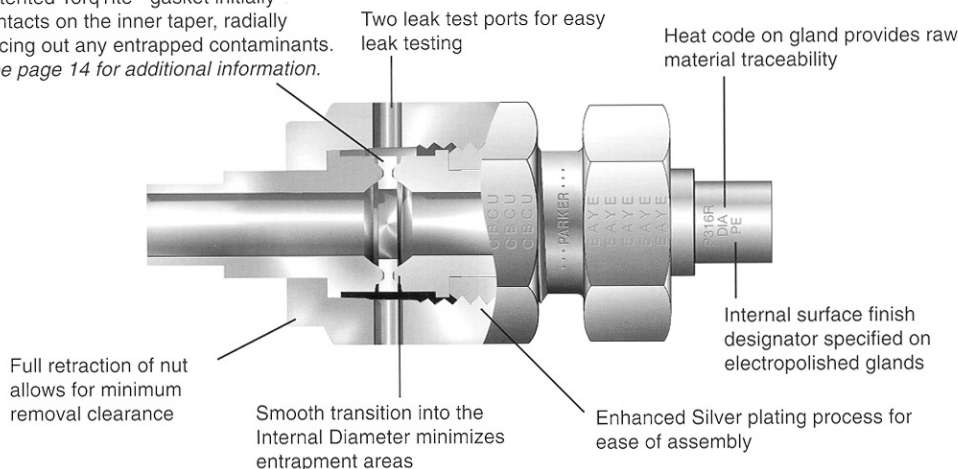
Gaskets Typical Raw Material Specifications

MATERIAL SPECIFICATIONS	
Nickel	ASTM B162 (unplated)
Stainless Steel	ASTM A167 (Silver plated)

Specifications

- **Pressure Ratings** are based upon tests conducted on VacuSeal™ assemblies. All ratings comply with calculations per ANSI Code for Pressure Piping B31.3. **Working Pressures** are rated at ambient temperature and are based on a 4 to 1 design factor. To determine pressure ratings in accordance with ANSI B31.1, multiply **Working Pressure** by 0.94.
- **Temperature Ratings**
Fittings:
Stainless Steel 316, 316L, 316L VAR, 316L VIM/VAR
1000°F (537°C)
Gaskets:
High-Purity Nickel
600°F (315°C)
Silver plated Stainless Steel
1000°F (537°C)
- **Dimensions** are for reference only and are subject to change.
- **Plating:** VacuSeal™ Female Nuts are Silver plated with an enhanced plating process. Avoid aggressive chemical processes used for cleaning, electropolishing and passivation that will remove plating. Removal or damage to plating will cause threads to gall, damaging fitting components and preventing a proper seal.
- **Testing:** VacuSeal™ products are rated to a Helium leak rate of 1×10^{-10} STD cc/sec.
- **Internal Surface Finishes:** VacuSeal™ components are available with controlled surface finishes and electropolished internal surfaces.
- **Cleaning and Packaging:** Ultra-High Purity 'OMEGA' cleaning and packaging in a Class 100 Clean Room environment validated per Federal Standard 209E, is standard for all electropolished VacuSeal™ components.

Patented TorqTite™ gasket initially contacts on the inner taper, radially forcing out any entrapped contaminants. See page 14 for additional information.



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