

Face Seal Fittings

FR Series Face Seal Fittings

Features

- ⦿ Metal-to-metal seal to provide perfect leak-tight service for working conditions from critical vacuum to high pressure
- ⦿ Precision manufactured gasket to ensure best performance
- ⦿ Test port at nut for easy leak testing
- ⦿ Silver-plated female threads
- ⦿ Standard surface roughness finished to an average of Ra 10 μm . (0.25 μm) or Ra 5 μm . (0.13 μm) optional
- ⦿ All seal faces and male threads protected with plastic caps
- ⦿ Every gland and body marked with size, material and heat code



Technical Data

- ⦿ Sizes ranging from 1/16" to 1" and 6 mm to 18 mm
- ⦿ Thread Specifications:

Thread Type	Specification
NPT	ASME B1.20.1, SAE AS71051
Unified (SAE)	ASME B1.1, SAE J475

- ⦿ Material

Material	Bar Stock	Forging	Designator
Fitting Material			
316 SS	ASTM A276	ASME SA182	SS
316L SS	ASME SA479	ASTM A314	6L
316L VAR SS	SEMI F20		6LV
Gasket Material			
316L SS	ASTM A240		6L
Copper	ASTM B152		CU
Nickel	ASTM B162		NI

- ⦿ Working Pressure:
Working pressures shown in the Catalog are calculated according to ASME B31.3 and B31.1 at ambient temperature.

- ⦿ Working Temperature:

Component	Material	Max. Temperature
Fittings	316 SS	1000°F (538°C)
	316L SS	
	316L VAR SS	
Gaskets	316L SS	400°F (204°C)
	Copper	
	Nickel	600°F (316°C)

Testing

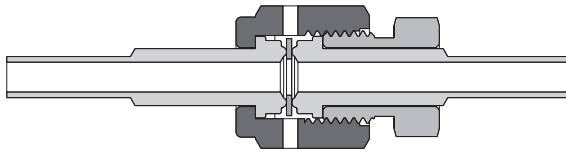
FR fitting is tested with helium (maximum allowable leak rate: 4×10^{-9} std cm³/s).

Ordering Information

- ⦿ Each component can be ordered separately.
 - ⦿ Add the material designator as a prefix and Cleaning and Packaging code as a suffix to the basic ordering number to get the complete ordering number.
 - ⦿ Cleaning and Packaging
 - a. FC-01 Standard Cleaning and Packaging is applied to all the fittings for general industry. No suffix is needed.
 - b. FC-02 Special Cleaning and Packaging is following ASTM G93 Level C. Add a suffix of "-F2" when needed.
 - c. FC-03 Ultra-High Purity Process Specification is applied to products with wetted surface roughness finished to an average of Ra 5 μ m. (0.13 μ m). Add a suffix of "-F3" when needed. It is only available for 316L and 316L VAR SS fittings.
- Example: For 1/2" 316L VAR SS gland with FC-03 Ultra-High Purity Process Specification, the complete ordering number is 6LV-G-FR8-TB8-6-F3.

Installation Instructions

1. Assemble the gland, nut, gasket and male nut as below. Finger tight the nut.



2. For fittings with 316L SS and Nickel gaskets, tighten the nut 1/8 turn with a wrench while holding the male nut or the fitting body steady. Tighten the nut 1/4 turn for those with Copper gaskets.

Cautions

- ⦿ Dimensions are for reference only and are subject to change.
- ⦿ Over-tightening will damage the sealing beads and lead to possible leak.
- ⦿ Utilize a new gasket for each assembly.
- ⦿ Tungsten Inert Gas Welding (TIG) is recommended.
- ⦿ Always apply proper thread sealants on tapered pipe threads.
- ⦿ Do not loosen or tighten fittings when system is pressurized.