



- Rotary and Push/Pull in the Same Feedthrough
- High Torque. Use Either Solid or Hollow Shafts
- High Speeds. Tested at 1100 RPM, 24/7 for 90 Days
- Leak Rate Better Than 5×10^{-10} Standard cc/sec
- All Feedthroughs (RoHS) 2002/95/EC Compliant
- 303 Stainless Steel or Nickel Plated Brass
- Easy to Replace Viton® or Buna-N Chevron Seals
- Conflat®, NW or Pipe Thread Connection to System
- Available For Four Shaft Sizes: 1/4", 3/8", 1/2", 5/8"
- Includes Frelon® Bearing On Atmosphere Side

Shaft finish and hardness should be 4 to 12 RMS with a minimum surface hardness of RC 50 for best results. Softer shafting can be used, but both bearing and shafting may wear at accelerated rates. For any given RMS value radiused or polished peaks will provide best rate of wear so

electropolished shafts give best results.

Lubrication with a vacuum grease or oil can reduce friction and improve the seal life. Silicone and flourocarbon lubricants are not recommended as these lubricant types can inhibit heat flow and increase the seal temperature.

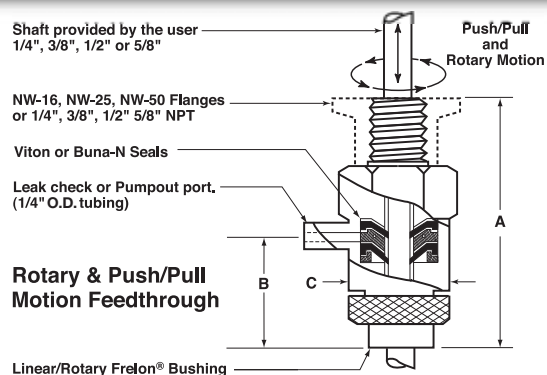
Test Results

These very rugged and reliable seals have been in production for 50 years and have been tested extensively.

- **800,000 Reciprocal Motions**
Leak rate less than 5×10^{-10} scc/sec after 800,000 reciprocal motions of 1 inch.
- **90 Days at 1,100 RPM**
Feedthrough operated at 1100 RPM for 90 days, 24/7. Leak rate was also less than 5×10^{-10} scc/sec.
- **15 Years on Test Chamber**
Feedthrough on a chamber testing ion thrusters was left under vacuum and unmoved for 15 years. Feedthrough still did not leak when finally used.

Shaft Diameter Shaft is not included. Best performance will result when your shaft diameter is held to these dimensions, but smaller diameters are acceptable. See below for optional shaft material.

Connection to System	1/4 inch	3/8 inch	1/2 inch	5/8 inch
	.2495 - .0000 + .0005	.3745 - .0000 + .0005	.4995 - .0000 + .0005	.6245 - .0000 + .0005
2.75 In. Conflat®	Model No. 2.75-B01-SS 303 Stainless Steel \$433.	Model No. 2.75-B02-SS 303 Stainless Steel \$473.	Model No. 2.75-B03-SS 303 Stainless Steel 1/2" \$496. 5/8" \$643.	
NW-16	Model No. 16-B01-SS 303 Stainless Steel \$438.	Model No. 16-B02-SS 303 Stainless Steel \$478.	Model No. 16-B03-SS 303 Stainless Steel 1/2" \$478. 5/8" \$619.	
NW-25	Model No. 25-B01-SS 303 Stainless Steel \$478.	Model No. 25-B02-SS 303 Stainless Steel \$478.	Model No. 25-B03-SS 303 Stainless Steel 1/2" \$496. 5/8" \$644.	
NW-50	Model No. 50-B01-SS 303 Stainless Steel \$572.	Model No. 50-B02-SS 303 Stainless Steel \$567.	Model No. 50-B03-SS 303 Stainless Steel 1/2" \$597. 5/8" \$749.	
Pipe Thread	Model No. P-B01-NB Nickel Plated Brass \$228.	Model No. P-B02-NB Nickel Plated Brass \$245.	Model No. P-B03-NB Nickel Plated Brass 1/2" \$257. 5/8" \$402.	
	Model No. P-B01-SS 303 Stainless Steel \$478.	Model No. P-B02-SS 303 Stainless Steel \$496.	Model No. P-B03-SS 303 Stainless Steel 1/2" \$526. 5/8" \$673.	
For 1 Inch Baseplate Through Hole	Model No. 1in-B01-NB Nickel Plated Brass \$373.	Model No. 1in-B02-NB Nickel Plated Brass \$397.	Model No. 1in-B03-NB Nickel Plated Brass \$438.	
	Model No. 1in-B01-SS 303 Stainless Steel \$713.	Model No. 1in-B02-SS 303 Stainless Steel \$730.	Model No. 1in-B03-SS 303 Stainless Steel \$777.	
Replace-ment Seal Washers 2 Req'd.	Buna-N, P/N 701101-B \$3.00 each	Buna-N, P/N 701102-B \$3.00 each	Buna-N, P/N 701103-B \$3.00 each	
	Viton®, P/N 701101-V \$5.00 each	Viton®, P/N 701102-V \$5.00 each	Viton®, P/N 701103-V \$5.00 each	



SHAFT DIAM.	NW-16			NW-25			NW-50			PIPE THREAD		
	A	B	C	A	B	C	A	B	C	A	B	C
1/4 INCH SHAFT	2.35	1.00	1.00	2.26	.09	1.0	2.26	.09	1.0	1/4 IN. NPT		
										2.73	1.39	1.00 ACROSS FLATS
3/8 INCH SHAFT	2.35	1.00	1.13	2.35	1.00	1.13	2.8	1.50	1.13	3/8 IN. NPT		
										2.75	1.38	1.125 ACROSS FLATS
1/2 & 5/8 INCH SHAFT	2.38	1.00	1.25	2.38	1.00	1.25	2.50	1.13	1.25	1/2 IN. NPT		
										2.76	1.38	1.25 ACROSS FLATS

Optional Precision Shaft Material, 316 S.S. The shaft is not included with the feedthrough. Most customers provide their own shaft but we offer this material as a convenience.

- 1/4 inch O.D. by 18 inch (457 mm) long P/N: SHFT-25-18-316 . . . \$35. ea.
- 3/8 inch O.D. by 18 inch (457 mm) long P/N: SHFT-37-18-316 . . . \$74. ea.
- 1/2 inch O.D. by 18 inch (457 mm) long P/N: SHFT-50-18-316 . . . \$86. ea.