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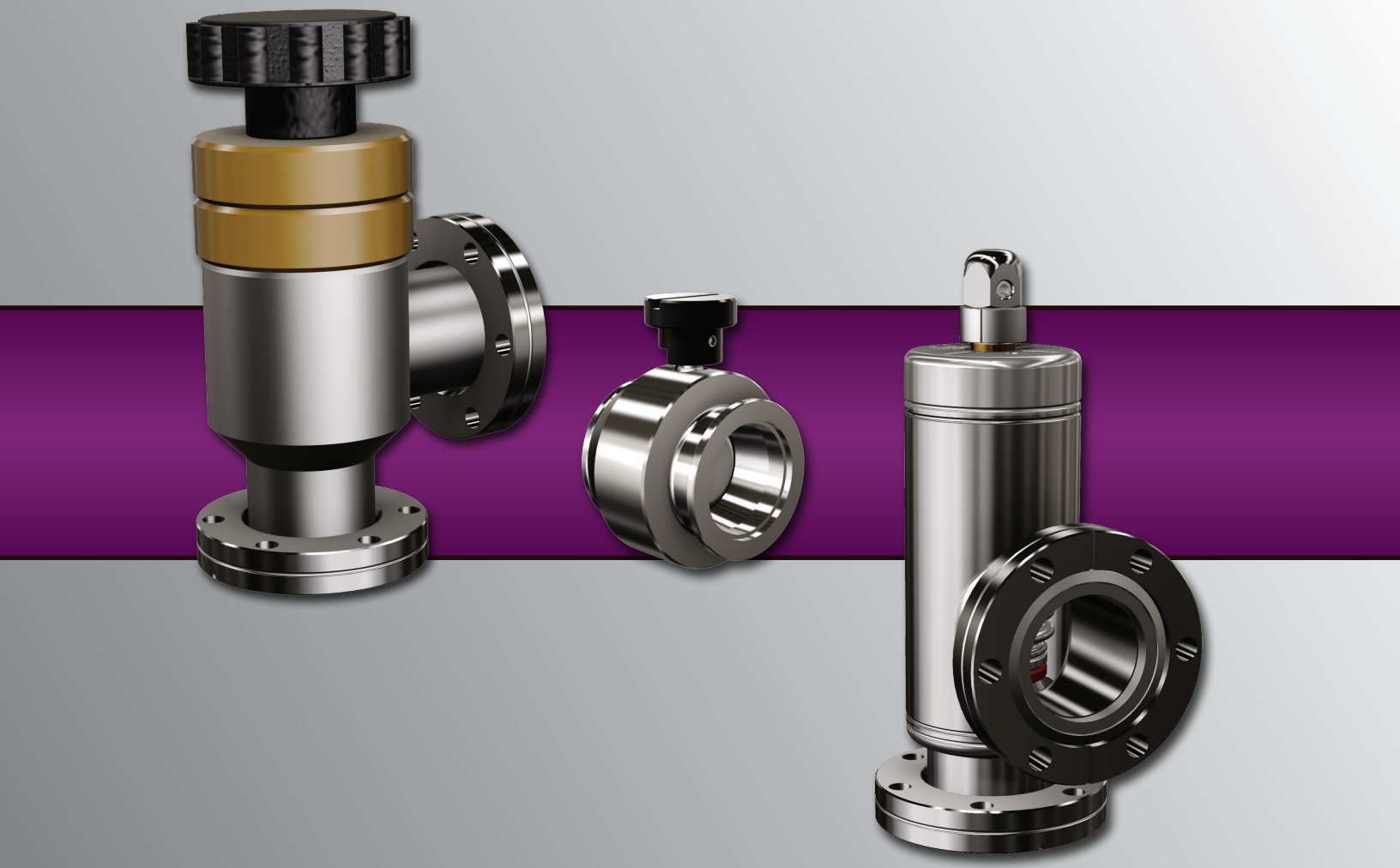
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Huntington®
Mechanical Labs, Inc.



VACUUM VALVES

ULTRA-HIGH VACUUM COMPONENTS



EV Series

BF Series

HT Series

THIS SECTION: VACUUM VALVES

ITEM	PAGE
ANGLE VALVES, MANUAL & PNEUMATIC	*3*
BUTTERFLY VALVES	*4, 5*
PNEUMATICALLY ACTUATED BUTTERFLY VALVES	*6*
BAKEABLE ALL-METAL VALVES	*7*

Huntington Valves

Uniquely Designed for:

- *100% Conductance*
- *Fast Pump down*
- *Easy Maintenance*
- *Superior Seal Integrity*

Huntington angle valves feature tapered seats, full-stroke actuators, and Unibody construction with threaded actuator-to-body assembly. These unique design features provide important functional benefits including superior seal integrity, maximum conductance, and faster pump-down time.

Less Chance of a Virtual Leak

Huntington Angle Valves are machined of solid bar stainless steel specifically selected for ultra-high vacuum applications. The Unibody design requires fewer weld seams, thus eliminating chances for a virtual leak.

Outstanding Serviceability

Huntington's machine threaded actuator-to-body connection means there is no need to remove the valve body from the system when cleaning or replacing O-rings. For pneumatically operated valves our design completely isolates the spring and piston grease from the bellows and poppet when removing the actuator to change O-rings.

"Fail-Safe" Features

Our standard pneumatic valves up to 2 $^{1}/_{2}$" are configured as air-to-open / spring-to-close, automatically closing in the event of power or pressure failure.

Standard Operation

Pneumatic valves operate at 60 to 100 psi @ 115 to 120VAC (60hz.) as standard. Optional inputs can be configured upon request.

Standard / Optional Sealing Systems

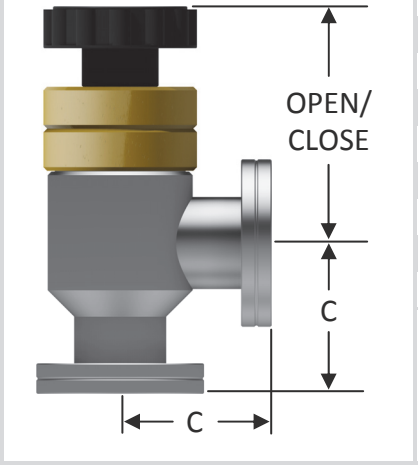
Standard sealing systems for Huntington valves include Viton® O-rings and OFE® copper gaskets, optionally other seals may be specified. Viton® is a widely used sealing material for vacuum applications due to it's demonstrated reliability at pressures ranging from atmosphere to 1 x 10^{-9} Torr. Viton® is a fluorocarbon elastomer with broad spectrum chemical compatibility and a working temperature range of –29 to 204°C. The combination of low cost and physical characteristics suitable for most applications makes Viton® one of the most common choices for vacuum valves.

Options and Special Designs

Huntington can modify most any standard valve listed to meet customer specifications, where possible. If optional or modifications to a standard valve will not meet your requirements, please talk to our engineers about designing a special valve to your specifications.

Dimensions: inches (mm)

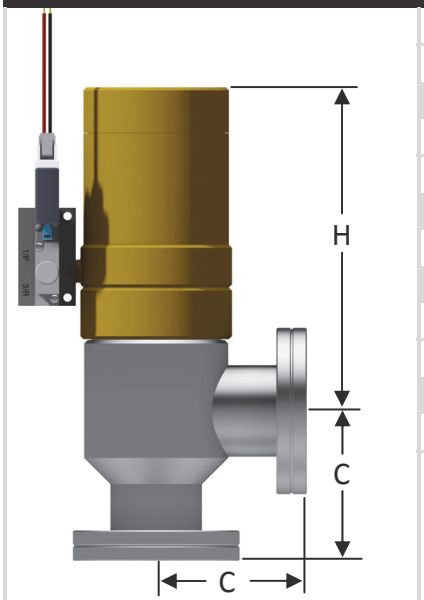
ANGLE / MANUALLY OPERATED



Material: 304 Stainless Steel w/Viton® O-ring	TUBE / FLANGE	TUBE ID	C	OPEN	CLOSED	WEIGHT (lbs.)	PART NUMBER	PRICE $
NO FLANGES								
	$^3/_4$"	0.62	2.00	3.73	2.67	1.0	**EV-073**	390
	1 $^1/_2$"	1.37	2.25	5.50	3.77	3.0	**EV-153**	535
VAC-U-FLANGE® Flanges (rotatable)								
	1 $^1/_3$"	0.62	2.50	3.73	2.67	1.0	**EV-075**	445
	2 $^3/_4$"	1.37	2.46	5.50	3.77	4.0	**EV-150**	595
SPEED SYSTEM (KF) Flanges								
	KF 16	0.62	2.50	3.73	2.67	1.0	**EV-075-SF**	435
	KF 40	1.37	2.46	5.50	3.77	3.5	**EV-150-SF**	575

Other sizes available upon request, please call for quote.

ANGLE / PNEUMATICALLY OPERATED



Material: 304 Stainless Steel w/Viton® O-ring	TUBE / FLANGE	TUBE ID	C	H	WEIGHT (lbs.)	PART NUMBER	PRICE $
NO FLANGES							
	$^1/_2$"	0.43	2.00	2.80	1.0	**PV-053**	525
	$^3/_4$"	0.62	2.00	4.62	1.0	**PV-073**	525
	1 $^1/_2$"	1.37	2.25	5.32	3.0	**PV-153**	690
VAC-U-FLANGE® Flanges (rotatable)							
	1 $^1/_3$"	0.43	2.05	2.80	2.0	**PV-050**	525
	1 $^1/_3$"	0.62	2.50	4.62	2.0	**PV-075**	580
	2 $^3/_4$"	1.37	2.46	5.32	5.5	**PV-150**	750
SPEED SYSTEM (KF) Flanges							
	KF 16	0.43	2.50	2.80	1.0	**PV-050-SF**	525
	KF 16	0.62	2.50	4.62	1.0	**PV-075-SF**	570
	KF 40	1.37	2.46	5.32	3.5	**PV-150-SF**	730

Other sizes available upon request, please call for quote.

Specifications

Sealing Material: Viton® O-ring

Bakeout Temperature: 200°C, maximum (solenoid removed)

Operating Temperature: -29° to 200°C w/Solenoid: -29 to 40°C

Pressure Vacuum Range: Atmosphere to 1 x 10^{-9} Torr

Material Exposed to Vacuum: Stainless Steel, Viton®

Power Requirements (Pneumatic): 110VAC Std., Optional: 220VAC, 12VDC & 24VDC Solenoids

Actuator: Air-to Open, Spring-to-Close

Working Air Pressure: 60 to 120psi (4.1 to 8.3 bar)

Patented Butterfly Design Provides Uniquely Superior Seal

At last there is a truly viable and economical alternative to the gate valve for many high vacuum applications. Unlike other manufacturer's butterfly valves that use only a throttle plate to limit the conductance through the opening of the valve, Huntington's patented butterfly design provides a vacuum tight O-ring seal. The new design allows the sealing plate to "float" within the valve orifice so that in closing it centers itself with even pressure around the O-ring seal. This design also reduces scuffing or rolling of the O-ring.

This design has proven effective for isolating a turbo pump, for example. In this application a flexible coupling may be fitted between the valve and the pump to provide vibration isolation and assure that the valve flapper remains clear of the pump blades in the fully open position.

The patented design of these valves provides important functional benefits for the vacuum scientist as well as benefits in economy and serviceability to the OEM. Available in both manual and pneumatically operated versions, this valve warrants serious consideration for many high vacuum applications.

In short, you can count on Huntington's patented butterfly valves to provide effective isolation, high conductance and long-term reliability at substantial cost savings. Unique features include:

- Seal integrity to 1 x 10^{-9} Torr
- Excellent vacuum isolation
- Substantial cost savings over gate valves

Dimensions: inches (mm)

BUTTERFLY / MANUAL / VAC-U-FLANGE®

VALVE SIZE	FLANGE SIZE	FIG.	A	B	C	D	WEIGHT (lbs.)	PART NUMBER	PRICE $
3/4"	1 1/3"	1	0.75	-	2.01	0.75	1.0	**BF-075**	330
1 1/2"	2 3/4"	1	0.75	1.34	3.71	1.25	2.0	**BF-150**	420
		1	1.35	-	3.71	1.25	2.5	**BF-150-1**	450
2"	3 3/8"	1	1.00	1.90	4.90	1.75	4.0	**BF-200**	485
2 1/2"	4 1/2"	2	0.68	2.31	6.84	4.90	6.0	**BF-250**	880
4"	6"	2	0.98	3.83	8.01	4.90	8.0	**BF-400**	1440

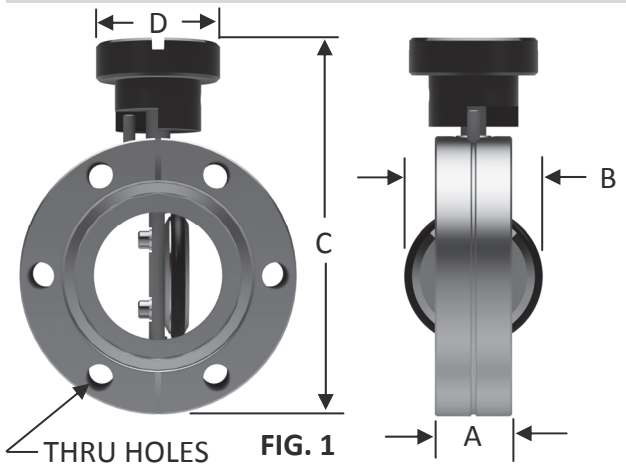


FIG. 1

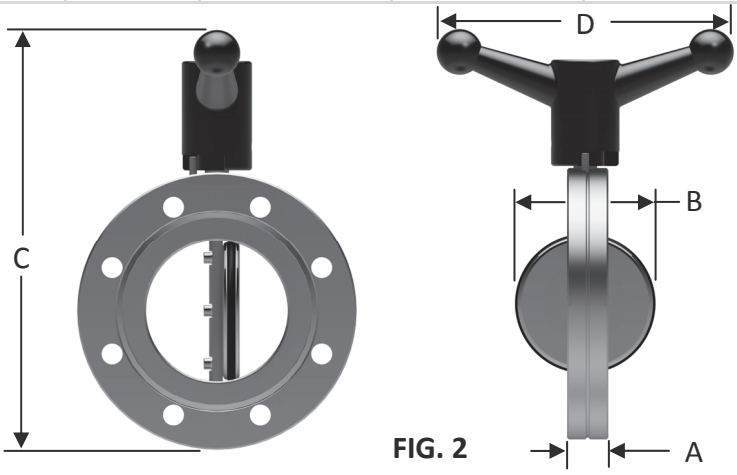


FIG. 2

Dimensions: inches (mm)

BUTTERFLY / MANUAL / KF SPEED FLANGE

VALVE SIZE	FLANGE SIZE	FIG.	A	B	C	D	WEIGHT (lbs.)	PART NUMBER	PRICE $
3/4"	KF 16	3	1.75	0.75	2.01	0.75	1.0	BF-075-SF	305
1"	KF 25	3	2.00	1.00	2.75	1.00	1.5	BF-100-SF	330
1 1/2"	KF 40	3	2.25	1.37	3.71	1.25	2.0	BF-150-SF	395
2"	KF 50	3	2.25	1.00	4.90	1.75	4.0	BF-200-SF	445



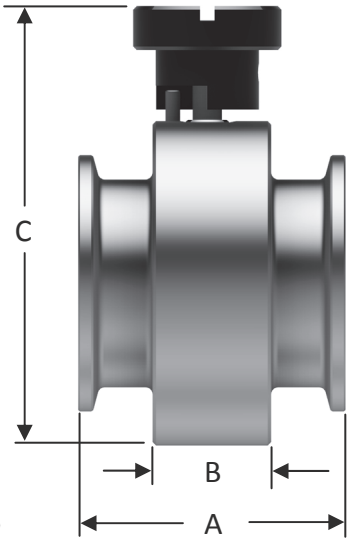
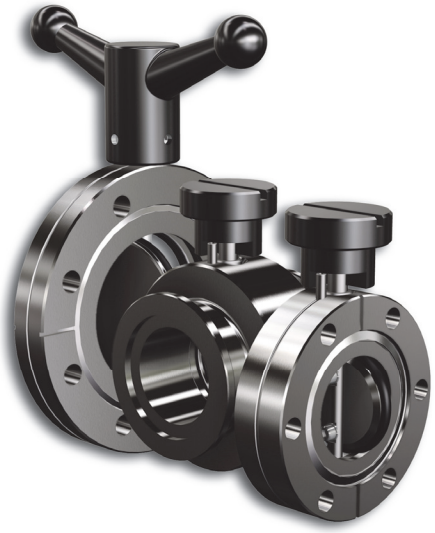


FIG. 3



Specifications

Sealing Material: Viton® O-ring
Bakeout Temperature: 200°C, maximum

Operating Temperature: -29° to 100°C
Pressure Vacuum Range: Atmosphere to 1 x 10^{-9} Torr
Material Exposed to Vacuum: Stainless Steel & Viton®

BUTTERFLY VALVE GASKET KITS

VALVE SIZE	VALVE MODELS	WEIGHT (lbs.)	PART NUMBER	PRICE $
3/4"	*Fits **BF-075, BF-075-SF, PBF-075** Models*	0.5	BF-075-G	15
1"	*Fits **BF-100, BF-100-SF , PBF-100** Models*	0.5	BF-100-G	15
1 1/2"	*Fits **BF-150, BF-150-SF , BF-150-1, PBF-150** Models*	0.5	BF-150-G	15
2"	*Fits **BF-200, BF-200-SF , PBF-200** Models*	0.5	BF-200-G	20
2 1/2"	*Fits **BF-250, BF-250-SF , PBF-250** Models*	0.5	BF-250-G	25
4"	*Fits **BF-400, BF-400-SF , PBF-400** Models*	0.5	BF-400-G	30

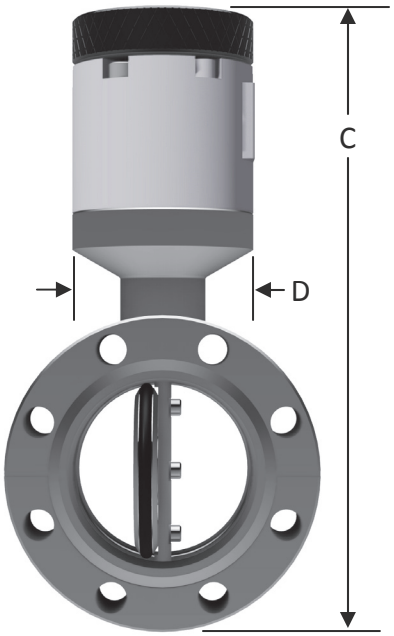
BUTTERFLY / PNEUMATIC / VAC-U-FLANGE®

Dimensions: inches (mm)

VALVE SIZE	FLANGE SIZE	A	B	C	D	WEIGHT (lbs.)	PART NUMBER	PRICE $
3/4"	1 1/3"	1.00	0.64	3.82	1.65	1.8	PBF-075	840
1 1/2"	2 3/4"	1.00	1.34	5.93	1.97	2.6	PBF-150	930
2"	3 3/8"	1.00	1.90	6.58	1.97	4.4	PBF-200	1050
2 1/2"	4 1/2"	1.00	2.31	7.68	1.97	6.6	PBF-250	1250
4"	6"	0.98	3.81	10.91	2.48	8.0	PBF-400	1600

Specifications

Sealing Material: Viton® O-ring
Bakeout Temperature: 200°C, maximum (with Actuator removed)
Operating Temperature: -29° to 60°C
Pressure Vacuum Range: Atmosphere to 1 x 10^{-9} Torr
Material Exposed to Vacuum: Stainless Steel, Viton®
Pneumatic Actuator: Port Size: #10-32
Activation: Rotary Vane
Working Air Pressure: 60 to 120psi (4.1 to 8.3 bar) maximum
Please see solenoid/switch options below.





Also available in Speed Flange (KF) models. Please call for quote.

Huntington's pneumatically actuated butterfly valves feature all the design and quality construction advantages of our patented manual valves with the ability to automate processes per your application requirements. A sturdy, compact actuator has been integrated to the valve while still offering manual operation via a built-in knob. Options include solenoids, indication & limiting switches, speed control valves and more. Call **Technical Sales** today to spec out your system.

SOLENOID OPTIONS

OPTION	CODE	ADD TO PRICE
SOLENOID, 110 VAC	1A	$100
SOLENOID, 240 VAC	2A	
SOLENOID, 12 VDC	1D	
SOLENOID, 24 VDC	2D	

POSITION SWITCH OPTIONS

OPTION	CODE	ADD TO PRICE
REED SWITCH	SR	$210

Bakeable All-Metal Valves

Huntington's EV-HT Series Provides a High Integrity Copper Seal Even After Bakeout

A reliable seal is guaranteed with Huntington's cutting edge design for all metal bakeable valves. EV-HT series valves combine a high purity copper gasket and proprietary knife edge profile to provide a more versatile and longer lasting seal. EV-HT copper gaskets can be easily replaced with nothing more than simple hand tools once the valve is removed from service. The robust all-metal construction includes stainless steel bellows, thick wall body and TIG welded connections for a long service life. The 5/8" hex nut attached to our anti-seize lead screw easily applies the sealing force needed with the help of a torque wrench.

Entire Unit Bakeable

The seal integrity of Huntington's patented all metal valves is not affected by bakeout temperatures up to 450°C. When baked, the valves must be under vacuum to prevent oxide buildup on seal surfaces. EV-HT series valves have ample cycle life but are dependent on actual process parameters. Please contact customer service for more information.

Dimensions: inches (mm)

BAKEABLE / ANGLE / VAC-U-FLANGE®

FLANGE SIZE	TUBE SIZE	A	O (OPEN)	C (CLOSED)	WEIGHT (lbs.)	PART NUMBER	PRICE $
1 1/3"	.75	1.50	4.14	3.76	3.2	**EV-075-HT**	845
2 3/4"	1.50	2.46	4.88	4.13	4.0	**EV-150-HT**	845

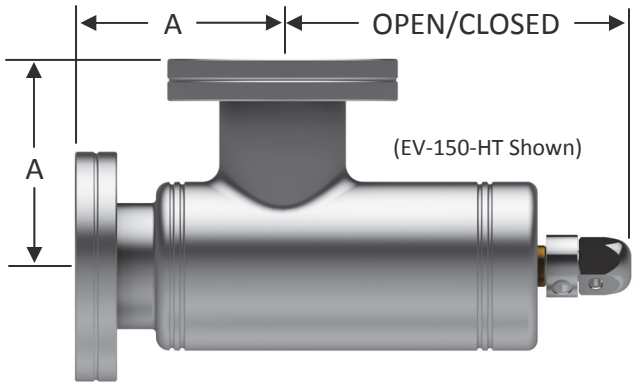


GASKET KITS

VALVE MODEL	WEIGHT (lbs.)	PART NUMBER	PRICE $
EV-075-HT	0.5	**EV-075-HT-G**	100
EV-150-HT	0.5	**EV-150-HT-G**	100

Specifications

Sealing Material: OFE® Copper
Bakeout Temperature: 450°C
Torque to Seal: Procedure Detailed in Provided Instructions
Pressure Vacuum Range: Atmosphere to 1 x 10^{-11} Torr
Material Exposed to Vacuum: Stainless Steel, OFE® Copper



NOTES



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