81000

Aluminum Gate Valves

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Introduction

Model Number 81110-0403
4” ID (DN100) Manual ISO-F

Product Features

- Body is precision machined from aluminum 6061-T6 billet
- 250,000 to 400,000 cycles
- Sizes from 1.5” ID (DN40) to 12” ID (DN300)
- Manual and pneumatic actuation
- Unique dual quad ring long life shaft seals
- Standard KF, ISO, CF, ANSI, JIS or custom flange options
- Easily customizable to work with almost any application
- Designed, manufactured and assembled in the USA

Description

The 81000 Series Aluminum Gate Valves feature dual quad ring shaft seals for long life and improved leak integrity. High performance PEEK® is used on high cycle internal components to reduce friction and lower particle levels. The body and all major internal components are precision machined out of solid 6061-T6 aluminum billet. This eliminates pinhole and virtual leaks that are common in cast or welded aluminum bodies. The valve is also direct drive and uses a large diameter driveshaft for reduced vibration. For maintenance purposes, the body is split above the flange for minimal clearance when removing the internal parts for servicing, while the lower portion can remain on the system.

Applications

KF Flanges, ISO Bolted and Clamped Flanges, ANSI and optional JIS Models are designed for high vacuum applications specifically when pressure ranges approximate $1x10^{-7}$ mbar and bakeout temperatures do not exceed 150°C. They can be customized to work with almost any application.

Standard Specifications

Materials

Valve body and mechanism	6061-T6 aluminum
Shaft	[DN40 - 80] 6061-T6 / [DN100-300] 304 SS
Carriage	6061-T6 aluminum / PEEK ®
Bonnet / gate / shaft seals	Viton®

Vacuum

Pressure range	
HV (clear anodize)	1 x 10^{-7} mbar
Leak rate: gate	< 2 x 10^{-9} mbar l/s
Differential pressure	1.2 bar in either direction
Maximum Δ pressure before opening	≤ 30 mbar

Temperature

without solenoid

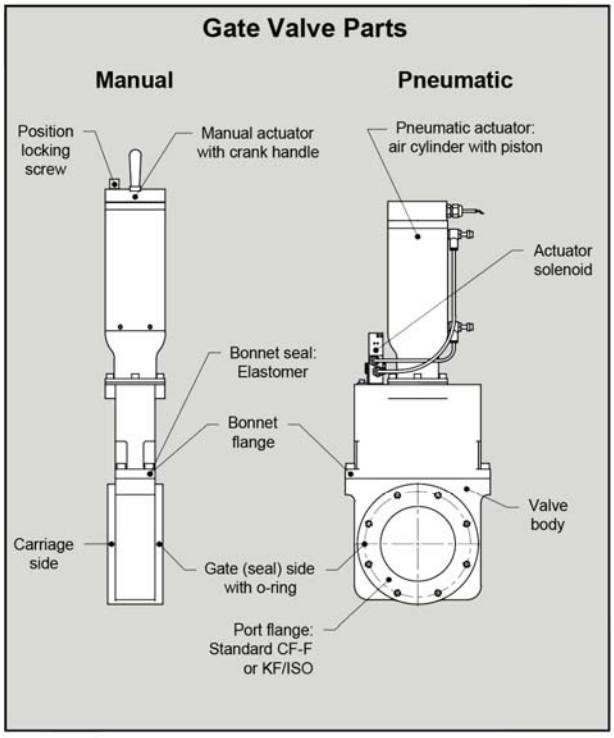
Valve body and gate	150°C
Actuator	60°C

Mechanism

Air service	80 psig (5.5 bar)
Solenoid	4.0 Watts
supplied voltage	120 VAC 50/60 Hz
optional voltage	24, 200, 240 VAC 50/60 Hz or 12, 24 VDC
Position indicator, max.	115 VAC or 28 VDC, 20 mA

Cycles Until Service

Sizes 1.5" to 6" [DN40 to 150]	400,000
Sizes 8" to 12" [DN200 to 300]	250,000
(Application dependent)	



Notes

- Dimensions given in U.S. System and [metric]
- Conductance ratings based on air, given in liters per second
- Due to ongoing product development, prices, dimensions and specifications are subject to change without notice

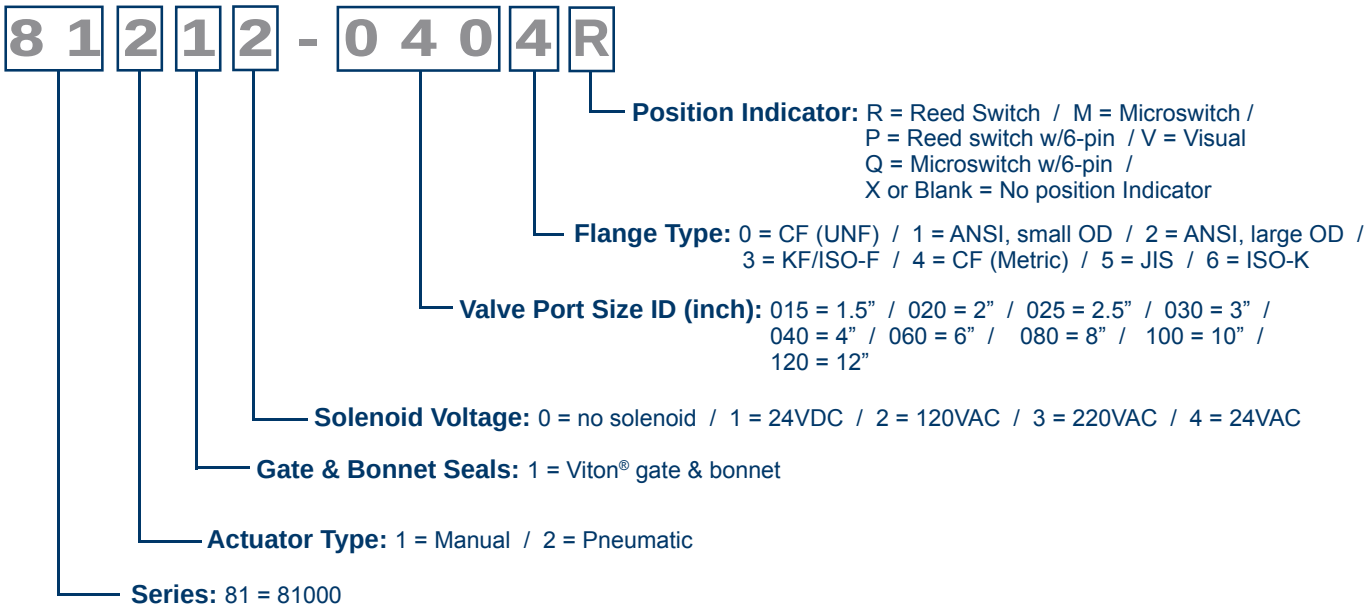
Options

All 81000 Series Valves may be equipped with alternative flanges, solenoids and seals. Contact HVA to discuss your requirements.

- Alternate voltage controls
- JIS configurations
- Custom flanges
- Microswitches and visual position indicators available on manual version.
- Hard anodizing and non-treated Aluminum
- Special solenoid or position indicator connectors

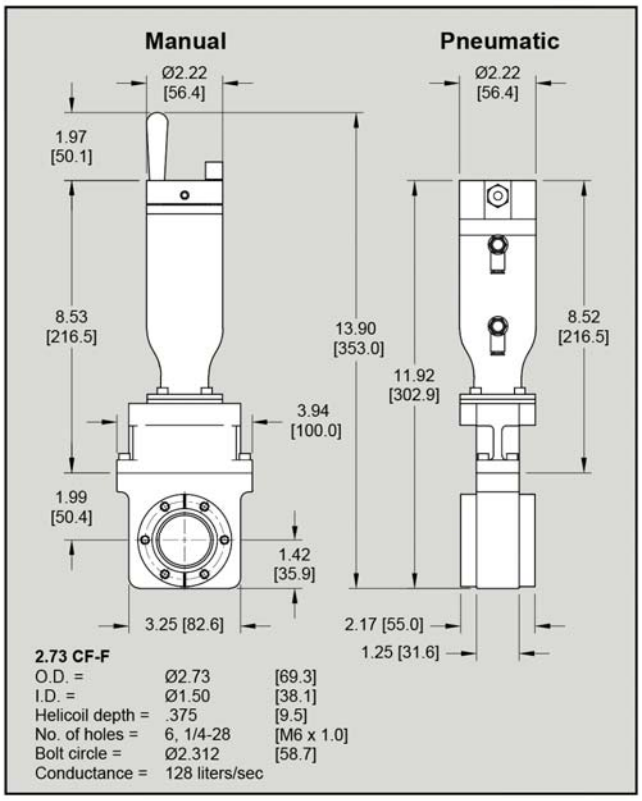
Model Key Guide

Example: 81212-0404R = 81000 Series gate valve, pneumatic actuator, Viton gate & bonnet seals, 120VAC solenoid, 4" ID CF (6" OD) flanges with Metric thread, reed switch position indicator



Note

• A suffix of -001 to -999 at the end of or a '9' or 'S' within a Model Number indicates a valve with custom configuration.



CF-F 2.73 Flanges			40-mm 1.5-inch
Bonnet-Gate	**Flange Type**	**Ship Wt. lbs [Kg]**	**Model Number ***
Manual			
Viton-Viton (HV)	U.S. Bolt	10 [5]	81110-0150
Pneumatic			
Viton-Viton (HV)	U.S. Bolt	9 [4]	81212-0150R

* For metric flanges, replace last 0 in model number with 4

Specifications

HV Pressure Range: 1×10^{-7} mbar
Helium Leak Rate: Materials: $< 2 \times 10^{-9}$ mbar l/s
Maximum Δ Pressure Before Opening: ≤ 30 mbar
Materials:
Body = 6061-T6 Aluminum
Gate = 6061-T6 Aluminum / Peek®
Shaft Seal = Viton®
Actuator = 6061-T6 Aluminum
Operating Temperature:
Body, Gate Open (Viton®) = 150°C
Body, Gate Closed (Viton®) = 150°C
Actuator w/out solenoid (Viton®) = 60°C
Position Indicator (Viton®) = 150°C

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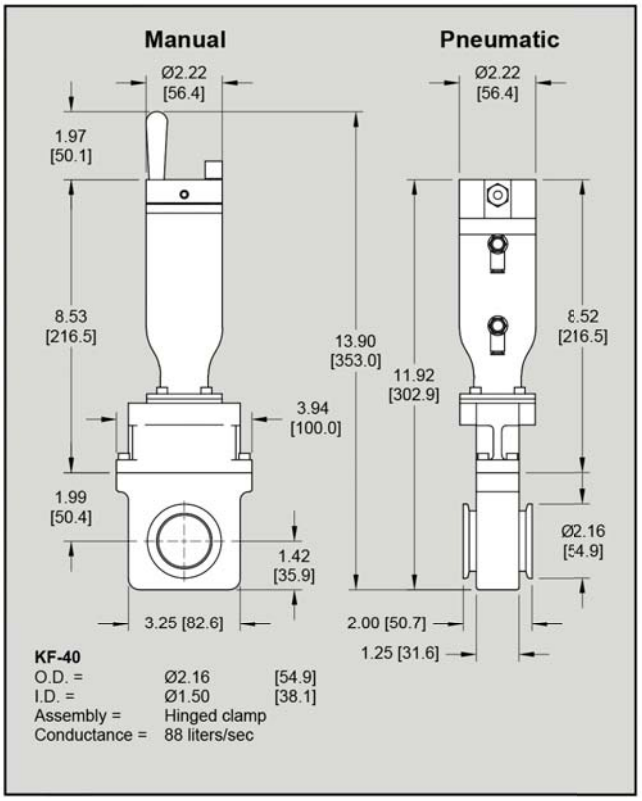
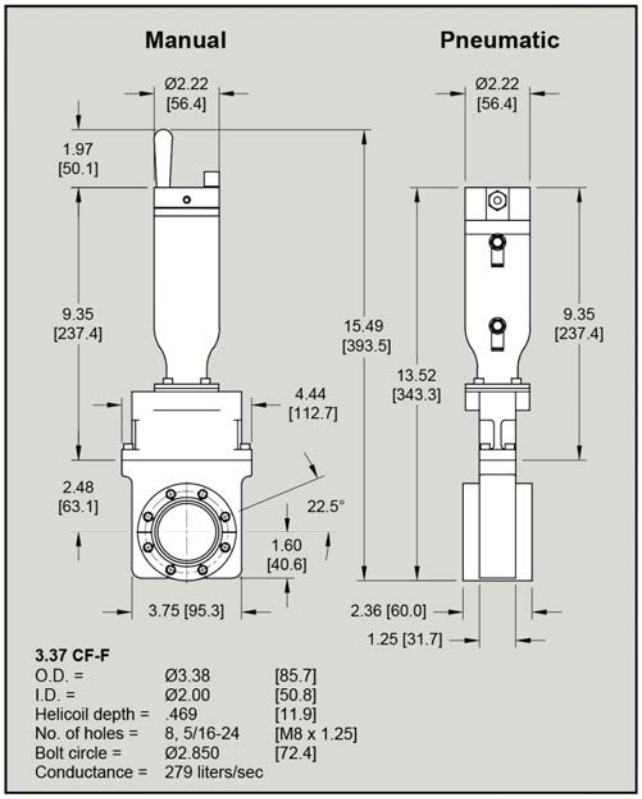


KF-40 Flanges			40-mm 1.5-inch
Bonnet-Gate	**Flange Type**	**Ship Wt. lbs [Kg]**	**Model Number**
Manual			
Viton-Viton (HV)	Hinged clamp	10 [5]	81110-0153
Pneumatic			
Viton-Viton (HV)	Hinged clamp	9 [4]	81212-0153R

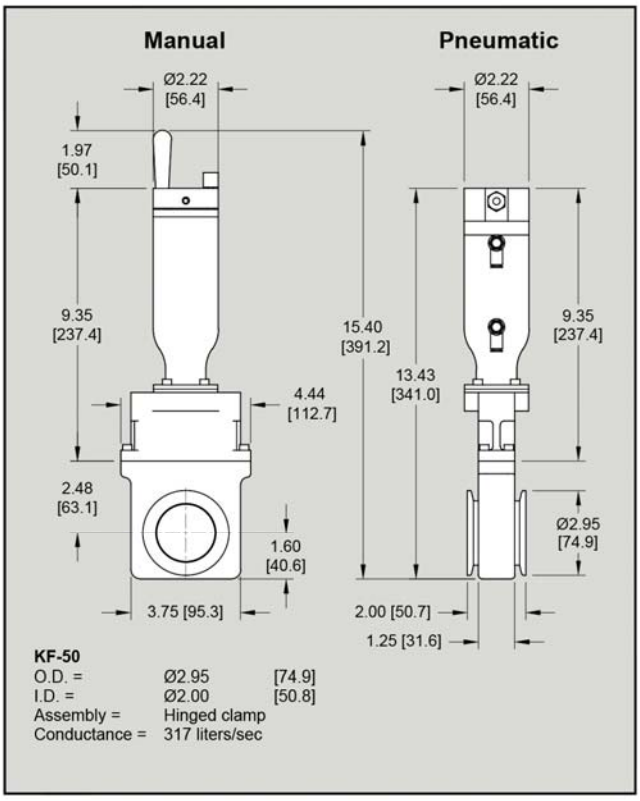


CF-F 3.37 Flanges			80-mm 2.0-inch
Bonnet-Gate	**Flange Type**	**Ship Wt. lbs [Kg]**	**Model Number ***
Manual			
Viton-Viton (HV)	U.S. Bolt	11 [5]	81110-0200
Pneumatic			
Viton-Viton (HV)	U.S. Bolt	10 [5]	81212-0200R

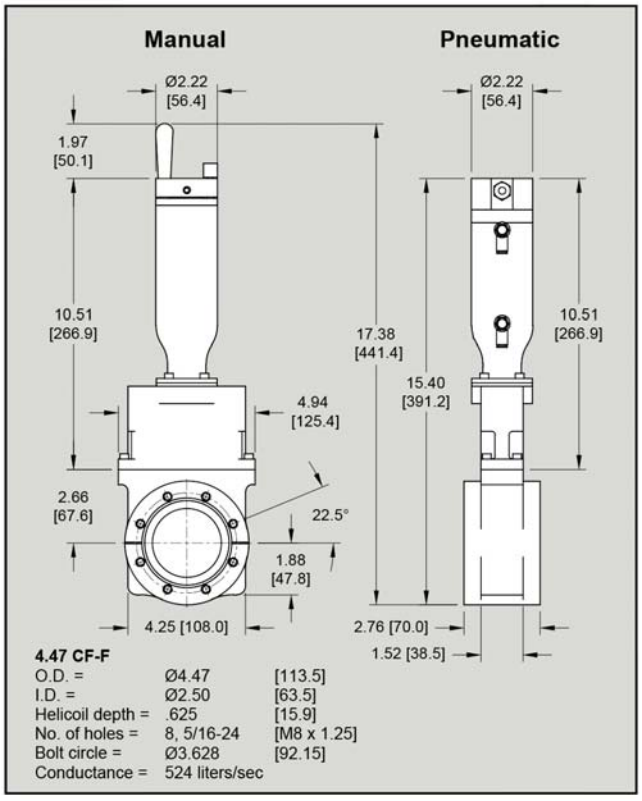
* For metric flanges, replace last 0 in model number with 4

Specifications

HV Pressure Range: 1×10^{-7} mbar
Helium Leak Rate: Materials: $< 2 \times 10^{-9}$ mbar l/s
Maximum Δ Pressure Before Opening: ≤ 30 mbar
Materials:
Body = 6061-T6 Aluminum
Gate = 6061-T6 Aluminum / Peek®
Shaft Seal = Viton®
Actuator = 6061-T6 Aluminum
Operating Temperature:
Body, Gate Open (Viton®) = 150°C
Body, Gate Closed (Viton®) = 150°C
Actuator w/out solenoid (Viton®) = 60°C
Position Indicator (Viton®) = 150°C



KF-50 Flanges			50-mm 2.0-inch
Bonnet-Gate	**Flange Type**	**Ship Wt. lbs [Kg]**	**Model Number**
Manual			
Viton-Viton (HV)	Hinged clamp	11 [5]	81110-0203
Pneumatic			
Viton-Viton (HV)	Hinged clamp	10 [5]	81212-0203R

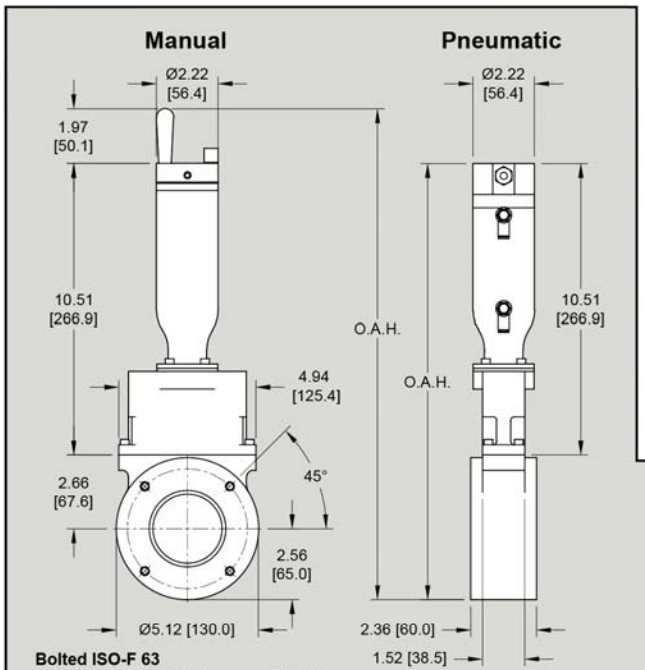


CF-F 4.47 Flanges			63-mm 2.5-inch
Bonnet-Gate	**Flange Type**	**Ship Wt. lbs [Kg]**	**Model Number ***
Manual			
Viton-Viton (HV)	U.S. Bolt	13 [6]	81110-0250
Pneumatic			
Viton-Viton (HV)	U.S. Bolt	12 [5]	81212-0250R

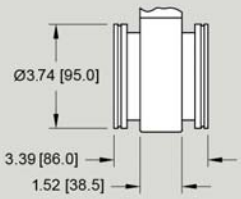
* For metric flanges, replace last 0 in model number with 4

Specifications

HV Pressure Range: 1 x 10^{-7} mbar
Helium Leak Rate: Materials: < 2 x 10^{-9} mbar l/s
Maximum Δ Pressure Before Opening: ≤ 30 mbar
Materials:
Body = 6061-T6 Aluminum
Gate = 6061-T6 Aluminum / Peek®
Shaft Seal = Viton®
Actuator = 6061-T6 Aluminum
Operating Temperature:
Body, Gate Open (Viton®) = 150°C
Body, Gate Closed (Viton®) = 150°C
Actuator w/out solenoid (Viton®) = 60°C
Position Indicator (Viton®) = 150°C



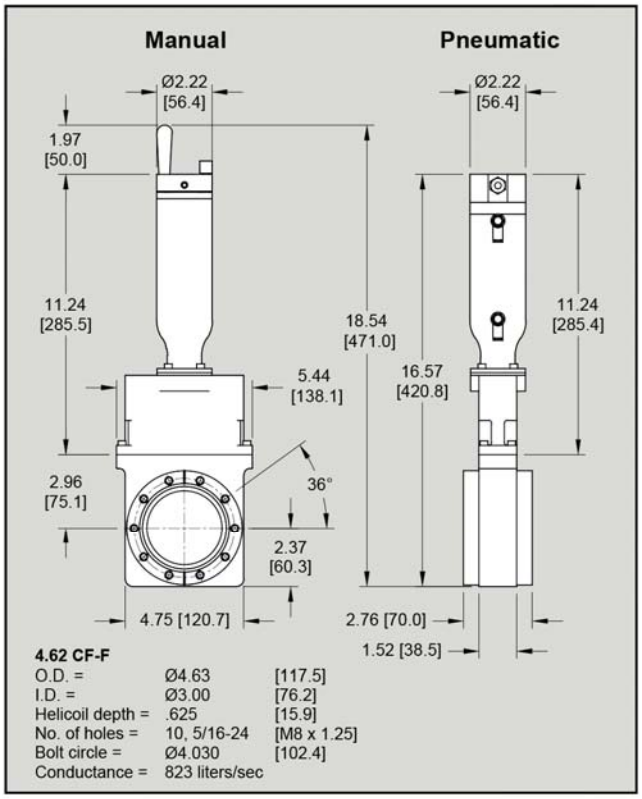
ISO-63 Flanges			63-mm 2.5-inch
Bonnet-Gate	**Flange Type**	**Ship Wt. lbs [Kg]**	**Model Number**
Manual			
Viton-Viton (HV)	Metric Bolt	14 [6]	81110-0253
Viton-Viton (HV)	Clamp	13 [6]	81110-0256
Pneumatic			
Viton-Viton (HV)	Metric Bolt	13 [6]	81212-0253R
Viton-Viton (HV)	Clamp	12 [5]	81212-0256R



Overall Height, OAH

Style	Bolt	Clamp
Man.	17.70 [449.6]	17.14 [435.4]
Pneu.	15.73 [399.4]	15.17 [385.2]

Clamped ISO-K 63
O.D. = Ø3.74 [95.0]
I.D. = Ø2.50 [63.5]
Thickness = .472 [12.0]
No. of clamps = 3-4
Conductance = 363 liters/sec



4.62 CF-F

O.D. =	Ø4.63	[117.5]
I.D. =	Ø3.00	[76.2]
Helicoil depth =	.625	[15.9]
No. of holes =	10, 5/16-24	[M8 x 1.25]
Bolt circle =	Ø4.030	[102.4]
Conductance =	823 liters/sec	

CF-F 4.62 Flanges			75-mm 3.0-inch
Bonnet-Gate	**Flange Type**	**Ship Wt. lbs [Kg]**	**Model Number ***
Manual			
Viton-Viton (HV)	U.S. Bolt	14 [6]	81110-0300
Pneumatic			
Viton-Viton (HV)	U.S. Bolt	13 [6]	81212-0300R

* For metric flanges, replace last 0 in model number with 4

For pneumatic valves,
R = Reed switch, standard
M = Microswitch, optional

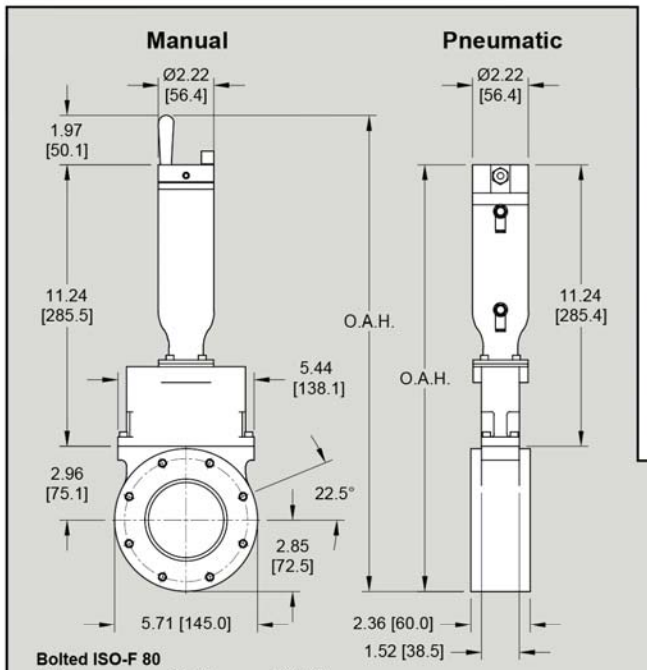
Specifications

HV Pressure Range: 1×10^{-7} mbar
Helium Leak Rate: Materials: $< 2 \times 10^{-9}$ mbar l/s
Maximum Δ Pressure Before Opening: ≤ 30 mbar
Materials:

Body =	6061-T6 Aluminum
Gate =	6061-T6 Aluminum / Peek®
Shaft Seal =	Viton®
Actuator =	6061-T6 Aluminum

Operating Temperature:

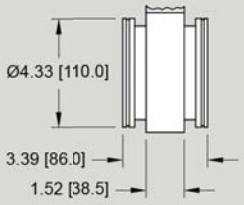
Body, Gate Open (Viton®) =	150°C
Body, Gate Closed (Viton®) =	150°C
Actuator w/out solenoid (Viton®) =	60°C
Position Indicator (Viton®) =	150°C



Bolted ISO-F 80

O.D. =	Ø5.71	[145.0]
I.D. =	Ø3.00	[76.2]
Thickness =	.315	[8.0]
No. of holes =	8, M8 x 1.25	
Bolt circle =	Ø4.920	[125.0]
Conductance =	1,071 liters/sec	

ISO-80 Flanges			75-mm 3.0-inch
Bonnet-Gate	**Flange Type**	**Ship Wt. lbs [Kg]**	**Model Number**
Manual			
Viton-Viton (HV)	Metric Bolt	15 [7]	81110-0303
Viton-Viton (HV)	Clamp	14 [6]	81110-0306
Pneumatic			
Viton-Viton (HV)	Metric Bolt	14 [6]	81212-0303R
Viton-Viton (HV)	Clamp	13 [6]	81212-0306R

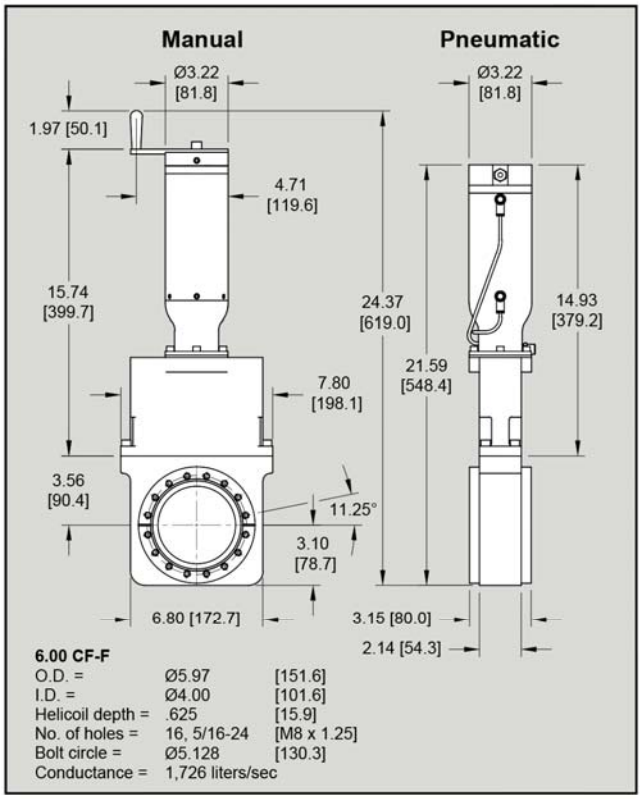


Overall Height, OAH

Style	Bolt	Clamp
Man.	19.02 [483.2]	18.54 [471.0]
Pneu.	17.05 [433.0]	16.57 [420.8]

Clamped ISO-K 80

O.D. =	Ø4.33	[110.0]
I.D. =	Ø3.00	[76.2]
Thickness =	.472	[12.0]
No. of clamps =	4-8	
Conductance =	546 liters/sec	



6.00 CF-F

O.D. =	Ø5.97	[151.6]
I.D. =	Ø4.00	[101.6]
Helicoil depth =	.625	[15.9]
No. of holes =	16, 5/16-24	[M8 x 1.25]
Bolt circle =	Ø5.128	[130.3]
Conductance =	1,726 liters/sec	

CF-F 6.00 Flanges			100-mm 4.0-inch
Bonnet-Gate	**Flange Type**	**Ship Wt. lbs [Kg]**	**Model Number ***
Manual			
Viton-Viton (HV)	U.S. Bolt	28 [13]	81110-0400
Pneumatic			
Viton-Viton (HV)	U.S. Bolt	26 [12]	81212-0400R

* For metric flanges, replace last 0 in model number with 4

Specifications

HV Pressure Range: 1 x 10^{-7} mbar
Helium Leak Rate: Materials: < 2 x 10^{-9} mbar l/s
Maximum Δ Pressure Before Opening: ≤ 30 mbar
Materials:
Body = 6061-T6 Aluminum
Gate = 6061-T6 Aluminum / Peek®
Shaft Seal = Viton®
Actuator = 6061-T6 Aluminum
Operating Temperature:
Body, Gate Open (Viton®) = 150°C
Body, Gate Closed (Viton®) = 150°C
Actuator w/out solenoid (Viton®) = 60°C
Position Indicator (Viton®) = 150°C

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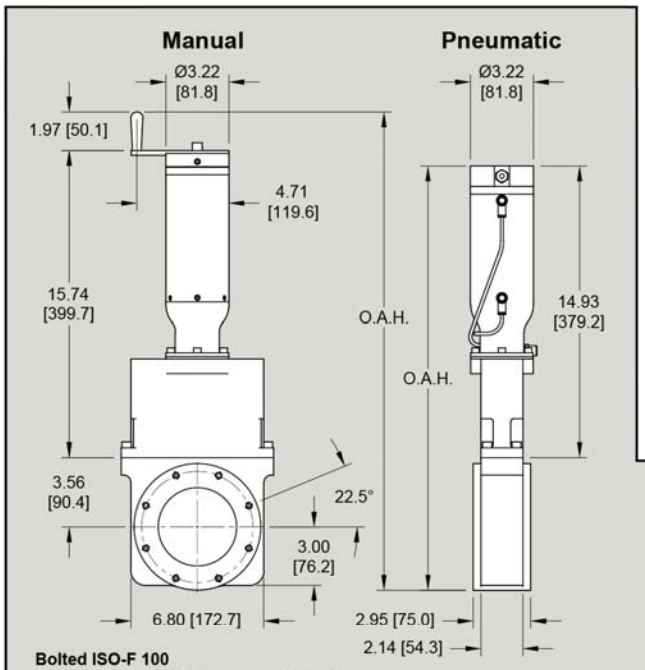
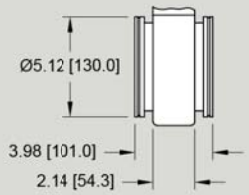


Bolted ISO-F 100

O.D. =	Ø6.50	[165.1]
I.D. =	Ø4.00	[101.6]
Helicoil depth =	.472	[12.0]
No. of holes =	8, M8 x 1.25	
Bolt circle =	Ø5.709	[145.0]
Conductance =	2,122 liters/sec	

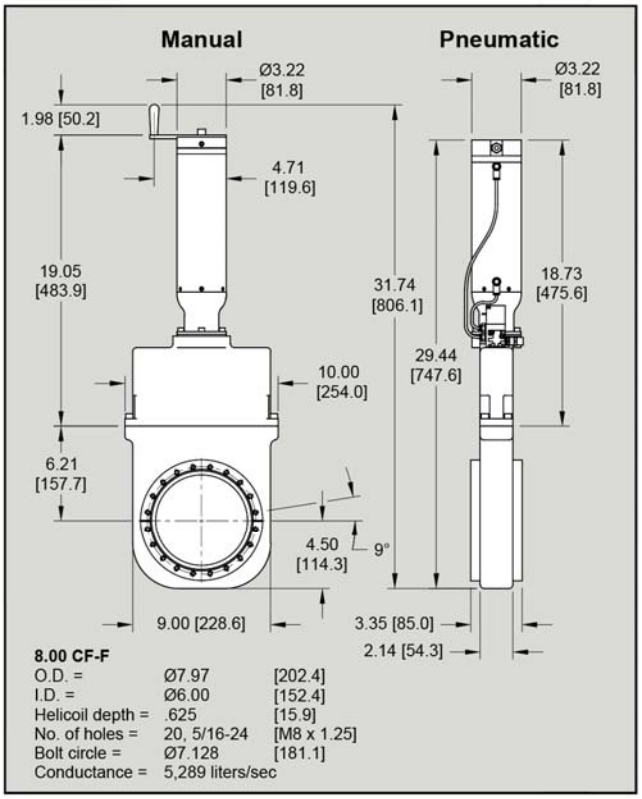
ISO-100 Flanges			100-mm 4.0-inch
Bonnet-Gate	**Flange Type**	**Ship Wt. lbs [Kg]**	**Model Number**
Manual			
Viton-Viton (HV)	Metric Bolt	29 [13]	81110-0403
Viton-Viton (HV)	Clamp	28 [13]	81110-0406
Pneumatic			
Viton-Viton (HV)	Metric Bolt	27 [12]	81212-0403R
Viton-Viton (HV)	Clamp	26 [12]	81212-0406R



Overall Height, OAH		
Style	Bolt	Clamp
Man.	24.52 [622.8]	24.27 [616.5]
Pneu.	21.74 [552.2]	21.49 [545.8]

Clamped ISO-K 100

O.D. =	Ø5.12	[130.0]
I.D. =	Ø4.00	[101.6]
Thickness =	.472	[12.0]
No. of clamps =	4-8	
Conductance =	1,199 liters/sec	

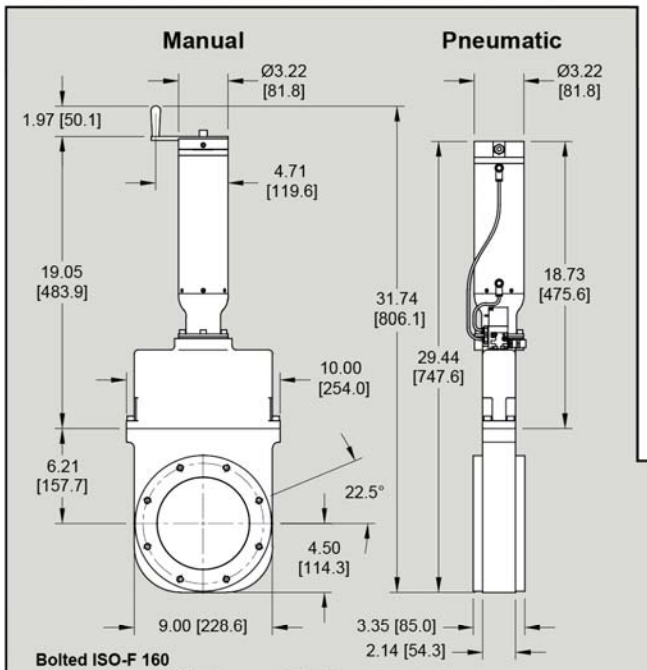


CF-F 8.00 Flanges			150-mm 6.0-inch
Bonnet-Gate	**Flange Type**	**Ship Wt. lbs [Kg]**	**Model Number ***
Manual			
Viton-Viton (HV)	U.S. Bolt	65 [29]	81110-0600
Pneumatic			
Viton-Viton (HV)	U.S. Bolt	64 [29]	81212-0600R

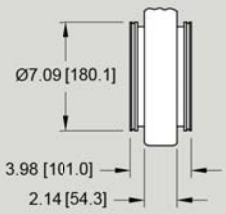
* For metric flanges, replace last 0 in model number with 4

Specifications

HV Pressure Range: 1 x 10^{-7} mbar
Helium Leak Rate: Materials: < 2 x 10^{-9} mbar l/s
Maximum Δ Pressure Before Opening: ≤ 30 mbar
Materials:
Body = 6061-T6 Aluminum
Gate = 6061-T6 Aluminum / Peek®
Shaft Seal = Viton®
Actuator = 6061-T6 Aluminum
Operating Temperature:
Body, Gate Open (Viton®) = 150°C
Body, Gate Closed (Viton®) = 150°C
Actuator w/out solenoid (Viton®) = 60°C
Position Indicator (Viton®) = 150°C

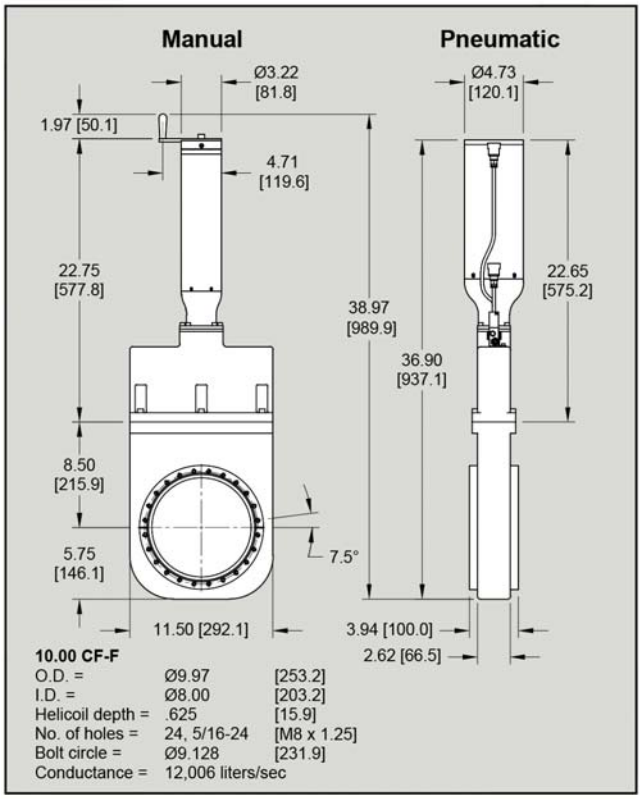


ISO-160 Flanges			150-mm 6.0-inch
Bonnet-Gate	**Flange Type**	**Ship Wt. lbs [Kg]**	**Model Number**
Manual			
Viton-Viton (HV)	Metric Bolt	66 [30]	81110-0603
Viton-Viton (HV)	Clamp	64 [29]	81110-0606
Pneumatic			
Viton-Viton (HV)	Metric Bolt	65 [29]	81212-0603R
Viton-Viton (HV)	Clamp	63 [29]	81212-0606R



Overall Height, OAH		
Style	Bolt	Clamp
Man.	36.87 [936.5]	36.77 [934.0]
Pneu.	34.37 [873.0]	34.27 [870.5]

Clamped ISO-K 160
O.D. = Ø7.09 [180.1]
I.D. = Ø6.00 [152.4]
Thickness = .472 [12.0]
No. of clamps = 4-8
Conductance = 3,967 liters/sec

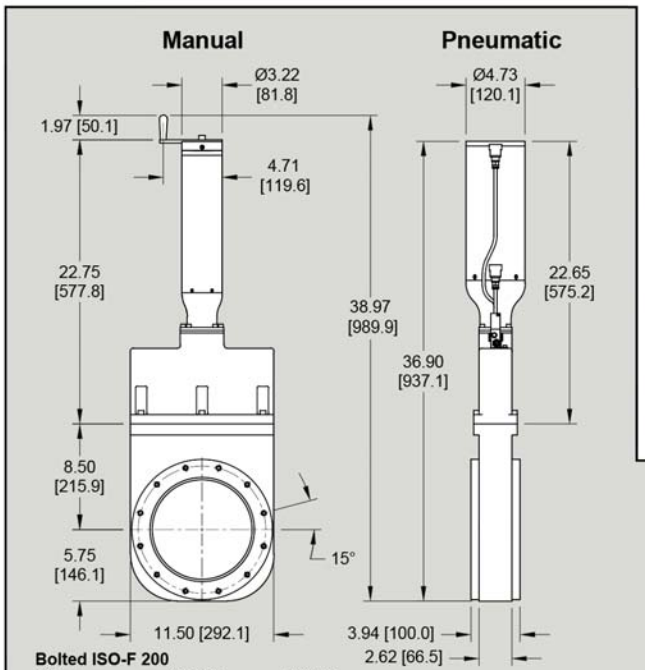


CF-F 10.00 Flanges			200-mm 8.0-inch
Bonnet-Gate	**Flange Type**	**Ship Wt. lbs [Kg]**	**Model Number ***
Manual			
Viton-Viton (HV)	U.S. Bolt	84 [38]	81110-0800
Pneumatic			
Viton-Viton (HV)	U.S. Bolt	91 [41]	81212-0800R

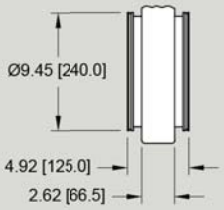
* For metric flanges, replace last 0 in model number with 4

Specifications

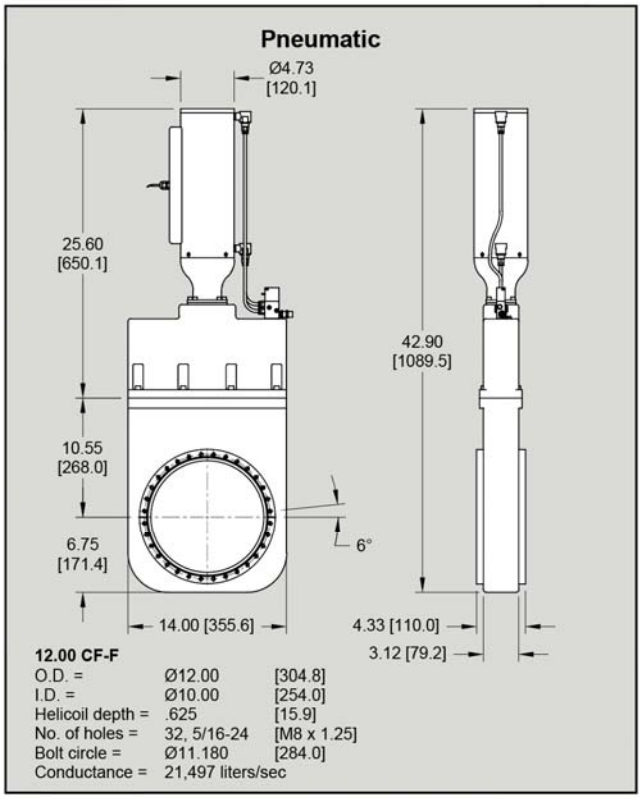
HV Pressure Range: 1 x 10^{-7} mbar
Helium Leak Rate: Materials: < 2 x 10^{-9} mbar l/s
Maximum Δ Pressure Before Opening: ≤ 30 mbar
Materials:
Body = 6061-T6 Aluminum
Gate = 6061-T6 Aluminum / Peek®
Shaft Seal = Viton®
Actuator = 6061-T6 Aluminum
Operating Temperature:
Body, Gate Open (Viton®) = 150°C
Body, Gate Closed (Viton®) = 150°C
Actuator w/out solenoid (Viton®) = 60°C
Position Indicator (Viton®) = 150°C



ISO-200 Flanges			200-mm 8.0-inch
Bonnet-Gate	**Flange Type**	**Ship Wt. lbs [Kg]**	**Model Number**
Manual			
Viton-Viton (HV)	Metric Bolt	87 [39]	81110-0803
Viton-Viton (HV)	Clamp	84 [38]	81110-0806
Pneumatic			
Viton-Viton (HV)	Metric Bolt	94 [43]	81212-0803R
Viton-Viton (HV)	Clamp	91 [41]	81212-0806R



Clamped ISO-K 200
O.D. = Ø9.45 [240.0]
I.D. = Ø8.00 [203.2]
Thickness = .472 [12.0]
No. of clamps = 6-12
Conductance = 9,449 liters/sec

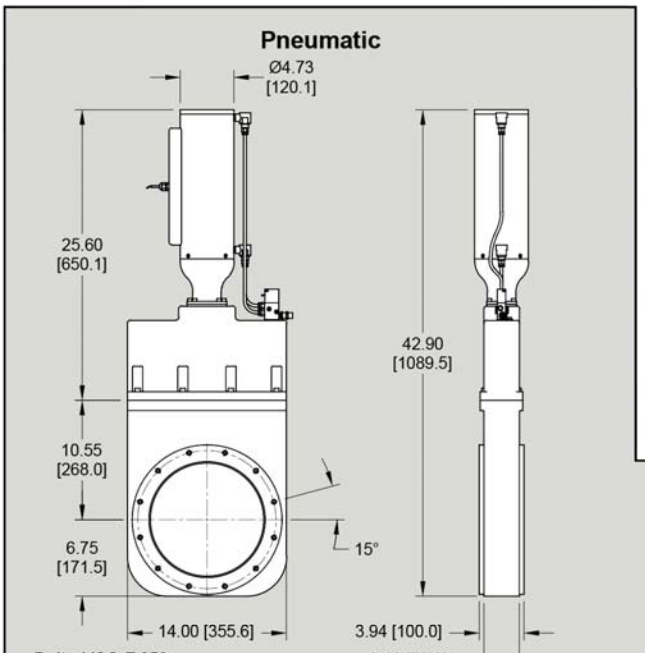


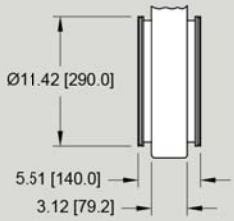
CF-F 12.00 Flanges			250-mm 10.0-inch
Bonnet-Gate	**Flange Type**	**Ship Wt. lbs [Kg]**	**Model Number ***
Pneumatic			
Viton-Viton (HV)	U.S. Bolt	137 [62]	81212-1000R

* For metric flanges, replace last 0 in model number with 4

Specifications

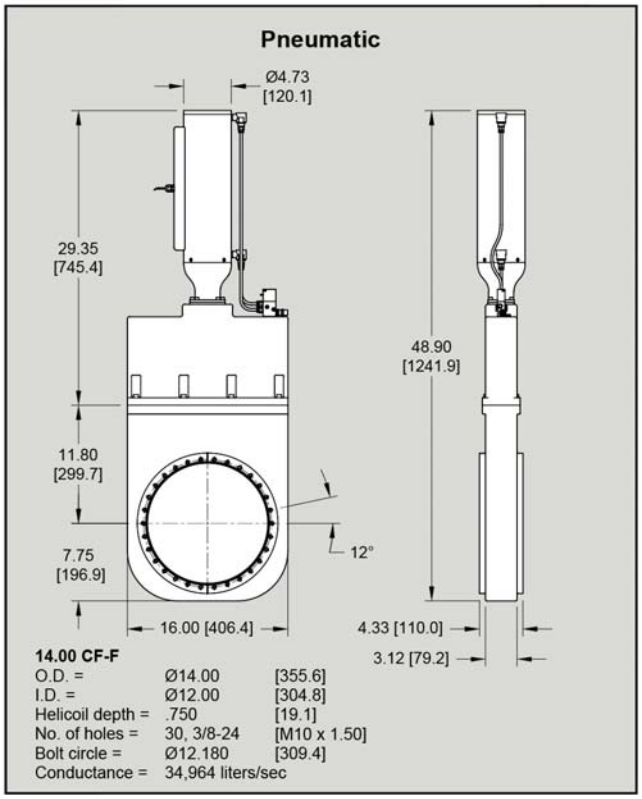
HV Pressure Range: 1 x 10^{-7} mbar
Helium Leak Rate: Materials: < 2 x 10^{-9} mbar l/s
Maximum Δ Pressure Before Opening: ≤ 30 mbar
Materials:
Body = 6061-T6 Aluminum
Gate = 6061-T6 Aluminum / Peek®
Shaft Seal = Viton®
Actuator = 6061-T6 Aluminum
Operating Temperature:
Body, Gate Open (Viton®) = 150°C
Body, Gate Closed (Viton®) = 150°C
Actuator w/out solenoid (Viton®) = 60°C
Position Indicator (Viton®) = 150°C





Clamped ISO-K 250
O.D. = Ø11.42 [290.0]
I.D. = Ø10.00 [254.0]
Thickness = .472 [12.0]
No. of clamps = 6-12
Conductance = 17,537 liters/sec

ISO-250 Flanges			250-mm 10.0-inch
Bonnet-Gate	**Flange Type**	**Ship Wt. lbs [Kg]**	**Model Number**
Pneumatic			
Viton-Viton (HV)	Metric Bolt	138 [63]	81212-1003R
Viton-Viton (HV)	Clamp	137 [62]	81212-1006R

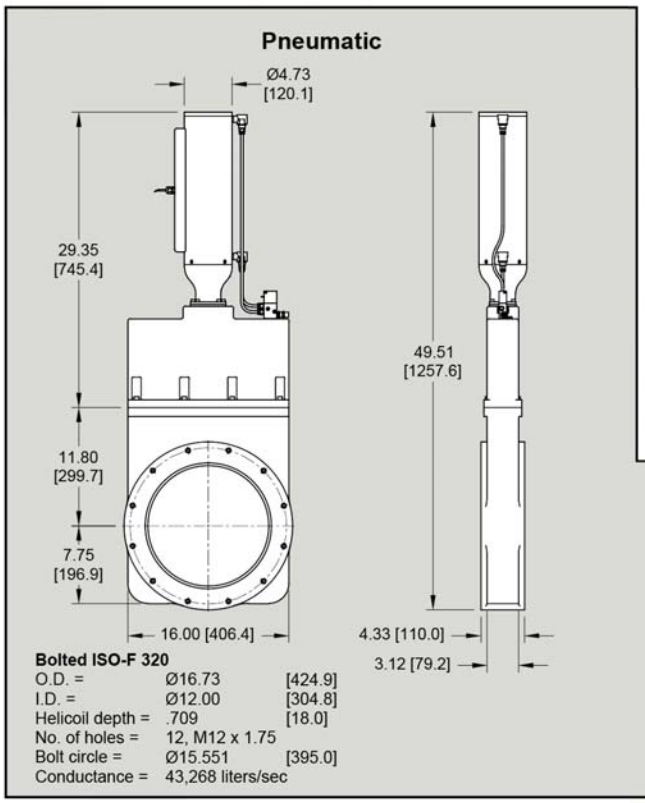


CF-F 14.00 Flanges			300-mm 12.0-inch
Bonnet-Gate	**Flange Type**	**Ship Wt. lbs [Kg]**	**Model Number ***
Pneumatic			
Viton-Viton (HV)	U.S. Bolt	157 [71]	81212-1200R

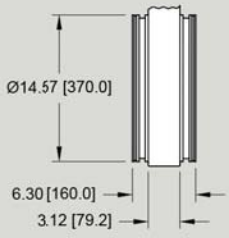
* For metric flanges, replace last 0 in model number with 4

Specifications

HV Pressure Range: 1 x 10^{-7} mbar
Helium Leak Rate: Materials: < 2 x 10^{-9} mbar l/s
Maximum Δ Pressure Before Opening: ≤ 30 mbar
Materials:
Body = 6061-T6 Aluminum
Gate = 6061-T6 Aluminum / Peek®
Shaft Seal = Viton®
Actuator = 6061-T6 Aluminum
Operating Temperature:
Body, Gate Open (Viton®) = 150°C
Body, Gate Closed (Viton®) = 150°C
Actuator w/out solenoid (Viton®) = 60°C
Position Indicator (Viton®) = 150°C



ISO-320 Flanges			300-mm 12.0-inch
Bonnet-Gate	**Flange Type**	**Ship Wt. lbs [Kg]**	**Model Number**
Pneumatic			
Viton-Viton (HV)	Metric Bolt	170 [77]	81212-1203R
Viton-Viton (HV)	Clamp	168 [76]	81212-1206R



Overall Height, OAH

Style	Bolt	Clamp
Pneu.	49.51 [1257.6]	48.90 [1241.9]

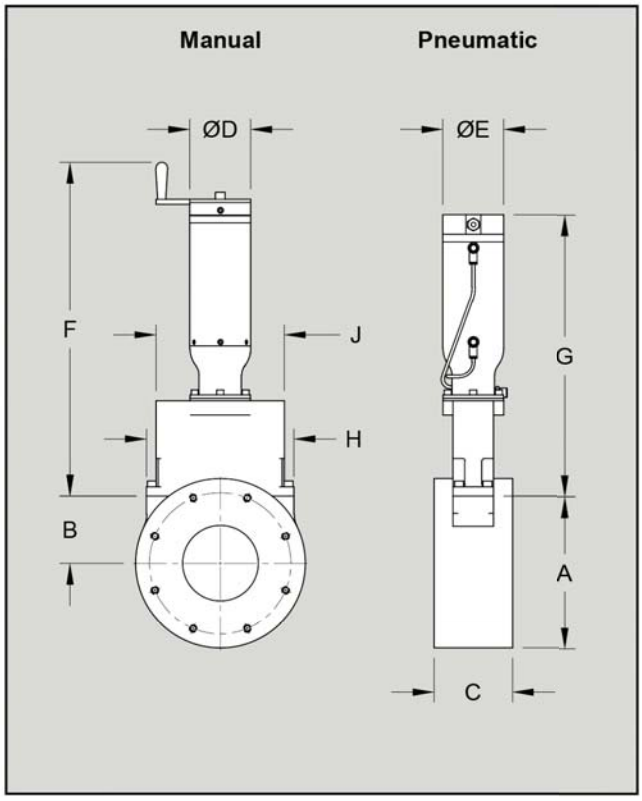
Clamped ISO-K 320
O.D. = Ø14.57 [370.0]
I.D. = Ø12.00 [304.8]
Thickness = .669 [17.0]
No. of clamps = 6-12

ANSI Flange Models

ANSI Flange Models are designed for high vacuum applications, specifically when pressure ranges approximate $1x10^{-9}$ mbar and bakeout temperatures do not exceed 200ºC. The bonnet comes standard with a Viton® elastomer O-ring. These valves provide valving for cryopumps, turbomolecular pumps, ion pumps and other applications requiring clean, low outgassing valves. Pneumatic valves are supplied with a 120 VAC solenoid and a Reed switch position indicator. Standard flanges are smooth faced, non-rotatable and threaded. When O-ring grooves are required on flanges, please specify one of the following options:

- O-ring groove on gate side only
- O-ring groove on carriage side only
- O-ring grooves on both gate side and carriage side

O-ring groove I.D. is 0.250-inch larger than the valve I.D. Flange O-rings are not included with the valve, and may be purchased separately.



JIS and Custom Flange Models

Valves requiring JIS flanges may be obtained through HVA (see page 195). Additionally, other specialty flanges for non-standard installations may be custom ordered through HVA. Contact HVA Technical Services to discuss your requirements.

81000

ANSI Flange Dimensions

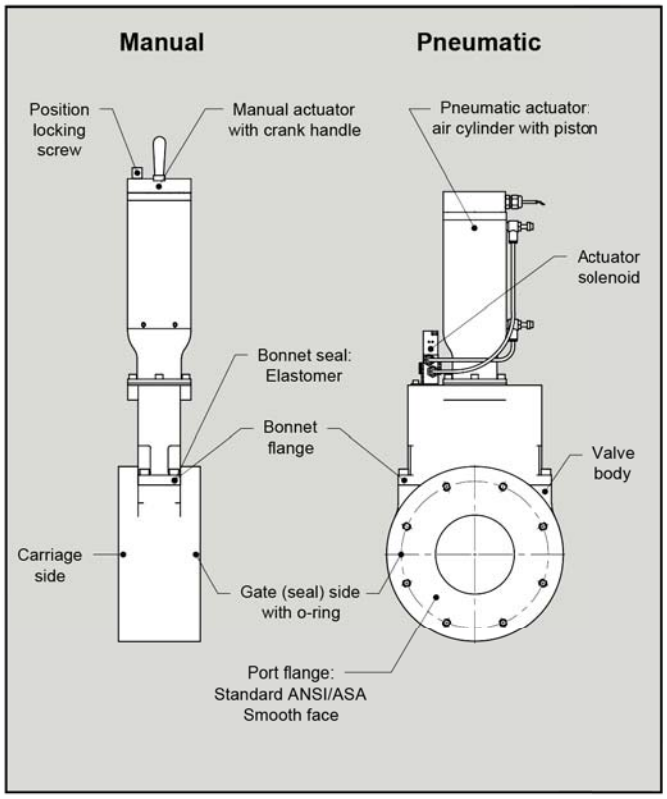
MM	Inch	Flange Size	Conductance liter/sec air	No. Holes	Thread	B.C. mm	B.C. inch	O.D. mm	O.D. inch	I.D. mm	I.D. inch
50	2.0	2.0 ANSI	311	4	3/8-16	Ø121	Ø4.75	Ø152	Ø5.97	Ø51	Ø2.00
63	2.5	2.0 ANSI	615	4	3/8-16	Ø121	Ø4.75	Ø152	Ø5.97	Ø64	Ø2.50
75	3.0	2.0 ANSI	1,029	4	3/8-16	Ø121	Ø4.75	Ø152	Ø5.97	Ø76	Ø3.00
75	3.0	3.0 ANSI	1,029	4	3/8-16	Ø152	Ø6.00	Ø190	Ø7.49	Ø76	Ø3.00
100	4.0	4.0 ANSI	2,122	8	3/8-16	Ø190	Ø7.50	Ø229	Ø8.99	Ø102	Ø4.00
150	6.0	6.0 ANSI	7,023	8	3/4-10	Ø241	Ø9.50	Ø279	Ø11.00	Ø152	Ø6.00
200	8.0	6.0 ANSI	14,374	8	3/4-10	Ø241	Ø9.50	Ø279	Ø11.00	Ø203	Ø8.00
200	8.0	8.0 ANSI	14,374	8	3/4-10	Ø298	Ø11.75	Ø343	Ø13.50	Ø203	Ø8.00
250	10.0	10.0 ANSI	24,990	12	3/4-10	Ø362	Ø14.25	Ø406	Ø16.00	Ø254	Ø10.00
300	12.0	10.0 ANSI	43,268	12	3/4-10	Ø362	Ø14.25	Ø406	Ø16.00	Ø305	Ø12.00
300	12.0	12.0 ANSI	43,268	12	3/4-10	Ø432	Ø17.00	Ø483	Ø19.00	Ø305	Ø12.00

ANSI Valve Dimensions

Nom I.D.	A	B	C	D	E	F	G	H	J
50 mm	139	63	71	Ø56	Ø56	288	237	113	95
2.0 in	5.47	2.48	2.80	Ø2.22	Ø2.22	11.32	9.35	4.44	3.75
63 mm	143	68	71	Ø56	Ø56	317	267	125	108
2.5 in	5.65	2.66	2.80	Ø2.22	Ø2.22	12.48	10.51	4.94	4.25
75 mm	151	75	71	Ø56	Ø56	336	285	138	121
3.0 in	5.94	2.96	2.80	Ø2.22	Ø2.22	13.21	11.24	5.44	4.75
75 mm	170	75	71	Ø56	Ø56	336	285	138	121
3.0 in	6.70	2.96	2.80	Ø2.22	Ø2.22	13.21	11.24	5.44	4.75
100 mm	205	90	105	Ø82	Ø82	450	379	198	173
4.0 in	8.06	3.56	4.15	Ø3.22	Ø3.22	17.71	14.93	7.80	6.80
150 mm	297	158	120	Ø82	Ø82	534	476	254	229
6.0 in	11.71	6.21	4.72	Ø3.22	Ø3.22	21.03	18.73	10.00	9.00
200 mm	362	216	120	Ø82	Ø120	628	575	292	-
8.0 in	14.25	8.50	4.72	Ø3.22	Ø4.73	24.72	22.65	11.50	-
200 mm	387	216	120	Ø82	Ø120	628	575	292	-
8.0 in	15.25	8.50	4.72	Ø3.22	Ø4.73	24.72	22.65	11.50	-
250 mm	471	268	120	-	Ø120	-	650	356	-
10.0 in	18.55	10.55	4.72	-	Ø4.73	-	25.60	14.00	-
300 mm	497	300	120	-	Ø120	-	745	406	-
12.0 in	19.55	11.80	4.72	-	Ø4.73	-	29.35	16.00	-
300 mm	541	300	120	-	Ø120	-	745	406	-
12.0 in	21.30	11.80	4.72	-	Ø4.73	-	29.35	16.00	-

ANSI Valves

ANSI Flanges		Viton Bonnet and Gate	
Size inch [mm]	**Flange Size**	**Ship Wt. lbs [Kg]**	**Model Number ***
Manual			
2.0 [50]	2.0 ANSI	16 [7]	81110-0201
2.5 [63]	2.0 ANSI	17 [8]	81110-0251
3.0 [75]	2.0 ANSI	16 [7]	81110-0301
3.0 [75]	3.0 ANSI	20 [9]	81110-0302
4.0 [100]	4.0 ANSI	40 [18]	81110-0401
6.0 [150]	6.0 ANSI	82 [37]	81110-0601
8.0 [200]	6.0 ANSI	89 [40]	81110-0801
8.0 [200]	8.0 ANSI	103 [47]	81110-0802
Pneumatic			
2.0 [50]	2.0 ANSI	15 [7]	81212-0201R
2.5 [63]	2.0 ANSI	16 [7]	81212-0251R
3.0 [75]	2.0 ANSI	15 [7]	81212-0301R
3.0 [75]	3.0 ANSI	19 [9]	81212-0302R
4.0 [100]	4.0 ANSI	38 [17]	81212-0401R
6.0 [150]	6.0 ANSI	80 [36]	81212-0601R
8.0 [200]	6.0 ANSI	96 [44]	81212-0801R
8.0 [200]	8.0 ANSI	110 [50]	81212-0802R
10.0 [250]	10.0 ANSI	158 [72]	81212-1001R
12.0 [300]	10.0 ANSI	166 [75]	81212-1201R
12.0 [300]	12.0 ANSI	190 [86]	81212-1202R



Specifications

HV Pressure Range:	1×10^{-7} mbar
Helium Leak Rate: Materials:	$< 2 \times 10^{-9}$ mbar l/s
Maximum Δ Pressure Before Opening:	≤ 30 mbar
Materials:	
Body =	6061-T6 Aluminum
Gate =	6061-T6 Aluminum
Shaft Seal =	Viton®
Actuator =	6061-T6 Aluminum
Operating Temperature:	
Body, Gate Open (Viton®) =	150°C
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