

Agilent Stainless Steel Valves

Data Sheet



Agilent's family of vacuum stainless steel tube and in-line valves are designed to connect our rough vacuum and high vacuum pumps to your system. Delivering maximum conductance and sized for easy, convenient installation, these valves are ideally suited for systems requiring high reliability with low outgassing.

Excellent low outgassing characteristics are derived from the valve's fusion welded 304 stainless steel body, welded AM-350 stainless steel nesting bellows and small cross section elastomers and do not contain any blind internal cavities.

In combination with our popular hardware products, the new stainless steel valves offer a complete, bundled solution for your vacuum system, making it possible for convenient one-stop shopping for everything required to connect Agilent vacuum pumps to your system.

A selection of port mounts...

Standard port mounts include:

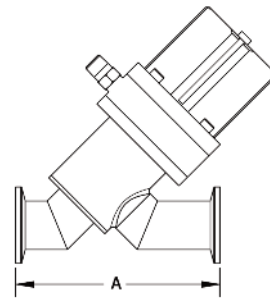
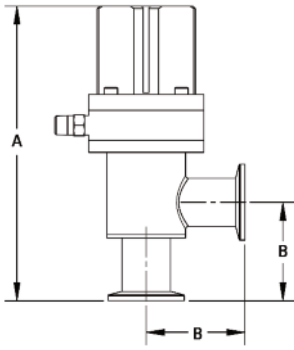
- **Conflat metal seal flanges**, recommended for ultra-high vacuum service
- **KF and ISO flanges** for quick elastomer seal flanges, ideal for high vacuum applications that require frequent assembly and disassembly. See range of sizes in specifications table
- **Solenoids and position indicators** are optional and are sold separately.

Specifications (high vacuum)

Pressure Range	Atmosphere to 1×10^{-8} mbar (7.5×10^{-9} Torr)					
Leak Rate	$< 1 \times 10^{-9}$ std cc/sec He					
Service Life (bellows)	1.5 million cycles (minimum)					
Mounting Position	Any					
Baking Temperature	Valve open	Valve closed	Position indicator (A/O optional)		Solenoid (A/O optional)	
	200°C (392°F)	150°C (302°F)	70°C (158°F)		60°C (140°F)	
Conductance	¾ in. Angle	¾ in. In-line	1 in. Angle	1 in. In-line	1½ in. Angle in.	1½ in. In-line
	6 l/sec	5 l/sec	15 l/sec	13 l/sec	48 l/sec	44 l/sec
Materials	Valve body	Bellows	Bellow flange	Seal plate	Bonnet gasket	O-rings
	304L SS	AM-350	304 SS	304 SS	Viton (V747)	Viton (V747)
Pneumatic						
Air Connection	1/8 in. NPT					
Air Pressure	60 psig (minimum)		80 psig (maximum)			
Open/Close Time	¾ in. Valve		1 in. Valve		1½ in. Valve	
	<0.5 seconds		<0.5 seconds		<0.8 seconds	
Solenoid (optional)	Supply Voltages: 110/120 V : 50/60 Hz : 220/240 V, 50/60 Hz : 24 VDC					
Volume of Air	¾ in. Valve		1 in. Valve		1½ in. Valve	
Cylinder	0.049 L		0.049 L		0.1 L	
Valve Position	No mechanical indicator (see optional position indicator)					
Position Indicator (optional)	Voltage	Current	Power	Visual Indicator		
	5-240V DC/AC	100 mA (maximum)	10 W (maximum)	Green LED		
Switching Logic	SPST normally open					



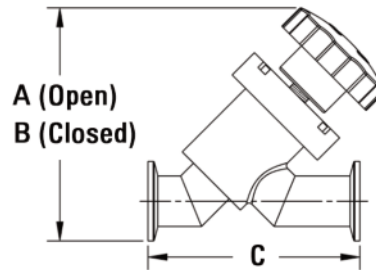
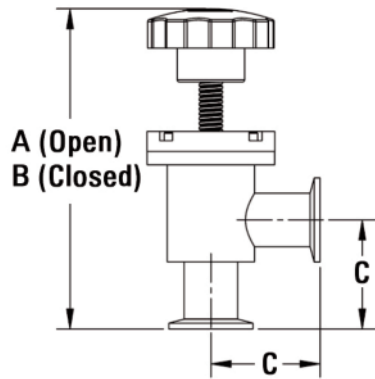
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Angle Valves Pneumatic

In-line Valves Pneumatic

Size	A mm (in.)	B mm (in.)	Size	A mm (in.)
NW16	157.58 (6.22)	50.8 (8.2)	NW 16	101.6 (4.0)
NW25	155.7 (6.13)	52.07 (2.05)	NW 25	106.7 (4.2)
NW40	176.36 (6.94)	65 (2.56)	NW 40	130.05 (5.12)
CF 1.33	162.02 (6.38)	55.25 (2.18)	CF 1.33	119.41 (4.70)
CF 2.12	156.29 (6.15)	52.63 (2.07)	CF 2.12	107.79 (4.24)
CF 2.75	177.87 (7.00)	66.51 (2.62)	CF 2.75	133.07 (5.24)
3/4 in.	157.58 (6.25)	50.8 (2.00)	3/4 in.	94 (3.7)
1 in.	151.9 (5.98)	48.27 (1.9)	1 in.	99.1 (3.9)
1 1/2 in.	172.56 (6.79)	61.2 (2.41)	1 1/2 in.	122.4 (4.82)



Angle Valves Hand-Operated

In-line Valves Hand-Operated

Size	A mm (in.)	B mm (in.)	C mm (in.)	Size	A mm (in.)	B mm (in.)	C mm (in.)
NW 16	158.08 (6.22)	137.75 (5.42)	54.6 (2.15)	NW 16	119.89 (4.72)	99.56 (3.92)	101.6 (4.0)
NW 25	152.4 (6.0)	132.07 (5.2)	52.07 (2.05)	NW 25	117.66 (4.63)	97.33 (3.83)	106.7 (4.2)
NW 40	188.07 (7.41)	163.71 (6.45)	65 (2.56)	NW 40	138.28 (5.44)	122.76 (4.83)	130.5 (5.12)
CF 1.33	158.72 (6.25)	138.27 (5.44)	55.12 (2.17)	CF 1.33	119.87 (4.72)	99.54 (3.92)	119.4 (4.7)
CF 2.12	152.96 (6.02)	132.59 (5.22)	52.63 (2.07)	CF 2.12	117.64 (4.63)	97.31 (3.83)	107.8 (4.24)
CF 2.75	189.58 (7.46)	165.22 (6.5)	66.51 (2.62)	CF 2.75	147.28 (5.8)	122.76 (4.83)	133.07 (5.24)
3/4 in.	154.28 (6.07)	133.75 (5.27)	50.8 (2.00)	3/4 in.	119.89 (4.72)	99.56 (3.92)	94 (3.7)
1 in.	148.6 (5.85)	128.07 (5.04)	48.27 (1.90)	1 in.	117.66 (4.63)	97.33 (3.83)	99.08 (3.9)
1 1/2 in.	182.27 (7.18)	159.91 (6.3)	61.2 (2.41)	1 1/2 in.	147.28 (5.8)	122.76 (4.83)	122.45 (4.82)

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