

## ▶ Agilent Aluminum Gate Valves - Series 12



Thank you for choosing Agilent Valves. These valves are designed with the highest international vacuum standards and manufactured with uncompromising quality. We are confident that Agilent Valves will meet your most demanding vacuum control needs.

The valves are available in manual, push-rod operation and double acting pneumatic operation. The pneumatic valves are available with solenoid (pilot) valves at 115 VAC, 220 VAC and 24 VDC, and a position indicator. See operator's manual for more information.

### Technical Specifications

<b>Leak rate: valve body, valve seat</b>		$< 1 \cdot 10^{-9}$ mbar ls <sup>-1</sup>
<b>Pressure range</b>		
ISO 63–160		$1 \cdot 10^{-7}$ mbar to 1.6 bar (abs)
ISO 250		$1 \cdot 10^{-7}$ mbar to 1.2 bar (abs)
<b>Differential pressure on the gate</b>		
ISO 63–160		$\leq 1.6$ bar
ISO 250		$\leq 1.2$ bar
<b>Differential pressure at opening</b>		$\leq 30$ mbar
<b>Cycles until first service</b>		
ISO 63–160		200 000
ISO 250		100 000
<b>Temperature*</b>		
Valve body		$\leq 120$ °C
Manual and pneumatic actuator		$\leq 80$ °C
Solenoid valve		$\leq 50$ °C
Position indicator		$\leq 80$ °C
<b>Heating and cooling rate</b>		$\leq 30$ °C h <sup>-1</sup>
<b>Material</b>		
Valve body	ISO 63–160	EN AW-5083 (3.3547), -6061 (3.3211)
	ISO 250	EN AC-42100 (3.2371)
Mechanism	ISO 63–160	AISI 304 (1.4301)
	ISO 250	EN AW-6082 (3.2315)
<b>Seal: bonnet, gate</b>		FKM (Viton)
<b>Feedthrough</b>		shaft feedthrough
<b>Mounting orientation</b>		any
<b>Solenoid valve</b>		24 VDC, 115 V, 220 V, 5.4 W
<b>Position indicator: contact rating</b>		
Voltage	$\leq 250$ VAC	$\leq 50$ VDC
Current	$\leq 2$ A	$\leq 1.2$ A
<b>Valve position indication</b>		visual (mechanical)

\* Maximum values: depending on operating conditions and sealing materials

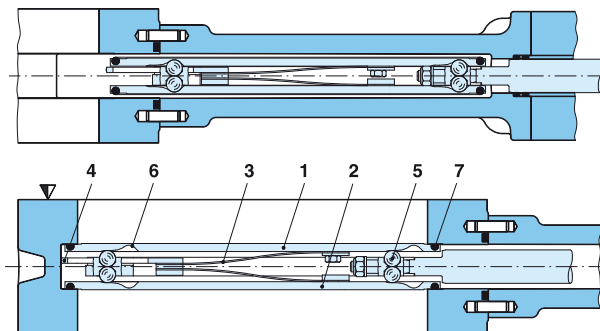
# VACUUM VALVES

## Features

- Body material: aluminum
- Low cost gate valve
- Split body for easy cleaning
- VATLOCK configuration

### Aluminum Gate Valves Functional Principle

Body style ISO 63-250  
Gate mechanism ISO 160-250



- |                 |                   |
|-----------------|-------------------|
| 1 Gate          | 5 Ball pairs      |
| 2 Counter-plate | 6 Ball detents    |
| 3 Leaf springs  | 7 Gate seal       |
| 4 Spring stop   | ▽ Valve seat side |

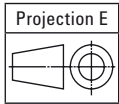
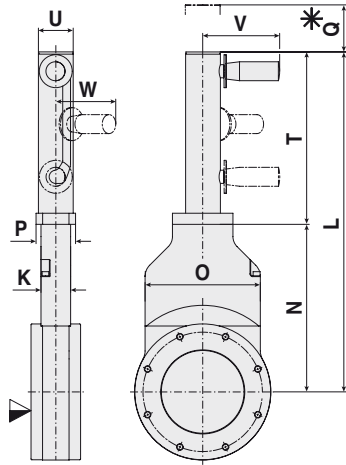
DN (nominal I. D.) mm (in.)	Standard flanges	Conductance (molecular flow) (depending on A-dimension and flange type) ls <sup>-1</sup>	Valve with manual actuator	Valve with pneumatic actuator				
			Weight kg (lbs)	Compressed air min. – max. overpressure bar (psi)	Volume of pneumatic actuator		Closing or opening time s	Weight kg (lbs)
					l	ft <sup>3</sup>		
63 (2 ½)	See page 14	550	3.00 (7.00)	4–7 (58–102)	0.16	0.006	1.5	3.00 (7.00)
100 (4)		2000	4.50 (10.00)	4–7 (58–102)	0.22	0.008	2	4.50 (10.00)
160 (6)		6000	9.00 (20.00)	4–7 (58–102)	0.50	0.018	2	9.00 (20.00)
250 (10)		22000	N/A (N/A)	4–7 (58–102)	1.50	0.053	5	25.00 (55.00)

# AGILENT HIGH PERFORMANCE VALVES

## Main Dimensions

### Valve with manual actuator: push rod

DN 63–100 (2½"–4")

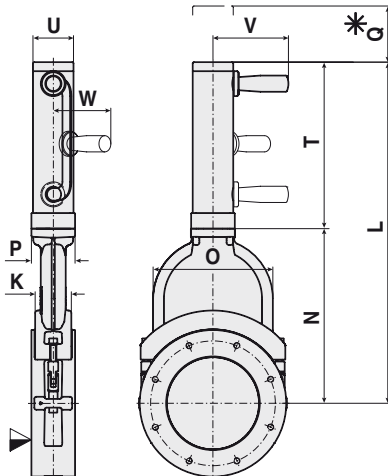


Models	DN 63 (2 ½)	DN 100 (4)	DN 160 (6)
<b>K</b>	36 (1.42)	36 (1.42)	58 (2.28)
<b>L</b>	329.50 (12.97)	413 (16.26)	547 (21.54)
<b>N</b>	155.50 (6.12)	203.50 (8.01)	280 (11.02)
<b>O</b>	100 (3.94)	140 (5.51)	192 (7.56)
<b>P</b>	48 (1.89)	48 (1.89)	70 (2.76)
<b>Q</b>	25 (0.98)	25 (0.98)	60 (2.36)
<b>T</b>	174 (6.85)	209.50 (8.25)	267 (10.51)
<b>U</b>	43 (1.69)	43 (1.69)	65 (2.56)
<b>V</b>	94 (3.70)	94 (3.70)	122 (4.80)
<b>W</b>	75 (2.95)	75 (2.95)	95 (3.74)

Flange dimensions: see page 14

### Valve with manual actuator: push rod

DN 160 (6")



- ▽ Valve seat side
- \* Required for dismantling

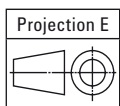
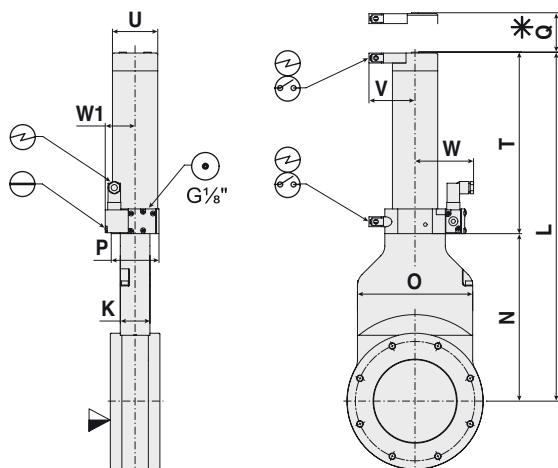
Dimensions: millimeters (inches)

# VACUUM VALVES

## Main Dimensions

### Valve with pneumatic actuator: double acting

ISO 63–100 (2½"–4")

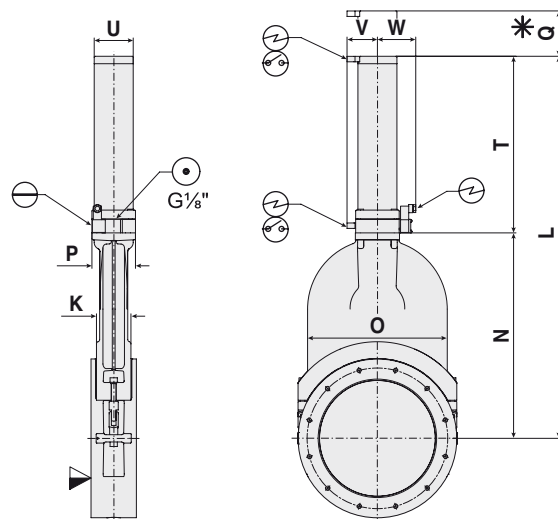


Models	ISO 63 (2 ½)	ISO 100 (4)	ISO 160 (6)	ISO 250 (10)
<b>K</b>	36 (1.42)	36 (1.42)	58 (2.28)	76 (2.99)
<b>L</b>	341.50 (13.45)	425 (16.69)	547 (21.54)	843 (33.19)
<b>N</b>	155.50 (6.12)	203.50 (8.01)	280 (11.02)	453 (17.83)
<b>O</b>	100 (3.94)	140 (5.51)	192 (7.56)	308 (12.13)
<b>P</b>	58 (2.28)	58 (2.28)	70 (2.76)	96 (3.78)
<b>Q</b>	25 (0.98)	25 (0.98)	60 (2.36)	100 (3.94)
<b>T</b>	186 (7.32)	221.50 (8.72)	267 (10.51)	390 (15.35)
<b>U</b>	55 (2.17)	55 (2.17)	65 (2.56)	86 (3.39)
<b>V</b>	56 (2.20)	56 (2.20)	57 (2.24)	67 (2.64)
<b>W</b>	72 (2.83)	72 (2.83)	71.50 (2.82)	84.50 (3.33)
<b>W1</b>	36.50 (1.44)	36.50 (1.44)	–	–

Flange dimensions: see page 14

### Valve with pneumatic actuator: double acting

ISO 160 (6")–250 (10")



- ▼ Valve seat side
- \* Required for dismantling
- ⊙ Compressed air connection
- ⊕ Electrical connection
- ⊗ Position indicator
- ⊖ Emergency operation

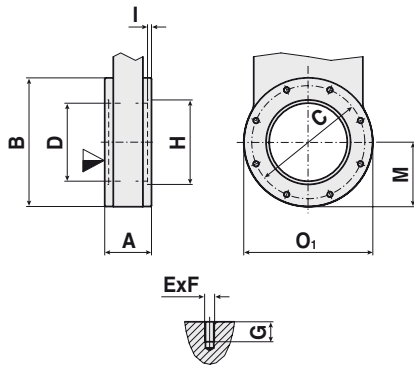
Dimensions: millimeters (inches)

# AGILENT HIGH PERFORMANCE VALVES

## Flange Dimensions

### ISO-F

ISO 63–250 (2½"–10")



Models	ISO 63	ISO 100	ISO 160	ISO 250
	(2 ½)	(4)	(6)	(10)
<b>A</b>	60 (2.36)	60 (2.36)	70 (2.76)	100 (3.94)
<b>B</b>	130 (5.12)	165 (6.50)	235 (9.25)	350 (13.78)
<b>C</b>	110 (4.33)	145 (5.71)	200 (7.87)	310 (12.20)
<b>D</b>	65 (2.56)	100 (3.94)	150 (5.91)	261 (10.27)
<b>E x F</b>	4 x M8	8 x M8	8 x M10	12 x M10
<b>G</b>	12 (0.47)	12 (0.47)	16 (0.63)	16 (0.63)
<b>H</b>	70 (2.76)	102 (4.02)	153 (6.02)	–
<b>I</b>	3 (0.12)	3 (0.12)	5 (0.20)	–
<b>M</b>	65.50 (2.58)	83 (3.27)	117.50 (4.63)	175 (6.89)
<b>O1</b>	131 (5.16)	166 (6.54)	237 (9.33)	352 (13.86)

## Ordering Information

Description Aluminum Gate Valves - Series 12	Part Number
Valve, Gate, Aluminum, 63 ISO, Air-operated, Position Indicator, 115VAC	X3202-60000
Valve, Gate, Aluminum, 63 ISO, Air-operated, Position Indicator, 220VAC	X3202-60001
Valve, Gate, Aluminum, 63 ISO, Air-operated, Position Indicator, 24VDC	X3202-60002
Valve, Gate, Aluminum, 63 ISO, Air-operated, Position Indicator, without Solenoid	X3202-60003
Valve, Gate, Aluminum, 63 ISO, Hand-operated	X3202-60004
Valve, Gate, Aluminum, 100 ISO, Air-operated, Position Indicator, 115VAC	X3202-60010
Valve, Gate, Aluminum, 100 ISO, Air-operated, 220VAC, Position Indicator	X3202-60011
Valve, Gate, Aluminum, 100 ISO, Air-operated, 24VDC, Position Indicator	X3202-60012
Valve, Gate, Aluminum, 100 ISO, Air-operated, Position Indicator, without Solenoid	X3202-60013
Valve, Gate, Aluminum, 100 ISO, Hand-operated	X3202-60014
Valve, Gate, Aluminum, 160 ISO, Air-operated, Position Indicator, 115VAC	X3202-60020
Valve, Gate, Aluminum, 160 ISO, Air-operated, Position Indicator, 220VAC	X3202-60021
Valve, Gate, Aluminum, 160 ISO, Air-operated, Position Indicator, 24VDC	X3202-60022
Valve, Gate, Aluminum, 160 ISO, Air-operated, Position Indicator, without Solenoid	X3202-60025
Valve, Gate, Aluminum, 160 ISO, Hand-operated	X3202-60026
Valve, Gate, Aluminum, 250 ISO, Air-operated, Position Indicator, 115VAC	X3202-60027
Valve, Gate, Aluminum, 250 ISO, Air-operated, Position Indicator, 220VAC	X3202-60028
Valve, Gate, Aluminum, 250 ISO, Air-operated, Position Indicator, 24VDC	X3202-60029
Valve, Gate, Aluminum, 250 ISO, Air-operated, Position Indicator, without Solenoid	X3202-60030
Spare Parts	Part Number
Seal Kit, Aluminum Gate Valve Series 12, ISO 63	X3202-60099
Seal Kit, Aluminum Gate Valve Series 12, ISO 100	X3202-60100
Seal Kit, Aluminum Gate Valve Series 12, ISO 160	X3202-60101
Seal Kit, Aluminum Gate Valve Series 12, ISO 250	X3202-60102