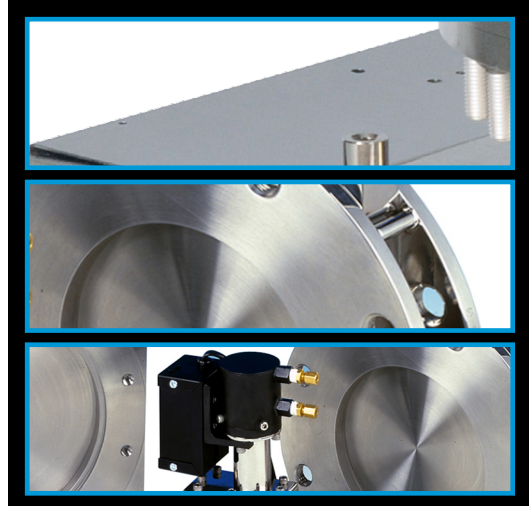
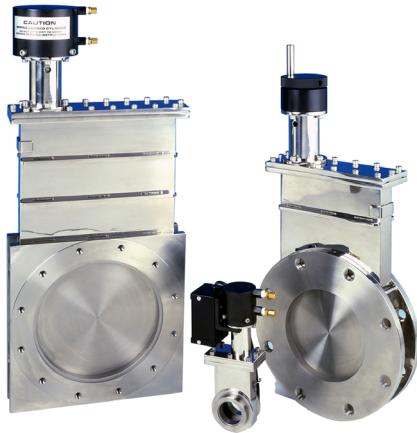


GV MANUAL AND PNEUMATIC GATE VALVES



The Edwards GV range of stainless steel, bellows sealed gate valves is designed for applications requiring overall leak tightness and a minimum of hydrocarbon in the residual atmosphere.

These superior quality valves offer high vacuum integrity coupled with maximum conductance.

The valves are available with flange options of ISO, CF (metal sealed) for applications at ultra high vacuum requiring increased bakeout temperatures.

The stainless steel valve bodies are vacuum brazed, a special process which includes a bakeout at 1100 °C. This eliminates any possibility of virtual leaks and ensures a product with low outgassing characteristics.

A laser welded stainless steel bellows effectively seals the actuator from the valve. The concept provides ease of servicing and allows the gate and linkage mechanism to be removed while the valve remains in situ.

Features and benefits

- In situ removal of gate and linkage mechanism for easy servicing.
- Virtual leaks eliminated due to vacuum brazed manufacture.
- Electropolished finish inside and outside.
- Compact design with high conductance.
- Manual or pneumatic options.
- Microswitch position indicator as standard on pneumatic version suitable for magnetic fields
- Long periods of use between maintenance.
- Low vibration and shock.
- Free choice of orientation.
- Wide range from 40 mm/1.56 inch bore up to 320 mm/12.48 inch bore.
- Flange options – ISO, CF (metal sealed)
- Vacuum brazed to 1100 °C to eliminate virtual leaks.

Technical Data

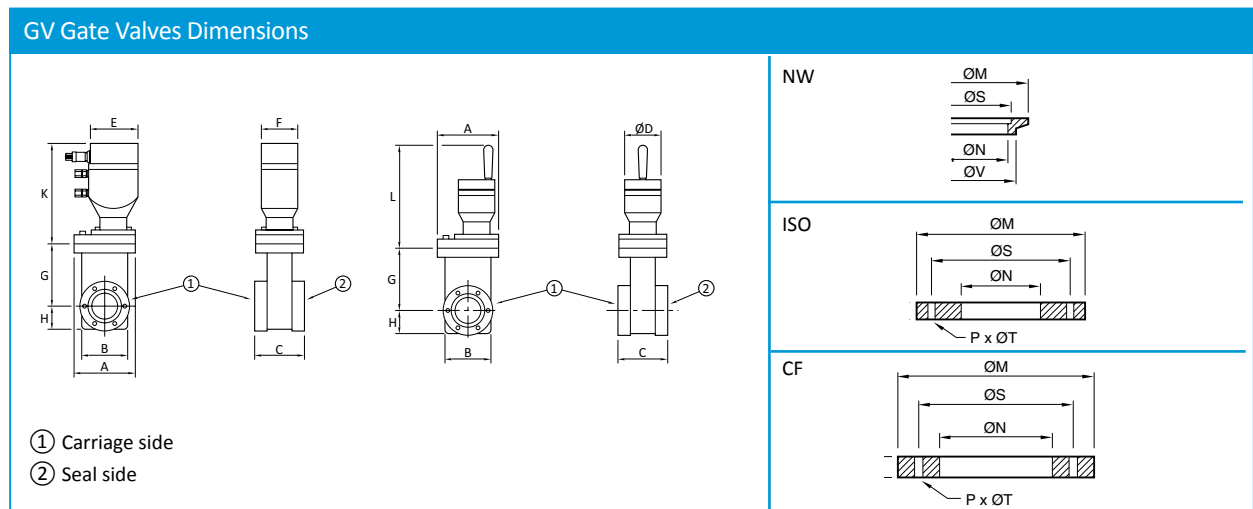
GV Manual and Pneumatic Gate Valves	
Pressure range	10 ⁻⁹ mbar to 1 bar (absolute)/ 8 x 10 ⁻¹⁰ – 750 Torr
Leak rate	< 10 ⁻⁹ mbar ls ⁻¹ /8 x 10 ⁻¹⁰ Torr ls ⁻¹
Maximum differential pressure on the valve plate	1 bar/750 Torr in either direction
Maximum differential pressure on the valve plate at opening	20 mbar/15 Torr
Position indicator switch, breaking capacity	24 V d.c., 5 A
Material of construction:	
Body, valve plate	AISI 304 stainless steel
Mechanism	AISI 304 stainless steel
Bearings	Hardened high carbon chrome steel
Circlips	SS PH 15-7 Mo
Bellows	AM 350 stainless steel
Seals, valve plate	Fluoroelastomer

GV Manual and Pneumatic Gate Valves	
Bonnet:	
Metal sealed valves	OFHC
Other valves	Fluoroelastomer
Bakeout temperature:	
Valve body, valve open	150 °C (fluoroelastomer bonnet seal)
Valve body, valve open	250 °C (metal bonnet seal)
Valve closed	200 °C
Actuator, manual	200 °C
Actuator, pneumatic	100 °C
Average life until first service*	100000 closures
Mounting position	Any orientation
Pneumatic operating pressure	4-5.5 bar/60-80 psi

* Dependent on the vacuum environment and the opening and closing speed

Flange Bore		Conductance in High Vacuum ls ⁻¹	Pneumatic Valve minimum closing & opening time at 5 bar, seconds	Approx mm in Weight, kg
40	1.5	130	0.5	5
50	2	250	0.5	6
63	2.5	520	1	8
100	4	2000	1.5	15
160	6	6300	1.5	23
200	8	15000	2 (close) 3 (open)	34
250	10	23000	3 (close) 4 (open)	73
320	12	39000	3 (close) 4 (open)	77

* Special versions available, including 1 million cycle types, 3 position types, larger valves, and pneumatic versions with reed switch position indicators.



Body mm / Inches	GVI 040	GVI 050	GVI 063	GVI 080	GVI 100	GVI 160	GVI 200	GVI 250	GVI 320
A	84.1	96.8	111.0	125.0	177.8	222.3	285.8	341.1	408.2
B	26.2	75.2	89.4	109.1	143.5	191.8	254.5	303.5	362.7
C	50.5	50.5	51.6	51.6	61.2	67.0	67.6	80.0	80.0
ØD	50.8	50.8	50.8	50.8	50.8	75.5	75.5	88.9	88.9
E	69.3	69.3	69.3	69.3	93.5	93.5	93.5	120.4	120.4
F	50.7	50.7	50.7	50.7	76.2	76.2	76.2	120.4	120.4
G	86.1	104.5	122.1	145.9	206.4	270.5	353.4	460.6	560.5
H	33.0	37.6	43.1	72.8	66.9	87.6	114.6	146.6	174.9
K	134.9	134.9	134.9	134.9	175.6	175.6	175.6	240.7	240.7
L	91.7	91.7	91.7	91.7	201.3	201.3	201.3	231.7	231.7
Flange mm / Inches	GVI 040	GVI 050	GVI 063	GVI 080	GVI 100	GVI 160	GVI 200	GVI 250	GVI 320
ØM	55.0	75.0	130.1	145.1	165.1	225.0	285.8	335.0	425.0
ØN	38.1	50.8	63.5	75.9	101.6	152.4	203.2	254.0	304.8
P	–	–	4	8	8	8	12	12	12
ØS	41.2	52.2	110.0	126.0	145.0	200.0	260.0	310.0	395.0
ØT	–	–	M8	M8	M8	M10	M10	M10	M12
V	12.7	12.7	12.7	12.7	12.7	16.0	15.9	19.0	19.0
Body mm / Inches	GVC 015	GVC 020	GVC 025	GVC 040	GVC 060	GVC 080			
A	84.1	96.8	111.0	177.8	222.3	285.8			
B	62.5	75.2	89.4	143.5	191.8	254.5			
C	51.6	57.9	61.2	75.4	80.5	85.1			
ØD	50.8	50.8	50.8	75.9	75.9	75.9			
E	69.3	69.3	69.3	93.5	93.5	93.5			
F	50.7	50.7	50.7	76.2	76.2	76.2			
G	86.1	104.5	122.1	206.4	270.5	353.4			
H	33.0	37.6	43.1	66.9	87.6	114.6			
K	134.9	134.9	134.9	175.6	175.6	175.6			
L	91.7	91.7	91.7	190.6	200.2	200.2			
Flange mm / Inches	GVC 015	GVC 020	GVC 025	GVC 040	GVC 060	GVC 080			
ØM	69.3	85.7	113.5	151.6	202.4	253.2			
ØN	38.1	50.8	63.5	101.9	152.4	203.2			
P	6	8	8	16	20	24			
ØS	58.7	72.4	92.2	130.3	181.1	231.9			
ØT	M6	M8	M8	M8	M8	M8			
V	12.7	15.9	17.5	19.8	22.4	24.6			

