

Flowrite™ 599 Series High Pressure Close-off , 2-Way Valves, 2-1/2 to 6-Inch, Flanged Iron Body, ANSI Classes 125 & 250



Description

The Flowrite 599 Series high pressure close-off, two-way flanged valve iron bodies, are designed to work with either pneumatic or electronic actuators with 3/4-inch (20 mm) or 1-1/2-inch (40 mm) stroke. They are available in both ANSI Class 125 and 250 for normally open or normally closed action.

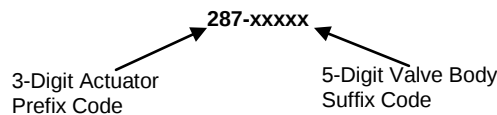
Typical applications include control of hot or chilled water; or 50% water-glycol solution.

Features

- Universal bonnet, for direct-coupled actuators
- Equal percentage flow characteristic
- Stainless steel trim
- ANSI Class IV leakage ($\leq 0.01\%$ of Cv)
- EPDM O-ring packing

Product Numbers

Use the product numbers in the tables to order the valve and the actuator assembled together. The product number consists of a 3-digit prefix code, a hyphen, and a 5-digit suffix code. The prefix specifies an actuator. The suffix specifies the valve body.



Typical Specifications

Automatic high pressure close-off control valves shall have flanged connections, 2-1/2-inch through 6-inch (65 mm through 150 mm) sizes, and shall be ANSI 125 or ANSI 250 rated to withstand the pressures and temperatures encountered.

Valves shall have metal-to-metal seats, stainless steel trim and stems, and EPDM O-ring packing.

Valve shall be ANSI Leakage Class IV (0.01% of Cv) at a close-off differential up to 200 psi. Valves shall have a 100:1 rangeability or better.

Technical Data

Valve Size	2-1/2 in. to 6-in. (65 mm to 150 mm)
Body	Cast iron ASTM A126 Class B
Trim	Stainless Steel
Stem	Stainless steel ASTM A582 Type 303
Stem Travel:	
2-1/2 and 3-inch	3/4-inch (20 mm) stroke
4, 5, and 6-inch	1-1/2-inch (40 mm) stroke
Seat	Metal-to-metal
Packing:	EPDM O-ring
Close-off Ratings	According to ANSI/FCI 70-2 See Tables 2 and 4.
Controlled Medium	Water, 50% water-glycol solution
Medium Temperature:	20°F to 250°F (-7°C to 120°C)
Maximum Recommended Differential Pressure for Modulating Service	50 psi (345 kPa)

Table 1. Flowrite Valve and Pneumatic Actuator.

NOTE: If an 8-inch or 12-inch pneumatic actuator without position relay is required, order the valve and actuator separately.

ANSI Class	Action	 Valve Body	Valve Size, Inch (mm)	Cv	Stroke	8-Inch	12-Inch
							
						599-01050	599-01000
						W/Position Relay 599-00426	W/Position Relay 599-00423
						Actuator Codes	
						283	287
ANSI 125	Normally Open	599-06610	2-1/2 (65)	63	3/4 (20)	283-06610	—
		599-06611	3 (80)	100	3/4 (20)	283-06611	—
		599-06612	4 (100)	160	1-1/2 (40)	—	287-06612
		599-06613	5 (125)	250	1-1/2 (40)	—	287-06613
		599-06614	6 (150)	400	1-1/2 (40)	—	287-06614
	Normally Closed	599-06615	2-1/2 (65)	63	3/4 (20)	283-06615	—
		599-06616	3 (80)	100	3/4 (20)	283-06616	—
		599-06617	4 (100)	160	1-1/2 (40)	—	287-06617
		599-06618	5 (125)	250	1-1/2 (40)	—	287-06618
		599-06619	6 (150)	400	1-1/2 (40)	—	287-06619
ANSI 250	Normally Open	599-06620	2-1/2 (65)	63	3/4 (20)	283-06620	—
		599-06621	3 (80)	100	3/4 (20)	283-06621	—
		599-06622	4 (100)	160	1-1/2 (40)	—	287-06622
		599-06623	5 (125)	250	1-1/2 (40)	—	287-06623
		599-06624	6 (150)	400	1-1/2 (40)	—	287-06624
	Normally Closed	599-06625	2-1/2 (65)	63	3/4 (20)	283-06625	—
		599-06626	3 (80)	100	3/4 (20)	283-06626	—
		599-06627	4 (100)	160	1-1/2 (40)	—	287-06626
		599-06628	5 (125)	250	1-1/2 (40)	—	287-06628
		599-06629	6 (150)	400	1-1/2 (40)	—	287-06629

Table 2. Pneumatic Close-Off Ratings in PSI (kPa).

Action	Valve Size, Inch (mm)	Spring Return			
		8- Inch		12-Inch	
		3 to 8 psi (21 to 55 kPa)	10 to 15 psi (69 to 103 kPa)	3 to 8 psi (21 to 55 kPa)	10 to 15 psi (69 to 103 kPa)
				15 psi (103 kPa)	0 psi (0 kPa)
Normally Open	2-1/2 (65)	200 (1378)	—	—	—
	3 (80)	200 (1378)	—	—	—
	4 (100)	—	—	200 (1378)	—
	5 (125)	—	—	200 (1378)	—
	6 (150)	—	—	200 (1378)	—
Normally Closed	2-1/2 (65)	—	200 (1378)	—	—
	3 (80)	—	200 (1378)	—	—
	4 (100)	—	—	—	200 (1378)
	5 (125)	—	—	—	200 (1378)
	6 (150)	—	—	—	200 (1378)

Table 3. Flowrite Valve and 24 Vac Electro-Hydraulic Actuator Assemblies.

NOTE: If a SKD/C82...U actuator is required, order the valve and actuator separately.

Flow Characteristic	ANSI Class	Action		Valve Size Inch (mm)	Cv	Stroke		
							Spring Return	
							0 to 10 Vdc	
							SKD62U	SKC62U
							Actuator Codes	
							274	294
Equal Percentage	ANSI 125	Normally Open	599-06610	2-1/2 (65)	63	3/4 (20)	274-06610	—
			599-06611	3 (80)	100	3/4 (20)	274-06611	—
			599-06612	4 (100)	160	1-1/2 (40)	—	294-06612
			599-06613	5 (125)	250	1-1/2 (40)	—	294-06613
			599-06614	6 (150)	400	1-1/2 (40)	—	294-06614
		Normally Closed	599-06615	2-1/2 (65)	63	3/4 (20)	274-06615	—
			599-06616	3 (80)	100	3/4 (20)	274-06616	—
			599-06617	4 (100)	160	1-1/2 (40)	—	294-06617
			599-06618	5 (125)	250	1-1/2 (40)	—	294-06618
			599-06619	6 (150)	400	1-1/2 (40)	—	294-06619
	ANSI 250	N/O	599-06620	2-1/2 (65)	63	3/4 (20)	274-06620	—
			599-06621	3 (80)	100	3/4 (20)	274-06621	—
			599-06622	4 (100)	160	1-1/2 (40)	—	294-06622
			599-06623	5 (125)	250	1-1/2 (40)	—	294-06623
			599-06624	6 (150)	400	1-1/2 (40)	—	294-06624
		N/C	599-06625	2-1/2 (65)	63	3/4 (20)	274-06625	—
			599-06626	3 (80)	100	3/4 (20)	274-26626	—
			599-06627	4 (100)	160	1-1/2 (40)	—	294-06627
			599-06628	5 (125)	250	1-1/2 (40)	—	294-06628
			599-06629	6 (150)	400	1-1/2 (40)	—	294-06629

Table 4. Close-Off Ratings in PSI (kPa).

Action	Valve Size In (mm)	Electro-Hydraulic 24 Vac	
		SKD	SKC
Normally Open	2-1/2 (65)	200 (1378)	—
	3 (80)	200 (1378)	—
	4 (100)	—	200 (1378)
	5 (125)	—	200 (1378)
	6 (150)	—	200 (1378)
Normally Closed	2-1/2 (65)	200 (1378)	—
	3 (80)	200 (1378)	—
	4 (100)	—	200 (1378)
	5 (125)	—	200 (1378)
	6 (150)	—	200 (1378)

Dimensions

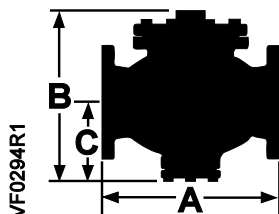


Table 5. Flanged 2-Way Valve Dimensions.

Valve Action	Valve Size inch (mm)	ANSI Class 125				ANSI Class 250			
		Inches (mm)			Weight lbs. (kg)	Inches (mm)			Weight lbs. (kg)
		A	B	C		A	B	C	
Normally Open	2-1/2 (65)	10-7/8 (276)	11 (281)	4-7/8 (123)	62 (28)	11-1/2 (292)	11 (281)	4-7/8 (123)	78 (35)
	3 (80)	11-3/4 (299)	12-1/4 (312)	5-5/16 (135)	79 (35)	12-1/2 (318)	12-1/4 (312)	5-5/16 (135)	102 (46)
	4 (100)	13-7/8 (352)	13-9/16 (345)	6-5/16 (160)	129 (58.12)	14-1/2 (368)	13-5/8 (344.7)	6-5/16 (160)	168.68 (75)
	5 (125)	15-3/4 (400)	15-3/16 (385)	7 (177)	162 (73)	16-5/8 (422)	15-3/16 (385)	7 (177)	215 (97)
	6 (150)	17-3/4 (451)	16-3/4 (426)	7-7/8 (200)	222 (101)	18-5/8 (473)	16-3/4 (426)	7-7/8 (200)	312 (142)
Normally Closed	2-1/2 (65)	10-7/8 (276)	10-5/8 (269)	4-7/8 (125)	58 (26)	11-1/2 (292)	11 (279)	5-3/8 (135)	74 (34)
	3 (80)	11-3/4 (299)	11-15/16 (303)	5-5/8 (142)	72 (35)	12-1/2 (318)	12-7/16 (315)	6 (154)	100 (45)
	4 (100)	13-7/8 (352)	13-15/16 (354)	6-5/8 (168)	128 (58)	14-1/2 (368)	14-3/8 (364)	7 (178)	16 (72)
	5 (125)	15-3/4 (400)	15-1/4 (388)	7-1/2 (185)	159 (72)	16-5/8 (422)	15-3/4 (399)	7-3/4 (196)	214 (97)
	6 (150)	17-3/4 (451)	17-1/16 (433)	8-3/16 (207)	219 (100)	18-5/8 (473)	17-1/2 (444)	8-5/8 (218)	309 (141)

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