

Available from Valve Solutions, Inc with any commercially available actuator as a complete package. Contact for actuator specifications and package quotations

599 Series 2-Way Ball Valves

Description

The 599 Series 2-Way Ball Valves can be coupled to any commercially available actuator to provide equal percentage flow control. The Ball Valves are 1/4-turn rotary control valves.

Product Numbers

Use the product numbers in Table 1 and Table 2 to order a valve. Stainless steel product numbers have an "S" suffix.

Features

- 200 psi close-off with ANSI Class IV leakage for all line sizes and actuators.
- Available with chrome-plated brass ball and brass stem or stainless steel ball and stem.
- Blow-out proof stem withstands high pressure.
- Universal mounting.
- Actuator and bracket can be rotated (90 degree increments).
- Standoffs provide thermal barrier between the actuator and the valve.
- Operating handle for manual operation.

Table 1. Chrome Plated Ball with Brass Stem

Valve Body Product Number*	Valve Size Inches (mm)	Flow Rate Cv (Kvs)	Close-Off Delta-P in psi (kPa)
599-10300	1/2 (15)	0.4 (0.34)	200 (1379)
599-10301		0.63 (0.54)	
599-10302		1.0 (0.9)	
599-10303		1.6 (1.4)	
599-10304		2.5 (2.2)	
599-10305		4.0 (3.4)	
599-10306		6.3 (5.4)	
599-10307*	10 (8.6)		
599-10308	3/4 (20)	6.3 (5.4)	
599-10309		10 (8.6)	
599-10310		16 (14)	
599-10311*		25 (22)	
599-10312	1 (25)	10 (9.0)	
599-10313		16 (14)	
599-10314		25 (22)	
599-10315		40 (34)	
599-10316*		63 (54)	
599-10317	1 1/4 (32)	16 (14)	
599-10318		25 (22)	
599-10319		40 (34)	
599-10320		63 (54)	
599-10321*		100 (90)	
599-10322	1 1/2 (40)	25 (22)	
599-10323		40 (34)	
599-10324*		63 (54)	
599-10325		100 (90)	
599-10326*		160 (140)	
599-10327	2 (50)	40 (34)	
599-10328		63 (54)	
599-10329*		100 (90)	
599-10330*		160 (140)	

Table 2. Stainless Steel Ball with Brass Stem

Valve Body Product Number*	Valve Size Inches (mm)	Flow Rate Cv (Kvs)	Close-Off Delta-P in psi (kPa)
599-10300S	1/2 (15)	0.4 (0.34)	200 (1379)
599-10301S		0.63 (0.54)	
599-10302S		1.0 (0.9)	
599-10303S		1.6 (1.4)	
599-10304S		2.5 (2.2)	
599-10305S		4.0 (3.4)	
599-10306S		6.3 (5.4)	
599-10307S*	10 (8.6)		
599-10308S	3/4 (20)	6.3 (5.4)	
599-10309S		10 (8.6)	
599-10310S		16 (14)	
599-10311S*		25 (22)	
599-10312S	1 (25)	10 (9.0)	
599-10313S		16 (14)	
599-10314S		25 (22)	
599-10315S		40 (34)	
599-10316S*		63 (54)	
599-10317S	1 1/4 (32)	16 (14)	
599-10318S		25 (22)	
599-10319S		40 (34)	
599-10320S		63 (54)	
599-10321S*		100 (90)	
599-10322S	1 1/2 (40)	25 (22)	
599-10323S		40 (34)	
599-10324S*		63 (54)	
599-10325S		100 (90)	
599-10326S*		160 (140)	
599-10327S	2 (50)	40 (34)	
599-10328S		63 (54)	
599-10329S*		100 (90)	
599-10330S*		160 (140)	

*Denotes a full-port valve without flow characterizer insert

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Typical Specifications

Ball valves shall have female NPT type fittings and shall be 1/2-inch to 2-inch (15 mm to 50 mm) line and ball sizes. The valves shall have a forged brass body; chrome-plated brass ball with brass stem or stainless steel ball and stem; and EPDM O-ring seals. Valves shall contain glass-filled PTFE ball valve seals or integral seals and flow characterizers to provide an equal percentage control characteristic where required. Ball valves shall utilize a 90-degree rotation for control. They shall provide automated flow control of hot or chilled water and up to 50% water-glycol solution for HVAC control applications.

Technical Data

Pressure Rating	600 WOG/ANSI 250	Ball Seals	Glass-filled PTFE with EPDM O-rings
Media Temperature	35°F to 250°F (2°C to 120°C)	End Connections	Female NPT
Controlled Medium	Water, 50% water-glycol solution	Stem	Brass or stainless steel
Body	Brass: ASTM B283, C37700	Stem Seals	EPDM O-rings
Ball	Chrome-plated brass or Stainless steel	Angle of Rotation	0° to 90°
Flow Characterizer	Glass-filled PTFE		

Table 3. Full-Port (No Flow Characterizer) Ball Valve Product Numbers and Flow Coefficients

Valve Product Number	Valve Line Size in Inches (mm)	Effective (Installed) Cv (Kvs)										
		Supply Line Size in Inches (mm)										
		1/2 (13)	3/4 (20)	1 (25)	1-1/4 (32)	1-1/2 (38)	2 (51)	2-1/2 (63)	3 (76)	4 (102)	5 (127)	6 (152)
599-10307 or 599-10307S	1/2 (15)	10 (8.62)	6.94 (5.93)	6.19 (5.29)	—	—	—	—	—	—	—	—
599-10311 or 599-10311S	3/4 (20)	—	25.00 (21.55)	18.66 (15.95)	15.35 (13.12)	—	—	—	—	—	—	—
599-10316 or 599-10316S	1 (25)	—	—	63.00 (54.31)	39.78 (34.00)	33.56 (28.69)	—	—	—	—	—	—
599-10321 or 599-10321S	1-1/4 (32)	—	—	—	100.00 (86.21)	69.19 (59.13)	51.45 (43.98)	—	—	—	—	—
599-10324 or 599-10324S	1-1/2 (40)	—	—	—	—	63.00 (54.31)	55.34 (47.30)	51.00 (43.59)	—	—	—	—
599-10326 or 599-10326S		—	—	—	—	160.00 (137.93)	93.80 (80.17)	76.34 (65.25)	—	—	—	—
599-10329 or 599-10329S	2 (50)	—	—	—	—	—	100 (86.21)	94.30 (80.60)	86.12 (73.61)	—	—	—

= Valve may be oversized. = Optimal valve size. = Valve may be undersized

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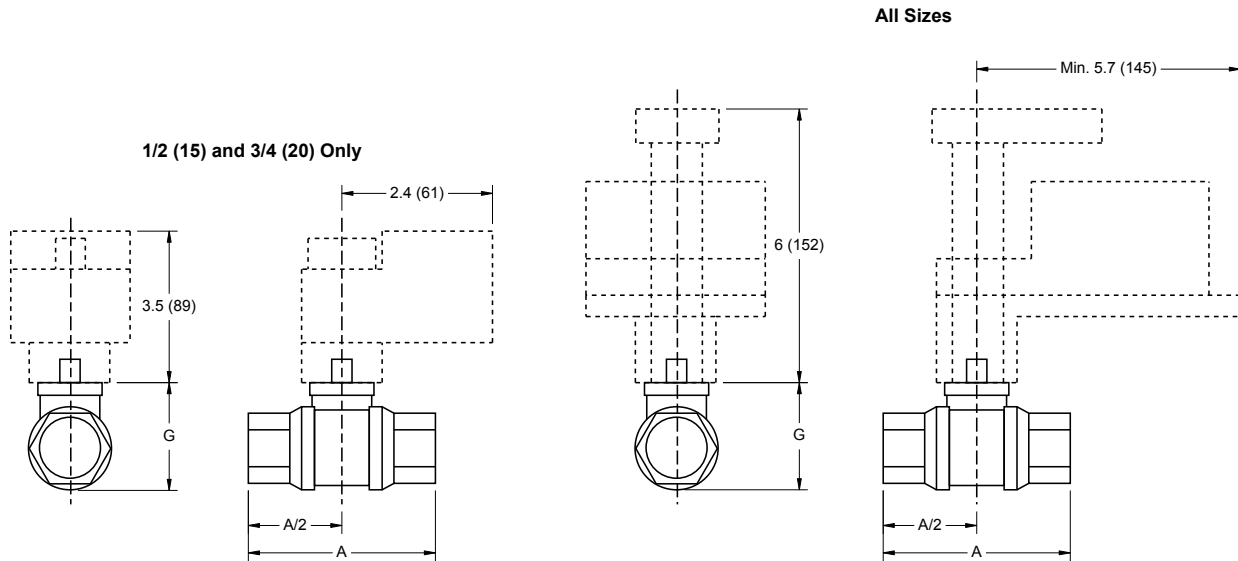


Figure 1. 2-Way Ball Valves

- All dimensions are in inches (mm)
- Dimension weights are in pounds (kg)

Table 4. 2-Way Ball Valve and Actuator Dimensions

Line Size Inch (mm)	Cv Range	A Length	G Height	Weight Pounds (kg)
1/2 (15)	0.4 to 10.0	2-7/16 (61)	1-3/4 (44)	0.50 (0.23)
3/4 (20)	6.3 to 25	2-3/4 (70)	2-1/8 (54)	0.78 (0.35)
1 (25)	10	3 (77)	2-1/8 (54)	0.97 (0.44)
	16	3-1/4 (82)	2-7/16 (62)	1.75 (0.79)
	40, 63			1.19 (0.54)
	25	3-7/8 (98)	2-15/16 (75)	1.19 (0.54)
1-1/4 (32)	16	3-3/8 (86)	2-1/2 (64)	1.41 (0.64)
	25 to 100	3-11/16 (94)	2-15/16 (75)	1.81 (0.82)
1-1/2 (40)	25, 63	3-5/8 (92)	2-15/16 (75)	1.19 (0.54)
	40, 100, 160	3-15/16 (100)	3-3/8 (86)	2.50 (1.13)
2 (50)	40, 100	4 (102)	3-1/2 (89)	2.53 (1.14)
	63	4-5/8 (118)	4-3/16 (106)	4.66 (2.11)
	160			4.69 (2.13)

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