

Model 570, 571, 573 Control Valves

Technical Sales Bulletin

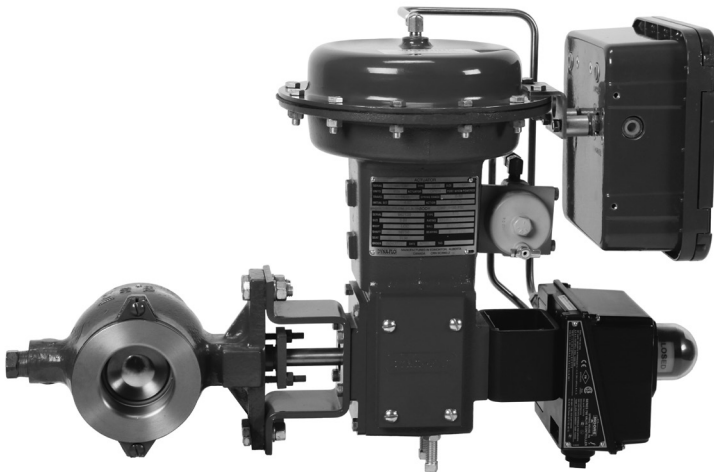


Figure 1 Dyna-Flo Model 570 Control Valve with Model DFR Size 047 Actuator Assembly

The Model 570 series segmented ball style control valve is used in all kinds of demanding applications, in oil and gas production and chemical process industries. It is also suited to high flow, low pressure drop services. The 570 series is used in both throttling and on/off control of liquids or gases.

The flangeless 570 valve mates with ASME class 150, 300, and 600 raised face flanges. Models 571 and 573 are RF flanged valves in ASME class 150 (571) and 300 (573). The straight through unrestricted flow path provides higher capacity than globe style valves. A splined shaft provides accurate control in throttling operations and flexibility in actuation options. The 570 series, when combined with a Model DFR spring and diaphragm actuator, is a rugged control valve assembly, to which a wide variety of positioners and accessories can be mounted.

The Model 570, 571 and 573 control valves are manufactured to a high level of quality specifications to ensure superior performance and customer satisfaction.

Features

Valve Sizes and Connections

The 1", 1-1/2", 2", 3", 4", 6", and 8" flangeless valves will mate ASME Class 150, 300, and 600 raised face flanges.

The 1", 1-1/2", 2", 3", 4", 6", 8", 10", 12", and 16" RF flanged 571 and 573 will mate with ASME Class 150 (571) and 300 (573) raised face flanges.

Maximum Temperatures

800°F (427°C) Maximum with WCC body.

NACE Service

Trim and bolting materials are available for applications handling sour fluids and gases. These construction materials comply with the recommendations of (NACE) National Association of Corrosion Engineers MR0175.

Easy Maintenance

A unique ball to shaft connection makes for easy disassembly, and reduces packing replacement time as well. Replacing the ball seal is easily done by removing two screws.

Lightweight Installation

The 570 series is a rugged, yet light weight flangeless ball valve that is designed to easily fit in between ASME flanges.

Adjustable Shaft Packing

The shaft to body interface is sealed to atmosphere by externally adjustable PTFE or optional graphite packing rings. Live Loaded packing is available for reduced emissions.

Field Reversible

The action of all valve and actuator combinations is easily changed between fail closed and fail open without additional hardware.



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SPECIFICATIONS

Maximum Pressure / Temperature Ratings

Consistent with applicable pressure / temperature ratings per ASME B16.34. Refer to Tables 17 to 19.

Maximum Allowable Shutoff Pressure Drop

Refer to Tables 18 & 19.

750 Psig (51.7 bar) @ 100°F (38°C) (Standard Construction)

Material Temperature Capabilities

Valve Body:

Standard: -50°F to 450°F (-46°C to 232°C) LCC

Optional: High Temp -20°F to 800°F (-29°C to 427°C) WCC

Packing:

PTFE: -50°F to 450°F (-46°C to 232°C)

Graphite: -325°F to 1000°F (-198°C to 538°C)

Live Loaded PTFE: -50°F to 450°F (-46°C to 232°C)
(for 100 ppm service requirements)

Live Loaded Graphite: 20°F to 600°F (-7°C to 316°C)
(for 100 ppm service requirements)

20°F to 700°F (-7°C to 371°C)
(for non-environmental service requirements)

Refer to Tables 16 & 17.

Ball Seals:

Composition Ultra: -50°F to 450°F (-46°C to 232°C)

Metal: -50°F to 550°F (-46°C to 288°C)

Flow Ring: -325°F to 800°F (-198°C to 425°C)

Refer to Tables 18 & 19.

Construction Materials

Refer to Table 16 for construction materials.

Contact your Dyna-Flo sales office for more information and other options.

Flow Direction

Forward (through seal into ball).

Actuator Mounting

Right-hand, or Left-hand (as viewed from seal end of valve).
In one of 4 positions (12 (Std.), 3, 6, and 9 o'clock) with respect to the valve body in a horizontal pipe.

Maximum Ball Rotation

90 degrees.

Shutoff Classification

- **Composition Ball Seal:** Class VI
- **Metal Ball Seal:** Class IV
- **Flow Ring Construction:** 5% of valve capacity at full travel
- Classes and testing per ANSI/FCI 70-2 and IEC 60534-4.
- Tested at the service pressure drop, or 50 Psig (3.4 bar), whichever is lower

Valve Dimensions

Refer to Figures 2 & 3 for valve diagram.

Refer to Tables 4 - 15 for valve dimensions.

Refer to Tables 7, 8, 12, & 13 for bolting dimensions.

Valve and Actuator Assembly Weight

Refer to Tables 2 & 3.

Options

Line Flange Bolting - Tables 7, 8, 12, & 13.

Stainless Steel Construction.

Internal Coatings.

Shaft Connections:

- Splined (Standard)
- Square (Optional - 1" to 6" Valves)
- Keyed (Optional - 8" to 16" Valves)

For more information and other options contact your Dyna-Flo sales office.

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Table 1

Available Valve Configurations

Valve Model	End Connection	Body Material	Valve Size inch	Valve Rating
570	Flangeless Mates with ASME Class 150/300/600 Raised Face Flanges	LCC CG8M	1 / 1-1/2 / 2	ASME Class 150/300/600
			3 & 4	ASME Class 150
			6 & 8	ASME Class 300/600
571	Flanged Mates with ASME Class 150 Raised Face Flanges	LCC / WCC / CG8M	1 / 1-1/2 / 2 / 3 / 4 / 6 / 8 / 10 / 12 / 16	ASME Class 150
573	Flanged Mates with ASME Class 300 Raised Face Flanges	LCC / WCC / CG8M	1 / 1-1/2 / 2 / 3 / 4 / 6 / 8 / 10 / 12 / 16	ASME Class 300

Table 2

570 Valve and Actuator Assembly Weights lb (Kg)

Valve Size / Actuator model	Model	
	570	
1	Valve Only	10 (4.5)
	DFR026	40 (18)
1-1/2	Valve Only	14 (6.4)
	DFR026	44 (20)
	DFR047	60 (27)
2	Valve Only	23 (10)
	DFR026	53 (24)
	DFR047	69 (31)
3	Valve Only	34 (15)
	DFR047	80 (36)
4	Valve Only	48 (22)
	DFR047	94 (43)
	DFR070	147 (67)
6	Valve Only	80 (36)
	DFR156	283 (128)
8	Valve Only	136 (62)
	DFR156	339 (154)
	DFR220	408 (185)



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Table 3

571 & 573 Valve and Actuator Assembly Weights lb (Kg)

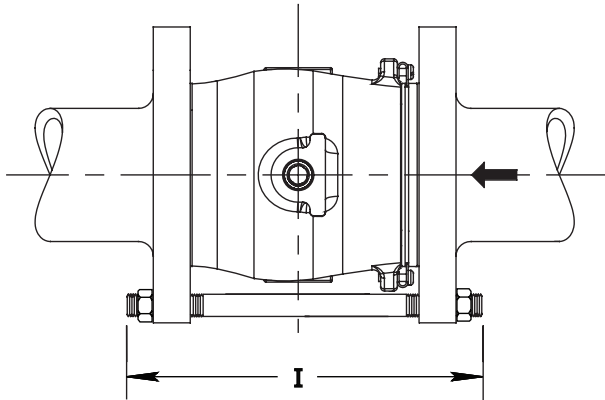
Valve Size / Actuator model		Model	
		571	573
1 inch	Valve Only	13 (5.9)	17 (7.7)
	DFR026	43 (19.5)	47 (21)
1-1/2 inch	Valve Only	19 (8.6)	27 (12)
	DFR026	49 (22)	57 (26)
	DFR047	65 (29.5)	73 (33)
2 inch	Valve Only	21 (9.5)	38 (17)
	DFR026	51 (23)	68 (31)
	DFR047	67 (30)	84 (38)
3 inch	Valve Only	43 (19.5)	61 (28)
	DFR047	89 (40)	107 (49)
4 inch	Valve Only	57 (26)	81 (37)
	DFR047	103 (47)	127 (58)
	DFR070	156 (71)	145 (66)
6 inch	Valve Only	93 (42)	133 (60)
	DFR156	296 (134)	336 (152)
8 inch	Valve Only	158 (72)	226 (103)
	DFR156	361 (164)	429 (195)
	DFR220	430 (195)	498 (226)
10 inch	Valve Only	235 (107)	440 (200)
	DFR220	507 (230)	712 (323)
12 inch	Valve Only	347 (157)	645 (293)
	DFR220	619 (281)	917 (416)
16 inch	Valve Only	735 (333)	1125 (511)
	DFRP 113	980 (445)	1370 (621)

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MODEL 570



MODEL 571 & 573

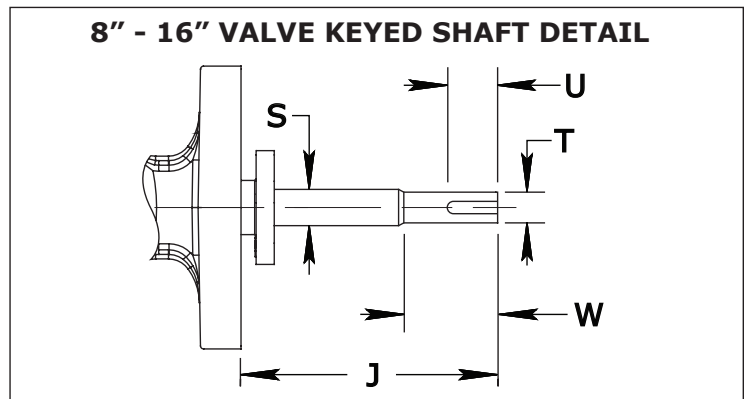
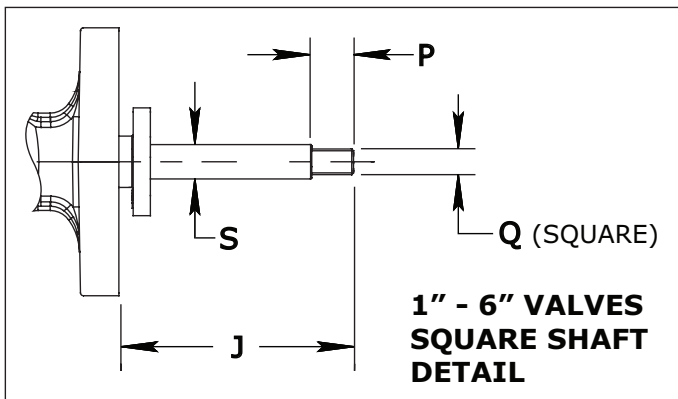
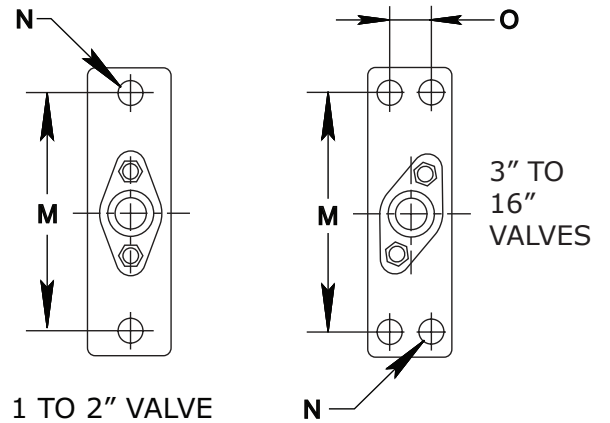
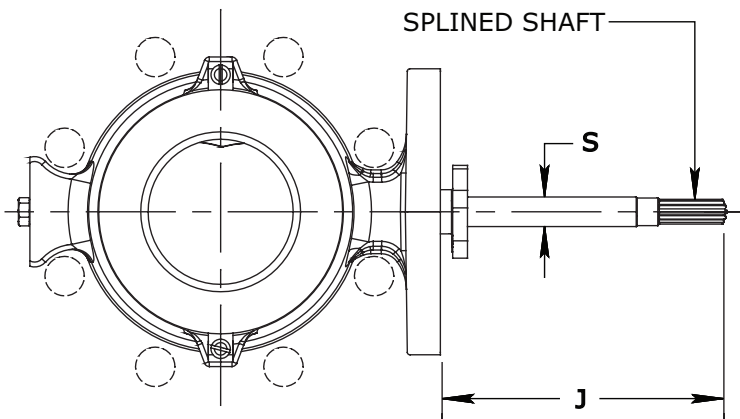
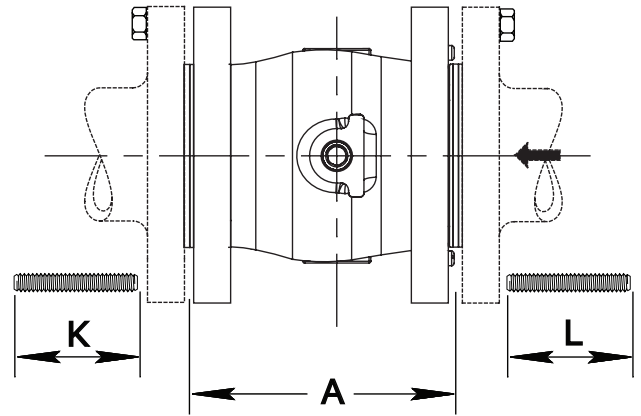


Figure 2 Typical Valve Dimensions

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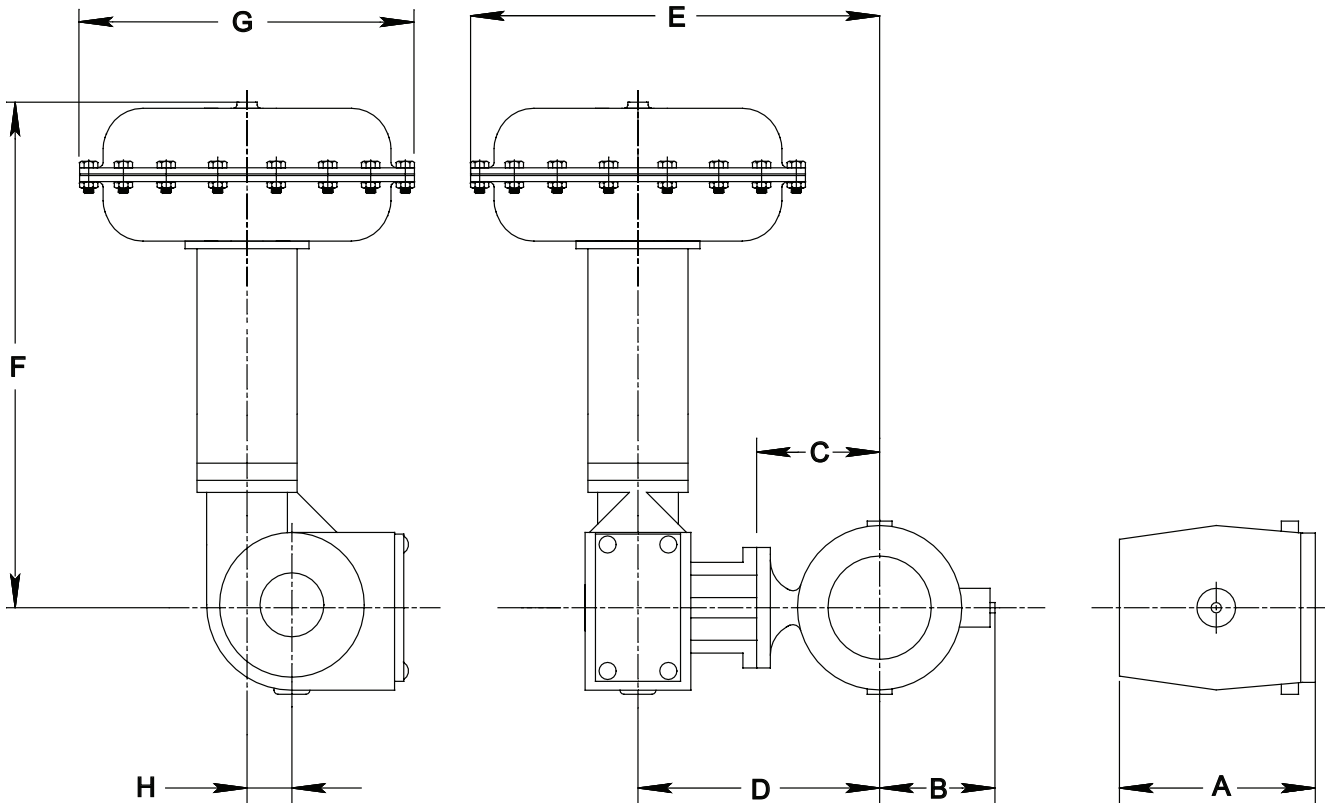


Figure 3 Typical Valve Assembly Diagram and Dimensions

Table 4

Model 570 Valve Dimensions Inch (mm)

Valve / Actuator Size	Dimensional Reference							
	A	B	C	D	E	F	G	H
1" / DFR026	4.00 (102)	3.19 (81)	3.75 (95)	9.13 (232)	14.10 (358)	10.13 (257)	9.94 (253)	0.75 (19.1)
1-1/2" / DFR026	4.50 (114)	3.50 (89)	4.75 (121)	10.13 (257)	15.10 (384)	10.13 (257)	9.94 (253)	0.75 (19.1)
2" / DFR026	4.88 (124)	4.19 (106)	5.00 (127)	10.38 (264)	15.35 (390)	10.13 (257)	9.94 (253)	0.75 (19.1)
3" / DFR070	6.50 (165)	4.62 (117)	5.12 (130)	11.42 (290)	17.99 (457)	23.94 (608)	13.13 (334)	2.13 (54.1)
4" / DFR070	7.62 (194)	5.25 (133)	5.56 (141)	11.86 (301)	18.43 (468)	23.94 (608)	13.13 (334)	2.13 (54.1)
6" / DFR156	9.00 (229)	6.25 (159)	7.06 (179)	13.36 (339)	22.68 (576)	34.50 (876)	18.63 (473)	2.50 (63.5)
8" / DFR156	9.56 (243)	7.69 (195)	9.12 (232)	14.92 (379)	24.24 (616)	34.50 (876)	18.63 (473)	2.50 (63.5)

ASME Class: 150 / 300 / 600 • Envelope Dimensions are + / - 0.25 in. (6.4 mm) • Face to Face Tolerance Per ANSI/ISA 75.08.02

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Table 5

Model 571 and 573 Valve Dimensions Inch (mm)

Valve / Actuator Size	Dimensional Reference							
	A	B	C	D	E	F	G	H
1" / DFR026	4.00 (102)	3.19 (81)	3.75 (95)	9.13 (232)	14.10 (358)	10.13 (257)	9.94 (253)	0.75 (19.1)
1-1/2" 571 / DFR026	4.50 (114)	3.38 (90)	4.75 (121)	10.13 (257)	15.10 (384)	10.13 (257)	9.94 (253)	0.75 (19.1)
1-1/2" 573 / DFR026	4.50 (114)	3.50 (89)	4.75 (121)	10.13 (257)	15.10 (384)	10.13 (257)	9.94 (253)	0.75 (19.1)
2" / DFR026	4.88 (124)	4.19 (106)	5.00 (127)	10.38 (264)	15.35 (390)	10.13 (257)	9.94 (253)	0.75 (19.1)
3" / DFR070	6.50 (165)	4.62 (117)	5.12 (130)	11.42 (290)	17.99 (457)	23.94 (608)	13.13 (334)	2.13 (54.1)
4" / DFR070	7.62 (194)	5.25 (133)	5.56 (141)	11.86 (301)	18.43 (468)	23.94 (608)	13.13 (334)	2.13 (54.1)
6" 571 / DFR156	9.00 (229)	5.94 (151)	6.44 (164)	12.24 (311)	21.56 (548)	34.50 (876)	18.63 (473)	2.50 (63.5)
6" 573 / DFR156	9.00 (229)	6.25 (159)	6.44 (164)	12.24 (311)	21.56 (548)	34.50 (876)	18.63 (473)	2.50 (63.5)
8" / DFR156	9.56 (243)	7.69 (195)	9.12 (232)	14.92 (379)	24.24 (616)	34.50 (876)	18.63 (473)	2.50 (63.5)
10" / DFR220	11.69 (297)	8.75 (222)	10.25 (260)	16.05 (408)	26.62 (676)	33.44 (849)	21.13 (537)	2.50 (63.5)
12" / DFR220	13.31 (338)	10.56 (268)	11.94 (303)	17.74 (451)	28.31 (719)	33.44 (849)	21.13 (537)	2.50 (63.5)
16" 571 / DFRP 113	16.00 (406)	13.00 (330)	14.38 (365)	23.65 (601)	30.93 (786)	29.22 (742)	15.00 (381)	4.75 (121)
16" 573 / DFRP 113	16.00 (406)	13.31 (338)	14.38 (365)	23.65 (601)	30.93 (786)	29.22 (742)	15.00 (381)	4.75 (121)

ASME Class: 571 = 150, 573 = 300 • Envelope Dimensions are + / - 0.25 in. (6.4 mm)
 • Face to Face: All sizes except for 16" are per ANSI/ISA 75.08.02. 16" sizes are per ASME B16.10 Short only.



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Table 6

Valve Shaft Diameters Inch (mm)

Valve Size Inch	Shaft Diameter Inch (mm)
1	1/2 (12.7)
1-1/2 & 2	5/8 x 1/2 spline (15.9 x 12.7 spline)
3 & 4	3/4 (19.1)
6	1 (25.4)
8 & 10	1-1/4 (31.8)
12	1-1/2 (38.1)
16 (571)	2-1/8 x 2 spline (54.0 x 50.8)
16 (573)	2-1/8 (54.0)

Table 7

Model 570 Line Flange Stud Lengths

Refer to Figures 2 & 4.

Valve Size (inches)	I		
	Class 150	Class 300	Class 600
1	6.94 (176)	7.94 (202)	7.94 (202)
1-1/2	7.44 (189)	8.81 (224)	8.81 (224)
2	8.31 (211)	9.31 (237)	9.31 (237)
3	10.00 (254)	11.00 (279)	11.25 (286)
4	11.25 (286)	12.00 (305)	13.50 (343)
6	13.50 (343)	14.25 (362)	16.25 (413)
8	13.50 (343)	15.25 (387)	16.75 (426)

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Figure 4
Flange Stud Measuring Method

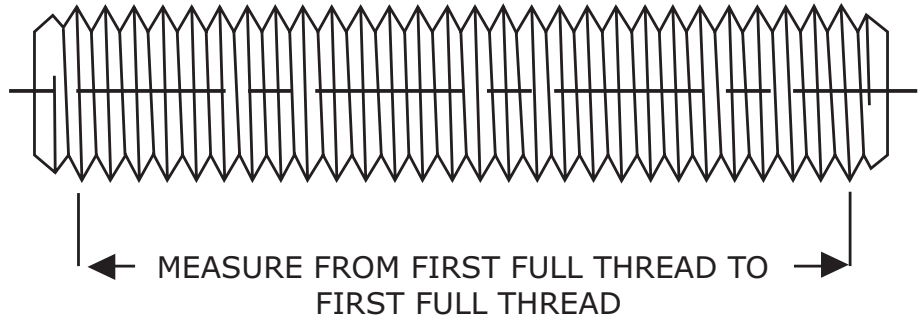


Table 8

Model 571 and 573 Flange Stud Lengths Inch (mm)
Refer to Figures 2 & 4.

Valve Size Inch	571		573	
	K	L	K	L
1	2.88 (73)	3.12 (79)	3.69 (94)	3.94 (100)
1-1/2	3.12 (80)	3.62 (92)	4.25 (108)	4.50 (114)
2	3.44 (87)	3.94 (100)	3.94 (100)	4.19 (106)
3	3.94 (100)	4.19 (106)	4.75 (121)	5.25 (133)
4	3.94 (100)	4.69 (119)	5.00 (127)	5.50 (140)
6	4.50 (114)	5.00 (127)	5.50 (140)	6.00 (152)
8	5.00 (127)	5.25 (133)	6.00 (152)	6.50 (165)
10	5.25 (133)	5.75 (146)	6.81 (173)	7.31 (186)
12	5.25 (133)	6.00 (152)	7.31 (186)	7.81 (198)
16	5.25 (133)	6.00 (152)	7.50 (191)	8.25 (210)



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Table 9

Model 570, 571, and 573 Splined Shaft Dimensions Inch (mm)
Refer to Figures 2 & 4.

Valve Size Inch	570		571		573	
	J	S	J	S	J	S
1	7.38 (188)	1/2 (12.7)	7.38 (188)	7.38 (188)	7.38 (188)	7.38 (188)
1-1/2	7.38 (188)	5/8 X 1/2 (15.9 X 12.7)	7.38 (188)	5/8 X 1/2 (15.9 X 12.7)	7.38 (188)	5/8 X 1/2 (15.9 X 12.7)
2	7.38 (188)	5/8 X 1/2 (15.9 X 12.7)	7.38 (188)	5/8 X 1/2 (15.9 X 12.7)	7.38 (188)	5/8 X 1/2 (15.9 X 12.7)
3	8.44 (214)	3/4 (19.1)	8.44 (214)	3/4 (19.1)	8.44 (214)	3/4 (19.1)
4	8.44 (214)	3/4 (19.1)	8.44 (214)	3/4 (19.1)	8.44 (214)	3/4 (19.1)
6	8.44 (214)	1 (25.4)	8.44 (214)	1 (25.4)	8.44 (214)	1 (25.4)
8	8.19 (208)	1-1/4 (31.8)	8.19 (208)	1-1/4 (31.8)	8.19 (208)	1-1/4 (31.8)
10	N/A	N/A	8.19 (208)	1-1/4 (31.8)	8.19 (208)	1-1/4 (31.8)
12	N/A	N/A	8.19 (208)	1-1/2 (38.1)	8.19 (208)	1-1/2 (38.1)
16	N/A	N/A	14.00 (356)	2-1/8 x 2 (54.0 x 50.8)	14.00 (356)	2-1/8 (54.0)

Table 10

Model 570, 571, and 573 Square Shaft Dimensions Inch (mm)
Refer to Figure 2.

Valve Size Inch	Dimensional Reference			
	J	S	P	Q
1	3.24 (82.3)	1/2 (12.7)	0.75 (19.1)	0.431 (11.0)
1-1/2	3.24 (82.3)	5/8 (15.9)	0.75 (19.1)	0.431 (11.0)
2	3.24 (82.3)	5/8 (15.9)	0.75 (19.1)	0.431 (11.0)
3	3.82 (97.0)	3/4 (19.1)	0.75 (19.1)	0.550 (14.0)
4	3.82 (97.0)	3/4 (19.1)	0.75 (19.1)	0.550 (14.0)
6	5.07 (128.8)	1 (25.4)	1.00 (25.4)	0.747 (19.0)

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Table 11

Model 570, 571, and 573 Keyed Shaft Dimensions Inch (mm)
Refer to Figure 2.

Valve Size Inch	570					571 & 573				
	J	S	U	T	W	J	S	U	T	W
8	5.05 (128.3)	1-1/4 (31.8)	1.50 (38.1)	1-1/8 (28.6)	1.63 (41.4)	5.05 (128.3)	1-1/4 (31.8)	1.50 (38.1)	1-1/8 (28.6)	1.63 (41.4)
	8" Valve Shafts use a 1/4" x 1.37" Key Stock.									
10	N/A					5.05 (128.3)	1-1/4 (31.8)	1.50 (38.1)	1-1/8 (28.6)	1.63 (41.4)
	10" Valve Shafts use a 1/4" x 1.37" Key Stock.									
12	N/A					5.10 (129.5)	1-1/2 (38.1)	1.50 (38.1)	1-3/8 (34.9)	1.75 (44.5)
	12" Valve Shafts use a 5/16" x 1.34" Key Stock.									
16	N/A					CONSULT DYNA-FLO				

Table 12

Flange Stud Diameters and Threads Per Inch (TPI)

Valve Size Inch	TPI		
	Class 150	Class 300	Class 600
1	Consult Dyna-Flo	Consult Dyna-Flo	Consult Dyna-Flo
1-1/2	Consult Dyna-Flo	Consult Dyna-Flo	Consult Dyna-Flo
2	5/8" - 11	5/8" - 11	5/8" - 11
3	5/8" - 11	3/4" - 10	3/4" - 10
4	5/8" - 11	3/4" - 10	7/8" - 9
6	3/4" - 10	3/4" - 10	1" - 8
8	3/4" - 10	7/8" - 9	1-1/8" - 7
10 (571 & 573 ONLY)	7/8" - 9	1" - 8	N/A
12 (571 & 573 ONLY)	7/8" - 9	1-1/8" - 7	N/A
16 (571 & 573 ONLY)	1" - 8	1-1/4" - 7	N/A



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Table 13

Flange Stud Quantity

Valve Size Inch	Number of Studs Required (Double for Models 571 & 573)		
	Class 150	Class 300	Class 600
1	4	Consult Dyna-Flo	Consult Dyna-Flo
1-1/2	4	Consult Dyna-Flo	Consult Dyna-Flo
2	4	8	8
3	4	8	8
4	8	8	8
6	8	12	12
8	8	12	12
10 (571 & 573 ONLY)	12	16	N/A
12 (571 & 573 ONLY)	12	12	N/A
16 (571 & 573 ONLY)	16	20	N/A

Table 14

Model 570 Valve Mounting Pad Dimensions Inch (mm)

Refer to Figure 2.

Valve Size Inch	Dimensional Reference		
	N	M	O
1 / 1-1/2 / 2	0.56 (14.2)	4.62 (117)	—
3 / 4 / 6	0.56 (14.2)	6.00 (152)	1.25 (31.8)
8	0.69 (17.5)	9.25 (235)	1.81 (46.0)

Table 15

Model 571 & 573 Valve Mounting Pad Dimensions Inch (mm)

Refer to Figure 2.

Valve Size Inch	Dimensional Reference		
	N	M	O
1 / 1-1/2 / 2	0.56 (14.2)	4.62 (117)	—
3 / 4 / 6	0.56 (14.2)	6.00 (152)	1.25 (31.8)
8 / 10 / 12	0.69 (17.5)	9.25 (235)	1.81 (46.0)
16	0.75 (19.1)	10.75 (273)	2.00 (50.8)

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Table 16

Construction Materials	
Part Description	Material
Actuator Mounting Bolt / Actuator Mounting Nut	Plated Steel (2 required for 1 - 2" valves) (4 required for 3 - 12" valves)
Back Up Ring (1, 1-1/2, 2" Valves Only)	S31600**
Ball	Alloy 6 (for 1 - 2" valves)
	CG8M
	CG8M Chrome Plated
	CG8M/Alloy 6 Leading Edge/Chrome Plated
	CG8M/Alloy 6 Leading Edge
Ball Seal	Composition Ultra
	Alloy 6
	S21800
Bearing (2 required)	S17400/Carbon-filled PTFE Lined OR PEEK/Carbon-filled PTFE (Refer to Table 18 & 19)
	S44004 HT
	Alloy 6
Body / Seal Protector Ring / Flow Ring	LCC
	WCC
	CG8M
Follower Shaft / Shaft / Shaft Pin / Shaft Key	S20910
Follower Shaft Pin	S31600**
Gasket	Graphoil GR. GTB
Live Loaded Packing Follower	PTFE/CF8M
Packing Box Ring	S31600**
Packing Flange / Packing Follower	CF8M
Packing Nut (2 required)	S31600**
Packing Set	PTFE
	Graphite
Packing Stud (2 required)	B8M
Flange / Pipe Plug	A105 Steel
	A350 Grade LF2
	S31600**
Flange Nut	2HM
Flange Stud	B7M
Radial Seal	Carbon-filled PTFE/R30003
Seal Protector Clip (2 required)	Stainless Steel
Seal Protector Screw - 1-1/2 to 12 inch (2 required)	18-8
Seal Protector Screw - 16 inch (4 required)	18-8
Seal Protector Washer (2 required)	Stainless Steel
Shaft Pins (for 16" valves)	Alloy 6
Spiral Wound Gasket	S31600
Spring Washers	N07718
Thrust Washer (For 6 - 12 Inch Valve Sizes Only)	Carbon-filled PTFE
Wave Spring	N07750

** All S31600 barstock is dual grade S31600/S31603 (316/316L).

Model 570, 571, 573 Control Valves

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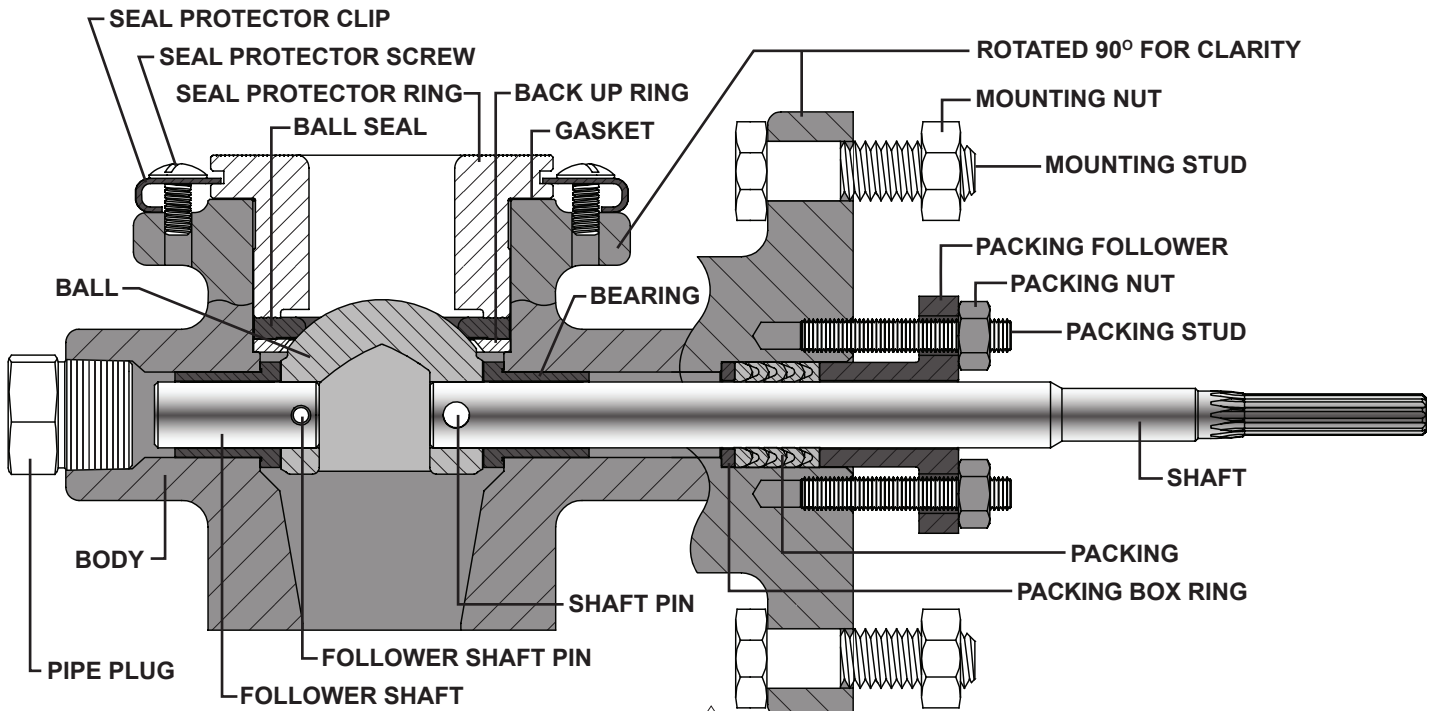


Figure 5 1 & 1/2 Inch Model 570 Cross Section

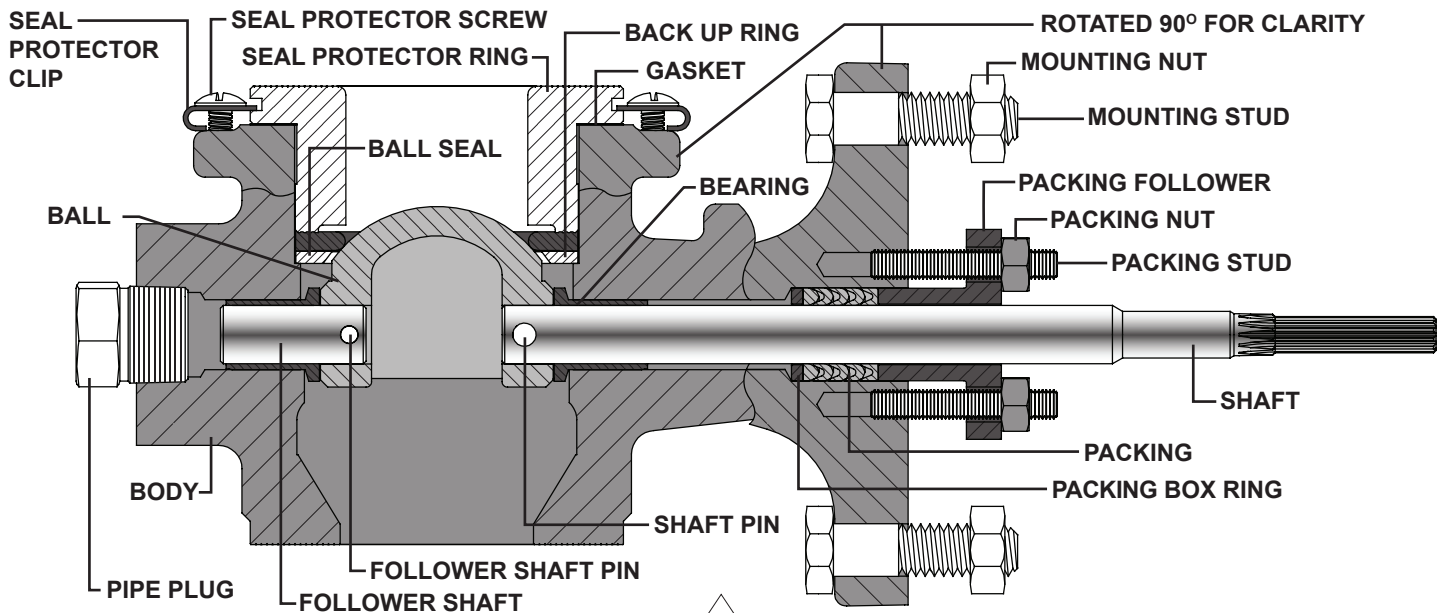


Figure 6 2 Inch Model 570 Cross Section

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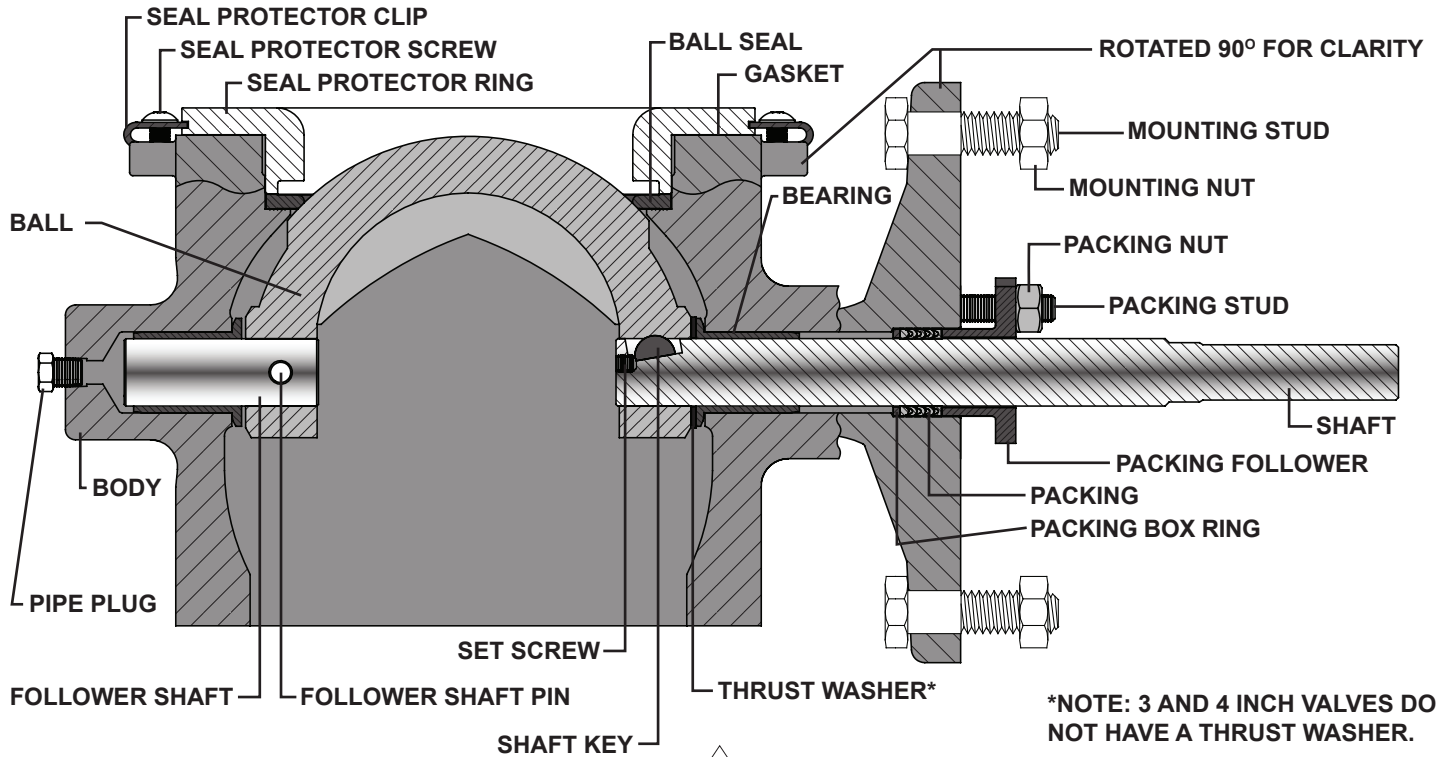


Figure 7 3 to 8 Inch Model 570 Cross Section

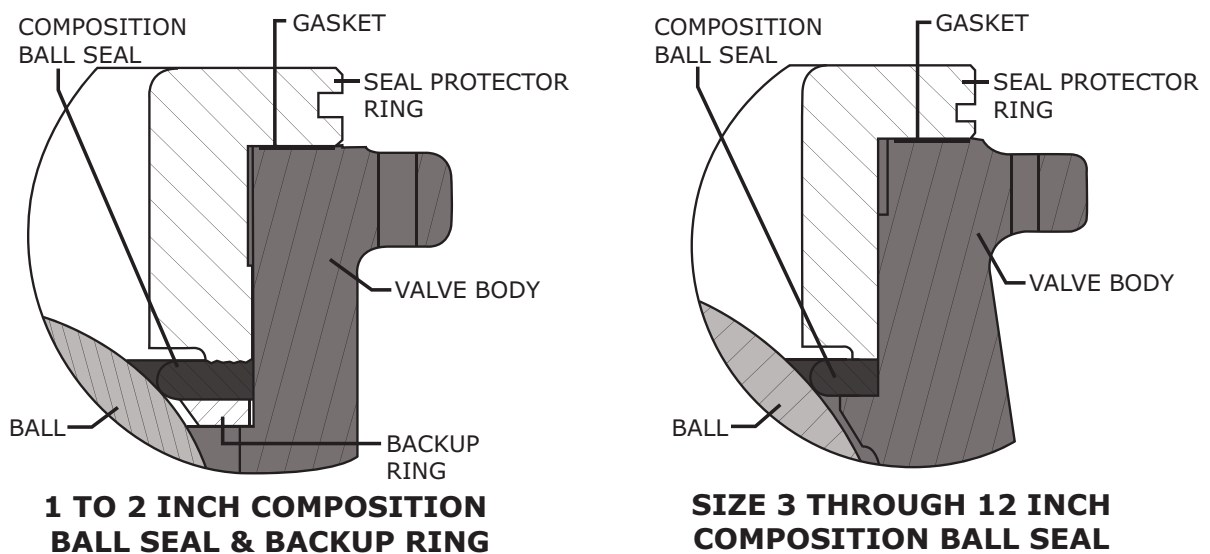
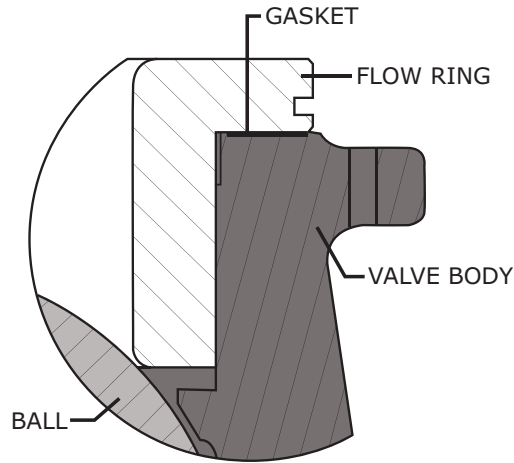


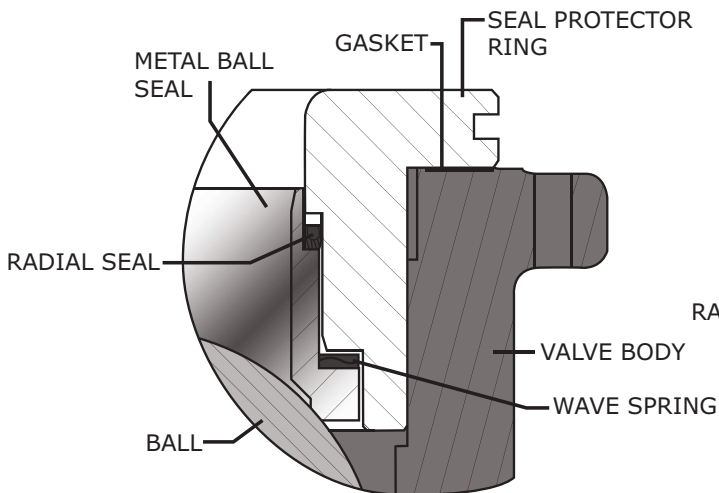
Figure 8 Ball Seal Assembly Diagrams - Composition Ball Seal 1 to 12 Inch Valves (Continued in Figure 9)

Model 570, 571, 573 Control Valves

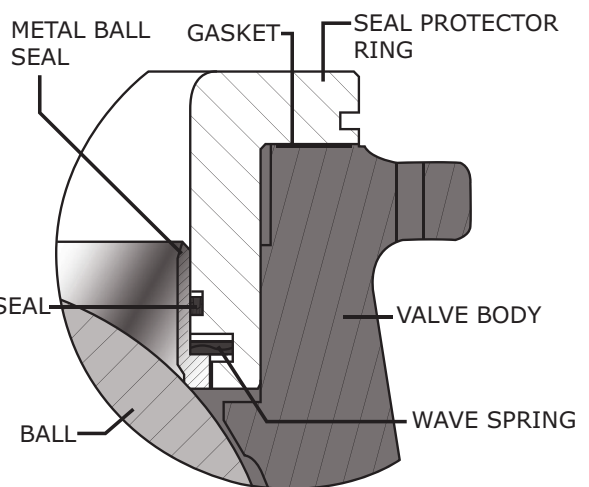
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FLOW RING SEAT DETAIL



1 - 2 INCH METAL BALL SEAL

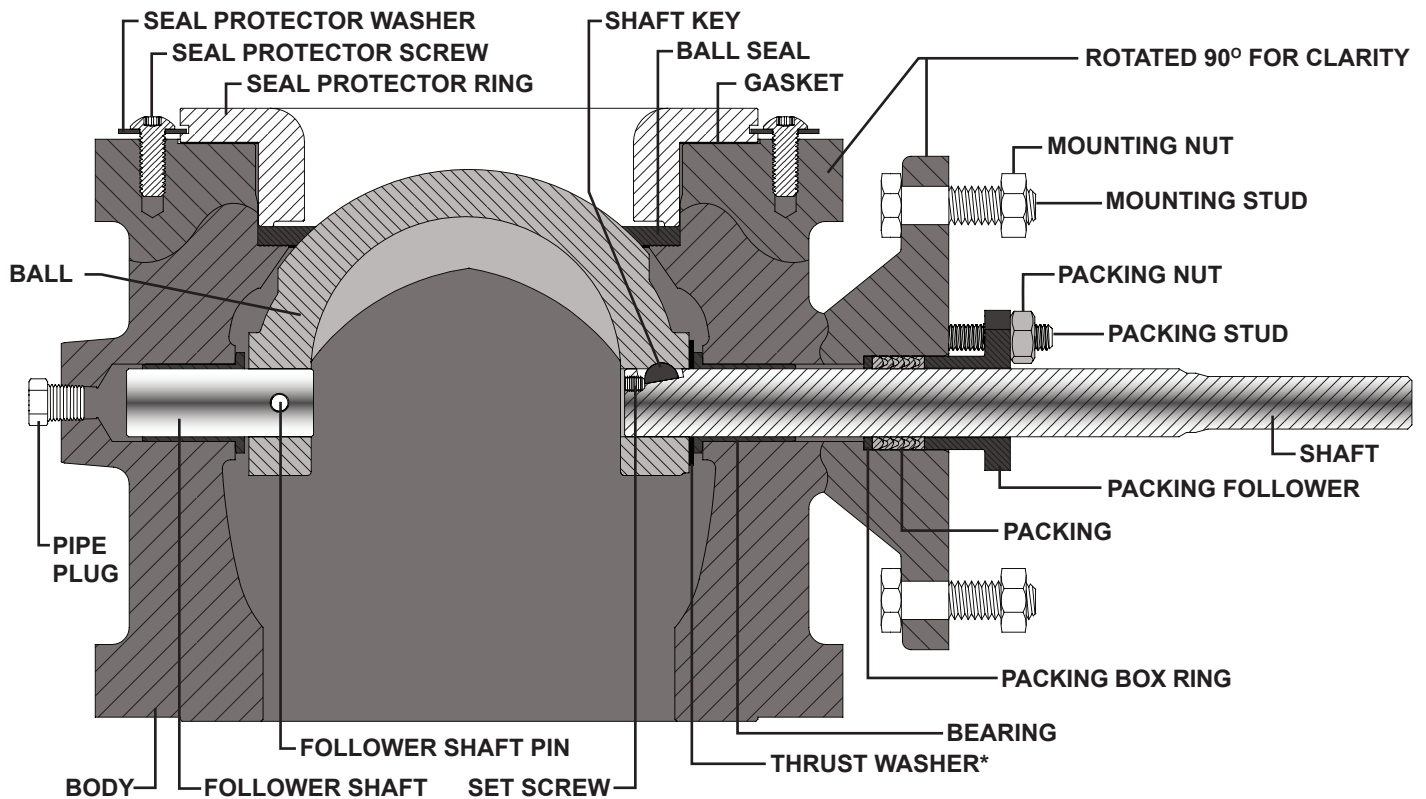


**SIZE 3 THROUGH 12 INCH
METAL BALL SEAL**

Figure 9 Ball Seal Assembly Diagrams - Continued

Model 570, 571, 573 Control Valves

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***NOTE: 3 AND 4 INCH VALVES DO NOT HAVE A THRUST WASHER.**

Figure 10 3 to 12 Inch Model 571/573 Cross Section

Model 570, 571, 573 Control Valves

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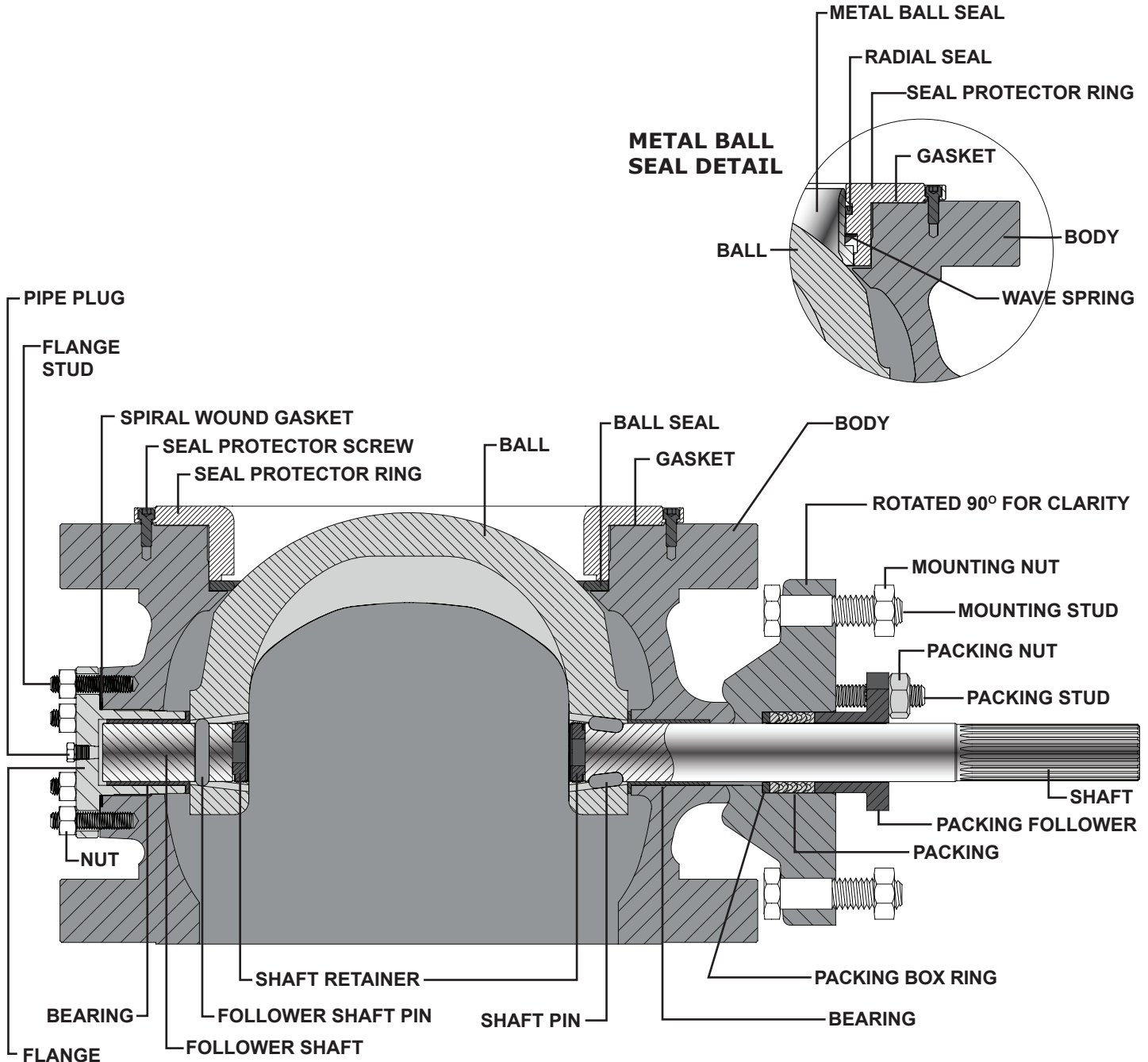
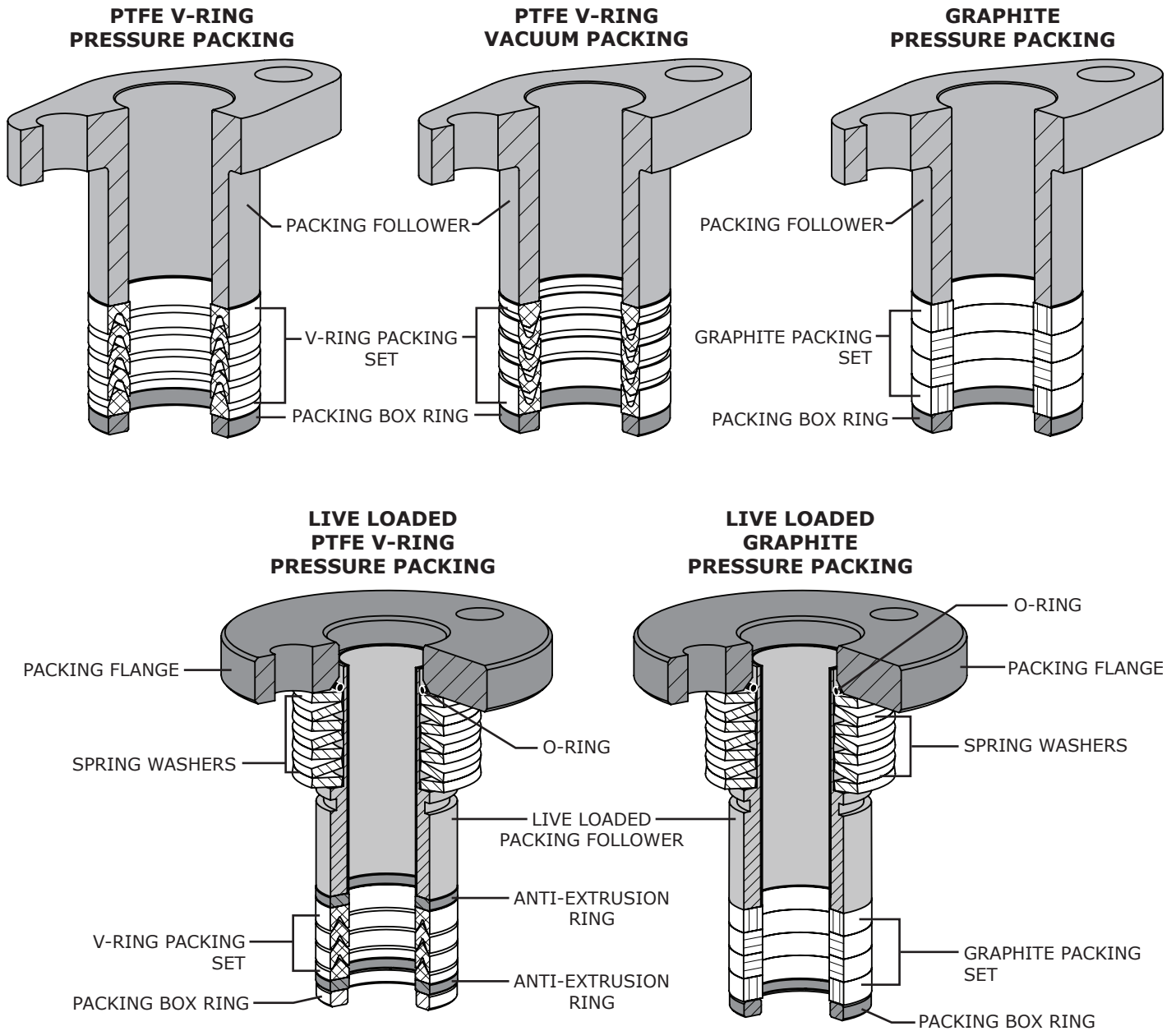


Figure 11 16 Inch Model 571/573 and 20 Inch 571 Cross Section

Model 570, 571, 573 Control Valves

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NOTE: Packing arrangements may differ from those shown above depending on valve size and application. Refer to the Model 570, 571, 573 Instruction Manual (P-570M) for more information on packing arrangements.

Figure 12 Valve Packing Configurations

Model 570, 571, 573 Control Valves

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Table 17

Body Pressure Temperature Ratings

ASME Pressure Class

Temperature Range	ASME Pressure Class								
	WCC Class 150	LCC ¹ Class 150	CG8M Class 150	WCC Class 300	LCC ¹ Class 300	CG8M Class 300	WCC Class 600	LCC ¹ Class 600	CG8M Class 600
°C	bar								
-46 to -29	—	20.0	19.0	—	51.7	49.6	—	103	99.3
-29 to 38	20.0	20.0	19.0	51.7	51.7	49.6	103	103	99.3
93	17.9	17.9	16.2	51.7	51.7	42.7	103	103	85.5
149	15.9	15.9	14.8	50.3	50.3	38.6	103	100	77.2
204	13.8	13.8	13.4	48.6	48.6	35.5	97.2	97.2	70.7
260	11.7	11.7	11.7	45.9	45.8	33.1	91.7	91.7	65.8
316	9.65	9.65	9.65	41.7	41.7	31.0	83.4	83.4	62.1
343	8.62	8.62	8.62	40.7	40.7	30.3	81.0	81.0	61.0
371	7.58	—	7.58	38.3	—	30.0	78.3	—	60.0
399	6.55	—	6.55	38.4	—	29.3	70.0	—	58.9
427	5.52	—	5.52	34.8	—	29.0	56.9	—	58.3
°F	Psi								
-50 to -20	—	290	275	—	750	720	—	1,500	1,440
-20 to 100	290	290	275	750	750	720	1,500	1,500	1,440
200	260	260	235	750	750	620	1,500	1,500	1,240
300	230	230	215	730	730	560	1,455	1,455	1,120
400	200	200	195	705	705	515	1,405	1,405	1,025
500	170	170	170	665	665	480	1,330	1,330	955
600	140	140	140	605	605	450	1,210	1,210	900
650	125	125	125	590	590	440	1,175	1,175	885
700	110	—	110	555	—	435	1,110	—	870
750	95	—	95	505	—	425	1,015	—	855
800	80	—	80	410	—	420	825	—	845

Pressure Temperature Ratings as per ASME B16.34.
For ratings above 800°F (427 °C) consult factory.

Notes:

1 - Do not use over 650 °F (343 °C)

Model 570, 571, 573 Control Valves

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Table 18

Maximum Allowable Shutoff Pressure Drops for Bearing and Ball Seal Material

Bearing Material	Ball Seal	Temperature Range °F (°C)	Valve Size, Inches						
			1	1-1/2	2	3	4	6	8
			Psi (bar)						
S17400 / Carbon-filled PTFE	Composition Ultra	-50 to 100 (-46 to 38)	-	-	-	-	-	750 (51.7)	750 (51.7)
		200 (93)	-	-	-	-	-	550 (37.9)	550 (37.9)
		300 (149)	-	-	-	-	-	350 (24.1)	350 (24.1)
		400 (204)	-	-	-	-	-	150 (10.3)	150 (10.3)
		450 (232)	-	-	-	-	-	50 (3.45)	50 (3.45)
	Metal	-50 to 500 (-46 to 260)	-	-	-	-	-	750 (51.7)	750 (51.7)
	Flow Ring	-50 to 500 (-46 to 260)	-	-	-	-	-	1,090 (75.2)	1,070 (73.8)
S44004	Metal	-50 to 550 (-46 to 288)	-	-	371 (25.6)	252 (17.4)	160 (11.0)	157 (10.8)	162 (11.2)
	Flow Ring	-50 to 800 (-46 to 427)	-	-	386 (26.6)	272 (18.8)	157 (10.8)	162 (11.2)	160 (11.0)
Alloy 6	Metal	-50 to 550 (-46 to 288)	750 (51.7)	725 (50.0)	371 (25.6)	252 (17.4)	160 (11.0)	157 (10.8)	162 (11.2)
	Flow Ring	-50 to 800 (-46 to 427)	1,080 (74.5)	720 (49.6)	386 (26.6)	272 (18.8)	157 (10.8)	162 (11.2)	160 (11.0)
PEEK / Carbon-filled PTFE	Composition Ultra	-50 to 100 (-46 to 38)	750 (51.7)	750 (51.7)	750 (51.7)	750 (51.7)	750 (51.7)	-	-
		200 (93)	550 (38.0)	550 (37.9)	550 (37.9)	550 (37.9)	550 (37.9)	-	-
		300 (149)	350 (24.1)	350 (24.1)	350 (24.1)	350 (24.1)	350 (24.1)	-	-
		400 (204)	150 (10.3)	150 (10.3)	150 (10.3)	150 (10.3)	150 (10.3)	-	-
		450 (232)	50 (3.45)	50 (3.45)	50 (3.45)	50 (3.45)	50 (3.45)	-	-
	Metal	-50 to 500 (-46 to 260)	750 (51.7)	750 (51.7)	750 (51.7)	750 (51.7)	750 (51.7)	-	-
	Flow Ring	-50 to 500 (-46 to 260)	1,500 (103)	1,500 (103)	1,500 (103)	1,500 (103)	1,050 (72.4)	-	-

NOTE: Do not exceed the pressure/temperature rating of the valve body material as per Table 17.

Model 570, 571, 573 Control Valves

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Table 19

Maximum Allowable Shutoff Pressure Drops for Bearing and Ball Seal Material

Bearing Material	Ball Seal	Temperature Range °F (°C)	Valve Size, Inches		
			10	12	16
			Psi (bar)		
S17400 / Carbon-filled PTFE	Composition Ultra	-50 to 100 (-46 to 38)	583 (40.2)	545 (37.6)	-
		200 (93)	550 (37.9)	545 (37.6)	-
		300 (149)	350 (24.1)	350 (24.1)	-
		400 (204)	150 (10.3)	150 (10.3)	-
		450 (232)	50 (3.45)	50 (3.45)	-
	Metal	-50 to 500 (-46 to 260)	593 (40.9)	553 (38.1)	-
	Flow Ring	-50 to 500 (-46 to 260)	587 (40.5)	547 (37.7)	-
S44004	Metal	-50 to 550 (-46 to 288)	89 (6.14)	83 (5.72)	-
	Flow Ring	-50 to 800 (-46 to 427)	88 (6.07)	82 (5.65)	-
Alloy 6	Metal	-50 to 550 (-46 to 288)	89 (6.14)	83 (5.72)	109 (7.52)
	Flow Ring	-50 to 800 (-46 to 427)	88 (6.07)	82 (5.65)	106 (7.31)
PEEK / Carbon-filled PTFE	Composition Ultra	-50 to 100 (-46 to 38)	-	-	450 (31.0)
		200 (93)	-	-	450 (31.0)
		300 (149)	-	-	350 (24.1)
		400 (204)	-	-	150 (10.3)
		450 (232)	-	-	50 (3.45)
	Metal	-50 to 500 (-46 to 260)	-	-	450 (31.0)
	Flow Ring	-50 to 500 (-46 to 260)	-	-	708 (48.8)

NOTE: Do not exceed the pressure/temperature rating of the valve body material as per Table 16.

Model 570, 571, 573 Control Valves

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Table 20

Valve Sizing Coefficients

Forward Flow, Composition And Metal Seals 1:1 Pipe To Valve Size Ratio

Valve Size		Degrees Opening								
		10	20	30	40	50	60	70	80	90
1 inch	C _v	0	0.300	2.10	5.10	9.10	14.0	20.0	26.5	30.5
	X _T	0.870	0.870	0.697	0.620	0.510	0.526	0.451	0.388	0.395
	F _L	0.96	0.96	0.92	0.89	0.86	0.86	0.86	0.86	0.85
1-1/2 inch	C _v	0.0140	2.00	6.10	12.2	19.2	27.8	38.8	59.2	74.5
	X _T	0.510	0.460	0.548	0.557	0.520	0.516	0.481	0.344	0.310
	F _L	0.87	0.89	0.87	0.87	0.83	0.82	0.81	0.71	0.73
2 inch	C _v	0.054	3.05	9.20	18.1	30.1	42.4	61.0	84.4	112
	X _T	0.648	0.788	0.775	0.688	0.610	0.590	0.487	0.418	0.379
	F _L	0.94	0.90	0.91	0.86	0.85	0.84	0.79	0.76	0.76
3 inch	C _v	1.08	10.5	24.8	41.2	69.4	112	163	230	303
	X _T	0.689	0.608	0.640	0.636	0.588	0.558	0.461	0.399	0.315
	F _L	0.91	0.89	0.89	0.86	0.84	0.82	0.78	0.78	0.75
4 inch	C _v	3.90	21.4	47.2	77.8	117	172	248	375	519
	X _T	0.737	0.854	0.813	0.724	0.657	0.559	0.504	0.355	0.230
	F _L	0.88	0.91	0.91	0.87	0.84	0.81	0.78	0.70	0.63
6 inch	C _v	6.40	31.1	77.9	141	216	310	435	685	1,012
	X _T	0.608	0.775	0.797	0.740	0.635	0.540	0.514	0.362	0.230
	F _L	0.94	0.93	0.92	0.89	0.85	0.80	0.79	0.72	0.62
8 inch	C _v	7.50	53.5	112	203	323	465	631	915	1,670
	X _T	0.580	0.790	0.741	0.642	0.611	0.543	0.569	0.370	0.210
	F _L	0.94	0.94	0.92	0.90	0.85	0.80	0.79	0.72	0.62
10 inch	C _v	41.0	99.4	240	447	689	980	1,320	1,940	2,860
	X _T	0.413	0.652	0.620	0.459	0.510	0.480	0.452	0.310	0.242
	F _L	0.84	0.87	0.88	0.85	0.85	0.82	0.75	0.64	0.53
12 inch	C _v	40.0	152	350	640	1,030	1,460	1,980	2,840	3,710
	X _T	0.450	0.770	0.687	0.602	0.530	0.527	0.451	0.358	0.245
	F _L	0.78	0.81	0.84	0.82	0.82	0.79	0.72	0.67	0.63
16 inch	C _v	70.0	319	692	1,150	1,630	2,380	3,290	4,680	8,270
	X _T	0.273	0.731	0.566	0.469	0.469	0.452	0.384	0.265	0.133
	F _L	0.89	0.96	0.79	0.78	0.79	0.80	0.74	0.54	0.37
Relationships Of Note:		$C_1 = 39.76\sqrt{X_T}$			$C_g = C_v C_1$			$K_m = F_L^2$		

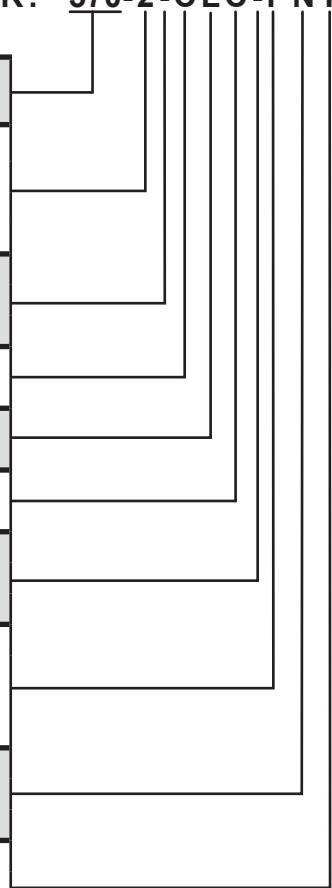


Model 570, 571, 573 Control Valves

MODEL NUMBERING SYSTEM

SAMPLE PART NUMBER: **570-2-CLC-PNT**

MODEL						570		
570	570	571	571	573	573			
VALVE SIZE						2		
1	1 INCH	5	1-1/2 INCH	2	2 INCH		3	3 INCH
4	4 INCH	6	6 INCH	8	8 INCH		10	10 INCH
12	12 INCH	16	16 INCH					
BALL MATERIAL						-		
-	CG8M / CRPL (STANDARD)			S	CG8M / Alloy 6 LEADING EDGE / CRPL			
N	CG8M / Alloy 6 LEADING EDGE			B	CG8M			
ASME RATING (SEE PAGE 2)						C		
A	150	B	300 / 600	C	150 / 300 / 600		E	300
BODY MATERIAL						L		
L	LCC	W	WCC	C	CG8M			
BALL SEAL MATERIAL						C		
A	ALLOY 6	H	S21800	C	COMPOSITION ULTRA		S	FLOW RING
PAINT						-		
-	DFPS-01 (STANDARD)			2	DFPS-02 (SEVERE SERVICE)			
3	DFPS-03 (HIGH TEMPERATURE)							
PACKING STYLE						P		
P	SINGLE PTFE V-RING			L	LIVE LOADED PTFE			
V	SINGLE PTFE V-RING (VACUUM)			T	LIVE LOADED GRAPHITE			
G	SINGLE GRAPHITE							
SHAFT STYLE						N		
N	SPLINED			K	KEYED (VALVE SIZES 8" - 16" ONLY)			
P	SQUARE END (VALVE SIZES 1" - 6" ONLY. FOR 1" & 1-1/2" VALVES CONSULT DYNA-FLO)							
BEARINGS						T		
T	S17400 / CARBON-FILLED PTFE ⁽¹⁾			T	PEEK / CARBON-FILLED PTFE ⁽¹⁾			
A	ALLOY 6			F	S44004			
NOTES								
1	BEARING MATERIAL WILL VARY DEPENDING ON VALVE SIZE, REFER TO TABLE 18 & 19 FOR MORE INFORMATION.							



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