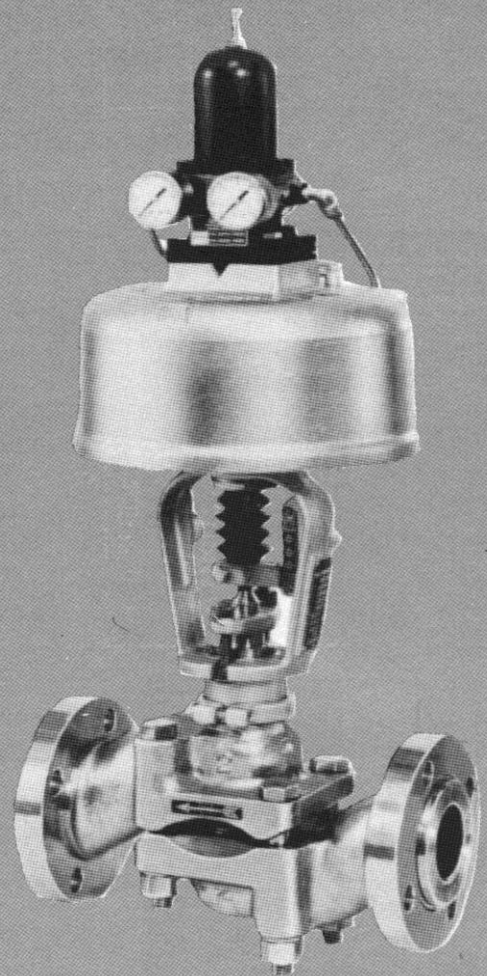


2600 Series Split Body Control Valve Building Blocks



Annin

Masoneilan **DRESSER**

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Foreword

The Group 26 split body control valve is the product of over 35 years of experience (longest in the industry) in the design and manufacture of split body valves. Designed as a standardized valve, it covers most normal applications and fulfills control requirements demanded of highly specialized valves.

The 2600 Series control valves are designed for applications requiring versatility as well as economy and where exotic material selections are a necessity. With its varied range of materials, configurations, trim options and the selection of actuators, it is a most versatile control valve. Features include:

Modular Construction

Allows one valve line to equip an entire plant for standard and severe services.

Quick Trim Changeout

Clamped-in seat ring allows "in line" trim replacement on corrosive services.

Smooth Internal Flow Passages

No-pocket design prevents material buildup.

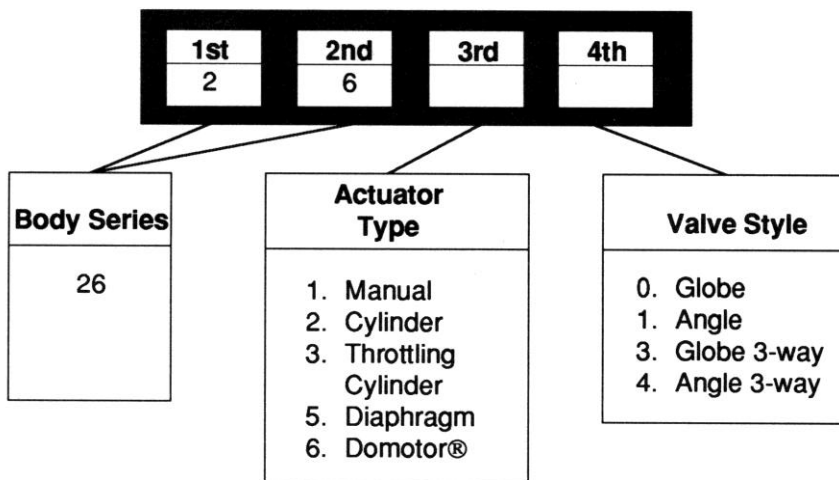
Stem Guiding

Stem guiding avoids buildup of sticky substances and plastic particles which collect behind conventional valve plugs guided by plug post and bushing.

Low weight and separable flanges permit low cost alloy bodies; one valve body adapts to ANSI Class 150 through 600 line flanges.

Domotor® actuator has maximum thrust to free valve plug in sticky service; integral positioner has no external feedback linkages, ideal in corrosive atmospheres. The positioner is mounted on top of the actuator, away from the packing box.

Numbering System



General Data

- | | |
|---|---|
| <ul style="list-style-type: none"> • Body <ul style="list-style-type: none"> types: cast split body
globe
angle
3-way globe
3-way angle flow direction: flow to open
flow to close C_v ratio: 50:1 materials: carbon and chrome-molybdenum steel; 316 and other 300 Series stainless steels; Alloy 20; Hastelloy "B" and "C", Monel and others • Flow Characteristics <ul style="list-style-type: none"> linear, equal percentage, semi-throttle • Actuator <ul style="list-style-type: none"> type: manual, cylinder, diaphragm Domotor® auxiliary handwheel: optional with Domotor® | <ul style="list-style-type: none"> • Trim <ul style="list-style-type: none"> types: contoured plug
LO-DB® multi-hole cage
Pee-Wee trim (1/2" - 1") materials: plug/stem
316 St. St.;
hardfaced 316 St. St.; Alloy 20;
other materials according to body material seat ring
316 St. St.; Alloy 20;
hardfaced 316 St. St.;
solid Stellite; soft seat ①
TFE or FEP Teflon and Kel-F;
other materials according to body material guide
Stellite (Standard);
Chrome plated 316 St. St.;
Aluminum bronze;
glass loaded Teflon;
Alloy 20; Monel |
|---|---|

① Not available on LO-DB® trim or 3-way construction

Temperature Range/Seat Leakage

Valve Size (inches)	ANSI Class	Seat Type	Temperature Range		Globe & Angle	LO-DB® ①
			Min.	Max.		
1/2 - 8	150 - 600	Metal	-320°F	+1200°F	Class IV	Class IV
	150 - 600	Soft Seat	-320°F	+400°F	Class VI	-
10	150 - 300	Metal	-320°F	+1200°F	Class IV	-
	150 - 300	Soft Seat	-320°F	+400°F	Class VI	-

① LO-DB® through 6" only

Ratings/Connections

- Threaded (NPT)
- ▲ Separable Flange①
- Integral Flange
- Grayloc and Weld Ends

Valve Size (inches)	ANSI Class		
	150	300	600
1/2 - 2	• ▲ ■ □	• ▲ ■ □	• ▲ ■ □
3 & 4	▲ ■ □	▲ ■ □	▲ ■ □
6 & 8	■ □	■ □	■ □
10	■ □	■ □	-

① Carbon steel is standard
304 stainless steel is optional
other alloys available

Actuator Data

Manual

type: non-rising handwheel
material: ductile iron

Cylinder

type: pneumatic spring cylinder for on-off or throttling applications. (See SD CR5030 for additional information.)
material: glass fiber reinforced epoxy cylinder, steel piston, caps and connecting rods
action: spring to retract stem or spring to extend stem (also available without springs). Operated by a double acting positioner or a 3 or 4 way solenoid valve
supply: 40 - 150 psi
connections: 1/4" NPT upper and lower

Diaphragm

type: field reversible spring diaphragm
positioner: Moore 750P
handwheel: not available

Domotor®

type: positioning pneumatic cylinder with integral positioner and loading regulator. (See SD CR4000 for additional information.)
material: cast aluminum
action: increasing instrument signal retracts stem (direct positioner) increasing instrument signal extends stem (reverse positioner)
instrument signal: common full and split range signals
supply: 40 - 100 psi
loading pressure: depends on available supply pressure, process conditions, fluid flow direction and fail safe action
static air consumption: 0.5 SCFM @ 60 psi supply pressure
air connections: 1/4" NPT instrument and supply

Nominal Effective Area (sq. in.)	Maximum Stroke (in.)	Available Spring Ranges (psig) All Sizes
38	1.5	10-20
78	2.5	15-30
154	6.0	or
314	6.0	25-50

Domotor® Size	Maximum Stroke (in.)	Nominal Effective Area (sq. in.)
A	3/4	25
B	1 1/2	50
C	2 1/2	100
D	6	200

Standard actuator sizes

Valve Size (inches)	Actuator Size			
	Manual (in.)	Cylinder	Diaphragm	Domotor®
1/2	7	38 sq. in.	6	A
3/4	7	38 sq. in.	6	A
1	7	38 sq. in.	6	A
1 1/2	12	38 sq. in.	10	B
2	12	38 sq. in.	10	B
3	18	78 sq. in.	16	C
4 ANSI Class 300 or 600 ①	18	78 sq. in.	16	C
4 ANSI Class 600	18 ②	154 sq. in.	---	D
6 ANSI Class 150 or 300 ①	18	78 sq. in.	---	C
6 ANSI Class 300	18 ②	154 sq. in.	---	D
6 ANSI Class 600	18 ②	154 sq. in.	---	D
8	18 ③	C/F	---	D
10	18 ③	C/F	---	D

① Body for Series "C" actuators only

② 12" Yoke

③ 16" Yoke

Flow Coefficients - Rated C_v ②

Critical Flow Factor F_L

Valve Size (inches)	Travel (inches)	Globe, Angle						LO-DB®	3-way
		Pee-Wee Trim ①		Reduced Trim		Full Trim			
1/2	.75	.04	.10	.25	0.6	1.5		4	4
3/4	.75	.04	.10	.25	0.6	1.5	4	6	4
1	.75	.04	.10	.25	0.6	1.5	4	6	12
1 1/2	1.5							12	16
2	1.5							25	16
3	2.5							46	25
4	2.5							75	25
6	2.5							110	75
6	3							195	110
6	3							275	195
8	5							400	275
8	5							400	400
10	5							640	400
10	5							1000	640

**Critical Flow Factor F_L
Valve Fully Open**

Valve Configuration	Flow to Close	Flow to Open
Globe, Full Trim	.80	.75
Angle, Full Trim	.80	.75
Globe, Reduced Trim	.80	.75
Angle, Reduced Trim	.80	.75
LO-DB® Trim	.95	.95
3-way Trim	.80	.80

- ① C_v ratio 10:1
- ② Consult factory for other available C_v 's

C_v and F_L versus Travel

Standard Trim

Flow Direction: Flow to Open
ANSI Class: 150 through 600
Sizes: 1/2" through 10"

Flow Characteristic: **SEMI-THROTTLE**

Percent (%) of Travel			10	20	30	40	50	60	70	80	90	100
F_L			0.90	0.88	0.87	0.84	0.82	0.79	0.78	0.77	0.76	0.75
Valve Size (inches)	Orifice Diameter (inches)	Travel (inches)	Rated C_v									
1/2	.500	.50	.40	1.00	2.52	3.28	3.64	3.84	3.88	3.92	3.96	4
3/4	.625	.50	.60	1.50	3.78	4.92	5.46	5.76	5.82	5.88	5.94	6
1	.812	.50	1.20	3.00	7.50	9.80	10.90	11.52	11.60	11.70	11.80	12
1 1/2	1.250	.75	2.50	6.25	15.70	20.50	22.70	24.00	24.20	24.50	24.70	25
2	1.625	.75	4.60	11.50	28.90	37.70	41.80	44.16	44.60	45.00	45.50	46
3	2.625	1.50	11.00	27.50	69.30	90.20	100.00	105.60	106.00	107.00	108.00	110
4	3.500	1.50	19.50	48.75	122.00	159.00	177.00	187.20	189.00	191.10	193.00	195
6 300 ANSI	4.625	2.50	40.00	100.00	252.00	328.00	364.00	384.00	388.00	392.00	396.00	400
6 300 ANSI	4.250	2.50	27.50	68.75	173.00	225.00	250.00	264.00	266.00	269.00	272.00	275
6 600 ANSI	4.500	2.50	40.00	100.00	252.00	328.00	364.00	384.00	388.00	392.00	396.00	400
8	6.250	5.00	64.00	160.00	403.00	524.00	582.00	614.40	620.00	627.00	633.00	640
10	8.000	5.00	100.00	250.00	630.00	820.00	910.00	960.00	970.00	980.00	990.00	1000

C_v and F_L versus Travel

Standard Trim

Flow Direction: Flow to Open
ANSI Class: 150 through 600
Sizes: 1/2" through 10"

Flow Characteristic: **EQUAL PERCENTAGE**

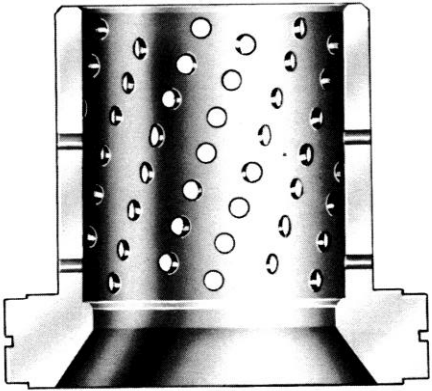
Percent (%) of Travel			10	20	30	40	50	60	70	80	90	100
F _L			0.90	0.90	0.89	0.89	0.89	0.87	0.86	0.83	0.78	0.75
Valve Size (inches)	Orifice Diameter (inches)	Travel (inches)	Rated C _v									
1/2	.500	.75	.10	.16	.30	.48	.64	.92	1.24	1.80	2.70	4
3/4	.625	.75	.15	.24	.45	.72	.96	1.38	1.86	2.70	4.02	6
1	.812	.75	.30	.48	.90	1.44	1.92	2.76	3.72	5.40	8.04	12
1 1/2	1.250	1.50	.62	1.00	1.87	3.00	4.00	5.75	7.75	11.20	16.70	25
2	1.625	1.50	1.15	1.84	3.45	5.52	7.36	10.50	14.20	20.70	30.80	46
3	2.625	2.50	2.75	4.40	8.25	13.20	17.60	25.30	34.10	49.50	73.70	110
4	3.500	2.50	4.87	7.80	14.60	23.40	31.20	44.80	60.40	87.70	130.00	195
6 300 ANSI	4.625	2.50	10.00	16.00	30.00	48.00	64.00	92.00	124.00	180.00	268.00	400
6 300 ANSI	4.250	2.50	6.87	11.00	20.60	33.00	44.00	63.20	85.20	123.00	184.00	275
6 600 ANSI	4.500	3.00	10.00	16.00	30.00	48.00	64.00	92.00	124.00	180.00	268.00	400
8	6.250	5.00	16.00	25.60	48.00	76.80	102.00	147.00	198.00	288.00	428.00	640
10	8.000	5.00	25.00	40.00	75.00	120.00	160.00	230.00	310.00	450.00	670.00	1000

Standard Trim

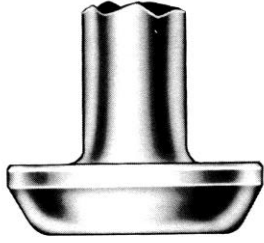
Flow Direction: Flow to Open
ANSI Class: 150 through 600
Sizes: 1/2" through 10"

Flow Characteristic: **LINEAR**

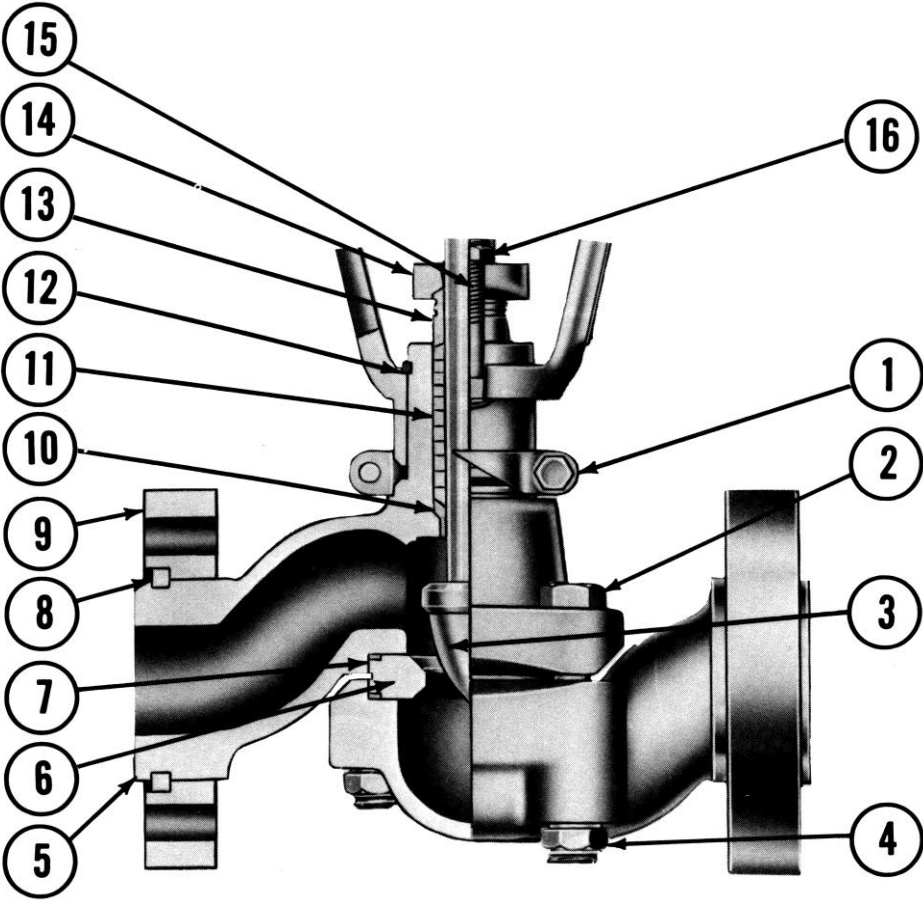
Percent (%) of Travel			10	20	30	40	50	60	70	80	90	100
F _L			0.90	0.88	0.87	0.84	0.82	0.79	0.78	0.77	0.76	0.75
Valve Size (inches)	Orifice Diameter (inches)	Travel (inches)	Rated C _v									
1/2	.500	.75	.36	.72	1.04	1.40	1.80	2.24	2.64	3.08	3.52	4
3/4	.625	.75	.54	1.08	1.56	2.10	2.70	3.36	3.96	4.62	5.28	6
1	.812	.75	1.08	2.16	3.12	4.20	5.40	6.72	7.92	9.24	10.56	12
1 1/2	1.250	1.50	2.25	4.50	6.50	8.75	11.20	14.00	16.50	19.20	22.00	25
2	1.625	1.50	4.14	8.28	11.90	16.10	20.70	25.70	30.30	35.40	40.40	46
3	2.625	2.50	9.90	19.80	28.60	38.50	49.50	61.60	72.60	84.70	96.80	110
4	3.500	2.50	17.50	35.10	50.70	68.20	87.70	109.00	128.00	150.10	171.00	195
6 300 ANSI	4.625	2.50	36.00	72.00	104.00	140.00	180.00	224.00	264.00	308.00	352.00	400
6 300 ANSI	4.250	2.50	24.70	49.50	71.50	96.20	123.00	154.00	181.00	211.00	242.00	275
6 600 ANSI	4.500	3.00	36.00	72.00	104.00	140.00	180.00	224.00	264.00	308.00	352.00	400
8	6.250	5.00	57.60	115.00	166.00	224.00	288.00	358.00	422.00	492.00	563.00	640
10	8.000	5.00	90.00	180.00	260.00	350.00	450.00	560.00	660.00	770.00	880.00	1000



LO-DB Seat Ring



LO-DB Plug and Stem



Materials

Part No.	Temperatures Description	-320°F	-20°F	+400°F	+450°F	+750°F	+1000°F	+1200°F	
		Standard Materials							
1	Yoke Clamp	304 St. St.							
2	Valve Body Bolting	Alloy Steel ASTM A193 Gr B7							
		Stainless Steel ASTM A193 Gr B8						A453	
3	Plug/Stem	316 St. St. ASTM A479 TY							
		Hardfaced 316 St. St. ASTM A479 TY (Std. on LO-DB®, opt. on others) ①							
4	Valve Body Nuts	Stainless Steel ASTM A194 Gr 8							
		Alloy Steel ASTM A194 Gr 2H							
5	Body	316 St. St. ASTM A351 Gr CF8M							
		Carbon Steel ASTM A216 Gr WC B							
6	Seat Ring	316 St. St. ASTM A479 TY							
		316 St. St./TFE							
		Hardfaced 316 St. St. ASTM A479 TY (optional)							
7	Seat Ring Gasket	Teflon							
		Non-asbestos Sheet							
		Inconel X-750 Metal O-ring							
8	Flange Half Rings	Carbon Steel							
		304 St. St. (optional)							
9	Separable End Flange	304 St. St. (optional)							
		Carbon Steel ASTM A515 Gr 70							
10	Stem Guide	Stellite							
		AL/BZ							
		25% GLT							
11	Packing	Teflon V-ring ②							
							Grafoil		
12	Yoke Half Rings	304 St. St.							
13	Packing Follower	316 St. St. ASTM A479 TY 316							
		Alloy 20 ASTM B473 (for Alloy 20 valves)							
14	Gland Flange	316 St. St. ASTM A351 Gr CF8M							
15	Packing Box Studs	304 St. St. ASTM A193 Gr B8							
16	Packing Box Stud Nuts	304 St. St. ASTM A194 Gr 8F							

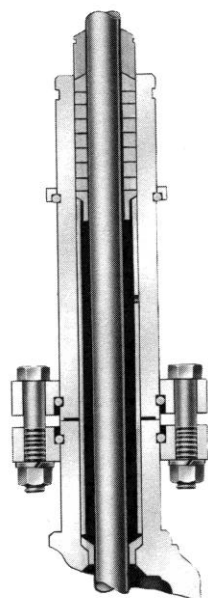
① Hardfacing of stem is mandatory on LO-DB trim and services over 750°F

② No bonnet insulation allowed for teflon packings

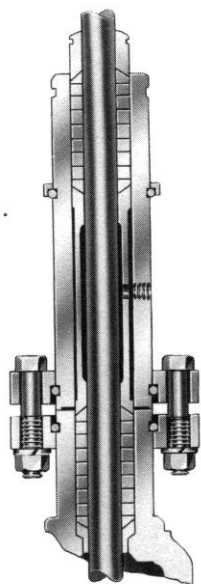
Note: Extension bonnet is required for service temperature below -20°F and above +600°F

Grafoil packing necessary for services between 450°F to 600°F without extension

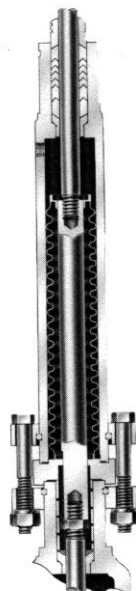
Bonnet Extension and Packing Arrangements



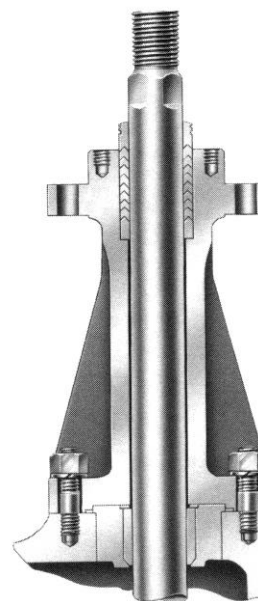
Plain extension



Doolseal extension



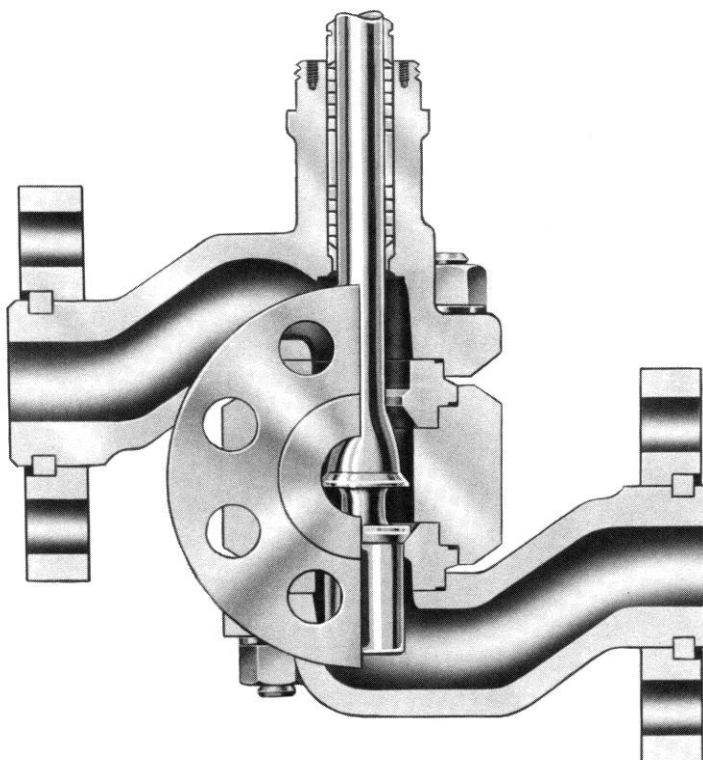
Bellows seal extension



Typical extension
for D actuators

3-Way Globe Valve Orientation

Orientation of the end connections of a 3-way valve is described with clock positions, when viewing the valve from above with the side of the yoke bearing the stroke indicator plate at 6 o'clock. For example, the 3-way globe, pictured here, has the body at 9 o'clock, the intermediate body at 6 o'clock and the adapter at 3 o'clock. This also applies to corner valves.



Allowable Pressure Drops (psi) - Manual Actuator**Flow to Close****Manually Actuated Valves****Metal Seat (Class VI) ①****Temperature: -320°F to +1200°F****Body Ratings: ANSI Class 150 through 600****Seat Leakage: per ANSI/FCI 70.2, Class IV**

Valve Size (in.)	Travel (in.)	Rated C _v	Actuator Size (in.)	Metal Seat	Soft Seat
1/2	0.75	4	7	1500	1000
3/4	0.75	6	7	1500	1000
1	0.75	12	7	1500	1000
1 1/2	1.50	16	12	1500	1000
		25	12	1500	1000
2	1.50	46	12	1085	1000
3	2.50	75	18	1500	1000
		110	18	765	765
4	2.50	195 ②	18	415	415
			18 ③	650	650
6	2.50	275	18	280	280
			18 ③	555	555
		400	18	235	235
			18 ③	490	490
8	3.00	400	18 ③	400	400
8	5.00	640	18 ④	260	260
10	5.00	1000	18 ④	155	155

① Soft seats are limited to 1000 psi pressure drop.
The preferred flow direction is flow to close.

② Body designed for 150 lb and 300 lb ratings, "C" Series yoke

③ 12" Yoke

④ 16" Yoke

Notes: LO-DB trim allowable pressure drop is equivalent to the allowable pressure drop for full area standard trim in each size
The pressure drops shown are independent of ANSI pressure ratings
When allowable pressure drops exceed ANSI ratings the ANSI ratings must govern

Allowable Pressure Drops (psi) - Diaphragm Actuator**Air to Open/Air to Close****Diaphragm Actuated Globe and Angle Valves (87/88 Actuators)****Metal and Soft Seat****Temperature: -320°F to +1200°F****Body Ratings: ANSI Class 150 through 600****Seat Leakage: per ANSI/FCI 70.2, Class IV, Class VI**

Valve Size (inches)	Travel (inches)	C _v	Act. Size (in.)	Flow to Open - Air to Close 3-15 Spring Air Supply Pressure		F to O - A to O		F to C - A to O	
				20	35	6-30	11-22	3-15	6-30
				35	35	35	35	20	35
1/2	0.75	4	6	660	1440	920	1440	915	1440
3/4	0.75	6	6	330	1440	510	1395	585	1170
1	0.75	12	6	100	1440	210	755	345	675
1 1/2	1.50	16	10	230	1440	350	930	380	750
		25	10	95	1250	170	560	240	470
2	1.50	46	10	5	700	50	285	145	260
3	2.50	75	16	60	770	105	340	150	300
		110	16	---	425	30	170	85	165
4 ①	2.50	195	16	---	215	---	70	50	100

① 150 and 300 ANSI only

Notes: LO-DB® trim allowable pressure drop is equivalent to the allowable pressure drop for full area standard trim in each valve size
The pressure drops shown are independent of ANSI pressure ratings
When allowable pressure drops exceed ANSI ratings the ANSI ratings must govern

Allowable Pressure Drops (psi) - Cylinder Actuator

Air to Open/Air to Close

Cylinder Actuated Globe and Angle Valves

Metal and Soft Seat

Temperature: -320°F to +1200°F

Body Ratings: ANSI Class 150 through 600

Seat Leakage: per ANSI/FCI 70.2, Class IV, Class VI ③

Valve Size (inches)	Travel (inches)	C _v	Act. Size (in.)	Flow to Open - Air to Close 10 - 20 Spring Air Supply Pressure				F to C - A to O			F to O - A to O		
				40	50	60	100	10-20	15-30	25-50	10-20	15-30	25-50
								40	60	100	40	40	60
1/2	0.75	4	38	1440	1440	1440	1440	1440	1440	1440	1000	1440	1440
3/4	0.75	6	38	1440	1440	1440	1440	1440	1440	1440	600	1100	1440
1	0.75	12	38	950	1440	1440	1440	450	1100	1440	250	600	950
1 1/2	1.50	16	38	550	1000	1440	1440	250	900	1440	100	300	550
	1.50	25	38	300	600	900	1440	100	650	1440	50	150	300
2	1.50	46	38	150	300	500	1200	-----	300	1000	-----	50	150
	1.50	46	78	500	850	1200	1200	250	750	1440	150	300	500
3	2.50	75	78	250	550	750	1440	200	950	1440	50	150	250
	2.50	110	78	150	250	400	900	100	400	800	-----	50	150
4 ^① (150 & 300)	2.50	195	78	-----	100	200	500	-----	150	400	-----	-----	-----
4 ^② (600)	2.50	195	154	200	350	600	1200	250	600	1100	100	150	200
6 ^① (150)	2.50	275	78	-----	75	125	325	-----	50	300	-----	-----	-----
	2.50	400	78	-----	25	75	225	-----	-----	250	-----	-----	-----
6 ^② (300)	3.00	275	154	175	300	375	800	200	450	750	75	125	175
	3.00	400	154	125	200	275	575	150	350	550	50	75	125

① Body designed for Series "C" yoke

② Body designed for Series "D" bolted yoke

③ Soft seats limited to 1000 psi drop. Preferred flow direction is flow to close

Notes: LO-DB® trim allowable pressure drop is equivalent to the allowable pressure drop for full area standard trim in each valve size
The pressure drops shown are independent of ANSI pressure ratings
When allowable pressure drops exceed ANSI ratings the ANSI ratings must govern

Allowable Pressure Drops (psi) - Domotor® Actuator

Air to Open/Air to Close ②

Domotor Actuated Globe and Angle Valves

Metal and Soft Seats

Temperature: -320°F to +1200°F

Body Ratings: ANSI Class 150 through 600

Seat Leakage: per ANSI/FCI 70.2, Class IV, Class VI ①

Valve Size (inches)	Travel (inches)	Rated C _v	Actuator Size	Flow to Open - Fail Open ②			Flow to Close - Fail Closed ②		
				Supply 40 psi Preload 30 psi	Supply 60 psi Preload 50 psi	Supply 80 psi Preload 60 psi	Supply 40 psi Preload 30 psi	Supply 60 psi Preload 30 psi	Supply 90 psi Preload 50 psi
1/2	0.75	4	A	1500	1500	1500	1025	1500	1500
			B	1500	1500	1500	1500	1500	1500
3/4	0.75	6	A	1150	1500	1500	550	1500	1500
			B	1500	1500	1500	1500	1500	1500
1	0.75	12	A	600	1500	1500	275	1500	1500
			B	1500	1500	1500	850	1500	1500
1 1/2	1.50	16	B	1150	1500	1500	600	1500	1500
			C	1500	1500	1500	1425	1500	1500
		25	B	700	1475	1500	350	1300	1500
			C	1500	1500	1500	825	1500	1500
2	1.50	46	B	375	850	1075	200	725	975
			C	1025	1175	1175	475	1500	1500
3	2.50	75	C	625	1200	1500	350	1100	1500
			D	1500	1500	1500	725	1500	1500
		110	C	325	700	875	175	600	800
			D	850	925	925	375	1150	1225
4 ③	2.50	195	C	150	375	475	100	325	425
			D	450	500	500	200	625	650
4 ④	2.50	195	D	450	850	1025	200	625	825
6 ③	2.50	275	C	100	225	300	50	200	275
			D	300	325	325	125	400	450
		400	C	50	150	200	50	150	200
			D	200	225	225	100	300	300
6 ⑤	3.00	275	D	300	550	675	150	425	575
		400	D	250	475	600	125	375	500
8	5.00	640	D	100	225	300	50	200	250
10	5.00	1000	D	50	125	175	50	100	150

① Soft seats are limited to 1000 psi pressure drop. The preferred flow direction is flow to close

② For flow to open/fail closed or flow to close/fail open actions, fail-safe volume tanks are required

③ Body designed for 150 lb and 300 lb ratings, "C" Series yoke

④ Body designed for 600 lb rating, "D" Series yoke

⑤ Body designed for 300 lb and 600 lb ratings, "D" Series yoke

Notes: LO-DB® trim allowable pressure drop is equivalent to the allowable pressure drop for full area standard trim in each valve size

The pressure drops shown are independent of ANSI pressure ratings

When allowable pressure drops exceed ANSI ratings the ANSI ratings must govern

Allowable Pressure Drops (psi)

Combining and Diverting Service

Globe and Angle 3-way Valves
Metal Seat
Temperature: -320°F to +1200°F
Body Ratings: ANSI Class 150 through 600
Seat Leakage: per ANSI/FCI 70.2, Class IV

Domotor® Actuator

Valve Size (inches)	Rated C _v	Travel (inches)	Acuator Size	Actuator Pressures		
				Supply 40 psi Preload 30 psi	Supply 80 psi Preload 40 psi	Supply 100 psi Preload 50 psi
1/2	4	0.75	A	640	1500	1500
			B	1430	1500	1500
3/4	6	0.75	A	500	1480	1500
			B	1150	1500	1500
1	10	0.75	A	355	1080	1440
			B	830	1500	1500
1 1/2	25	1.50	B	340	888	1160
			C	775	1500	1500
2	40	1.50	B	220	590	780
			C	520	1230	150
3	95	2.50	C	230	500	750
			D	540	900 ^①	-----
4	175	2.50	C	120	320	410
			D	300	535 ^①	-----
6	275	2.50	C	75	212	280
			C	45	140	190
		3.00	D	200	375 ^①	-----
			D	130	310	400
8	480	5.00	D	80	175	260
10	820	5.00	D	45	100	155

① 60 psi supply, 30 psi preload max. to prevent damage to valve

Notes: LO-DB® trim allowable pressure drop is equivalent to the allowable pressure drop for full area standard trim in each valve size
The pressure drops shown are independent of ANSI pressure ratings
When allowable pressure drops exceed ANSI ratings the ANSI ratings must govern
Volume tanks required for fail-safe action

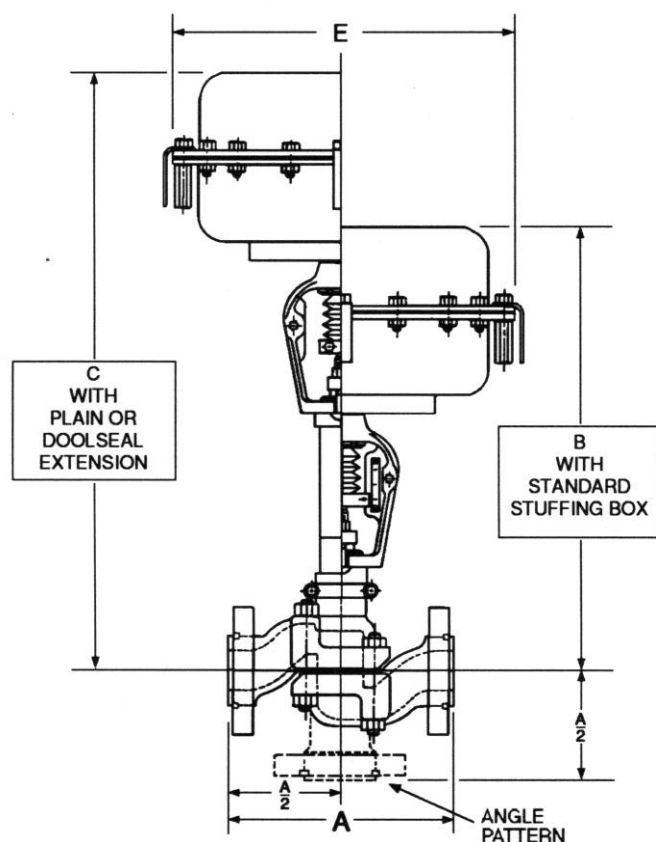
Cylinder Actuator

Valve Size (inches)	Travel (inches)	Rated C _v	Acuator Size	Supply 40 psi Spring Range 10-20	Supply 60 psi Spring Range 15-30	Supply 80 psi Spring Range 25-50
1/2	0.75	4	38	325	750	1500
3/4	0.75	6	38	225	550	1200
1	0.75	12	38	100	350	825
1 1/2	1.50	25	38	0	70	275
			78	175	400	825
2	1.50	46	38	0	10	150
			78	90	225	525
3	2.50	75	78	0	70	200
4 ^①	2.50	195	78	0	15	90

① Body designed for 150 lb and 300 lb ratings, "C" Series yoke

Notes: The pressure drops shown are independent of ANSI pressure ratings
When allowable pressure drops exceed ANSI ratings the ANSI ratings must govern

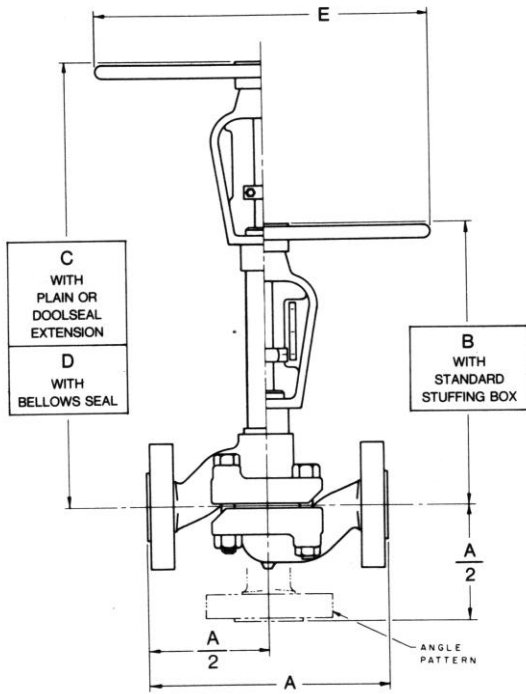
Dimensions (inches)



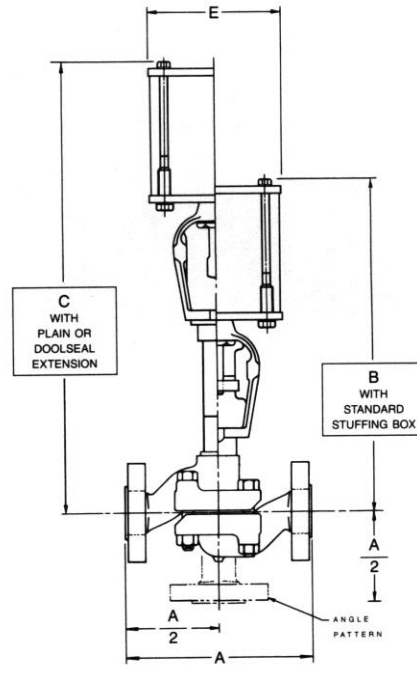
Diaphragm Actuator (87/88)

Valve Size (inches)	ANSI Class 150, 300 & 600			
	A	B ^①	C ^①	E
1/2	6.75	13.7	17.7	11.9
3/4	6.75	13.7	17.7	11.9
1 ^②	8.50	13.7	17.7	11.9
1 1/2 ^②	9.50	19.5	25.5	14.7
2 ^②	11.50	20.0	26.0	14.7
3 ^②	14.00	28.0	37.0	18.8
4 ^{② ③}	17.00	28.0	37.0	18.8

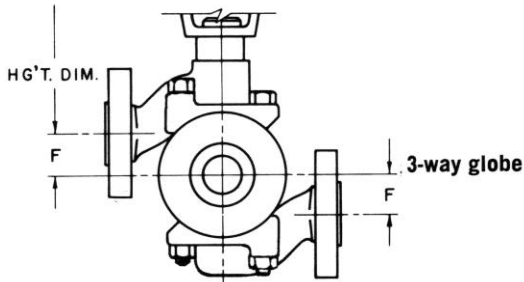
- ① Add 4 1/2" to B, C or D dimension for actuator removal clearance
- ② Dimension A is for separable flanges or weld ends only. See table on page 19 for integral flange dimension A (to ISA standards as noted)
- ③ 150 and 300 ANSI only



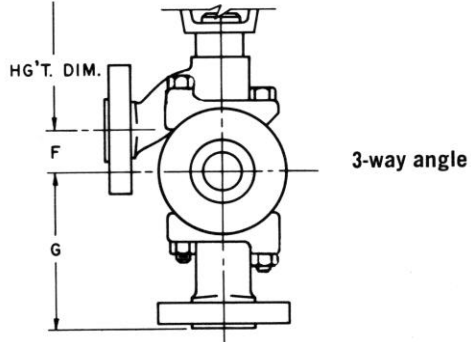
Manual Actuator



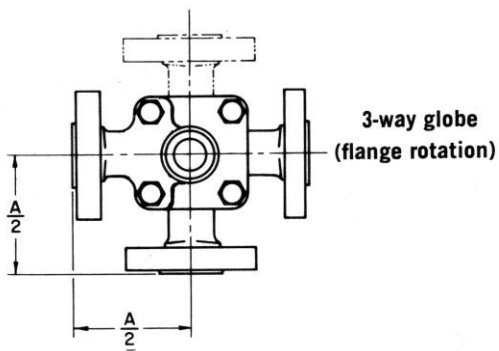
Cylinder Actuator



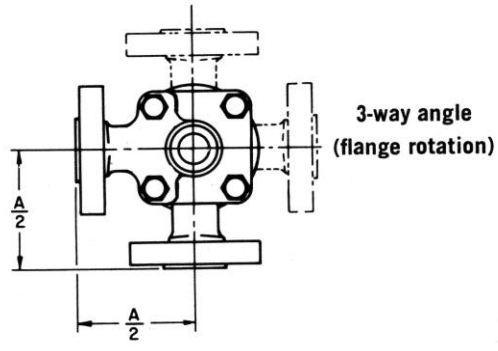
3-way globe



3-way angle



**3-way globe
(flange rotation)**



**3-way angle
(flange rotation)**

Add the following to B, C or D dimension when a side-mounted auxiliary handwheel is used with a Domotor® or cylinder
 Series A Domotor® (7⁵/₈" O.D.) or A cylinder (4⁷/₈" O.D.) - 4¹/₂"
 Series B Domotor® (9¹/₄" O.D.) or B cylinder (7" O.D.) - 5"
 Series C Domotor® (13¹/₄" O.D.) or C cylinder (9¹/₄" O.D.) - 6"

Dimensions (inches)

Manual Actuator

Valve Size (in.)	ANSI Class 150								ANSI Class 300								ANSI Class 600							
	A	B ^①	C ^①	D ^①	E	F	G	H ^③	A	B ^①	C ^①	D ^①	E	F	G	H ^③	A	B ^①	C ^①	D ^①	E	F	G	H ^③
1/2	6.75	9.2	13.2	16.9	7.0	1.03	4.41	----	6.75	9.2	13.2	16.9	7.0	1.03	4.41	----	6.75	9.2	13.2	16.9	7.0	1.03	4.41	----
3/4	6.75	9.2	13.2	16.9	7.0	1.03	4.41	----	6.75	9.2	13.2	16.9	7.0	1.03	4.41	----	6.75	9.2	13.2	16.9	7.0	1.03	4.41	----
1 ^②	8.50	9.2	13.2	16.9	7.0	1.16	5.41	----	8.50	9.2	13.2	16.9	7.0	1.16	5.41	----	8.50	9.2	13.2	16.9	7.0	1.16	5.41	----
1 1/2 ^②	9.50	11.9	17.9	24.6	12.0	1.66	6.41	----	9.50	11.9	17.9	24.6	12.0	1.66	6.41	----	9.50	11.9	17.9	24.6	12.0	1.66	6.41	----
2 ^②	11.50	12.2	18.2	25.0	12.0	2.00	7.75	----	11.50	12.2	18.2	25.0	12.0	2.00	7.75	----	11.50	12.2	18.2	25.0	12.0	2.00	7.75	----
3 ^②	14.00	17.8	27.4	40.7	18.0	3.00	10.00	----	14.00	17.8	27.4	40.7	18.0	3.00	10.00	----	14.00	17.8	27.4	40.7	18.0	3.00	10.00	----
4 ^②	17.00	17.8	27.4	40.7	18.0	3.62	12.12	----	17.00	17.8	27.4	40.7	18.0	3.62	12.12	----	15.50 ^④	17.8	27.4	40.7	18.0	3.62	11.38	----
4 ^②	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	15.50 ^⑤	23.7	35.6	----	18.0	----	----	----
6 ^④	24.00	20.0	29.5	42.9	18.0	4.25	16.25	7.7	22.00	21.5	31.0	----	18.0	----	7.7	----	----	----	----	----	----	----	----	----
6 ^⑤	----	----	----	----	----	----	----	----	22.00	25.7	36.7	----	18.0	5.25	16.38	7.7	28.00	33.1	43.8	----	18.0	5.38	19.38	8.5
8	32.00	34.1	44.8	----	18.0	5.69	21.69	9.5	32.00	34.1	44.8	----	18.0	5.69	21.69	9.5	36.50	34.6	45.3	----	18.0	----	----	10.0
10	37.00	35.3	46.1	----	18.0	7.00	25.50	10.8	37.00	35.3	46.1	----	18.0	7.00	25.50	10.8	----	----	----	----	----	----	----	----

① Add 4 1/2" to B, C or D dimension for actuator removal clearance

② Dimension A is for separable flanges or weld ends only. See table on page 19 for integral flange dimension A (to ISA standards as noted)

③ Bottom of valve extends below end flanges

④ Valve body with Series C actuators

⑤ Valve body with Series D actuators

Cylinder Actuator

Valve Size (in.)	ANSI Class 150							ANSI Class 300							ANSI Class 600						
	A	B ^①	C ^①	E	F	G	H ^③	A	B ^①	C ^①	E	F	G	H ^③	A	B ^①	C ^①	E	F	G	H ^③
1/2	6.75	16.5	20.5	7.60	1.03	4.41	----	6.75	16.5	20.5	7.60	1.03	4.41	----	6.75	16.5	20.5	7.60	1.03	4.41	----
3/4	6.75	16.5	20.5	7.60	1.03	4.41	----	6.75	16.5	20.5	7.60	1.03	4.41	----	6.75	16.5	20.5	7.60	1.03	4.41	----
1 ^②	8.50	16.5	20.5	7.60	1.16	5.41	----	8.50	16.5	20.5	7.60	1.16	5.41	----	8.50	16.5	20.5	7.60	1.16	5.41	----
1 1/2 ^②	9.50	19.1	25.1	7.60	1.66	6.41	----	9.50	19.1	25.1	7.60	1.66	6.41	----	9.50	19.1	25.1	7.60	1.66	6.41	----
2 ^②	11.50	19.6	25.6	7.60	2.00	7.75	----	11.50	19.6	25.6	7.60	2.00	7.75	----	11.50	19.6	25.6	7.60	2.00	7.75	----
3 ^②	14.00	28.8	37.8	10.50	3.00	10.00	----	14.00	28.8	37.8	10.50	3.00	10.00	----	14.00	28.8	37.8	10.50	3.00	10.00	----
4 ^②	17.00	28.8	37.8	10.50	3.62	12.12	----	17.00	28.8	37.8	10.50	3.62	12.12	----	15.50	28.8	37.8	10.50	3.62	11.38	----
4 ^②	----	----	----	----	----	----	----	----	----	----	----	----	----	----	15.50	37.6	48.3	14.75	----	----	----
6 ^④	24.00	40.6	50.1	10.50	4.25	16.25	7.7	----	----	----	----	----	----	----	----	----	----	----	----	----	----
6 ^④	24.00	49.4	60.1	14.75	4.25	16.25	7.7	----	----	----	----	----	----	----	----	----	----	----	----	----	----

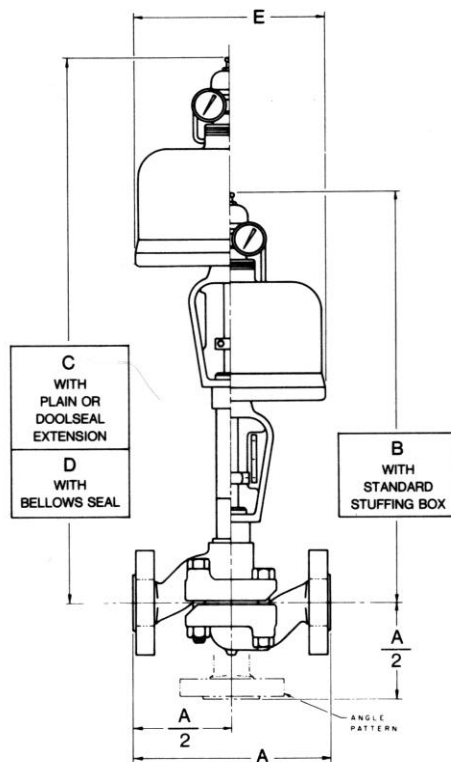
① Add 4 1/2" to B or C dimension for actuator removal clearance

② Dimension A is for separable flanges or weld ends only. See table on page 19 for integral flange dimension A (to ISA standards as noted)

③ Bottom of valve extends below end flanges

④ Valve body with 154 sq. in. actuator

Dimensions (inches)



Domotor® actuator

Domotor® Actuator

Valve Size (in.)	ANSI Class 150								ANSI Class 300								ANSI Class 600							
	A	B ^①	C ^①	D ^①	E	F	G	H ^③	A	B ^①	C ^①	D ^①	E	F	G	H ^③	A	B ^①	C ^①	D ^①	E	F	G	H ^③
1/2	6.75	20.3	24.3	28.0	7.62	1.03	4.41	----	6.75	20.3	24.3	28.0	7.62	1.03	4.41	----	6.75	20.3	24.3	28.0	7.62	1.03	4.41	----
3/4	6.75	20.3	24.3	28.0	7.62	1.03	4.41	----	6.75	20.3	24.3	28.0	7.62	1.03	4.41	----	6.75	20.3	24.3	28.0	7.62	1.03	4.41	----
1 ^②	8.50	20.3	24.3	28.0	7.62	1.16	5.41	----	8.50	20.3	24.3	28.0	7.62	1.16	5.41	----	8.50	20.3	24.3	28.0	7.62	1.16	5.41	----
1 1/2 ^②	9.50	23.6	29.6	36.4	9.25	1.66	6.41	----	9.50	23.6	29.6	36.4	9.25	1.66	6.41	----	9.50	23.6	29.6	36.4	9.25	1.66	6.41	----
2 ^②	11.50	24.0	30.0	36.7	9.25	2.00	7.75	----	11.50	24.0	30.0	36.7	9.25	2.00	7.75	----	11.50	24.0	30.0	36.7	9.25	2.00	7.75	----
3 ^②	14.00	31.3	40.9	54.3	13.25	3.00	10.00	----	14.00	31.3	40.9	54.3	13.25	3.00	10.00	----	14.00	31.3	40.9	54.3	13.25	3.00	10.00	----
4 ^②	17.00	31.3	40.9	54.3	13.25	3.62	12.12	----	17.00	31.3	40.9	54.3	13.25	3.62	12.12	----	15.50 ^④	31.3	40.9	54.3	13.25	3.62	11.38	----
4 ^②	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	15.50 ^⑤	44.0	54.9	----	18.00	----	----	----
6 ^④	24.00	33.6	43.1	56.5	13.25	4.25	16.25	7.7	22.00	35.0	44.5	----	13.25	5.25	16.38	7.7	----	----	----	----	----	----	----	----
6 ^⑤	----	----	----	----	----	----	----	----	22.00	46.0	57.0	----	18.00	5.25	16.38	7.7	28.00	51.1	61.8	----	18.00	5.38	19.38	8.5
8	32.00	52.1	62.8	----	18.00	5.69	21.69	9.5	32.00	52.1	62.8	----	18.00	5.69	21.69	9.5	36.50	52.6	63.3	----	18.00	----	----	10.0
10	37.00	53.3	64.1	----	18.00	7.00	25.50	10.8	37.00	53.3	64.1	----	18.00	7.00	25.50	10.8	----	----	----	----	----	----	----	----

① Add 4 1/2" to B, C or D dimension for actuator removal clearance

② Dimension A is for separable flanges or weld ends only. See table on page 19 for integral flange dimension A (to ISA standards as noted)

Valve size 6" & larger are integral flange ends

③ Bottom of valve extends below end flanges

④ Valve body with Series C actuators

⑤ Valve body with Series D actuators

See page 16 for definition of dimensions F and G

Dimensions - Integral Flanged (inches)

Dimension A (face to face) for valves with integral flanges not covered above
(Conforms to ISA standard for 1" to 4" valves)

Valve Size (inches)	End Connection Type	ANSI Class 150	ANSI Class 300	ANSI Class 600
1	L & S Tongue	7.75	8.25	8.25
	L & S Groove	7.63	8.13	8.13
	Ring Joint	7.75	8.25	8.25
	Raised & Flat Face	7.25	7.75	8.25
1 1/2	L & S Tongue	9.25	9.75	9.88
	L & S Groove	9.13	9.63	9.75
	Ring Joint	9.25	9.75	9.88
	Raised & Flat Face	8.75	9.25	9.88
2	L & S Tongue	10.50	11.00	11.25
	L & S Groove	10.38	10.88	11.13
	Ring Joint	10.50	11.13	11.38
	Raised & Flat Face	10.00	10.50	11.25
3	L & S Tongue	12.25	13.00	13.25
	L & S Groove	12.13	12.88	13.13
	Ring Joint	12.25	13.13	13.38
	Raised & Flat Face	11.75	12.50	13.25
4	L & S Tongue	14.38	15.00	15.50
	L & S Groove	14.25	14.88	15.38
	Ring Joint	14.38	15.13	15.63
	Raised & Flat Face	13.88	14.50	15.50

Approximate Shipping Weights (lbs)

Valve Size (inches)	ANSI Class	With Diaphragm Actuator	With Manual Actuator	With Cylinder Actuator	With Domotor Actuator	Extra for Bonnet Extension
1/2	600	35	18	24	30	3
3/4	600	36	19	25	31	3
1	600	41	24	30	36	3
1 1/2	600	75	45	48	56	5
2	600	100	57	60	68	5
3	600	225	122	126	136	12
4	300	285	176	180	190	12
4	600	----	415	573	522	65
6	150	----	303	307	317	12
6	300	----	403	561	510	85
6	600	----	767	925	874	130
8	300	----	662	820	769	130
8	600	----	1081	1239	1188	130
10	300	----	1144	1302	1251	130

Accessories and Options

Auxiliary Handwheels

Handwheel Sizes A, B, C

Oversize Actuators

Standard	to	Oversize
A		B
B		C
C		D

Model 6000 Electropneumatic Transducer
(See Specification Data CS6600)
Input Range 4-20 mA
Output Range 3-15 psi

Internal Regulator
Integral Universal Mounting Bracket

8005A/8006A Electropneumatic Transducer
(See Specification Data CS6000)
Input Signals 10-50 mA, 104 ohms
4-20 mA, 173 ohms
Output Signals (Direct or Reverse)
Model 8005A: 3-15 psi
Model 8006A: 3-15, 6-30, 0-20, or 0-35 psi

I/PEX 9000 Electropneumatic Transducer
(See Specification Data CS9000)
Input Range 4-20 mA
Split range up to 3 times
Output (Direct or Reverse)
3-15 psi, adjustable to 0-20 psi

Moore 750P Positioner
3-15 psi Instrument Signal

Microswitches
EXAR, EXHAR, EXDAR, OPAR, OPHAR

496 Rotary Switches
496-2 (2 switches) Limit Switch
496-3 Position Transmitter
(See Specification Data CS7000)

80-4 or 80-40 Airset
(See Specification Data CY7800)
77-6 or 77-60 Lockup Valve
(See Specification Data CY7700)
2" Gauge 0-30 psi

For Solenoid Valves Consult Price List

2700 Controllers
(See Specification Data CW6000)

Fail-safe Volume Tanks
w/ 77-8/77-80 Trip Valve
Super Response
Moore 61H Volume Booster

Additional Options Available

Other Body Materials
Other Flange Facings
U.O.P. Trim
N.A.C.E. Compliance
Non-Destructive Examination
Doolseal Double Packing
Bellows Seal Bonnets

Refer to specific actuator and accessory specification literature for complete information.

Facilities: Brazil, Canada, France, Germany, Italy, Japan, Mexico, Netherlands, Singapore, Spain, United Kingdom, United States

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