



MPF Series ANSI Flanged 3-way Full Port Ball Valves



Assured Automation's MPF series ANSI flanged 3-way ball valves feature a versatile design that is ideal for many diverting and mixing applications.

A variety of actuators are available along with a full range of accessory items including limit switches, solenoid valves, modulating positioners, and manual override devices. Complete assemblies are built from stock, and tested in our **ISO certified** shop prior to shipping.

END CONNECTIONS

150# ANSI Flanged: 1/2" to 12"
300# ANSI Flanged: 1/2" to 12"
600# ANSI Flanged: 2" to 8"

PRESSURE RATING

150# ANSI Flanged: 275 PSIG
300# ANSI Flanged: 700 PSIG
[see Pressure/Temperature Curve](#)

TEMPERATURE RANGE

-20°F to 475°F
[see Pressure/Temperature Curve](#)

MATERIALS

Body: Carbon steel ASTM A216 WCB
or
Stainless Steel ASTM A351 CF8M

Stem and Ball: 316SS

Seats: TFM or 50/50 (50% TFE / 50% SS)

Stem Packing: TFM or Graphite

Body Gasket: Graphite

[see pages 3 & 4 for complete material details](#)

FEATURES

- One piece ball/stem trunnion-supported type
- Three seat design maintains proper ball position
- ISO-5211 Actuator Mounting Pad for direct mount to actuator
- Anti-Static Grounding Device
- Open And Closed Locking Device for Positional Safety Lockout to 6", 8", 10", and 12" Optional
- L & T Ball drillings that are both full port for unrestricted flow
- Body cavity fillers available for sizes 3/4" to 4"

ACTUATORS

- Full range of actuators including manual, pneumatic, and electric
[see page 6 for actuator details](#)

TYPICAL APPLICATIONS

- Refineries
- Petrochemical
- Chemical Process Equipment
- Process Control Applications
- Water and Wastewater applications
- Pipeline applications

ACCESSORIES

- **Limit switches**
- **Solenoid valves**
- **Positioners**
[see page 10 for accessory details](#)

SPECIALTY VALVE OPTIONS

- **Bottom entry 3, 4, and 5-way**
- **Differing End Connection Types**
- **Cryogenic stem extensions**
- **Cavity filled**

[see page 5](#)





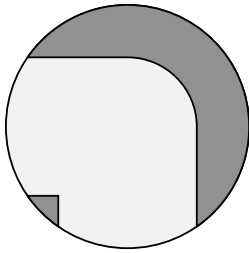
MPF Series



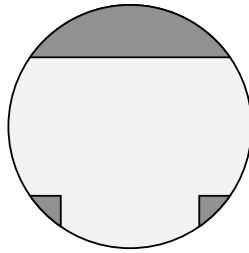
ANSI Flanged 3-way Full Port Ball Valves

BALL DRILLINGS

L port



T port



STEM MARKINGS

Size Range	L	T
1/2" to 1" (diamond)		
1 1/2" to 2" (square)		
2 1/2" to 12" (double-D)		

FLOW PLANS

90° / 2-Position

"L" Ball Drilling		"T" Ball Drilling	
Plan "A"	Plan "D"	Plan "E"	Plan "F"
Pos. 1 Pos. 2	Pos. 1 Pos. 2	Pos. 1 Pos. 2	Pos. 1 Pos. 2

180° / 2-Position

"T" Ball Drilling
Plan "M"
Pos. 1 Pos. 2

180° / 3-Position

"L" Ball Drilling			"T" Ball Drilling		
Plan "B"	Plan "H"	Plan "I"	Plan "J"	Plan "K"	
Pos. 1 Pos. 2 Pos. 3	Pos. 1 Pos. 2 Pos. 3	Pos. 1 Pos. 2 Pos. 3	Pos. 1 Pos. 2 Pos. 3	Pos. 1 Pos. 2 Pos. 3	



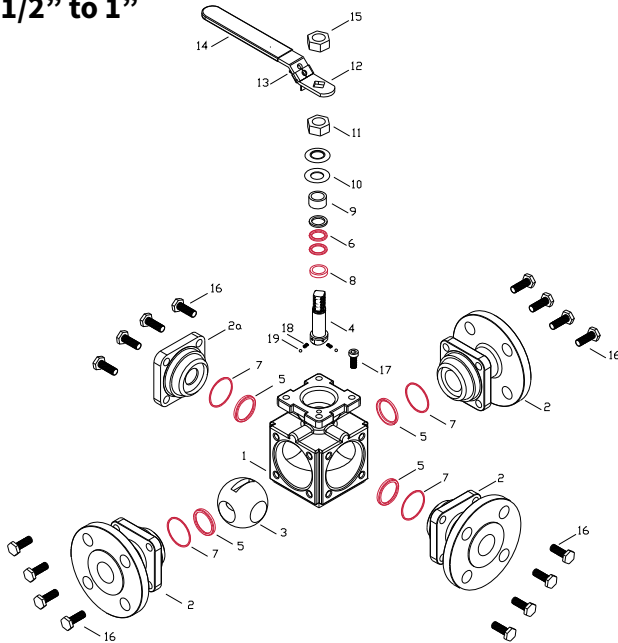
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ANSI Flanged 3-way Full Port Ball Valves

MATERIALS OF CONSTRUCTION

1/2" to 1"

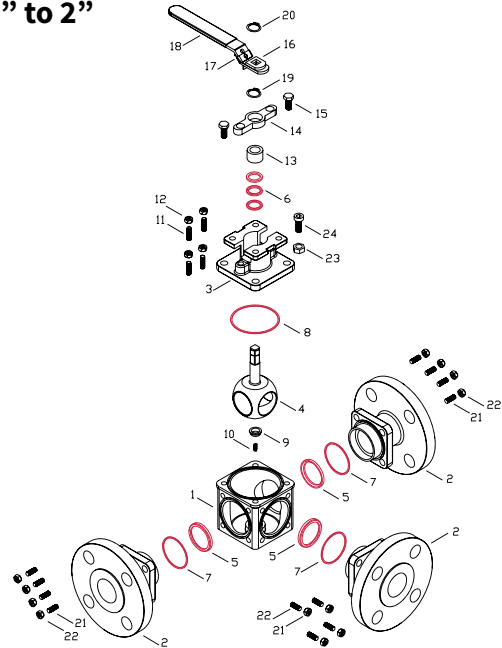


Note: Red items are included in the seal replacement kits.

Item	Name	Carbon Steel	Stainless Steel
1	Valve Body	ASTM A216 WCB	ASTM A351 CF8M
2	End Cap	ASTM A216 WCB	ASTM A351 CF8M
3	Stem	SS316 / SS304	SS316
4	Packing Follower	SS304	SS304
5	Bellville Washer	SS301	SS301
6	Lock Washer	SS304	SS304
7	Ball	SS316 / SS304	SS316
8	Seat	TFM or 50/50	TFM or 50/50
9	Body Gasket	Graphite	Graphite
10	Stem Packing	TFM or Graphite	TFM or Graphite
11	Packing Protector	50%PTFE+SS316	50%PTFE+SS316
12	Thrust Washer	25%Carbon+TFM	25%Carbon+TFM
13	Anti-Static Devices	SS304	SS304
14	Valve Travel Stop	SS304	SS304
15	Manual Handle	SS304	SS304
16	Locking Device	SS304	SS304
17	Handle Sleeve	Plastic	Plastic
18	Thin Nut	SS304	SS304
19	Body Stud	ASTM A193 B7	ASTM A193 B8
20	Body Nut	ASTM A194 2H	ASTM A194 Gr.8
21	Bolt	SS304	SS304
22	O-ring	Viton®	Viton®
23	Seat O-ring	Viton®	Viton®

Viton® is a registered trademark of the DuPont Company

1 1/2" to 2"



Item	Name	Carbon Steel	Stainless Steel
1	Valve Body	ASTM A216 WCB	ASTM A351 CF8M
2	End Cap	ASTM A216 WCB	ASTM A351 CF8M
3	Stem	SS316 / SS304	SS316
4	Packing Gland	ASTM A351 CF8M	ASTM A351 CF8M
5	Packing Follower	SS304	SS304
6	Ball	SS316 / SS304	SS316
7	Seat	TFM or 50/50	TFM or 50/50
8	Stem Packing	TFM or Graphite	TFM or Graphite
9	Packing Protector	50%PTFE+SS316	50%PTFE+SS316
10	Body Gasket	Graphite	Graphite
11	Thrust Washer	25%Carbon+TFM	25%Carbon+TFM
12	O-ring	Viton®	Viton®
13	Anti-Static Devices	SS304	SS304
14	Valve Travel Stop	Steel	SS304
15	Snap Ring	Plated Steel	Plated Steel
16	Manual Handle	Ductile Iron	Ductile Iron
17	Gland Bolt	Steel	SS304
18	Stop Housing	SS304	SS304
19	Housing Bolt	SS304	SS304
20	Body Stud	ASTM A193 B7	ASTM A193 B8
21	Body Nut	ASTM A194 2H	ASTM A194 Gr.8
22	Seat O-ring	Viton®	Viton®
23	Set Screw	Steel	Steel



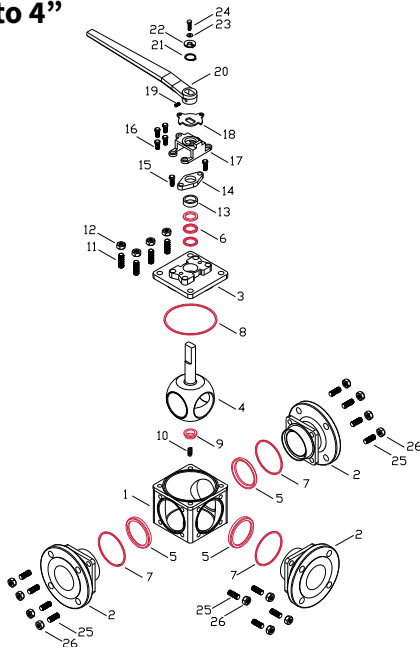
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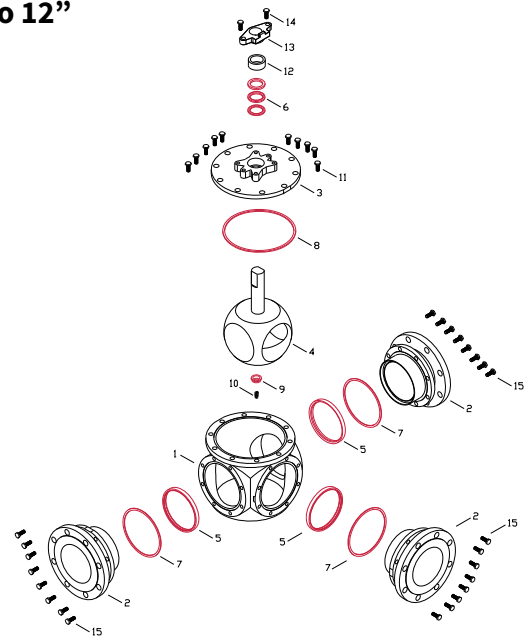
ANSI Flanged 3-way Full Port Ball Valves

MATERIALS OF CONSTRUCTION

2 1/2" to 4"



6" to 12"



Note: Red items are included in the seal replacement kits.

Item	Name	Carbon Steel	Stainless Steel
1	Valve Body	ASTM A216 WCB	ASTM A351 CF8M
2	End Cap	ASTM A216 WCB	ASTM A351 CF8M
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7	Ball	SS316 / SS304	SS316
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9	Body Gasket	Graphite	Graphite
10	Stem Packing	TFM or Graphite	TFM or Graphite
11	Packing Protector	50%PTFE+SS316	50%PTFE+SS316
12	Thrust Washer	25%Carbon+TFM	25%Carbon+TFM
13	Anti-Static Devices	SS304	SS304
14	Valve Travel Stop	SS304	SS304
15	Manual Handle	SS304	SS304
16	Locking Device	SS304	SS304
17	Handle Sleeve	Plastic	Plastic
18	Thin Nut	SS304	SS304
19	Body Stud	ASTM A193 B7	ASTM A193 B8
20	Body Nut	ASTM A194 2H	ASTM A194 Gr.8
21	Bolt	SS304	SS304
22	O-ring	Viton®	Viton®
23	Seat O-ring	Viton®	Viton®

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1	Valve Body	ASTM A216 WCB	ASTM A351 CF8M
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5	Packing Follower	SS304	SS304
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17	Gland Bolt	Steel	SS304
18	Stop Housing	SS304	SS304
19	Housing Bolt	SS304	SS304
20	Body Stud	ASTM A193 B7	ASTM A193 B8
21	Body Nut	ASTM A194 2H	ASTM A194 Gr.8
22	Seat O-ring	Viton®	Viton®
23	Set Screw	Steel	Steel

Viton® is a registered trademark of the DuPont Company

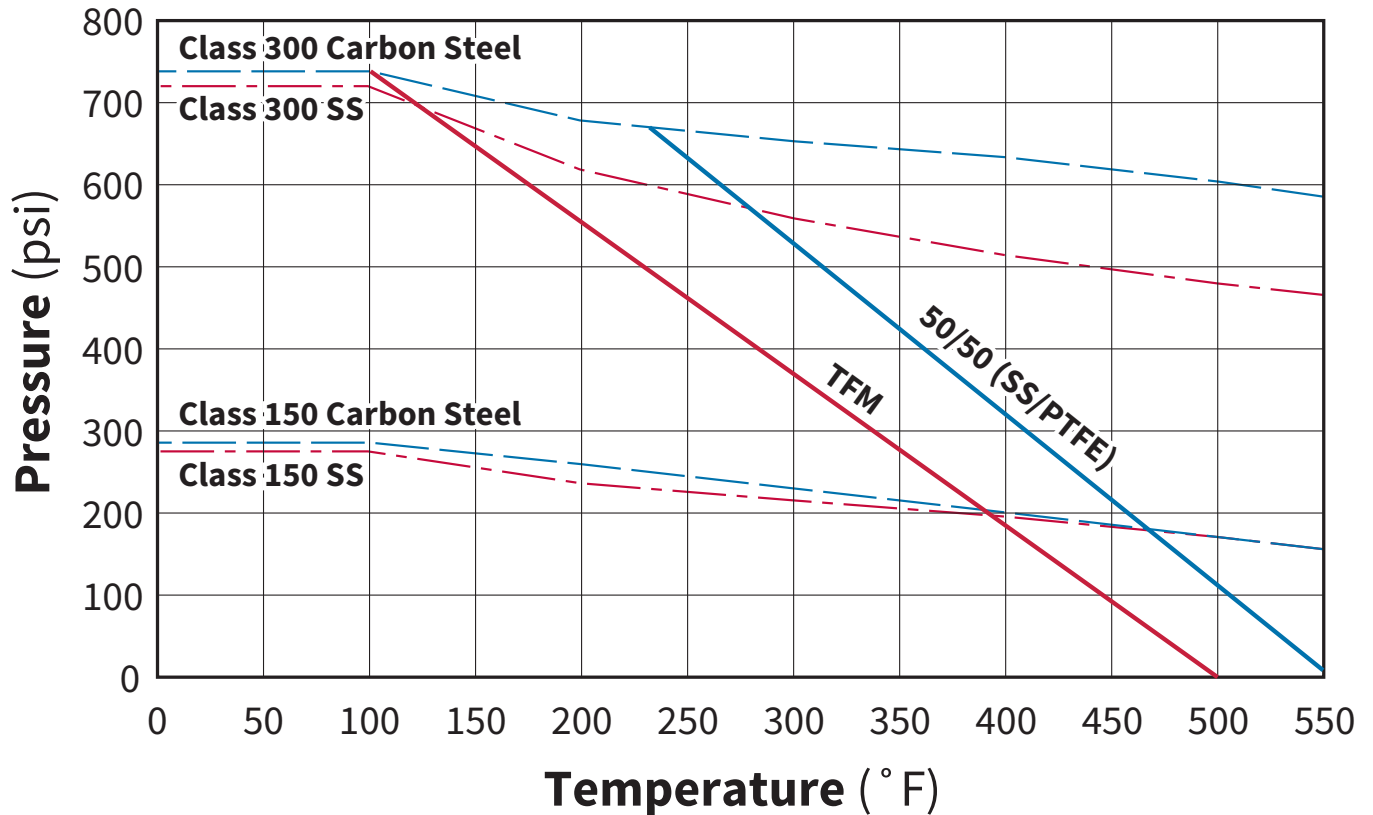


MPF Series



ANSI Flanged 3-way Full Port Ball Valves

PRESSURE/TEMPERATURE CURVE



C_v VALUES

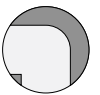
Flow Path	1/2"	3/4"	1"	1 1/2"	2"	2 1/2"	3"	4"	6"	8"	10"	12"
90°	8	16	29	50	100	160	240	400	970	1,850	3,500	4,600
Straight	18	40	70	230	390	630	930	1,650	5,000	9,000	16,000	22,000

SPECIALTY MODELS

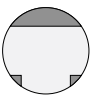
Bottom Entry 3-way Ball Valves



Trunion 4-way Ball Valves



L port



T port



LL port



MPF Series



ANSI Flanged 3-way Full Port Ball Valves

ACTUATORS AVAILABLE

A full range of actuators are available to choose from. All sizing is done by Assured Automation to make selecting your assembly easy. Any accessories ordered with the actuator will be installed and tested by our ISO certified facility.

Pneumatic

F Series Dual Rack and Pinion



Spring Return

fail open or closed

Double Acting

fail in place

[\(see F series web page\)](#)

Accessories

- NAMUR direct mount solenoid valves
- Variety of limit switches
- Modulating positioners
- 1/4" NPT x 1/4" tube push fittings
- 1/4" NPT x 1/4" compression fittings
- SS and poly tubing

Electric

Weatherproof (NEMA 4/4X)

S4 Series Universal Voltage



24 to 220 VAC/DC

- Modulating or On/Off
- Heater and thermostat come standard
- Battery fail safe optional
- 2 end of travel switches (open and closed)

[\(see S4 series web page\)](#)

K4 Series Worm Gear



120 VAC

- Modulating or On/Off
- High duty cycle
- 2 end of travel switches (open and closed)

[\(see K4 series web page\)](#)

Explosion Proof (NEMA 7)

B7 Series Heavy Duty



120 VAC or 24 VDC

- Modulating or On/Off
- Heater and thermostat come standard
- 2 end of travel switches (open and closed)

[\(see B7 series web page\)](#)

Manual

Lockable Lever



Geared Hand Wheel



Accessories

- Cryogenic stem extensions
- Chain wheels for geared handwheels
- Limit switches



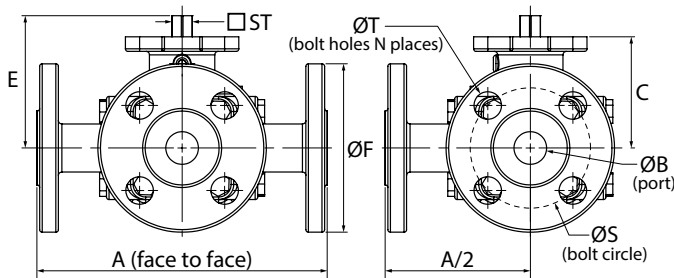
MPF Series



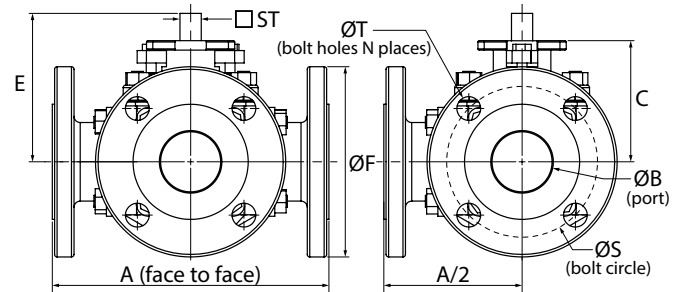
ANSI Flanged 3-way Full Port Ball Valves

DIMENSIONS 150# Valve Bodies

1/2" to 1"



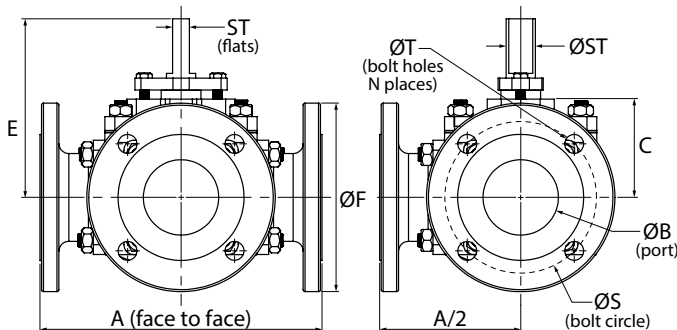
1 1/2" to 2"



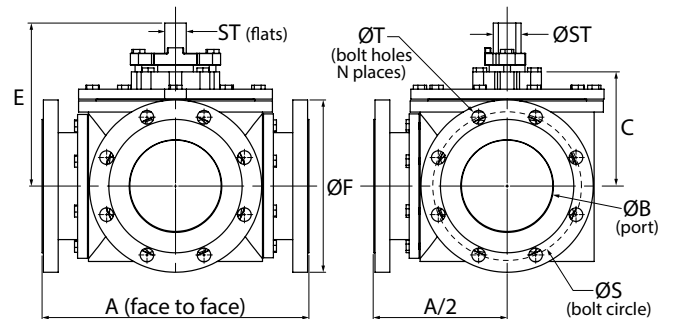
Dimensions in inches

Line Size	A	A/2	E	C	ØF	ØB	ØS	ØT	N	ST	ØST	Weight (lbs.)
1/2"	6.17	3.09	2.50	1.93	3.50	0.50	2.38	0.62	4	0.354	-	6.7
3/4"	6.65	3.33	3.06	2.50	3.88	0.75	2.75	0.62	4	0.354	-	11.2
1"	7.25	3.63	3.28	2.73	4.25	1.00	3.12	0.62	4	0.433	-	16.0
1 1/2"	7.17	3.59	4.74	4.04	5.00	1.57	3.88	0.62	4	0.551	-	21.2
2"	8.66	4.33	4.67	3.84	6.00	1.97	4.75	0.75	4	0.669	-	35.6

2 1/2" to 4"



6" to 12"



Dimensions in inches

Line Size	A	A/2	E	C	ØF	ØB	ØS	ØT	N	ST	ØST	Weight (lbs.)
2 1/2"	11.10	5.55	call	call	7.0	2.6	5.50	0.75	4	0.669	1.16	57.8
3"	11.26	5.63	6.85	3.86	7.5	2.99	6.00	0.75	4	0.669	1.16	71.7
4"	13.70	6.85	8.10	4.91	9.0	3.94	7.50	0.75	8	0.906	1.34	129
6"	17.56	8.78	10.37	7.14	11.0	5.91	9.50	0.87	12	1.378	1.77	240
8"	21.18	10.59	11.91	8.37	13.5	7.87	11.75	0.87	12	1.772	2.36	396
10"	27.67	13.84	13.60	9.27	16.0	9.84	14.25	1.00	16	1.772	2.36	674
12"	30.31	15.16	14.96	10.24	19.0	11.81	17.00	1.00	16	2.165	2.76	Call

Visit our Web Site for CAD Models and dimension drawings of complete valve assemblies including actuators and accessories.



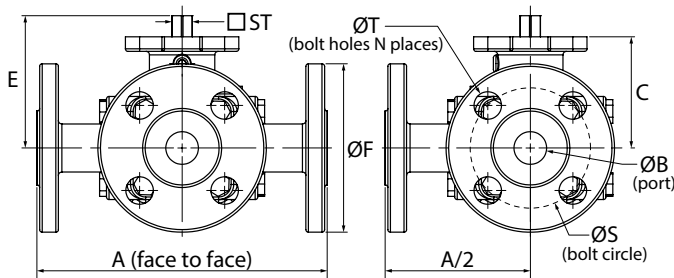
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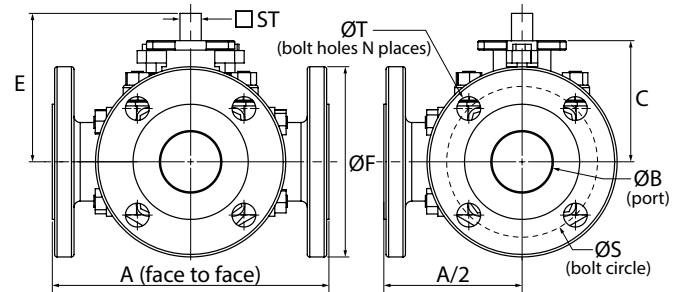
ANSI Flanged 3-way Full Port Ball Valves

DIMENSIONS 300# Valve Bodies

1/2" to 1"



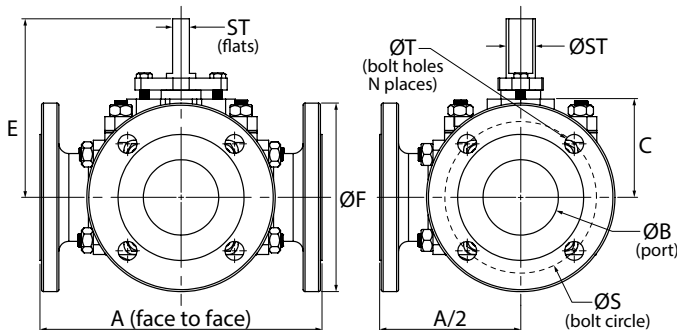
1 1/2" to 2"



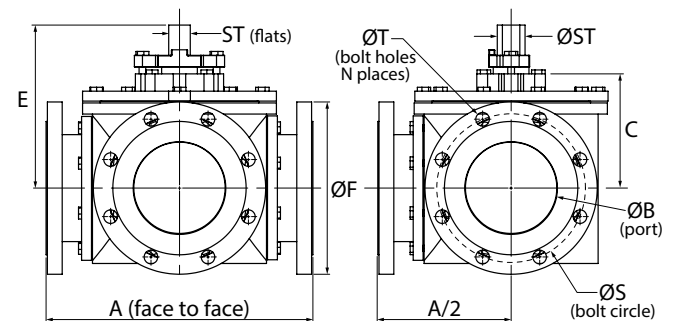
Dimensions in inches

Line Size	A	A/2	E	C	ØF	ØB	ØS	ØT	N	ST	ØST	Weight (lbs.)
1/2"	Call	Call	2.50	1.93	3.75	0.50	2.62	0.62	4	0.354	-	Call
3/4"	6.65	3.33	3.06	2.50	4.62	0.75	3.25	0.75	4	0.354	-	14.4
1"	7.48	3.74	3.28	2.73	4.88	1.00	3.50	0.75	4	0.433	-	20.6
1 1/2"	8.62	4.31	4.74	4.04	6.14	1.57	4.50	0.87	4	0.551	-	32
2"	9.37	4.69	4.67	3.84	6.50	1.97	5.00	0.75	8	0.669	-	41

2 1/2" to 4"



6" to 12"



Dimensions in inches

Line Size	A	A/2	E	C	ØF	ØB	ØS	ØT	N	ST	ØST	Weight (lbs.)
2 1/2"	11.22	5.61	Call	Call	7.00	2.60	5.88	0.87	8	0.669	1.16	67.1
3"	11.85	5.93	6.85	3.86	7.50	2.99	6.62	0.87	8	0.669	1.16	90.8
4"	15.35	7.68	8.10	4.91	9.00	3.94	7.88	0.87	8	0.906	1.34	162
6"	18.42	9.21	10.37	7.14	12.50	5.91	10.62	0.87	12	1.378	1.77	319
8"	23.93	11.97	11.91	8.37	15.00	7.87	13.00	1.00	12	1.772	2.36	Call
10"	30.27	15.14	13.60	9.27	17.50	9.84	15.25	1.14	16	1.772	2.36	Call
12"	31.53	15.77	14.96	10.24	20.50	11.81	17.75	1.25	16	2.165	2.76	Call

Visit our Web Site for CAD Models and dimension drawings of complete valve assemblies including actuators and accessories.



MPF Series



ANSI Flanged 3-way Full Port Ball Valves

ORDERING INFORMATION

VALVE BODY

Size: _____

- C** = 1/2" **H** = 2" **M** = 6"
- D** = 3/4" **I** = 2 1/2" **N** = 8"
- E** = 1" **J** = 3" **O** = 10"
- G** = 1 1/2" **K** = 4" **P** = 12"

Valve Series: _____

MPF = Multi-port Flanged Ball Valves

ANSI Flange Class (to ANSI B16.5): _____

- 150** = Class 150 **300** = Class 300

Body Material: _____

- C** = Carbon Steel **S** = Stainless Steel

Seat Material: _____

- F** = TFM **S** = 50/50 (50% SS and 50% TFE)

Flow Plan: _____



[See page 2](#) for 180° flow plans which require different actuators

ACTUATOR

Pneumatic Actuators

Series: _____

- P** = P series Dual Scotch Yoke **F** = F series Dual Rack & Pinion

Supply Air Pressure: _____

- 6** = 60psi **8** = 80psi

Function: _____

- S** = spring return **D** = double acting

Fail Safe Position: _____

- C** = fail to CLOSED **O** = fail to OPEN
omit for direct acting

Electric Actuators

Series: _____

- K4** = weatherproof; worm gear
- S4UV** = weatherproof; universal voltage
- B7** = explosion proof

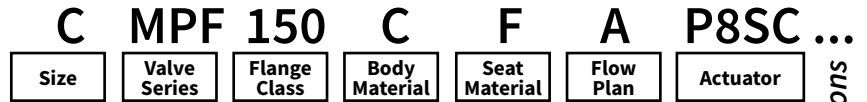
Voltage: _____

- A** = 120VAC **B** = 24VDC **F** = 12VDC (*omit for S4UV*)

Manual Operators

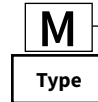
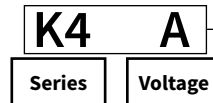
Type: _____

- M** = basic lever with locking device **G** = geared hand wheel



Note: only one actuator may be chosen

Code continues to specify additional accessories and options



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MPF Series



ANSI Flanged 3-way Full Port Ball Valves

ACCESSORIES [Visit our web site](#) or call for details

Solenoid Valves

NAMUR solenoid valves for direct mount to the actuator. Various coil and connector options are available including weatherproof, explosion proof, corded, NPT conduit, and cable gland.

3-way
for spring return models



3/4-way for
for double acting models



[Solenoid valve web page](#)

Limit Switches (valve position indicators)

Used to communicate the position of the valve to a PLC, HMI, or simple remote indicator lamp. Various switch technologies are available. All include a local visual indicator as well.

UA/UB Series

Solid state proximity switches; 1 for Open, 1 for Closed



YF Series

SPDT mechanical switches; 1 for Open, 1 for Closed



YE, YH, YO Series

SPDT mechanical switches; 1 for Open, 1 for Closed



Other limit switches are available [Limit switch web page](#)