

# Series 33/43/53

**3, 4, 5-Way  
Direct Mount  
Multi-Port Ball Valves  
1/4" - 4"**



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This versatile, high performance multi-port ball valve offers solutions to mixing and diverting with various available flow patterns and end configurations. It can be maintained in-line, leaving the end pieces intact.

The direct mount design makes automation easier and maintains a lower profile. This valve features the pyramidal stem design that is so effective in other Triac valve series. There are a myriad of end piece and flow pattern combinations.

### **Easy to Automate!**

See automated data sheets for pre-sized assemblies



**Pneumatic**



**Electric**

# **SERIES 33/43/53**

## **3, 4 & 5-Way Direct Mount Multi-Port Ball Valves**

**Sizes 1/4" - 4"**

**Available in 316SST**

**Full Port with various Port Arrangements**

**Pressure Rating by size**

**1000 psi (1/4"-1")**

**800 psi (1-1/4"-2")**

**600 psi (2-1/2"-3")**

**300 psi (4")**

**NPT, Socket Weld or Butt Weld Ends (1/4"-4")**

**150/300# Flanged, Sanitary (1/2"-4")**

**NACE MR-0175 (optional)**

**ISO 5211 Actuator Mounting Pad**

**Blowout Proof Stem w/ Dual  
Anti-Static Devices**

**5 Seat Design (RTFE Standard)**

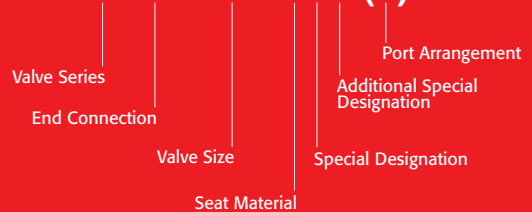
**Pyramidal Stem Seal Packing  
System**

**Lockable Manual Handle**

### **HOW TO ORDER MANUAL VALVES**

SAMPLE PART #

**33-TH-0150-XXX-(A)**



See part number matrix for itemized options

**STANDARDS**

**Design**  
**End Connections**  
**Flanged Ends**  
**Pressure Testing**  
**Mounting**  
**Safety Integrity**  
**CE Approval**  
**NACE MR0175**  
**Marking System for Valves**  
**Material Certification**  
**Quality Assurance**

ANSI/ASME B16.34  
 ASME B1.20.1, B16.11, B16.25  
 ANSI/ASME B16.5  
 API 598  
 ISO 5211  
 IEC 61508:2010; SIL  
 PED 97/23/EC Module H  
 (optional)  
 ISO 5209  
 EN 10204-3.1 MTR  
 ISO 9001:2015, CRN Numbers on file

**Valve Model and  
 End Connections  
 Reference**

SERIES	33	43	53
	3-Way	4-Way	5-Way
NPT	33-TH	43-TH	53-TH
Socket Weld	33-SW	43-SW	53-SW
Butt Weld	33-BW	43-BW	53-BW
Flanged (ANSI Class 150)	33-F1	43-F1	53-F1
Flanged (ANSI Class 300)	33-F3	43-F3	53-F3
Sanitary Clamp	33-SA	43-SA	53-SA
Sanitary Cavity Filled	33-SF	43-SF	53-SF

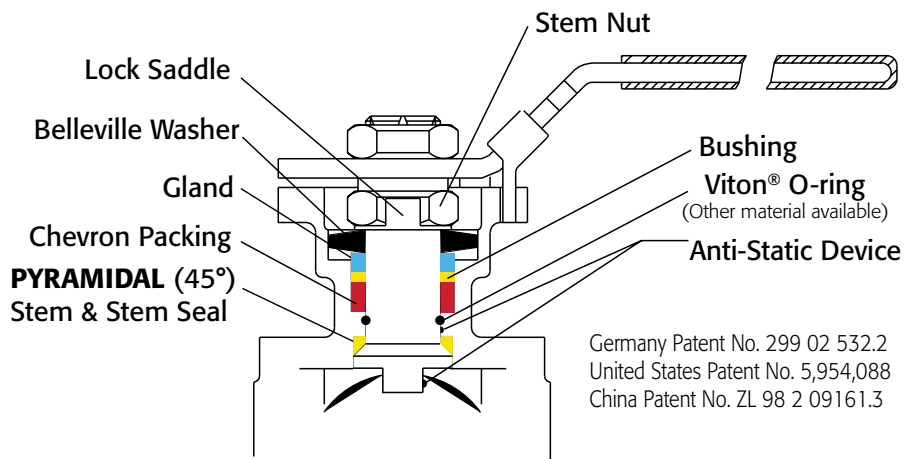
**Port Arrangements**

**L, T, X, & I-Port**  
 Vertical L (VL) & Vertical T (VT)  
 Double TT, Double LL

**Seat Material  
 Options**

RTFE (standard)  
 PTFE, CTFE, 50/50 STFE, TFM™1600, MG1241, UHMWPE,  
 & others

**Pyramidal Stem Seal  
 Sealing System**



Germany Patent No. 299 02 532.2  
 United States Patent No. 5,954,088  
 China Patent No. ZL 98 2 09161.3

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 Viton® is a registered trademark of E. I. DuPont de Nemours.

**Series 33, 43 and 53 Direct Mount Multi-Port 3, 4 and 5-Way Ball Valves offer superior performance and reliability required to optimize manual and automation process performance.**



**Design Features**

**Dual Pattern ISO 5211 Mounting Pad with Square Shaft**

No bracket and adapter are required for actuator mounting, provides easy and low cost automation with improved cycle life

**5-Seat Construction**

For equal seat loading and positive sealing at any port, and maintain proper ball alignment

**5-Entry Construction**

**O-Ring Stem Seal**

Enhances stem wear and maintains stem alignment

**Anti-Static Device**

Standard applied stem-to-ball; stem-to-body

**Variety of End Connections Available for Options**

**Stem**

- Pyramidal stem packing arrangement provides optimum stem seal and extremely high cycle life
- Super smooth stem surface reduces seal friction and operating torque
- Blowout proof stem prevents stem from blowing out, for maximum safety

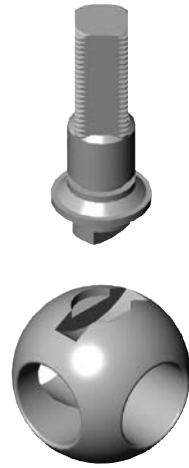
**Ball**

Precisely machined, solid ball for bubble tight shut-off with less operating torque

**Seats**

Wide range of seat materials available to suit various applications

**Ball and Stem Connections**



Semi-Trunnion Ball Design produces a locked ball-to-stem connection offering a positive connection that effectively eliminates backlash and hysteresis. The stem connection ensures accurate, precise positioning of the ball and lower operating torque for better actuation.

**End Cap design is separated from seat retainer in two-piece "Easy-to-Maintain" construction**



- Designed to overcome the problem of conventional end cap design.
- End caps remove easily from valve body when valves are mounted in pipeline.
- Allows fast and easy replacement of gasket and seats.
- Lowers costs throughout life cycle.

The conventional end cap and seat retainer was a one piece design that made the end caps extend into the valve body, creating a problem when repair and maintenance is required. It is very difficult to remove end caps from the valve body when valves are mounted in line, especially when welded . . . **not true with the Series 33, 43 and 53!**

**Series 33, 43 and 53 5-Piece Design Cavity Filled Seats**



The cavity filled seats are designed to fill the dead space between the ball and valve body that can contaminate the process. Our cavity filled seats fill 95% of the dead space while competitors' cavity filled seats for multi-port ball valves can only fill a maximum of 80% of the dead space.

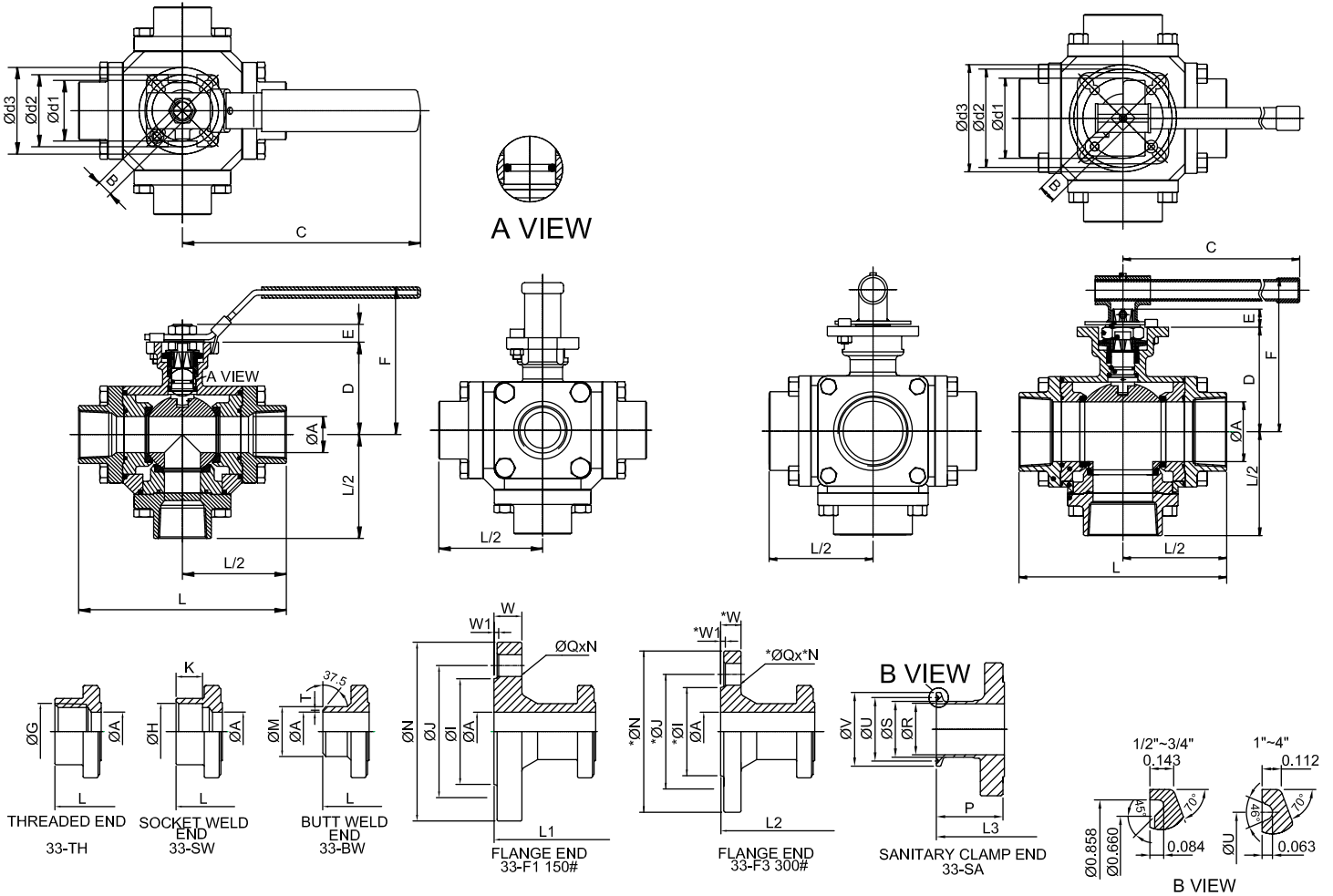
# SERIES 33/43/53 Multi-Port Ball Valves

## 33, 43, 53 Series 3, 4, 5-Way

1/4" - 2-1/2"

## Dimensional Drawings

3" - 4"



### DIMENSIONS (IN)

SIZE													NPT, SOCKET WELD, & BUTT WELD ENDS							
	$\varnothing A$	B	C	D	E	F	$\varnothing d1$	$\varnothing d2$	$\varnothing d3$	$\varnothing Z1$	$\varnothing Z2$	$\varnothing Z3$	ISO 5211	$\varnothing G$	$\varnothing H$	K	$\varnothing M$	T	L	LBS.
1/4"	0.46	0.354	5.91	1.73	0.35	3.35	1.417	1.654	1.969	0.27	0.27	0.27	F03/F04/F05	1/4" NPT	0.56	0.39	0.64	0.06	3.62	3
3/8"	0.50	0.354	5.91	1.73	0.35	3.35	1.417	1.654	1.969	0.27	0.27	0.27	F03/F04/F05	3/8" NPT	0.69	0.39	0.69	0.06	3.62	3
1/2"	0.59	0.354	5.91	1.73	0.35	3.35	1.417	1.654	1.969	0.27	0.27	0.27	F03/F04/F05	1/2" NPT	0.86	0.39	0.89	0.06	3.62	3
3/4"	0.79	0.433	6.50	2.13	0.41	3.66	1.654	1.969	-	0.27	0.27	-	F04/F05	3/4" NPT	1.07	0.51	1.08	0.06	4.33	6
1"	0.98	0.433	10.35	2.52	0.41	4.25	1.654	1.969	2.756	0.27	0.27	0.35	F04/F05/F07	1" NPT	1.33	0.51	1.34	0.06	5.67	11
1-1/4"	1.26	0.551	10.35	3.09	0.51	5.00	1.969	2.756	-	0.27	0.35	-	F05/F07	1-1/4" NPT	1.68	0.51	1.68	0.06	5.75	13
1-1/2"	1.50	0.748	10.35	3.74	0.71	5.98	2.756	4.016	-	0.39	0.47	-	F07/F10	1-1/2" NPT	1.93	0.51	1.91	0.06	6.46	23
2"	1.97	0.748	12.32	4.00	0.71	6.26	2.756	4.016	-	0.39	0.47	-	F07/F10	2" NPT	2.41	0.63	2.38	0.06	7.24	30
2-1/2"	2.56	0.748	13.54	4.72	0.71	6.97	2.756	4.016	-	0.39	0.47	-	F07/F10	2-1/2" NPT	3.03	0.63	3.00	0.08	9.29	47
3"	2.99	0.866	12.48	5.23	0.91	7.68	4.016	4.921	-	0.47	0.55	-	F10/F12	3" NPT	3.54	0.63	3.54	0.08	10.43	64
4"	3.94	0.866	20.08	6.46	0.91	8.90	4.016	4.921	-	0.47	0.55	-	F10/F12	4" NPT	4.55	0.79	4.57	0.14	12.60	127

SIZE	ANSI CLASS 150 FLANGED ENDS								ANSI CLASS 300 FLANGED ENDS								SANITARY CLAMP ENDS								
	$\varnothing I$	$\varnothing J$	$\varnothing N$	$\varnothing Q$	N	W1	W	L1	LBS.	* $\varnothing I$	* $\varnothing N$	* $\varnothing J$	* $\varnothing Q$	*N	*W1	*W	L2	LBS.	$\varnothing R$	$\varnothing S$	$\varnothing U$	$\varnothing V$	P	L3	LBS.
1/4"	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3/8"	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/2"	1.38	2.38	3.50	0.63	4	0.06	0.44	5.91	5.55	1.38	3.75	2.62	0.63	4	0.06	0.56	6.30	CF	0.37	0.50	-	0.99	1.17	4.33	3
3/4"	1.69	2.75	3.88	0.63	4	0.06	0.44	6.89	10.65	1.69	4.62	3.25	0.75	4	0.06	0.62	7.48	CF	0.62	0.75	-	1.00	1.44	5.51	6
1"	2.00	3.12	4.25	0.63	4	0.06	0.44	8.07	14	2.00	4.88	3.50	0.75	4	0.06	0.69	8.46	20	0.87	1.00	1.71	1.98	1.52	6.30	11
1-1/4"	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1-1/2"	2.88	3.88	5.00	0.63	4	0.06	0.56	10.04	32	2.88	6.12	4.50	0.87	4	0.06	0.81	10.63	41	1.37	1.50	1.71	1.99	1.79	7.87	23
2"	3.62	4.75	6.00	0.75	4	0.06	0.63	11.02	45	3.62	6.50	5.00	0.75	8	0.06	0.88	11.42	60	1.87	2.00	2.20	2.52	1.95	8.66	30
2-1/2"	4.12	5.50	7.00	0.75	4	0.06	0.69	12.80	68	4.12	7.50	5.88	0.87	8	0.06	1.00	13.39	CF	2.37	2.50	2.78	3.05	1.85	9.45	47
3"	5.00	6.00	7.50	0.75	4	0.06	0.75	13.58	88	5.00	8.25	6.62	0.87	8	0.06	1.12	CF	CF	2.87	3.00	3.28	3.58	2.10	10.43	61
4"	6.19	7.50	9.00	0.75	8	0.06	0.94	15.98	166	6.19	10.0	7.88	0.87	8	0.06	1.25	CF	CF	3.83	4.00	4.34	4.68	2.11	12.60	124

## Bill of Materials 33/43/53 Series

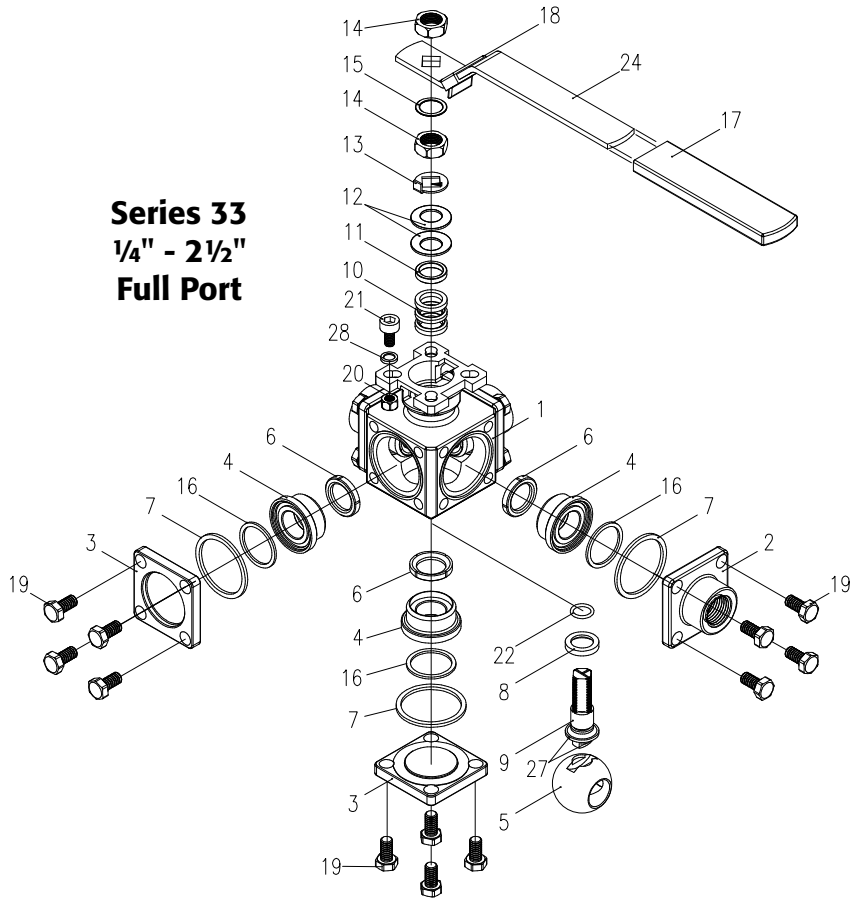
### MATERIALS LIST

NO.	PART NAME	QTY	MATERIAL	MATERIAL
1	BODY	1	ASTM A351 GRADE CF8M	ASTM A216 GRADE WCB
2	END CAP	*	ASTM A351 GRADE CF8M	ASTM A216 GRADE WCB
3	BLIND	*	ASTM A351 GRADE CF8M	ASTM A216 GRADE WCB
4	SEAT RETAINER	5	ASTM A351 GRADE CF8M	ASTM A351 GRADE CF8M
5	BALL	1	1/4" THRU 3/8" ASTM A276 SS316	1/4" THRU 3/8" ASTM A276 SS316
5	BALL	1	1/2" THRU 4" ASTM A351 GRADE CF8M	1/2" THRU 4" ASTM A351 GRADE CF8M
6	SEAT	5	RTFE	RTFE
7	JOINT GASKET	5	PTFE	PTFE
8	STEM SEAL	1	PTFE	PTFE
9	STEM	1	ASTM A276 SS316	ASTM A276 SS316
10	GLAND PACKING	1 SET	PTFE	PTFE
11	GLAND BUSHING	1	AISI 304	AISI 304
12	BELLEVILLE WASHER	2	AISI 301	AISI 301
13	LOCK SADDLE	1	AISI 304	AISI 304
14	STEM NUT	**	AISI 304	AISI 304
15	STEM WASHER	1	AISI 304	AISI 304
16	RETAINER SEAL	5	PTFE	PTFE
17	HANDLE SLEEVE	1	VINYL	VINYL
18	LOCKING DEVICE	1	AISI 304	AISI 304
19	BOLT	20	ISO 3506-1 A2-70	ISO 3506-1 A2-70
20	PIN NUT	1	AISI 304	AISI 304
21	STOP PIN	1	AISI 304	AISI 304
22	O-RING	1	VITON®	VITON®
23	LOCKING PLATE	1	AISI 304	AISI 304
24	HANDLE	1	AISI 304	AISI 304
25	HANDLE HUB	1	AISI 304	AISI 304
26	HANDLE NUT	2	AISI 304	AISI 304
27	ANTI-STATIC DEVICE	1	AISI 316	AISI 316
28	WASHER	1	AISI 304	AISI 304

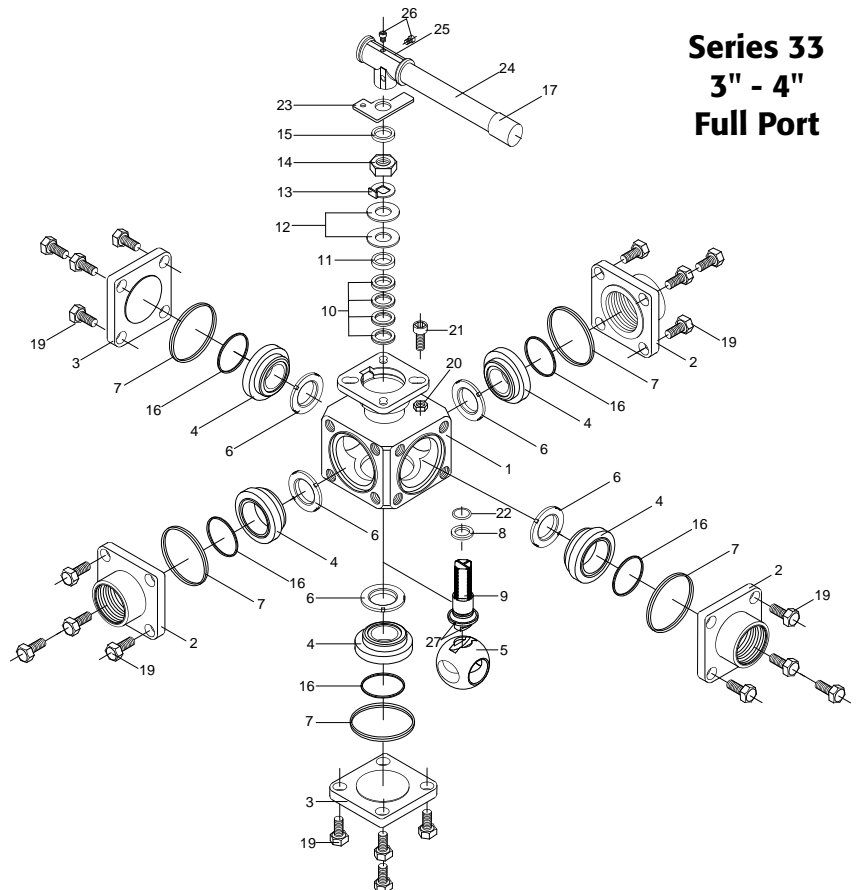
\*FOR 33 SERIES: QTY 3 END CAP-A, QTY 2 END CAP-B  
 \*FOR 43 SERIES: QTY 4 END CAP-A, QTY 1 END CAP-B  
 \*FOR 53 SERIES: QTY 5 END CAP-A, QTY 0 END CAP-B

\*\*FOR 1/4"-2-1/2": QTY 2  
 \*\*FOR 3"-4": QTY 1

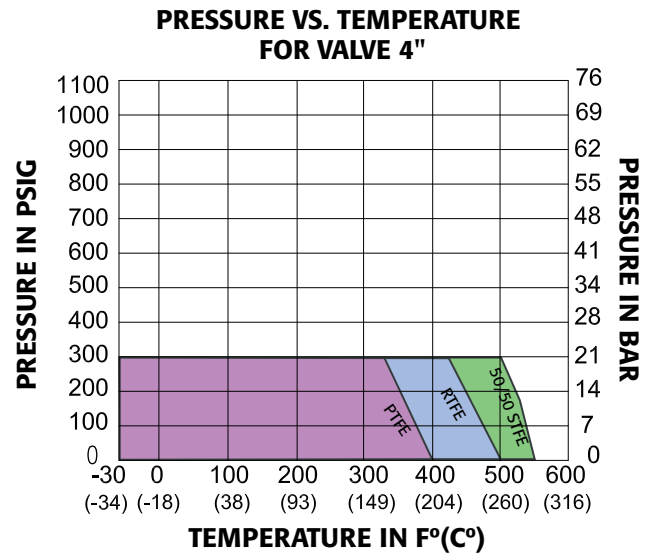
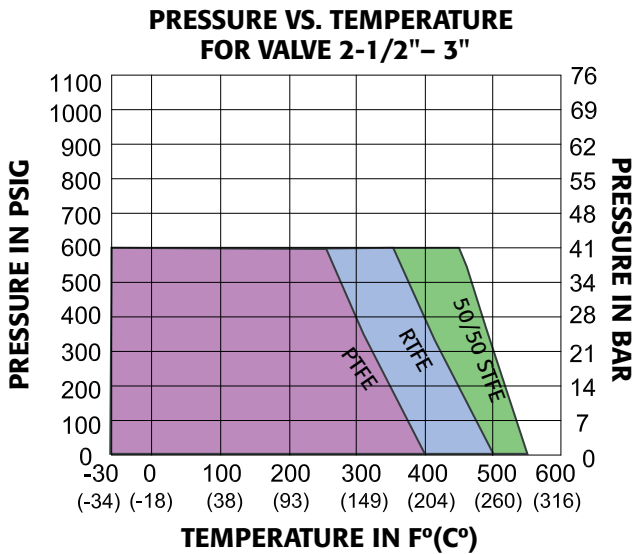
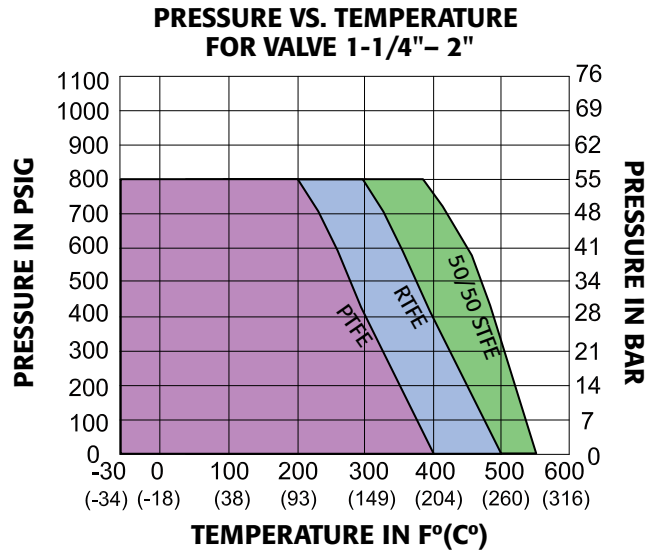
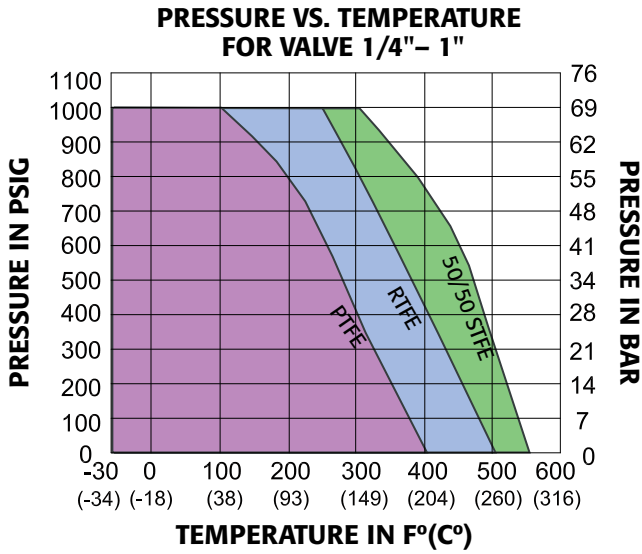
### Series 33 1/4" - 2 1/2" Full Port



### Series 33 3" - 4" Full Port



**Technical Data  
Information**



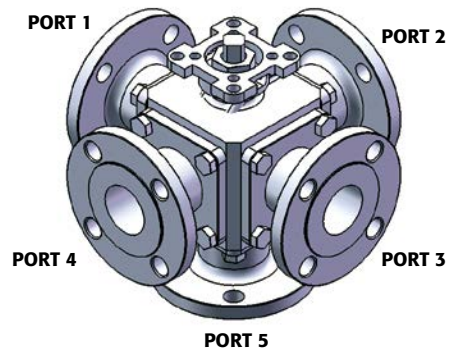
VALVE SIZE	Cv Flow Coefficients					
	L-Port	T-Port Through	T-Port Branch	LL-Port Horizontal	LL-Port Vertical	VL-Port
1/4"	4	7	4	3	3	4
3/8"	5	9	4	4	4	5
1/2"	6	10	5	6	5	6
3/4"	16	21	13	15	13	16
1"	31	36	22	27	30	31
1-1/4"	32	58	25	28	33	32
1-1/2"	75	90	55	65	75	75
2"	140	175	100	120	145	140
2-1/2"	210	235	149	175	220	210
3"	375	450	270	300	375	375
4"	670	800	475	353	675	670

Break Away Torque for RTFE Seats	
SIZE	IN-LBS
1/4"	91
3/8"	91
1/2"	91
3/4"	195
1"	414
1-1/4"	483
1-1/2"	780
2"	1,079
2-1/2"	1,547
3"	2,275
4"	2,860

NOTE: For other seat material, consult factory

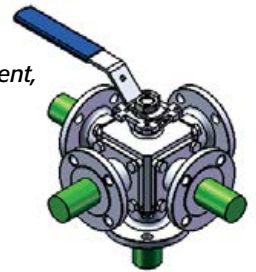
## Flow Patterns

3-WAY (33 SERIES)		POSITION			
PORT	Arrangement	1	2	3	4
L	L				
LL	M				
LL	N				
VL	O				
VL	P				
T	T				
TT	U				
TT	S				
VT	V				
VT	W				



**EXAMPLE:** A Series 53 (5-way) valve specified with a **TT** port and **U** arrangement in ball **Position 1** will have flow paths open at **Ports 1, 3, 4, and 5**.

53 Series  
TT Port, U Arrangement,  
Shown in Position 1



4-WAY (43 SERIES)		POSITION			
PORT	Arrangement	1	2	3	4
I	I				
L	L				
LL	M				
VL	O				
T	T				
TT	U				
VT	V				
X	X				



**Flow Patterns**

5-WAY (53 SERIES)		POSITION			
PORT	ARRANGEMENT	1	2	3	4
LL	M				
VL	O				
TT	U				
VT	V				

**How to order:**

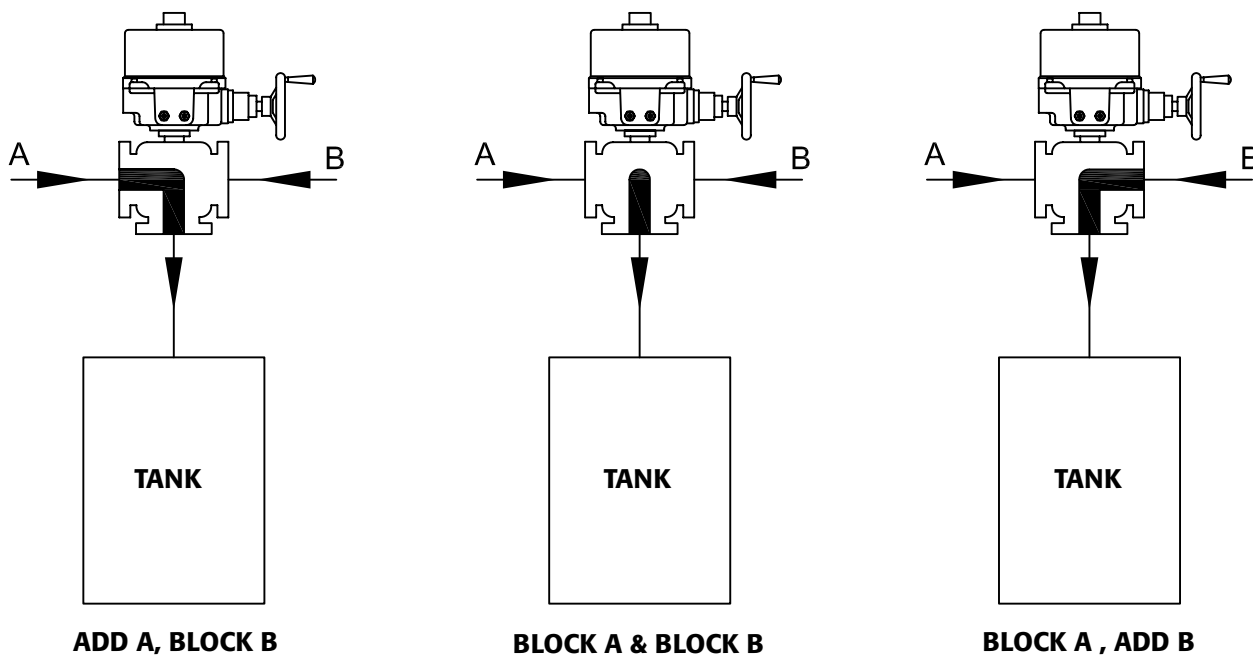
Specify arrangement in part number. Then specify position number for deenergized to energized position.

**Example:**

- 1) 33-F1-300/2R7S-AA-M, Position 2 (Deenergized) to Position 1 (Energized),  
3" 3-Way 150# Flange "LL-Port" Arrangement M, Valve fails to right port w/ solenoid and limit switch
- 2) 33-F1-200/TEE2-BX-O  
2" 3-Way, 180° Vertical "L-Port" Arrangement O, w/3-Position Electric Actuator, 120VAC - See Figure 1

**Vertical "L" Flow Example**

**FIGURE 1**



**3-POSITION 3-WAY BALL VALVE WITH VERTICAL L-PORT (ARRANGEMENT O)**

# Series 33

## Threaded, Socket Weld and Butt Weld

### Automated Model numbers

**3-Way  
Double Acting**

Sized for 80 PSI		Sized for 60 PSI	
SIZE	MODEL	SIZE	MODEL
1/4"	33-TX-025/TR1D-XX-(* )	1/4"	33-TX-025/2R2D-XX-(* )
3/8"	33-TX-038/TR1D-XX-(* )	3/8"	33-TX-038/2R2D-XX-(* )
1/2"	33-TX-050/2R2D-XX-(* )	1/2"	33-TX-050/2R2D-XX-(* )
3/4"	33-TX-075/2R2D-XX-(* )	3/4"	33-TX-075/2R3D-XX-(* )
1"	33-TX-100/2R2D-XX-(* )	1"	33-TX-100/2R3D-XX-(* )
1-1/4"	33-TX-125/2R3D-XX-(* )	1-1/4"	33-TX-125/2R4D-XX-(* )
1-1/2"	33-TX-150/2R4D-XX-(* )	1-1/2"	33-TX-150/2R4D-XX-(* )
2"	33-TX-200/2R5D-XX-(* )	2"	33-TX-200/2R5D-XX-(* )
2-1/2"	33-TX-250/2R5D-XX-(* )	2-1/2"	33-TX-250/2R6D-XX-(* )
3"	33-TX-300/2R6D-XX-(* )	3"	33-TX-300/2R7D-XX-(* )
4"	33-TX-400/2R7D-XX-(* )	4"	33-TX-400/2R8D-XX-(* )

**3-Way  
Spring Return**

Sized for 80 PSI		Sized for 60 PSI	
SIZE	MODEL	SIZE	MODEL
1/4"	33-TX-025/2R2S-XX-(* )	1/4"	33-TX-025/2R3S-XX-(* )
3/8"	33-TX-038/2R2S-XX-(* )	3/8"	33-TX-038/2R3S-XX-(* )
1/2"	33-TX-050/2R2S-XX-(* )	1/2"	33-TX-050/2R3S-XX-(* )
3/4"	33-TX-075/2R3S-XX-(* )	3/4"	33-TX-075/2R4S-XX-(* )
1"	33-TX-100/2R4S-XX-(* )	1"	33-TX-100/2R4S-XX-(* )
1-1/4"	33-TX-125/2R4S-XX-(* )	1-1/4"	33-TX-125/2R5S-XX-(* )
1-1/2"	33-TX-150/2R6S-XX-(* )	1-1/2"	33-TX-150/2R6S-XX-(* )
2"	33-TX-200/2R6S-XX-(* )	2"	33-TX-200/2R7S-XX-(* )
2-1/2"	33-TX-250/2R6S-XX-(* )	2-1/2"	33-TX-250/2R7S-XX-(* )
3"	33-TX-300/2R8S-XX-(* )	3"	33-TX-300/2R8S-XX-(* )
4"	33-TX-400/2R9S-XX-(* )	4"	33-TX-400/2R0S-XX-(* )

**3-Way  
Electric**

On-Off		Modulating	
SIZE	MODEL	SIZE	MODEL
1/4"	33-TX-025/WEA1-XX-(* )	1/4"	33-TX-025/WEA2-XX-(* )
3/8"	33-TX-038/WEA1-XX-(* )	3/8"	33-TX-038/WEA2-XX-(* )
1/2"	33-TX-050/WEA1-XX-(* )	1/2"	33-TX-050/WEA2-XX-(* )
3/4"	33-TX-075/WEA1-XX-(* )	3/4"	33-TX-075/WEA2-XX-(* )
1"	33-TX-100/WEA1-XX-(* )	1"	33-TX-100/WEA2-XX-(* )
1-1/4"	33-TX-125/WEB1-XX-(* )	1-1/4"	33-TX-125/WEB2-XX-(* )
1-1/2"	33-TX-150/WEC1-XX-(* )	1-1/2"	33-TX-150/WEC2-XX-(* )
2"	33-TX-200/WED1-XX-(* )	2"	33-TX-200/WED2-XX-(* )
2-1/2"	33-TX-250/WEE1-XX-(* )	2-1/2"	33-TX-250/WEE2-XX-(* )
3"	33-TX-300/WEE1-XX-(* )	3"	33-TX-300/WEE2-XX-(* )
4"	33-TX-400/WEF1-XX-(* )	4"	33-TX-400/WEF2-XX-(* )

\* Port Arrangement designation: See page 8 for options

# Series 33

## Flanged - ANSI Class 150

### Automated Model numbers

#### 3-Way Double Acting

Sized for 80 PSI		Sized for 60 PSI	
SIZE	MODEL	SIZE	MODEL
1/4"	N/A	1/4"	N/A
3/8"	N/A	3/8"	N/A
1/2"	33-F1-050/2R2D-XX-(* )	1/2"	33-F1-050/2R2D-XX-(* )
3/4"	33-F1-075/2R2D-XX-(* )	3/4"	33-F1-075/2R3D-XX-(* )
1"	33-F1-100/2R2D-XX-(* )	1"	33-F1-100/2R3D-XX-(* )
1-1/2"	33-F1-150/2R4D-XX-(* )	1-1/2"	33-F1-150/2R4D-XX-(* )
2"	33-F1-200/2R5D-XX-(* )	2"	33-F1-200/2R5D-XX-(* )
2-1/2"	33-F1-250/2R5D-XX-(* )	2-1/2"	33-F1-250/2R6D-XX-(* )
3"	33-F1-300/2R6D-XX-(* )	3"	33-F1-300/2R7D-XX-(* )
4"	33-F1-400/2R7D-XX-(* )	4"	33-F1-400/2R8D-XX-(* )

#### 3-Way Spring Return

Sized for 80 PSI		Sized for 60 PSI	
SIZE	MODEL	SIZE	MODEL
1/4"	N/A	1/4"	N/A
3/8"	N/A	3/8"	N/A
1/2"	33-F1-050/2R2S-XX-(* )	1/2"	33-F1-050/2R3S-XX-(* )
3/4"	33-F1-075/2R3S-XX-(* )	3/4"	33-F1-075/2R4S-XX-(* )
1"	33-F1-100/2R4S-XX-(* )	1"	33-F1-100/2R4S-XX-(* )
1-1/2"	33-F1-150/2R6S-XX-(* )	1-1/2"	33-F1-150/2R6S-XX-(* )
2"	33-F1-200/2R6S-XX-(* )	2"	33-F1-200/2R7S-XX-(* )
2-1/2"	33-F1-250/2R6S-XX-(* )	2-1/2"	33-F1-250/2R7S-XX-(* )
3"	33-F1-300/2R8S-XX-(* )	3"	33-F1-300/2R8S-XX-(* )
4"	33-F1-400/2R9S-XX-(* )	4"	33-F1-400/2R0S-XX-(* )

#### 3-Way Electric

On-Off		Modulating	
SIZE	MODEL	SIZE	MODEL
1/4"	N/A	1/4"	N/A
3/8"	N/A	3/8"	N/A
1/2"	33-F1-050/WEA1-XX-(* )	1/2"	33-F1-050/WEA2-XX-(* )
3/4"	33-F1-075/WEA1-XX-(* )	3/4"	33-F1-075/WEA2-XX-(* )
1"	33-F1-100/WEA1-XX-(* )	1"	33-F1-100/WEA2-XX-(* )
1-1/2"	33-F1-150/WEC1-XX-(* )	1-1/2"	33-F1-150/WEC2-XX-(* )
2"	33-F1-200/WED1-XX-(* )	2"	33-F1-200/WED2-XX-(* )
2-1/2"	33-F1-250/WEE1-XX-(* )	2-1/2"	33-F1-250/WEE2-XX-(* )
3"	33-F1-300/WEE1-XX-(* )	3"	33-F1-300/WEE2-XX-(* )
4"	33-F1-400/WEF1-XX-(* )	4"	33-F1-400/WEF2-XX-(* )

\* Port Arrangement designation: See page 8 for options

# Series 33

## Non-Cavity Filled Sanitary

### Automated Model numbers

**3-Way  
Double Acting**

Sized for 80 PSI		Sized for 60 PSI	
SIZE	MODEL	SIZE	MODEL
1/4"	N/A	1/4"	N/A
3/8"	N/A	3/8"	N/A
1/2"	33-C1-050/2R2D-XX-(* )	1/2"	33-C1-050/2R2D-XX-(* )
3/4"	33-C1-075/2R2D-XX-(* )	3/4"	33-C1-075/2R3D-XX-(* )
1"	33-C1-100/2R2D-XX-(* )	1"	33-C1-100/2R3D-XX-(* )
1-1/2"	33-C1-150/2R4D-XX-(* )	1-1/2"	33-C1-150/2R4D-XX-(* )
2"	33-C1-200/2R5D-XX-(* )	2"	33-C1-200/2R5D-XX-(* )
2-1/2"	33-C1-250/2R5D-XX-(* )	2-1/2"	33-C1-250/2R6D-XX-(* )
3"	33-C1-300/2R6D-XX-(* )	3"	33-C1-300/2R7D-XX-(* )
4"	33-C1-400/2R7D-XX-(* )	4"	33-C1-400/2R8D-XX-(* )

**3-Way  
Spring Return**

Sized for 80 PSI		Sized for 60 PSI	
SIZE	MODEL	SIZE	MODEL
1/4"	N/A	1/4"	N/A
3/8"	N/A	3/8"	N/A
1/2"	33-C1-050/2R2S-XX-(* )	1/2"	33-C1-050/2R3S-XX-(* )
3/4"	33-C1-075/2R3S-XX-(* )	3/4"	33-C1-075/2R4S-XX-(* )
1"	33-C1-100/2R4S-XX-(* )	1"	33-C1-100/2R4S-XX-(* )
1-1/2"	33-C1-150/2R6S-XX-(* )	1-1/2"	33-C1-150/2R6S-XX-(* )
2"	33-C1-200/2R6S-XX-(* )	2"	33-C1-200/2R7S-XX-(* )
2-1/2"	33-C1-250/2R6S-XX-(* )	2-1/2"	33-C1-250/2R7S-XX-(* )
3"	33-C1-300/2R8S-XX-(* )	3"	33-C1-300/2R8S-XX-(* )
4"	33-C1-400/2R9S-XX-(* )	4"	33-C1-400/2R0S-XX-(* )

**3-Way  
Electric**

On-Off		Modulating	
SIZE	MODEL	SIZE	MODEL
1/4"	N/A	1/4"	N/A
3/8"	N/A	3/8"	N/A
1/2"	33-C1-050/WEA1-XX-(* )	1/2"	33-C1-050/WEA2-XX-(* )
3/4"	33-C1-075/WEA1-XX-(* )	3/4"	33-C1-075/WEA2-XX-(* )
1"	33-C1-100/WEA1-XX-(* )	1"	33-C1-100/WEA2-XX-(* )
1-1/2"	33-C1-150/WEC1-XX-(* )	1-1/2"	33-C1-150/WEC2-XX-(* )
2"	33-C1-200/WED1-XX-(* )	2"	33-C1-200/WED2-XX-(* )
2-1/2"	33-C1-250/WEE1-XX-(* )	2-1/2"	33-C1-250/WEE2-XX-(* )
3"	33-C1-300/WEE1-XX-(* )	3"	33-C1-300/WEE2-XX-(* )
4"	33-C1-400/WEF1-XX-(* )	4"	33-C1-400/WEF2-XX-(* )

\* Port Arrangement designation: See page 8 for options

# Series 33

## Cavity Filled - Threaded, Socket Weld, & Butt Weld

### Automated Model numbers

#### 3-Way Double Acting

Sized for 80 PSI		Sized for 60 PSI	
SIZE	MODEL	SIZE	MODEL
1/4"	33-TF-025/2R2D-XX-(* )	1/4"	CF
3/8"	33-TF-038/2R2D-XX-(* )	3/8"	CF
1/2"	33-TF-050/2R2D-XX-(* )	1/2"	CF
3/4"	33-TF-075/2R3D-XX-(* )	3/4"	CF
1"	33-TF-100/2R3D-XX-(* )	1"	CF
1-1/2"	33-TF-150/2R5D-XX-(* )	1-1/2"	CF
2"	33-TF-200/2R6D-XX-(* )	2"	CF
2-1/2"	33-TF-250/2R6D-XX-(* )	2-1/2"	CF
3"	33-TF-300/2R7D-XX-(* )	3"	CF
4"	33-TF-400/2R8D-XX-(* )	4"	CF

#### 3-Way Spring Return

Sized for 80 PSI		Sized for 60 PSI	
SIZE	MODEL	SIZE	MODEL
1/4"	33-TF-025/2R3S-XX-(* )	1/4"	CF
3/8"	33-TF-038/2R3S-XX-(* )	3/8"	CF
1/2"	33-TF-050/2R3S-XX-(* )	1/2"	CF
3/4"	33-TF-075/2R4S-XX-(* )	3/4"	CF
1"	33-TF-100/2R5S-XX-(* )	1"	CF
1-1/2"	33-TF-150/2R7S-XX-(* )	1-1/2"	CF
2"	33-TF-200/2R8S-XX-(* )	2"	CF
2-1/2"	33-TF-250/2R8S-XX-(* )	2-1/2"	CF
3"	33-TF-300/2R9S-XX-(* )	3"	CF
4"	33-TF-400/2R0S-XX-(* )	4"	CF

#### 3-Way Electric

On-Off		Modulating	
SIZE	MODEL	SIZE	MODEL
1/4"	33-TF-025/WEA1-XX-(* )	1/4"	33-TF-025/WEA2-XX-(* )
3/8"	33-TF-038/WEA1-XX-(* )	3/8"	33-TF-038/WEA2-XX-(* )
1/2"	33-TF-050/WEA1-XX-(* )	1/2"	33-TF-050/WEA2-XX-(* )
3/4"	33-TF-075/WEA1-XX-(* )	3/4"	33-TF-075/WEA2-XX-(* )
1"	33-TF-100/WEB1-XX-(* )	1"	33-TF-100/WEB2-XX-(* )
1-1/2"	33-TF-150/WED1-XX-(* )	1-1/2"	33-TF-150/WED2-XX-(* )
2"	33-TF-200/WEE1-XX-(* )	2"	33-TF-200/WEE2-XX-(* )
2-1/2"	33-TF-250/WEE1-XX-(* )	2-1/2"	33-TF-250/WEE2-XX-(* )
3"	33-TF-300/WEF1-XX-(* )	3"	33-TF-300/WEF2-XX-(* )
4"	33-TF-400/WEF1-XX-(* )	4"	33-TF-400/WEF2-XX-(* )

\* Port Arrangement designation: See page 8 for options

# Series 33

## Cavity Filled Flanged - ANSI Class 150

### Automated Model numbers

**3-Way  
Double Acting**

Sized for 80 PSI		Sized for 60 PSI	
SIZE	MODEL	SIZE	MODEL
1/4"	N/A	1/4"	N/A
3/8"	N/A	3/8"	N/A
1/2"	33-FF-050/2R2D-XX-(* )	1/2"	CF
3/4"	33-FF-075/2R3D-XX-(* )	3/4"	CF
1"	33-FF-100/2R3D-XX-(* )	1"	CF
1-1/2"	33-FF-150/2R5D-XX-(* )	1-1/2"	CF
2"	33-FF-200/2R6D-XX-(* )	2"	CF
2-1/2"	33-FF-250/2R6D-XX-(* )	2-1/2"	CF
3"	33-FF-300/2R7D-XX-(* )	3"	CF
4"	33-FF-400/2R8D-XX-(* )	4"	CF

**3-Way  
Spring Return**

Sized for 80 PSI		Sized for 60 PSI	
SIZE	MODEL	SIZE	MODEL
1/4"	N/A	1/4"	N/A
3/8"	N/A	3/8"	N/A
1/2"	33-FF-050/2R3S-XX-(* )	1/2"	CF
3/4"	33-FF-075/2R4S-XX-(* )	3/4"	CF
1"	33-FF-100/2R5S-XX-(* )	1"	CF
1-1/2"	33-FF-150/2R7S-XX-(* )	1-1/2"	CF
2"	33-FF-200/2R8S-XX-(* )	2"	CF
2-1/2"	33-FF-250/2R8S-XX-(* )	2-1/2"	CF
3"	33-FF-300/2R9S-XX-(* )	3"	CF
4"	33-FF-400/2R0S-XX-(* )	4"	CF

**3-Way  
Electric**

On-Off		Modulating	
SIZE	MODEL	SIZE	MODEL
1/4"	N/A	1/4"	N/A
3/8"	N/A	3/8"	N/A
1/2"	33-FF-050/WEA1-XX-(* )	1/2"	33-FF-050/WEA2-XX-(* )
3/4"	33-FF-075/WEA1-XX-(* )	3/4"	33-FF-075/WEA2-XX-(* )
1"	33-FF-100/WEB1-XX-(* )	1"	33-FF-100/WEB2-XX-(* )
1-1/2"	33-FF-150/WED1-XX-(* )	1-1/2"	33-FF-150/WED2-XX-(* )
2"	33-FF-200/WEE1-XX-(* )	2"	33-FF-200/WEE2-XX-(* )
2-1/2"	33-FF-250/WEE1-XX-(* )	2-1/2"	33-FF-250/WEE2-XX-(* )
3"	33-FF-300/WEF1-XX-(* )	3"	33-FF-300/WEF2-XX-(* )
4"	33-FF-400/WEF1-XX-(* )	4"	33-FF-400/WEF2-XX-(* )

\* Port Arrangement designation: See page 8 for options

# Series 33

## Cavity Filled Sanitary

### Automated Model numbers

#### 3-Way Double Acting

Sized for 80 PSI		Sized for 60 PSI	
SIZE	MODEL	SIZE	MODEL
1/4"	N/A	1/4"	N/A
3/8"	N/A	3/8"	N/A
1/2"	33-CF-050/2R2D-XX-(* )	1/2"	CF
3/4"	33-CF-075/2R3D-XX-(* )	3/4"	CF
1"	33-CF-100/2R3D-XX-(* )	1"	CF
1-1/2"	33-CF-150/2R5D-XX-(* )	1-1/2"	CF
2"	33-CF-200/2R6D-XX-(* )	2"	CF
2-1/2"	33-CF-250/2R6D-XX-(* )	2-1/2"	CF
3"	33-CF-300/2R7D-XX-(* )	3"	CF
4"	33-CF-400/2R8D-XX-(* )	4"	CF

#### 3-Way Spring Return

Sized for 80 PSI		Sized for 60 PSI	
SIZE	MODEL	SIZE	MODEL
1/4"	N/A	1/4"	N/A
3/8"	N/A	3/8"	N/A
1/2"	33-CF-050/2R3S-XX-(* )	1/2"	CF
3/4"	33-CF-075/2R4S-XX-(* )	3/4"	CF
1"	33-CF-100/2R5S-XX-(* )	1"	CF
1-1/2"	33-CF-150/2R7S-XX-(* )	1-1/2"	CF
2"	33-CF-200/2R8S-XX-(* )	2"	CF
2-1/2"	33-CF-250/2R8S-XX-(* )	2-1/2"	CF
3"	33-CF-300/2R9S-XX-(* )	3"	CF
4"	33-CF-400/2R0S-XX-(* )	4"	CF

#### 3-Way Electric

On-Off		Modulating	
SIZE	MODEL	SIZE	MODEL
1/4"	N/A	1/4"	N/A
3/8"	N/A	3/8"	N/A
1/2"	33-CF-050/WEA1-XX-(* )	1/2"	33-CF-050/WEA2-XX-(* )
3/4"	33-CF-075/WEA1-XX-(* )	3/4"	33-CF-075/WEA2-XX-(* )
1"	33-CF-100/WEB1-XX-(* )	1"	33-CF-100/WEB2-XX-(* )
1-1/2"	33-CF-150/WED1-XX-(* )	1-1/2"	33-CF-150/WED2-XX-(* )
2"	33-CF-200/WEE1-XX-(* )	2"	33-CF-200/WEE2-XX-(* )
2-1/2"	33-CF-250/WEE1-XX-(* )	2-1/2"	33-CF-250/WEE2-XX-(* )
3"	33-CF-300/WEF1-XX-(* )	3"	33-CF-300/WEF2-XX-(* )
4"	33-CF-400/WEF1-XX-(* )	4"	33-CF-400/WEF2-XX-(* )

\* Port Arrangement designation: See page 8 for options

# Series 43

## Threaded, Socket Weld and Butt Weld

### Automated Model numbers

#### 4-Way Double Acting

Sized for 80 PSI		Sized for 60 PSI	
SIZE	MODEL	SIZE	MODEL
1/4"	43-TX-025/TR1D-XX-(* )	1/4"	43-TX-025/2R2D-XX-(* )
3/8"	43-TX-038/TR1D-XX-(* )	3/8"	43-TX-038/2R2D-XX-(* )
1/2"	43-TX-050/2R2D-XX-(* )	1/2"	43-TX-050/2R2D-XX-(* )
3/4"	43-TX-075/2R2D-XX-(* )	3/4"	43-TX-075/2R3D-XX-(* )
1"	43-TX-100/2R2D-XX-(* )	1"	43-TX-100/2R3D-XX-(* )
1-1/4"	43-TX-125/2R3D-XX-(* )	1-1/4"	43-TX-125/2R4D-XX-(* )
1-1/2"	43-TX-150/2R4D-XX-(* )	1-1/2"	43-TX-150/2R4D-XX-(* )
2"	43-TX-200/2R5D-XX-(* )	2"	43-TX-200/2R5D-XX-(* )
2-1/2"	43-TX-250/2R5D-XX-(* )	2-1/2"	43-TX-250/2R6D-XX-(* )
3"	43-TX-300/2R6D-XX-(* )	3"	43-TX-300/2R7D-XX-(* )
4"	43-TX-400/2R7D-XX-(* )	4"	43-TX-400/2R8D-XX-(* )

#### 4-Way Spring Return

Sized for 80 PSI		Sized for 60 PSI	
SIZE	MODEL	SIZE	MODEL
1/4"	43-TX-025/2R2S-XX-(* )	1/4"	43-TX-025/2R3S-XX-(* )
3/8"	43-TX-038/2R2S-XX-(* )	3/8"	43-TX-038/2R3S-XX-(* )
1/2"	43-TX-050/2R2S-XX-(* )	1/2"	43-TX-050/2R3S-XX-(* )
3/4"	43-TX-075/2R3S-XX-(* )	3/4"	43-TX-075/2R4S-XX-(* )
1"	43-TX-100/2R4S-XX-(* )	1"	43-TX-100/2R4S-XX-(* )
1-1/4"	43-TX-125/2R4S-XX-(* )	1-1/4"	43-TX-125/2R5S-XX-(* )
1-1/2"	43-TX-150/2R6S-XX-(* )	1-1/2"	43-TX-150/2R6S-XX-(* )
2"	43-TX-200/2R6S-XX-(* )	2"	43-TX-200/2R7S-XX-(* )
2-1/2"	43-TX-250/2R6S-XX-(* )	2-1/2"	43-TX-250/2R7S-XX-(* )
3"	43-TX-300/2R8S-XX-(* )	3"	43-TX-300/2R8S-XX-(* )
4"	43-TX-400/2R9S-XX-(* )	4"	43-TX-400/2R0S-XX-(* )

#### 4-Way Electric

On-Off		Modulating	
SIZE	MODEL	SIZE	MODEL
1/4"	43-TX-025/WEA1-XX-(* )	1/4"	43-TX-025/WEA2-XX-(* )
3/8"	43-TX-038/WEA1-XX-(* )	3/8"	43-TX-038/WEA2-XX-(* )
1/2"	43-TX-050/WEA1-XX-(* )	1/2"	43-TX-050/WEA2-XX-(* )
3/4"	43-TX-075/WEA1-XX-(* )	3/4"	43-TX-075/WEA2-XX-(* )
1"	43-TX-100/WEA1-XX-(* )	1"	43-TX-100/WEA2-XX-(* )
1-1/4"	43-TX-125/WEB1-XX-(* )	1-1/4"	43-TX-125/WEB2-XX-(* )
1-1/2"	43-TX-150/WEC1-XX-(* )	1-1/2"	43-TX-150/WEC2-XX-(* )
2"	43-TX-200/WED1-XX-(* )	2"	43-TX-200/WED2-XX-(* )
2-1/2"	43-TX-250/WEE1-XX-(* )	2-1/2"	43-TX-250/WEE2-XX-(* )
3"	43-TX-300/WEF1-XX-(* )	3"	43-TX-300/WEF2-XX-(* )
4"	43-TX-400/WEF1-XX-(* )	4"	43-TX-400/WEF2-XX-(* )

\* Port Arrangement designation: See page 8 for options



# Series 43

## Flanged - ANSI Class 150

### Automated Model numbers

#### 4-Way Double Acting

Sized for 80 PSI		Sized for 60 PSI	
SIZE	MODEL	SIZE	MODEL
1/4"	N/A	1/4"	N/A
3/8"	N/A	3/8"	N/A
1/2"	43-F1-050/2R2D-XX-(* )	1/2"	43-F1-050/2R2D-XX-(* )
3/4"	43-F1-075/2R2D-XX-(* )	3/4"	43-F1-075/2R3D-XX-(* )
1"	43-F1-100/2R2D-XX-(* )	1"	43-F1-100/2R3D-XX-(* )
1-1/2"	43-F1-150/2R4D-XX-(* )	1-1/2"	43-F1-150/2R4D-XX-(* )
2"	43-F1-200/2R5D-XX-(* )	2"	43-F1-200/2R5D-XX-(* )
2-1/2"	43-F1-250/2R5D-XX-(* )	2-1/2"	43-F1-250/2R6D-XX-(* )
3"	43-F1-300/2R6D-XX-(* )	3"	43-F1-300/2R7D-XX-(* )
4"	43-F1-400/2R7D-XX-(* )	4"	43-F1-400/2R8D-XX-(* )

#### 4-Way Spring Return

Sized for 80 PSI		Sized for 60 PSI	
SIZE	MODEL	SIZE	MODEL
1/4"	N/A	1/4"	N/A
3/8"	N/A	3/8"	N/A
1/2"	43-F1-050/2R2S-XX-(* )	1/2"	43-F1-050/2R3S-XX-(* )
3/4"	43-F1-075/2R3S-XX-(* )	3/4"	43-F1-075/2R4S-XX-(* )
1"	43-F1-100/2R4S-XX-(* )	1"	43-F1-100/2R4S-XX-(* )
1-1/2"	43-F1-150/2R6S-XX-(* )	1-1/2"	43-F1-150/2R6S-XX-(* )
2"	43-F1-200/2R6S-XX-(* )	2"	43-F1-200/2R7S-XX-(* )
2-1/2"	43-F1-250/2R6S-XX-(* )	2-1/2"	43-F1-250/2R7S-XX-(* )
3"	43-F1-300/2R8S-XX-(* )	3"	43-F1-300/2R8S-XX-(* )
4"	43-F1-400/2R9S-XX-(* )	4"	43-F1-400/2R0S-XX-(* )

#### 4-Way Electric

On-Off		Modulating	
SIZE	MODEL	SIZE	MODEL
1/4"	N/A	1/4"	N/A
3/8"	N/A	3/8"	N/A
1/2"	43-F1-050/WEA1-XX-(* )	1/2"	43-F1-050/WEA2-XX-(* )
3/4"	43-F1-075/WEA1-XX-(* )	3/4"	43-F1-075/WEA2-XX-(* )
1"	43-F1-100/WEA1-XX-(* )	1"	43-F1-100/WEA2-XX-(* )
1-1/2"	43-F1-150/WEC1-XX-(* )	1-1/2"	43-F1-150/WEC2-XX-(* )
2"	43-F1-200/WED1-XX-(* )	2"	43-F1-200/WED2-XX-(* )
2-1/2"	43-F1-250/WEE1-XX-(* )	2-1/2"	43-F1-250/WEE2-XX-(* )
3"	43-F1-300/WEE1-XX-(* )	3"	43-F1-300/WEE2-XX-(* )
4"	43-F1-400/WEF1-XX-(* )	4"	43-F1-400/WEF2-XX-(* )

\* Port Arrangement designation: See page 8 for options

# Series 43

## Non-Cavity Filled Sanitary

### Automated Model numbers

#### 4-Way Double Acting

Sized for 80 PSI		Sized for 60 PSI	
SIZE	MODEL	SIZE	MODEL
1/4"	N/A	1/4"	N/A
3/8"	N/A	3/8"	N/A
1/2"	43-C1-050/2R2D-XX-(* )	1/2"	43-C1-050/2R2D-XX-(* )
3/4"	43-C1-075/2R2D-XX-(* )	3/4"	43-C1-075/2R3D-XX-(* )
1"	43-C1-100/2R2D-XX-(* )	1"	43-C1-100/2R3D-XX-(* )
1-1/2"	43-C1-150/2R4D-XX-(* )	1-1/2"	43-C1-150/2R4D-XX-(* )
2"	43-C1-200/2R5D-XX-(* )	2"	43-C1-200/2R5D-XX-(* )
2-1/2"	43-C1-250/2R5D-XX-(* )	2-1/2"	43-C1-250/2R6D-XX-(* )
3"	43-C1-300/2R6D-XX-(* )	3"	43-C1-300/2R7D-XX-(* )
4"	43-C1-400/2R7D-XX-(* )	4"	43-C1-400/2R8D-XX-(* )

#### 4-Way Spring Return

Sized for 80 PSI		Sized for 60 PSI	
SIZE	MODEL	SIZE	MODEL
1/4"	N/A	1/4"	N/A
3/8"	N/A	3/8"	N/A
1/2"	43-C1-050/2R2S-XX-(* )	1/2"	43-C1-050/2R3S-XX-(* )
3/4"	43-C1-075/2R3S-XX-(* )	3/4"	43-C1-075/2R4S-XX-(* )
1"	43-C1-100/2R4S-XX-(* )	1"	43-C1-100/2R4S-XX-(* )
1-1/2"	43-C1-150/2R6S-XX-(* )	1-1/2"	43-C1-150/2R6S-XX-(* )
2"	43-C1-200/2R6S-XX-(* )	2"	43-C1-200/2R7S-XX-(* )
2-1/2"	43-C1-250/2R6S-XX-(* )	2-1/2"	43-C1-250/2R7S-XX-(* )
3"	43-C1-300/2R8S-XX-(* )	3"	43-C1-300/2R8S-XX-(* )
4"	43-C1-400/2R9S-XX-(* )	4"	43-C1-400/2R0S-XX-(* )

#### 4-Way Electric

On-Off		Modulating	
SIZE	MODEL	SIZE	MODEL
1/4"	N/A	1/4"	N/A
3/8"	N/A	3/8"	N/A
1/2"	43-C1-050/WEA1-XX-(* )	1/2"	43-C1-050/WEA2-XX-(* )
3/4"	43-C1-075/WEA1-XX-(* )	3/4"	43-C1-075/WEA2-XX-(* )
1"	43-C1-100/WEA1-XX-(* )	1"	43-C1-100/WEA2-XX-(* )
1-1/2"	43-C1-150/WEC1-XX-(* )	1-1/2"	43-C1-150/WEC2-XX-(* )
2"	43-C1-200/WED1-XX-(* )	2"	43-C1-200/WED2-XX-(* )
2-1/2"	43-C1-250/WEE1-XX-(* )	2-1/2"	43-C1-250/WEE2-XX-(* )
3"	43-C1-300/WEE1-XX-(* )	3"	43-C1-300/WEE2-XX-(* )
4"	43-C1-400/WEF1-XX-(* )	4"	43-C1-400/WEF2-XX-(* )

\* Port Arrangement designation: See page 8 for options

# Series 43

## Cavity Filled - Threaded, Socket Weld & Butt Weld

### Automated Model numbers

#### 4-Way Double Acting

Sized for 80 PSI		Sized for 60 PSI	
SIZE	MODEL	SIZE	MODEL
1/4"	43-TF-025/2R2D-XX-(* )	1/4"	CF
3/8"	43-TF-038/2R2D-XX-(* )	3/8"	CF
1/2"	43-TF-050/2R2D-XX-(* )	1/2"	CF
3/4"	43-TF-075/2R3D-XX-(* )	3/4"	CF
1"	43-TF-100/2R3D-XX-(* )	1"	CF
1-1/2"	43-TF-150/2R5D-XX-(* )	1-1/2"	CF
2"	43-TF-200/2R6D-XX-(* )	2"	CF
2-1/2"	43-TF-250/2R6D-XX-(* )	2-1/2"	CF
3"	43-TF-300/2R7D-XX-(* )	3"	CF
4"	43-TF-400/2R8D-XX-(* )	4"	CF

#### 4-Way Spring Return

Sized for 80 PSI		Sized for 60 PSI	
SIZE	MODEL	SIZE	MODEL
1/4"	43-TF-025/2R3S-XX-(* )	1/4"	CF
3/8"	43-TF-038/2R3S-XX-(* )	3/8"	CF
1/2"	43-TF-050/2R3S-XX-(* )	1/2"	CF
3/4"	43-TF-075/2R4S-XX-(* )	3/4"	CF
1"	43-TF-100/2R5S-XX-(* )	1"	CF
1-1/2"	43-TF-150/2R7S-XX-(* )	1-1/2"	CF
2"	43-TF-200/2R8S-XX-(* )	2"	CF
2-1/2"	43-TF-250/2R8S-XX-(* )	2-1/2"	CF
3"	43-TF-300/2R9S-XX-(* )	3"	CF
4"	43-TF-400/2R0S-XX-(* )	4"	CF

#### 4-Way Electric

On-Off		Modulating	
SIZE	MODEL	SIZE	MODEL
1/4"	43-TF-025/WEA1-XX-(* )	1/4"	43-TF-025/WEA2-XX-(* )
3/8"	43-TF-038/WEA1-XX-(* )	3/8"	43-TF-038/WEA2-XX-(* )
1/2"	43-TF-050/WEA1-XX-(* )	1/2"	43-TF-050/WEA2-XX-(* )
3/4"	43-TF-075/WEA1-XX-(* )	3/4"	43-TF-075/WEA2-XX-(* )
1"	43-TF-100/WEB1-XX-(* )	1"	43-TF-100/WEB2-XX-(* )
1-1/2"	43-TF-150/WED1-XX-(* )	1-1/2"	43-TF-150/WED2-XX-(* )
2"	43-TF-200/WEE1-XX-(* )	2"	43-TF-200/WEE2-XX-(* )
2-1/2"	43-TF-250/WEE1-XX-(* )	2-1/2"	43-TF-250/WEE2-XX-(* )
3"	43-TF-300/WEF1-XX-(* )	3"	43-TF-300/WEF2-XX-(* )
4"	43-TF-400/WEF1-XX-(* )	4"	43-TF-400/WEF2-XX-(* )

\* Port Arrangement designation: See page 8 for options

# Series 43

## Cavity Filled Flanged - ANSI Class 150

### Automated Model numbers

#### 4-Way Double Acting

Sized for 80 PSI		Sized for 60 PSI	
SIZE	MODEL	SIZE	MODEL
1/4"	N/A	1/4"	N/A
3/8"	N/A	3/8"	N/A
1/2"	43-FF-050/2R2D-XX-(* )	1/2"	CF
3/4"	43-FF-075/2R3D-XX-(* )	3/4"	CF
1"	43-FF-100/2R3D-XX-(* )	1"	CF
1-1/2"	43-FF-150/2R5D-XX-(* )	1-1/2"	CF
2"	43-FF-200/2R6D-XX-(* )	2"	CF
2-1/2"	43-FF-250/2R6D-XX-(* )	2-1/2"	CF
3"	43-FF-300/2R7D-XX-(* )	3"	CF
4"	43-FF-400/2R8D-XX-(* )	4"	CF

#### 4-Way Spring Return

Sized for 80 PSI		Sized for 60 PSI	
SIZE	MODEL	SIZE	MODEL
1/4"	N/A	1/4"	N/A
3/8"	N/A	3/8"	N/A
1/2"	43-FF-050/2R3S-XX-(* )	1/2"	CF
3/4"	43-FF-075/2R4S-XX-(* )	3/4"	CF
1"	43-FF-100/2R5S-XX-(* )	1"	CF
1-1/2"	43-FF-150/2R7S-XX-(* )	1-1/2"	CF
2"	43-FF-200/2R8S-XX-(* )	2"	CF
2-1/2"	43-FF-250/2R8S-XX-(* )	2-1/2"	CF
3"	43-FF-300/2R9S-XX-(* )	3"	CF
4"	43-FF-400/2R0S-XX-(* )	4"	CF

#### 4-Way Electric

On-Off		Modulating	
SIZE	MODEL	SIZE	MODEL
1/4"	N/A	1/4"	N/A
3/8"	N/A	3/8"	N/A
1/2"	43-FF-050/WEA1-XX-(* )	1/2"	43-FF-050/WEA2-XX-(* )
3/4"	43-FF-075/WEA1-XX-(* )	3/4"	43-FF-075/WEA2-XX-(* )
1"	43-FF-100/WEB1-XX-(* )	1"	43-FF-100/WEB2-XX-(* )
1-1/2"	43-FF-150/WED1-XX-(* )	1-1/2"	43-FF-150/WED-XX-(* )
2"	43-FF-200/WEE1-XX-(* )	2"	43-FF-200/WEE2-XX-(* )
2-1/2"	43-FF-250/WEE1-XX-(* )	2-1/2"	43-FF-250/WEE2-XX-(* )
3"	43-FF-300/WEF1-XX-(* )	3"	43-FF-300/WEF2-XX-(* )
4"	43-FF-400/WEF1-XX-(* )	4"	43-FF-400/WEF2-XX-(* )

\* Port Arrangement designation: See page 8 for options

# Series 43

## Cavity Filled Sanitary

### Automated Model numbers

#### 4-Way Double Acting

Sized for 80 PSI		Sized for 60 PSI	
SIZE	MODEL	SIZE	MODEL
1/4"	N/A	1/4"	N/A
3/8"	N/A	3/8"	N/A
1/2"	43-CF-050/2R2D-XX-(* )	1/2"	CF
3/4"	43-CF-075/2R3D-XX-(* )	3/4"	CF
1"	43-CF-100/2R3D-XX-(* )	1"	CF
1-1/2"	43-CF-150/2R5D-XX-(* )	1-1/2"	CF
2"	43-CF-200/2R6D-XX-(* )	2"	CF
2-1/2"	43-CF-250/2R6D-XX-(* )	2-1/2"	CF
3"	43-CF-300/2R7D-XX-(* )	3"	CF
4"	43-CF-400/2R8D-XX-(* )	4"	CF

#### 4-Way Spring Return

Sized for 80 PSI		Sized for 60 PSI	
SIZE	MODEL	SIZE	MODEL
1/4"	N/A	1/4"	N/A
3/8"	N/A	3/8"	N/A
1/2"	43-CF-050/2R3S-XX-(* )	1/2"	CF
3/4"	43-CF-075/2R4S-XX-(* )	3/4"	CF
1"	43-CF-100/2R5S-XX-(* )	1"	CF
1-1/2"	43-CF-150/2R7S-XX-(* )	1-1/2"	CF
2"	43-CF-200/2R8S-XX-(* )	2"	CF
2-1/2"	43-CF-250/2R8S-XX-(* )	2-1/2"	CF
3"	43-CF-300/2R9S-XX-(* )	3"	CF
4"	43-CF-400/2R0S-XX-(* )	4"	CF

#### 4-Way Electric

On-Off		Modulating	
SIZE	MODEL	SIZE	MODEL
1/4"	N/A	1/4"	N/A
3/8"	N/A	3/8"	N/A
1/2"	43-CF-050/WEA1-XX-(* )	1/2"	43-CF-050/WEA2-XX-(* )
3/4"	43-CF-075/WEA1-XX-(* )	3/4"	43-CF-075/WEA2-XX-(* )
1"	43-CF-100/WEB1-XX-(* )	1"	43-CF-100/WEB2-XX-(* )
1-1/2"	43-CF-150/WED1-XX-(* )	1-1/2"	43-CF-150/WED2-XX-(* )
2"	43-CF-200/WEE1-XX-(* )	2"	43-CF-200/WEE2-XX-(* )
2-1/2"	43-CF-250/WEE1-XX-(* )	2-1/2"	43-CF-250/WEE2-XX-(* )
3"	43-CF-300/WEF1-XX-(* )	3"	43-CF-300/WEF2-XX-(* )
4"	43-CF-400/WEF1-XX-(* )	4"	43-CF-400/WEF2-XX-(* )

\* Port Arrangement designation: See page 8 for options

# Valve Options

## Various Seat Materials

PTFE, RTFE, 50/50 STFE, 25% CTFE, Delrin, PEEK, UHMWPE, TFM-1600

## Operator Options

Quarter-turn Gear Operators  
Spring Return "Deadman" Handles  
Oval handles, TEE Handles

## Specials and Solutions

Steam Jackets  
Stem Extensions  
V-ported Control Valves  
Multi-port Valve Solutions  
Fugitive Emissions Bonnets (TSM's)  
Oxygen Cleaning  
Lockout Brackets  
Vented Balls  
"No Play" Mounting Kits

## • FM Approved Valves and Assemblies



Manual and automated valve assemblies for gas burner management applications and safety shutoff

# Other Products

## Special Seats Balls and Seal Designs



## Steam Jacketed Valves



## Floor Mounted Damper Drives



## Limit Switches Mounted on Manual Valves



## Fusible Link Assemblies



## 180° Actuators



## Lockout Mounting Kits



## Stem Extensions



## Special Multi-Port Valves



## Dual Valve Assemblies



## TERMS AND CONDITIONS

### Terms:

Net thirty (30) days from date of invoice, unless otherwise stated.

### Prices:

All prices are F.O.B. Seller's plant Cincinnati, Ohio and do not include any applicable Federal, State and Local Sales or Excise Taxes or other surcharges unless otherwise specifically indicated. All prices subject to change without notice.

### Payments:

Remittance should be made to

A-T Controls, Inc.  
P.O. Box 934100  
Atlanta, GA 31193-4100

unless otherwise stated. If the financial condition or credit of the Buyer at any time shall, in the judgment of the Seller, not warrant shipment of products ordered, the Seller may at its option require full payment prior to shipment or refuse to ship and terminate any order outstanding without liability to Buyer.

### Design:

The Seller or the Seller's manufacturers reserve the right to make design improvements without notice.

### Warranty:

The Seller warrants its product against defects in material or workmanship, when used on those services approved by the Seller, for a period of one (1) year from the date of original shipment. The Seller's liability under this warranty shall be limited to repair or replacement at Seller's option of such defective products,

F.O.B. factory, upon proof of defect satisfactory to Seller. Seller shall have no further liability for damages of any kind, including but not limited to personal injuries and property damage, resulting from use of Seller's product. This warranty is expressly in lieu of all other warranties, either expressed or implied, including any implied warranty or merchantability or fitness for any particular purpose.

### Disclaimer:

Due to continuous product improvements, we reserve the right to modify or change design without incurring any liability to furnish or install such modifications or changes on products previously or subsequently sold.

### Returns:

No goods may be returned without Seller's or Seller's manufacturers written permission. In issuing credit for such shipments, Seller reserves the right to deduct a minimum handling charge of 25%.

### Claims:

All claims for corrections or deductions must be made within ten (10) days after delivery of goods

### Cancellations:

The Buyer may cancel upon the written consent of the Seller's manufacturers but the Seller is entitled to reasonable cancellation charges including but not limited to labor expended, materials, obtained or expended, reasonable overhead expenses.

### Shipment and Delivery:

Shipment dates are based on the Seller's best estimate only. The Seller will exercise his best efforts to ship on schedule, but shall not be liable for any damages or loss caused by any delay in delivery, including but not limited to delay caused by strikes, flood, fires, accidents, inability to obtain sufficient materials or products from suppliers, inability to obtain sufficient labor, or any legislative, administrative or executive law, order or requisition of the Federal Government or any State or Municipal Government or any subdivision, department or office thereof. The responsibility for goods lost or damaged in transit rests with the carrier.

### Modifications or Additions of Terms and Conditions:

No modification of, addition to, or waiver of any of the terms and conditions stated here in shall be binding upon the Seller, except by the written consent of an authorized officer of the Seller.

### Acceptance:

Any order by Buyer placed pursuant to a quotation is subject to acceptance and acknowledgement by Seller or the Seller's manufacturers. If Buyer accepts any portion of the merchandise ordered, he will be deemed to have assented to the terms and conditions stated herein.



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# SERIES 33/43/53 Multi-Port Ball Valves



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