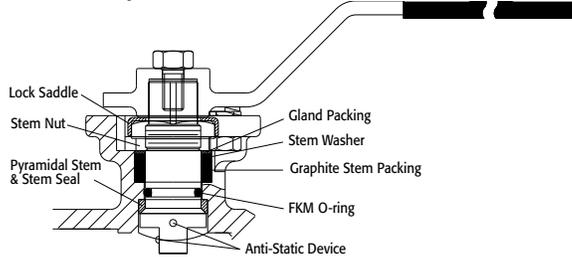




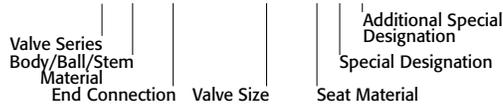
Triac Series 24 High Pressure Ball Valves feature a high quality investment cast body and end. They are available in 1/4" through 2" (all are full port except the 2" size). Superior leak protection is accomplished by using our patented Pyramidal Stem Seal Packing System shown in the graphic below. This advanced system protects against wear and leakage experienced by other ball valves.



Delrin® seats are standard in these high performance valves. See pressure temperature chart for performance particulars.

HOW TO ORDER MANUAL VALVES

SAMPLE PART #
24C-TH-0200-DXD



See part number matrix for itemized options

Easy to Automate!

See automated data sheets for pre-sized assemblies



Pneumatic



Electric



Series 24

FIRESAFE

HIGH PRESSURE 2-Piece Design

Sizes 1/4" – 2"
(1/4" – 1-1/2" Full Port, 2" Regular Port)

Available in 316SST

Direct Mount

3000 psi

High Cycle Design

Pyramidal Stem Seal Packing System

Compliant to NACE MR0175

Blowout Proof Stem

Delrin® Seats Standards

ISO 5211 Actuator Mounting Pad

Lockable Manual Handle

STANDARDS

Design	ANSI/ASME B16.34, (fully conforms), Firesafe design
End Connections	ANSI/ASME B16.25, B1.20.1
Pressure Testing	API 598
Sulfide Stress Protection	NACE MR0175
Mounting	ISO 5211
Marking System for Valves	MSS SP-25, MSS SP-72, ISO 5209
Material Certification	EN 10204-3.1 MTR
Quality Assurance	ISO 9001:2015

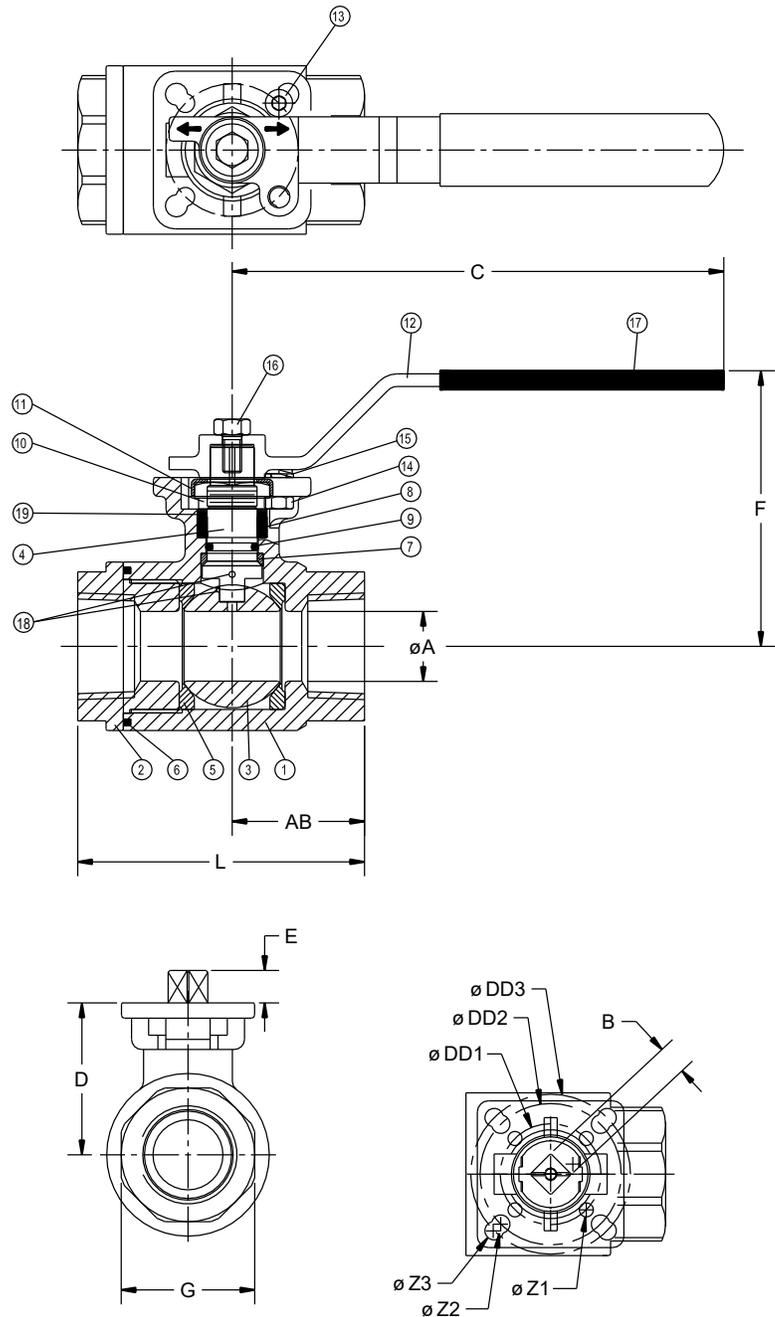
TABLE OF CONTENTS:

- Page 2 - Materials & Dimensions
- Page 3 - Technical Data
- Page 4 - Double Acting
- Page 5 - Spring Return
- Page 6 - Electric
- Page 7 - How to Order - Manual
- Page 8 - How to Order - Automated



MATERIALS LIST

NO.	PART NAME	QTY	STAINLESS STEEL	REPAIR KIT
1	BODY	1	ASTM A351 GRADE CF8M	
2	END CAP	1	ASTM A351 GRADE CF8M	
3	BALL	1	1/4" THRU 3/8" ASTM A276 SS316	
3	BALL	1	1/2" THRU 2" ASTM A351 GRADE CF8M	
4	STEM	1	ASTM A276 SS316	
5	SEAT	2	DELRIN®	✓
6	JOINT GASKET	1	GRAPHITE	✓
7	STEM SEAL	1	DELRIN®	✓
8	STEM PACKING	1	GRAPHITE	✓
9	O-RING	1	FKM	✓
10	STEM NUT	1	AISI 304	
11	LOCK SADDLE	1	AISI 304	
12	HANDLE	1	AISI 304	
13	STOP BOLT	1	AISI 304	
14	STOP NUT	1	AISI 304	
15	STOP WASHER	1	AISI 304	
16	HANDLE BOLT	1	AISI 304	
17	HANDLE SLEEVE	1	VINYL	
18	ANTI-STATIC DEVICE	2	AISI 316	
19	GLAND WASHER	1	RTFE	✓



DIMENSIONS (IN)

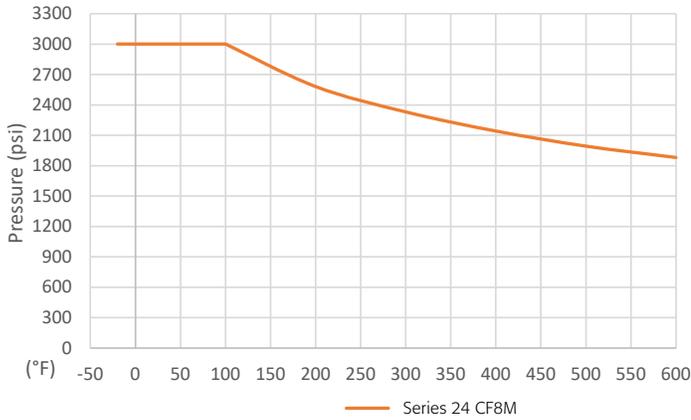
SIZE	A	B	C	D	E	F	G	L	AB	DD1	DD2	DD3	Z1	Z2	Z3	ISO 5211
1/4"	0.38	0.354	4.96	1.61	0.31	2.83	1.02	2.95	1.417	1.417	1.654	1.969	0.24	0.24	0.28	F03/F04/F05
3/8"	0.38	0.354	4.96	1.61	0.31	2.83	1.02	2.95	1.417	1.417	1.654	1.969	0.24	0.24	0.28	F03/F04/F05
1/2"	0.50	0.354	4.96	1.61	0.31	2.83	1.28	2.95	1.417	1.417	1.654	1.969	0.24	0.24	0.28	F03/F04/F05
3/4"	0.69	0.354	4.96	1.72	0.31	2.87	1.51	3.19	1.417	1.417	1.654	1.969	0.24	0.24	0.28	F03/F04/F05
1"	0.87	0.433	6.14	2.11	0.39	3.43	1.86	3.58	1.654	1.654	1.969	—	0.24	0.28	—	F04/F05
1-1/4"	1.14	0.433	6.14	2.32	0.39	3.66	2.32	4.33	1.654	1.654	1.969	—	0.24	0.28	—	F04/F05
1-1/2"	1.37	0.551	7.13	2.96	0.51	4.49	2.61	4.76	1.969	1.969	2.756	—	0.28	0.34	—	F05/F07
2" RP	1.37	0.551	7.13	2.96	0.51	4.49	3.23	5.71	1.969	1.969	2.756	—	0.28	0.34	—	F05/F07

Delrin® is a registered trademark of DuPont Performance Polymers.

2-Piece Direct Mount Ball Valve
Integrated ISO 5211 1/4" to 1-1/2" Full Port
Actuator Mounting Pad
3000 psi
2" Regular Port

Series 24

Pressure vs. Temperature Chart - Series 24



Temp (°F)	Class 1250 CF8M
	psi
-20°	3000
50°	3000
75°	3000
90°	3000
99°	3000
100°	3000
200°	2580
300°	2330
400°	2141
500°	1992
600°	1880

Pressure vs. Temperature Chart - Series 24
Seat Pressure Ratings



Pressure - Seat Material			
Temp (°F)	Delrin®	Temp (°F)	PEEK
-40°	6000	-50°	6000
0°	6000	100°	6000
99°	6000	122°	6000
100°	6000	179.8°	5700
108°	5400	237.6°	5400
116°	4800	295.4°	5100
124°	4200	300°	5076.32
132°	3600	313.6°	4800
140°	3000	337.2°	4320
148°	2400	360.8°	3840
156°	1800	384.5°	3360
164°	1200	408.1°	2880
172°	600	431.8°	2400
180°	0	455.4°	1920
		479.1°	1440
		502.7°	960
		526.3°	480
		550°	0

Component Temperature Ratings		
COMPONENT	MATERIAL	TEMPERATURE
Stem Seal	Delrin®	-40°F to 180°F
Gaskets	Graphite	-100°F to 1100°F
Seats (Other Materials Available)	Delrin®	-40°F to 180°F
	PEEK	-50°F to 550°F

NOTE: At temperature, valves are limited by either the valve body/end cap pressure ratings, seat pressure ratings, or packing/stem seal/gaskets; whichever is lower.

Delrin® is a registered trademark of DuPont Performance Polymers.

BREAK AWAY TORQUES w/Delrin® Seats	
SIZE	IN-LBS
1/4"	122
3/8"	122
1/2"	153
3/4"	184
1"	247
1-1/4"	470
1-1/2"	553
2"	553

NOTE: For other seat material, consult factory.

Pneumatic Double Acting Automated Ball Valve Package

Series 24
Firesafe
High Pressure 2-Piece Design

Sizes 1/4" – 2"
Full Port 1/4" – 1-1/2" Regular Port 2"

Available in 316SS

Direct Mount

3000 psi

High Cycle Design

Pyramidal Stem Seal Packing
System

Compliant to NACE MR0175

Blowout Proof Stem

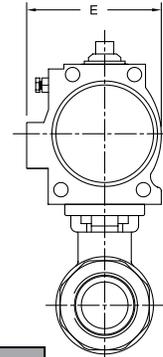
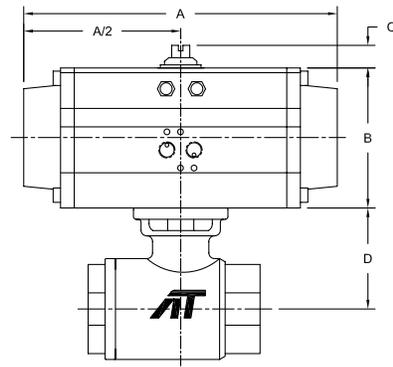
Delrin® Seats Standard

STANDARDS

Design	ANSI/ASME B16.34, (fully conforms), Firesafe design
End Connections	ANSI/ASME B16.25, B1.20.1
Pressure Testing	API 598
Sulfide Stress Protection	NACE MR0175
Mounting	ISO 5211
Marking System for Valves	MSS SP-25, MSS SP-72, ISO 5209
Material Certification	EN 10204-3.1 MTR
Quality Assurance	ISO 9001:2015



Direct Mount



DIMENSIONS (IN)

VALVE SIZE	A	B	C	D	E	VALVE Cv
1/4"	5.98	2.76	0.79	1.61	2.50	7
3/8"	5.98	2.76	0.79	1.61	2.50	8
1/2"	7.95	3.43	0.79	1.61	3.29	15
3/4"	9.29	4.49	0.79	1.72	4.41	35
1"	9.29	4.49	0.79	2.11	4.41	50
1-1/4"	9.29	4.49	0.79	2.32	4.41	95
1-1/2"	9.29	4.49	0.79	2.96	4.41	180
2"	9.29	4.49	0.79	2.96	4.41	210

DIMENSIONS SHOWN ARE FOR ASSEMBLIES SIZED FOR 80 PSI SUPPLY

SERIES 24 Direct Mount

SIZED FOR 80 psi AIR SUPPLY	
SIZE	MODEL
1/4"	24-TD-025/TR1D-XX
3/8"	24-TD-038/TR1D-XX
1/2"	24-TD-050/2R2D-XX
3/4"	24-TD-075/2R3D-XX
1"	24-TD-100/2R3D-XX
1-1/4"	24-TD-125/2R3D-XX
1-1/2"	24-TD-150/2R3D-XX
2"	24-TD-200/2R3D-XX

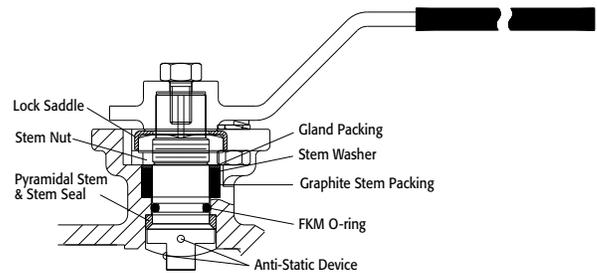
SIZED FOR 60 psi AIR SUPPLY	
SIZE	MODEL
1/4"	24-TD-025/2R2D-XX
3/8"	24-TD-038/2R2D-XX
1/2"	24-TD-050/2R2D-XX
3/4"	24-TD-075/2R3D-XX
1"	24-TD-100/2R3D-XX
1-1/4"	24-TD-125/2R3D-XX
1-1/2"	24-TD-150/2R3D-XX
2"	24-TD-200/2R4D-XX

OPTIONS

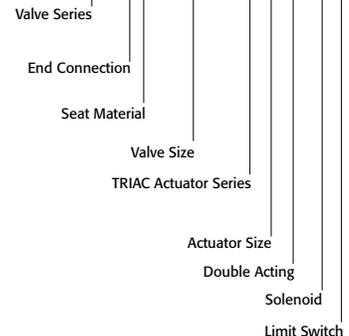
DESCRIPTION	PART NO. SUFFIX	DESCRIPTION	PART NO. SUFFIX
NEMA 4 Solenoid	(A)	NEMA 4 Limit Switch (2) spdt	(A)
NEMA 7 Solenoid	(B)	NEMA 7 Limit Switch (2) spdt	(B)
Intrinsically Safe Solenoid	(C)	Intrinsically Safe Limit Switch	(C)

Other options available - call for details
Actuators are sized based on clean/clear fluid.

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



SAMPLE PART #
24-TD-050/2R2D-XX



See valve part number matrix for complete part number and options.

Pneumatic Spring Return Automated Ball Valve Package

Series 24
Firesafe
High Pressure 2-Piece Design

Sizes 1/4" – 2"
Full Port 1/4" – 1-1/2" Regular Port 2"

Available in 316SST

Direct Mount

3000 psi

High Cycle Design

Pyramidal Stem Seal Packing
System

Compliant to NACE MR0175

Blowout Proof Stem

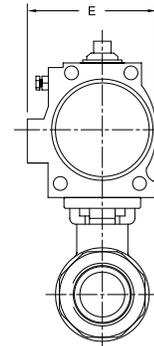
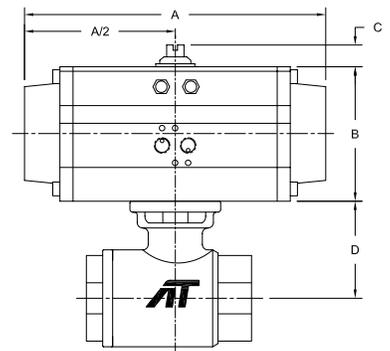
Delrin® Seats Standard

STANDARDS

Design	ANSI/ASME B16.34, (fully conforms), Firesafe design
End Connections	ANSI/ASME B16.25, B1.20.1
Pressure Testing	API 598
Sulfide Stress Protection	NACE MR0175
Mounting	ISO 5211
Marking System for Valves	MSS SP-25, MSS SP-72, ISO 5209
Material Certification	EN 10204-3.1 MTR
Quality Assurance	ISO 9001:2015



Direct Mount



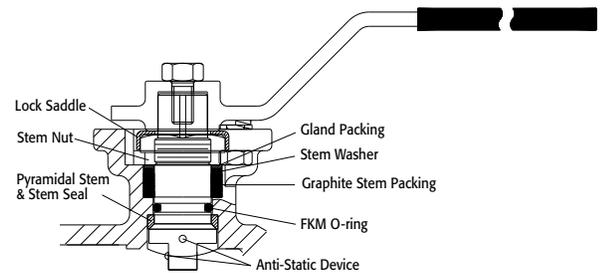
DIMENSIONS (IN)

VALVE SIZE	A	B	C	D	E	VALVE Cv
1/4"	7.95	3.43	0.79	1.61	3.29	7
3/8"	7.95	3.43	0.79	1.61	3.29	8
1/2"	9.29	4.49	0.79	1.61	4.41	15
3/4"	9.29	4.49	0.79	1.72	4.41	35
1"	9.29	4.49	0.79	2.11	4.41	50
1-1/4"	10.87	4.88	0.79	2.32	4.82	95
1-1/2"	10.87	4.88	0.79	2.96	4.82	180
2"	11.46	5.28	0.79	2.96	5.20	210

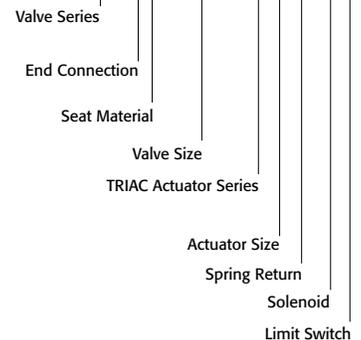
DIMENSIONS SHOWN ARE FOR ASSEMBLIES SIZED FOR 80 PSI SUPPLY

SIZED FOR 80 psi AIR SUPPLY	
SIZE	MODEL
1/4"	24-TD-025/2R2S-XX
3/8"	24-TD-038/2R2S-XX
1/2"	24-TD-050/2R3S-XX
3/4"	24-TD-075/2R3S-XX
1"	24-TD-100/2R3S-XX
1-1/4"	24-TD-125/2R4S-XX
1-1/2"	24-TD-150/2R4S-XX
2"	24-TD-200/2R5S-XX

SIZED FOR 60 psi AIR SUPPLY	
SIZE	MODEL
1/4"	24-TD-025/2R2S-XX
3/8"	24-TD-038/2R2S-XX
1/2"	24-TD-050/2R3S-XX
3/4"	24-TD-075/2R3S-XX
1"	24-TD-100/2R3S-XX
1-1/4"	24-TD-125/2R4S-XX
1-1/2"	24-TD-150/2R5S-XX
2"	24-TD-200/2R5S-XX



SAMPLE PART # 24-TD-050/2R3S-XX



See valve part number matrix for complete part number and options.

OPTIONS

DESCRIPTION	PART NO. SUFFIX	DESCRIPTION	PART NO. SUFFIX
NEMA 4 Solenoid	(A)	NEMA 4 Limit Switch (2) spdt	(A)
NEMA 7 Solenoid	(B)	NEMA 7 Limit Switch (2) spdt	(B)
Intrinsically Safe Solenoid	(C)	Intrinsically Safe Limit Switch	(C)

Other options available - call for details
Actuators are sized based on clean/clear fluid.

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

Electric

Automated Ball Valve Package

Series 24
Firesafe
High Pressure 2-Piece Design

Sizes 1/4" – 2"
Full Port 1/4" – 1-1/2" Regular Port 2"

Available in 316SST

Direct Mount

3000 psi

High Cycle Design

Pyramidal Stem Seal Packing System

Compliant to NACE MR0175

Blowout Proof Stem

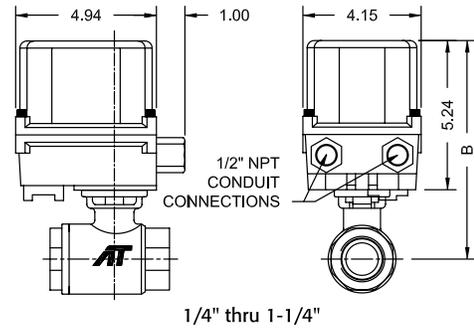
Delrin® Seats Standard

STANDARDS

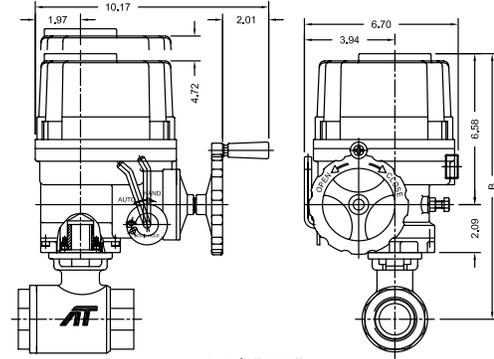
Design	ANSI/ASME B16.34, (fully conforms), Firesafe design
End Connections	ANSI/ASME B16.25, B1.20.1
Pressure Testing	API 598
Sulfide Stress Protection	NACE MR0175
Mounting	ISO 5211
Marking System for Valves	MSS SP-25, MSS SP-72, ISO 5209
Material Certification	EN 10204-3.1 MTR
Quality Assurance	ISO 9001:2015



Direct Mount



1/4" thru 1-1/4"



1-1/2" & 2"

ELECTRIC ON/OFF SERIES

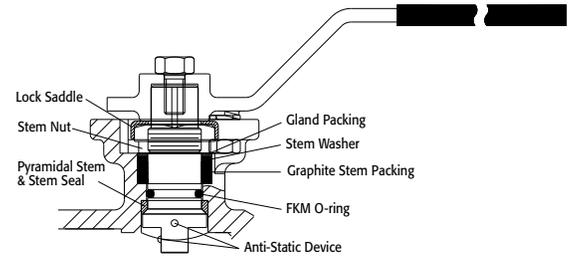
VALVE SIZE	B	VALVE Cv
1/4"	6.85	7
3/8"	6.85	8
1/2"	6.85	15
3/4"	6.96	35
1"	7.35	50
1-1/4"	7.56	95
1-1/2"	11.62	180
2"	11.62	210

FOR SPECIALS, CONSULT FACTORY

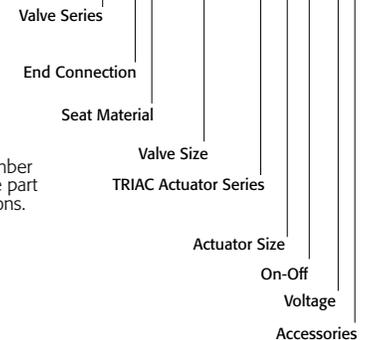
SERIES 24 Direct Mount

ON-OFF	
SIZE	MODEL
1/4"	24-TD-025/WEA1-XX
3/8"	24-TD-038/WEA1-XX
1/2"	24-TD-050/WEA1-XX
3/4"	24-TD-075/WEA1-XX
1"	24-TD-100/WEA1-XX
1-1/4"	24-TD-125/WEA1-XX
1-1/2"	24-TD-150/WEB1-XX
2"	24-TD-200/WEB1-XX

MODULATING	
SIZE	MODEL
1/4"	24-TD-025/WEA2-XX
3/8"	24-TD-038/WEA2-XX
1/2"	24-TD-050/WEA2-XX
3/4"	24-TD-075/WEA2-XX
1"	24-TD-100/WEA2-XX
1-1/4"	24-TD-125/WEA2-XX
1-1/2"	24-TD-150/WEB2-XX
2"	24-TD-200/WEB2-XX



SAMPLE PART #
24-TD-050/WEA1-XX



See valve part number matrix for complete part number and options.

OPTIONS

DESCRIPTION
24 VAC/24 VDC/220VAC
Feedback potentiometer

NOTE: Heater and thermostat standard
(2) auxiliary switches standard

Other options available - call for details
Actuators are sized based on clean/clear fluid.

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

HOW TO ORDER: Manual Valves w/ Options

Series 24

2	Valve Series
24	2pc. 3000 psi, Direct Mount

3	Body/Ball/Stem Material
Blank	Valve Series Standard (316SST)

4	End Connection
TH	NPT Ends

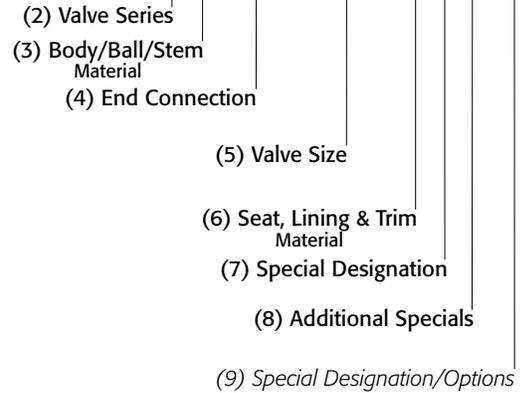
5	Valve Size
0025	1/4"
0038	3/8"
0050	1/2"
0075	3/4"
0100	1"
0125	1-1/4"
0150	1-1/2"
0200	2"

6	Seat, Lining & Trim Material
D	Delrin®
Z	PEEK

7	Special Designation
X	No Specials/Series Standard
O	Oval Handle (available on some)
S	Spring Return (Direct Mount Only)
4	4" Lockable Stem Extension

8	Additional Specials
X	No Specials, Series Standard
O	Oxygen Cleaned
V	Vented Ball
E	Bonnet Extension Lockable Handle
D	Degreased & Bagged
A	Vented Ball, Degreased & Bagged
B	Vented Ball, Oxygen Cleaned

**MANUAL VALVE
SAMPLE PART #**
24_-TH-0200-DXD-



OPTIONS:

9	Special Designation
Blank	No Designation, Valve Series Standard
A	17-4 PH® Stem

17-4 PH® is a registered trademark of AK Steel Corporation.
Delrin® is a registered trademark of DuPont Performance Polymers.
TFM™ is a trademark of Dyneon™, a 3M Company.

HOW TO ORDER: Automated Valves w/ Options

2	Valve Series
24	2pc. 3000 psi, Direct Mount

3	Body/Ball/Stem Material
Blank	Valve Series Standard (316SST)

4	End Connection
T	NPT Ends

5	Seat, Lining & Trim Material
D	Delrin®
Z	PEEK

6	Valve Size			
025	1/4"	100	1"	
038	3/8"	125	1-1/4"	
050	1/2"	150	1-1/2"	
075	3/4"	200	2"	

7	Actuator - Pneumatic (DA)			
TR1D	TR10DA	2R7D	2R500DA	
TR1D	TR20DA	2R8D	2R850DA	
2R2D	2R40DA	2R9D	2R1200DA	
2R3D	2R80DA	2R0D	2R1750DA	
2R4D	2R130DA	2RAD	2R2500DA	
2R5D	2R200DA	2RBD	2R3500DA	
2R6D	2R300DA			

7	Actuator - Pneumatic (SR)			
TR1S	TR20SR	2R7S	2R500SR	
2R2S	2R40SR	2R8S	2R850SR	
2R3S	2R80SR	2R9S	2R1200SR	
2R4S	2R130SR	2R0S	2R1750SR	
2R5S	2R200SR	2RAS	2R2500SR	
2R6S	2R300SR	2RBS	2R3500SR	

7	Actuator - Pneumatic Stainless (DA)			
S21D	S2-052DA	S25D	S2-125DA	
S22D	S2-063DA	S26D	S2-140DA	
S23D	S2-083DA	S27D	S2-160DA	
S24D	S2-105DA	S28D	S2-210DA	

7	Actuator - Pneumatic Stainless (SR)			
S21S	S2-052SR	S25S	S2-125SR	
S22S	S2-063SR	S26S	S2-140SR	
S23S	S2-083SR	S27S	S2-160SR	
S24S	S2-105SR	S28S	S2-210SR	

7	Actuator - Electric (On-Off)			
WEX1	WE-350	WEG1	WE-5200	
WEA1	WE-500	WEH1	WE-6900	
WEB1	WE-690	WEJ1	WE-10500	
WEC1	WE-1350	WEK1	WE-17500	
WED1	WE-1700	WEL1	WE-25900	
WEE1	WE-2640	WEM1	WE-53000	
WEF1	WE-4400	WEN1	WE-80000	

7	Actuator - Electric (Modulating)			
WEA2	WEM-500	WEH2	WEM-6900	
WEB2	WEM-690	WEJ2	WEM-10500	
WEC2	WEM-1350	WEK2	WEM-17500	
WED2	WEM-1700	WEL2	WEM-25900	
WEE2	WEM-2640	WEM2	WEM-53000	
WEF2	WEM-4400	WEN2	WEM-80000	
WEG2	WEM-5200			

OPTIONS:

8	Accessories/Options	Model no.
X	No Specials	
A	TYPE 4 Solenoid 120VAC	TVCS-X411-4N-A120
B	TYPE 7 Solenoid 120VAC	TVCS-X411-7N-A120
C	Intrinsically Safe Solenoid	TVIS-X411-4N-D24
D	TYPE 4 Solenoid 24VDC	TVCS-X411-4N-D24
F	TYPE 7 Solenoid 24VDC	TVCS-X411-7N-D24
Q	TYPE 4 SST Solenoid 120VAC	TVSS-X411-4N-A120
M	TYPE 7 SST Solenoid 120VAC	TVSS-X411-7N-A120
L	TYPE 4 SST Solenoid 24VDC	TVSS-X411-4N-D24
N	TYPE 7 SST Solenoid 24VDC	TVSS-X411-7N-D24
P	Pneumatic Positioner	PPR-1200
E	Electro-Pneumatic Positioner	EPR-1000
R	24VDC Electric Actuator	
S	220VAC Electric Actuator	
T	Other Voltage Electric Actuator	
W	12VDC Electric Actuator	
Y	24VAC Electric Actuator	

** No voltage specified on electric assemblies denotes 120VAC*

9	Accessories	Model no.
X	No Specials	
A	TYPE 4 Limit Switch	APL-210N/APL-310N
B	TYPE 7 Limit Switch	APL-510N
C	Intrinsically Safe Limit Switch	APL-218N
Q	TYPE 4 SST Limit Switch	APL-910N
M	TYPE 7 SST Limit Switch	APL-510S
1	HS1 High Speed Electric	
2	HS2 High Speed Electric	

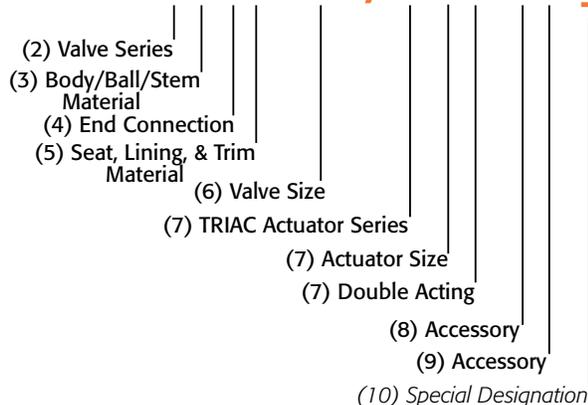
10	Special Designation
Blank	No Designation, Valve Series Standard SST Stem
A	17-4 PH® Stem

17-4 PH® is a registered trademark of AK Steel Corporation.
Delrin® is a registered trademark of DuPont Performance Polymers.
TFM™ is a trademark of Dyneon™, a 3M Company.

AUTOMATED VALVE

SAMPLE PART #

24-TD-100/2R3D-XX-



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