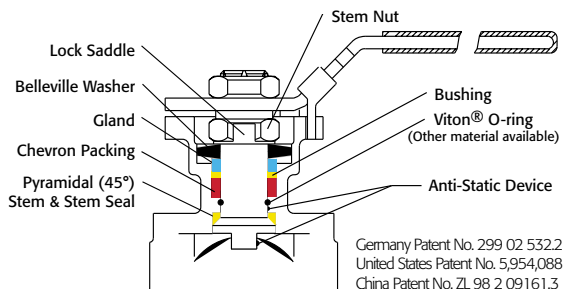




Triac Series 22 Ball Valves feature a high quality investment cast body and end. They are available in sizes from 1/4" to 3". Superior leak protection is accomplished by using our patented "Pyramidal" stem seal system shown in the graphic below. This advanced system protects against wear and leakage experienced by other ordinary ball valves.



VALVE SIZE	VALVE Cv
1/4"	7
3/8"	8
1/2"	15
3/4"	40
1"	70
1-1/4"	110
1-1/2"	250
2"	350
2-1/2"	600
3"	900



## Easy to Automate!

See automated data sheets for pre-sized assemblies



Pneumatic



Electric



# Series 22

## DIRECT MOUNT 2-Piece Design

Sizes 1/4" - 3"

Available in 316SS

Full Port Valve

Threaded Ends

1000 psi WOG

NACE MR-0175

2-piece High Cycle Design

ISO 5211 Direct Actuator Mount

Blowout Proof Stem w/ Dual  
Anti-Static Devices

RTFE Seats Standard

Pyramidal Stem Seal Packing  
System

Lockable Manual Handle

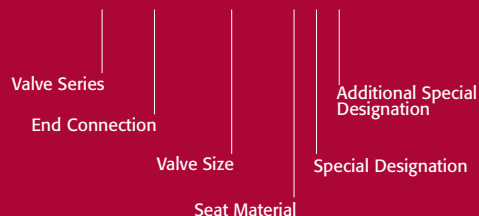
### STANDARDS

DESIGN	ANSI/ASME B16.34
END CONNECTIONS	ASME B1.20.1
SULFIDE STRESS PROTECTION	NACE MR0175
MOUNTING	ISO 5211
MARKING SYSTEM FOR VALVES	MSS SP-25, MSS SP-55
SAFETY INTEGRITY	IEC 61508:2010; SIL 3
MATERIAL CERTIFICATION	EN 10204-3.1 MTR
QUALITY ASSURANCE	ISO 9001:2008

### HOW TO ORDER MANUAL VALVES

SAMPLE PART #

**22-TH-0200-XXX**

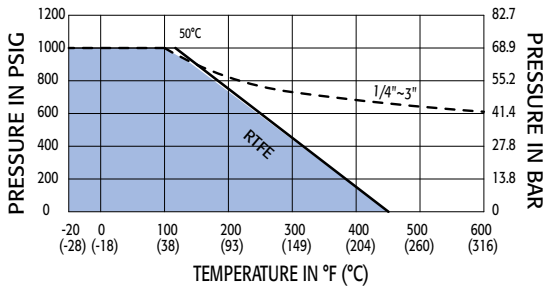


See part number matrix for itemized options

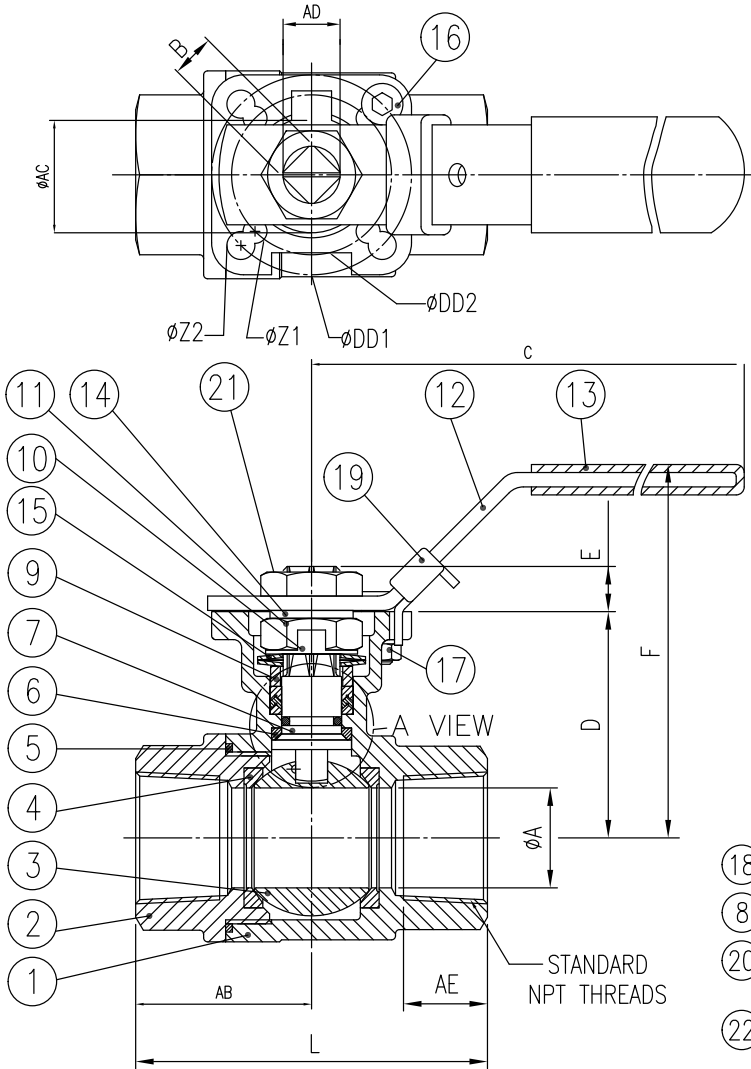
# Series 22

## Direct Mount High Cycle Full Port Ball Valve

Pressure vs. Temperature Chart



NOTE: Dotted line shows the rating for valve body. Solid line shows the rating for valve seat. Both ratings need to be considered when determining the limitation of the valve for specific application. Consult factory for other seat materials.



### DIMENSIONS (IN)

SIZE	A	B	C	D	E	F	L	Z1	Z2	AB	AC	AD	AE	DD1	DD2	LBS	ISO 5211
1/4"	0.45	0.354	5.88	1.53	0.26	2.99	2.56	0.26	0.28	1.28	0.92	0.43	0.55	1.417	1.969	1.23	F03/F04/F05
3/8"	0.49	0.354	6.12	1.52	0.26	2.99	2.56	0.26	0.28	1.28	0.92	0.43	0.53	1.417	1.969	1.23	F03/F04/F05
1/2"	0.59	0.354	5.83	1.60	0.26	3.05	2.56	0.26	0.28	1.28	0.92	0.43	0.53	1.417	1.969	1.23	F03/F04/F05
3/4"	0.79	0.354	5.88	1.82	0.28	3.23	2.94	0.26	0.28	1.47	0.91	0.43	0.61	1.417	1.969	1.32	F03/F04/F05
1"	0.98	0.433	6.77	2.24	0.43	3.74	3.46	0.26	0.28	1.73	1.26	0.56	0.72	1.654	1.969	2.40	F04/F05
1-1/4"	1.26	0.433	6.77	2.40	0.43	3.92	4.02	0.24	0.27	2.01	1.26	0.56	0.81	1.654	1.969	3.31	F04/F05
1-1/2"	1.50	0.551	8.51	3.06	0.55	4.00	4.33	0.29	0.35	2.17	1.53	0.75	0.76	1.969	2.756	5.62	F05/F07
2"	1.97	0.551	8.51	3.35	0.56	5.16	4.92	0.29	0.35	2.46	1.53	0.75	0.89	1.969	2.756	7.93	F05/F07
2-1/2"	2.56	0.669	10.53	4.31	0.67	6.18	6.32	0.39	0.48	3.16	2.07	0.88	1.09	2.756	4.016	16.38	F07/F10
3"	3.15	0.669	11.88	4.63	0.71	6.80	7.01	0.39	0.48	3.51	2.08	0.88	1.19	2.756	4.016	22.81	F07/F10

### MATERIALS LIST

NO.	PART NAME	QTY	MATERIAL
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 3" ASTM A351 GRADE CF8M
4	SEAT	2	RTFE
5	JOINT GASKET	1	PTFE
6	STEM SEAL	1	RTFE
7	STEM	1	ASTM A276 SS316
8	GLAND PACKING	1	PTFE
9	GLAND BUSHING	1	AISI 304
10	LOCK SADDLE	1	AISI 304
11	STEM NUT	1	AISI 304
12	HANDLE	1	AISI 304
13	HANDLE SLEEVE	1	VINYL
14	STEM WASHER	1	AISI 304
15	BELLEVILLE WASHER	2	AISI 301
16	STOP BOLT	1	AISI 304
17	BOLT NUT	1	AISI 304
18	GLAND PACKING	1	RTFE
19	HANDLE LOCK	1	AISI 304
20	O-RING	1	VITON®
21	HANDLE NUT	1	AISI 304
22	ANTI-STATIC DEVICE	2	AISI 316

### Break Away Torque for RTFE Seats

SIZE	IN-LBS.
1/4"	62
3/8"	62
1/2"	62
3/4"	71
1"	124
1-1/4"	159
1-1/2"	230
2"	319
2-1/2"	487
3"	770

NOTE: For other seat material, consult factory

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# Pneumatic Double Acting Automated Ball Valve Package

Series 22  
Direct Mount

Available in 316SS

Sizes 1/4" – 3"

Full Port Valve

Threaded Ends

1000 psi WOG

NACE MR-0175

2-piece High Cycle Design

Blowout Proof Stem w/ Dual  
Anti-Static Devices

RTFE Seats Standard

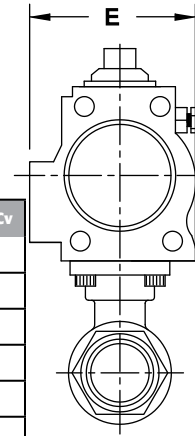
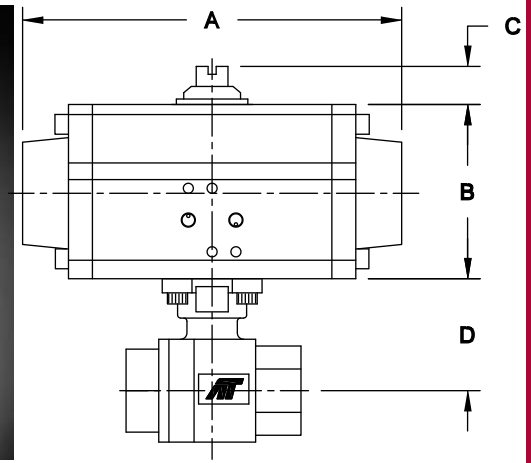
Pyramidal Stem Seal Design

## STANDARDS

DESIGN	ANSI/ASME B16.34
END CONNECTIONS	ASME B1.20.1
SULFIDE STRESS PROTECTION	NACE MR0175
MOUNTING	ISO 5211
MARKING SYSTEM FOR VALVES	MSS SP-25, MSS SP-55
SAFETY INTEGRITY	IEC 61508:2010; SIL 3
MATERIAL CERTIFICATION	EN 10204-3.1 MTR
QUALITY ASSURANCE	ISO 9001:2008



Direct Mount



## DIMENSIONS (IN)

VALVE SIZE	A	B	C	D	E	VALVE Cv
1/4"	4.57	1.91	0.79	1.53	1.93	7
3/8"	4.57	1.91	0.79	1.53	1.93	8
1/2"	4.57	1.91	0.79	1.60	1.93	15
3/4"	5.98	2.76	0.79	1.82	2.58	40
1"	5.98	2.76	0.79	2.24	2.58	70
1-1/4"	7.95	3.43	0.79	2.40	3.29	110
1-1/2"	7.95	3.43	0.79	3.06	3.29	250
2"	7.95	3.43	0.79	3.35	3.29	350
2-1/2"	9.29	4.49	0.79	4.31	4.41	600
3"	10.87	4.88	0.79	4.63	4.69	900

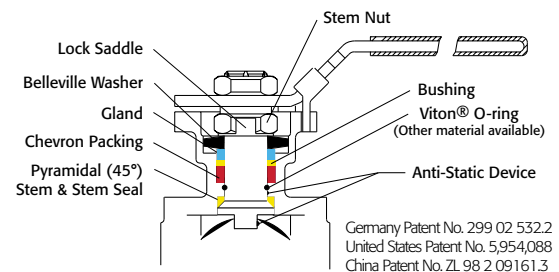
DIMENSIONS SHOWN ARE FOR ASSEMBLIES SIZED FOR 80 PSI SUPPLY



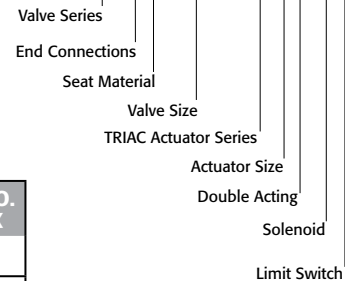
SERIES 22 2-Piece Direct Mount

SIZED FOR 80 psi AIR SUPPLY	
SIZE	MODEL
1/4"	22-TX-025/TRYD-XX
3/8"	22-TX-038/TRYD-XX
1/2"	22-TX-050/TRYD-XX
3/4"	22-TX-075/TR1D-XX
1"	22-TX-100/TR1D-XX
1-1/4"	22-TX-125/2R2D-XX
1-1/2"	22-TX-150/2R2D-XX
2"	22-TX-200/2R2D-XX
2-1/2"	22-TX-250/2R3D-XX
3"	22-TX-300/2R4D-XX

SIZED FOR 60 psi AIR SUPPLY	
SIZE	MODEL
1/4"	22-TX-025/TRYD-XX
3/8"	22-TX-038/TRYD-XX
1/2"	22-TX-050/TRYD-XX
3/4"	22-TX-075/TR1D-XX
1"	22-TX-100/TR1D-XX
1-1/4"	22-TX-125/2R2D-XX
1-1/2"	22-TX-150/2R3D-XX
2"	22-TX-200/2R3D-XX
2-1/2"	22-TX-250/2R3D-XX
3"	22-TX-300/2R4D-XX



## SAMPLE PART # 22-TX-100/2R3D-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.

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# Pneumatic Spring Return Automated Ball Valve Package

Series 22  
Direct Mount

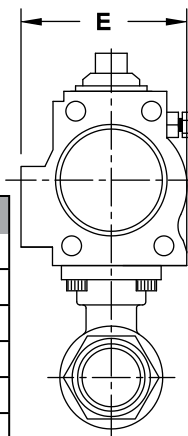
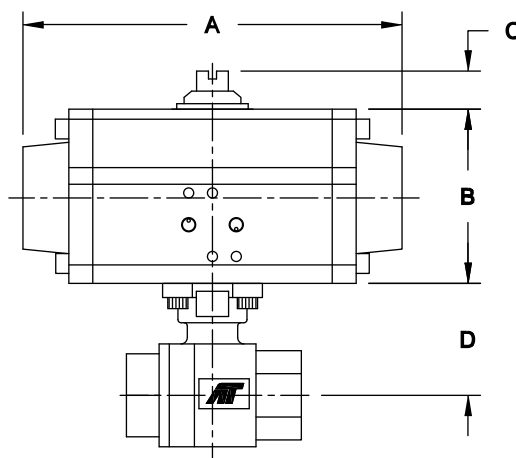
Available in 316SS  
 Sizes 1/4" – 3"  
 Full Port Valve  
 Threaded Ends  
 1000 psi WOG  
 NACE MR-0175  
 2-piece High Cycle Design  
 Blowout Proof Stem w/ Dual  
 Anti-Static Devices  
 RTFE Seats Standard  
 Pyramidal Stem Seal Design

### STANDARDS

DESIGN	ANSI/ASME B16.34
END CONNECTIONS	ASME B1.20.1
SULFIDE STRESS PROTECTION	NACE MR0175
MOUNTING	ISO 5211
MARKING SYSTEM FOR VALVES	MSS SP-25, MSS SP-55
SAFETY INTEGRITY	IEC 61508:2010; SIL 3
MATERIAL CERTIFICATION	EN 10204-3.1 MTR
QUALITY ASSURANCE	ISO 9001:2008



Direct Mount



### DIMENSIONS (IN)

VALVE SIZE	A	B	C	D	E	VALVE Cv
1/4"	7.60	2.76	0.79	1.53	2.58	7
3/8"	7.60	2.76	0.79	1.53	2.58	8
1/2"	7.60	2.76	0.79	1.60	2.58	15
3/4"	7.95	3.43	0.79	1.82	3.29	40
1"	7.95	3.43	0.79	2.24	3.29	70
1-1/4"	9.29	4.49	0.79	2.40	4.41	110
1-1/2"	9.29	4.49	0.79	3.06	4.41	250
2"	9.29	4.49	0.79	3.35	4.41	350
2-1/2"	11.46	5.28	0.79	4.31	5.20	600
3"	13.90	6.18	0.79	4.63	6.04	900

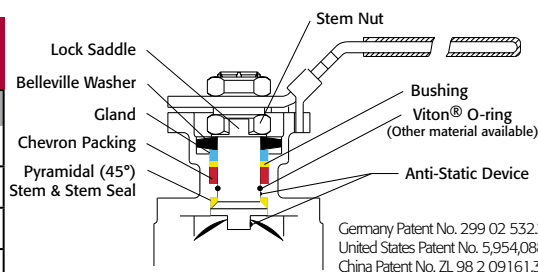
DIMENSIONS SHOWN ARE FOR ASSEMBLIES SIZED FOR 80 PSI SUPPLY



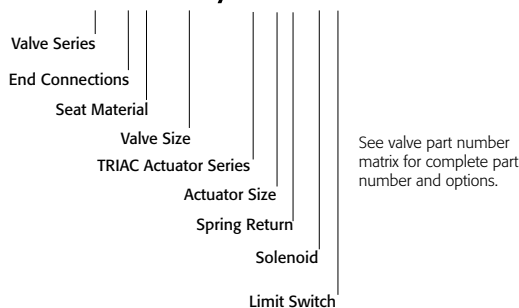
SERIES 22 2-piece Direct Mount

SIZED FOR 80 psi AIR SUPPLY	
SIZE	MODEL
1/4"	22-TX-025/TR1S-XX
3/8"	22-TX-038/TR1S-XX
1/2"	22-TX-050/TR1S-XX
3/4"	22-TX-075/2R2S-XX
1"	22-TX-100/2R2S-XX
1-1/4"	22-TX-125/2R3S-XX
1-1/2"	22-TX-150/2R3S-XX
2"	22-TX-200/2R3S-XX
2-1/2"	22-TX-250/2R5S-XX
3"	22-TX-300/2R6S-XX

SIZED FOR 60 psi AIR SUPPLY	
SIZE	MODEL
1/4"	22-TX-025/TR1S-XX
3/8"	22-TX-038/TR1S-XX
1/2"	22-TX-050/TR1S-XX
3/4"	22-TX-075/2R2S-XX
1"	22-TX-100/2R3S-XX
1-1/4"	22-TX-125/2R3S-XX
1-1/2"	22-TX-150/2R4S-XX
2"	22-TX-200/2R4S-XX
2-1/2"	22-TX-250/2R5S-XX
3"	22-TX-300/2R6S-XX



### SAMPLE PART # 22-TX-100/2R3S-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.  
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# Electric

## Automated Ball Valve Package

### Series 22 Direct Mount

Available in 316SS

Sizes 1/4" – 3"

Full Port Valve

Threaded Ends

1000 psi WOG

NACE MR-0175

2-piece High Cycle Design

Blowout Proof Stem w/ Dual  
Anti-Static Devices

RTFE Seats Standard

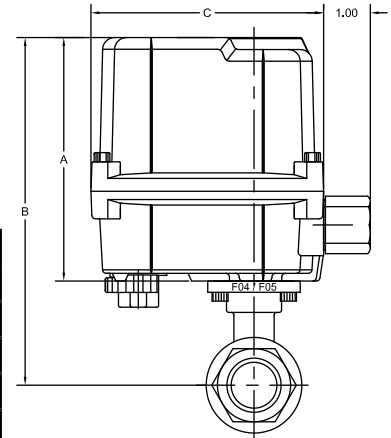
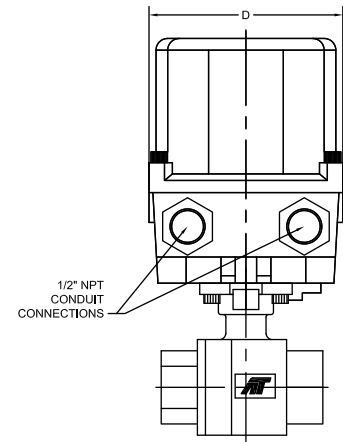
Pyramidal Stem Seal Design

#### STANDARDS

DESIGN	ANSI/ASME B16.34
END CONNECTIONS	ASME B1.20.1
SULFIDE STRESS PROTECTION	NACE MR0175
MOUNTING	ISO 5211
MARKING SYSTEM FOR VALVES	MSS SP-25, MSS SP-55
SAFETY INTEGRITY	IEC 61508:2010; SIL 3
MATERIAL CERTIFICATION	EN 10204-3.1 MTR
QUALITY ASSURANCE	ISO 9001:2008



Direct Mount



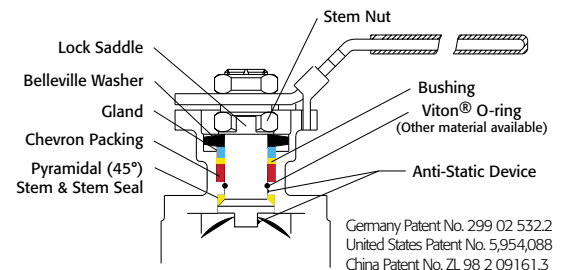
#### DIMENSIONS (IN)

VALVE SIZE	A	B	C	D	VALVE CV
1/4"	5.24	6.77	4.94	4.08	7
3/8"	5.24	6.77	4.94	4.08	8
1/2"	5.24	6.84	4.94	4.08	15
3/4"	5.24	7.06	4.94	4.08	40
1"	5.24	7.48	4.94	4.08	70
1-1/4"	5.24	7.64	4.94	4.08	110
1-1/2"	5.24	8.30	4.94	4.08	250
2"	5.24	8.59	4.94	4.08	350
2-1/2"	9.25	13.56	6.69	10.16	600
3"	10.55	15.18	9.02	13.31	900

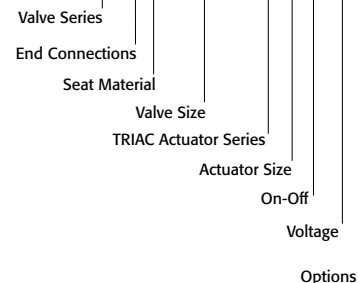
**SERIES 22 2-Piece Direct Mount**

ON-OFF	
SIZE	MODEL
1/4"	22-TX-025/WEA1-XX
3/8"	22-TX-038/WEA1-XX
1/2"	22-TX-050/WEA1-XX
3/4"	22-TX-075/WEA1-XX
1"	22-TX-100/WEA1-XX
1-1/4"	22-TX-125/WEA1-XX
1-1/2"	22-TX-150/WEA1-XX
2"	22-TX-200/WEA1-XX
2-1/2"	22-TX-250/WEB1-XX
3"	22-TX-300/WEC1-XX

MODULATING	
SIZE	MODEL
1/4"	22-TX-025/WEA2-XX
3/8"	22-TX-038/WEA2-XX
1/2"	22-TX-050/WEA2-XX
3/4"	22-TX-075/WEA2-XX
1"	22-TX-100/WEA2-XX
1-1/4"	22-TX-125/WEA2-XX
1-1/2"	22-TX-150/WEA2-XX
2"	22-TX-200/WEA2-XX
2-1/2"	22-TX-250/WEB2-XX
3"	22-TX-300/WEC2-XX



#### SAMPLE PART # 22-TX-100/WEA1-XX



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

OPTIONS	
DESCRIPTION	
24 VAC/24 VDC/220VAC	
Feedback potentiometer	

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

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# 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

