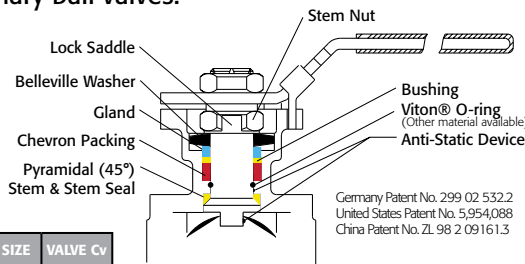




Triac 88 Series 3 -Piece Ball Valves feature a direct mount automation pad. The high quality investment castings feature a fully machined bore. The superior live-loaded packing system is accomplished with Belleville washers, "V" ring packing and a unique primary pyramidal stem seal. This advanced sealing system provides protection against stem leaks experienced by 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"	430
2-1/2"	600
3"	1,100
4"	2,000

RTFE seats are standard, but various options are available for seat materials. The 50/50 STFE seat option is excellent for services that call for higher temperatures and more difficult applications including steam. Call us for details.

### Easy to Automate!

See automated data sheets for pre-sized assemblies



Pneumatic



Electric



# Series 88

## HIGH PERFORMANCE 3-Piece Design

Sizes 1/4" - 4"

Full Port Design

1000/1500/2000 psi WOG (by size)

316SS, WCB, Alloy 20,  
or Hastelloy C-276

Threaded, Socket Weld, or Butt  
Weld Ends

Superior Live Loaded Packing  
System

ISO 5211 Actuator Mounting Pad

Blowout Proof Stem w/ Dual  
Anti-Static Devices

RTFE Seats Standard

Pyramidal Stem Seal Design

Monel Ball & Stem Available

Lockable Manual Handle

#### STANDARDS

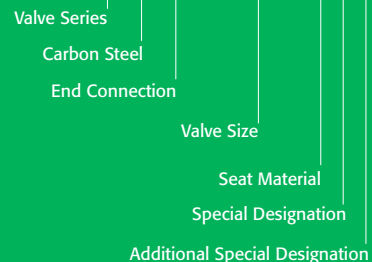
Design	ANSI/ASME B16.34
End Connections	ASME B16.25, B1.20.1, B16.11
Pressure Testing	API 598
Mounting	ISO 5211
Marking System for Valves	MSS SP-25, ISO 5209
Safety Integrity	IEC 61508:2010; SIL 3
Material Certification	EN 10204-3.1 MTR
Quality Assurance	ISO 9001:2008



### HOW TO ORDER MANUAL VALVES

SAMPLE PART #

**88C-TH-0200-XXX**



See part number matrix for itemized options

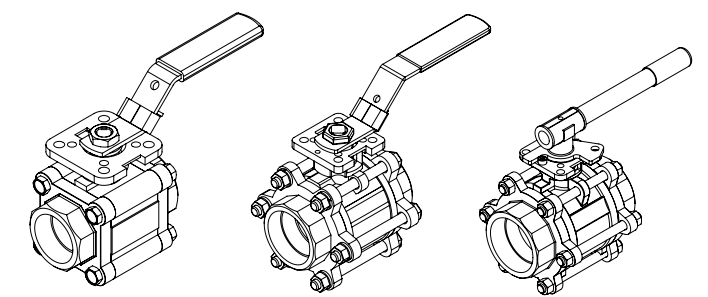
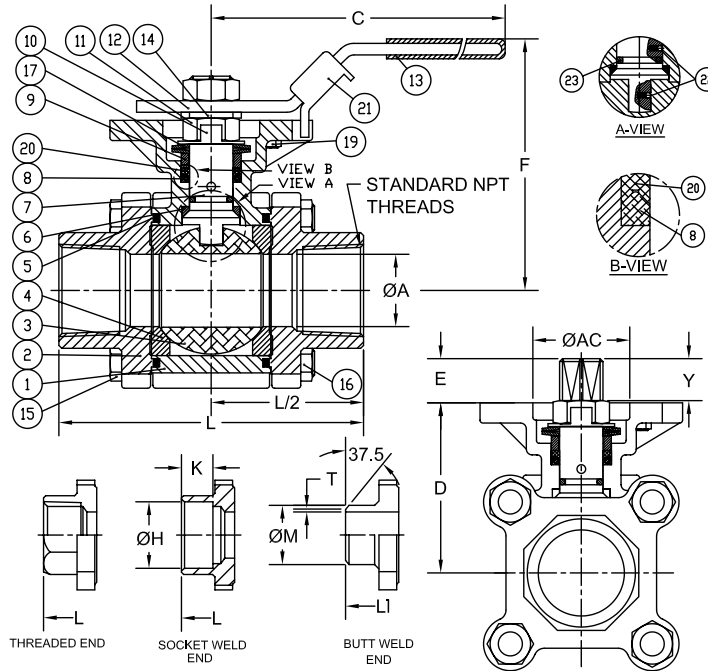
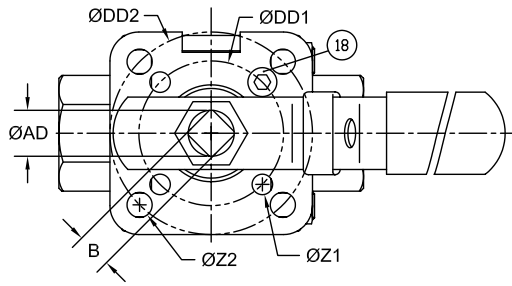


9955 International Blvd.  
Cincinnati, Ohio 45246  
www.atcontrols.com

PHONE (513) 247-5465  
FAX (513) 247-5462  
sales@atcontrols.com

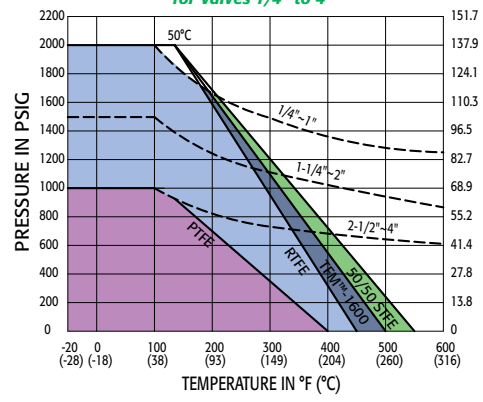
# Series 88

## High Performance, Full Port 1000/1500/2000 psi WOG by size 3-Piece Ball Valve 1/4" to 4" ISO 5211 Direct Mount



BENT HANDLE SIZES 1-1/4" - 2"      SIZE 2"      PIPE HANDLE SIZES 2-1/2" - 4"

Pressure vs. Temperature Chart for Valves 1/4" to 4"



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

Break Away Torque for RTFE Seats

SIZE	IN-LBS.
1/4"	70
3/8"	70
1/2"	75
3/4"	100
1"	145
1-1/4"	220
1-1/2"	300
2"	420
2-1/2"	560
3"	900
4"	1,500

NOTE: For other seat material, consult factory

### MATERIALS LIST

NO.	PART NAME	QTY	STAINLESS STEEL	CARBON STEEL	ALLOY 20	HASTELLOY C-276
1	BODY	1	ASTM A351 GRADE CF8M	ASTM A216 GRADE WCB	ASTM A351 GRADE CN7M	ASTM A494 GRADE CW12MW
2	TH END CAP	2	ASTM A351 GRADE CF8M	ASTM A216 GRADE WCB	ASTM A351 GRADE CN7M	ASTM A494 GRADE CW12MW
2	BW/SW END CAP	2	ASTM A351 GRADE CF3M	ASTM A216 GRADE WCB	ASTM A351 GRADE CN7M	ASTM A494 GRADE CW12MW
3	BALL	1	1/4" THRU 3/8" ASTM A276 SS316	1/4" THRU 3/8" ASTM A276 SS316	ASTM A351 GRADE CN7M	ASTM A494 GRADE CW12MW
3	BALL	1	1/2" THRU 4" ASTM A351 GRADE CF8M	1/2" THRU 4" ASTM A351 GRADE CF8M	ASTM A351 GRADE CN7M	ASTM A494 GRADE CW12MW
4	SEAT	2	RTFE	RTFE	RTFE	RTFE
5	JOINT GASKET	2	PTFE	PTFE	PTFE	PTFE
6	STEM SEAL	1	RTFE	RTFE	RTFE	RTFE
7	STEM	1	ASTM A276 SS316	ASTM A276 SS316	ASTM A351 GRADE CN7M	ASTM B574 UNS N10276
8	GLAND PACKING	1^	PTFE	PTFE	PTFE	PTFE
9	GLAND BUSHING	1	AISI 304	AISI 304	AISI 304	AISI 304
10	LOCK SADDLE	1	AISI 304	AISI 304	AISI 304	AISI 304
11	STEM NUT	1	AISI 304	AISI 304	AISI 304	AISI 304
12	HANDLE	1	AISI 304	AISI 304	AISI 304	AISI 316
13	HANDLE SLEEVE	1	VINYL	VINYL	VINYL	VINYL
14	STEM WASHER	1	AISI 304	AISI 304	AISI 304	AISI 304
15	BODY BOLT/STUD	*	ASTM A193 GRADE B8	ASTM A193 GRADE B8	ASTM A193 GRADE B8	ASTM A193 GRADE B8
16	BODY NUT	#	ASTM A194 GRADE 8	ASTM A194 GRADE 8	ASTM A194 GRADE 8	ASTM A194 GRADE 8
17	BELLEVILLE WASHER	2	AISI 301	AISI 301	AISI 301	AISI 301
18	STOP BOLT	1	AISI 304	AISI 304	AISI 304	AISI 304
19	STOP BOLT NUT	1	AISI 304	AISI 304	AISI 304	AISI 304
20	GLAND WASHER	1	RTFE	RTFE	RTFE	RTFE
21	HANDLE LOCK	1	AISI 304	AISI 304	AISI 304	AISI 316
22	ANTI-STATIC DEVICE	2	AISI 316	AISI 316	AISI 316	AISI 316
23	STEM O-RING	1	VITON®	VITON®	VITON®	VITON®

^ PACKING SET  
 \* 1/4" THRU 1-1/2" QTY = 4 PCS  
 \* 2" THRU 4" QTY = 6 PCS  
 # 1/4" THRU 1-1/2" QTY = 4 PCS  
 # 2" THRU 4" QTY = 12 PCS

NOTE: SIZES 2-1/2" THRU 4" INCLUDE SEAT RETAINER RINGS.

### DIMENSIONS (IN)

SIZE	ØA	B	C	D	E	F	H	K	L	L1	M	T	Y	AC	AD	DD1	DD2	ØZ2	ØZ1	(LBS)	ISO 5211
1/4"	0.45	0.354	5.47	1.66	0.25	3.00	0.55	0.39	2.95	2.95	0.85	0.13	0.25	1.04	0.44	1.654	1.969	0.28	0.28	1.6	F04/F05
3/8"	0.50	0.354	5.47	1.66	0.25	3.00	0.69	0.39	2.95	2.95	0.85	0.11	0.25	1.04	0.44	1.654	1.969	0.28	0.28	1.6	F04/F05
1/2"	0.59	0.354	5.47	1.66	0.25	3.00	0.85	0.39	2.85	2.95	0.85	0.06	0.25	1.07	0.44	1.654	1.969	0.28	0.28	2.0	F04/F05
3/4"	0.79	0.354	5.47	1.83	0.33	3.20	1.07	0.51	3.36	3.54	1.07	0.06	0.33	1.07	0.44	1.969	2.756	0.34	0.28	3.0	F05/F07
1"	0.98	0.433	6.50	2.31	0.41	3.86	1.34	0.51	4.15	4.33	1.34	0.06	0.41	1.34	0.56	1.969	2.756	0.34	0.28	4.5	F05/F07
1-1/4"	1.26	0.433	6.50	2.46	0.41	4.00	1.69	0.51	4.37	4.53	1.68	0.06	0.41	1.34	0.56	1.969	2.756	0.34	0.28	6.0	F05/F07
1-1/2"	1.50	0.551	8.46	3.11	0.53	5.04	1.92	0.51	5.01	5.12	1.91	0.06	0.53	1.54	0.74	1.969	2.756	0.34	0.28	10.0	F05/F07
2"	1.97	0.551	8.46	3.42	0.53	5.35	2.40	0.63	5.62	5.62	2.38	0.06	0.53	1.54	0.74	1.969	2.756	0.35	0.30	13.0	F05/F07
2-1/2"	2.56	0.748	10.31	4.28	0.66	6.60	2.89	0.63	7.28	7.28	3.00	N/A	0.66	2.09	0.94	2.756	4.016	0.47	0.39	26.0	F07/F10
3"	3.15	0.748	10.31	4.63	0.70	6.96	3.54	0.63	8.07	8.07	3.54	N/A	0.70	2.09	0.94	2.756	4.016	0.47	0.39	34.0	F07/F10
4"	3.94	0.748	12.28	5.26	0.66	7.59	4.54	0.79	9.45	9.45	4.57	N/A	0.66	2.09	0.94	2.756	4.016	0.47	0.39	52.0	F07/F10

Viton® is a registered trademark of E.I. DuPont de Nemours.  
 A-T Controls reserves the right to change product designs and technical/dimensional specifications without notice.



9955 International Blvd. PHONE (513) 247-5465  
 Cincinnati, Ohio 45246 FAX (513) 247-5462  
 www.atcontrols.com sales@atcontrols.com



# Pneumatic Double Acting Automated Ball Valve Package Series 88 3-Piece Ball Valve

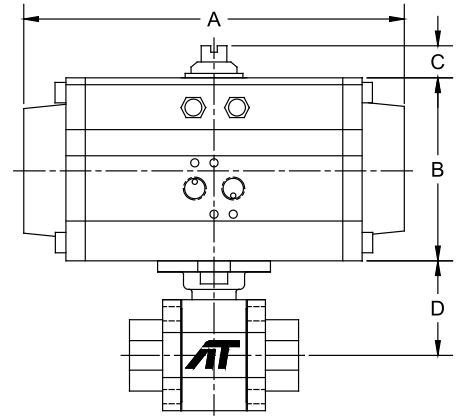
Sizes 1/4" - 4"  
Full Port Design  
1000/1500/2000 psi WOG  
(by size)  
316SS, WCB, Alloy 20  
or Hastelloy C-276  
TH, SW, or BW Ends  
Superior Live Loaded Packing  
System  
Blowout Proof Stem w/ Dual  
Anti-Static Devices  
RTFE Seats Standard  
Pyramidal Stem Seal Design  
Monel Ball & Stem Available

## STANDARDS

Design	ANSI/ASME B16.34
End Connections	ASME B16.25, B1.20.1, B16.11
Pressure Testing	API 598
Mounting	ISO 5211
Marking System for Valves	MSS SP-25, ISO 5209
Safety Integrity	IEC 61508:2010; SIL 3
Material Certification	EN 10204-3.1 MTR
Quality Assurance	ISO 9001:2008



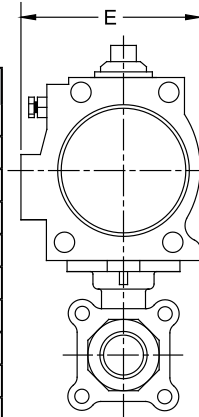
Direct Mount



## DIMENSIONS (IN)

VALVE SIZE	A	B	C	D	E	VALVE Cv
1/4"	5.98	2.76	0.79	1.66	2.58	7
3/8"	5.98	2.76	0.79	1.66	2.58	8
1/2"	5.98	2.76	0.79	1.66	2.58	15
3/4"	7.95	3.43	0.79	1.83	3.29	40
1"	7.95	3.43	0.79	2.31	3.29	70
1-1/4"	7.95	3.43	0.79	2.46	3.29	110
1-1/2"	9.29	4.49	0.79	3.11	4.41	250
2"	9.29	4.49	0.79	3.42	4.41	430
2-1/2"	10.87	4.88	0.79	4.28	4.82	600
3"	11.46	5.28	0.79	4.63	5.20	1,100
4"	13.90	6.18	0.79	5.26	6.04	2,000

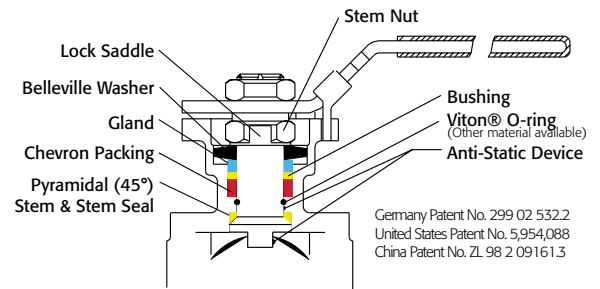
DIMENSIONS SHOWN ARE FOR ASSEMBLIES SIZED FOR 80 PSI SUPPLY



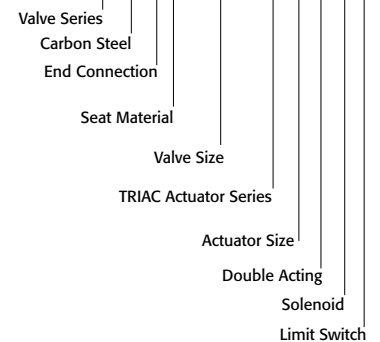
SERIES 88 Direct Mount

SIZED FOR 80 psi AIR SUPPLY	
SIZE	MODEL
1/4"	88-TX-025/TR1D-XX
3/8"	88-TX-038/TR1D-XX
1/2"	88-TX-050/TR1D-XX
3/4"	88-TX-075/2R2D-XX
1"	88-TX-100/2R2D-XX
1-1/4"	88-TX-125/2R2D-XX
1-1/2"	88-TX-150/2R3D-XX
2"	88-TX-200/2R3D-XX
2-1/2"	88-TX-250/2R4D-XX
3"	88-TX-300/2R5D-XX
4"	88-TX-400/2R6D-XX

SIZED FOR 60 psi AIR SUPPLY	
SIZE	MODEL
1/4"	88-TX-025/TR1D-XX
3/8"	88-TX-038/TR1D-XX
1/2"	88-TX-050/TR1D-XX
3/4"	88-TX-075/2R2D-XX
1"	88-TX-100/2R2D-XX
1-1/4"	88-TX-125/2R2D-XX
1-1/2"	88-TX-150/2R3D-XX
2"	88-TX-200/2R3D-XX
2-1/2"	88-TX-250/2R4D-XX
3"	88-TX-300/2R5D-XX
4"	88-TX-400/2R6D-XX



## SAMPLE PART # 88C-TX-050/2R2D-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.



9955 International Blvd.  
Cincinnati, Ohio 45246  
www.atcontrols.com  
PHONE (513) 247-5465  
FAX (513) 247-5462  
sales@atcontrols.com



# Pneumatic Spring Return Automated Ball Valve Package

## Series 88 3-Piece Ball Valve

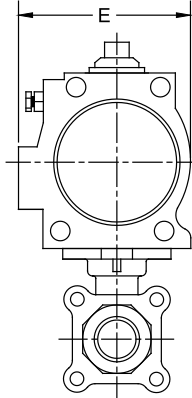
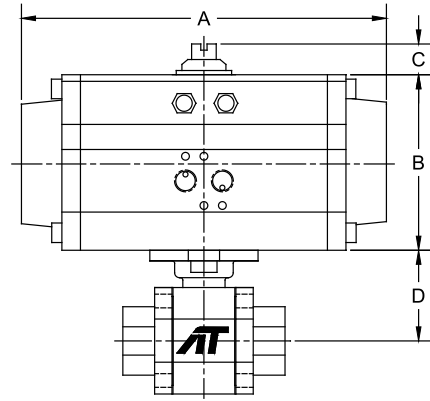
- Sizes 1/4" - 4"
- Full Port Design
- 1000/1500/2000 psi WOG (by size)
- 316SS, WCB, Alloy 20 or Hastelloy C-276
- TH, SW, or BW Ends
- Superior Live Loaded Packing System
- Blowout Proof Stem w/ Dual Anti-Static Devices
- RTFE Seats Standard
- Pyramidal Stem Seal Design
- Monel Ball & Stem Available

### STANDARDS

Design	ANSI/ASME B16.34
End Connections	ASME B16.25, B1.20.1, B16.11
Pressure Testing	API 598
Mounting	ISO 5211
Marking System for Valves	MSS SP-25, ISO 5209
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"	7.95	3.43	0.79	1.66	3.29	7
3/8"	7.95	3.43	0.79	1.66	3.29	8
1/2"	7.95	3.43	0.79	1.66	3.29	15
3/4"	9.29	4.49	0.79	1.83	4.41	40
1"	9.29	4.49	0.79	2.31	4.41	70
1-1/4"	9.29	4.49	0.79	2.46	4.41	110
1-1/2"	9.29	4.49	0.79	3.11	4.41	250
2"	10.87	4.88	0.79	3.42	4.82	430
2-1/2"	11.46	5.28	0.79	4.28	5.20	600
3"	15.16	6.93	1.18	4.63	6.69	1,100
4"	15.16	6.93	1.18	5.26	6.69	2,000

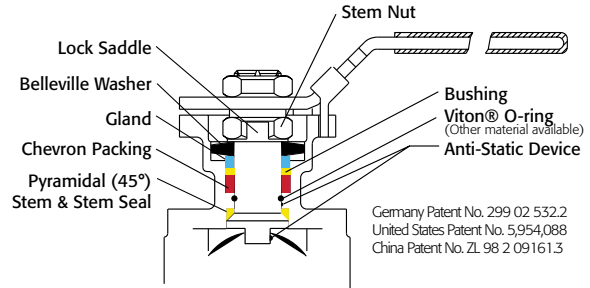
DIMENSIONS SHOWN ARE FOR ASSEMBLIES SIZED FOR 80 PSI SUPPLY



SERIES 88 Direct Mount

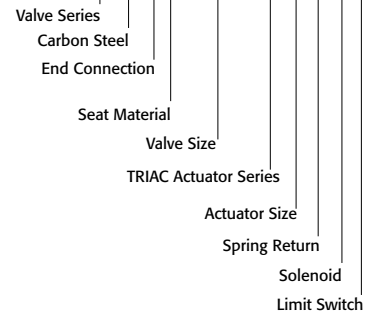
SIZED FOR 80 psi AIR SUPPLY	
SIZE	MODEL
1/4"	88-TX-025/2R2S-XX
3/8"	88-TX-038/2R2S-XX
1/2"	88-TX-050/2R2S-XX
3/4"	88-TX-075/2R3S-XX
1"	88-TX-100/2R3S-XX
1-1/4"	88-TX-125/2R3S-XX
1-1/2"	88-TX-150/2R3S-XX
2"	88-TX-200/2R4S-XX
2-1/2"	88-TX-250/2R5S-XX
3"	88-TX-300/2R7S-XX
4"	88-TX-400/2R7S-XX

SIZED FOR 60 psi AIR SUPPLY	
SIZE	MODEL
1/4"	88-TX-025/2R2S-XX
3/8"	88-TX-038/2R2S-XX
1/2"	88-TX-050/2R2S-XX
3/4"	88-TX-075/2R3S-XX
1"	88-TX-100/2R3S-XX
1-1/4"	88-TX-125/2R3S-XX
1-1/2"	88-TX-150/2R4S-XX
2"	88-TX-200/2R4S-XX
2-1/2"	88-TX-250/2R6S-XX
3"	88-TX-300/2R7S-XX
4"	88-TX-400/2R7S-XX



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

### SAMPLE PART # 88C-TX-050/2R2S-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.



9955 International Blvd.  
Cincinnati, Ohio 45246  
www.atcontrols.com  
PHONE (513) 247-5465  
FAX (513) 247-5462  
sales@atcontrols.com



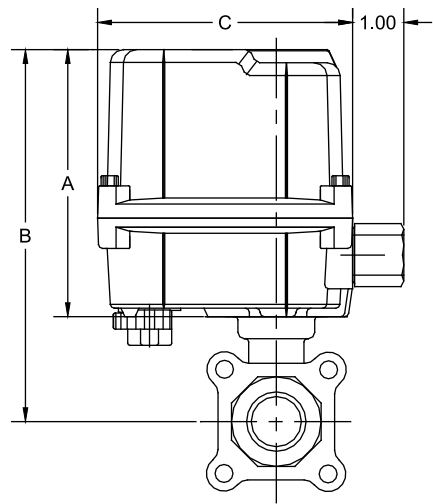
# Electric Automated Ball Valve Package

## Series 88 3-Piece Ball Valve

- Sizes 1/4" - 4"
- Full Port Design
- 1000/1500/2000 psi WOG (by size)
- 316SS, WCB, Alloy 20 or Hastelloy C-276
- TH, SW, or BW Ends
- Superior Live Loaded Packing System
- Blowout Proof Stem w/ Dual Anti-Static Devices
- RTFE Seats Standard
- Pyramidal Stem Seal Design
- Monel Ball & Stem Available

### STANDARDS

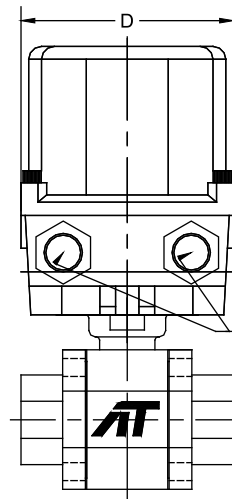
Design	ANSI/ASME B16.34
End Connections	ASME B16.25, B1.20.1, B16.11
Pressure Testing	API 598
Mounting	ISO 5211
Marking System for Valves	MSS SP-25, ISO 5209
Safety Integrity	IEC 61508:2010; SIL 3
Material Certification	EN 10204-3.1 MTR
Quality Assurance	ISO 9001:2008



### DIMENSIONS (IN)

VALVE SIZE	A	B	C	D
1/4"	5.24	6.90	4.94	4.08
3/8"	5.24	6.90	4.94	4.08
1/2"	5.24	6.90	4.94	4.08
3/4"	5.24	7.07	4.94	4.08
1"	5.24	7.55	4.94	4.08
1-1/4"	5.24	7.70	4.94	4.08
1-1/2"	5.24	8.35	4.94	4.08
2"	5.24	8.66	4.94	4.08
2-1/2"	9.25	13.53	6.69	10.16
3"	10.55	15.18	9.02	13.31
4"	10.55	15.81	9.02	13.31

VALVE Cv
7
8
15
40
70
110
250
430
600
1100
2000

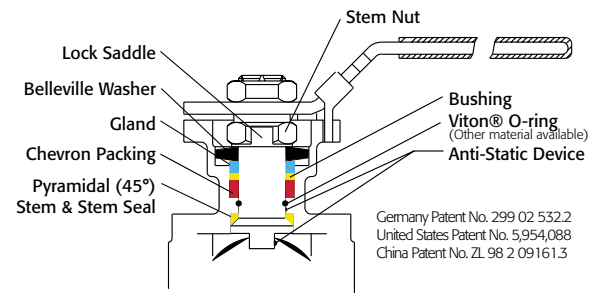


1/2" NPT  
CONDUIT  
CONNECTION

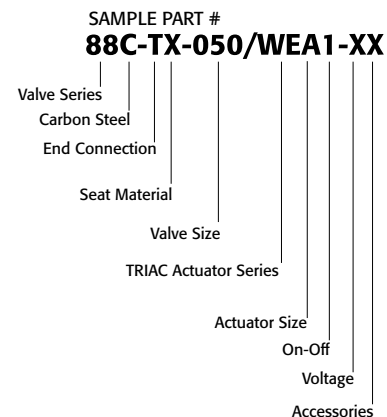
**SERIES 88 Direct Mount**

ON-OFF	
SIZE	MODEL
1/4"	88-TX-025/WEA1-XX
3/8"	88-TX-038/WEA1-XX
1/2"	88-TX-050/WEA1-XX
3/4"	88-TX-075/WEA1-XX
1"	88-TX-100/WEA1-XX
1-1/4"	88-TX-125/WEA1-XX
1-1/2"	88-TX-150/WEA1-XX
2"	88-TX-200/WEA1-XX
2-1/2"	88-TX-250/WEB1-XX
3"	88-TX-300/WEC1-XX
4"	88-TX-400/WED1-XX

MODULATING	
SIZE	MODEL
1/4"	88-TX-025/WEA2-XX
3/8"	88-TX-038/WEA2-XX
1/2"	88-TX-050/WEA2-XX
3/4"	88-TX-075/WEA2-XX
1"	88-TX-100/WEA2-XX
1-1/4"	88-TX-125/WEA2-XX
1-1/2"	88-TX-150/WEA2-XX
2"	88-TX-200/WEA2-XX
2-1/2"	88-TX-250/WEB2-XX
3"	88-TX-300/WEC2-XX
4"	88-TX-400/WED2-XX



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



### 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.



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



9955 International Blvd.  
Cincinnati, Ohio 45246  
www.atcontrols.com

PHONE (513) 247-5465  
FAX (513) 247-5462  
sales@atcontrols.com

# 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

