



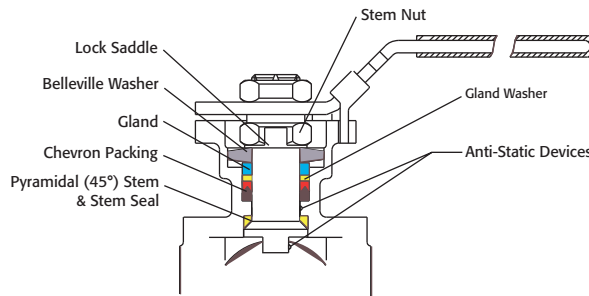
Triac 77 Series Ball Valves feature a high quality 316L investment casting. They are available with sanitary clamp or tube OD ends. Select the cavity filled or non-cavity filled design.

Superior leak protection is accomplished by using a live-loaded packing system featuring Belleville washers and double "V" ring packing. An ISO 5211 mounting pad is provided for easy automation.

VALVE SIZE	VALVE Cv
1/2"	10
3/4"	30
1"	65
1-1/2"	200
2"	410
2-1/2"	600
3"	1,050
4"	1,900

**Excellent for:**

- Pharmaceutical
- Food and Beverage
- Paint and Solvents
- Viscous Fluids
- Confectionaries



**Easy to Automate!**

See automated data sheets for pre-sized assemblies



**Pneumatic**



**Electric**



# Series 77 Sanitary End 3-Piece Design

Sizes 1/2"-4"

393 to 1000 psi (by size)

Available in 316L

Cavity Filled and Non-Cavity Filled

Sanitary Clamp Ends or  
Tube OD Ends

Tube Pipe Design

Superior Live Loaded Packing  
System

ISO 5211 Actuator Mounting Pad

Blowout Proof Stem w/ Dual  
Anti-Static Device

Pyramidal Stem Seal Design

Lockable Manual Handle

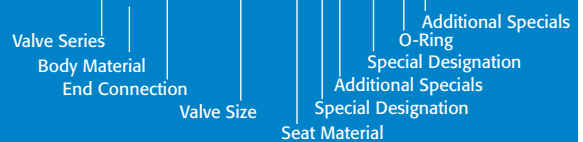
**STANDARDS**

Design	ASME B16.34 (fully conforms)
End Connections	ASME BPE-2019
Pressure Testing	API 598
Mounting	ISO 5211
Marking System for Valves	MSS SP-25, ISO 5209
CE Approval	2014/68/EU Module H
Safety Integrity	SIL 3; IEC 61508:2010
Material Certification	EN 10204-3.1 MTR
Quality Assurance	ISO 9001:2015

**HOW TO ORDER MANUAL VALVES**

SAMPLE PART #

**77 -SA-0150-PXX-X-XX**



See part number matrix for itemized options.

**TABLE OF CONTENTS:**

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



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

# Series 77

## 3-Piece Sanitary End Ball Valve Tube Pipe Design

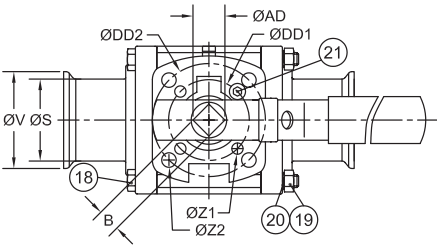
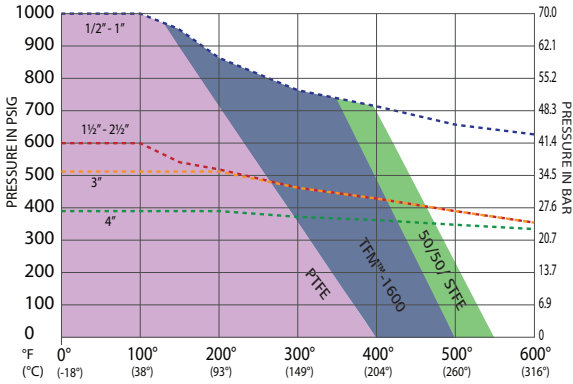
## Standard (15-20 RA) 240 Grit Internal Polish Cavity-Filled or Non-Cavity Filled

### Pressure vs. Temperature | Series 77 Body/End Cap/Seat Pressure Ratings

Temp	Pressure			
	1/2" - 1"	1 1/2" - 2 1/2"	3"	4"
-20°	1000	600	507	393
100°	1000	600	507	393
150°	946	539	507	393
200°	861	516	507	393
300°	778	467	467	382
400°	713	429	429	378
500°	665	396	396	352
600°	625	366	366	334

Component Temperature Ratings		
Component	Material	Temp.
Stem Packing	PTFE	-50°F to 400°F
Stem Seal	PTFE	-50°F to 400°F
Gaskets	PTFE	-50°F to 400°F
Seats (Other Materials Available)	PTFE	-50°F to 400°F
	TFM™-1600	-75°F to 500°F
	50/50 STFE	-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.



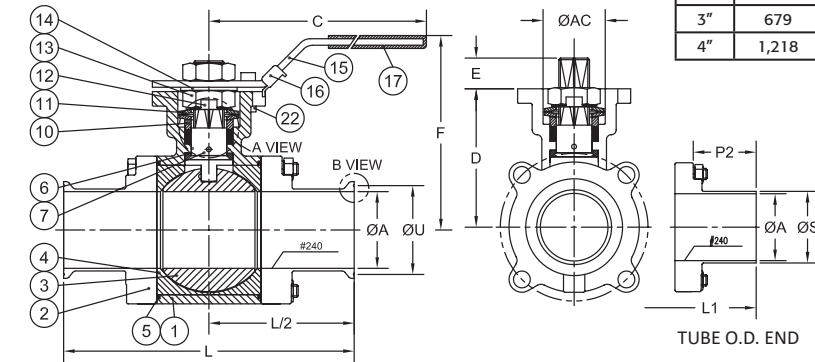
Published torques are based on full differential pressure with clean water. Consult The Application Sizing Guide for assistance with sizing actuator

Size	Breakaway Torques for PTFE	
	Non-Cavity Filled	Cavity Filled
1/2"	37	44
3/4"	54	65
1"	90	108
1-1/2"	177	212
2"	296	355
2-1/2"	612	734
3"	679	815
4"	1,218	1,462

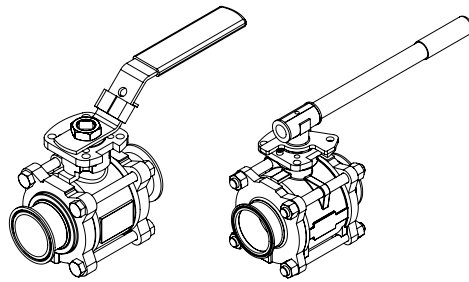
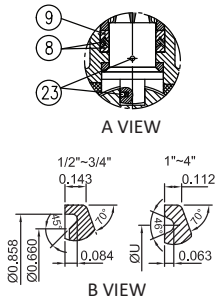
### MATERIALS LIST

NO.	PART NAME	QTY.	MATERIAL	REPAIR KIT
1	BODY	1	ASTM A351 GRADE CF3M	
2	END CAP	2	ASTM A351 GRADE CF3M	
3	BALL	1	ASTM A276 GRADE CF3M	
4	SEAT	2	PTFE	✓
5	JOINT GASKET	2	PTFE	✓
6	STEM SEAL	1	PTFE	✓
7	STEM	1	ASTM A276 SS 316L	
8	GLAND PACKING	1	PTFE	✓
9	GLAND WASHER	1	RTFE	✓
10	GLAND BUSHING	1	AISI 304	
11	BELLEVILLE WASHER	2	AISI 301	
12	LOCK SADDLE	1	AISI 304	
13	STEM NUT	2	AISI 304	
14	STEM WASHER	1	AISI 304	
15	HANDLE	1	AISI 304	
16	HANDLE LOCK	1	AISI 304	
17	HANDLE SLEEVE	1	VINYL	
18	BODY BOLT	#	**	
19	BODY BOLT NUT	&	##	
20	WASHER	&	AISI 304	
21	STOP BOLT	1	AISI 304	
22	BOLT NUT	1	AISI 304	
23	ANTI-STATIC DEVICE	2	AISI 316	

# FOR 1/2"-3" - 4 PCS ; FOR 4" - 6 PCS  
 & FOR 1/2"-2" - 4 PCS ; FOR 2-1/2"-3" - 8 PCS; FOR 4" - 12 PCS  
 \*\*FOR 1/2"-2" - ASTM A193 GRADE B8; FOR 2-1/2"-4" - ISO 3506-1 A2-70  
 ## FOR 1/2"-2" - ASTM A194 GRADE 8; FOR 2-1/2"-4" - ISO 3506-2 A2-70



TUBE O.D. END



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

### DIMENSIONS (IN)

Tube O.D. according to ASME BPE 1919

SIZE	A	B	C	D	DD1	DD2	E	F	L	L1	P2	S	U	V	Z1	Z2	AC	AD	(LBS)	ISO 5211
1/2"	0.37	0.354	5.47	1.66	1.417	1.654	0.25	3.03	3.51	5.50	1.92	0.50	-	0.99	0.24	0.24	0.92	0.430	1.5	F03/F04
3/4"	0.62	0.354	5.47	1.89	1.417	1.654	0.27	3.27	4.00	5.75	1.96	0.75	-	0.99	0.24	0.24	0.92	0.430	1.8	F03/F04
1"	0.87	0.433	6.50	2.23	1.654	1.969	0.44	3.74	4.51	6.25	2.00	1.00	1.71	1.99	0.24	0.28	1.14	0.563	2.7	F04/F05
1-1/2"	1.37	0.551	8.47	3.05	1.969	2.756	0.56	5.00	5.52	7.50	2.23	1.50	1.71	1.99	0.28	0.34	1.54	0.744	7.0	F05/F07
2"	1.87	0.551	8.47	3.35	1.969	2.756	0.56	5.28	6.26	8.50	2.46	2.00	2.20	2.52	0.28	0.34	1.54	0.744	9.8	F05/F07
2-1/2"	2.37	0.669	11.81	4.28	2.756	4.016	0.67	6.54	6.85	9.75	2.55	2.50	2.78	3.05	0.34	0.47	2.07	0.885	19.6	F07/F10
3"	2.87	0.669	14.57	4.63	2.756	4.016	0.71	6.93	7.61	10.50	2.69	3.00	3.28	3.58	0.34	0.47	2.07	0.885	25.9	F07/F10
4"	3.83	0.748	14.57	5.22	2.756	4.016	0.67	7.48	8.90	12.50	3.14	4.00	4.34	4.68	0.34	0.47	2.07	0.885	47.4	F07/F10

# Pneumatic Double Acting Automated Ball Valve Package Series 77 Sanitary End 3-Piece Ball Valve

Sizes 1/2"-4"

393 to 1000 psi (by size)

Available in 316L

Cavity Filled and Non-Cavity Filled

Sanitary Clamp Ends or Tube OD Ends

Tube Pipe Design

Superior Live Loaded Packing System

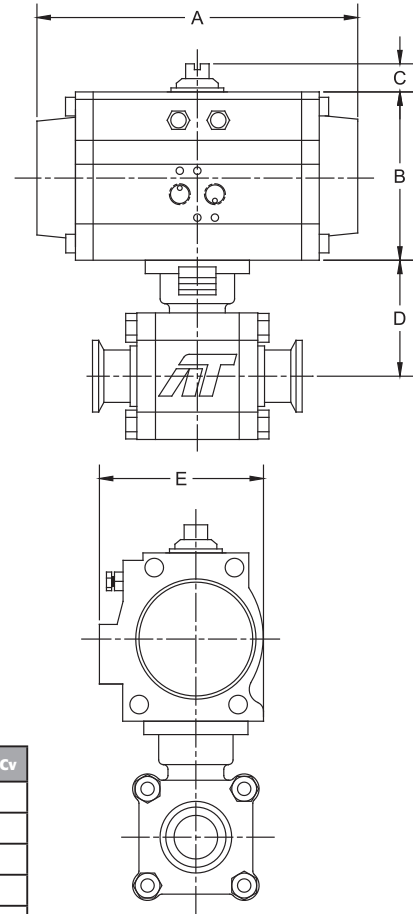
Blowout Proof Stem w/ Dual Anti-Static Devices

PTFE Seats standard

Pyramidal Stem Seal Design

## STANDARDS

Design	ASME B16.34 (fully conforms)
End Connections	ASME BPE-2019
Pressure Testing	API 598
Mounting	ISO 5211
Marking System for Valves	MSS SP-25, ISO 5209
CE Approval	2014/68/EU Module H
Safety Integrity	SIL 3; IEC 61508:2010
Material Certification	EN 10204-3.1 MTR
Quality Assurance	ISO 9001:2015



## DIMENSIONS (IN) NON-CAVITY FILLED

VALVE SIZE	A	B	C	D	E
1/2"	6.50	2.84	0.787	1.66	2.82
3/4"	6.50	2.84	0.787	1.89	2.82
1"	6.50	2.84	0.787	2.23	2.82
1-1/2"	7.60	3.47	0.787	3.05	3.35
2"	7.60	3.47	0.787	3.35	3.35
2-1/2"	9.29	4.30	0.787	4.28	4.18
3"	9.29	4.30	0.787	4.63	4.18
4"	11.50	5.28	0.787	5.22	5.78

DIMENSIONS SHOWN ARE FOR ASSEMBLIES SIZED FOR 80 PSI SUPPLY

## CAVITY FILLED

VALVE SIZE	A	B	C	D	E	VALVE Cv
1/2"	6.50	2.84	0.787	1.66	2.82	10
3/4"	6.50	2.84	0.787	1.89	2.82	30
1"	6.50	2.84	0.787	2.23	2.82	65
1-1/2"	7.60	3.47	0.787	3.05	3.35	200
2"	9.29	4.30	0.787	3.35	4.18	410
2-1/2"	11.02	4.61	0.787	4.28	4.27	600
3"	11.02	4.61	0.787	4.63	4.27	1,050
4"	11.50	5.28	0.787	5.22	5.78	1,900

DIMENSIONS SHOWN ARE FOR ASSEMBLIES SIZED FOR 80 PSI SUPPLY

## NON-CAVITY FILLED

SIZED FOR 80 psi AIR SUPPLY	
SIZE	MODEL
1/2"	77-C1-050/3RDD-XX
3/4"	77-C1-075/3RDD-XX
1"	77-C1-100/3RDD-XX
1-1/2"	77-C1-150/3RED-XX
2"	77-C1-200/3RED-XX
2-1/2"	77-C1-250/3RFD-XX
3"	77-C1-300/3RFD-XX
4"	77-C1-400/3RHD-XX

SIZED FOR 60 psi AIR SUPPLY	
SIZE	MODEL
1/2"	77-C1-050/3RDD-XX
3/4"	77-C1-075/3RDD-XX
1"	77-C1-100/3RDD-XX
1-1/2"	77-C1-150/3RED-XX
2"	77-C1-200/3RFD-XX
2-1/2"	77-C1-250/3RGD-XX
3"	77-C1-300/3RGD-XX
4"	77-C1-400/3RJD-XX

## CAVITY FILLED

SIZED FOR 80 psi AIR SUPPLY	
SIZE	MODEL
1/2"	77-CF-050/3RDD-XX
3/4"	77-CF-075/3RDD-XX
1"	77-CF-100/3RDD-XX
1-1/2"	77-CF-150/3RED-XX
2"	77-CF-200/3RFD-XX
2-1/2"	77-CF-250/3RGD-XX
3"	77-CF-300/3RGD-XX
4"	77-CF-400/3RHD-XX

SIZED FOR 60 psi AIR SUPPLY	
SIZE	MODEL
1/2"	77-CF-050/3RDD-XX
3/4"	77-CF-075/3RDD-XX
1"	77-CF-100/3RDD-XX
1-1/2"	77-CF-150/3RED-XX
2"	77-CF-200/3RFD-XX
2-1/2"	77-CF-250/3RGD-XX
3"	77-CF-300/3RHD-XX
4"	77-CF-400/3RJD-XX

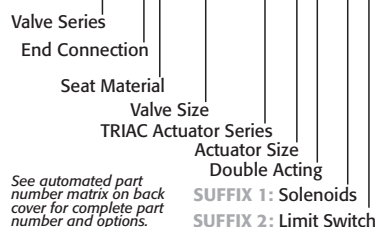
## OPTIONS

SUFFIX 1	Accessories/Options	Model no.
X	No Specials	
A	TYPE 4 Solenoid 120VAC	TVCS-X411-4N-A120
B	TYPE 7 Solenoid 120VAC	TVC6-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	TVC6-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

SUFFIX 2	Accessories	Model no.
X	No Specials	
A	TYPE 4 Limit Switch	APL-210N
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

Other options available. Call for details. Actuators are sized based on full differential pressure with clean water. Consult the Application Sizing Guide for assistance with sizing actuators.

## SAMPLE PART # 77-CF-150/3RED-XX



See automated part number matrix on back cover for complete part number and options.

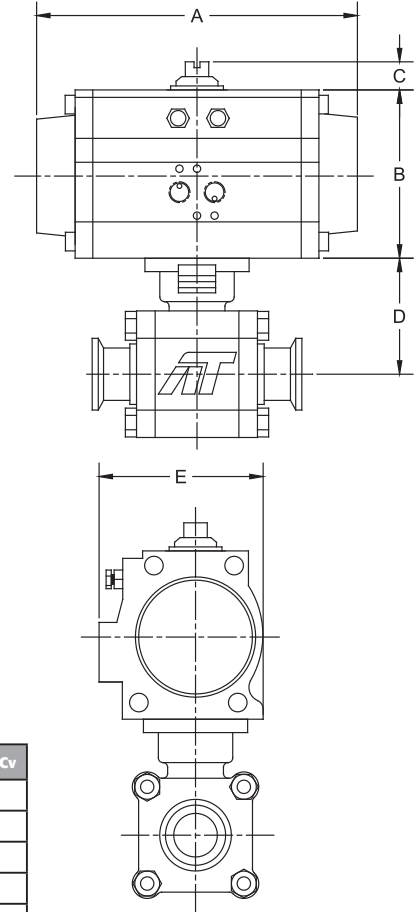
SUFFIX 1: Solenoids  
SUFFIX 2: Limit Switch

# Pneumatic Spring Return Automated Ball Valve Package Series 77 Sanitary End 3-Piece Ball Valve

Sizes 1/2"-4"  
393 to 1000 psi (by size)  
Available in 316L  
Cavity Filled and Non-Cavity Filled  
Sanitary Clamp Ends or  
Tube OD Ends  
Tube Pipe Design  
Superior Live Loaded Packing  
System  
Blowout Proof Stem w/  
Dual Anti-Static Devices  
PTFE Seats standard  
Pyramidal Stem Seal Design

## STANDARDS

Design	ASME B16.34 (fully conforms)
End Connections	ASME BPE-2019
Pressure Testing	API 598
Mounting	ISO 5211
Marking System for Valves	MSS SP-25, ISO 5209
CE Approval	2014/68/EU Module H
Safety Integrity	SIL 3; IEC 61508:2010
Material Certification	EN 10204-3.1 MTR
Quality Assurance	ISO 9001:2015



**SERIES 77 Sanitary Ends**

## DIMENSIONS (IN) NON-CAVITY FILLED

VALVE SIZE	A	B	C	D	E
1/2"	6.50	2.84	0.787	1.66	2.82
3/4"	6.50	2.84	0.787	1.89	2.82
1"	7.60	3.47	0.787	2.23	3.35
1-1/2"	9.29	4.30	0.787	3.05	4.18
2"	11.02	4.61	0.787	3.35	4.27
2-1/2"	13.39	6.14	0.787	4.28	5.59
3"	13.39	6.14	0.787	4.63	5.59
4"	15.35	6.81	1.181	5.22	5.98

DIMENSIONS SHOWN ARE FOR ASSEMBLIES SIZED FOR 80 PSI SUPPLY

## CAVITY FILLED

VALVE SIZE	A	B	C	D	E	VALVE Cv
1/2"	6.50	2.84	0.787	1.66	2.82	10
3/4"	6.50	2.84	0.787	1.89	2.82	30
1"	7.60	3.47	0.787	2.23	3.35	65
1-1/2"	9.29	4.30	0.787	3.05	4.18	200
2"	11.02	4.61	0.787	3.35	4.27	410
2-1/2"	13.39	6.14	0.787	4.28	5.59	600
3"	13.39	6.14	0.787	4.63	5.59	1,050
4"	16.89	7.36	1.181	5.22	6.38	1,900

DIMENSIONS SHOWN ARE FOR ASSEMBLIES SIZED FOR 80 PSI SUPPLY

## NON-CAVITY FILLED

SIZED FOR 80 psi AIR SUPPLY	
SIZE	MODEL
1/2"	77-C1-050/3RDS-XX
3/4"	77-C1-075/3RDS-XX
1"	77-C1-100/3RES-XX
1-1/2"	77-C1-150/3RFS-XX
2"	77-C1-200/3RGS-XX
2-1/2"	77-C1-250/3RJS-XX
3"	77-C1-300/3RJS-XX
4"	77-C1-400/3RKS-XX

SIZED FOR 60 psi AIR SUPPLY	
SIZE	MODEL
1/2"	77-C1-050/3RD4-XX
3/4"	77-C1-075/3RD4-XX
1"	77-C1-100/3RE4-XX
1-1/2"	77-C1-150/3RF4-XX
2"	77-C1-200/3RG4-XX
2-1/2"	77-C1-250/3RJ4-XX
3"	77-C1-300/3RJ4-XX
4"	77-C1-400/3RL4-XX

## CAVITY FILLED

SIZED FOR 80 psi AIR SUPPLY	
SIZE	MODEL
1/2"	77-CF-050/3RDS-XX
3/4"	77-CF-075/3RDS-XX
1"	77-CF-100/3RES-XX
1-1/2"	77-CF-150/3RFS-XX
2"	77-CF-200/3RGS-XX
2-1/2"	77-CF-250/3RJS-XX
3"	77-CF-300/3RJS-XX
4"	77-CF-400/3RLS-XX

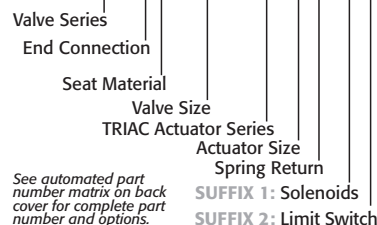
SIZED FOR 60 psi AIR SUPPLY	
SIZE	MODEL
1/2"	77-CF-050/3RD4-XX
3/4"	77-CF-075/3RE4-XX
1"	77-CF-100/3RF4-XX
1-1/2"	77-CF-150/3RG4-XX
2"	77-CF-200/3RH4-XX
2-1/2"	77-CF-250/3RK4-XX
3"	77-CF-300/3RK4-XX
4"	77-CF-400/3RL4-XX

## OPTIONS

SUFFIX 1	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

SUFFIX 2	Accessories	Model no.
X	No Specials	
A	TYPE 4 Limit Switch	APL-210N
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

## SAMPLE PART # 77-C1-150/3RFS-XX



See automated part number matrix on back cover for complete part number and options.

SUFFIX 1: Solenoids  
SUFFIX 2: Limit Switch

Other options available. Call for details. Actuators are sized based on full differential pressure with clean water. Consult the Application Sizing Guide for assistance with sizing actuators.

**Automated  
Ball Valve Package  
Series 77  
Sanitary End  
3-Piece Ball Valve**

Sizes 1/2"-4"

393 to 1000 psi (by size)

Available in 316L

Cavity Filled and Non-Cavity Filled

Sanitary Clamp Ends or  
Tube OD Ends

Tube Pipe Design

Superior Live Loaded Packing  
System

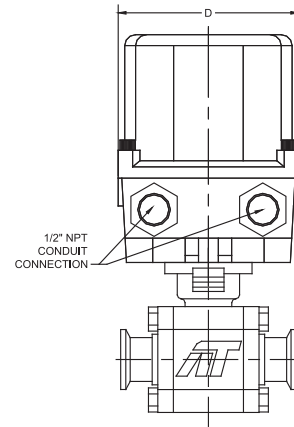
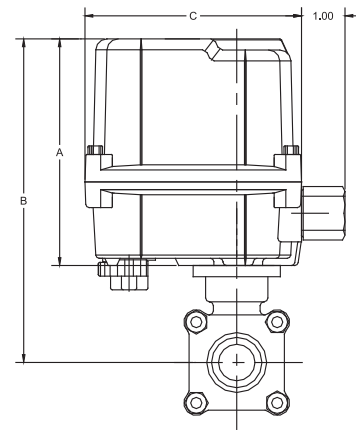
Blowout Proof Stem w/  
Dual Anti-Static Devices

PTFE Seats standard

Pyramidal Stem Seal Design

**STANDARDS**

Design	ASME B16.34 (fully conforms)
End Connections	ASME BPE-2019
Pressure Testing	API 598
Mounting	ISO 5211
Marking System for Valves	MSS SP-25, ISO 5209
CE Approval	2014/68/EU Module H
Safety Integrity	SIL 3; IEC 61508:2010
Material Certification	EN 10204-3.1 MTR
Quality Assurance	ISO 9001:2015



**DIMENSIONS (IN)  
NON-CAVITY FILLED**

VALVE SIZE	A	B	C	D
1/2"	5.24	6.90	4.94	4.08
3/4"	5.24	7.13	4.94	4.08
1"	5.24	7.47	4.94	4.08
1-1/2"	5.24	8.29	4.94	4.08
2"	9.25	12.6	10.16	6.69
2-1/2"	10.55	14.83	13.31	9.02
3"	10.55	15.18	13.31	9.02
4"	10.55	15.77	13.31	9.02

DIMENSIONS SHOWN ARE FOR ASSEMBLIES SIZED FOR ON/OFF ASSEMBLIES

**CAVITY FILLED**

VALVE SIZE	A	B	C	D	VALVE Cv
1/2"	5.24	6.90	4.94	4.08	10
3/4"	5.24	7.13	4.94	4.08	30
1"	5.24	7.47	4.94	4.08	65
1-1/2"	5.24	8.29	4.94	4.08	200
2"	9.25	12.6	10.16	6.69	410
2-1/2"	10.55	14.83	13.31	9.02	600
3"	10.55	15.18	13.31	9.02	1,050
4"	10.55	15.77	13.31	9.02	1,900

DIMENSIONS SHOWN ARE FOR ASSEMBLIES SIZED FOR ON/OFF ASSEMBLIES

**NON-CAVITY FILLED**

ON-OFF	
SIZE	MODEL
1/2"	77-C1-050/WEA1-XX*
3/4"	77-C1-075/WEA1-XX*
1"	77-C1-100/WEA1-XX*
1-1/2"	77-C1-150/WEA1-XX
2"	77-C1-200/WEB1-XX
2-1/2"	77-C1-250/WEC1-XX
3"	77-C1-300/WEC1-XX
4"	77-C1-400/WED1-XX

MODULATING	
SIZE	MODEL
1/2"	77-C1-050/WEA2-XX
3/4"	77-C1-075/WEA2-XX
1"	77-C1-100/WEA2-XX
1-1/2"	77-C1-150/WEA2-XX
2"	77-C1-200/WEB2-XX
2-1/2"	77-C1-250/WEC2-XX
3"	77-C1-300/WEC2-XX
4"	77-C1-400/WED2-XX

**CAVITY FILLED**

ON-OFF	
SIZE	MODEL
1/2"	77-CF-050/WEA1-XX
3/4"	77-CF-075/WEA1-XX
1"	77-CF-100/WEA1-XX
1-1/2"	77-CF-150/WEA1-XX
2"	77-CF-200/WEB1-XX
2-1/2"	77-CF-250/WEC1-XX
3"	77-CF-300/WEC1-XX
4"	77-CF-400/WED1-XX

MODULATING	
SIZE	MODEL
1/2"	77-CF-050/WEA2-XX
3/4"	77-CF-075/WEA2-XX
1"	77-CF-100/WEA2-XX
1-1/2"	77-CF-150/WEA2-XX
2"	77-CF-200/WEB2-XX
2-1/2"	77-CF-250/WEC2-XX
3"	77-CF-300/WEC2-XX
4"	77-CF-400/WEE2-XX

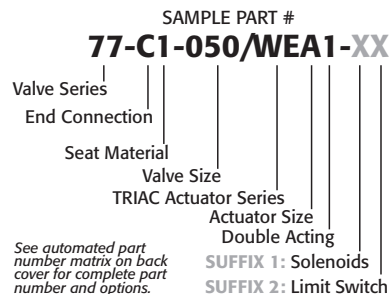
**OPTIONS**

Suffix 1	Voltage / Accessory	Model No.
X	No Specials	
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

Suffix 2	Accessories
X	No Specials
1	HS1 High Speed Electric
2	HS2 High Speed Electric

Other options available - call for details  
Actuators are sized based on full differential pressure with clean water. Consult the Application Sizing Guide for assistance with sizing actuators.



# Series 77

## HOW TO ORDER: Manual Valves

2	Valve Series
77	3pc. 1000 psi max, Full Port, Sanitary

3	Body/Ball/Stem Material
Blank	Valve Series Standard (316L)
R	316 SST Body/Monel Ball & Stem
T	Hastelloy C-276 Body, Ball, & Stem
E	Electropolished Stainless Steel
D	CE3MN Body/Duplex SST Ball & Stem
G	CE3MN Body/Super Duplex SST Ball & Stem

HOW TO ORDER MANUAL VALVES														
2	3	-	4	-	5	-	6	7	8	-	9	-	10	11
↓	↓		↓		↓		↓	↓	↓	↓	↓		↓	↓
77	_		SA		0150		P	X	X					

4	End Connection
SA	Sanitary Clamp Ends
SF	Sanitary Clamp Ends w/ Cavity Filler
DA	Tube O.D. Ends
DF	Tube O.D. Ends w/ Cavity Filler
DS	Sanitary Clamp x Tube O.D. Ends

5	Valve Size	
0050	1/2"	0200 2"
0075	3/4"	0250 2-1/2"
0100	1"	0300 3"
0150	1-1/2"	0400 4"

6	Seat, Lining & Trim Material
P	Virgin TFE Seats (PTFE)
U	UHMWPE Seats
S	50/50 STFE Seats
T	TFM™-1600 Seats
E	All TFM™-1600 Seats, Seals, & Packing
A	50% SS Powder/50% TFM™-1600 Seats (STFM)
F	PTFE Cavity Filler Seats

TFM™ is a trademark of Dyneon™, a 3M Company.

7	Special Designation
X	No Specials, Series Standard
O	Oval Handle ( <i>available on some</i> )
S	Spring Return Handle ( <i>Direct Mount Only</i> )
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

### OPTIONS:

9	Special Designation
Blank	No Designation, Valve Series Standard
X	Multiple Option Designation
H	Hard Coated (HMF) Ball

10	O-Ring
Blank	No Designation, Valve Series Standard
X	Multiple Option Designation

11	Additional Specials
E	CE/PED Certified

# HOW TO ORDER: Automated Valves w/ Options

## Series 77

2	Valve Series
77	3pc. 1000 psi max, Full Port, Sanitary

3	Body/Ball/Stem Material
Blank	Valve Series Standard (316L)
R	316 SST Body/Monel Ball & Stem
T	Hastelloy C-276 Body, Ball, & Stem
E	Electropolished Stainless Steel
D	CE3MN Body/Duplex SST Ball & Stem
G	CE3MN Body/Super Duplex SST Ball & Stem

4	End Connection
C	Sanitary Clamp Ends
D	Tube O.D. Ends
H	Sanitary Clamp x Tube O.D. Ends

5	Seat, Lining & Trim Material
1	Valve Series Standard Seats (PTFE)
U	UHMWPE Seats
S	50/50 STFE Seats
T	TFM™-1600 Seats
E	All TFM™-1600 Seats, Seals, & Packing
A	50% SS Powder /50% TFM™ -1600 Seats (STFM)
F	PTFE Cavity Filler Seats

6	Valve Size
050	1/2" 200 2"
075	3/4" 250 2-1/2"
100	1" 300 3"
150	1-1/2" 400 4"

7 (A) Pneumatic Actuator - 3R, 3N, 3P Series			
3RC	3R10	3RM	3R850
3RD	3R20	3RN	3R1000
3RE	3R40	3RP	3R1200
3RF	3R80	3RR	3R1750
3RG	3R130	3RS	3R2400
3RH	3R200	3RT	3R2500
3RJ	3R300	3RU	3R2700
3RK	3R500	3RV	3R3300
3RL	3R700	3RW	3R3500

3R=Standard, 3N=Electroless Nickel Plating,  
3P=Teflon™ (PTFE) Coating

7 (A) Pneumatic Actuator - S2 Series			
S2C	S2-052	S2G	S2-125
S2D	S2-063	S2H	S2-140
S2E	S2-083	S2J	S2-160
S2F	S2-105	S2K	S2-210

7 (B) Pneumatic Action	
D	Double Acting (DA)
S	Spring CW (5 springs)*
O	Spring CCW (5 springs)*
4	Spring CW (4 springs)**
F	Spring CCW (4 springs)**

\*2500 & 3500 80 psig spring  
\*\*2500 & 3500 60 psig spring

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	TVC6-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	TVC6-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

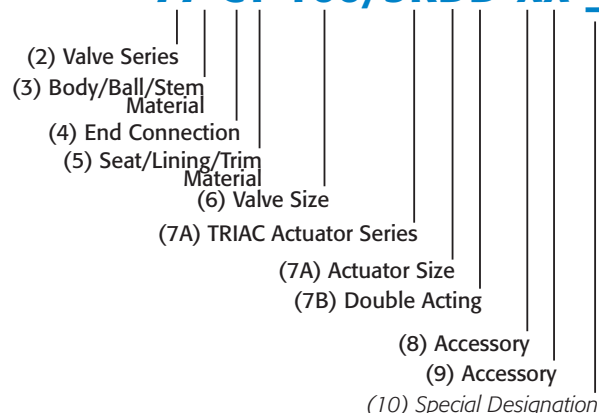
9	Accessories	Model no.
X	No Specials	
A	TYPE 4 Limit Switch	APL-210N/APL-310N
B	TYPE 7 Limit Switch	APL-510N
C	Intrinsically Safe Limit Switch	APL-218N
Q	TYPE 4 SST Limit Switch	APL-910N
M	TYPE 7 SST Limit Switch	APL-510S
1	HS1 High Speed Electric	
2	HS2 High Speed Electric	

10	Special Designation
Blank	No Designation, SST Stem
E	CE/PED Certified
F	Viton® Seal for Pneumatic Actuators (0°F to 300°F)

TFM™ is a trademark of Dyneon™, a 3M Company.  
Viton® is a registered trademark of E. I. DuPont de Nemours.

### AUTOMATED VALVE SAMPLE PART #

## 77-C1-100/3RDD-XX-



# 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



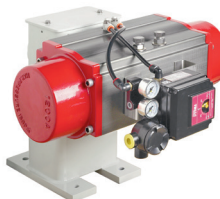
Manual and automated valve assemblies for gas burner management applications and safety shutoff

# Other Products

## Special Seats Balls and Seal Designs



## Floor Mounted Damper Drives



## Fusible Link Assemblies



## Lockout Mounting Kits



## Special Multi-Port Valves



## Steam Jacketed Valves



## Limit Switches Mounted on Manual Valves



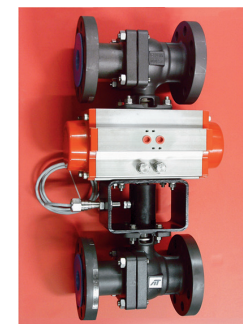
## 180° Actuators



## Stem Extensions



## Dual Valve Assemblies



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