



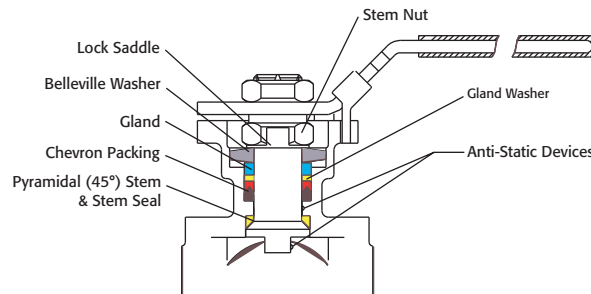
Triac 77 Series Ball Valves feature a high quality 316L investment casting. They are available with sanitary clamp or tube OD ends. Select the cavity filled or non-cavity filled design.

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-2024
Pressure Testing	API 598
Mounting	ISO 5211
Marking System for Valves	MSS SP-25, ISO 5209
CE Approval (optional)	2014/68/EU Module H
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

Valve Series	Body Material	End Connection	Valve Size	Seat Material	Special Designation	Additional Specials	O-Ring	Special Designation	Additional Specials	Additional Specials
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See part number matrix for itemized options.

TABLE OF CONTENTS:

Page 2 - Materials, Dimensions, & Technical Data
 Page 3 - Double Acting
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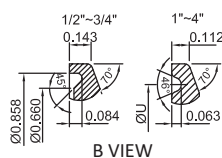
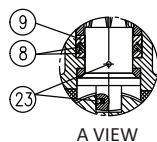
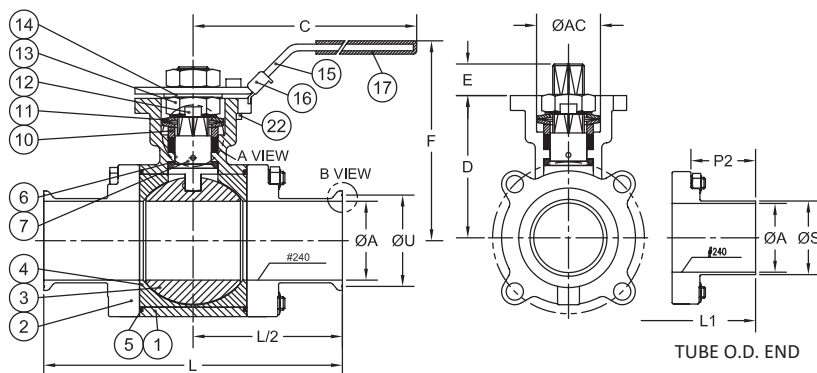
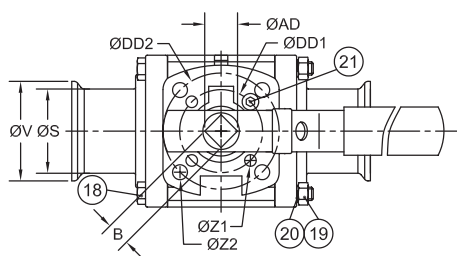
9955 International Blvd.
Cincinnati, Ohio 45246
www.atcontrols.com

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

Series 77

3-Piece Sanitary End Ball Valve Tube Pipe Design

Standard (20 RA Mechanical Polish, 15 RA Electropolish)
Cavity-Filled or Non-Cavity Filled



MATERIALS LIST

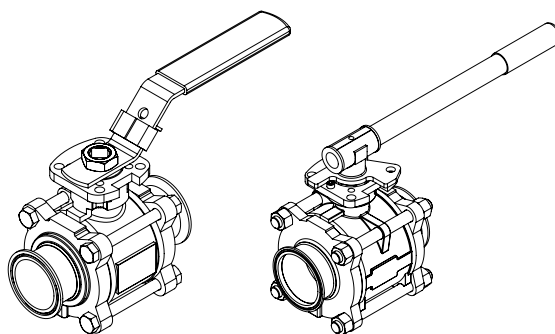
NO.	PART NAME	QTY.	MATERIAL	REPAIR KIT
1	BODY	1	ASTM A351 GRADE CF3M	
2	END CAP	2	ASTM A351 GRADE CF3M	
3	BALL	1	ASTM A276 GRADE CF3M	
4	SEAT	2	PTFE	✓
5	JOINT GASKET	2	PTFE	✓
6	STEM SEAL	1	PTFE	✓
7	STEM	1	ASTM A276 SS 316L	
8	GLAND PACKING	1	PTFE	✓
9	GLAND WASHER	1	RTFE	✓
10	GLAND BUSHING	1	AISI 304	
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



BENT HANDLE
SIZES 1/2" - 2"

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

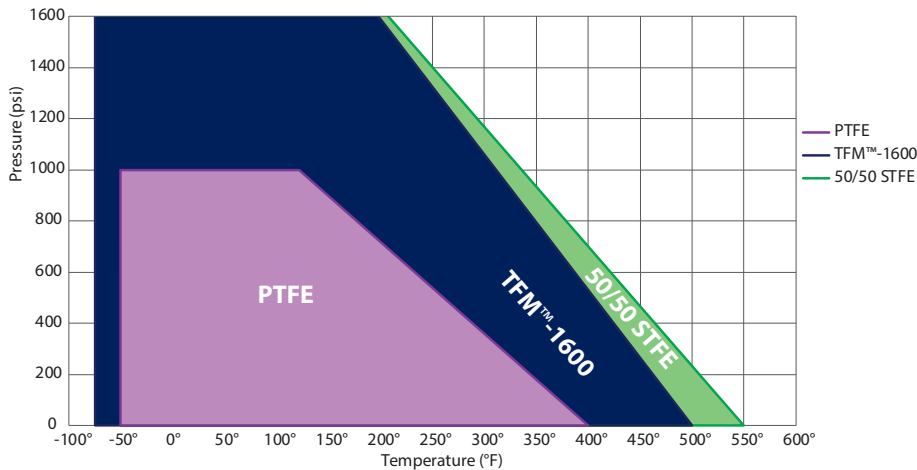
DIMENSIONS (IN)

Tube O.D. according to ASME BPE 2024

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	0.32	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	0.32	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

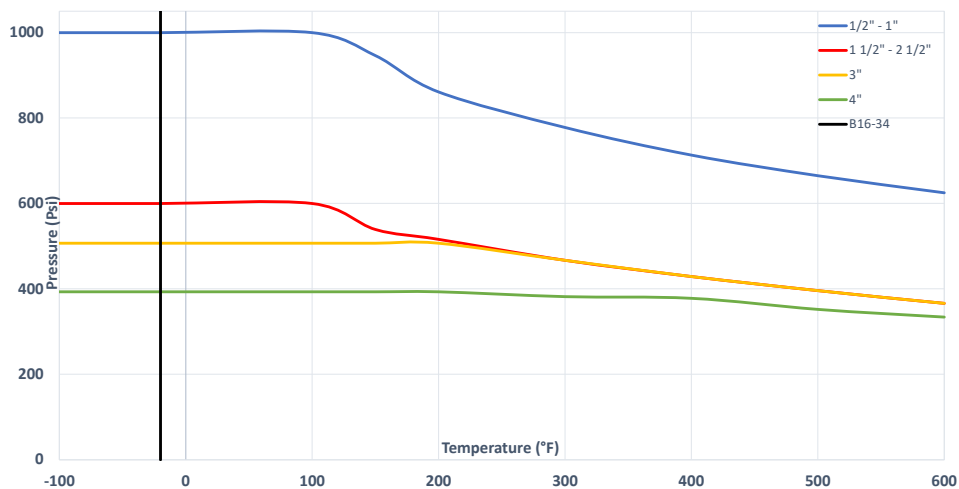
Series 77

Pressure vs. Temperature Seat Pressure Ratings



Temp	Pressure - Seat Material		
	STFE	PTFE	TFM™-1600
-75°			2000
-50°	2000	1000	2000
100°	2000	1000	2000
122°	2000	1000	2000
150°	1869	899	1852
200°	1636	719	1587
250°	1402	540	1323
300°	1168	360	1058
350°	935	180	794
400°	701	0	529
450°	467		265
500°	234		0
550°	0		

Pressure vs. Temperature Series 77 Body & End Cap Ratings ASME B16.34



NOTE: B16-34 Temperature Rating Starts at -20°F

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 450°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.

Breakaway Torques for PTFE		
Size	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

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-2024
Pressure Testing	API 598
Mounting	ISO 5211
Marking System for Valves	MSS SP-25, ISO 5209
CE Approval (optional)	2014/68/EU Module H
Material Certification	EN 10204-3.1 MTR
Quality Assurance	ISO 9001:2015



DIMENSIONS (IN) NON-CAVITY FILLED

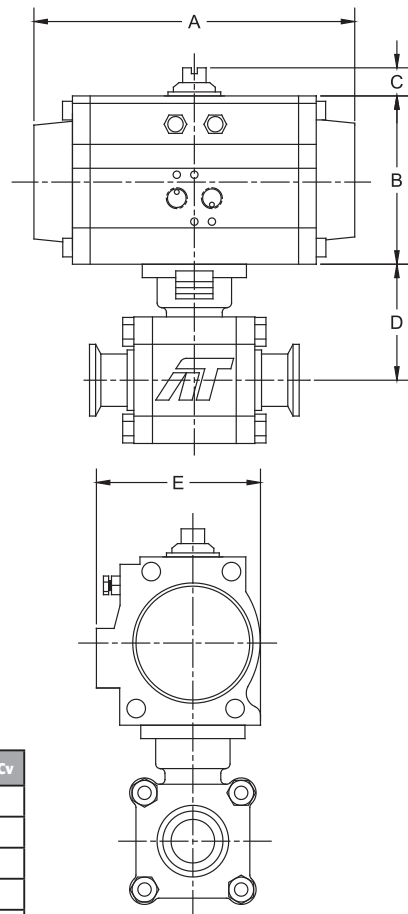
VALVE SIZE	A	B	C	D	E
1/2"	6.50	2.84	0.787	1.66	2.66
3/4"	6.50	2.84	0.787	1.89	2.66
1"	6.50	2.84	0.787	2.23	2.66
1-1/2"	7.60	3.47	0.787	3.05	3.35
2"	7.60	3.47	0.787	3.35	3.35
2-1/2"	9.29	4.30	0.787	4.28	4.18
3"	9.29	4.30	0.787	4.63	4.18
4"	11.50	5.28	0.787	5.22	4.57

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	2.66	10
3/4"	6.50	2.84	0.787	1.89	2.66	30
1"	6.50	2.84	0.787	2.23	2.66	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	4.57	1,900

DIMENSIONS SHOWN ARE FOR ASSEMBLIES SIZED FOR 80 PSI SUPPLY



SERIES 77 Sanitary Ends

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
H	NEMA 4 Std. Enc.	APL-310N

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

Valve Series
End Connection
Seat Material
Valve Size
TRIAC Actuator Series
Actuator Size
Double Acting
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.

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-2024
Pressure Testing	API 598
Mounting	ISO 5211
Marking System for Valves	MSS SP-25, ISO 5209
CE Approval (optional)	2014/68/EU Module H
Material Certification	EN 10204-3.1 MTR
Quality Assurance	ISO 9001:2015



DIMENSIONS (IN) NON-CAVITY FILLED

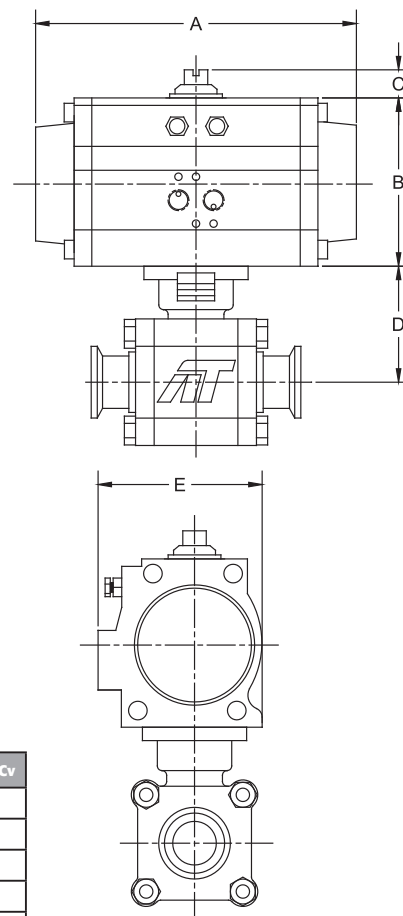
VALVE SIZE	A	B	C	D	E
1/2"	6.50	2.84	0.787	1.66	2.66
3/4"	6.50	2.84	0.787	1.89	2.66
1"	7.60	3.47	0.787	2.23	3.35
1-1/2"	9.29	4.30	0.787	3.05	4.18
2"	11.02	4.61	0.787	3.35	4.27
2-1/2"	13.39	6.14	0.787	4.28	5.49
3"	13.39	6.14	0.787	4.63	5.49
4"	15.35	6.81	1.181	5.22	5.59

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	2.66	10
3/4"	6.50	2.84	0.787	1.89	2.66	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	5.49	600
3"	13.39	6.14	0.787	4.63	5.49	1,050
4"	16.89	7.36	1.181	5.22	5.94	1,900

DIMENSIONS SHOWN ARE FOR ASSEMBLIES SIZED FOR 80 PSI SUPPLY



SERIES 77 Sanitary Ends

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
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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	TVC6-X411-7N-A120
C	Intrinsically Safe Solenoid	TVIS-X411-4N-D24
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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
H	NEMA 4 Std. Enc.	APL-310N

SAMPLE PART #

77-C1-150/3RFS-XX

Valve Series

End Connection

Seat Material

Valve Size

TRIAC Actuator Series

Actuator Size

Spring Return

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

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Tube OD Ends

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Superior Live Loaded Packing
System

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PTFE Seats standard

Pyramidal Stem Seal Design

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Design	ASME B16.34 (fully conforms)
End Connections	ASME BPE-2024
Pressure Testing	API 598
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Marking System for Valves	MSS SP-25, ISO 5209
CE Approval (optional)	2014/68/EU Module H
Material Certification	EN 10204-3.1 MTR
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**DIMENSIONS (IN)
NON-CAVITY FILLED**

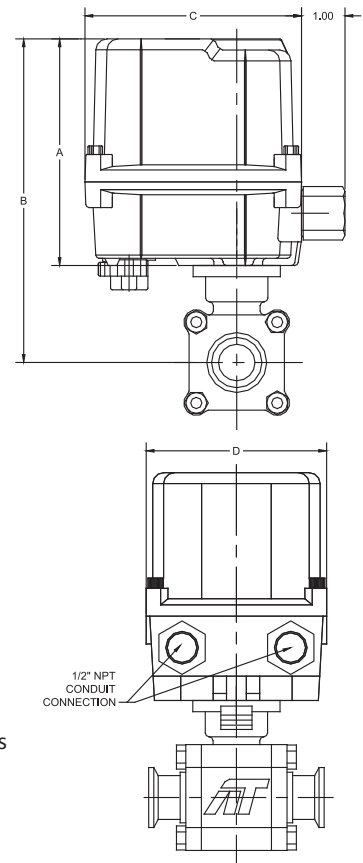
VALVE SIZE	A	B	C	D
1/2"	5.32	6.98	4.95	4.09
3/4"	5.32	7.21	4.95	4.09
1"	5.32	7.55	4.95	4.09
1-1/2"	5.32	8.37	4.95	4.09
2"	9.25	12.6	10.16	6.69
2-1/2"	10.55	14.83	13.31	9.02
3"	10.55	15.18	13.31	9.02
4"	10.55	15.77	13.31	9.02

DIMENSIONS SHOWN ARE FOR ASSEMBLIES SIZED FOR ON/OFF ASSEMBLIES

CAVITY FILLED

VALVE SIZE	A	B	C	D	VALVE Cv
1/2"	5.32	6.98	4.95	4.09	10
3/4"	5.32	7.21	4.95	4.09	30
1"	5.32	7.55	4.95	4.09	65
1-1/2"	5.32	8.37	4.95	4.09	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.

SAMPLE PART #

77-C1-050/WEA1-XX

Valve Series	77
End Connection	C1
Seat Material	050
Valve Size	WEA1
TRIAC Actuator Series	XX
Actuator Size	
Double Acting	

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

SUFFIX 1: Solenoids
SUFFIX 2: Limit Switch

HOW TO ORDER:
Manual Valves

2	Valve Series
77	3pc. Sanitary Ball Valve, Full Port

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
↓	↓		↓		↓		↓	↓	↓	↓
77	-		SA	-	0150	-	P	X	X	

4	End Connection
SA	Sanitary Clamp Ends
DA	Tube O.D. Ends
DS	Sanitary Clamp x Tube O.D. Ends
NE	No Ends (3pc. Valves)

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
H	TFM Cavity Filler Seats and Seals
J	STFE Cavity Filler Seats

7	Operator Options
X	No Specials, Series Standard Handle
G	Gear Operator
H	Gear Operator with Lockout Plate
O	Oval Handle (1/2" - 3/4" & 1 1/2" - 2")
S	Spring Return Handle (1/2" - 2")
4	4" Lockable Stem Extension

8	Special Designation
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

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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	Special Designation
E	CE/PED Certified

HOW TO ORDER: Automated Valves w/ Options

Series 77

2	Valve Series
77	3pc. Sanitary Ball Valve, Full Port

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
H	TFM Cavity Filler Seats and Seals
J	STFE Cavity Filler Seats
R	RTFE 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)**
6 Spring CW (6 springs)
H Spring CCW (6 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
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
H NEMA 4 Std. Enc.	APL-310N
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)

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AUTOMATED VALVE

SAMPLE PART #

77-C1-100/3RDD-XX-

