



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)

316SST Body, Ball, & Stem

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

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 9001:2015

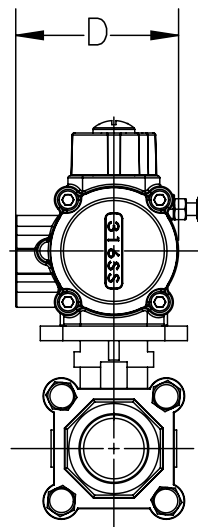
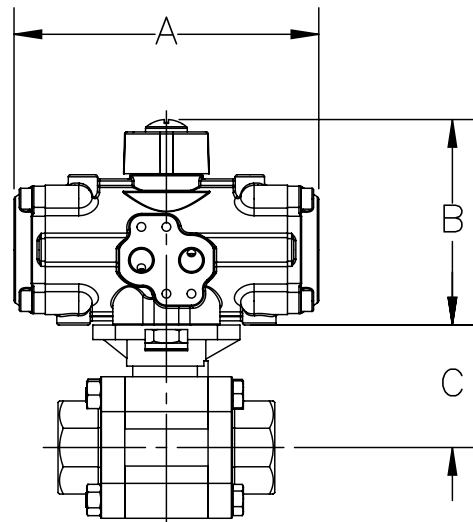


Direct Mount to TRIAC® S2 Series
Stainless Steel Actuator

DIMENSIONS (IN)

VALVE SIZE	A	B	C	D	VALVE Cv
1/4"	5.75	3.88	1.66	3.07	7
3/8"	5.75	3.88	1.66	3.07	8
1/2"	5.75	3.88	1.66	3.07	15
3/4"	5.75	3.88	1.83	3.07	40
1"	5.75	3.88	2.31	3.07	70
1-1/4"	6.81	4.49	2.46	3.58	110
1-1/2"	6.81	4.49	3.07	3.58	250
2"	8.03	5.30	3.42	4.42	430
2-1/2"	8.03	5.30	4.28	4.42	600
3"	10.63	6.32	4.63	5.31	1,100
4"	11.89	7.14	5.26	6.12	2,000

DIMENSIONS SHOWN ARE FOR ASSEMBLIES SIZED FOR 80 PSI SUPPLY



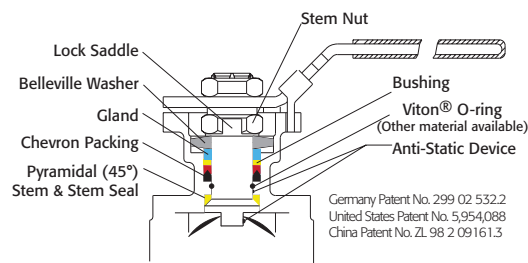
SERIES 88 3-Piece Direct Mount "Painless Stainless"

SIZED FOR 80 psi AIR SUPPLY

SIZE	MODEL
1/4"	88-TX-025/S21D-XX
3/8"	88-TX-038/S21D-XX
1/2"	88-TX-050/S21D-XX
3/4"	88-TX-075/S21D-XX
1"	88-TX-100/S21D-XX
1-1/4"	88-TX-125/S22D-XX
1-1/2"	88-TX-150/S22D-XX
2"	88-TX-200/S23D-XX
2-1/2"	88-TX-250/S23D-XX
3"	88-TX-300/S24D-XX
4"	88-TX-400/S25D-XX

SIZED FOR 60 psi AIR SUPPLY

SIZE	MODEL
1/4"	88-TX-025/S21D-XX
3/8"	88-TX-038/S21D-XX
1/2"	88-TX-050/S21D-XX
3/4"	88-TX-075/S21D-XX
1"	88-TX-100/S22D-XX
1-1/4"	88-TX-125/S22D-XX
1-1/2"	88-TX-150/S23D-XX
2"	88-TX-200/S23D-XX
2-1/2"	88-TX-250/S24D-XX
3"	88-TX-300/S24D-XX
4"	88-TX-400/S25D-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 # 88-TX-150/S22D-XX

Valve Series
End Connections
Seat Material
Valve Size
TRIAC S2 Series
Stainless Steel Actuator
Actuator Size
Double Acting
Solenoid
Limit Switch

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

OPTIONS

DESCRIPTION	PART NO. SUFFIX	DESCRIPTION	PART NO. SUFFIX
Type 4 Aluminum Solenoid	(A)	Type 4 Aluminum Limit Switch (2) spdt	(A)
Type 7 Aluminum Solenoid	(B)	Type 7 Aluminum Limit Switch (2) spdt	(B)
Type 4 Stainless Steel Solenoid	(Q)	Type 4 Stainless Steel Limit Switch	(Q)
Type 7 Stainless Steel Solenoid	(M)	Type 7 Stainless Steel Limit Switch	(M)

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

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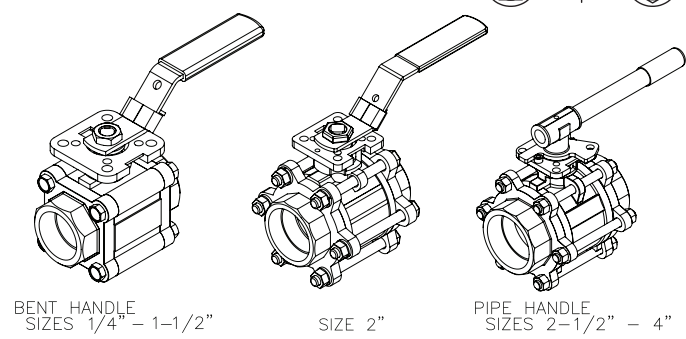
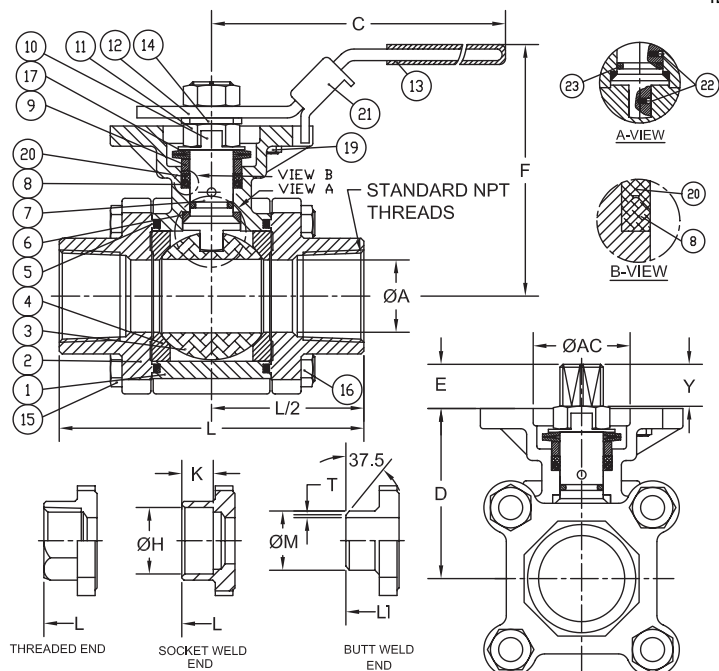
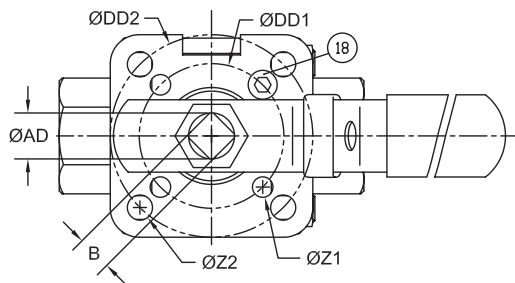


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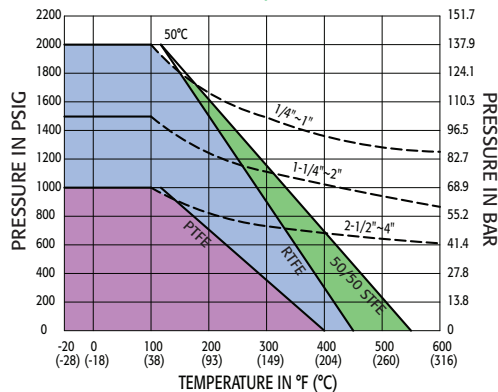
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Pressure vs. Temperature Chart
for Valves 1/4" to 4"



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
1	BODY	1	ASTM A351 GRADE CF8M
2	TH END CAP	2	ASTM A351 GRADE CF8M
2	BW/SW END CAP	2	ASTM A351 GRADE CF3M
3	BALL	1	1/4" THRU 3/8" ASTM A276 SS316
3	BALL	1	1/2" THRU 4" ASTM A351 GRADE CF8M
4	SEAT	2	RTFE
5	JOINT GASKET	2	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	BODY BOLT/STUD	*	ASTM A193 GRADE B8
16	BODY NUT	#	ASTM A194 GRADE 8
17	BELLEVILLE WASHER	2	AISI 301
18	STOP BOLT	1	AISI 304
19	STOP BOLT NUT	1	AISI 304
20	GLAND WASHER	1	RTFE
21	HANDLE LOCK	1	AISI 304
22	ANTI-STATIC DEVICE	2	AISI 316
23	STEM O-RING	1	VITON®

^ PACKING SET NOTE: SIZES 2-1/2" THRU 4" INCLUDE SEAT RETAINER RINGS.
 * 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

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.



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)
316SST Body, Ball, & Stem
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

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 9001:2015

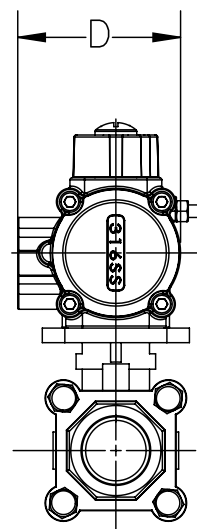
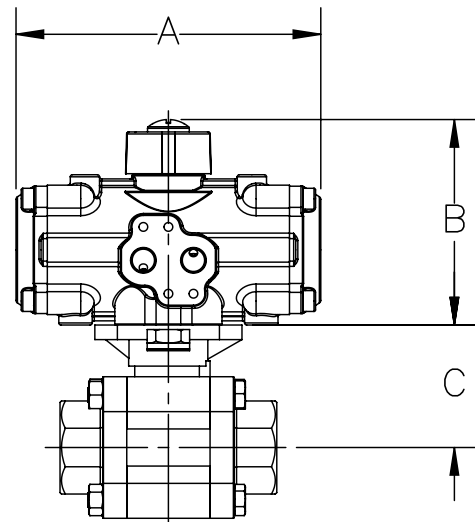


Direct Mount to TRIAC® S2 Series
Stainless Steel Actuator

DIMENSIONS (IN)

VALVE SIZE	A	B	C	D	VALVE Cv
1/4"	5.75	3.88	1.66	3.07	7
3/8"	5.75	3.88	1.66	3.07	8
1/2"	5.75	3.88	1.66	3.07	15
3/4"	6.81	4.49	1.83	3.58	40
1"	8.03	5.30	2.31	4.42	70
1-1/4"	8.03	5.30	2.46	4.42	110
1-1/2"	10.63	6.32	3.07	5.31	250
2"	10.63	6.32	3.42	5.31	430
2-1/2"	10.63	6.32	4.28	5.31	600
3"	11.89	7.14	4.63	6.12	1,100
4"	15.51	7.83	5.26	6.75	2,000

DIMENSIONS SHOWN ARE FOR ASSEMBLIES SIZED FOR 80 PSI SUPPLY



SERIES 88 3-Piece Direct Mount "Painless Stainless"

SIZED FOR 80 psi AIR SUPPLY	
SIZE	MODEL
1/4"	88-TX-025/S21S-XX
3/8"	88-TX-038/S21S-XX
1/2"	88-TX-050/S21S-XX
3/4"	88-TX-075/S22S-XX
1"	88-TX-100/S23S-XX
1-1/4"	88-TX-125/S23S-XX
1-1/2"	88-TX-150/S24S-XX
2"	88-TX-200/S24S-XX
2-1/2"	88-TX-250/S24S-XX
3"	88-TX-300/S25S-XX
4"	88-TX-400/S26S-XX

SIZED FOR 60 psi AIR SUPPLY	
SIZE	MODEL
1/4"	88-TX-025/S22S4-XX
3/8"	88-TX-038/S22S4-XX
1/2"	88-TX-050/S22S4-XX
3/4"	88-TX-075/S22S4-XX
1"	88-TX-100/S23S4-XX
1-1/4"	88-TX-125/S23S4-XX
1-1/2"	88-TX-150/S24S4-XX
2"	88-TX-200/S24S4-XX
2-1/2"	88-TX-250/S25S4-XX
3"	88-TX-300/S26S4-XX
4"	88-TX-400/S27S4-XX

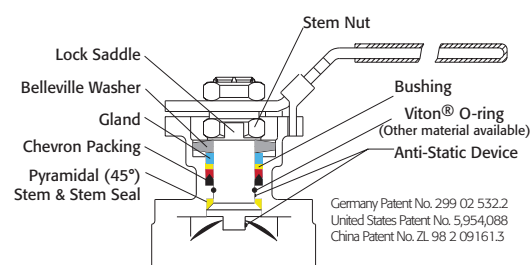
For spring return assemblies, all 80 psi assemblies will have 5 springs, and all 60 psi assemblies will have 4 springs (indicated by the 4-XX).

OPTIONS

DESCRIPTION	PART NO. SUFFIX	DESCRIPTION	PART NO. SUFFIX
Type 4 Aluminum Solenoid	(A)	Type 4 Aluminum Limit Switch (2) spdt	(A)
Type 7 Aluminum Solenoid	(B)	Type 7 Aluminum Limit Switch (2) spdt	(B)
Type 4 Stainless Steel Solenoid	(Q)	Type 4 Stainless Steel Limit Switch	(Q)
Type 7 Stainless Steel Solenoid	(M)	Type 7 Stainless Steel Limit Switch	(M)

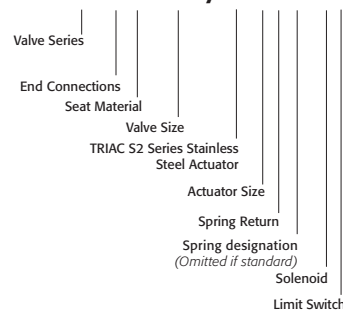
Other options available - call for details
Actuators are sized based on clean/clear fluid.

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

SAMPLE PART # 88-TX-150/S24S4-XX



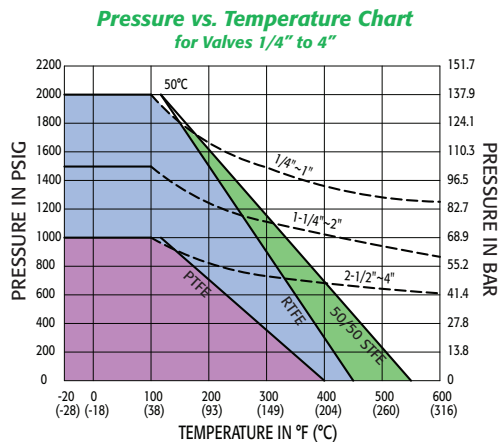
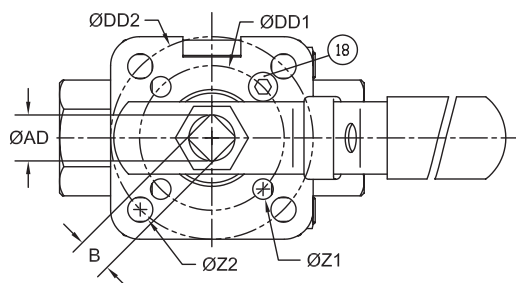
See valve part number
matrix for complete
part number and
options.



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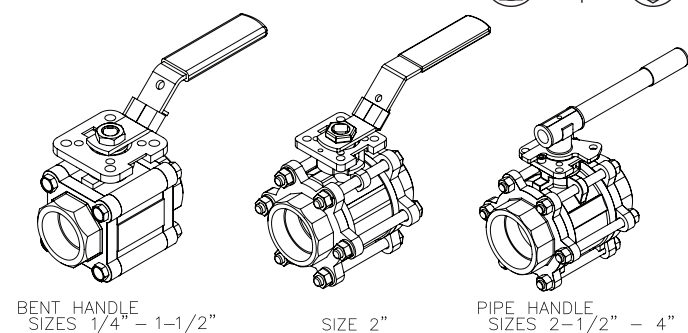
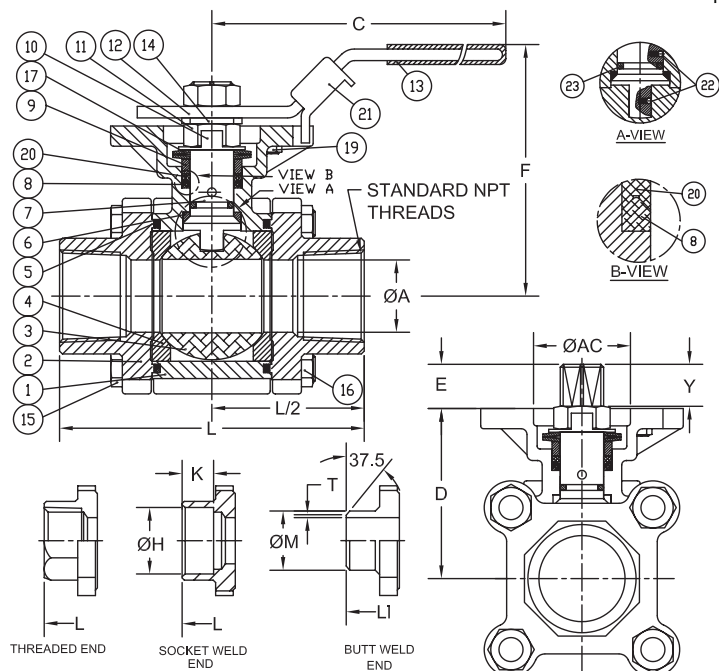
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FAX (513) 247-5462
sales@atcontrols.com



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
1	BODY	1	ASTM A351 GRADE CF8M
2	TH END CAP	2	ASTM A351 GRADE CF8M
2	BW/SW END CAP	2	ASTM A351 GRADE CF3M
3	BALL	1	1/4" THRU 3/8" ASTM A276 SS316
3	BALL	1	1/2" THRU 4" ASTM A351 GRADE CF8M
4	SEAT	2	RTFE
5	JOINT GASKET	2	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	BODY BOLT/STUD	*	ASTM A193 GRADE B8
16	BODY NUT	#	ASTM A194 GRADE 8
17	BELLEVILLE WASHER	2	AISI 301
18	STOP BOLT	1	AISI 304
19	STOP BOLT NUT	1	AISI 304
20	GLAND WASHER	1	RTFE
21	HANDLE LOCK	1	AISI 304
22	ANTI-STATIC DEVICE	2	AISI 316
23	STEM O-RING	1	VITON®

^ PACKING SET NOTE: SIZES 2-1/2" THRU 4" INCLUDE SEAT RETAINER RINGS.
 * 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

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

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