



Electric

Automated Ball Valve Package

Series 90/93
150# Flanged Ball Valve



Full Port Valve

Class 150

1/2" - 4"

316SS or CS Body

316SS Ball & Stem

Belleville Washers

Chevron Packing

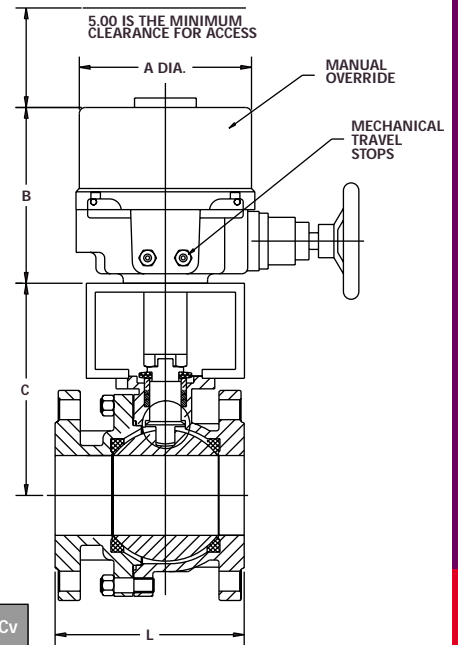
RTFE Seats Standard

**API 607 - 4th Edition
CERTIFIED**



150# Flanged
Firesafe tested to API-607

VALVE SIZE	A	B	D	L	VALVE Cv
1/2"	4.15	4.50	3.34	4.17	12
3/4"	4.15	4.50	3.61	4.61	32
1"	4.15	4.50	3.88	5.00	70
1-1/2"	4.15	6.05	5.07	6.50	240
2"	4.15	6.05	5.39	7.00	410
2-1/2"	7.25	7.95	6.82	7.50	680
3"	7.25	7.95	7.21	8.00	940
4"	8.65	10.10	7.80	9.00	1740

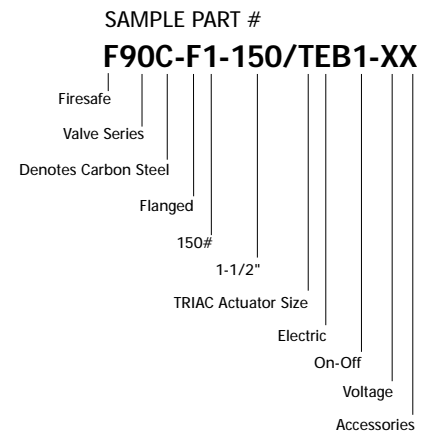


SERIES F90 150# Flanged

Firesafe

ON-OFF	
SIZE	MODEL
1/2"	F90-F1-050/TEA1-XX
3/4"	F90-F1-075/TEA1-XX
1"	F90-F1-100/TEB1-XX
1-1/2"	F90-F1-150/TEC1-XX
2"	F90-F1-200/TEC1-XX
2-1/2"	F90-F1-250/TED1-XX
3"	F90-F1-300/TEE1-XX
4"	F90-F1-400/TEF1-XX
6"	NA
8"	NA

MODULATING	
SIZE	MODEL
1/2"	F90-F1-050/TEB2-XX
3/4"	F90-F1-075/TEB2-XX
1"	F90-F1-100/TEB2-XX
1-1/2"	F90-F1-150/TEC2-XX
2"	F90-F1-200/TEC2-XX
2-1/2"	F90-F1-250/TED2-XX
3"	F90-F1-300/TEE2-XX
4"	F90-F1-400/TEF2-XX
6"	NA
8"	NA



Other options available - call for details
Actuators are sized based on clean/clear fluid
at full rated pressure of valves.

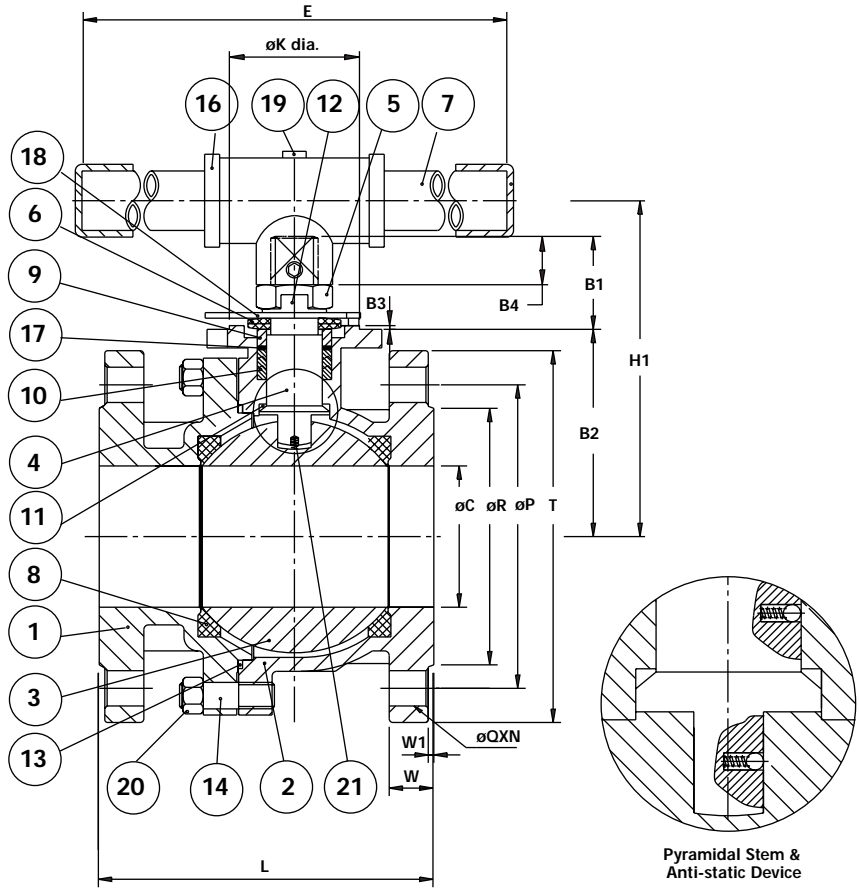
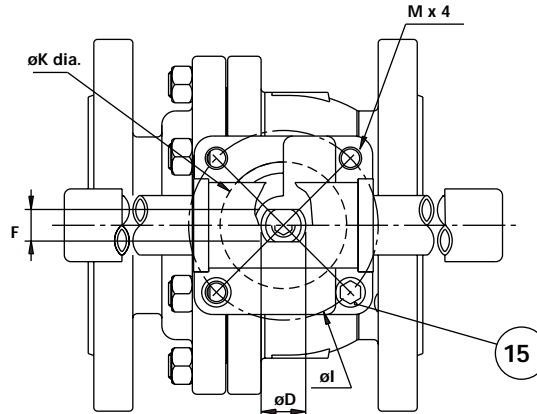
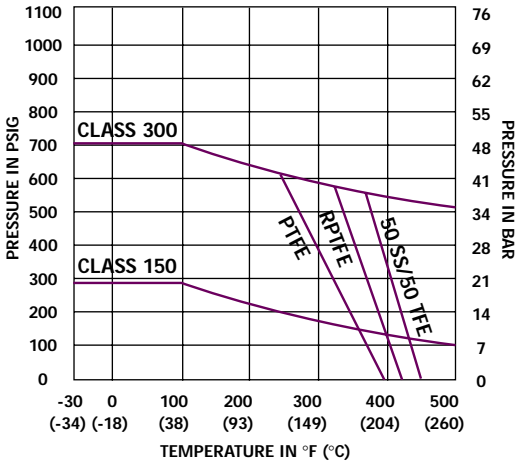
Series F90

High Performance, Full Port Split Body Ball Valve Series 90 (ANSI Class 150)

API 607 - 4th Edition
CERTIFIED

"Firesafe"

Pressure vs. Temperature Chart



MATERIALS LIST

NO.	PART NAME	QTY.	MATERIAL	MATERIAL
1	Body	1	ASTM A351 Gr. CF8M	ASTM A216 Gr. WCB
2	End Cap	1	ASTM A351 Gr. CF8M	ASTM A216 Gr. WCB
3	Ball	1	SS316	SS304
4	Stem	1	SS316	SS304
5	Stem Nut	1	SUS304	A-276
6	Belleville Washer	2	SS301	SS301
7	Cylindrical Handle	1	SUS304	A-276
8	Seat	2	RPTFE	RPTFE
9	Gland	1	SUS304	A-276
10	Stem Packing	s	Graphite	Graphite
11	Stem Seal	2	PTFE	PTFE
11-1	Stem Seal	1	Graphite	Graphite
12	Lock Saddle	1	SUS304	A-276
13	Joint Gasket	1	Graphite	Graphite
14	Stud	*	SUS304	A-276
15	Stop Pin	1	SUS304	A-276
16	Handle T-Bar	1	SUS304	A-276
17	Bushing	1	#	#
18	Locking Plate	1	SS304	A-276
19	Handle Nut	2	SS304	A-276
20	Bolt Nut	*	SS304	A-276
21	Anti-Static Spring	1	SS304	SS304

* For 1/2" and 3" - 4 pcs. of bolt
 * For 4" - 4 pairs of stud and nut
 * For 6" - 8 pairs of stud and nut
 * For 8" - 12 pairs of stud and nut
 # 25% stainless steel powder-filled PTFE

NOTE: Materials designated in the material list are our standard materials. Other options are available to suit different operating environment (see pressure vs. temperature chart for different seat options).

DIMENSION (IN)

SIZE	^{+0.02} B1	B2	B3	^{+0.06} _{-0.02} B4	øC	øD	E	F	H1	øI	øK	L	M	N	øP	øQ	øR	øT	W	ISO5211
1/2"	0.92	1.34	0.08	0.40	0.59	0.44	6.5	0.315	2.6	1.654	1.18	4.25	M5(10-24UNC)	4	2.38	0.63	1.38	3.50	0.44	F04
3/4"	0.91	1.61	0.08	0.43	0.79	0.44	6.5	0.315	2.9	1.654	1.18	4.61	M5(10-24UNC)	4	2.75	0.63	1.70	3.88	0.44	F04
1"	1.04	1.93	0.08	0.45	1.00	0.56	7.9	0.382	3.5	1.969	1.38	5.00	M6(1/4"-24UNC)	4	3.12	0.63	2.00	4.25	0.44	F05
1-1/2"	1.38	3.07	0.08	0.69	1.50	0.75	9.8	0.472	4.8	2.756	2.17	6.50	M8(5/16"-18UNC)	4	3.88	0.63	2.88	5.00	0.56	F07
2"	1.36	3.39	0.08	0.68	1.97	0.75	9.8	0.472	5.2	2.756	2.17	7.00	M8(5/16"-18UNC)	4	4.75	0.75	3.62	5.98	0.63	F07
2-1/2"	1.34	3.82	0.08	0.63	2.56	0.75	9.8	0.472	5.6	2.756	2.17	7.48	M8(5/16"-18UNC)	4	5.50	0.75	4.13	7.00	0.69	F07
3"	1.83	4.21	0.08	1.00	3.15	0.95	13.8	0.591	6.9	4.016	2.76	8.00	M10(3/8"-16UNC)	4	6.00	0.75	5.00	7.48	0.75	F10
4"	1.82	4.80	0.08	0.96	3.94	0.95	13.8	0.591	7.5	4.016	2.76	9.02	M10(3/8"-16UNC)	8	7.50	0.75	6.18	9.02	0.94	F10



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