

SERIES 94

**Flanged Ball Valves
1/2" to 12"
Full Port**

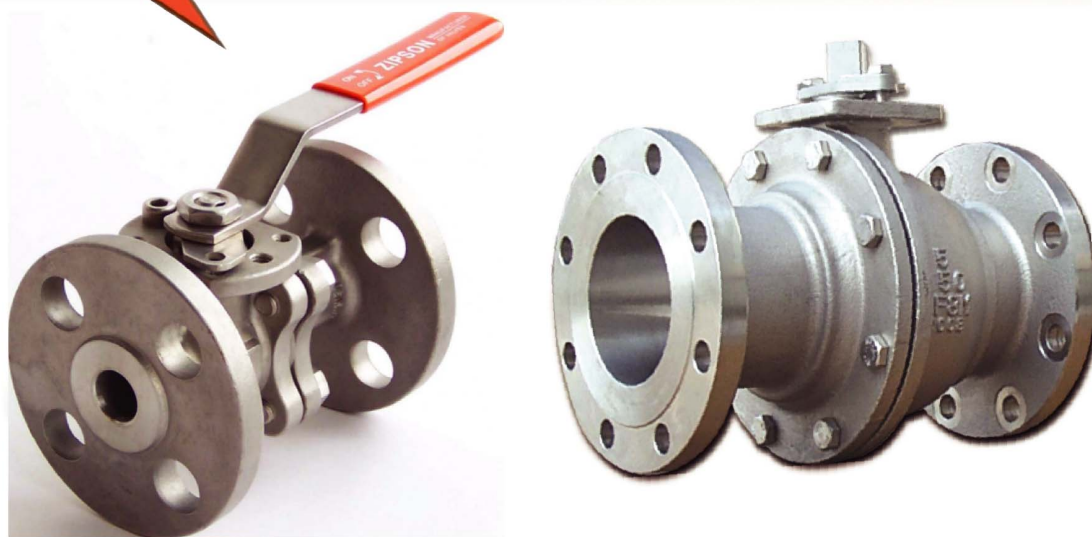
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MARS



SERIES 94 FLANGED BALL VALVES



Construction Split-Body Flanged Ball Valves, Full Port

Size Range ANSI 150# & DIN PN 10/16 - 1/2" to 12"

ANSI 300# & DIN PN 25/40 - 1/2" to 4"

Body Construction Stainless Steel Ball Valves 1/2" to 6" in Investment Casting, 8" to 12" in Sand Casting
Carbon Steel Ball Valves 1/2" to 4" in Investment Casting, 5" to 12" in Sand Casting
1/2" to 4" Solid Ball

Ball Construction 5" to 8" Solid Ball or Hollow Ball
10" to 12" Cored Cavity Ball or Hollow Ball

Pressure Rating FIG. 94-10 ANSI 150#
FIG. 94-20 ANSI 300#
FIG. 94-40 PN 10/16 DIN 3202 F4/F5 - EN 558-1-27
FIG. 94-60 PN 25/40 DIN 3202 F4/F5 - EN 558-1-27

Valve Material Standard: ASTM A351 Gr. CF8M / DIN 1.4408, Carbon Steel
Options: Hastelloy C, Alloy 20, Monel, Duplex S/S....etc.

Seat Material Standard: R-TFE / PTFE
Options: TFM1600, PEEK, UHMWPE.....etc.

Inspection and Test API 598, BS 6755 Part 1

Compliance Standards ANSI B16.34, ANSI B16.5, ANSI B16.10, API 509, API 607,
BS 5351, BS 6755, ISO 5211, DIN 3337, DIN 3202, DIN 2501,
MSS SP25, MSS SP55, JIS B2002, JIS B2212, JIS B2003

Material Certificate EN 10204 - 3.1

Quality System ISO 9001

Options NACE MR - 0175

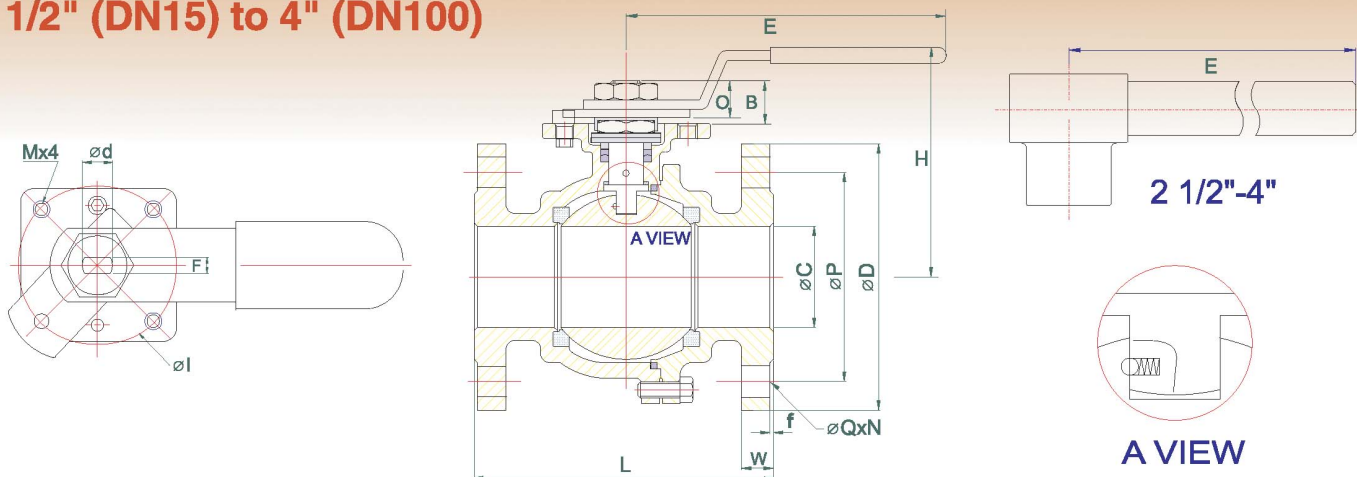
Fire-safe design compliance with API 607 and BS6755.

Gear operation 30 : 1 / 50 : 1 / 80 : 1 Available on request

DESIGN FEATURES

- ISO 5211 mounting pad for easy automation
- Split body design facilitates inspection and repair
- Manual and automated service
- Life-loaded & self-adjusting stem sealing design offers extra longer cycle life
- Anti-static design is standard
- Blow-out proof stem prevents stem from blowing out, for maximum safety
- Fire safe design as an option

1/2" (DN15) to 4" (DN100)



94-10 (ANSI CLASS 150)

SIZE	B	O	C	d	E	F	H	I	L	M	END FLANGE (ANSI 150)						Wt.(kg)	ISO5211
											D	P	Q	N	W	f		
½"	13.9	10.7	15.0	10	144.8	6.6	68.6	42	108	M5	89	60.5	16	4	11.5	1.6	1.66	F04
¾"	14.2	10.9	20.0	10	144.8	6.6	76.2	42	117	M5	98	70	16	4	11.5	1.6	2.06	F04
1"	21.6	16.8	25.0	14	175.3	9.7	88.9	50	127	M6	108	79.5	16	4	11.5	1.6	2.80	F05
1¼"	21.3	16.5	32.0	14	175.3	9.7	88.9	50	140	M6	117	89	16	4	12.7	1.6	4.02	F05
1½"	24.9	18.0	38.0	18	233.7	9.7	106.7	70	165	M8	127	98.5	16	4	14.3	1.6	5.76	F07
2"	23.9	19.6	50.0	18	233.7	9.7	119.4	70	178	M8	152	120.5	19	4	15.9	1.6	8.58	F07
2½"	22.9	16.3	65.0	20	305	12.0	137.2	102	190	M10	178	139.5	19	4	17.8	1.6	13.24	F10
3"	21.9	16.3	80.0	20	305	12.0	149.9	102	203	M10	190	152.5	19	4	19.1	1.6	16.94	F10
4"	29.7	24.4	100	24	305	15.0	170.2	102	229	M10	229	190.5	19	8	24.0	1.6	28.36	F10

94-20 (ANSI CLASS 300)

SIZE	B	O	C	d	E	F	H	I	L	M	END FLANGE (ANSI 300)						Wt.(kg)	ISO5211
											D	P	Q	N	W	f		
½"	13.9	10.7	15.0	10	144.8	6.6	68.6	42	139.7	M5	95	66.5	16	4	14.5	1.6	2.14	F04
¾"	14.2	10.9	20.0	10	144.8	6.6	76.2	42	152.4	M5	117	82.5	19	4	16.0	1.6	3.24	F04
1"	21.6	16.8	25.0	14	175.3	9.7	88.9	50	165.1	M6	124	89.0	19	4	17.5	1.6	4.36	F05
1½"	24.9	18.0	38.0	18	233.7	9.7	106.7	70	190.5	M8	156	114.5	22	4	21.0	1.6	-	F07
2"	23.9	19.6	50.0	18	233.7	9.7	119.4	70	215.9	M8	165	127	20	8	22.5	1.6	11.42	F07
2½"	22.9	16.3	65.0	20	355.9	12.0	137.4	102	241.3	M10	190	149	22	8	25.5	1.6	17.10	F10
3"	21.9	16.3	80.0	20	355.9	12.0	149.9	102	282.7	M10	210	168	22	8	29.0	1.6	23.22	F10
4"	29.7	24.4	100	24	381	15.0	170.2	102	304.8	M10	254	200	22	8	32.0	1.6	-	F10

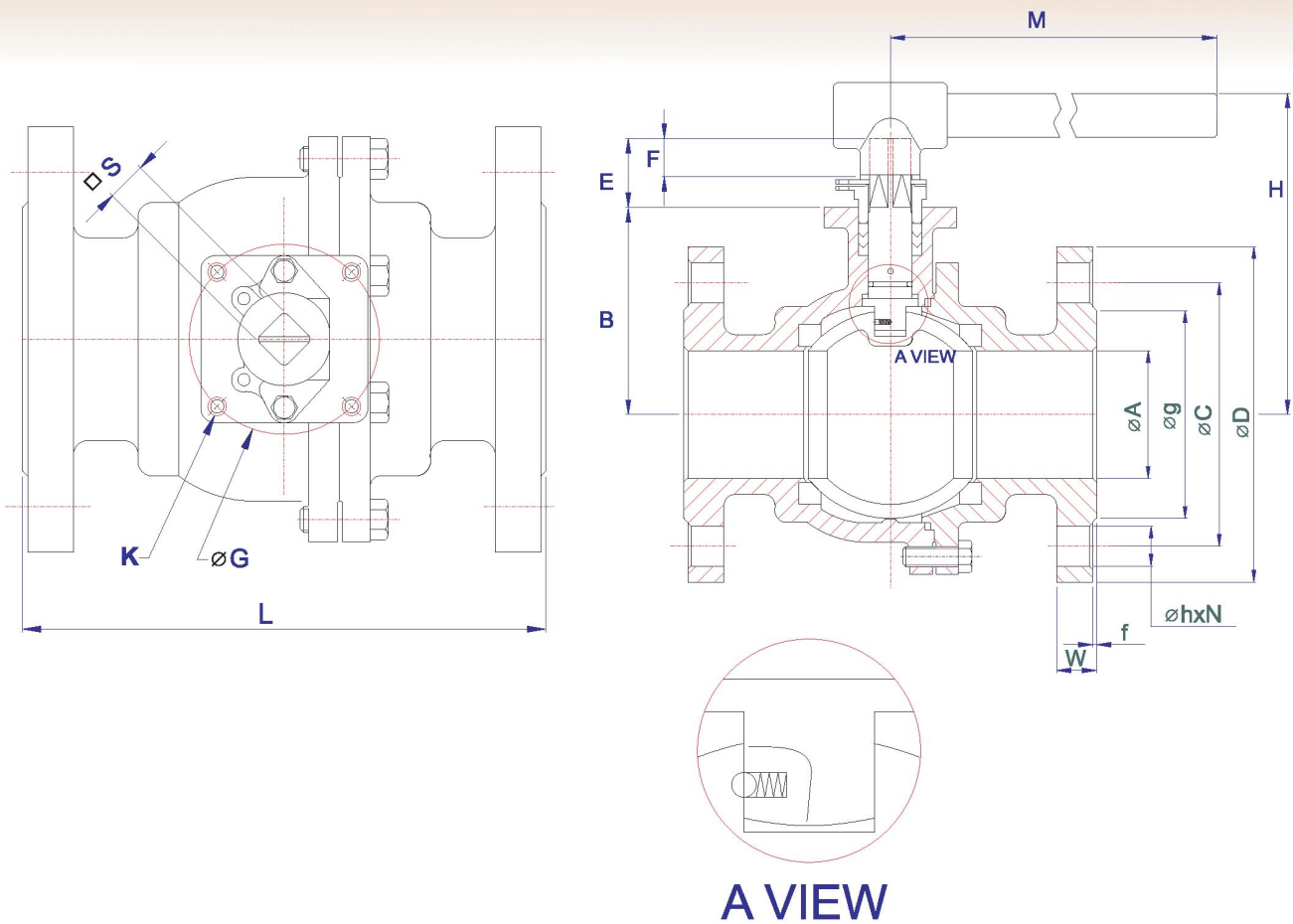
94-30 (PN16) F1/94-40 (PN16) F4

SIZE	B	O	C	d	E	F	H	I	L(F1)	L(F4)	M	END FLANGE (PN16)						Wt.(kg)	ISO5211
												D	P	Q	N	W	f		
½"	13.9	10.7	15.0	10	140	6.5	65	42	130	115	M5	95	65	14	4	14	2	2.06	F04
¾"	14.2	10.9	20.0	10	140	6.5	75	42	150	120	M5	105	75	14	4	16	2	2.78	F04
1"	21.6	16.8	25.0	14	170	9.7	85	50	160	125	M6	115	85	14	4	16	2	3.80	F05
1¼"	21.3	16.5	32.0	14	170	9.7	90	50	180	130	M6	140	100	18	4	16	2	5.20	F05
1½"	24.9	18.0	38.0	18	230	9.7	105	70	200	140	M8	150	110	18	4	16	3	6.82	F07
2"	23.9	19.6	50.0	18	230	9.7	115	70	230	150	M8	165	125	18	4	18	3	9.54	F07
2½"	22.9	16.3	65.0	20	300	12.0	132	102	290	170	M10	185	145	18	4	18	3	13.40	F10
3"	21.9	16.3	80.0	20	340	12.0	146	102	310	180	M10	200	160	18	8	20	3	17.44	F10
4"	29.7	24.4	100	24	420	15.0	165	102	350	190	M10	220	180	18	8	20	3	25.00	F10

94-60 (PN40) F4

SIZE	B	O	C	d	E	F	H	I	L(F4)	M	END FLANGE (PN40)						Wt.(kg)	ISO5211
											D	P	Q	N	W	f		
½"	13.9	10.7	15.0	10	140	6.5	65	42	115	M5	95	65	14	4	16	2	2.46	F04
¾"	14.2	10.9	20.0	10	140	6.5	75	42	120	M5	105	75	14	4	18	2	-	F04
1"	21.6	16.8	25.0	14	170	9.7	85	50	125	M6	115	85	14	4	18	2	4.10	F05
1½"	24.9	18.0	38.0	18	230	9.7	105	70	140	M8	150	110	18	4	18	3	7.18	F07
2"	23.9	19.6	50.0	18	230	9.7	115	70	150	M8	165	125	18	4	20	3	-	F07
2½"	22.9	16.3	65.0	20	300	12.0	132	102	170	M10	185	145	18	8	20	3	14.30	F10
3"	21.9	16.3	80.0	20	340	12.0	146	102	180	M10	200	160	18	8	24	3	19.02	F10
4"	29.7	24.4	100	24	420	15.0	165	102	190	M10	230	190	22	8	24	3	26.90	F10

5" (DN125) to 12" (DN300)



94-10 (ANSI CLASS 150) DN125~DN300

NOMINAL SIZE												ANSI 150 (FLANGE)								Wt(kg)
		Ø A	B	E	F	ØG	H	M	L	K	S	ØD	ØC	N	øh	øg	W	f	ISO5211	
IN	MM																			
5"	125	125	150	58	34	125	265	700	356	M12	28	254	190.5	8	22	186	23.9	1.6	F12	-
6"	150	150	170	58	34	125	285	850	394	M12	28	279	241.5	8	22	216	25.4	1.6	F12	58.3
8"	200	200	219	64	38	125	354	1100	457	M12	36	343	298.5	8	22	270	28.6	1.6	F12	125.3
10"	250	250	255	64	38	125	390	1200	533	M12	36	406	362	12	25	324	30.2	1.6	F12	
12"	300	300	307	79	46	140	442	1500	610	M16	36	483	432	12	25	381	31.8	1.6	F14	

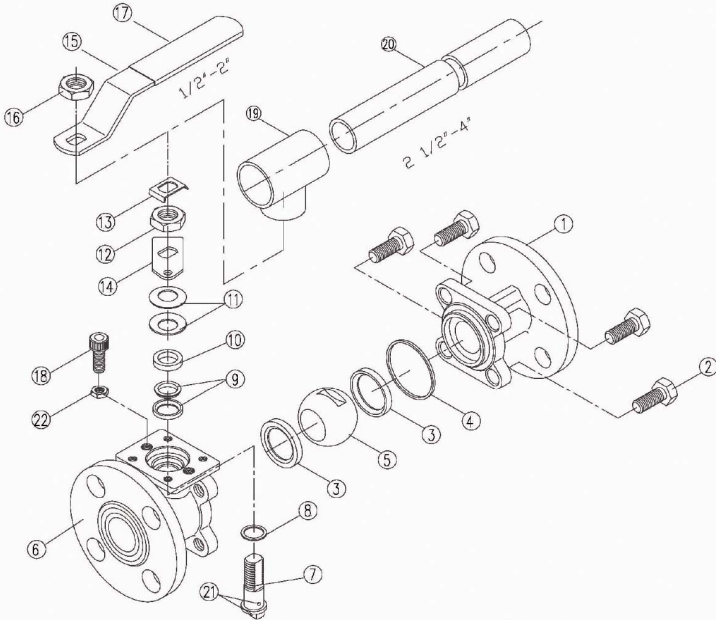
94-40 F4 (PN16) DN125~DN300

NOMINAL SIZE												FLANGE END (PN16)								Wt(kg)
		Ø A	B	E	F	ØG	H	M	L	K	S	ØD	ØC	N	øh	øg	W	f	ISO5211	
IN	MM																			
5"	125	125	150	58	34	125	265	700	325	M12	28	250	210	8	18	188	22	3	F12	46.9
6"	150	150	170	58	34	125	285	850	350	M12	28	285	240	8	22	212	22	3	F12	68.1
8"	200	200	219	64	38	125	354	1100	400	M12	36	340	295	12	22	268	24	3	F12	112.1
10"	250	250	255	64	38	125	390	1200	450	M12	36	405	355	12	26	320	26	3	F12	190.0
12"	300	300	307	79	46	140	442	1500	500	M16	36	460	410	12	26	378	28	4	F14	



MATERIALS LIST

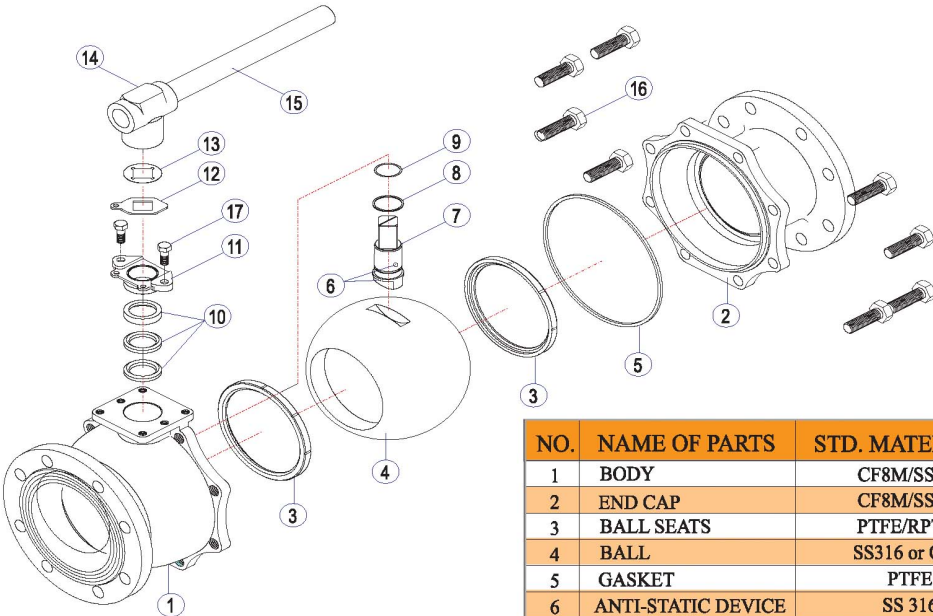
1/2"~4"



NO.	PART NAME	MATERIAL		QTY
		Stainless Steel	Carbon Steel	
1	Flange End	CF8M / SS 316	WCB / CST	1
2	Bolts	SS 304	SS 304	*
3	Ball Seat	PTFE/RPTFE	PTFE/RPTFE	2
4	Gasket	PTFE	PTFE	1
5	Ball	SS 316	SS304 / CF8	1
6	Body	CF8M / SS 316	WCB / CST	1
7	Stem	SS 316	SS 304	1
8	Stem Seal	RPTFE	RPTFE	1
9	Stem Packing	PTFE	PTFE	2
10	Gland	SS 304	SS 304	1
11	Belleville Washer	SS 310	SS 310	2
12	Stem Nut	SS 304	SS 304	1
13	Nut Lock	SS 304	SS 304	1
14	Lock Saddle	SS 304	SS 304	1
15	Handle	SS 304	SS 304	1
16	Handle Nut	SS 304	SS 304	1
17	Handle Sleeve	VINYL	VINYL	1
18	Stop Pin	SS 304	SS 304	1
19	Lever Head	CF8	CF8	1
20	Lever	STEEL PIPER	STEEL PIPER	1
21	Anti-static Device	SS316	SS316	2
22	Pin Nut	SS 304	SS 304	1

* For 1/2"~11/2"-4pcs; 2"~21/2"-6pcs;
For 3"-8pcs; 4"-10pcs.

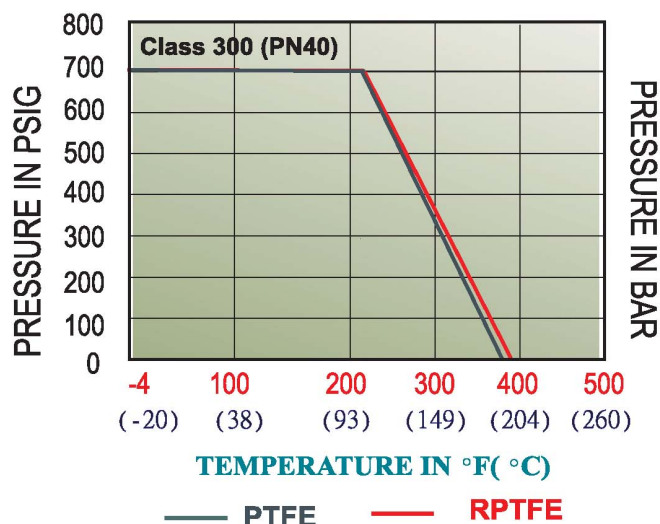
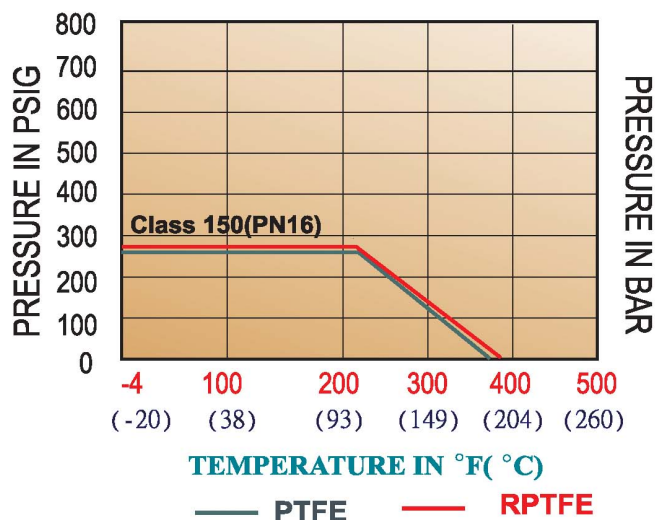
5"~12"



OPTION:
GEAR OPERATE
5"-6"(SOLIT BALL)
5"-6"(HOLLOW BALL)
8"-12"(CORED CAVITY BALL)
8"-12"(HOLLOW BALL)

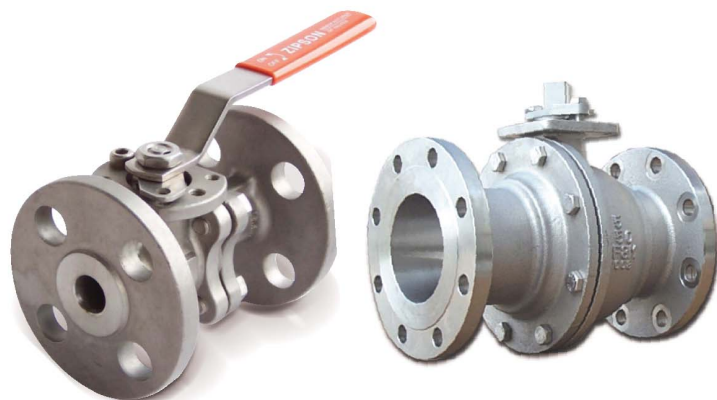
NO.	NAME OF PARTS	STD. MATERIALS	OPTION	
1	BODY	CF8M/SS316	A351 Gr. CF 8	A216 Gr. WCB
2	END CAP	CF8M/SS316	A351 Gr. CF 8	A216 Gr. WCB
3	BALL SEATS	PTFE/RPTFE	PTFE/RPTFE	—
4	BALL	SS316 or CF8M	SS304 or CF8	—
5	GASKET	PTFE	—	—
6	ANTI-STATIC DEVICE	SS 316	—	—
7	STEM	SS 316	SS 304	—
8	THRUST WASHER	PTFE	—	—
9	O-RING	VTITON	—	—
10	STEM PACKING	PTFE	—	—
11	GLAND	CF8	—	—
12	STOPPER	SS 304	—	—
13	STOP PLATE	SS 304	—	—
14	HANDLE HEAD	FCD45	—	—
15	HANDLE TUBE	CARBON STEEL	—	—
16	HAX. BOLTS	SS 304	—	CARBON STEEL
17	GLAND BLOT	SS 304	—	—

Pressure Vs. Temperature Chart



Breakaway Torque & Cv10 VALUES

SIZE	DN	Inch-Lb	Nm	Cv US GPM	Kv M3 / hour
1/2"	15	62	7	7.5	6.5
3/4"	20	80	9	16	14
1"	25	89	10	40	34
1.1/4"	32	124	14	70	60
1.1/2"	40	195	22	110	95
2"	50	222	25	240	206
2.1/2"	65	558	63	400	344
3"	80	665	75	700	602
4"	100	1320	149	980	843
5"	125	4182	472	1700	1462
6"	150	4563	515	5000	4300
8"	200	5068	572	10000	8600
10"	250	6973	787	15000	12900
12"	300	10136	1144	21000	18060



HOW TO ORDER ☒ 94-10 05STX

94-10 VALVE	05 SIZE	S BODY MATERIAL	T SEAT MATERIAL	X HANDLE STYLE
<input checked="" type="checkbox"/> 94-10 #150 <input type="checkbox"/> 94-30 PN16 F1 <input type="checkbox"/> 94-40 PN16 F4 <input type="checkbox"/> 94-50 PN40 F1 <input type="checkbox"/> 94-60 PN40 F4	<input type="checkbox"/> 01) 1/4" <input type="checkbox"/> 02) 3/8" <input type="checkbox"/> 03) 1/2" <input type="checkbox"/> 04) 3/4" <input checked="" type="checkbox"/> 05) 1" <input type="checkbox"/> 06) 1 1/4" <input type="checkbox"/> 07) 1 1/2" <input type="checkbox"/> 08) 2" <input type="checkbox"/> 09) 2 1/2" <input type="checkbox"/> 10) 3" <input type="checkbox"/> 11) 4"	<input checked="" type="checkbox"/> S - CF8M <input type="checkbox"/> W - WCB <input type="checkbox"/> L - 316L <input type="checkbox"/> D - Duplex <input type="checkbox"/> T - Titanium <input type="checkbox"/> A - Alloy 20	<input type="checkbox"/> P PTFE <input type="checkbox"/> R R-TFE <input checked="" type="checkbox"/> T TFM1600 <input type="checkbox"/> S 50/50 S.S.+PTFE <input type="checkbox"/> M MG1241 <input type="checkbox"/> C Carbon filled PTFE <input type="checkbox"/> U UHMWPE <input type="checkbox"/> K Peek <input type="checkbox"/> D Delrin <input type="checkbox"/> A Metal	<input type="checkbox"/> A - Std. handle <input type="checkbox"/> I - Investment Cast <input type="checkbox"/> O - Oval handle <input type="checkbox"/> L - SRSL handle <input type="checkbox"/> S - SRS handle <input checked="" type="checkbox"/> X - Bare shaft



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