THREE-PIECE BALL VALVE
390 SERIES

GENERAL FEATURES:

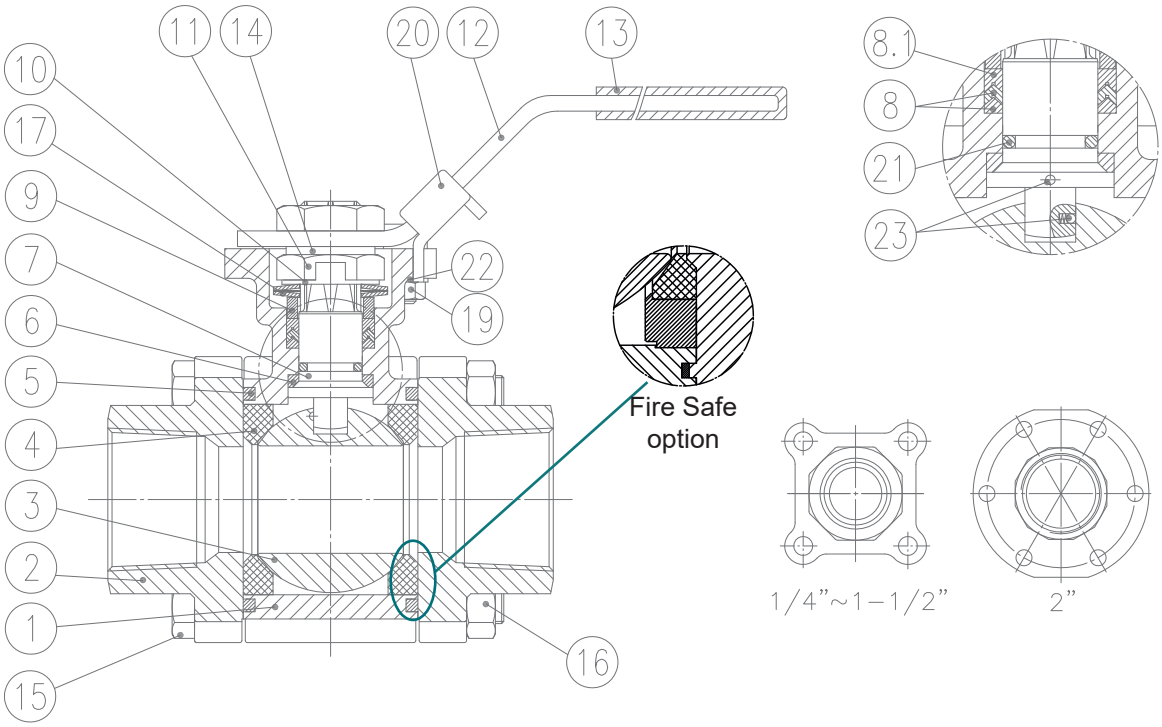
- 3-piece ball valve in stainless steel, full bore 1/4” (DN 8) - 4” (DN 100)
- Locking device
- Direct mounting according to ISO 5211
- Anti-blow out stem and anti-static with o-ring
- Ball with cavity balancing hole
- V-ring Chevron packing
- Fire safe version on demand (Body gaskets and stem seals in graphite), type FS
- Pressure: 1/4” - 1” 2000 psi, 138 bar
  1 1/4” - 2” 1500 psi, 103 bar
  2 1/2” - 4” 1000 psi, 69 bar

CE

TÜV
TA Luft

DESIGN STANDARDS	
Standards	ISO 5752, NACE MR-0175
Compliance	ANSI B16.34, ANSI B16.25, ANSI B1.20, API 6D
Actuator mounting flange	ISO 5211
Marking	ISO 5209, EN 19
TESTS AND CERTIFICATES	
Quality Assurance	ISO 9001
Material certificate	EN 10204-3.1
Pressure test	API 598, BS6755 part 1

1/4" ~ 2":

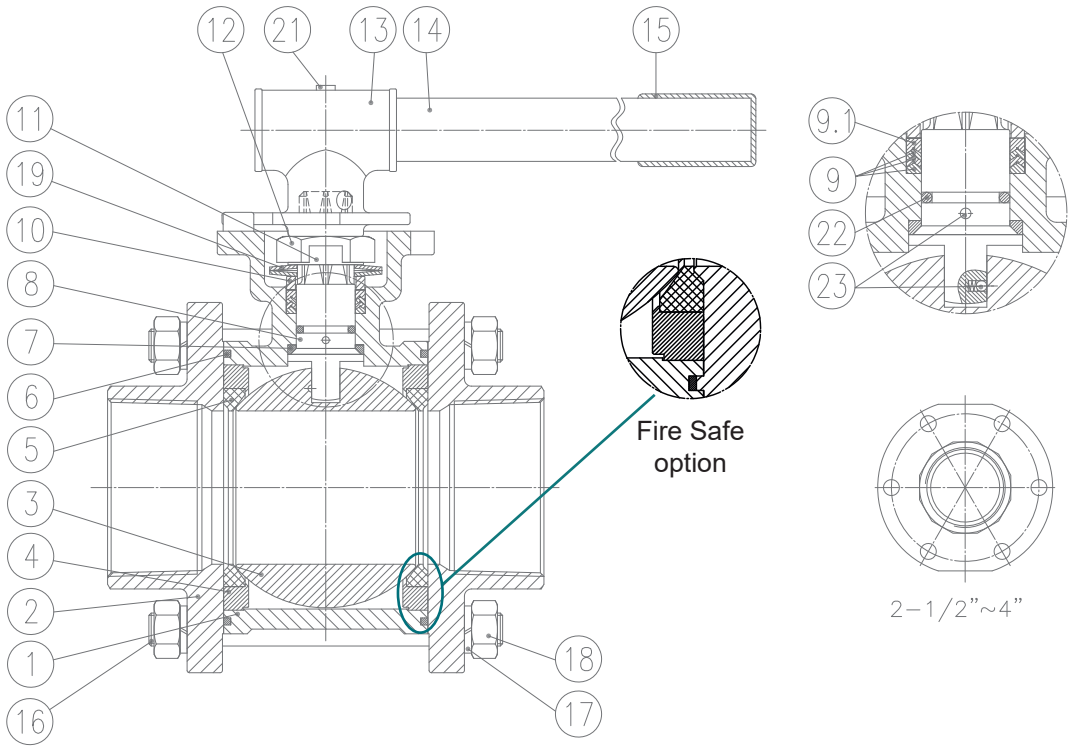


Item	Description	Materials
1	Body	ASTM A351 Gr. CF8M
2	End cap	ASTM A351 Gr. CF8M (CF3M for SW and BW)
3	Ball	Stainless steel AISI 316 (1/4" & 3/8" CF8M)
4	Seat	RPTFE
5	Joint Gasket	PTFE*
6	Stem thrust seal	RPTFE
7	Stem	Stainless steel AISI 316
8	Gland packing	PTFE**
8.1	Gland packing	25% G.F. + PTFE*
9	Gland bush	Stainless steel AISI 304
10	Stop washer	Stainless steel AISI 304
11	Stem nut	Stainless steel AISI 304
12	Handle	Stainless steel AISI 304
13	Handle cover	Vinyl
14	Stem washer	Stainless steel AISI 304
15	Bolt	Stainless steel AISI 304
16	Bolt nut	Stainless steel AISI 304
17	Belleville washer	Stainless steel AISI 301
18	Stop pin	Stainless steel AISI 304
19	Pin nut	Stainless steel AISI 304
20	Locking device	Stainless steel AISI 304
21	O-ring	Viton
22	Washer	Stainless steel AISI 304
23	Anti-static device	Stainless steel AISI 316

* Graphite for Fire Safe version

** PTFE + 25% GF for Fire Safe version

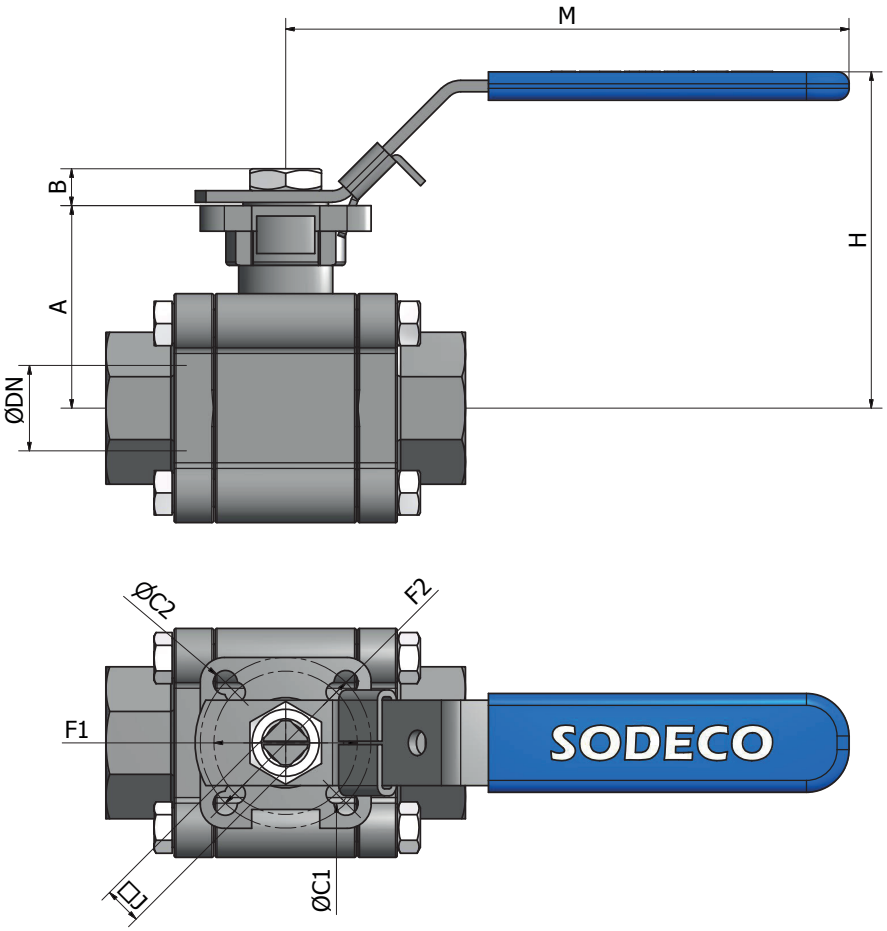
2 1/2” ~ 4”:



Item	Description	Materials
1	Body	ASTM A351 Gr. CF8M
2	End cap	ASTM A351 Gr. CF8M (CF3M for SW and BW)
3	Ball	Stainless steel CF8M
4	Seat ring	ASTM A351 Gr. CF8M
5	Seat ring	RPTFE
6	Joint gasket	PTFE*
7	Stem thrust seal	RPTFE
8	Stem	Stainless steel AISI 316
9	Gland packing	PTFE**
9.1	Gland packing	RPTFE*
10	Gland bush	Stainless steel AISI 304
11	Stop washer	Stainless steel AISI 304
12	Stem nut	Stainless steel AISI 304
13	Handle-A	Stainless steel AISI 304
14	Handle-B	Stainless steel AISI 304
15	Handle sleeve	Vinyl
16	Bolt	Stainless steel AISI 304
17	Bolt washer	Stainless steel AISI 304
18	Bolt nut	Stainless steel AISI 304
19	Belleville washer	Stainless steel AISI 301
20	Stop pin	Stainless steel AISI 304
21	Handle screw	Stainless steel AISI 304
22	O-ring	Viton
23	Anti-static device	Stainless steel AISI 316

* Graphite for Fire Safe version

** PTFE + 25% GF for Fire Safe version

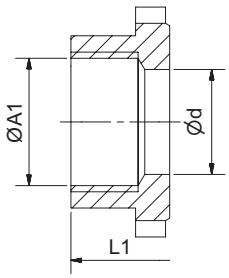


DIMENSIONS: (mm)

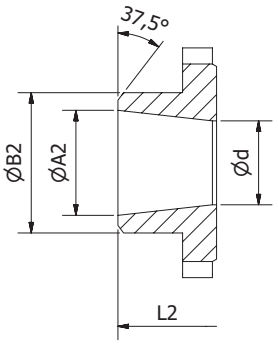
Ø	DN	A	B	H	M	F1	ØC1	F2	ØC2	□J	Kg
1/4"	8	42,6	7,6	77,0	139	36	6,0	42	6	9	0,8
3/8"	10	42,6	7,6	77,0	139	36	6,0	42	6	9	0,9
1/2"	15	42,6	7,6	77,0	139	36	6,0	42	6	9	0,9
3/4"	20	46,9	8,6	82,0	139	36	6,0	42	6	9	1,3
1"	25	59,3	10,4	98,5	165	42	6,0	50	7	11	2,0
1 1/4"	32	62,6	10,4	102,0	165	42	6,0	50	7	11	2,8
1 1/2"	40	79,0	13,4	128,0	215	50	7,5	70	9	14	4,2
2"	50	87,7	13,4	137,0	215	50	7,5	70	9	14	6,9
2 1/2"	65	108,7	16,8	167,0	300	70	10,0	102	12	17	12,0
3"	80	117,7	17,8	176,0	370	70	10,0	102	12	17	16,2
4"	100	133,7	16,8	192,0	370	70	10,0	102	12	17	25,8

THREE-PIECE BALL VALVE
390 SERIES - Dimensions

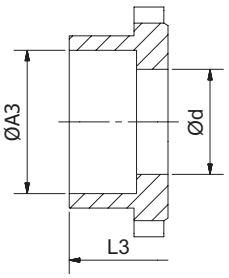
BSP/NPT



BW Sch. 40

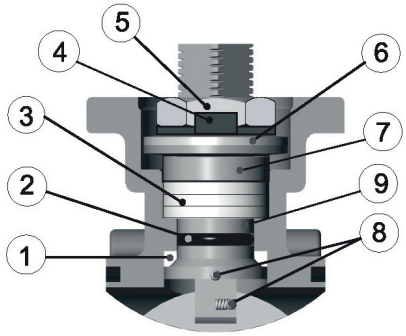


SW



DIMENSIONS: (mm)

ØA1	Ød	L1	ØA2	ØB2	L2	ØA3	L3
1/4"	11,5	75,0	9,2	13,7	75,0	14,3	75,0
3/8"	12,6	75,0	12,5	17,5	75,0	17,6	75,0
1/2"	15,0	72,5	15,8	21,7	75,0	21,9	72,5
3/4"	20,0	85,4	21,0	27,2	90,0	27,3	85,4
1"	25,0	105,3	26,6	34,0	110,0	33,9	105,3
1 1/4"	32,0	111,0	35,1	42,7	115,0	42,8	111,0
1 1/2"	38,0	127,3	40,9	48,6	130,0	48,9	127,3
2"	50,0	142,8	52,5	60,5	142,8	61,3	142,8
2 1/2"	65,0	185,0	65,0	73,0	185,0	76,9	185,0
3"	80,0	205,0	80,0	89,0	205,0	90,0	205,0
4"	100,0	240,0	102,0	114,0	240,0	115,5	240,0



1. Pyramidal stem with stem seal
First stage of defense against leakage.
The 45° slope of the stem accompanies the stem seal effectively and blocks all leak paths during rotation.

2. O-ring stem packing
Second stage of defense against leakage.
Enhances stem seal and maintains stem alignment, provides extra longer service life.

3. V-ring stem packing
Third stage of defense against leakage.
Multiple layers of V-ring Chevron packing expand sideways as it is being compressed, blocking all air pockets to prevent leak paths.

4. Lock saddle
Stabilizes the entire stem nut to keep it from loosening during operation

5. Stem nut
Compresses the entire stem system to enable blocking of leakage.

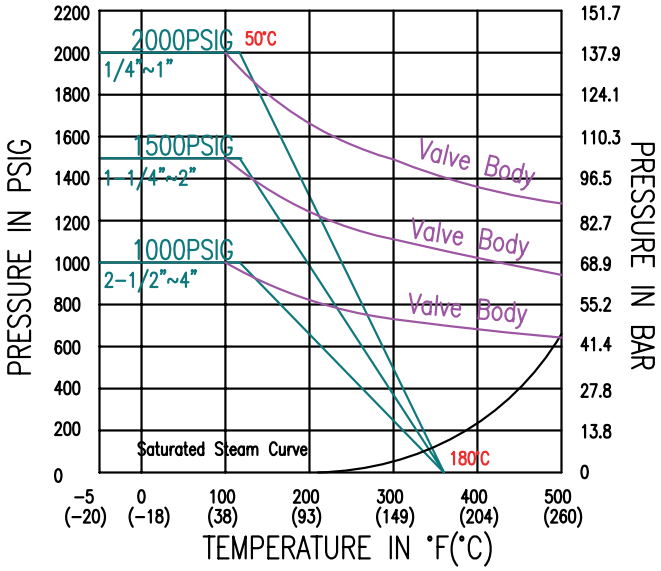
6. Belleville washers
Automatically compress the seals to adjust for wear, pressure and temperature fluctuations.

7. Gland
Made of stainless steel, equally distributes the compressive force on the packing and seal.

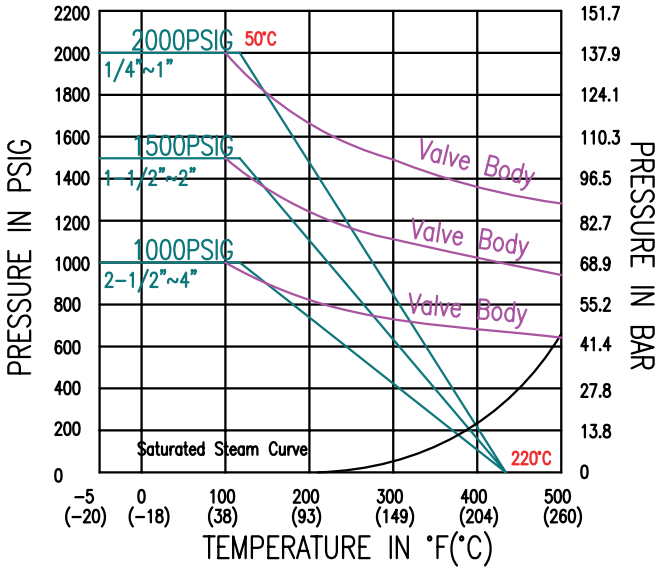
8. Anti-static device
Stem-to-ball and stem-to-body as standard

9. Super smooth stem finish
Reduces seal friction and operation

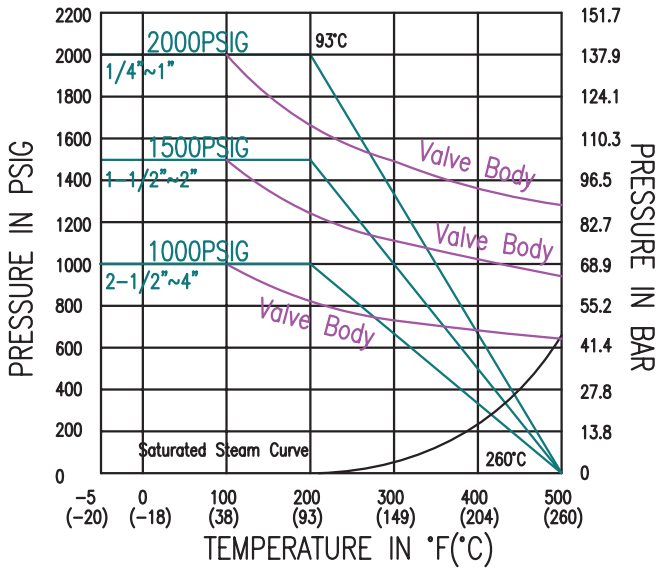
PRESSURE-TEMPERATURE CHART PTFE/RPTFE:



PRESSURE-TEMPERATURE CHART STANSIT:



PRESSURE-TEMPERATURE CHART PEEK:



Kv VALUES:

Ø	T (Nm)			Kv (m³/h)
	PTFE - RPTFE	STANSIT	PEEK	
1/4"	8	9	13	7
3/8"	8	9	13	7
1/2"	8	9	17	13
3/4"	9	12	22	29
1"	14	17	34	48
1 1/4"	22	26	43	73
1 1/2"	30	35	60	108
2"	31	36	68	216
2 1/2"	61	68	306	277
3"	82	88	325	501
4"	114	114	930	882

Torques for 0 bar differential pressure, including 30% safety

TYPE		ENDS	ISO 5211	MATERIAL			Fire safe	SIZE
				BODY	BALL	SEATS		
3	9	3	BA	I	I	T	FS	025

= fix

ENDS	
1	BSP according to DIN 2999 / ISO 228-1
2	BW schedule 40, ANSI B16.25 & DIN 3239 part 1
3	SW according to ANSI B16.11 & DN 3239 part 2
4	NPT according to ASME B1.20.1

SEATS	
T	PTFE
S	Stansit
R	Reinforced PTFE
P	PEEK

FIRE SAFE	
-	Standard version
FS	Fire safe