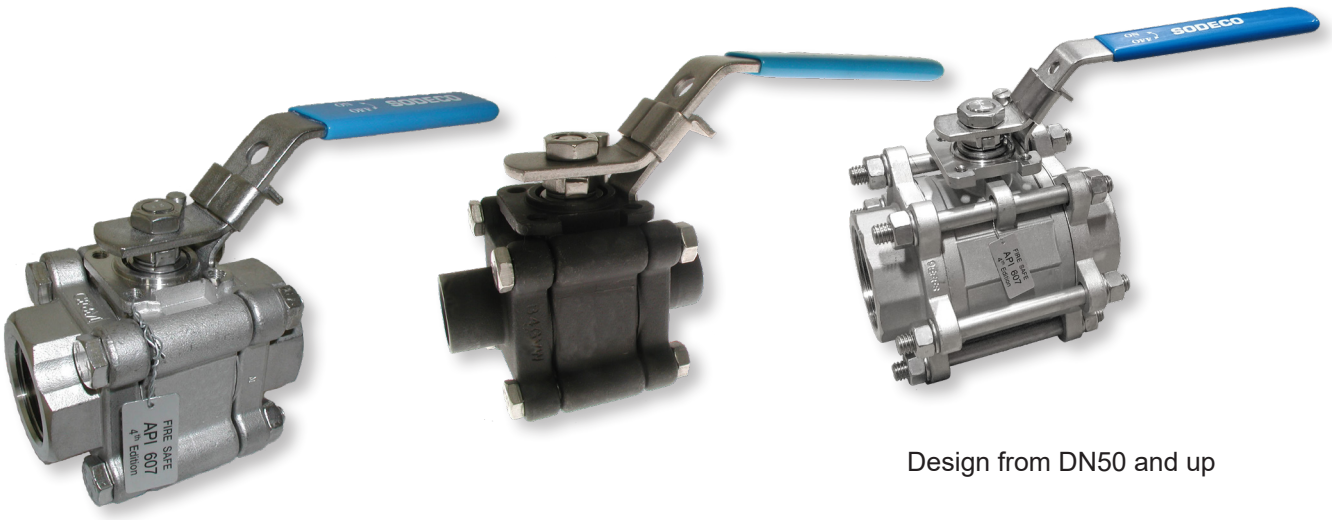
THREE-PIECE BALL VALVE
360 SERIES

GENERAL FEATURES:

- Full or reduced bore
- Locking device
- Mounting flange according to ISO 5211
- Anti-blow out stem
- Chevron packing
- Ball with cavity balancing hole
- CE approval
- EN 10204-3.1 material certificate
- Fire safe according to API 607 Rev. 4
- Working pressure: - 2000 PSI / 138 bar (1/4" ~ 1")
  - 1500 PSI / 103 bar (11/4" ~ 2")



Design from DN50 and up



Fire safe tested

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
Fire Safe certification	API 607 Rev. 4
Material certificate	EN 10204-3.1
Pressure test	API 598

Subject to changes

THREE-PIECE BALL VALVE
How to order

TYPE		ENDS	ISO 5211	MATERIAL			BORE	FIRE SAFE	SIZE
				BODY	BALL	SEATS			
3	6	3	BA	A	I	T	I	FS	025

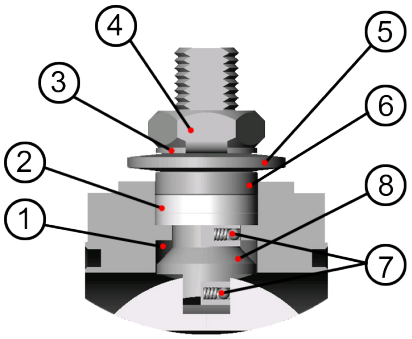
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ENDS	
1	BSP according to DIN 2999 / ISO228-1
2	BW according to ANSI B16.25 & DIN 3239 part 1
3	SW according to ANSI B16.11 & DN 3239 part 2
4	NPT according to ASME B1.20.1

BODY	
A	A216 WCB
I	CF8M

SEATS	
T	PTFE + 15% glasfiber
S	Stansit
C	PTFE - graphite

BORE	
I	Full bore
-	Reduced bore



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. V-ring stem packing
Second 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.

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

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

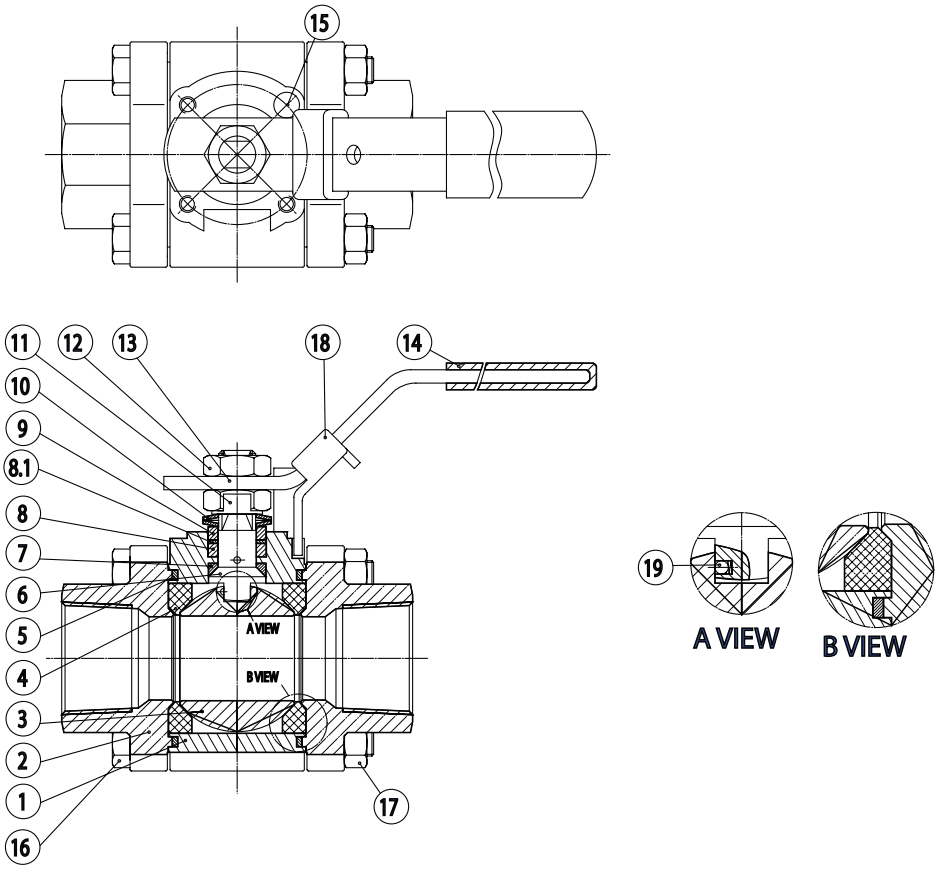
5. Belleville washers
Automatically compress the seals to adjust for wear, pressure and temperature fluctuations.

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

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

8. Super smooth stem finish
Reduces seal friction and operation

Subject to changes

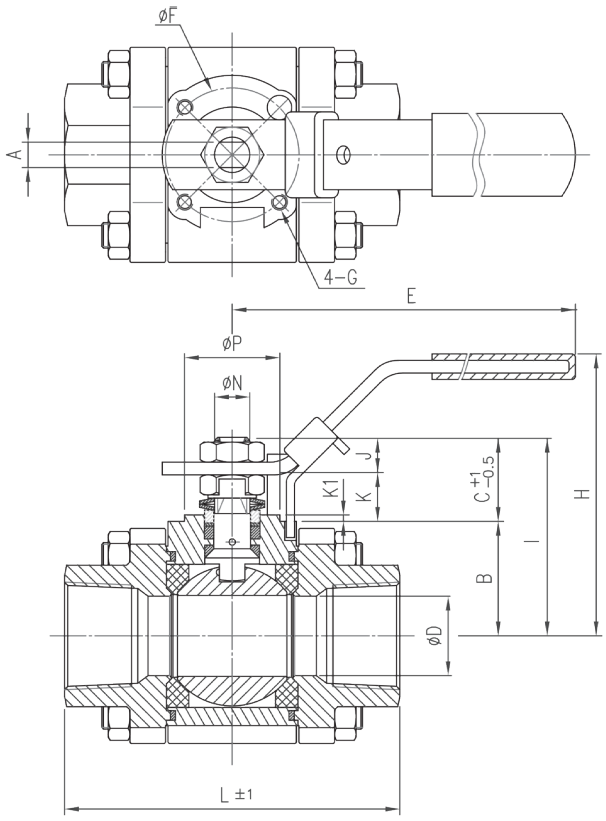


Item	Description	QTY	Materials	
			Carbon steel	Stainless steel
1	Body	1	A216 Gr WCB	A351 Gr CF8M
2	End cap	2	A216 Gr WCB	A351 Gr CF8M (CF3M for weld ends)
3	Ball	1	Stainless steel CF8M Stainless steel 316 (1/2" ~ 2" full bore, 3/4" ~ 2 1/2" reduced bore)	
4	Seat	2	Reinforced PTFE	
5	Joint gasket	2	Graphite	
6	Stem	1	Stainless steel 316	
7	Stem seal	1	Reinforced PTFE	
8	Gland packing	1	Graphite	
8.1	Gland packing	1	15 % glass filled PTFE	
9	Gland bush	1	Stainless steel SS 304	
10	Belleville washer	2	Stainless steel SS 301	
11	Stop washer	1	Stainless steel SS 304	
12	Stem nut	2	Stainless steel SS 304	
13	Handle	1	Stainless steel SS 304	
14	Handel sleeve	1	Vinyl	
15	Stop pin	1	Stainless steel SS 304	
16	Bolt	4*	Stainless steel SS 304	
17	Bolt nut	4*	Stainless steel SS 304	
18	Locking device	1	Stainless steel SS 304	
19	Anti-static device	2	Stainless steel SS 316	

* diam. 2": 6 pc.

Subject to changes

REDUCED BORE:



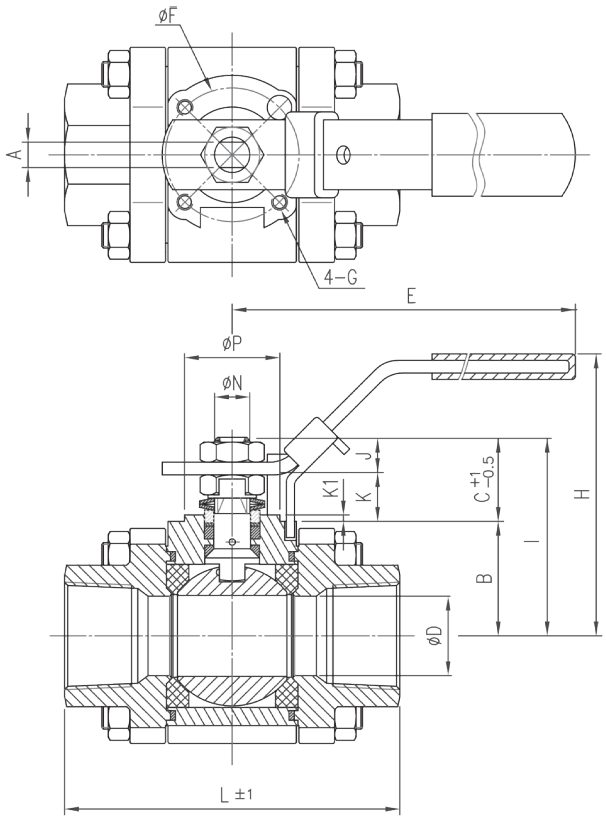
DIMENSIONS: (mm)

Ø	ØD	A	B	C	E	ØF	G	H
1/2"	10	6,5	29,8	7,4	134	36	M5	64,3
3/4"	15	6,5	29,0	16,1	134	36	M5	71,5
1"	20	6,5	33,0	18,1	134	36	M5	76,0
11/4"	25	8,0	36,0	24,6	170	42	M5	82,3
11/2"	32	8,0	40,0	24,3	170	42	M5	87,3
2"	38	9,7	47,3	30,2	207	50	M6	103,6
21/2"	50	9,7	69,5	26,0	207	50	M6	121,6

Ø	ØD	K	K1	L1	ØP	ØN	ISO 5211	Kg
1/2"	10	6,1	0,5	20,5	25	9,5	F03	0,7
3/4"	15	7,3	2,0	24,5	25	9,5	F03	0,8
1"	20	8,8	2,0	31,4	25	9,5	F03	1,4
11/4"	25	11,0	2,0	41,3	30	11,1	F04	2,0
11/2"	32	9,7	2,0	48,4	30	11,1	F04	2,8
2"	38	12,2	2,2	56,3	35	14,3	F05	4,0
21/2"	50	12,6	1,5	71,4	35	14,3	F05	6,9

Subject to changes

FULL BORE:



DIMENSIONS: (mm)

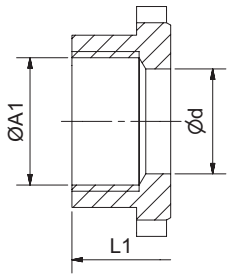
Ø	ØD	A	B	C	E	ØF	G	H
1/4"	10	6,5	29,8	7,4	134	36	M5	64,3
3/8"	10	6,5	29,8	7,4	134	36	M5	64,3
1/2"	15	6,5	29,0	16,1	134	36	M5	71,5
3/4"	20	6,5	33,0	18,1	134	36	M5	76,0
1"	25	8,0	36,0	24,6	170	42	M5	82,3
11/4"	32	8,0	40,0	24,3	170	42	M5	87,3
11/2"	38	9,7	47,3	30,2	207	50	M6	103,6
2"	50	9,7	69,5	26,0	207	50	M6	121,6

Ø	ØD	K	K1	L1	ØP	ØN	ISO 5211	Kg
1/4"	10	6,1	0,5	20,5	25	9,5	F03	0,7
3/8"	10	6,1	0,5	20,5	25	9,5	F03	0,7
1/2"	15	7,3	2,0	24,5	25	9,5	F03	0,8
3/4"	20	8,8	2,0	31,4	25	9,5	F03	1,4
1"	25	11,0	2,0	41,3	30	11,1	F04	2,1
11/4"	32	9,7	2,0	48,4	30	11,1	F04	2,7
11/2"	38	12,2	2,2	56,3	35	14,3	F05	4,0
2"	50	12,6	1,5	71,4	35	14,3	F05	6,9

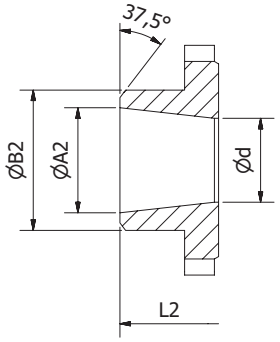
Subject to changes

REDUCED BORE:

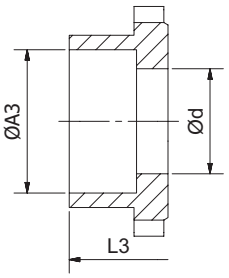
BSP/NPT



BW DIN



SW

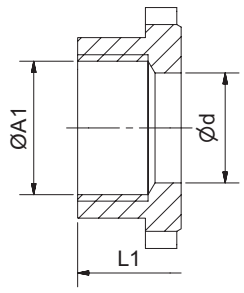


DIMENSIONS: (mm)

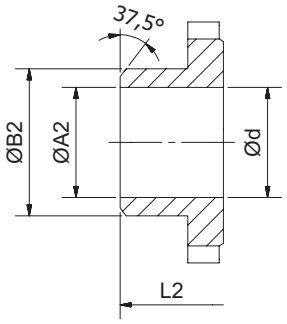
Ø	Ød	L1	ØA2	ØB2	L2	ØA3	L3
1/2"	10	64,8	10,0	21,7	65	21,9	64,8
3/4"	15	72,5	15,0	27,2	75	27,3	72,5
1"	20	85,4	20,0	34,0	99	33,9	85,4
11/4"	25	105,3	25,0	42,7	109	42,8	105,3
11/2"	32	111,0	32,0	48,6	114	48,9	111,0
2"	38	127,3	38,0	60,5	130	63	127,3
21/2"	50	145,0	50,0	76,1	145	76,9	145,0

FULL BORE:

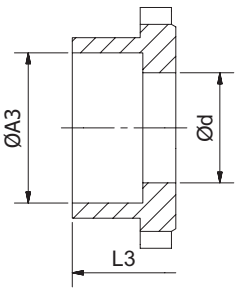
BSP/NPT



BW DIN



SW

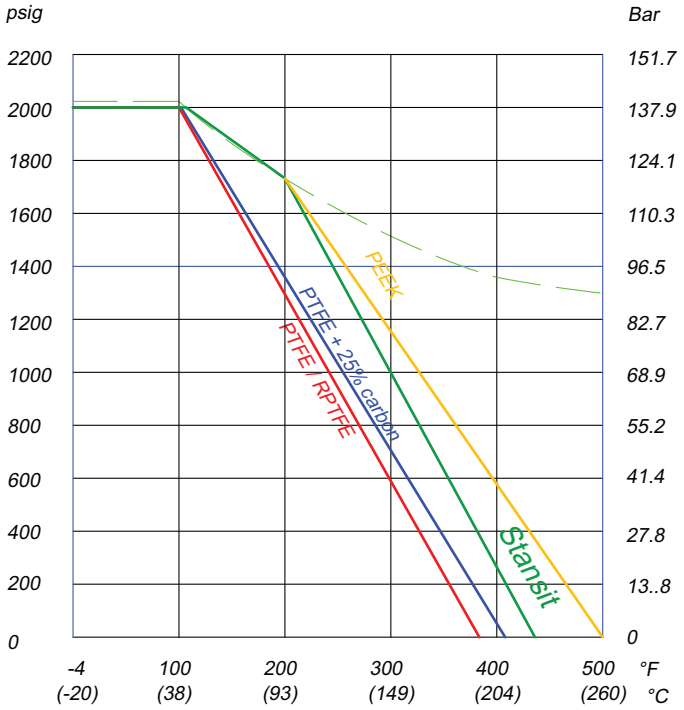


DIMENSIONS: (mm)

Ø	Ød	L1	ØA2	ØB2	L2	ØA3	L3
1/4"	10	64,8	10,0	13,7	65	14,3	64,8
3/8"	10	64,8	10,0	17,5	65	17,6	64,8
1/2"	15	72,5	15,0	21,7	75	21,9	72,5
3/4"	20	85,4	20,0	27,2	90	27,3	85,4
1"	25	105,3	25,0	34,0	110	33,9	105,3
11/4"	32	111,0	32,0	42,7	115	42,8	111,0
11/2"	38	127,3	38,0	48,6	130	48,9	127,3
2"	50	142,8	50,0	60,5	143	61,3	142,8

Subject to changes

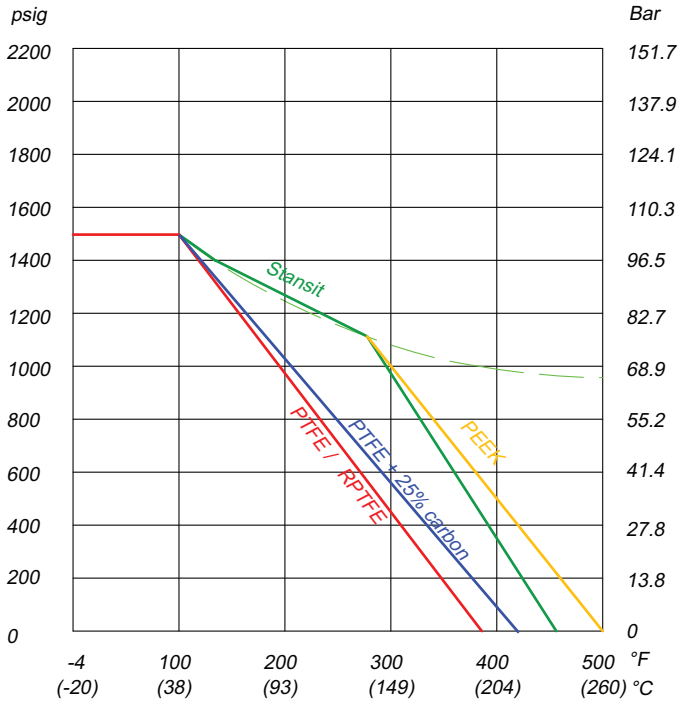
PRESSURE-TEMPERATURE CHART 1/4" ~ 1":



Kv VALUES:

Ø	Kv (m³/h)	
	Reduced bore	Full bore
1/4"	-	6,9
3/8"	-	6,9
1/2"	6,9	12,9
3/4"	12,9	29,4
1"	29,4	48,4
11/4"	48,4	73,5
11/2"	73,5	108,1
2"	108,1	216,2
21/2"	216,2	-

PRESSURE-TEMPERATURE CHART 11/4" ~ 2":



BREAK AWAY TORQUE: (Nm)

Ø	Reduced bore	Full bore
1/4"	-	7
3/8"	-	7
1/2"	7	8
3/4"	8	9
1"	9	14
11/4"	14	22
11/2"	22	29
2"	29	29
21/2"	29	-

Torques at 0 bar, including 30% safety

Subject to changes