

BALL VALVE

AL 32 / AL 33

Description

AL 32/AL 33 are three-piece ball valves in steel with full or reduced bore with mounting plate according to ISO 5211. Body in forged material and free-floating ball. The valve is Fire Safe and has a self-adjusting packing.

Applications: Shut-off valve for simple to highly demanding applications with neutral to aggressive liquids and gases.

Carbon steel

AL 32 235	DN 15-50	Reduced bore
AL 33 215	DN 65-100	
AL 32 135	DN 8-40	Full bore
AL 33 115	DN 50-80	

Stainless steel

AL 32 236	DN 15-50	Reduced bore
AL 33 216	DN 65-100	
AL 32 136	DN 8-40	Full bore
AL 33 116	DN 50-80	

Marking: The valve is marked AL 32 or AL 33.

Connection: Thread
Weld
Extended butt weld (ISO, mm pipe)

Pressure class: PN 100 - DN 8-65
PN 63 - DN 80 full bore DN 100 reduced bore

Pressure: 16-160 bar

Temperature: -46° - +280°C (see pressure/temperature diagramme)

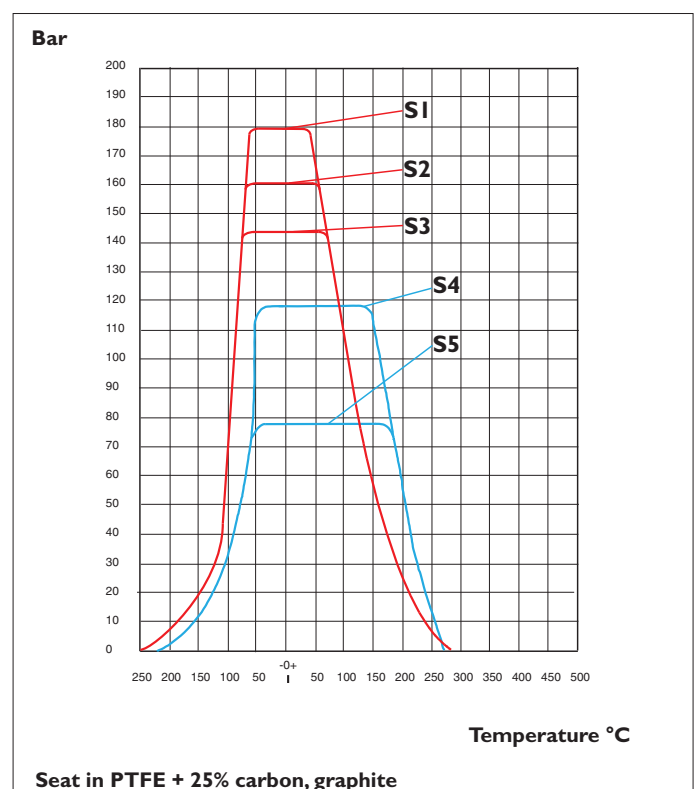
Leakage rate: ANSI VI

Approvals

- CE/PED 97/23/EC Category III, Module H (not required below DN 32)
- ATEX 94/9/CE
- TA-luft
- Fire Safe API607, API6FA, BS6755 part 2
- EN161/EN264
- SIL IEC 61508
- NACE 0175



Pressure / Temperature

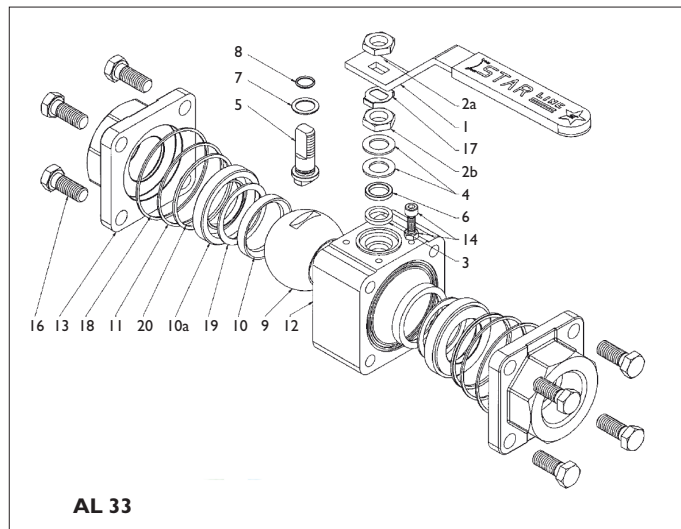
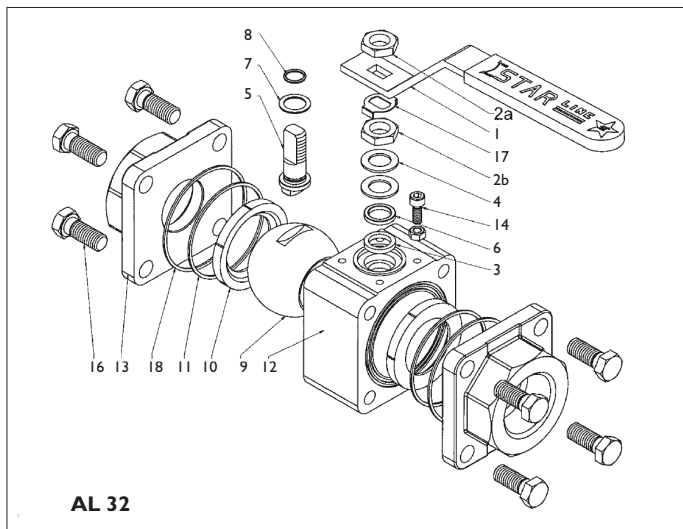


Type	Full bore	Reduced bore	PN (valve body)	Seat
AL 32	DN 8-15	DN 15-20	100	S1
	DN 20-25	DN 25-32	100	S2
	DN 32-40	DN 40-50	100	S3
AL 33	DN 50-65	DN 65-80	100	S4
	DN 80	DN 100	63	S5

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Material specification



4+4 bolts Full bore DN 8-20 and reduced bore DN 15-25. 4+4 bolts



4+4 bolts Full bore DN 25-40 and reduced bore DN 32-50.



6+6 bolts Full bore DN 50-65 and reduced bore DN 65-80.



8+8 bolts Full bore DN 80 and reduced bore DN 100.

Standard version SGS-G (material code for seat - stem packing - primary body seal - secondary body seal)

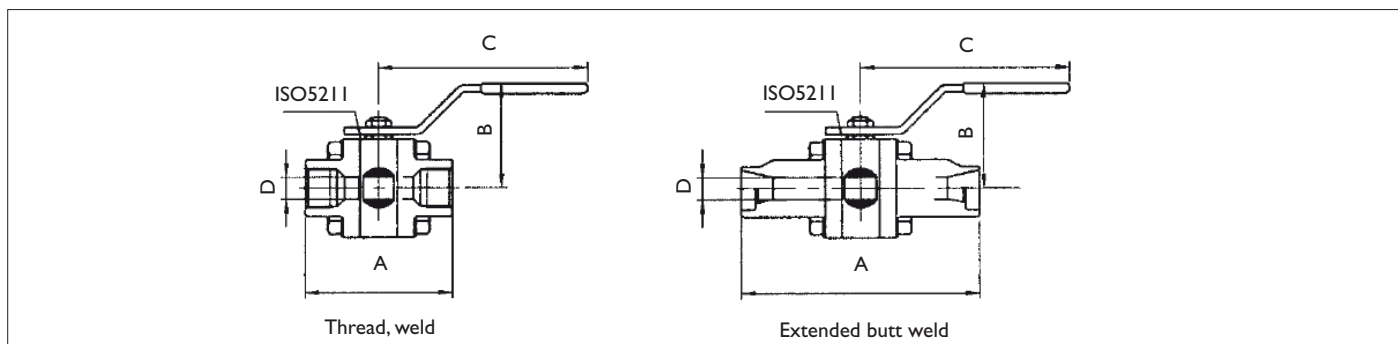
Pos	No	Part	Body carbon steel LF2 / Ball stainless steel F316	Body stainless steel F316 / Ball stainless steel F316
			(Carbon steel material double certified LF2 and A105)	
1	1	Lever	Carbon steel, epoxy painted	
2a ** / 2b **	2	Nut	Cadmium-plated carbon steel	Stainless steel 316
3 *	1	Stem packing	Graphite (G)	
4 **	2	Spring washer	Stainless steel	
5 **	1	Antistatic stem	Stainless steel 316	
6	1	Packing ring	Stainless steel 316	
7 *	1	Thrust washer	RTFE	
8 *	1	O-ring stem	Viton	
9 **	1	Ball	Stainless steel F316	
10 *	2	Seat	PTFE + 25 % carbon, graphite (S)	
10 a	2	Ring seal	A350 LF2	A182 F316
11 *	2	Primary body seal	PTFE + 25 % carbon, graphite (S)	
12	1	Body	Carbon steel A350 LF2 / A105N	Stainless steel A182 F316
13	2	End piece	Carbon steel A350 LF2 / A105N	Stainless steel A182 F316
14	1	Stop bolt	Stainless steel 304	
16 ***	8 / 12 / 16	Bolts	ASTM A193 - B8	
17 **	1	Lockwasher	Stainless steel SS 304	
18 *	2	Secondary body seal	Graphite (G)	
19	2	Seat seal	PTFE + 25 % carbon, graphite	
20	2	Ring seal	PTFE + 25 % carbon, graphite	

* Recommended spare part after 2 years of service ** Recommended spare part after 5 years of service *** 4 bolts for DN 8-40 full bore and DN 15-50 reduced bore. 6 bolts for DN 50 full bore and DN 65 reduced bore. 8 bolts for DN 65 full bore and DN 80 reduced bore.

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Dimensions



Full bore

Type	DN	A			B	C	D	ISO 5211	Kv	Weight kg		
		Thread	Weld	Extended butt weld						Thread	Weld	Extended butt weld
AL 32	8	75	75	236	67	152	11,1	F03	6,8	1,1	1,1	1,5
	10	75	75	236	67	152	11,1	F03	6,8	1,0	1,0	1,5
	15	80	80	239	70	152	14,2	F03	10	1,3	1,3	1,7
	20	100	100	250	80	193	20,5	F04	26	2,3	2,3	3,0
	25	110	110	261	92	193	25,4	F04	38	3,2	3,2	4,3
	32	120	120	272	108	225	31,7	F05	67	4,3	4,3	5,5
AL 33	40	140	140	279	113	225	38,0	F05	99	5,8	5,8	7,2
	50	141	141	191	118	225	49	F05	227	10,0	10,0	10,0
	65	170	170	210	136	450	62	F07	381	13,5	13,5	13,5
	80	305	305	305	150	450	76	F07	583	26,0	26,0	26,0

Reduced bore

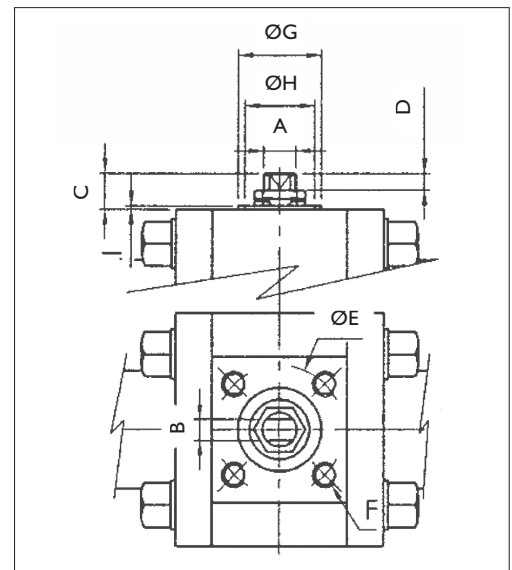
Type	DN	A			B	C	D	ISO 5211	Kv	Weight kg		
		Thread	Weld	Extended butt weld						Thread	Weld	Extended butt weld
AL 32	15	75	75	236	67	152	11,1	F03	6,8	1,0	1,0	1,4
	20	80	80	239	70	152	14,2	F03	11	1,2	1,2	1,7
	25	100	100	250	80	193	20,5	F04	27,5	2,2	2,2	3,0
	32	110	110	261	92	193	25,4	F04	41	3,1	3,1	4,3
	40	120	120	272	108	225	31,7	F05	70	4,2	4,2	5,5
	50	140	140	279	113	225	38,0	F05	103	5,5	5,5	7,2
AL 33	65	141	141	191	118	225	49	F05	236	9	9	9
	80	170	170	210	136	450	62	F07	394	12	12	12
	100	229	229	305	150	450	76	F07	600	20	20	28

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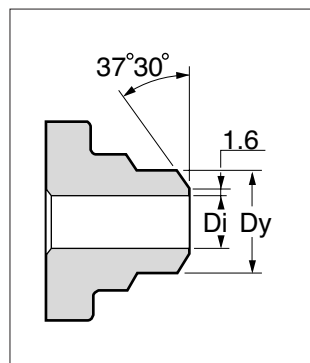
Mounting plate acc. to ISO 5211

Full bore	Reduced bore	A	B	C	D	ØE	F	ØG	ØH	I
DN 8	-	M10x1	5,5	9	3,6	36	M5x8	25	21	1,5
DN 10	DN 15	M10x1	5,5	9	3,6	36	M5x8	25	21	1,5
DN 15	DN 20	M10x1	5,5	9,5	3,6	36	M5x8	25	21	1,5
DN 20	DN 25	M12x1,25	7,5	14	9	42	M5x8	30	25	1,5
DN 25	DN 32	M12x1,25	7,5	20	10	42	M5x8	30	25	1,5
DN 32	DN 40	M15x1,5	8,9	27	13	50	M6x10	35	30	1,5
DN 40	DN 50	M15x1,5	8,9	28	14	50	M6x10	35	30	1,5
DN 50	DN 65	M15x1,5	8,9	25	12,5	50	M6x10	3	30	1,5
DN 65	DN 80	M22x1,5	16	35	17	70	M8x12	55	48	1,5
DN 80	DN 100	M24x2	18	37,5	15	70	M8x12	55	48	1,5



Extended butt weld

DN	Carbon steel		Stainless steel	
	Dy	Di	Dy	Di
8	13,5	9,9	13,5	8
10	17,2	12,0	17,2	10
15	21,3	17,0	21,3	15
20	26,9	22,4	26,9	20
25	33,7	27,9	33,7	25
32	42,4	36,7	42,4	34
40	48,3	42,8	48,3	40
50	60,3	54,8	60,3	50
65	76,1	70,3	76,1	65
80	88,9	82,8	88,9	80
100	114,3	108,2	114,3	100



With integral nipples welded connections in current dimensions.

Actuator sizing

Media clean water 20°C and 16 bar, safety factor 30%. Supply air 6 bar..

DN Full	DN Reduc	Torque Nm	AL 77		AL 78	AL 79	
			DA	SR	electr.	DA	SR
8	-	13	210-DA	210-SR	005	045U-DA	101U-SR
10	15	13	210-DA	210-SR	005	045U-DA	101U-SR
15	20	18,2	210-DA	220-SR	005	051U-DA	101U-SR
20	25	29,9	210-DA	220-SR	005	101U-DA	201U-SR
25	32	35,1	210-DA	230-SR	005	101U-DA	201U-SR
32	40	41,6	220-DA	230-SR	005	101U-DA	251U-SR
40	50	48,1	220-DA	230-SR	006	201U-DA	251U-SR
50	65	104	230-DA	240-SR	015	251U-DA	351U-SR
65	80	119,6	230-DA	240-SR	015	251U-DA	351U-SR
80	100	139,1	230-DA	250-SR	019	301U-DA	401U-SR

Installation

The valve can be installed in horizontal and vertical lines. The valve is maintenance free but should be operated at regular intervals depending on the installation.

Welding with short ends: - open valve - spot weld - remove the valve body - finish weld - cool - reassemble. See separate manual for more detailed instructions.

Optional

- Flange connection
- Other seat material, e.g. PTFE (code TTT-T) and graphite (code GGG-G)
- Valve according to ANSI
- Stem extension
- Lockable hand lever
- Electrical actuator
- Pneumatic actuator

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