



Range DN: 6 ~ 500



Range PN: 10 ~ 100



PED 97/23/EC
PED 2014/68/EU



TR TS 10/11,
12/11, 32/11



CERTIFICATE
EN 12 569



CERTIFICATE
API 607, 6FA

Operating temperature: -196 °C ~ 550 °C

Connection into piping: Flanged, welded ends, threaded ends, combined execution

DESCRIPTION

K81 (floating ball) valves are controlled shut-off valves. They are designed to stop or allow the flow of the medium by external operation, either manually or via the installed drive. The ball valves allow the medium to flow in both directions. Their construction is designed to prevent the build-up of sediment in the flow channel, which would otherwise hinder the valve operation. These ball valves are designed and manufactured to ensure maximum service life and reliability.

MATERIAL SPECIFICATION

K81 ball valves are made from carbon, alloy and stainless steels. The material type can be adjusted according to the customer's request to optimally suit the operating conditions.

APPLICATION

K81 ball valves are suitable for various liquids, gases and steam.



BASIC STANDARDS FOR DESIGN

Basic design

EN 1983

Pressure-temperature rating

EN 12 516 - 1

Testing

EN 12 266 - 1, 2

Face-to-face dimensions

EN 558, EN 12 982

Dimensions of the welded ends

EN 12 627

Top Flange dimensions

EN ISO 5211

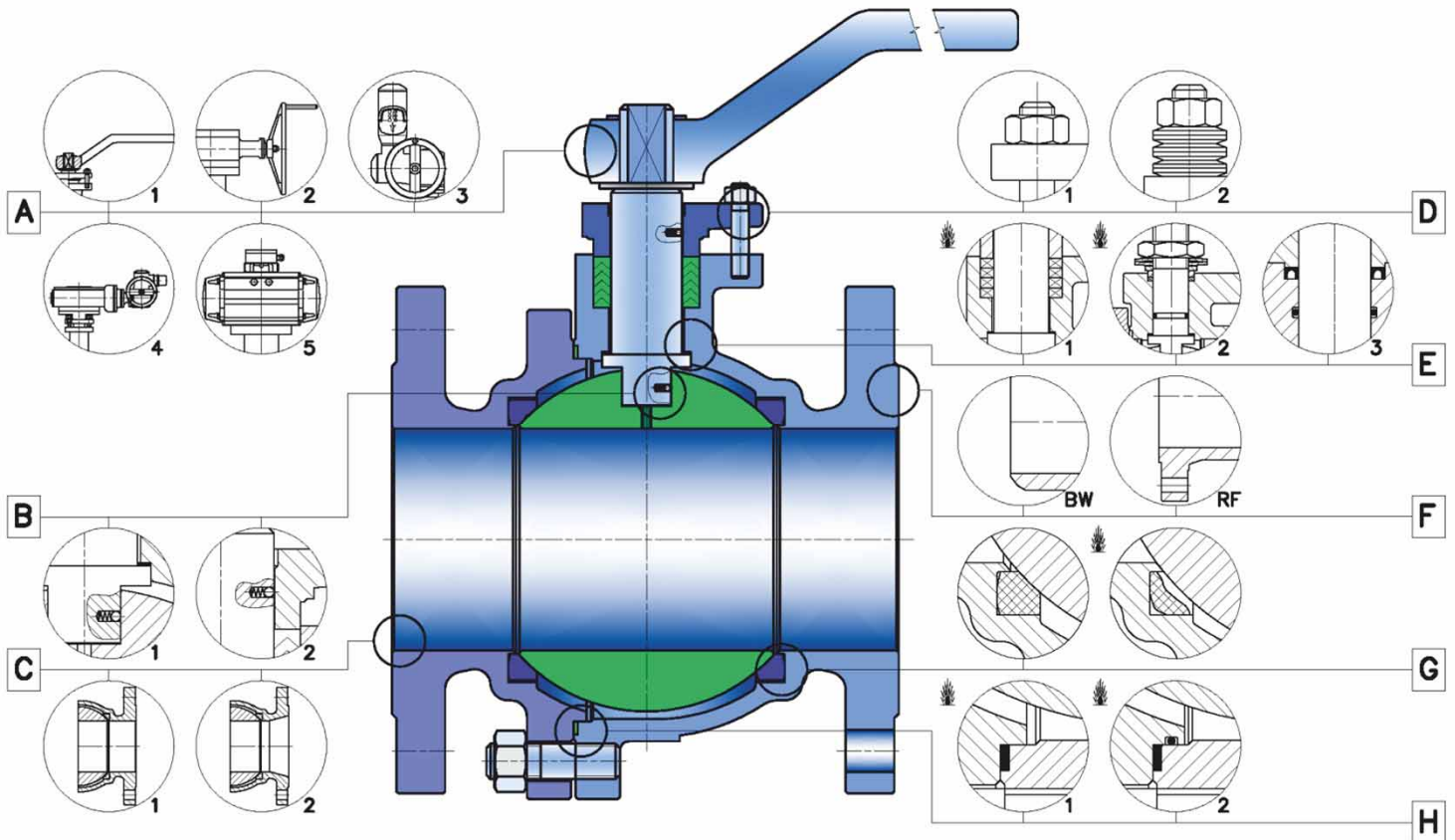
Flange dimensions

EN 1092 - 1

Special

NACE MR-0175

STRUCTURAL DESIGN



A - Control

- by hand lever
- gear box+hand wheel
- electric actuator
- electric actuator+gear box
- pneumatic actuator

B – Antistatic execution

- is solved by using springs and small balls. The ball is electrically connected with the control stem. The control stem is electrically connected with the body

C – Flow direction

- straight,full bore
- straight,reduced bore

D - Gland compression

- in case of valve operation with cyclic changes in pressure or at high pressures and temperatures, the gland compression by means of Belleville springs, which secure a constant pre-stress in packing, is preferred

E – Stem packing

- by graphite packing in compliance with Fire safe design
- by PTFE packing
- by O – ring and graphite ring, according to Fire safe design
- by O – ring and PTFE V-shaped ring packing

F – Connection into piping

- flanged
- welded
- socket welding
- threaded
- welded-ends according to customer's requirements

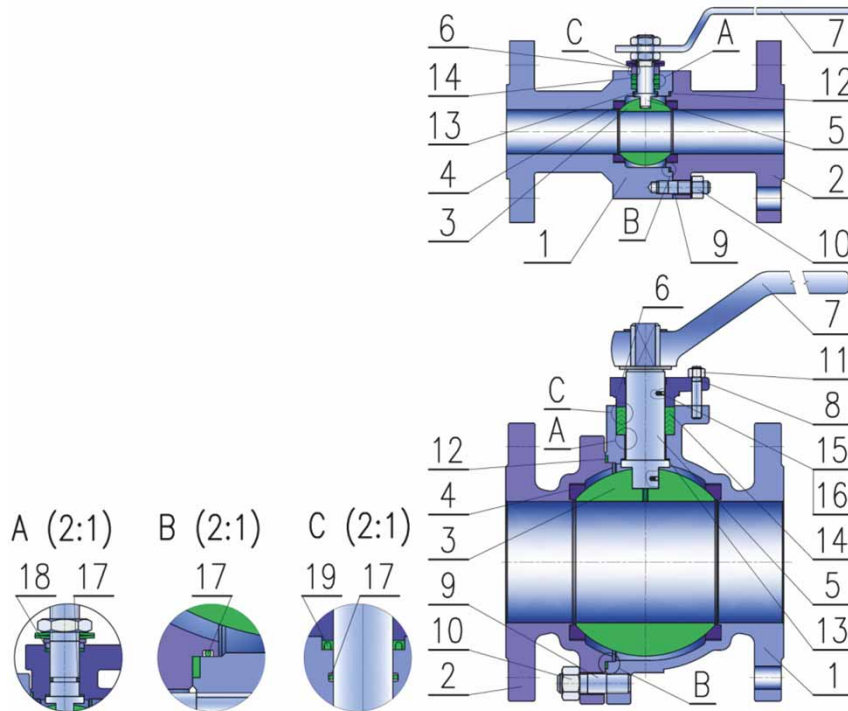
G- Execution of the seats

- execution of the seats meets the requirements of Fire safe design, i.e. in case of burnout seat ring, the tightness of the closure is secured by sealing of the ball against metal seat – there is metal to metal connection.

H – Bonnet sealing

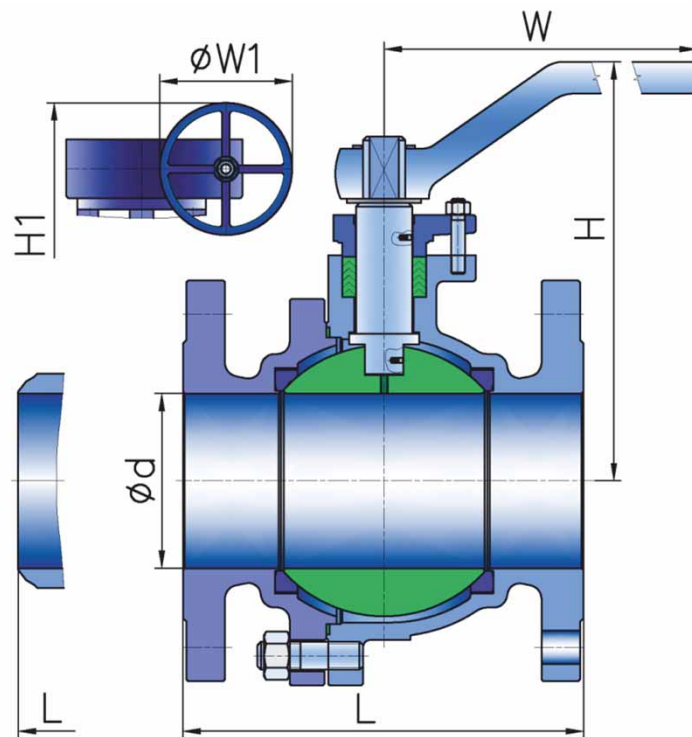
- executed by sealing ring or a combination of sealing and O-ring. To comply with Fire safe design is used graphite seal ring, moreover body and cover are sealed by metal to metal

MATERIAL SPECIFICATION



Pos.	Designation	FOUNDRY EXECUTION						FORGED EXECUTION					
		WCB	LCB/LCC	CF3	CF3M	CF8	CF8M	A350 LF2	A105	1.4551	F316L	F304	F316
1	Body	A216 WCB	A352 LCB, LCC	A351 CF3	A351 CF3M	A351 CF8	A351 CF8M	A350 LF2	A105	1.4541	A182 F316L	A182 F304	A182 F316
2	Bonnet	A216 WCB	A352 LCB, LCC	A351 CF3	A351CF3M	A351 CF8	A351 CF8M	A350 LF2	A105	1.4541	A182 F316L	A182 F304	A182 F316
3	Ball	A105 + ENP (Cr), A350 LF2 + ENP (Cr), A182 F304, A182 F316	A352 LCB, LCC + ENP (Cr) A182 F304, A182 F316	A351 CF3, A182 F304L	A351 CF3M, A182 F316L	A351 CF8, A182 F304	A351 CF8M, A182 F316	A350 LF2 + ENP (Cr)	A105 + ENP (Cr)	1.4541	A351 CF3M, A182 F316L	A351 CF8, A182 F304	A351 CF8M, A182 F316
4	Seat	PTFE, PTFE+ glass, PTFE + graphite, PTFE + stainless steel, PEEK, A182 F304, A182 F304L, A182 F316, A182 F316L											
5	Pin	A182 F6a	A182 F6a	A182 F304L	A182 F316L	A182 F304	A182 F316	A182 F6a	A182 F6a	1.4541	A182 F316L	A182 F304	A182 F316
6	Gland Flange	A216 WCB	A352 LCB, LCC	A351 CF3	A351 CF3M	A351 CF8	A351 CF8M	A350 LF2	A105	1.4541	A182 F304L	A182 F304	A182 F316
7	Lever	carbon steel											
8	Bolt	A193 B7	A320 L7	A193 B8	A193 B8M	A193 B8	A193 B8M	25CrMo ₄	A193 B7	A2-70	A193 B8M	A193 B8	A193 B8M
9	Bolt	A193 B7	A320 L7	A193 B8	A193 B8M	A193 B8	A193 B8M	25CrMo ₄	A193 B7	A2-70	A193 B8M	A193 B8	A193 B8M
10	Nut	A194 2H	A194 4	A194 8	A194 8M	A194 8	A194 8M	A2-70	A194 2H	A2-70	A194 8M	A194 8	A194 8M
11	Nut	A194 2H	A194 4	A194 8	A194 8M	A194 8	A194 8M	A2-70	A194 2H	A2-70	A194 8M	A194 8	A194 8M
12	Gasket	graphite, PTFE, PTFE+ glass, PTFE + graphite, PTFE + stainless steel											
13	Washer	PTFE, PTFE+ glass, PTFE + graphite, PTFE + stainless steel, bronze											
14	Gland Packing	graphite, PTFE, PTFE+ glass, PTFE + graphite, PTFE + stainless steel											
15	Spring	Stainless steel											
16	Small Ball	Stainless steel											
17	O - Ring	NBR, HNBR, EPDM, VITON, VITON GLT, SI											
18	Seal	graphite											
19	Sealing Ring	PTFE, with PTFE filler + spring from stainless steel											

DIMENSIONS



DN	PN 10, 16										PN 25											
	L			d	H	H1	W	W1	EN ISO 5211	(KG)		L			d	H	H1	W	W1	EN ISO 5211	(KG)	
	1	2								H.W.	G.O.	1	2								H.W.	G.O.
	LK	LD																				
6	115	130	270	6	65	-	140	-	F03 / F04	2.5	-	115	130	270	6	65	-	140	-	F03 / F04	2.5	-
10	115	130	270	10	65	-	140	-	F03 / F04	2.5	-	115	130	270	10	65	-	140	-	F03 / F04	2.5	-
15	115	130	270	15	85	-	140	-	F03 / F04	3	-	115	130	270	15	85	-	140	-	F03 / F04	3	-
20	120	150	270	20	90	-	140	-	F03 / F04	4	-	120	150	270	20	90	-	140	-	F03 / F04	4	-
25	125	160	270	25	99	-	150	-	F04 / F05	5	-	125	160	270	25	99	-	150	-	F03 / F04	5	-
32	130	180	270	32	105	-	180	-	F04 / F05	7	-	130	180	270	32	105	-	180	-	F04 / F05	7	-
40	140	200	270	40	126	-	200	-	F05 / F07	8	-	140	200	270	40	126	-	200	-	F05 / F07	9	-
50	150	230	300	50	40	-	250	-	F05 / F07	12	-	150	230	300	50	140	-	250	-	F05 / F07	12	-
65	170	290	360	65	165	-	300	-	F05 / F07	17	-	170	290	360	65	165	-	300	-	F05 / F07	19	-
80	180	310	390	80	178	-	350	-	F07 / F10	23	-	180	310	390	80	178	-	350	-	F07 / F10	23	-
100	190	350	450	100	230	380	500	305	F10 / F12	35	53	190	350	450	100	230	380	500	305	F10 / F12	45	53
125	325	400	525	125	280	405	800	305	F10 / F12	52	79	325	400	525	125	280	405	800	305	F12 / F14	67	79
150	350	480	600	150	310	460	800	305	F12 / F14	76	102	350	450	600	150	310	460	800	305	F14 / F16	95	102
200	400	600	600	200	350	550	1000	305	F14 / F16	134	185	400	550	600	200	350	550	1000	305	F16 / F25	170	185
250	450	730	730	250	-	550	-	305	F16 / F25	-	282	450	650	730	250	-	550	-	305	F25	-	295
300	500	850	850	300	-	690	-	400	F16 / F25	-	455	500	750	850	300	-	690	-	400	F25 / F35	-	475
350	550	980	980	350	-	750	-	400	F16 / F25	-	510	550	980	980	350	-	800	-	400	F25 / F35	-	750
400	762	1100	1100	400	-	895	-	400	F25 / F35	-	750	762	1100	1100	400	-	950	-	500	F25 / F35	-	920
500	914	1250	1250	500	-	980	-	500	F25 / F35	-	1190	914	1250	1250	500	-	1200	-	500	F25 / F35	-	1240

DIMENSIONS

DN	PN 40											PN 63										
	L			d	H	H1	W	W1	EN ISO 5211	(KG)		L			d	H	H1	W	W1	EN ISO 5211	(KG)	
	1		2							H.W.	G.O.	1		2							H.W.	G.O.
	LK	LD		LK	LD																	
6	115	130	270	6	65	-	140	-	F03 / F04	2.5	-	115	130	270	6	68	-	140	-	F03 / F04	2.5	-
10	115	130	270	10	65	-	140	-	F03 / F04	2.5	-	115	130	270	10	68	-	140	-	F03 / F04	2.5	-
15	115	130	270	15	85	-	140	-	F03 / F04	3	-	115	130	270	15	79	-	140	-	F03 / F04	5	-
20	120	150	270	20	90	-	140	-	F04 / F05	4	-	-	150	270	20	83	-	140	-	F04 / F05	7	-
25	125	160	270	25	99	-	150	-	F04 / F05	5	-	125	160	270	25	114	-	200	-	F04 / F05	9	-
32	130	180	270	32	105	-	180	-	F04 / F05	8	-	130	180	270	32	120	-	200	-	F04 / F05	13	-
40	140	200	270	40	126	-	200	-	F05 / F07	11	-	140	200	270	40	125	-	250	-	F05 / F07	17	-
50	150	230	300	50	142	-	250	-	F07 / F10	15	-	150	230	300	50	156	-	300	-	F07 / F10	25	-
65	170	290	360	65	165	-	300	-	F10 / F12	20	-	170	290	360	65	172	-	350	-	F10 / F12	42	-
80	180	310	390	80	178	330	350	305	F12 / F14	29	47	180	310	390	80	220	390	500	305	F12 / F14	56	76
100	190	350	450	100	230	380	500	305	F14 / F16	48	68	190	350	450	100	250	440	650	305	F14 / F16	85	123
125	325	400	525	125	280	420	800	305	F16 / F25	68	88	-	-	-	-	-	-	-	-	-	-	-
150	350	450	600	150	310	480	800	305	F16 / F25	98	136	-	-	-	-	-	-	-	-	-	-	-
200	400	550	600	200	350	560	1000	400	F25 / F35	178	223	-	-	-	-	-	-	-	-	-	-	-
250	450	650	730	250	-	655	-	400	F25 / F35	-	395	-	-	-	-	-	-	-	-	-	-	-
300	500	750	850	300	-	660	-	400	F25 / F35	-	598	-	-	-	-	-	-	-	-	-	-	-
350	550	850	850	350	-	780	-	500	F25 / F35	-	820	-	-	-	-	-	-	-	-	-	-	-
400	762	950	950	400	-	920	-	500	F25 / F35	-	980	-	-	-	-	-	-	-	-	-	-	-
500	914	1150	1150	500	-	1130	-	500	F25 / F35	-	1340	-	-	-	-	-	-	-	-	-	-	-

DN	PN 100										
	L			d	H	H1	W	W1	EN ISO 5211	(KG)	
	1		2							H.W.	G.O.
	LK	LD									
6	115	130	270	6	65	-	140	-	F03 / F04	3	-
10	115	130	270	10	65	-	140	-	F03 / F04	3	-
15	115	130	270	15	79	-	140	-	F03 / F04	5	-
20	-	150	270	20	83	-	140	-	F04 / F05	7	-
25	125	160	270	25	114	-	200	-	F04 / F05	9	-
32	130	180	270	32	120	-	200	-	F04 / F05	13	-
40	140	200	270	38	125	-	250	-	F05 / F07	17	-
50	150	230	300	50	156	-	300	-	F07 / F10	25	-
65	170	290	360	65	172	-	350	-	F10 / F12	42	-
80	180	310	390	77	220	390	500	305	F12 / F14	56	76
100	190	350	450	100	250	440	650	305	F14 / F16	85	123

WAFFER EXECUTION

DN	0	H	W	(KG)
6	40	55	125	1,5
10	40	55	125	1,5
15	40	63	125	1,5
20	44	68	125	2,1
25	53	81	160	2,7
32	58	87	160	3,4
40	62	98	200	4
50	72	105	200	5,4
65	94	121	250	9,2
80	118	153	285	13,7
100	140	164	338	19,3

TYPE DESIGNATION

K81 ABC DEF M PN/S

A FACE-TO- FACE DIMENSION

- 1 Short
- 2 Long

BODY DESIGN

- 2 Two pieces
- 3 Three pieces

F CONTROL

- 1 By hand lever
- 2 Hand wheel with gearbox
- 3 Electric actuator
- 4 Electric actuator with gearbox
- 5 Pneumatic actuator
- 6 Other actuator
- 9 Without control

S SPECIAL EXECUTION

- AS Antistatic design
- LT Low temperature design

D FLOW DIRECTION

- 1 Straight, full bore
- 2 Straight, reduced bore

M BODY MATERIAL

- 0 Stainless steel
- 2 Cast alloy steel
- 3 Forged alloy steel
- 4 Forged carbon steel
- 5 Cast carbon steel

C CONTROL STEM SEALING METHOD

- 1 2 x O- ring
- 2 O – ring + graphite (fire safe)
- 3 Graphite packing
- 4 PTFE packing
- 5 PTFE V-type ring packing

E CONNECTION INTO PIPE

- 0 Wafer
- 1 Flanged
- 2 Welded ends
- 4 Outside thread G
- 5 Outside thread NPT
- 6 Inside thread M
- 7 Inside thread G
- 8 Combined

B SEATS EXECUTION

- 1 PTFE
- 2 Metal
- 3 Metal+ fire safe
- 4 Graphite
- 5 PEEK

