BALL VALVES

Rev.1

TYPE **K81 / JE**

Range DN: 6 ~ 300

Range PN: 10 ~ 100

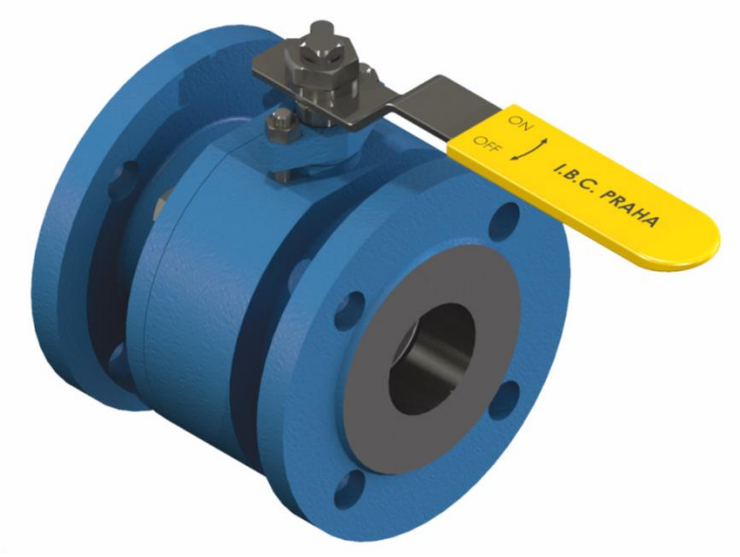
PED 97/23/EC
PED 2014/68/EU

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

NUCLEAR
POWER

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.
In the nuclear power industry, mild environment, seismic resistance class 1b.

BASIC STANDARDS FOR DESIGN

Basic design
EN 1983, EN 12516-2, NTD ASI

Face-to-face dimensions
EN 558, EN 12982

Flange dimensions
EN 1092 - 1

Pressure-temperature rating
EN 12516 - 1

Dimensions of the welded ends
EN 12627

Special
NP-068-05, 329/2017 Sb

Testing
EN 12266 - 1, 2

Top Flange dimensions
EN ISO 5211

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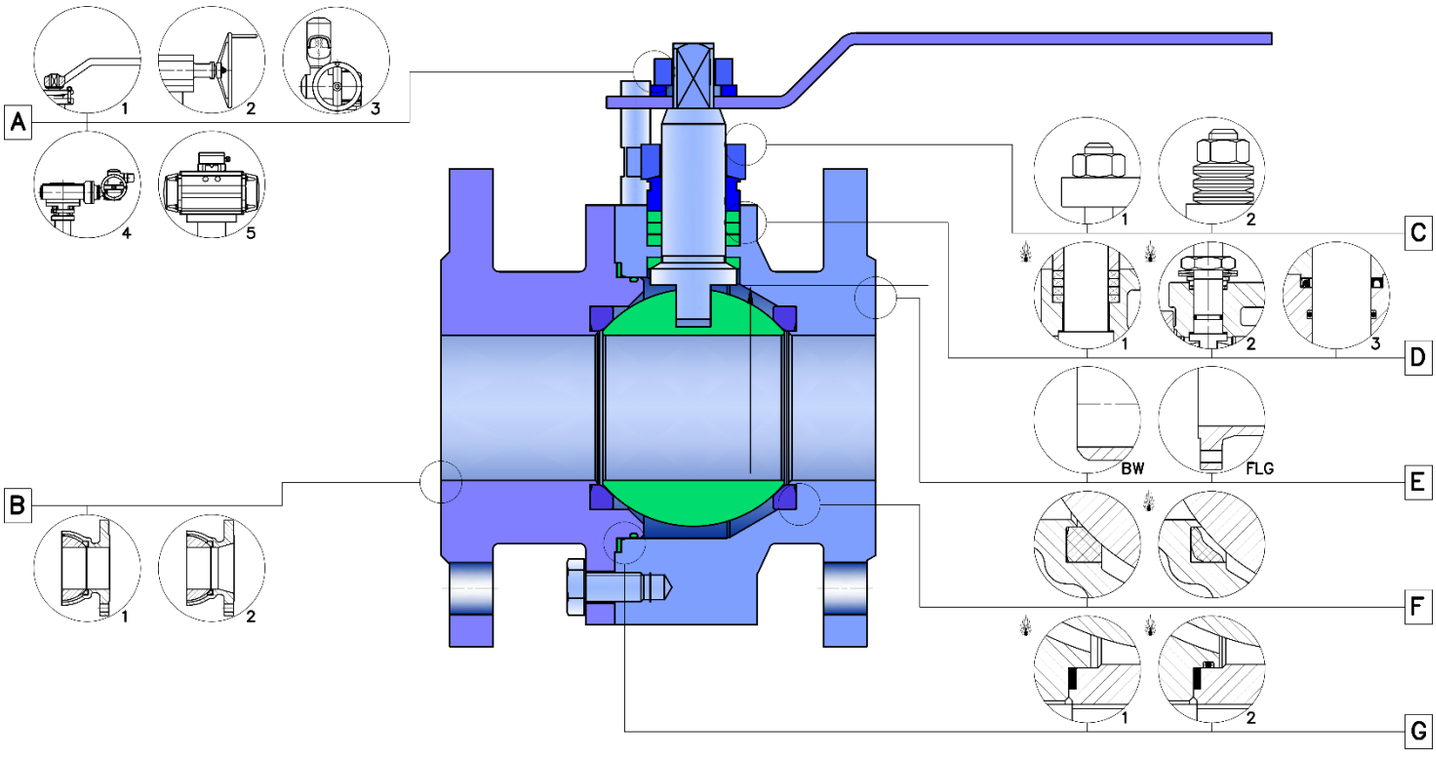
STRUCTURAL DESIGN



A - Control

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

B – Flow direction

- straight,full bore
- straight,reduced bore

C - 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

D – Stem packing

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

E – Connection into piping

- flanged
- wafer execution
- welded
- combined

F- Execution of the seats

- the construction of the saddles meets the conditions of "fire safety", in case of burning out of the sealing ring, metal to metal sealing will occur

G – 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

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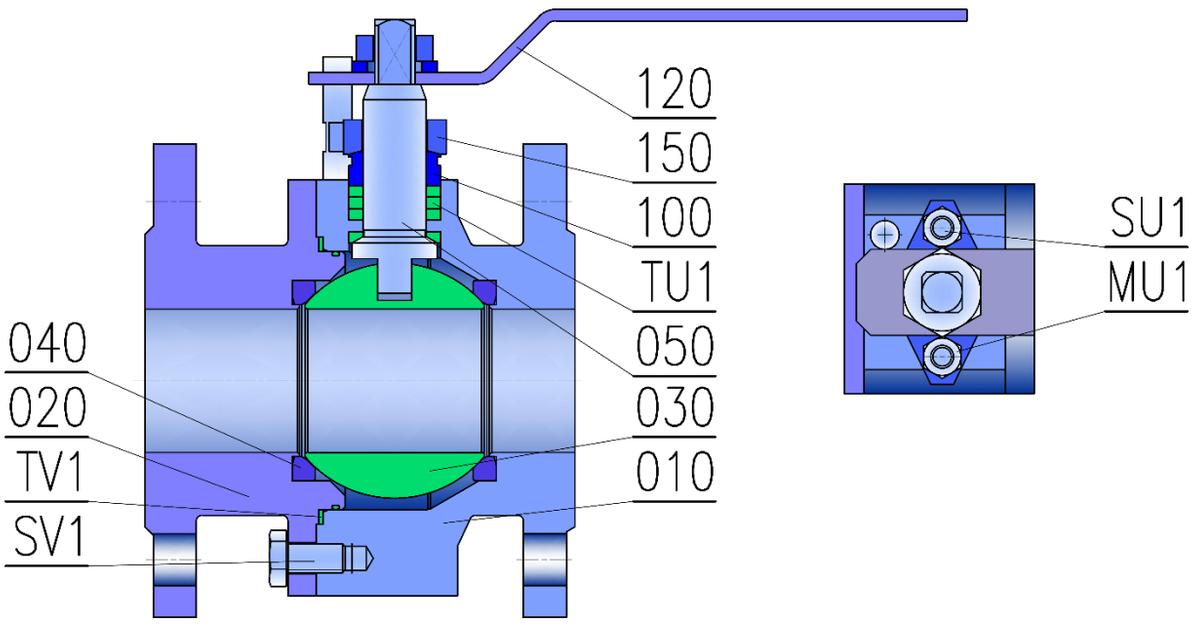
MATERIAL SPECIFICATION



No.	Name	Material	
010	Body	P265GH (11 416)	1.4571 (08Ch18N10T)
020	Bonnet	P265GH (11 416)	1.4571 (08Ch18N10T)
030	Ball	P265GH (11 416) + ENP (Cr)	1.4571 (08Ch18N10T) + ENP (Cr)
040	Seat	PEEK, GRAPHITE, METAL-METAL	
050	Pin	P265GH (11 416)	1.4571 (08Ch18N10T)
150	Gland Flange	P265GH (11 416)	1.4571 (08Ch18N10T)
100	Pressure ring	P265GH (11 416)	1.4571 (08Ch18N10T)
120	Lever	STAINLESS STEEL	
SU1	Bolt	15 320	A4-80 (1.4923)
SV1	Bolt	15 320	A4-80 (1.4923)
MU1	Nut	15 236	A4-80 (1.4923)
TV1	Gasket	GRAPHITE+STAINLESS STEEL	
TU1	Gland Packing	GRAPHITE	

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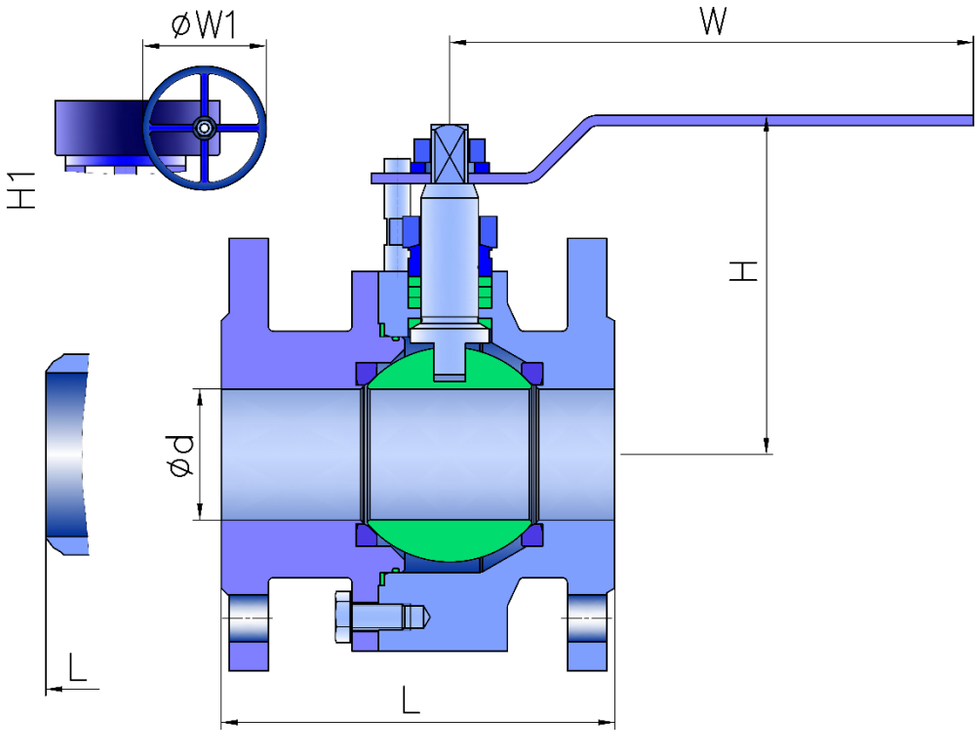
DIMENSIONS



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										LK	LD									
6	115	130	210	6	65	-	140	-	F03 / F04	2.5	-	115	130	270	6	65	-	140	-	F03 / F04	2,5	-
10	115	130	210	10	65	-	140	-	F03 / F04	2.5	-	115	130	270	10	65	-	140	-	F03 / F04	2,5	-
15	115	130	210	15	85	-	140	-	F03 / F04	3	-	115	130	270	15	85	-	140	-	F03 / F04	3	-
20	120	150	230	20	90	-	140	-	F03 / F04	4	-	120	150	270	20	90	-	140	-	F03 / F04	4	-
25	125	160	230	25	99	-	150	-	F04 / F05	5	-	125	160	270	25	99	-	150	-	F03 / F04	5	-
32	130	180	260	32	105	-	180	-	F04 / F05	7	-	130	180	270	32	105	-	180	-	F04 / F05	7	-
40	140	200	260	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	340	65	165	-	300	-	F05 / F07	17	-	170	290	360	65	165	-	300	-	F05 / F07	19	-
80	180	310	380	80	178	-	350	-	F07 / F10	23	-	180	310	390	80	178	-	350	-	F07 / F10	23	-
100	190	350	430	100	230	380	500	305	F10 / F12	35	53	190	350	450	100	230	380	500	305	F10 / F12	45	53
125	325	400	500	125	280	405	800	305	F10 / F12	52	79	325	400	525	125	280	405	800	305	F12 / F14	67	79
150	350	480	550	150	310	460	800	305	F12 / F14	76	102	350	450	600	150	310	460	800	305	F14 / F16	95	102
200	400	600	650	200	350	550	1000	305	F14 / F16	134	185	400	550	600	200	350	550	1000	305	F16 / F25	170	185
250	450	730	775	250	-	550	-	305	F16 / F25	-	282	450	650	730	250	-	550	-	305	F25	-	295
300	500	850	900	300	-	690	-	400	F16 / F25	-	455	500	750	850	300	-	690	-	400	F25 / F35	-	475

Construction length L - 2 – flanged
Construction length L - 1 LK – welding short
Construction length L - 1 LD - welding long
H.W. – Hand Wheel
G.O. – Gear Operational

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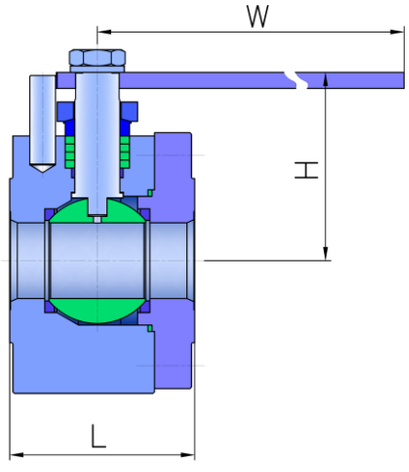
DIMENSIONS

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	210	6	65	-	140	-	F03 / F04	2.5	-	115	130	270	6	68	-	140	-	F03 / F04	2.5	-
10	115	130	210	10	65	-	140	-	F03 / F04	2.5	-	115	130	270	10	68	-	140	-	F03 / F04	2.5	-
15	115	130	210	15	85	-	140	-	F03 / F04	3	-	115	130	270	15	79	-	140	-	F03 / F04	5	-
20	120	150	230	20	90	-	140	-	F04 / F05	4	-	-	150	270	20	83	-	140	-	F04 / F05	7	-
25	125	160	230	25	99	-	150	-	F04 / F05	5	-	125	160	270	25	114	-	200	-	F04 / F05	9	-
32	130	180	260	32	105	-	180	-	F04 / F05	8	-	130	180	270	32	120	-	200	-	F04 / F05	13	-
40	140	200	260	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	340	65	165	-	300	-	F10 / F12	20	-	170	290	360	65	172	-	350	-	F10 / F12	42	-
80	180	310	380	80	178	330	350	305	F12 / F14	29	47	180	310	390	80	220	390	500	305	F12 / F14	56	76
100	190	350	430	100	230	380	500	305	F14 / F16	48	68	190	350	450	100	250	440	650	305	F14 / F16	85	123
125	325	400	500	125	280	420	800	305	F16 / F25	68	88	-	-	-	-	-	-	-	-	-	-	-
150	350	450	550	150	310	480	800	305	F16 / F25	98	136	-	-	-	-	-	-	-	-	-	-	-
200	400	550	650	200	350	560	1000	400	F25 / F35	178	223	-	-	-	-	-	-	-	-	-	-	-
250	450	650	775	250	-	655	-	400	F25 / F35	-	395	-	-	-	-	-	-	-	-	-	-	-
300	500	750	900	300	-	660	-	400	F25 / F35	-	598	-	-	-	-	-	-	-	-	-	-	-

DN	PN 100										
	L			d	H	H1	W	W1	EN ISO 5211	(KG)	
	1		2							H.W.	G.O.
	LK	LD									
6	115	130	210	6	65	-	140	-	F03 / F04	3	-
10	115	130	210	10	65	-	140	-	F03 / F04	3	-
15	115	130	210	15	79	-	140	-	F03 / F04	5	-
20	-	150	230	20	83	-	140	-	F04 / F05	7	-
25	125	160	230	25	114	-	200	-	F04 / F05	9	-
32	130	180	260	32	120	-	200	-	F04 / F05	13	-
40	140	200	260	38	125	-	250	-	F05 / F07	17	-
50	150	230	300	50	156	-	300	-	F07 / F10	25	-
65	170	290	340	65	172	-	350	-	F10 / F12	42	-
80	180	310	380	77	220	390	500	305	F12 / F14	56	76
100	190	350	430	100	250	440	650	305	F14 / F16	85	123

Construction length L - 2 – flanged
Construction length L - 1 LK – welding short
Construction length L - 1 LD - welding long
H.W. – Hand Wheel
G.O. – Gear Operational

WAFER EXECUTION



DN	L	H	W	ISO 5211	(KG)
15	90	97	-	F10	7,3
25	92	97	250	F10	7,3
32	98	97	250	F10	8,2
50	115	131	350	F10	17,6
65	142	137	630	-	26

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