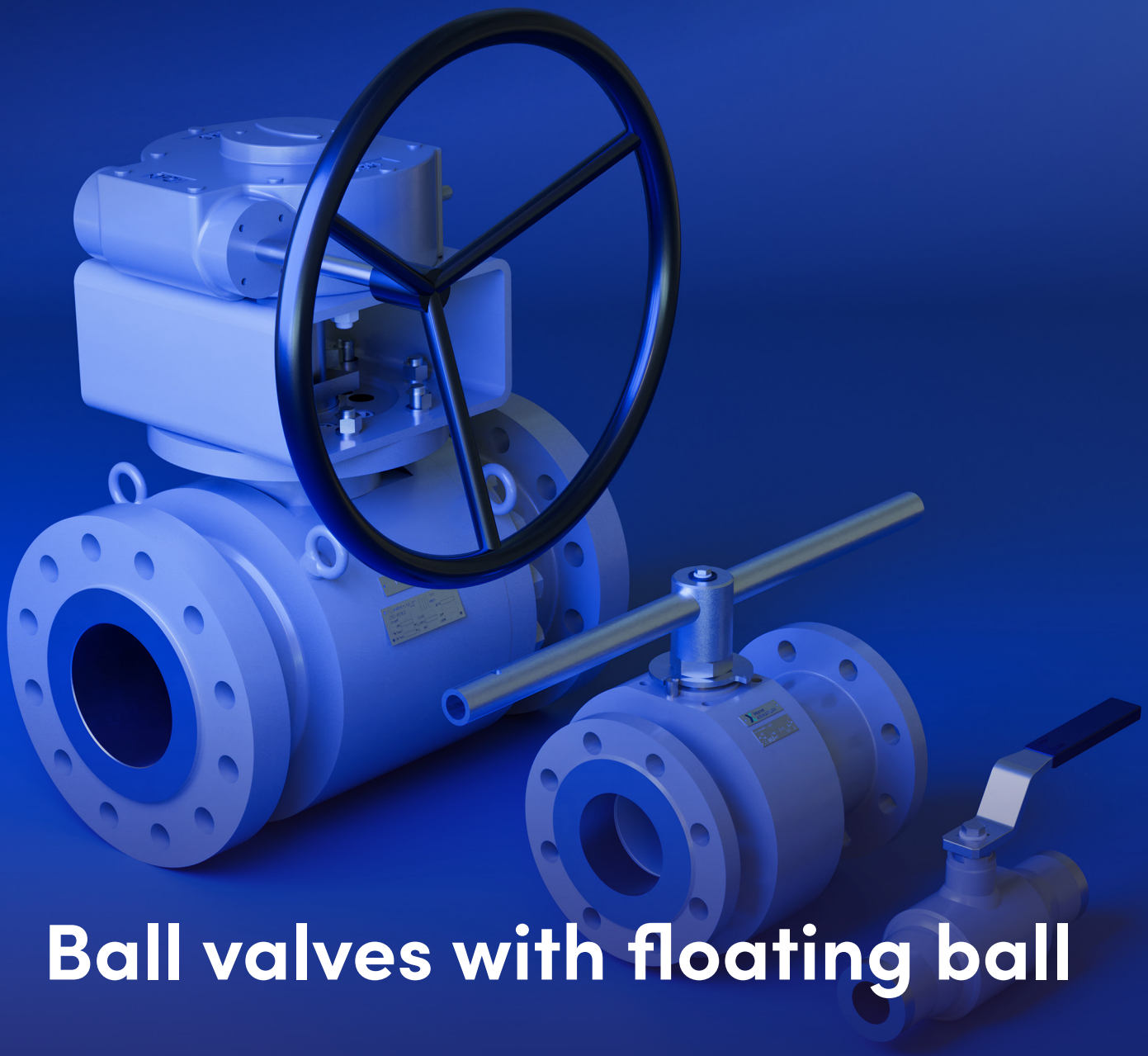
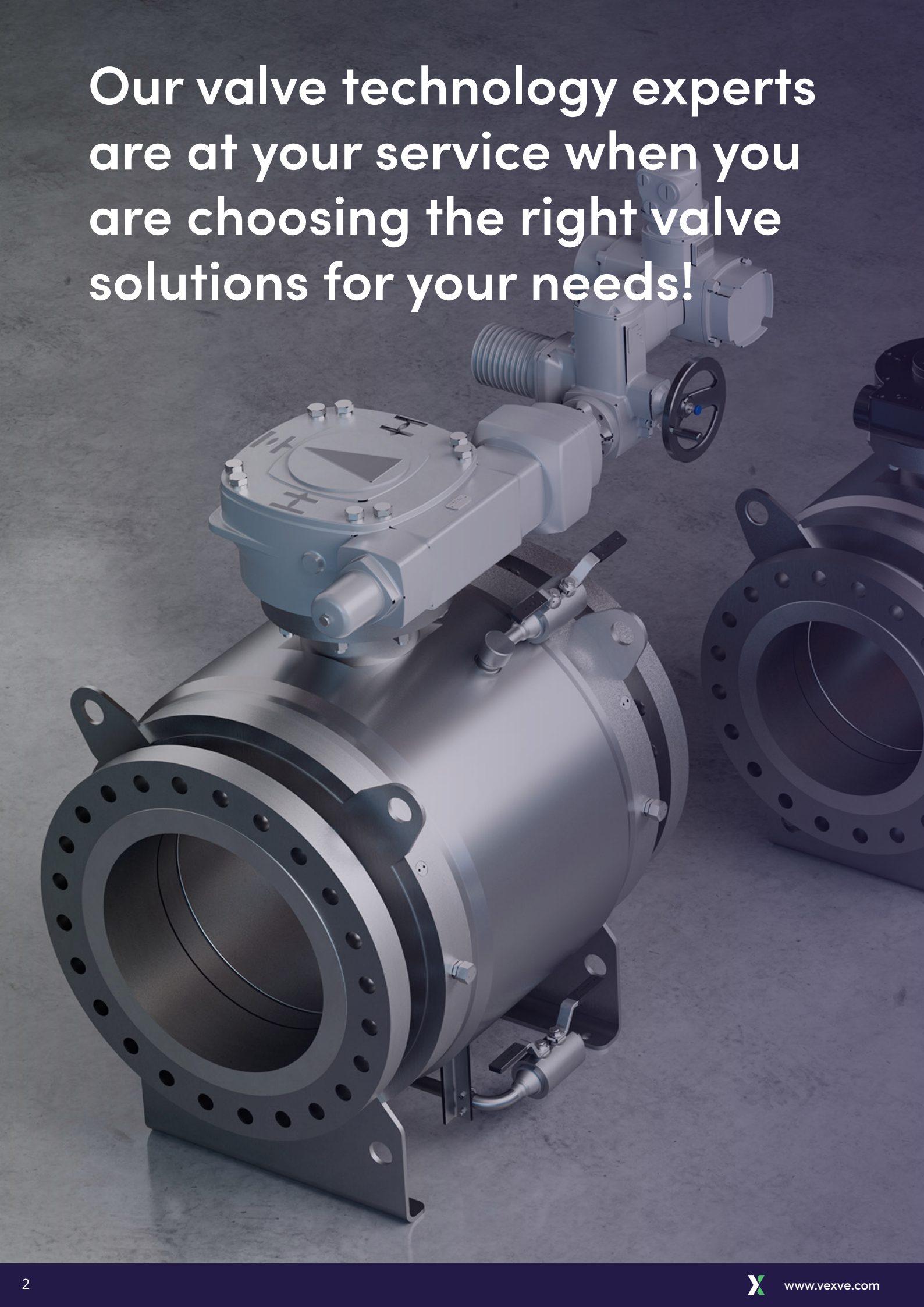
Vexve ARMATURY



Ball valves with floating ball

Our valve technology experts are at your service when you are choosing the right valve solutions for your needs!



Vexve – Inspired by your flow

Vexve is the leading European provider of valve solutions for the energy sector and selected energy-intensive industries.

The company is known for its superior product quality, the expertise of its personnel, and reliability as a partner. Vexve delivers its products to over 70 countries and employs over 700 people with factories in Finland, Czech Republic, Germany and China. Vexve aims to be the leading provider of mission-critical valve solutions in the transition to a low-carbon future.

Under the product brand Vexve Armatury we produce specialised, highly sophisticated valves for Gas & Hydrogen, Power, and Iron & Steel industries. The valves are designed according to the customer specifications taking into account the demanding operating requirements and highest safety standards.

The products are manufactured in our modern factory in Dolni Benesov, Czech Republic. We are specialized in valves for high pressure and temperatures. Products can be manufactured according to different standards such as EN, ASME and GOST.

The manufacturer of Vexve Armatury products is ARMATURY Group a.s., a part of the Vexve company.

Our extensive sales and distribution network covers more than 70 countries!

Content

Application

Ball valves are designed to open fully or close fully the passage for a fluid in the piping system. They find their application in power engineering, water-supply engineering, paper industry, chemical and petrochemical industries, in cryogenic applications, etc. Some design configurations enable to use the valves for short-time throttling. However, the process of throttling in combination with a service fluid containing mechanical impurities can result in loss of tightness of the valve obturator.
Design pressure is from 0 to the specified pressure class (Class, PN) for the relevant body material and sealing elements used.

Working temperature

Ambient temperature ranges from -60 °C to +80 °C.
Temperature of the working medium can range from -46°C to 200°C.

Working medium

- gas, water, petroleum

Technical description

The ball valve design meets the requirements of API Spec 6D and EN 14141 as well as those of the related normative documents. The valve construction has been tested in accordance with relevant normative documents and special regulations for fire safety (FIRE SAFE), resistance to wear caused by clean gas and wear in contaminated service, low emission EN 15848 (TA – Luft), seismic resistance, climatic resistance, functional safety (SIL), etc.

Operation

- manual (lever, T-lever)
- gear operator
- electric actuator
- pneumatic, hydraulic, electrohydraulic actuator
- other

Body construction

The valve body is made of forgings and consists of two or three pieces.
The body parts are connected:
- in a dismantleable way by means of bolted joints to make a SPLIT BODY (SB)
- in an indivisible way by means of welded joints to make a FULLY WELDED BODY (FW)
- in a dismantleable way by means of threaded joints

The body construction, in combination with non-destructive tests and examinations of the body parts, guarantees constant external tightness of the valve body.

Ball construction and support

The ball is made of a single piece of wrought or cast material. The ball is mounted free (floating ball) and pressure acting on the ball is taken up by the seats.

Seat construction

- **Soft-seated seats**

The soft seals are made of PTFE, PEEK, NYLON, etc. The seats are suitable for gases and liquids with very low content of mechanical impurities.

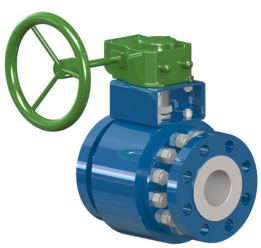
- **Metal-to-metal seats**

The seating surfaces of seats are covered with tungsten carbide with a thickness of 0.15-0.20 mm. Then the seats are lapped together with the ball to achieve metallic tightness and marked jointly. Tightness between the seat and the body cap is provided by an O-ring (up to 200°C maximum). This type of seats is suitable for all service fluids containing mechanical impurities.

Stem construction and support

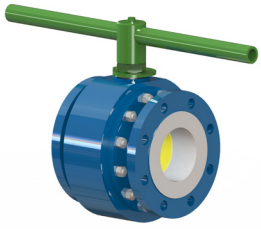
The standard design of the stem support meets the ANTI BLOW OUT requirements (the stem cannot be ejected from the valve body by pressure of the fluid). The stem is both radially and axially supported so that no load is applied to the sealing rings. The stem is sealed with O-rings, a graphite packing or a combination of several seals that are independent of each other.

Electric actuator



Gear-box

Pneumatic actuator



T-lever

Specification of additional design features
Antistatic design (ANTISTATIC)
This design provides for electrical continuity (conductive interconnection) between the ball, the stem and the body of the ball valve.

Fire safety (FIRE-SAFE)
Fire safety has been proved for many ball valves according to the following standards: API 607, API 6FA, ISO 10497, BS 6755, and STO 2-4.1-212-2008.

Seismic and vibration resistance
Resistance has been proved by special tests according to GOST 30546.

Design according to EN 15848 (TA-Luft)
This design guarantees resistance to emission effects.

Service safety
The ball valves have been checked for service safety SIL 3 according to ČSN EN 61508 -1,2 a6 -2011.

Possible ball valve accessories
- draining (DN ≥ 200 only)
- venting (DN ≥ 200 only)
- stem extension
- locking device
- end position sensors

Testing
The ball valves are subjected to following tests (acc. to ASME, EN or other standards):
- pressure tests
- functional tests
- non-destructive tests and examinations

The scope of testing is specified by requirements of the customer.
Inspection certificates according to EN 10204, type 3.1 or type 3.2.

Connection to the piping
- flanged ends (RF, RTJ) according to ASME B16.5, ASME B16.47, EN 1092-1, GOST 12815-80, etc.
- butt-welding ends (BW) according to ASME B16.25 or EN 12627
- flanged ends with counterflanges, bolting material and sealing elements
- butt-welding ends with pup pieces
- combined with one flanged end and one welding end
- threaded ends according to ISO 228-1, ASME B1.20.1

Minimum valve bore
- full bore according to manufacturer's standard
- reduced bore according to manufacturer's standard with bore reduction as required by the customer

Face-to-face and end-to-end dimensions according to:
- API Spec. 6D / ISO 14313
- ASME B16.10
- EN 558-1 (flanged ends)
- EN 12982 (butt-welding ends)
- ČSN 13 3046

Installation
Ball valves may be installed into any piping (horizontal, vertical, inclined), but taking account of instructions applicable to installation of the actuator. Ball valves DN ≥ 200 are equipped with a foundation plate and lifting eyes as a standard.

Advantages
- many variants of design configurations
- full and smooth bore resulting in very low pressure loss and piggability
- long-term reliability and maintenance-free service
- possibility of use of different actuators with attachment according to ISO 5211
- stiffness and compactness of construction and ability to transfer external forces

Materials
The selection of materials of individual components depends on service conditions (fluid, pressure, temperature).
For pressure-containing parts within the meaning of definition in API 6D, inspection certificates 3.1 according to EN 10204 are used as a standard or inspection certificates 3.2 according to EN 10204 upon request. For other materials, inspection certificates according to manufacturer's standard or customer's specification are used

Production range

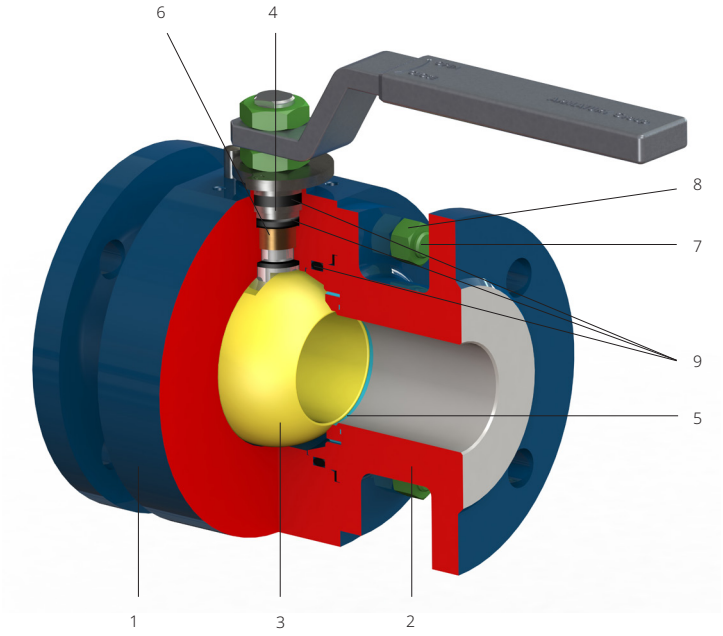
Type	PN / Class		DN / NPS													
			10	15	20	25	32	40	50	65	80	100	125	150	200	250
			3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	5"	6"	8"	10"
K91.1	16, 25	150	·	·	·	·	·	·	·	·	·	·	·	·	·	·
	40	300	·	·	·	·	·	·	·	·	·	·	·	·	·	·
	63, 100	600	·	·	·	·	·	·	·	·	·	·	·	·		
K91.2	16, 25	150	·	·	·	·	·	·	·	·	·	·				
	40	300	·	·	·	·	·	·	·	·	·	·				
	63	400	·	·	·	·	·	·	·	·	·	·				
	100	600	·	·	·	·	·	·	·	·	·	·				
	160	900	·	·	·	·	·	·	·							
	250	1500	·	·	·	·	·	·	·							
	400	2500	·	·	·	·										

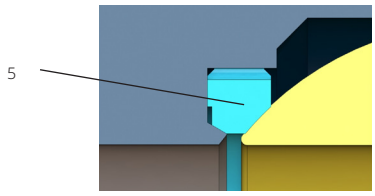
Catalogue sheets for ball valves with pressure over PN 250 will be sent on request.
Production of sizes DN 65 and 125 are running out and these sizes are not used for new projects any longer.

Ball valves with floating ball, split body — Type K91.1

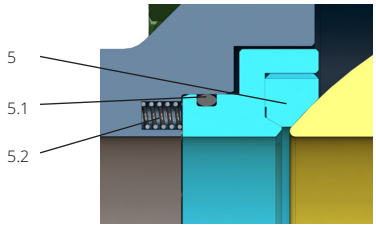
Design:
SPLIT BODY
two-pieces (DN 10-125)
three-pieces (DN 150-250)
forged

Seats:
K91.11 - soft seated
K91.12 - metal seated

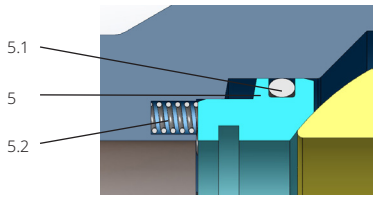




Soft seat (up to DN 150)



Soft floating seat (from DN 200)



Metal seat

Standard material

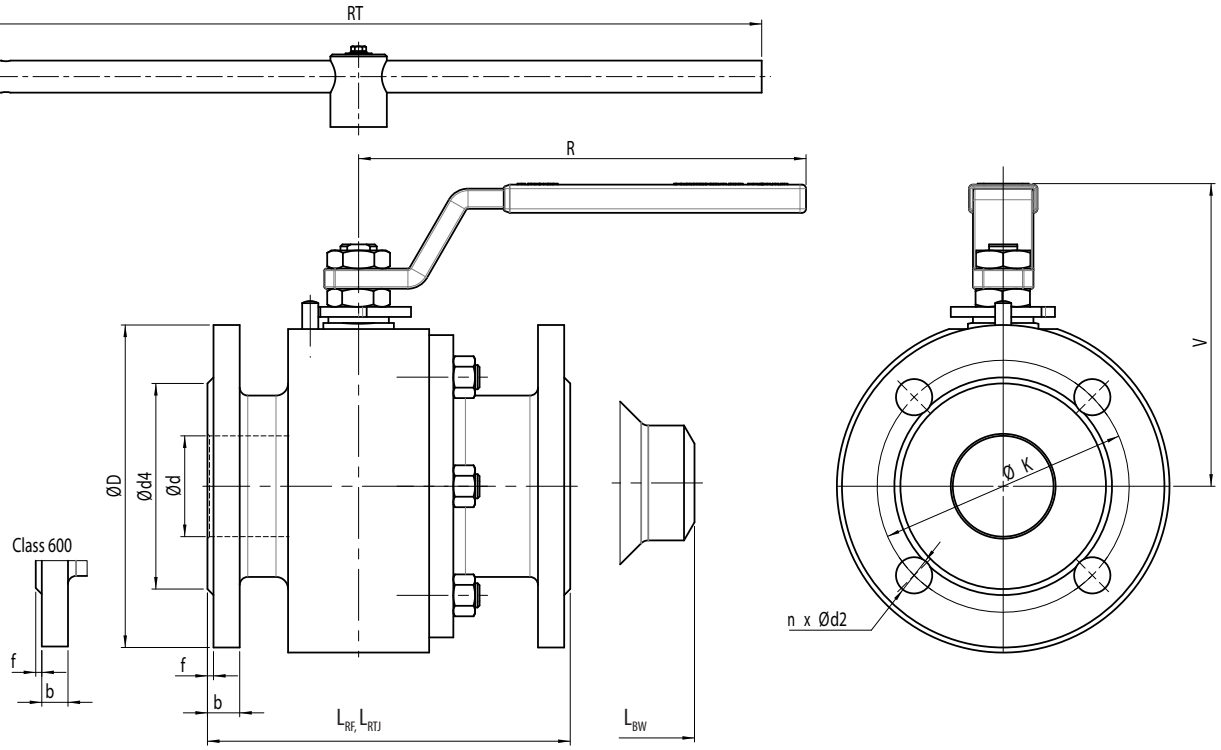
Position	Component	Carbon steel	Stainless steel
		For temperature -46°C - +200°C	**Austenitic and martensitic -60 °C - +200 °C**
1	Body	A350 LF2, P355	A182 F304 , 1.4541, A182 F316, 1.4571
2	Cover		
3	Ball	A182 F304, A182 F316, A351 CF8, 13%Cr (for metal to metal + HF)	A182 F316, 1.4571, A351 CF8, 13%Cr (for metal to metal + HF)
4	Stem	1.4571, A182 F316, 1.4542"	1.4571, A182 F316, 1.4542"
5	Soft seat	filled PTFE, NYLON, PEEK	
5	Metal to metal seat	A182 F304, A182 F316, A351 CF8, 13%Cr + HF	
5,1	Seat seal	HNBR, VITON, GRAPHITE	
5,2	Springs	AISI 302, Inconel X750	Inconel X750
6	Bearings	CS+PTFE, SS+PTFE	SS+PTFE
7	Bolts	A320 L7	A193 B8
8	Nuts	A194 Gr.7	A194 Gr.8
9	Seals	HNBR, VITON, PTFE, GRAPHITE, LIPSEAL	

CS – carbon steel, SS – stainless steel
The temperature range can be limited, it depends on the seal material.
Other materials on request

Ball valves with floating ball, split body — Type K91.1

DN 10-250 • PN 16-100 • Tmax 200°C
Design: SPLIT BODY, forged

Connection:
EN 1092-1 FLANGED ENDS
EN 12627 WELDED ENDS



PN 16

DN	Dimensions of flanges							L		V	Lever		ISO 5211	kg	
	ød	øD	b	øK	ød4	f	n x ød2	L_{RF}	L_{BW}		R	RT		RF	BW
10-40	See dimensions for PN 40														
50	50	165	18	125	102	3	4 x 18	180	216	150	220	-	F05	19,3	15
65	62	185	18	145	122		8 x 18	200	241	153	300	-	F07	24,3	17,6
80	76	200	20	160	138		8 x 18	210	283	184	350	-	F07	35,2	32
100	98	220	20	180	158		8 x 18	230	305	234	-	650	F10	54,5	52
125	120	250	22	210	188		8 x 18	325	381	256	-	650	F10	102	100
150	145	285	22	240	212		8 x 22	350	457	300	-	800	F14	154,2	150
200	190	340	24	295	268		12 x 22	400	521	-	*		F14	252,5	237
250	245	405	26	355	320		12 x 26	450	559	-	*		F16	362	350

PN 25

DN	Dimensions of flanges							L		V	Lever		ISO 5211	kg	
	ød	øD	b	øK	ød4	f	n x ød2	L_{RF}	L_{BW}		R	RT		RF	BW
10-150	See dimensions for PN 40														
200	190	360	30	310	278	3	12 x 26	550	521	-	*		F14	270	237
250	248	425	32	370	335		12 x30	650	559	-	*		F16	395	350

* with gear

Ball valves with floating ball, split body — Type K91.1

DN 10-250 • PN 16-100 • Tmax 200°C
Design: SPLIT BODY, forged

Connection:
EN 1092-1 FLANGED ENDS
EN 12627 WELDED ENDS

PN 40

DN	Dimensions of flanges							L		V	Lever		ISO 5211	kg	
	ød	øD	b	øK	ød4	f	n x ød2	L_{RF}	L_{BW}		R	RT		RF	BW
10	9,5	90	16	60	40		4 x 14	130	-	103	150	-	F04	2,2	-
15	14	95	16	65	45		4 x 14	130	270	103	150	-	F04	4,3	3,2
20	20	105	18	75	58	2	4 x 14	150	270	108	150	-	F04	5	4,4
25	25	115	18	85	68		4 x 14	160	270	116	150	-	F05	8,7	6,8
32	30	140	18	100	78		4 x 18	180	270	120	220	-	F05	11,3	9,2
40	38	150	18	110	88		4 x 18	200	270	131	220	-	F05	15,3	11,8
50	50	165	20	125	102		4x 18	230	216	150	220	-	F05	21,5	15
65	62	185	22	145	122		8 x 18	290	241	153	300	-	F07	29,5	17,6
80	76	200	24	160	138		8 x 18	310	283	184	350	-	F10	46,4	32
100	98	235	24	190	162	3	8 x 22	350	305	234	-	650	F10	65,8	52
125	119	270	26	220	188		8 x 26	400	381	256	-	1000	F14	118,7	100
150	145	300	28	250	218		8 x 26	480	457	-	*		F14	167,9	150
200	190	375	34	320	285		12 x 30	550	521	-	*		F16	290	250
250	245	450	38	385	345		12 x 33	650	559	-	*		F25	410	350

PN 63

DN	Dimensions of flanges							L		V	Lever		ISO 5211	kg	
	ød	øD	b	øK	ød4	f	n x ød2	L_{RF}	L_{BW}		R	RT		RF	BW
10-40	See dimensions for PN 100														
50	50	180	26	135	102		4x 22	230	292	174	350	-	F07	34,2	29
65	62	205	26	160	122		8x 22	290	330	202	-	650	F10	45	40
80	76	215	28	170	138	3	8 x 22	310	356	236	-	800	F12	83,5	76
100	95	250	30	200	162		8 x 26	350	432	265	-	800	F14	114	110
125	119	295	34	240	188		8 x 30	400	508	-	*		F14	130	130
150	145	345	36	280	218		8 x 33	480	559	-	*		F14	151	160

PN 100

DN	Dimensions of flanges							L		V	Lever		ISO 5211	kg	
	ød	øD	b	øK	ød4	f	n x ød2	L_{RF}	L_{BW}		R	RT		RF	BW
10	10	100	20	70	40		4 x 14	130	-	103	150	-	F05	4,7	-
15	14	105	20	75	45		4 x 14	130	270	103	150	-	F05	5,1	3,2
20	20	130	22	90	58	2	4 x 18	150	270	108	150	-	F05	7,7	4,4
25	25	140	24	100	68		4 x 18	160	270	120	220	-	F05	11	7,2
32	30,5	155	24	100	78		4x 18	180	270	125	220	-	F05	13,3	11
40	38	170	26	110	88		4x 22	200	270	137	300	-	F07	21,3	16
50	50	195	28	145	102		4 x 26	230	292	195	350	-	F07	37	29
65	62	220	30	145	122		8 x 26	290	330	202	-	650	F10	52	40
80	76	230	32	180	138	3	8 x 26	310	356	-	*		F12	83,5	76
100	95	265	36	210	162		8 x 30	350	432	-	*		F14	120	110
125	119	315	40	250	188		8 x 33	400	508	-	*		F14	152	130
150	145	355	44	290	218		12 x 33	480	559	-	*		F16	180	170

* with gear

Ball valves with floating ball, split body — Type K91.1

NPS 1/2"-10" • Class 150-600 • Tmax 200°C
Design: SPLIT BODY, forged

Connection:
EN 1092-1 FLANGED ENDS
EN 12627 WELDED ENDS

Class 150

NPS	Dimensions of flanges							L			V	Lever		ISO 5211	kg	
	ød	øD	b	øK	ød4	f	n x ød2	L_{RF}	L_{RTJ}	L_{BW}		R	RT		RF	BW
1/2"	14	90	11,2	60,3	34,9		4x16	108	-	270	103	150	-	F04	3,5	3,2
3/4"	20	100	12,7	69,9	42,9		4x16	117	-	270	108	150	-	F04	5	4,4
1"	25	110	14,3	79,4	50,8		4x16	127	140	270	116	150	-	F04	6,1	6,8
1 1/4"	30	115	15,9	88,9	63,5		4x16	140	153	270	120	220	-	F05	9,9	9,2
1 1/2"	38	125	17,5	98,4	73,2		4x16	165	178	270	132	220	-	F05	12,6	11,8
2"	50	150	19,5	120,7	92,1		4x19	178	191	216	150	220	-	F05	18,4	15
2 1/2"	62	180	22,7	139,7	104,8	2	4x19	191	203	241	153	300	-	F07	25	17,6
3"	76	190	23,9	152,4	127		4x19	203	216	283	184	350	-	F07	34,8	32
4"	98	230	24,3	190,5	157,2		8x19	229	241	305	234	-	650	F10	56,9	56
5"	120	255	24,3	215,9	185,7		8x22	356	368	381	256	-	650	F10	106	100
6"	145	280	25,9	241,3	215,9		8x22	394	406	457	300	-	800	F14	165	150
8"	190	345	29	298,5	269,9		8x22	457	470	521	-	*		F14	240	250
10"	245	405	30,6	362	323,8		12x25	533	546	559	-	*		F16	393	350

Class 300

NPS	Dimensions of flanges							L			V	Lever		ISO 5211	kg	
	ød	øD	b	øK	ød4	f	n x ød2	L_{RF}	L_{RTJ}	L_{BW}		R	RT		RF	BW
1/2"	14	95	14,3	66,7	34,9		4 x 16	140	-	270	103	150	-	F04	4,3	3,2
3/4"	20	115	15,9	82,6	42,9		4 x 19	152	-	270	108	150	-	F04	4,4	4,4
1"	25	125	17,9	88,9	50,8		4 x 19	165	178	270	116	150	-	F05	9,2	6,8
1 1/4"	30	135	19,5	98,4	63,5		4 x 19	178	191	270	120	220	-	F05	12	9,2
1 1/2"	38	155	21,1	114,3	73		4 x 22	191	204	270	131	220	-	F05	15,8	11,8
2"	50	165	22,7	127	92,1		8x 19	216	232	216	150	220	-	F05	21,5	15
2 1/2"	62	190	25,9	149,2	104,8	2	8 x 22	241	257	241	153	300	-	F07	30	17,6
3"	76	210	29	168,3	127		8 x 22	283	298	283	184	350	-	F10	47,2	32
4"	98	255	32,2	200	157,2		8 x 22	305	321	305	234	-	650	F12	77,1	56
5"	120	280	35,4	235	185,7		8 x 22	381	384	381	256	-	1000	F14	124,5	100
6"	145	320	37	269,9	215,9		12 x 22	403	419	457	-	*		F14	171,3	150
8"	190	380	41,7	330,2	269,9		12 x 25	502	518	521	-	*		F16	290	250
10"	245	445	48,1	382,4	323,8		16 x 27	568	584	559	-	*		F25	410	350

Class 600

NPS	Dimensions of flanges							L			V	Lever		ISO 5211	kg	
	ød	øD	b	øK	ød4	f	n x ød2	L_{RF}	L_{RTJ}	L_{BW}		R	RT		RF	BW
1/2"	14	95	14,3	66,7	35,1		4 x 19	165	-	270	103	150	-	F04	5,1	3,2
3/4"	20	115	15,9	82,6	42,9		4 x 19	191	191	270	108	150	-	F05	7,7	4,4
1"	25	125	17,5	88,9	50,8		4 x 19	216	216	270	120	220	-	F05	11	7,2
1 1/4"	30,5	135	20,7	98,4	63,5		4 x 19	229	229	270	125	220	-	F05	15	11
1 1/2"	38	155	22,3	114,3	73,2		4x 22	241	241	270	137	300	-	F07	20	16
2"	50	165	25,4	127	92,1	7	8 x 19	292	295	292	171	350	-	F10	35,9	29
2 1/2"	62	190	28,6	149,2	104,6		8 x 22	330	333	330	220	-	650	F10	47,1	40
3"	76	210	31,8	168,3	127		8 x 22	356	359	356	-	*		F12	79,3	76
4"	95	275	38,1	215,9	157,2		8 x 25	432	435	432	-	*		F14	127	110
5"	120	330	44,5	266,7	185,7		8 x 29	508	514	508	-	*		F14	150	130
6"	145	355	47,7	292,1	215,9		12 x 29	559	562	559	-	*		F16	190	170

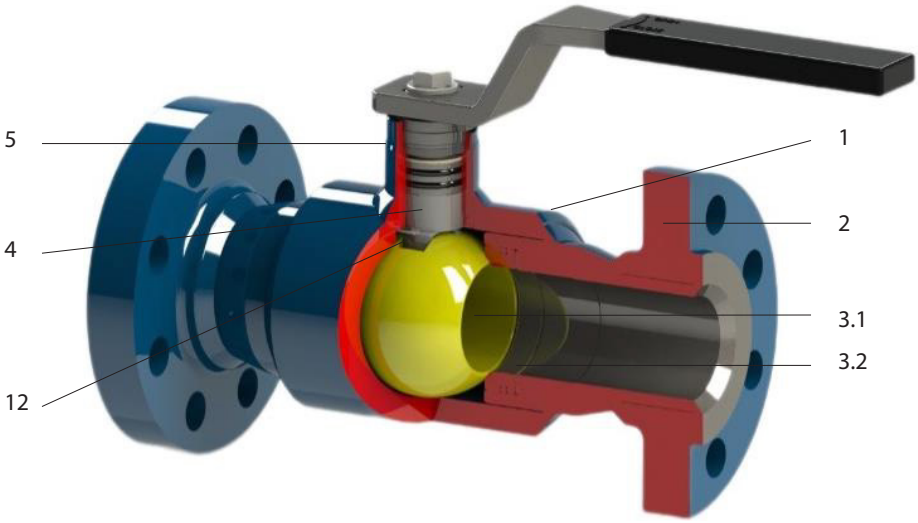
* with gear

Fully welded ball valves with floating ball Type K91.2

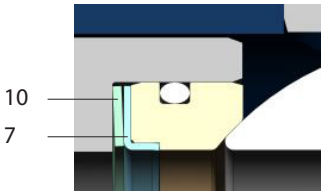
DN 20-50 PN 16-160
NPS ¾"-2" Class 150-900
Tmax: 200 °C
Design: fabricated

Connection:

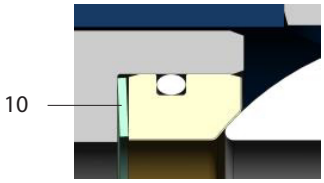
- EN 1092-1, ASME B16.5 FLANGED ENDS
- EN 12627, ASME B16.25 WELDED ENDS
- ASME B16.11 SOCKED WELD



K91.21 Soft seated



K91.22 Metal seated



Material

Position	Part	Material Metal to metal K91.22	Material Soft seated K91.21
1	Body	P355 KV -46°C/27J	
2	Cover	P355 KV -46°C/27J	
3.1	Ball	1.4462+0,15TCC	1.4462
3.2	Seat		TecaPeek
4	Stem	1.4542 (P800) - X5CrNiCvNb16	
5	Flange	P355 KV -46°C/27J	
7	Support plate	-	SS
10	Spring	SS	
12	Antistatic	SS	
-	O-rings	Viton GLT	
-	Seal	GRAPHITE	

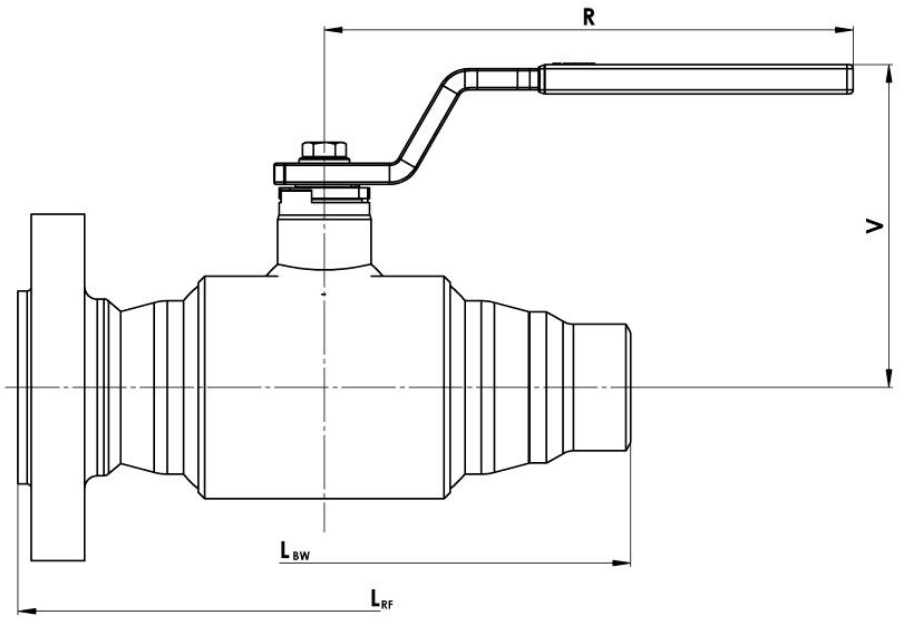
*full pressure over the whole temperature range

Fully welded ball valves with floating ball Type K91.2

DN 20-50 PN 16-160
NPS ¾"-2" Class 150-900
Tmax: 200 °C
Design: fabricated

Connection:

- EN 1092-1, ASME B16.5 FLANGED ENDS
- EN 12627, ASME B16.25 WELDED ENDS
- ASME B16.11 SOCKED WELD



PN 16-40

DN	L		V	Lever	~kg	
	L_{RF}	L_{BW}		R	RF	BW
20	152	254	108	176	4,1	3
25	165	254	108	176	4,6	3
32	178	305	146	252	8,5	8
40	190	305	146	252	9,2	8
50	216	292	154	252	13,6	11

PN 16-40

DN	L		V	Lever	~kg	
	L_{RF}	L_{BW}		R	RF	BW
20	190	254	108	176	6,1	3
25	216	254	108	176	7,4	3
32	229	305	146	252	11,5	8
40	241	305	146	252	13,5	8
50	292	292	154	252	20	11

PN 160

DN	L		V	Lever	~kg	
	L_{RF}	L_{BW}		R	RF	BW
25	254	254	108	176	6,8	3
40	305	305	146	252	15	8

Fully welded ball valves with floating ball Type K91.2

DN 20-50 PN 16-160
NPS ¾"-2" Class 150-900
Tmax: 200 °C
Design: fabricated

Connection:

- EN 1092-1, ASME B16.5 FLANGED ENDS
- EN 12627, ASME B16.25 WELDED ENDS
- ASME B16.11 SOCKED WELD

Class 150

NPS	L		V	Lever	~kg	
	L_{RF}	L_{BW}		R	RF	BW
3/4"	152	254	108	176	3,3	3
1"	165	254	108	176	3,9	3
1 1/4"	178	305	146	252	7,3	8
1 1/2"	190	305	146	252	8,2	8
2"	216	292	154	252	12,6	11

Class 300

NPS	L		V	Lever	~kg	
	L_{RF}	L_{BW}		R	RF	BW
3/4"	152	254	108	176	4,3	3
1"	165	254	108	176	4,7	3
1 1/4"	178	305	146	252	8,3	8
1 1/2"	190	305	146	252	10,2	8
2"	216	292	154	252	13,9	11

Class 600

NPS	L		V	Lever	~kg	
	L_{RF}	L_{BW}		R	RF	BW
3/4"	190	254	108	176	4,6	3
1"	216	254	108	176	5,4	3
1 1/4"	229	305	146	252	9,9	8
1 1/2"	241	305	146	252	12	8
2"	292	292	154	252	17,5	11

Class 900

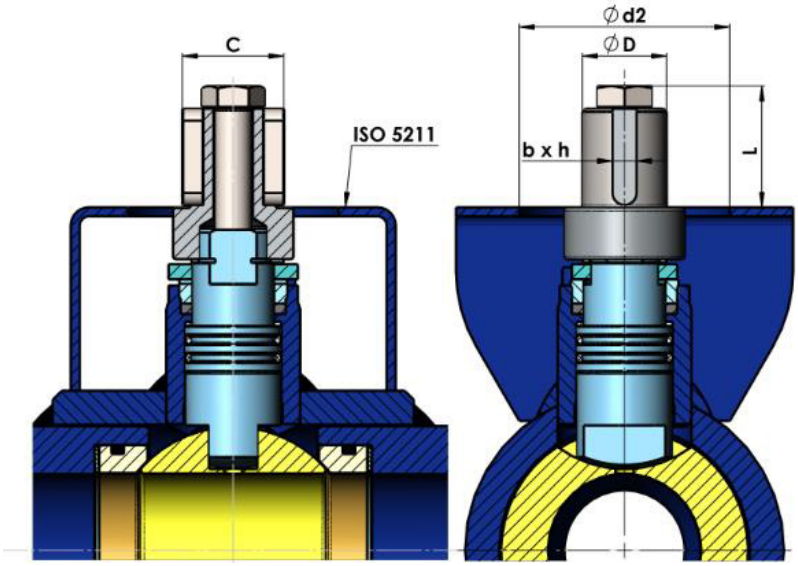
NPS	L		V	Lever	~kg	
	L_{RF}	L_{BW}		R	RF	BW
3/4"	229	254	108	176	7	3
1"	254	254	108	176	9,3	3
1 1/4"	279	305	146	252	14,3	8
1 1/2"	305	305	146	252	17,7	8

Fully welded ball valves with floating ball Type K91.2

DN 20-50 PN 16-160
NPS ¾"-2" Class 150-900
Tmax: 200 °C
Design: fabricated

Connection:

- EN 1092-1, ASME B16.5 FLANGED ENDS
- EN 12627, ASME B16.25 WELDED ENDS
- ASME B16.11 SOCKED WELD



ISO 5211 connection

DN (NPS)	ISO 5211	ØD (h9)	L (+1)	Ød2 (+0,2)	key b x h	c
	[mm]					
20 (3/4")	F05	18	28	35	6x6	23
25 (1")	F05	18	28	35	6x6	23
32 (1 1/4")	F10	28	39	70	8x7	33,8
40 (1 1/2")	F10	28	39	70	8x7	33,8
50 (2")	F10	28	39	70	8x7	33,8

Other possibilities



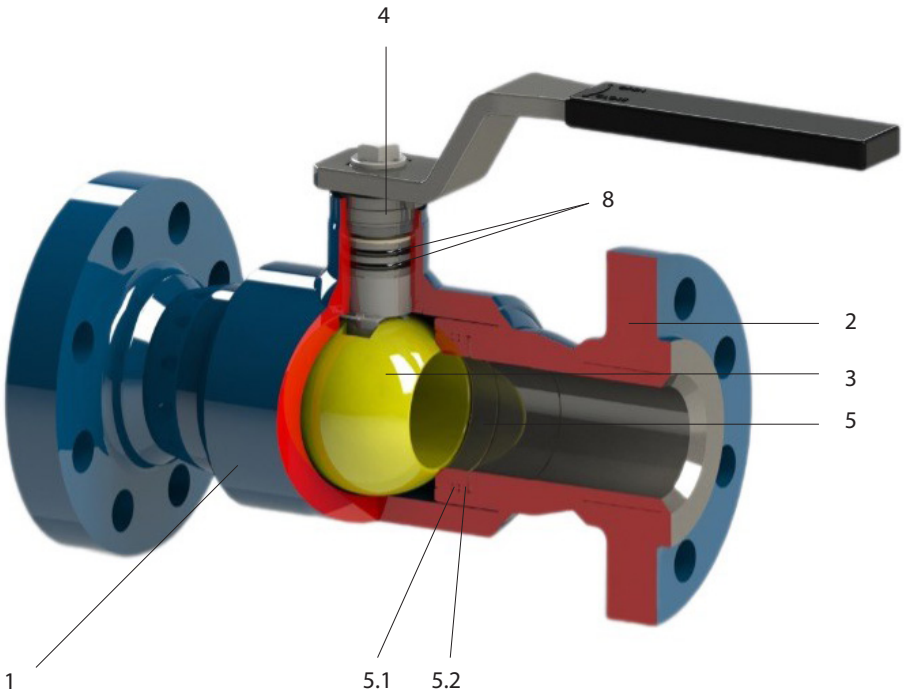


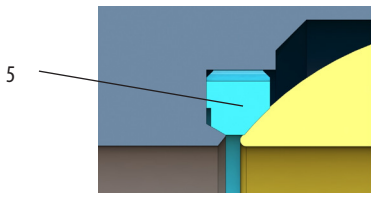
Fully welded ball valves with floating ball Type K91.2

DN 10-65 PN 100-400
NPS ¾"-2" Class 600-2500
Tmax: 200 °C
Design: forged

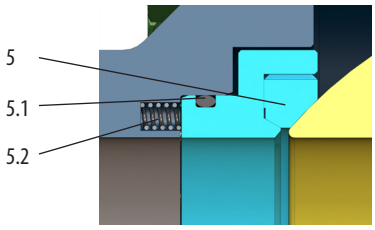
Connection:

- EN 1092-1, ASME B16.5 FLANGED ENDS
- EN 12627, ASME B16.25 WELDED ENDS
- ASME B16.11 SOCKED WELD

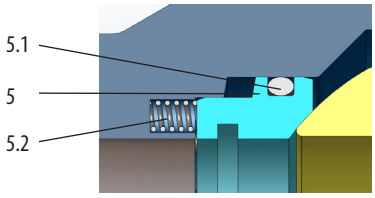




Soft seat



Soft floating seat



Metal seat

Material

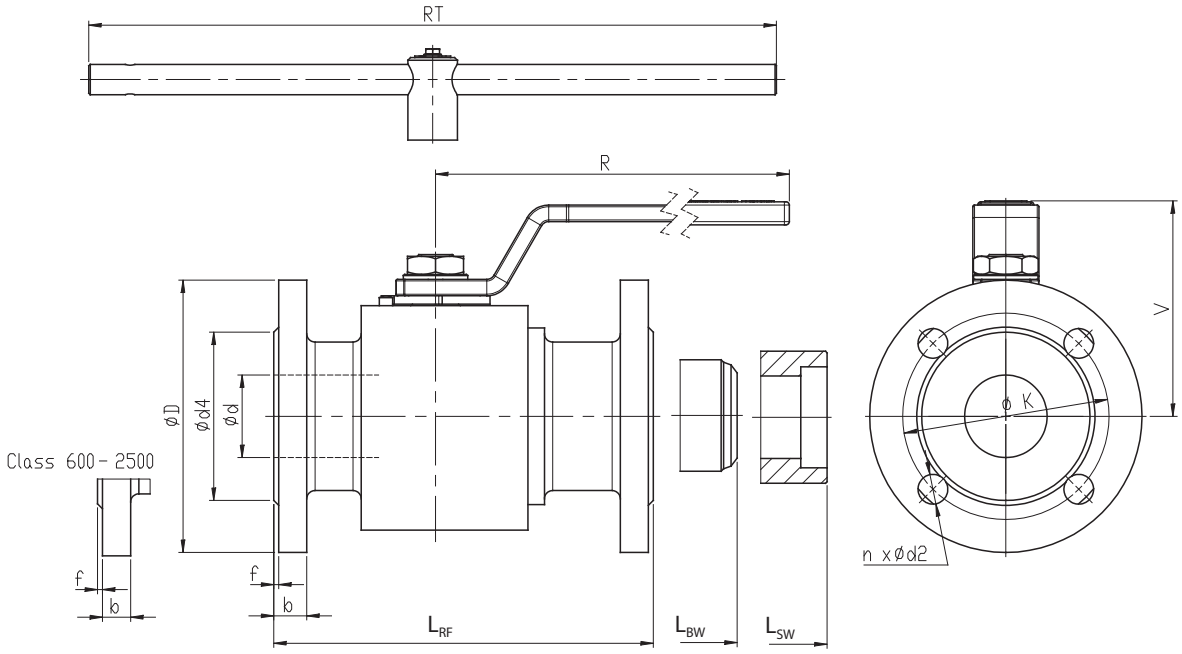
Position	Component	Carbon steel	Stainless steel
		For temperature -46°C - +200°C	**Austenitic and martensitic -60 °C - +200 °C**
1	Body	A350 LF2, P355	A182 F304 , 1.4541, A182 F316 , 1.4571
2	Cover		
3	Ball	A182 F304, A182 F316, A351 CF8, 13%Cr (for metal to metal + HF)	A182 F316, 1.4571, A351 CF8, 13%Cr (for metal to metal + HF)
4	Stem	1.4571, A182 F316, 1.4542"	1.4571, A182 F316, 1.4542"
5	Soft seat	filled PTFE, NYLON, PEEK	
5	Metal to metal seat	A182 F304, A182 F316, A351 CF8, 13%Cr + HF	
5,1	Seat seal	HNBR, VITON, GRAPHITE	
5,2	Springs	AISI 302, Inconel X750	Inconel X750
6	Bearings	CS+PTFE, SS+PTFE	SS+PTFE
7	Bolts	A320 L7	A193 B8
8	Nuts	A194 Gr.7	A194 Gr.8
9	Seals	HNBR, VITON, PTFE, GRAPHITE, LIPSEAL	

Fully welded ball valves with floating ball Type K91.2

DN 10-65 PN 100-400
NPS ¾"-2" Class 600-2500
Tmax: 200 °C
Design: forged

Connection:

- EN 1092-1, ASME B16.5 FLANGED ENDS
- EN 12627, ASME B16.25 WELDED ENDS
- ASME B16.11 SOCKED WELD



Class 600

NPS	Dimensions of flanges							L		V	Lever		~kg	
	ød	øD	b	øK	$ød_4$	f	n x $ød_2$	L_{RF}	L_{BW}		R	RT	RF	BW
2 1/2"	62	190	28,6	149,2	105	7	8 x 22	330	330	202	-	650	58	40

Class 900

NPS	Dimensions of flanges							L		V	Lever		~kg	
	ød	øD	b	øK	$ød_4$	f	n x $ød_2$	L_{RF}	L_{BW}		R	RT	RF	BW
2"	50	215	38,1	165,1	92,1	7	8 x 25	368	368	212	-	600	30	21

Class 1500

NPS	Dimensions of flanges							L		V	Lever		~kg	
	ød	øD	b	øK	$ød_4$	f	n x $ød_2$	L_{RF}	L_{BW}		R	RT	RF	BW
1/2"	14	120	22,3	82,6	34,9	7	4 x 22	216	216	122	150	-	4,9	2,1
3/4"	20	130	25,4	88,9	42,9		4 x 22	229	229	129	150	-	8,8	3,5
1"	25	150	28,6	101,6	50,8		4 x 25	254	254	132	150	-	11,6	4,6
1 1/4"	30,5	160	28,6	111,1	63,5		4 x 25	279	279	142	350	-	13	5,6
1 1/2"	38	180	31,8	123,8	73		4 x 29	305	305	179	-	600	22	12
2"	50	215	38,1	165,1	92,1		8 x 25	368	368	212	-	600	30	21

Class 2500

NPS	Dimensions of flanges							L		V	Lever		~kg	
	ød	øD	b	øK	$ød_4$	f	n x $ød_2$	L_{RF}	L_{BW}		R	RT	RF	BW
1/2"	14	135	30,2	88,9	34,9	7	4 x 22	264	264	120	150	-	15	10
3/4"	20	140	31,8	95,2	42,9		4 x 22	273	273	120	-	400	18	12
1"	25	160	35	108	50,8		4 x 25	308	308	120	-	400	45	15

Fully welded ball valves with floating ball — Type K91.2

DN 10-65 PN 100-400
NPS ¾"-2" Class 600-2500
Tmax: 200 °C
Design: forged

Connection:

- EN 1092-1, ASME B16.5 FLANGED ENDS
- EN 12627, ASME B16.25 WELDED ENDS
- ASME B16.11 SOCKED WELD

PN 100

DN	Dimensions of flanges							L		V	Lever		~kg	
	ød	øD	b	øK	$ød_4$	f	n x $ød_2$	L_{RF}	L_{BW}		R	RT	RF	BW
65	62	220	30	145	122	3	8 x 26	330	330	202	-	650	58	40

PN 160

DN	Dimensions of flanges							L		V	Lever		~kg	
	ød	øD	b	øK	$ød_4$	f	n x $ød_2$	L_{RF}	L_{BW}		R	RT	RF	BW
50	50	195	30	145	102	3	8 x 26	368	292	131	350	-	27	15

PN 250

DN	Dimensions of flanges							L		V	Lever		~kg	
	ød	øD	b	øK	ød4	f	n x $ød_2$	L_{RF}	L_{BW}		R	RT	RF	BW
10	10	125	24	85	40	2	4 x 18	264	264	103	150	-	6	10
15	14	130	26	90	45		4 x 18	264	264	120	-	400	7,5	12
25	25	150	28	105	68		4 x 22	254	254	132	150	-	11,3	4,6
32	-	-	-	-	-		-	-	279	142	350	-	-	5,6
25	38	185	34	135	88	3	4 x 26	305	305	179	-	600	22	12
50	50	200	38	150	102		8 x 26	368	368	212	-	600	33	21

PN 320

DN	Dimensions of flanges							L		V	Lever		~kg	
	ød	øD	b	øK	ød4	f	n x $ød_2$	L_{RF}	L_{BW}		R	RT	RF	BW
10	10	125	24	85	40	2	4 x 18	264	264	103	150	-	6	10
15	14	130	26	90	45		4 x 18	264	264	120	-	400	7,5	12
25	25	160	34	115	68		4 x 22	308	308	120	-	400	30	15

PN 400

DN	Dimensions of flanges							L		V	Lever		~kg	
	ød	øD	b	øK	ød4	f	n x $ød_2$	L_{RF}	L_{BW}		R	RT	RF	BW
10	10	125	28	85	40	2	4 x 18	264	264	103	150	-	7	3
15	14	145	30	100	45		4 x 22	264	264	120	-	400	9	3,2
25	25	180	38	130	68		4 x 26	308	308	120	-	400	45	15

Other designs of ball valves with floating ball Type K91

Fully welded double ball valves

Fully welded double ball valves with pressure cover

Fully welded ball valves, with inside threaded design

Fully welded ball valves with pressure cover

More detailed information on these ball valve designs is available on request.

General standards and certificates

- ISO 9001 - Quality management system
- ISO 14001 - Environmental management system
- ISO 45001 - Occupational health and safety management systems
- ISO 3834-2 - Welding quality specifications
- ISO 9606-1 and ISO 14732 - Requirements for welders
- ISO 9712 - Non-destructive testing - Qualification and certification of NDT personnel
- EN 19 - Marking of valves
- PED 2014/68/EU, Module H - Pressure Equipment Directive
- EN ISO 10497 - Testing of valves - Fire type-testing requirements

Design standards

- EN 14141 - Valves for natural gas transportation in pipelines
- EN 1092-1 - Flanges and their joints
- ASME B16.5 - Pipe Flanges and Flanged Fittings
- ASME B16.47 - Large Diameter Steel Flanges
- EN 12627 - Industrial valves - Butt welding ends for steel valves.
- ASME B16.25 - Buttwelding Ends
- EN ISO 13445 - Strenght requirements for valves
- EN 1984 - Industrial valves - Steel gate valves
- EN ISO 5211 - Industrial valves - Quater valve actuator attachments.

- EN 558 - Industrial valves - Face-to-face and centre-to-face dimensions of metal valves for use in flanged pipe systems - PN and Class designated valves.
- ASME B16.34 - Valves-Flanged, Threaded, and Welding End
- API Spec 6D - Specification for Pipeline Valves

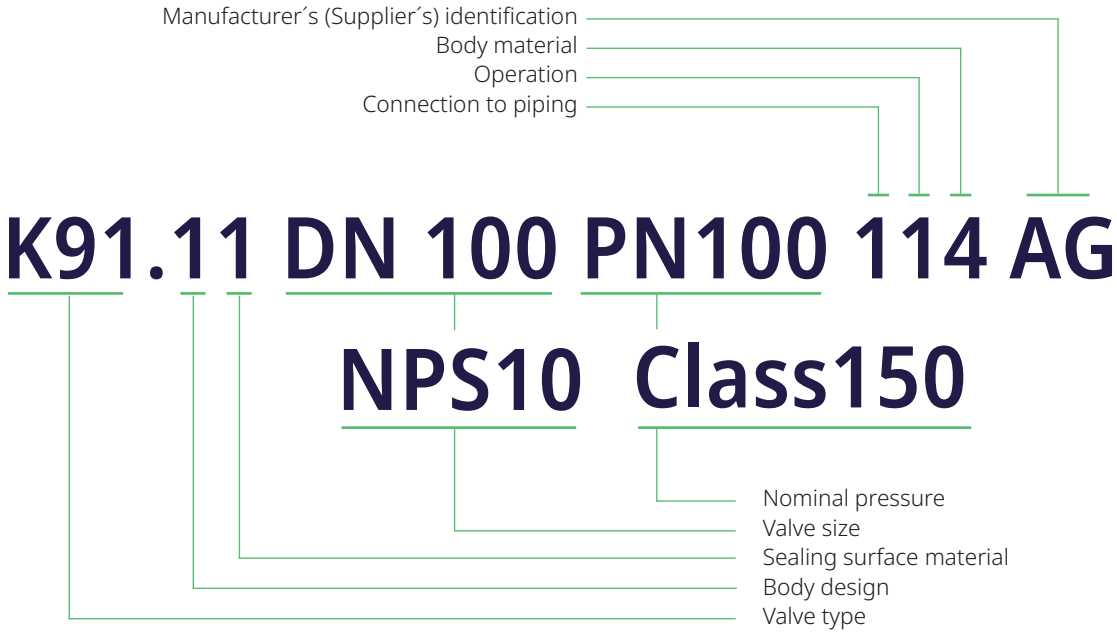
Testing

- EN 12266 - Industrial valves - Testing of metallic valves
- API Spec 6D - Specification for Pipeline Valves
- ISO 14313 - Petroleum and natural gas industries - Pipeline transportation systems - Pipeline valves
- DIN 3230-5 - Technical conditions of delivery of valves

Ball valves with floating ball

Type number composition

Type number uniquely describes the valve.
Type number is fixed by the manufacturer (supplier).
Type number serves to customers in subsequent communication with the manufacturer (supplier) valve.



Type
K91 – ball valve with floating ball

Body design
1 – forged body, split design
2 – forged body, fully welded design
4 – forged body, threaded design

Sealing surface material
1 – soft-seated
2 – metal-metal

Connection to piping
1 – flanged ends
2 – welded ends
3 – threaded ends

Operation
1 – lever
2 – gear-box
3 – electric actuator
4 – pneumatic actuator
5 – bare shaft
9 – pressure cover

Body material
0 – stainless steel
2 – alloy cast steel
3 – forged alloy steel
4 – forged carbon steel
5 – carbon cast steel

Manufacturer´s (Supplier´s) identification
AG – ARMATURY Group a.s.

Data mentioned in the catalogue are not subject to changes, for an order and delivery of the goods are obligatory the data mentioned in respective specifications.

Vexve ARMATURY

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