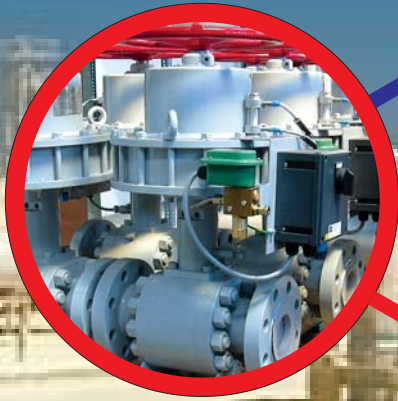




LOG VALVE Ltd.  
H-8960 LENTI, Petofi Str. 37.

## PIPELINE FITTINGS



**LOG VALVE Ltd.**

H-8960 LENTI, Petofi Str. 37.

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# Content

## General technical data

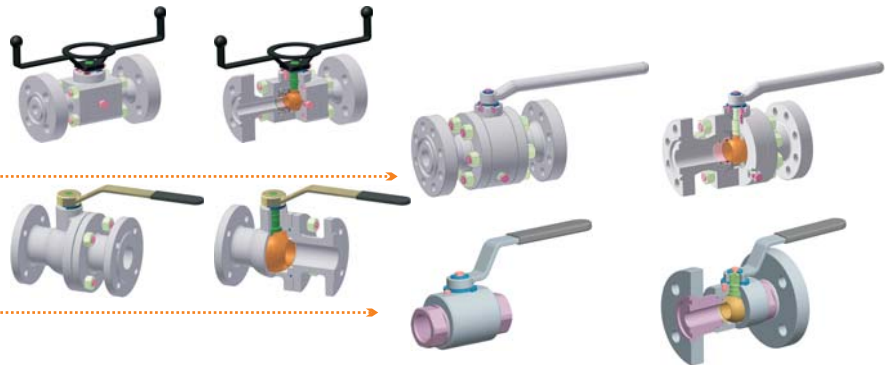
### Ball valves

GOK →

LGF →

LGK →

LGU →



### Valves

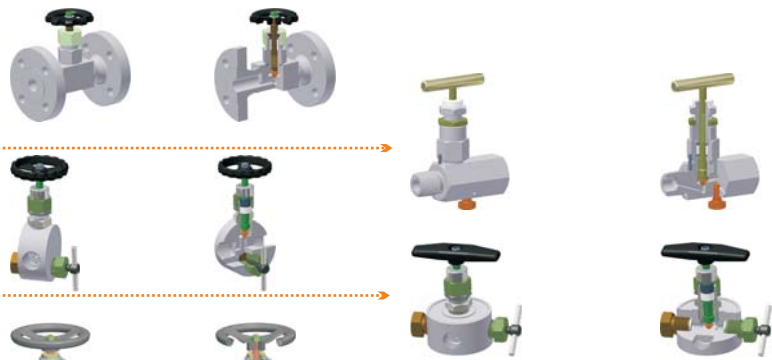
#### Needle valves

ASZ →

KFSZ →

LM-1 →

LM-2 →



#### Shut-off and control valves

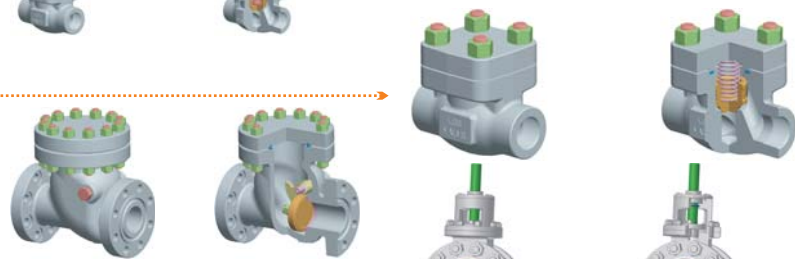
LE - LF →



#### Check valves

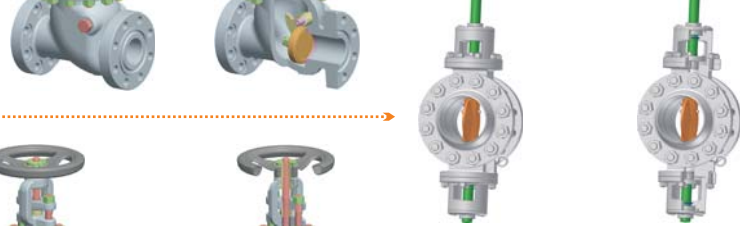
LVCS-1 →

LVCS-2 →



#### Butterfly valves

LPSZ →

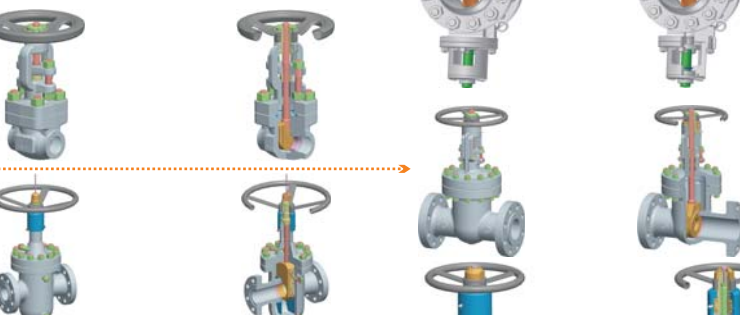


### Gate valves

LCT →

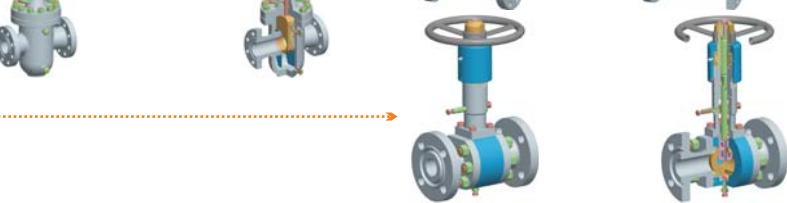
LRT →

LPT - LPBT →



### Special equipments

LBX →



## General technical data

The pipe line fittings produced by LOG VALVE Ltd, are widely applicable for opening and closing pipelines for different fluids and gases or chocking regulation of them, and as fittings of pressure tanks.

### 1. Application conditions

Temperature ranges	Code	Material quality
-29°C ~ +120°C	1	Fittings according to the <b>material chart</b> , and the DIN, EN, GOST equivalents of the materials listed in the chart.
-29°C ~ +150°C	2	
-29°C ~ +350°C	3	
-20°C ~ +427°C	4	
-20°C ~ +550°C	5	
-46°C ~ +120°C	6	
-46°C ~ +150°C	7	
-46°C ~ +343°C	8	
-60°C ~ +80°C	9	
-60°C ~ +150°C	10	
-60°C ~ +427°C	11	

Design	Sign	Application
Standard	01	General service type as sweet natural gas, light crude oil, hydrocarbons, petroleum products and byproducts and hot water as well.
NACE MR0175	10	Slightly acidic, moderately corrosive medium and application where resistance is required for H <sub>2</sub> S + moderate CO <sub>2</sub> + water mixture.
Corrosion-resisting	20	Sour, corrosive medium.

## General technical data

### 2. Connections

Type	Sign	Applied standards
Flanged, smooth sealing surface	FB <sup>(1)</sup>	EN 1092-1, B1 and B2 type
Flanged, grooved sealing surface	FD <sup>(1)</sup>	EN 1092-1, D type
Flanged, RF type Flanged, RJ type	RF <sup>(1)</sup> RJ <sup>(1)</sup>	ASME B 16.5
Threaded	B	ASME B1.20.1, NPT
Socket welded	SW	ASME B16.11 DIN 3239
Butt welded	BW <sup>(2)</sup> C <sup>(2)</sup>	ASME B16.25 EN 12627

Comments: (1) Counter-flange connections can be ordered (with bolts and sealing rings)

Codes: With counter flange X<sup>(2)</sup>

With blind flange V

(2) Dimensions of the connecting pipe are needed.

#### End to end dimension

Based on **EN 558** or **ASME B16.10** other cases according to the dimensions of the catalog.

The fittings can be produced, according to **individual** end to end dimensions differs from the standards.

### 3. Type of operations

Descriptions	Code
Manual	K
Hand boosted	F
Motor driven	M
Pneumatic	P
Hdraulic	H

### 4. Other design possibilities

Description	Code
Antistatic design	As
Reduced bore design	V
Extended type	L
Underground type	E
Remote controlled	T <sub>1</sub>
Remote + aerial controlled	T <sub>2</sub>

## General technical data

### 5. Ordering example

DN 25 PN 64 LGU – 1 - 01 - FDX - Ø 33,7 x 2,6 - K - As

DN 25	PN 64	LGU	1	01	FDX - Ø 33,7 x 2,6	K	As
							Other design
						Operation	
					Connection		
				Type of medium			
			Temperature range				
		Type					
	Nominal pressure						
Nominal diameter							

In case of order, it is recommended to give the next data:

- ✓ composition of the medium,
- ✓ operating temperature,
- ✓ operating pressure,
- ✓ ambient conditions (e.g. open air location, position, temperature ranges, etc.)

### 6. Special requirements - special, non-serial planning

Upon request of the customer, LOG VALVE KFT. can produce and design products differ from the ones in the catalog.

For example:

- ✓ dimensions, temperatures
- ✓ special medium
- ✓ non standard connections, end to end connections
- ✓ other non serial request

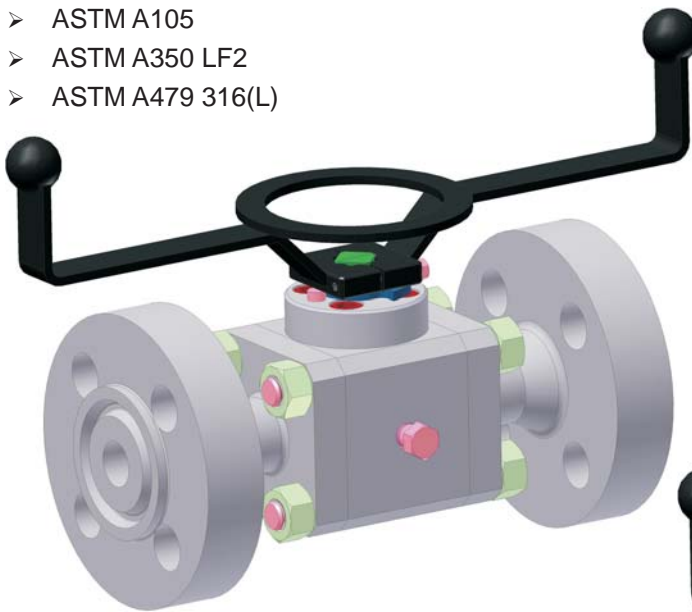
# GOK type ball valve

Dimension range	NPS 1/2" - 1 1/2"
Pressure range	Class 1500 - 2500
Temperature range	- 60°C - +150°C

Ball valve, with the ball is trunnion mounted with bearing, for small sizes and high pressures. The seat rings disc spring loaded, resulting high closure safety even in low pressure. The ball is nickel or hard chromium plated. The ball valve on demand can be delivered with actuator.

**Materials:**

- ASTM A105
- ASTM A350 LF2
- ASTM A479 316(L)

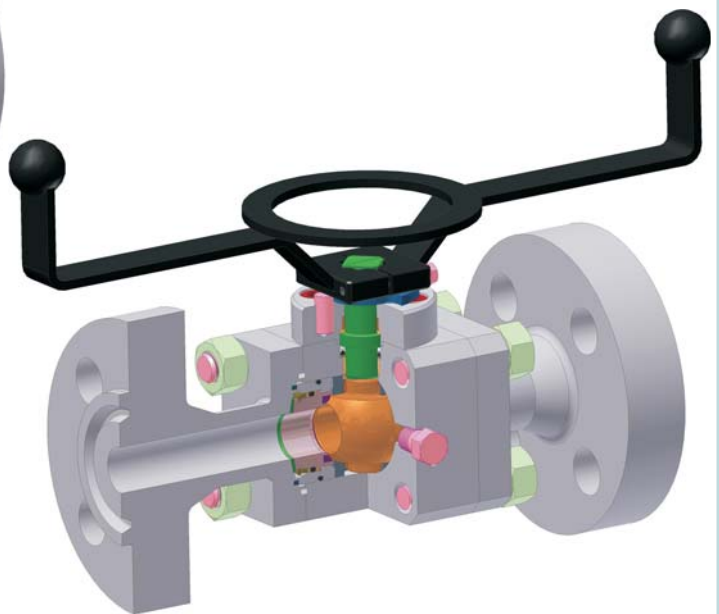


**Main features:**

- Trunnion mounted ball
- Three-piece body
- Spring loaded seat
- Flanged, threaded, or butt welded ends

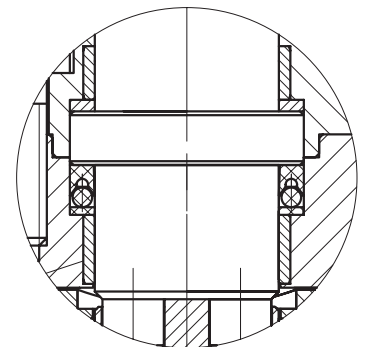
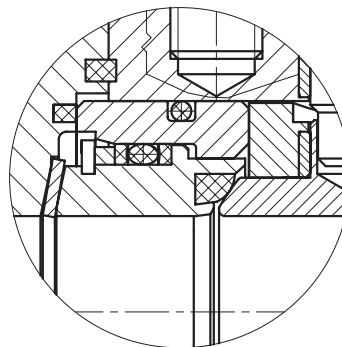
**Design possibilities:**

- Electric motor operation
- Pneumatic operation



**Design standards:**

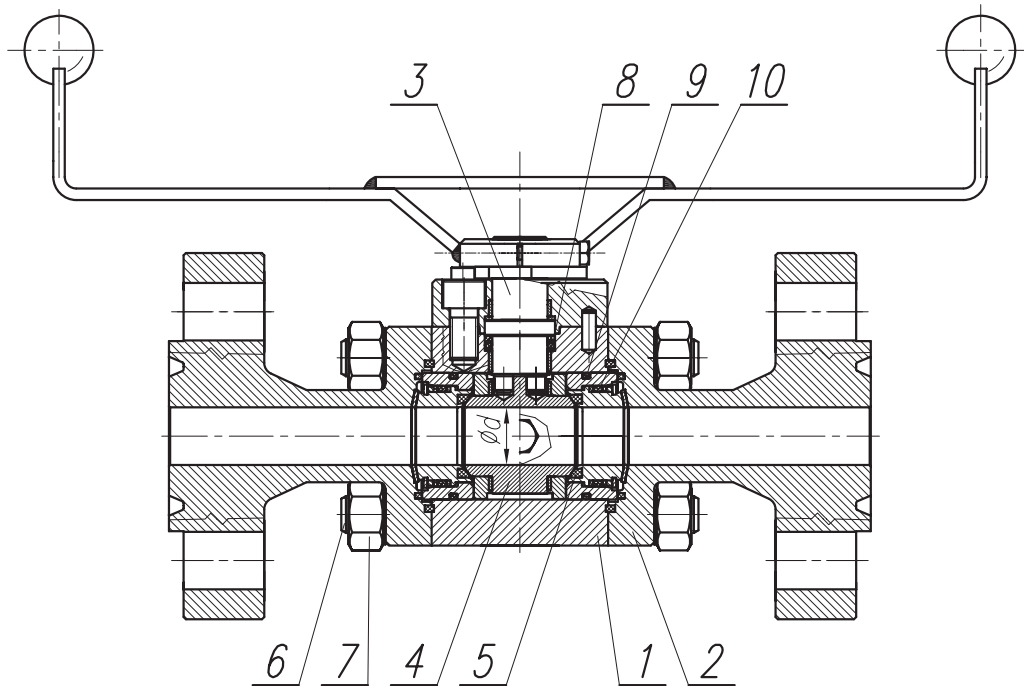
- Face to face length: ASME B16.10
- Butt welded type: ASME B16.25; EN 12627
- Threaded type: ASME B1.20.1 NPT
- Flanged type: ASME B16.5; EN 1092-1; GOST 12815; GOST 12821
- Pressure test: API 598; EN 12266-1
- NACE design: NACE MR0175 / ISO 15156





## List of the main components

### GOK type ball valve



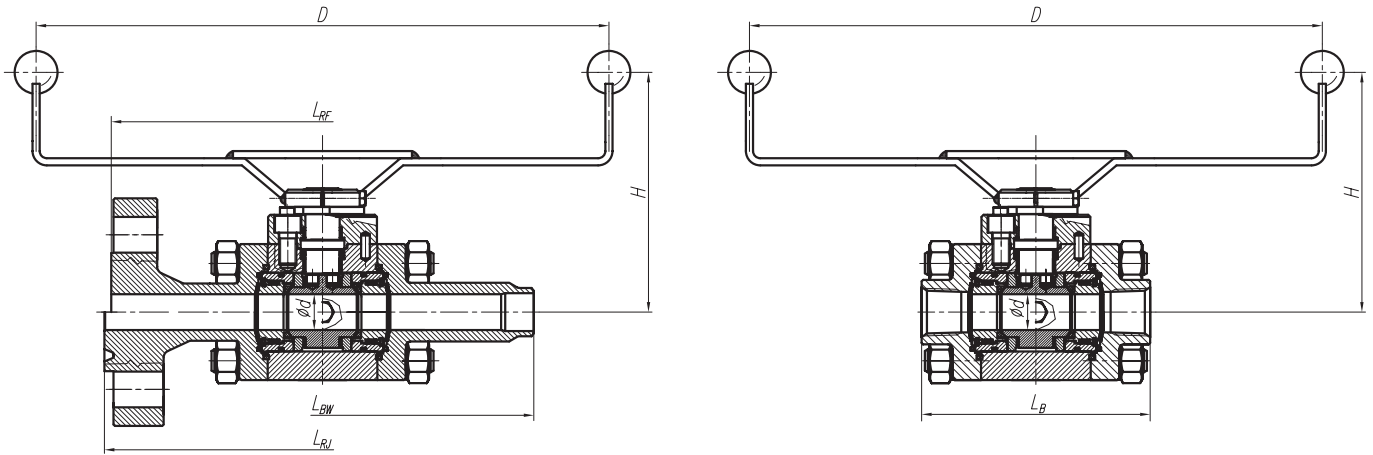
N°	Description	Standard design		NACE design	Corrosion-resistant design
		T= -29°C ~ +150°C	T= -46°C ~ +150°C	T= -46°C ~ +120°C	T= -60°C ~ +150°C
1	Body	ASTM A105	ASTM A350 LF2	ASTM A350 LF2	ASTM A479 316(L)
2	Flanged connections	ASTM A105	ASTM A350 LF2	ASTM A350 LF2	ASTM A479 316(L)
3	Driving stem	ASTM A276 410	ASTM A276 410	ASTM A564 630	ASTM A564 630
4	Ball	ASTM A105+ENP ASTM A276 316(L)(+ENP)	ASTM A350 LF2+ENP ASTM A276 316(L)(+ENP)	ASTM A350 LF2+ENP ASTM A276 316(L)(+ENP)	ASTM A276 316(L) (+ENP)
5	Gasket ring	PTFE DEVLON-V PEEK	PTFE DEVLON-V PEEK	PTFE DEVLON-V PEEK	PTFE DEVLON-V PEEK
6	Stud bolt	ASTM A320 L7M	ASTM A320 L7M	ASTM A320 L7M	ASTM A193 B8M Cl.2
7	Nut	ASTM A194 2HM	ASTM A194 2HM	ASTM A194 2HM	ASTM A194 8M
8; 9; 10	"O"-ring	VITON	VITON GLT	VITON GLT	VITON FVMQ

- ENP = Electroless Nickel Plating.
- Materials for other mediums and temperature ranges according to purchase order.
- The material of "O" -rings depends on the medium.

# Chart of dimensions

GOK type ball valve  
ANSI

GOK



## CLASS 1500; CLASS 2500

NPS	d (mm)	L <sub>RF</sub> * (mm)	L <sub>RJ</sub> * (mm)	L <sub>BW</sub> * (mm)	L <sub>B</sub> (mm)	H (mm)	D (mm)
1/2"	13	264	264	264	138	100	240
3/4"	19	273	273	273	138	100	300
1"	25	308	308	308	160	155	400
1 1/2"	40	384	387	384	215	165	500

\* CLASS 2500 face to face length



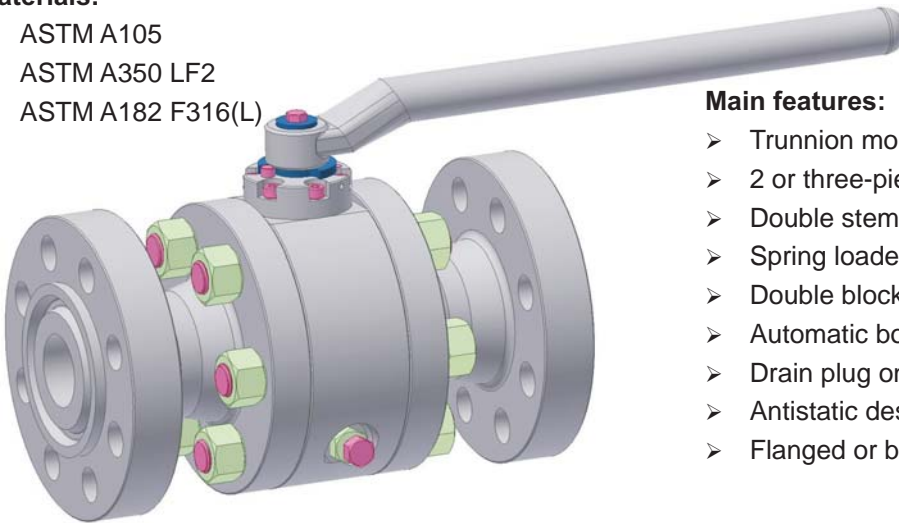
# LGF type ball valve

Dimension range	DN 50 - 200 / NPS 2" - 8"
Pressure range	PN 63 - 250 / Class 300 - 1500
Temperature range	- 60°C - +150°C

The ball valve is made according to API 6D Standard, with trunnion mounted ball for medium and high pressures. The body is made of 2 or 3 forged steel parts. The seat rings loaded helical springs, resulting high safety closure even in low pressure. In base construction the ball and the seat rings are supplied with nickel coating, but with metal closing and tungsten-carbide coating designs as well. All ball valve are antistatic.

### Materials:

- ASTM A105
- ASTM A350 LF2
- ASTM A182 F316(L)

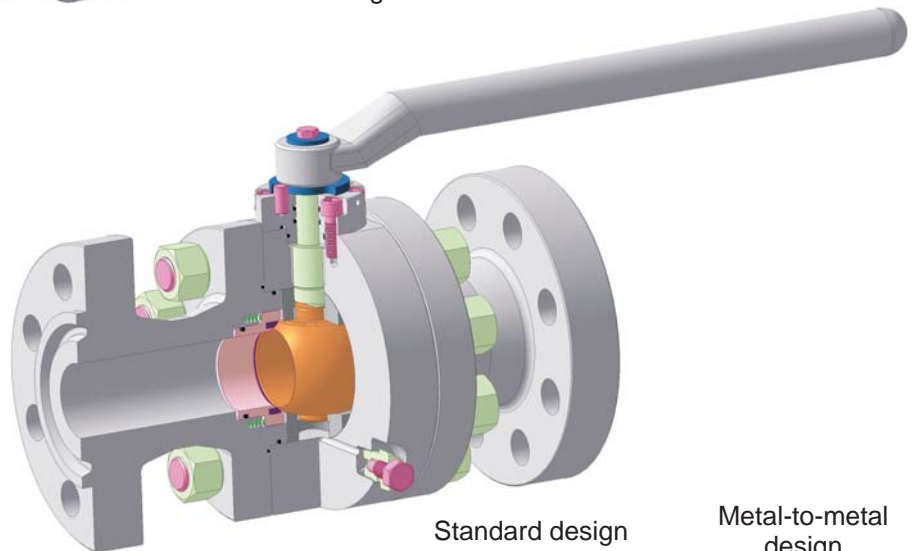


### Main features:

- Trunnion mounted ball
- 2 or three-piece body
- Double stem and body seal
- Spring loaded seat
- Double block and bleed
- Automatic body pressure relief
- Drain plug on the body
- Antistatic design
- Flanged or butt welded ends

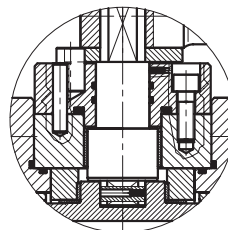
### Design possibilities:

- Double piston effect
- Reduced bore design
- Metal to metal sealing surfaces
- Electric motor operation
- Pneumatic operation

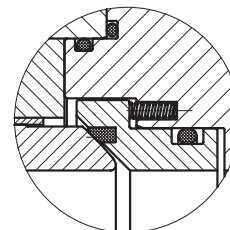


### Design standards:

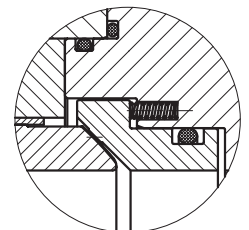
- Construction: API 6D / ISO 14313
- Face to face length: ASME B16.10; EN 558
- Butt welded type: ASME B16.25; EN 12627
- Flanged type: ASME B16.5; EN 1092-1; GOST 12815; GOST 12821
- Pressure test: API 6D; EN 12266-1
- NACE design: NACE MR0175 / ISO 15156



Standard design

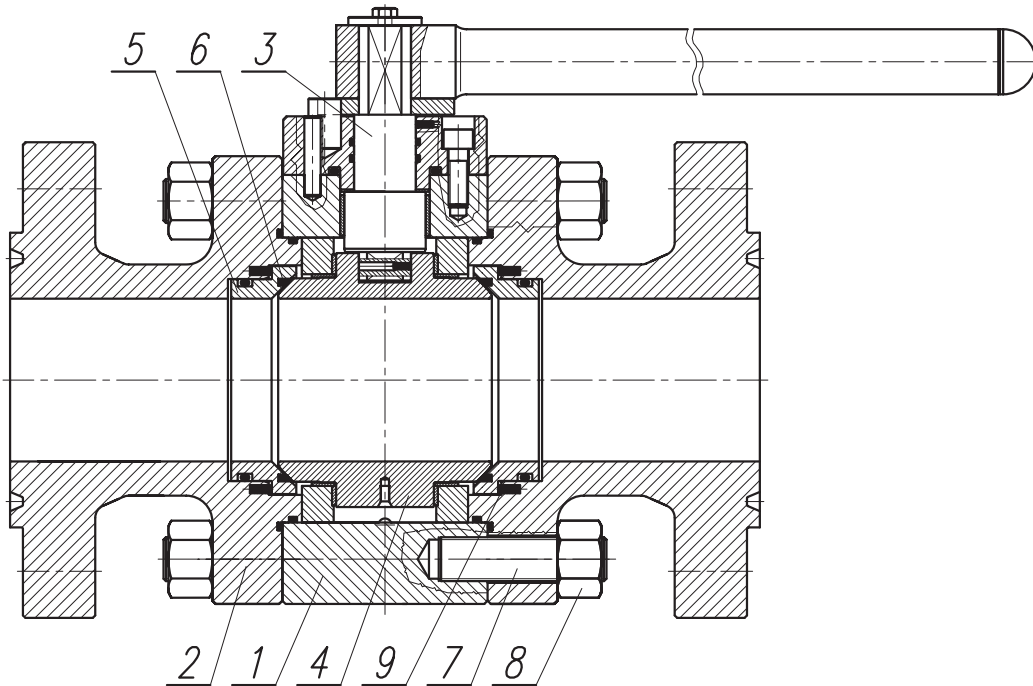


Metal-to-metal design



## List of the main components

### LGF type ball valve

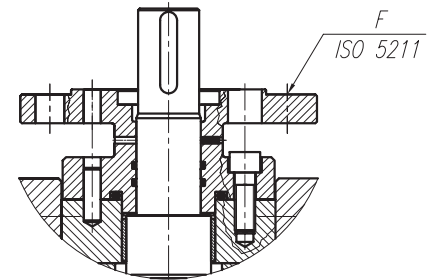
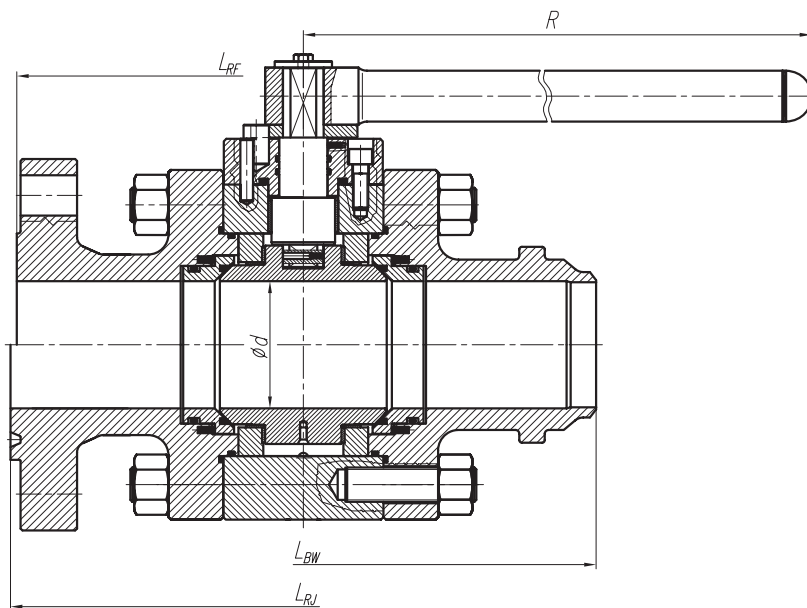


N°	Description	Standard design		Metal-to-metal design	NACE design	Corrosion-resistant design
		T= -29°C ~ +150°C	T= -46°C ~ +150°C	T= -46°C ~ +150°C	T= -46°C ~ +120°C	T= -60°C ~ +150°C
1	Body	ASTM A105	ASTM A350 LF2	ASTM A350 LF2	ASTM A350 LF2	ASTM A182 F316(L)
2	Flanged connection	ASTM A105	ASTM A350 LF2	ASTM A350 LF2	ASTM A350 LF2	ASTM A182 F316(L)
3	Driving stem	ASTM A276 410	ASTM A276 410	ASTM A276 410	ASTM A182 F51	ASTM A276 316(L)
4	Ball	ASTM A105 +ENP	ASTM A350 LF2 +ENP	ASTM A182 F6A +TC	ASTM A182 F51 (+ENP)	ASTM A182 F316(L) (+ENP)
5	Gasket cage	ASTM A105 +ENP	ASTM A350 LF2 +ENP	ASTM A182 F6A +TC	ASTM A182 F51	ASTM A182 F316(L)
6	Gasket ring	PTFE DEVLON-V PEEK	PTFE DEVLON-V PEEK	—	PTFE DEVLON-V PEEK	PTFE DEVLON-V PEEK
7	Stud bolt	ASTM A320 L7M	ASTM A320 L7M	ASTM A320 L7M	ASTM A320 L7M	ASTM A193 B8M Cl.2
8	Nut	ASTM A194 2HM	ASTM A194 2HM	ASTM A194 2HM	ASTM A194 2HM	ASTM A194 8M
9	Coil	ASTM A313 302	ASTM A313 302	ASTM A313 302	INCONEL X-750	ASTM A313 302
	"O"-ring	VITON	VITON GLT	VITON GLT	VITON GLT	VITON FVMQ

- ENP = Electroless Nickel Plating
- TC = Tungsten-Carbide coating
- For other mediums, orders on material quality is based on temperature
- The material quality of the "O"-ring can depend on the medium

# Chart of dimensions

LGF type ball valve  
ANSI



## CLASS 300

NPS	d (mm)	L <sub>RF</sub> (mm)	L <sub>RJ</sub> (mm)	L <sub>BW</sub> (mm)	R (mm)	F ISO 5211
2"	49	216	232	216	350	F10
2 1/2"	62	241	257	241	400	F10
3"	74	283	298	283	500	F10
4"	100	305	321	305	600	F12
6"	150	403	419	457	---	F14
8"	201	502	518	521	---	F14

## CLASS 600

NPS	d (mm)	L <sub>RF</sub> (mm)	L <sub>RJ</sub> (mm)	L <sub>BW</sub> (mm)	R (mm)	F ISO 5211
2"	49	292	295	292	400	F10
2 1/2"	62	330	333	330	500	F12
3"	74	356	359	356	600	F12
4"	100	432	435	432	800	F14
6"	150	559	562	559	---	F14
8"	201	660	66	660	---	F16

## CLASS 900

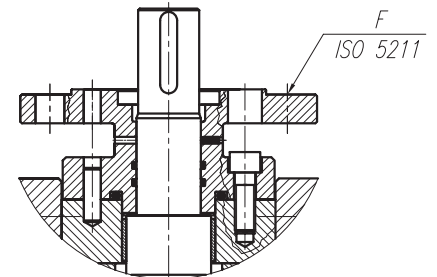
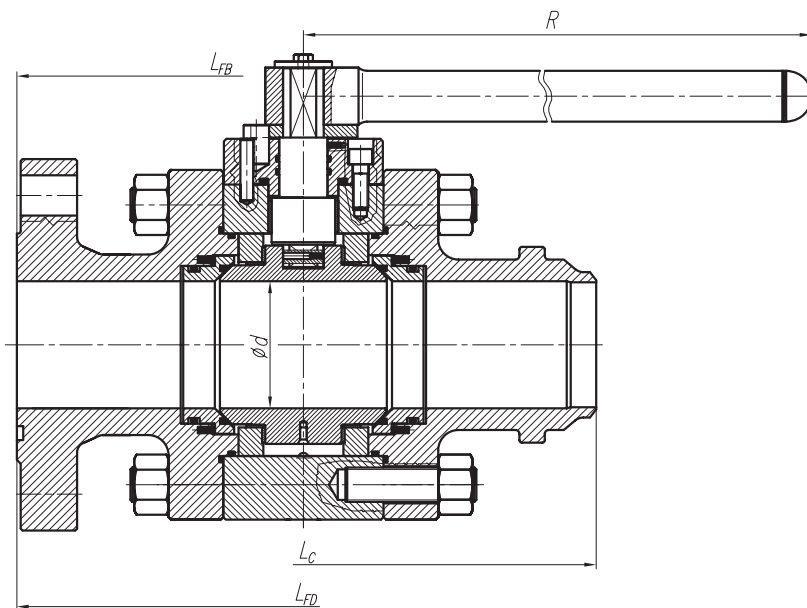
NPS	d (mm)	L <sub>RF</sub> (mm)	L <sub>RJ</sub> (mm)	L <sub>BW</sub> (mm)	R (mm)	F ISO 5211
2"	49	368	371	368	500	F10
2 1/2"	62	419	422	419	600	F12
3"	74	381	384	381	700	F12
4"	100	457	460	457	800	F14
6"	150	610	613	610	---	F14
8"	201	737	740	737	---	F16

## CLASS 1500

NPS	d (mm)	L <sub>RF</sub> (mm)	L <sub>RJ</sub> (mm)	L <sub>BW</sub> (mm)	R (mm)	F ISO 5211
2"	49	368	371	368	600	F10
2 1/2"	62	419	422	419	700	F12
3"	74	470	473	470	800	F12
4"	100	546	549	546	---	F14
6"	144	705	711	705	---	F16
8"	192	832	840	832	---	F25

# Chart of dimensions

LGF type ball valve  
EN



## PN 63

DN	d (mm)	LFB: LFD (mm)	Lc (mm)	R (mm)	F ISO 5211
50	49	230	230	350	F10
65	62	290	290	400	F10
80	74	310	310	500	F10
100	100	350	350	600	F12
150	150	480	480	---	F14
200	201	600	600	---	F14

## PN 100

DN	d (mm)	LFB: LFD (mm)	Lc (mm)	R (mm)	F ISO 5211
50	49	230	230	400	F10
65	62	290	290	500	F12
80	74	310	310	600	F12
100	100	350	350	800	F14
150	150	480	480	---	F14
200	201	600	600	---	F16

## PN 160

DN	d (mm)	LFB: LFD (mm)	Lc (mm)	R (mm)	F ISO 5211
50	49	300	300	500	F10
65	62	340	340	600	F12
80	74	380	380	700	F12
100	100	430	430	800	F14
150	150	550	550	---	F14
200	201	650	650	---	F16

## PN 250

DN	d (mm)	LFB: LFD (mm)	Lc (mm)	R (mm)	F ISO 5211
50	49	300	300	600	F10
65	62	340	340	700	F12
80	74	380	380	800	F12
100	100	430	430	---	F14
150	144	550	550	---	F16
200	192	650	650	---	F25

# LGK type ball valve

Dimension range	DN 15 - 150 / NPS 1/2" - 6"
Pressure range	PN 16 - 40 / Class 150 - 300
Temperature range	- 60°C - +150°C

This floating ball valve for low pressures can be manufactured in a large size range. The body can consist of 2 or 3 pieces, made of rolled or forged steel at smaller sizes. For bigger sizes they are made of cast steel. The pre-tensioned sealing rings resulting in high safety closure. The ball is coated with high hardness nickel coating. On demand this ball valve can be manufactured with stem supplied with packing box and with actuator as well.

### Materials:

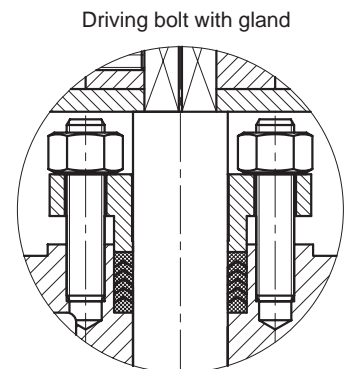
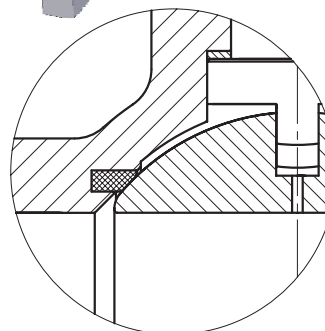
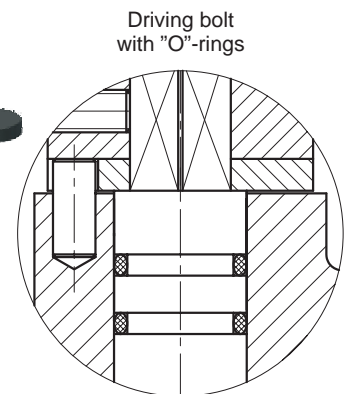
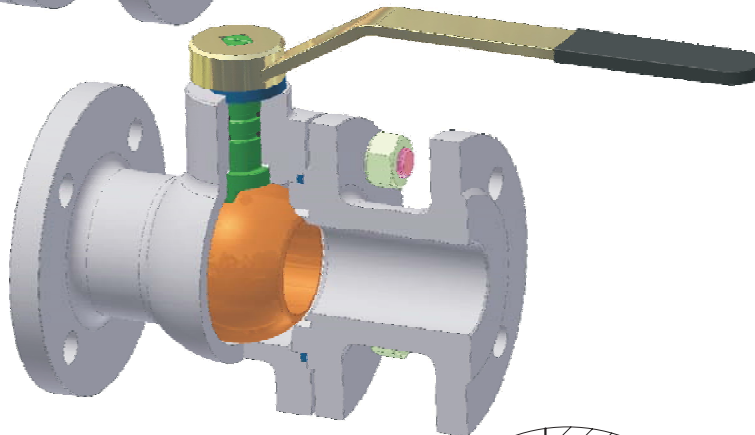
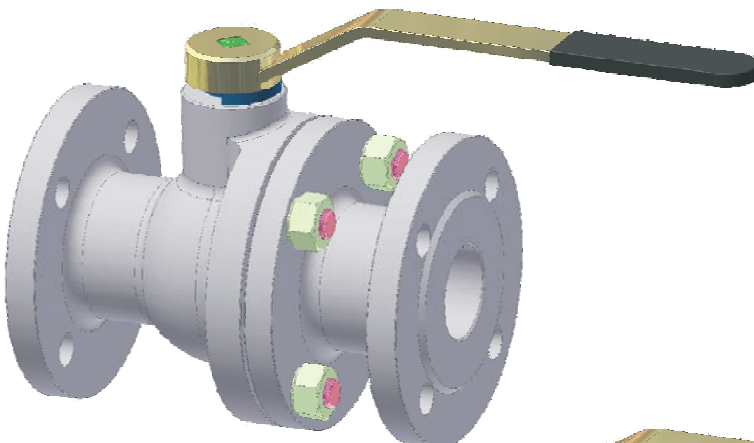
- ASTM A105; ASTM A216 WCB
- ASTM A350 LF2; ASTM A352 LCC
- ASTM A479 316(L); ASTM A351 CF8M

### Main features:

- Floating ball design
- 2 or three-piece body
- Flanged, threaded, or butt welded ends

### Design possibilities:

- Stem with packing
- Antistatic design
- Reduced bore design
- Electric motor operation
- Pneumatic operation

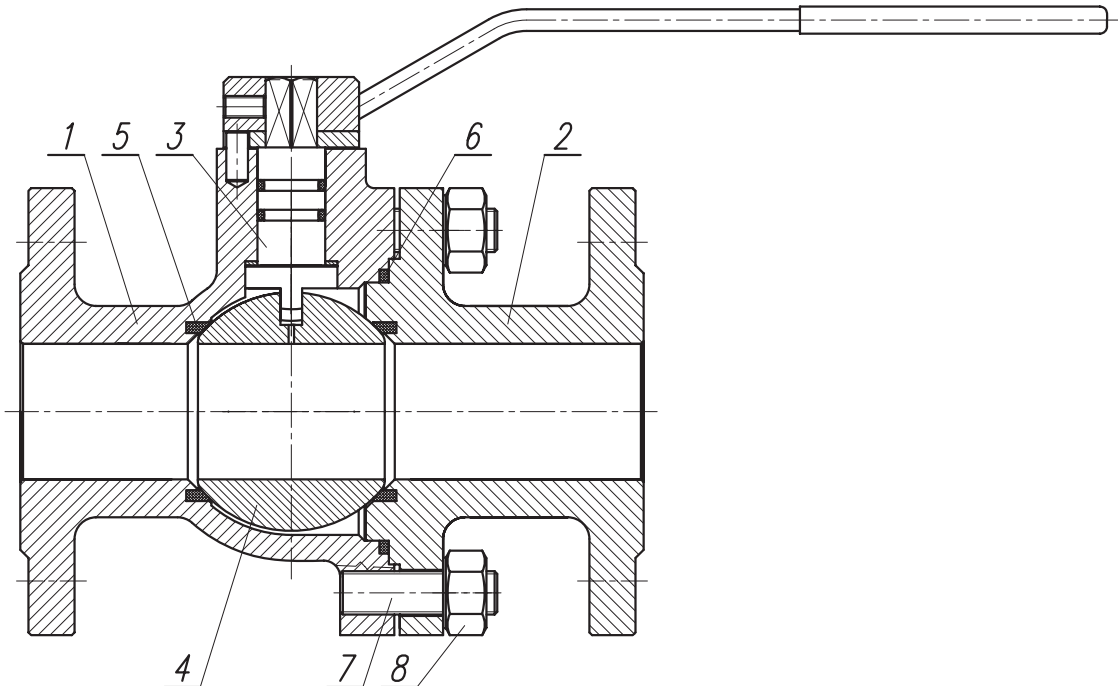


### Design standards:

- Face to face length: ASME B16.10; EN 558
- Butt welded type: ASME B16.25; EN 12627
- Flanged type: ASME B16.5; EN 1092-1; GOST 12815; GOST 12821
- Pressure test: API 598; EN 12266-1
- NACE design: NACE MR0175 / ISO 15156

## List of the main components

### LGK type ball valve



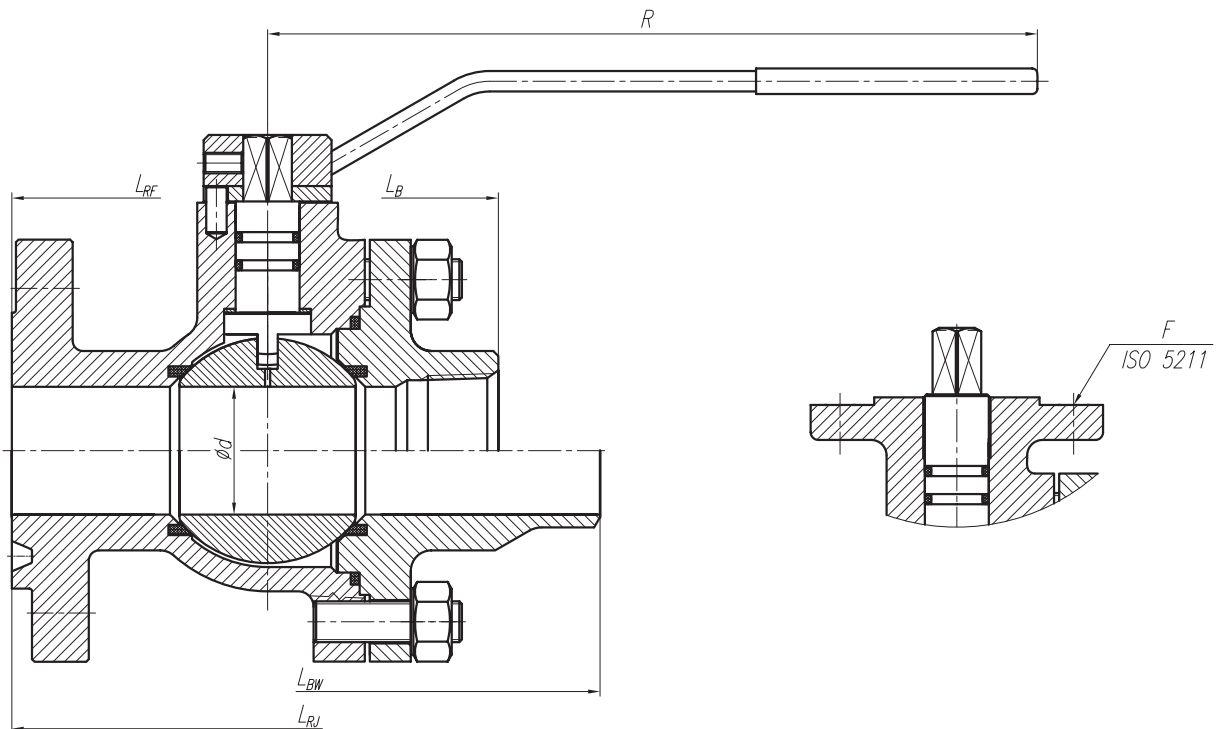
N°	Description	Standard design		NACE design	Corrosion-resistant design
		T= -29°C ~ +150°C	T= -46°C ~ +150°C	T= -46°C ~ +120°C	T= -60°C ~ +150°C
1	Body	ASTM A105 ASTM A216 WCB	ASTM A350 LF2 ASTM A352 LCC	ASTM A350 LF2 ASTM A352 LCC	ASTM A351 CF8M ASTM A479 316(L)
2	Flanged connection	ASTM A105 ASTM A216 WCB	ASTM A350 LF2 ASTM A352 LCC	ASTM A350 LF2 ASTM A352 LCC	ASTM A351 CF8M ASTM A479 316(L)
3	Driving stem	ASTM A276 410	ASTM A276 410	ASTM A182 F51	ASTM A276 316(L)
4	Ball	ASTM A105+ENP	ASTM A350 LF2+ENP	ASTM A182 F51 (+ENP)	ASTM A276 316(L) (+ENP)
5	Gasket ring	PTFE DEVLON-V	PTFE DEVLON-V	PTFE DEVLON-V	PTFE DEVLON-V
6	Body sealing	VITON Spiral Wound	VITON Spiral Wound	VITON Spiral Wound	VITON FVMQ Spiral Wound
7	Stud bolt	ASTM A320 L7M	ASTM A320 L7M	ASTM A320 L7M	ASTM A193 B8M Cl.2
8	Nut	ASTM A194 2HM	ASTM A194 2HM	ASTM A194 2HM	ASTM A194 8M
	"O"-ring	VITON	VITON GLT	VITON GLT	VITON FVMQ

- ENP = Electroless Nickel Plating
- For other mediums, orders on material quality is based on temperature
- The material quality of the "O"-ring can depend on the medium



# Chart of dimensions

LGK type ball valve  
ANSI



## CLASS 150

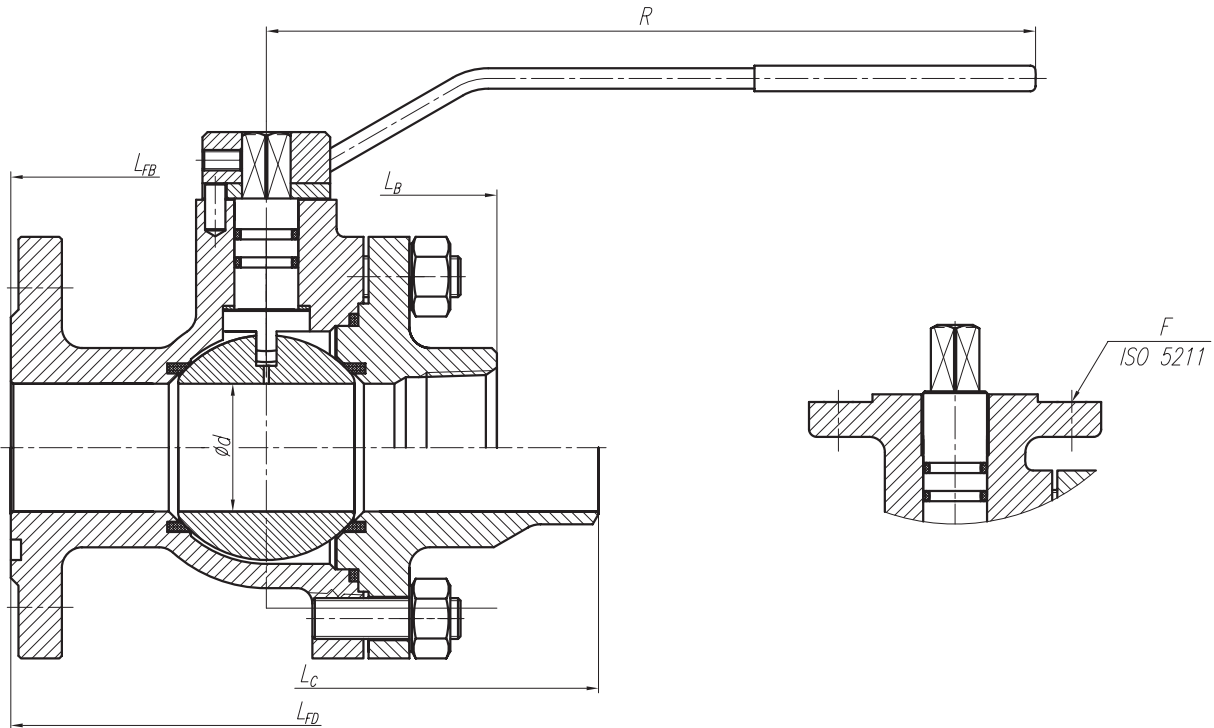
NPS	d (mm)	L <sub>RF</sub> (mm)	L <sub>RJ</sub> (mm)	L <sub>BW</sub> (mm)	L <sub>B</sub> (mm)	R (mm)	F ISO 5211
1/2"	13	108	---	140	85	160	F03
3/4"	19	117	---	152	100	160	F04
1"	25	127	140	165	115	200	F05
1 1/4"	32	140	153	178	130	250	F05
1 1/2"	38	165	178	190	150	300	F07
2"	49	178	191	216	180	350	F07
2 1/2"	62	190	204	241	---	400	F10
3"	74	203	216	282	---	450	F10
4"	100	229	242	305	---	550	F12
6"	150	394	407	457	---	---	F14

## CLASS 300

NPS	d (mm)	L <sub>RF</sub> (mm)	L <sub>RJ</sub> (mm)	L <sub>BW</sub> (mm)	L <sub>B</sub> (mm)	R (mm)	F ISO 5211
1/2"	13	140	151	140	85	160	F03
3/4"	19	152	165	152	100	160	F04
1"	25	165	178	165	115	200	F05
1 1/4"	32	178	191	178	130	250	F05
1 1/2"	38	190	203	190	150	300	F07
2"	49	216	232	216	180	350	F07
2 1/2"	62	241	257	241	---	400	F10
3"	74	282	298	282	---	450	F10
4"	100	305	321	305	---	550	F12
6"	150	403	419	457	---	---	F14

# Chart of dimensions

## LGK type ball valve EN



LGK

### PN 16

DN	d (mm)	L <sub>FB</sub> : L <sub>FD</sub> (mm)	L <sub>C</sub> (mm)	L <sub>B</sub> (mm)	R (mm)	F ISO 5211
10	13	130	130	85	160	F03
20	19	150	150	100	160	F04
25	25	160	160	115	200	F05
32	32	180	180	130	250	F05
40	38	200	200	150	300	F07
50	49	230	230	180	350	F07
65	62	290	290	---	400	F10
80	74	310	310	---	450	F10
100	100	350	350	---	550	F12
150	150	480	480	---	---	F14

### PN 25; PN 40

DN	d (mm)	L <sub>FB</sub> : L <sub>FD</sub> (mm)	L <sub>C</sub> (mm)	L <sub>B</sub> (mm)	R (mm)	F ISO 5211
10	13	130	130	85	160	F03
20	19	150	150	100	160	F04
25	25	160	160	115	200	F05
32	32	180	180	130	250	F05
40	38	200	200	150	300	F07
50	49	230	230	180	350	F07
65	62	290	290	---	400	F10
80	74	310	310	---	450	F10
100	100	350	350	---	550	F12
150	150	480	480	---	---	F14

# LGU type ball valve

Dimension range	DN 15 - 50 / NPS 1/2" - 2"
Pressure range	PN 16 - 250 / Class 150 - 1500
Temperature range	- 60°C - +150°C

This floating ball valve can be applied in wide pressure range. The body is made of galvanized carbon steel or corrosion-resistant steel. The pre-tensioned sealing rings result in high safety closure even at low and high pressures. The ball is coated with high hardness nickel coating. The unique design of the ball valve ensures that it can be manufactured with various type of threaded, flanged or butt welded ends and can be supplied with actuator as well.

**Materials:**

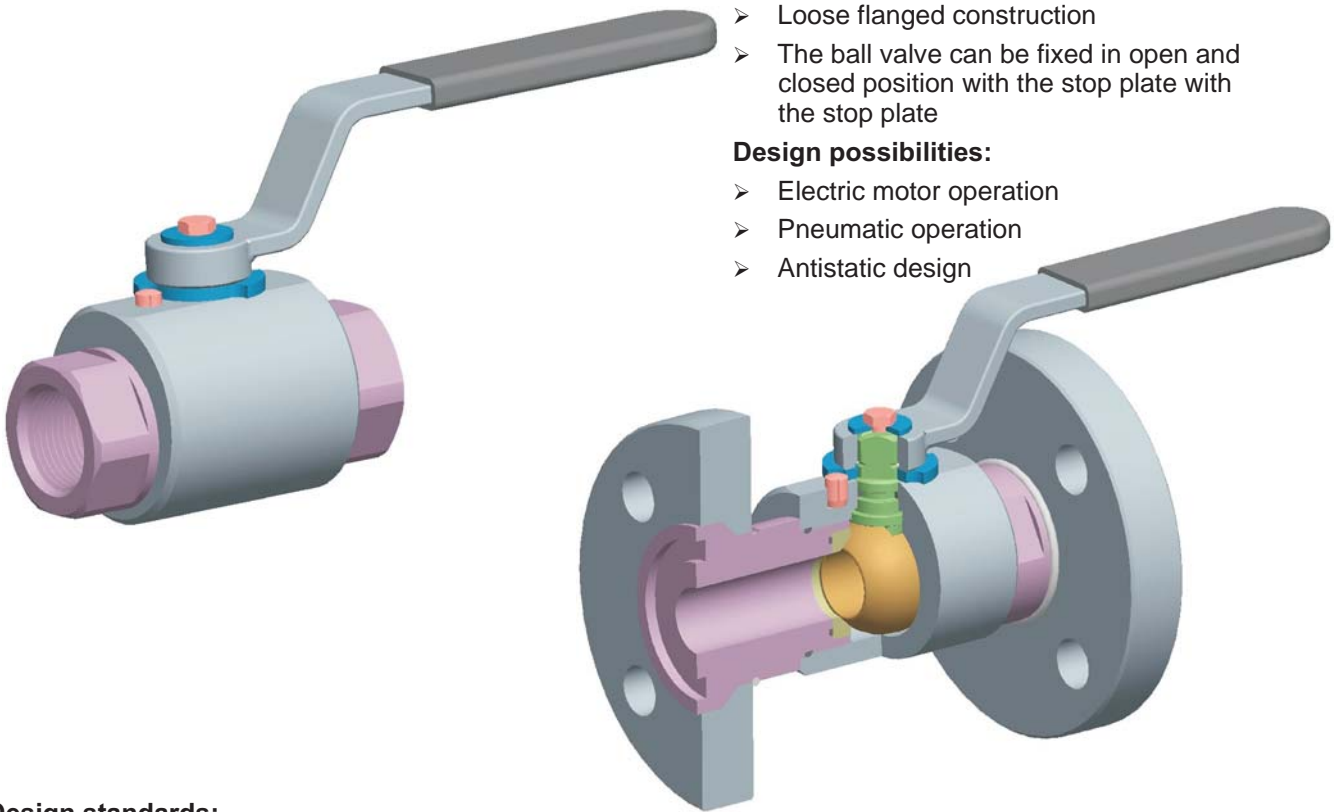
- ASTM A105; ASTM A216 WCB
- ASTM A350 LF2; ASTM A352 LCC
- ASTM A479 316(L); ASTM A351 CF8M

**Main features:**

- Floating ball design
- Modular structure
- Flanged, threaded, or butt welded ends
- Loose flanged construction
- The ball valve can be fixed in open and closed position with the stop plate with the stop plate

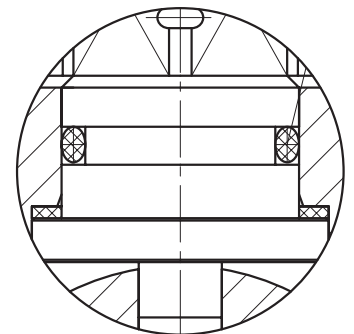
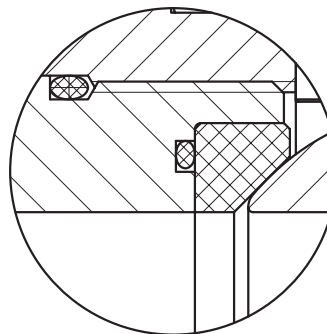
**Design possibilities:**

- Electric motor operation
- Pneumatic operation
- Antistatic design



**Design standards:**

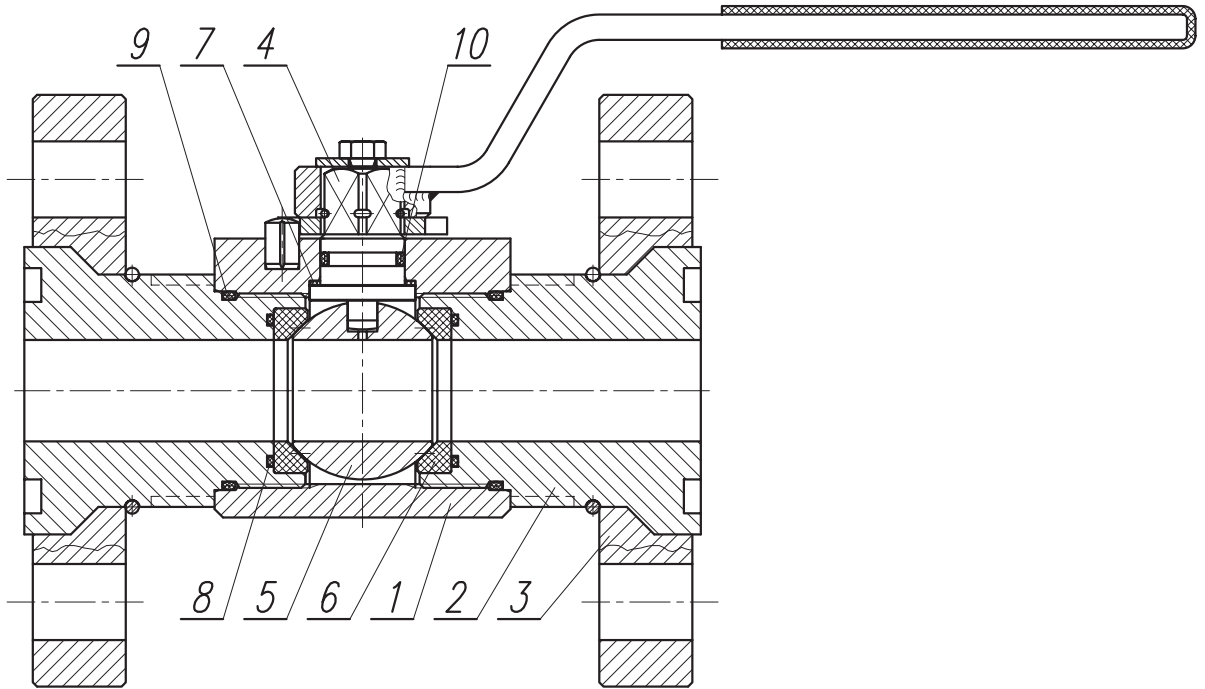
- Face to face length: ASME B16.10; EN 558
- Butt welded type: ASME B16.25; EN 12627
- Threaded type: ASME B1.20.1 NPT
- Flanged type: ASME B16.5; EN 1092-1; GOST 12815; GOST 12821
- Pressure test: API 598; EN 12266-1
- NACE design: NACE MR0175 / ISO 15156



LGU

## List of the main components

### LGU type ball valve

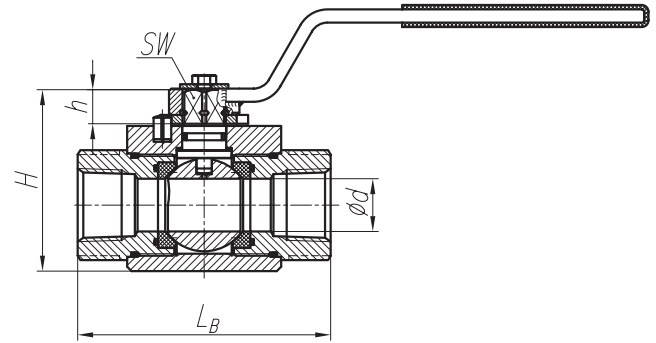
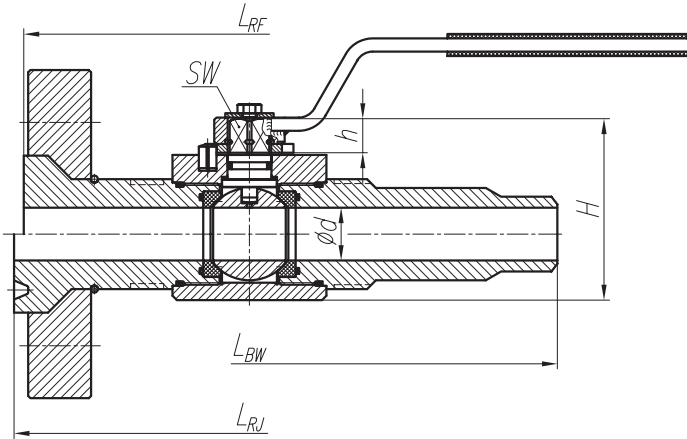


N°	Description	Standard design		NACE design	Corrosion-resistant design
		T= -29°C ~ +150°C	T= -46°C ~ +150°C	T= -46°C ~ +120°C	T= -60°C ~ +150°C
1	Body	ASTM A105 (1)	ASTM A350 LF2 (1)	ASTM A350 LF2 ASTM A479 316(L)	ASTM A479 316(L)
2	Threaded connection	ASTM A105 (1)	ASTM A350 LF2 (1)	ASTM A350 LF2 ASTM A479 316(L)	ASTM A479 316(L)
3	Flange	ASTM A105 (1)	ASTM A350 LF2 (1)	ASTM A350 LF2 ASTM A479 316(L)	ASTM A479 316(L)
4	Driving stem	ASTM A276 410	ASTM A276 410	ASTM A564 630 ASTM A276 316(L)	ASTM A276 316(L)
5	Ball	ASTM A105+ENP ASTM A276 316(L)	ASTM A350 LF2+ENP ASTM A276 316(L)	ASTM A350 LF2+ENP ASTM A276 316(L)(+ENP)	ASTM A276 316(L) +ENP
6	Gasket ring	PTFE DEVLON-V	PTFE DEVLON-V	PTFE DEVLON-V	PTFE DEVLON-V
7	Axial bearing	PTFE / PCTFE	PTFE / PCTFE	PTFE / PCTFE	PTFE / PCTFE
8; 9; 10	"O"-ring	VITON	VITON GLT	VITON GLT	VITON FVMQ

- (1) = Galvanized
- ENP = Elektroless Nickel Plating
- For other mediums, orders on material quality is based on temperature

# Chart of dimensions

LGU type ball valve  
ANSI



LGU

## CLASS 150

NPS	d (mm)	L <sub>RF</sub> * (mm)	L <sub>RJ</sub> * (mm)	L <sub>BW</sub> (mm)	H (mm)	SW (mm)	h (mm)
3/8"	10	---	---	270	52	9	10
1/2"	13	140	---	270	61	10	12
3/4"	20	152	---	270	74	12	13,5
1"	24	165	178	270	82,5	14	15,5
1 1/4"	32	178	191	270	105	17	18,5
1 1/2"	40	190	203	270	118	17	18,5
2"	50	216	232	300	134	19	21

\* CLASS 300 face to face length

## CLASS 300

NPS	d (mm)	L <sub>RF</sub> (mm)	L <sub>RJ</sub> (mm)	L <sub>BW</sub> (mm)	H (mm)	SW (mm)	h (mm)
3/8"	10	---	---	270	52	9	10
1/2"	13	140	151	270	61	10	12
3/4"	20	152	165	270	74	12	13,5
1"	24	165	178	270	82,5	14	15,5
1 1/4"	32	178	191	270	105	17	18,5
1 1/2"	40	190	203	270	118	17	18,5
2"	50	216	232	300	134	19	21

## CLASS 600

NPS	d (mm)	L <sub>RF</sub> (mm)	L <sub>RJ</sub> (mm)	L <sub>BW</sub> (mm)	H (mm)	SW (mm)	h (mm)
3/8"	10	---	---	270	52	9	10
1/2"	13	165	163	270	61	10	12
3/4"	20	190	190	270	74	12	13,5
1"	24	216	216	270	82,5	14	15,5
1 1/4"	32	229	229	270	105	17	18,5
1 1/2"	40	241	241	270	118	17	18,5
2"	50	292	295	300	134	19	21

## CLASS 900; CLASS 1500

NPS	d (mm)	L <sub>RF</sub> (mm)	L <sub>RJ</sub> (mm)	L <sub>BW</sub> (mm)	H (mm)	SW (mm)	h (mm)
3/8"	10	---	---	270	52	9	10
1/2"	13	216	216	270	61	10	12
3/4"	20	229	229	270	74	12	13,5
1"	24	254	254	270	82,5	14	15,5
1 1/4"	32	279	279	270	105	17	18,5
1 1/2"	40	305	305	270	118	17	18,5
2" <sup>(1)</sup>	50	368	371	300	134	19	21

<sup>(1)</sup>only Class 900

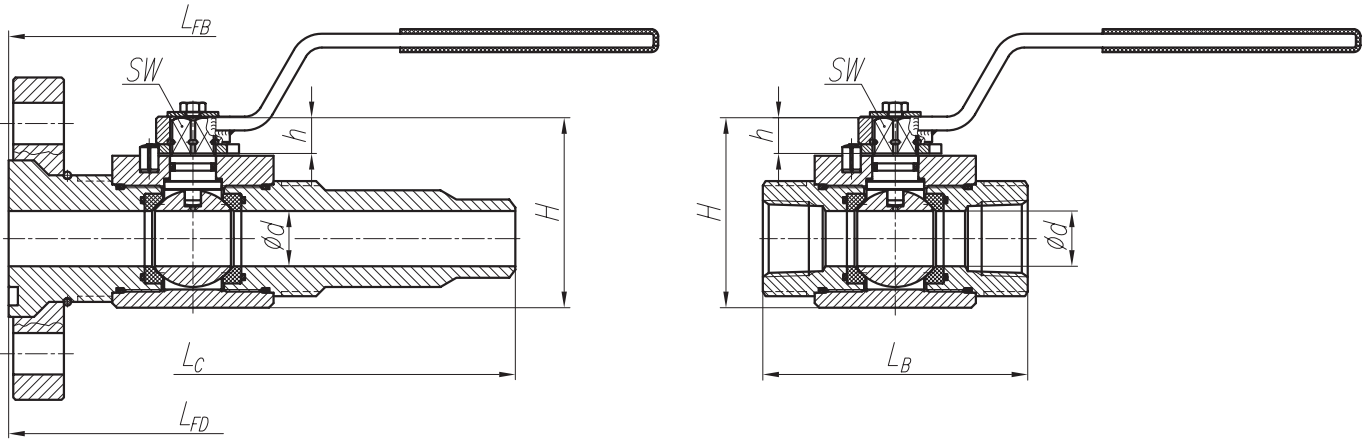
## CLASS 800; CLASS 1500

NPS	d (mm)	L <sub>B</sub> (mm)	H (mm)	SW (mm)	h (mm)
3/8"	10	70	52	9	10
1/2"	13	85	61	10	12
3/4"	20	100	74	12	13,5
1"	24	115	82,5	14	15,5
1 1/4"	32	130	105	17	18,5
1 1/2"	40	150	118	17	18,5
2" <sup>(2)</sup>	50	180	134	19	21

<sup>(2)</sup>only Class 800

# Chart of dimensions

LGU type ball valve  
EN



PN 16 - 250

DN	d (mm)	L <sub>FB</sub> : L <sub>FD</sub> (mm)	L <sub>C</sub> (mm)	L <sub>B</sub> (mm)	H (mm)	SW (mm)	h (mm)
10	10	130	270	70	52	9	10
15	13	130	270	85	61	10	12
20	20	150 <sup>(1)</sup>	270	100	74	12	13,5
25	24	160	270	115	82,5	14	15,5
32	32	180 <sup>(1)</sup>	270	130	105	17	18,5
40	40	200	270	150	118	17	18,5
50 <sup>(2)</sup>	50	230	300	180	134	19	21

<sup>(1)</sup> Flanged design only up to PN 100

<sup>(2)</sup> only up to PN 160



# ASZ type needle valve

Dimension range	DN 15; DN 25 / NPS 1/2"; NPS 1"
Pressure range	PN 40 - 400 / Class 300 - 2500
Temperature range	- 60°C - +343°C

This inside threaded needle valve is of simple design for wide pressure range. Long life is ensured by the non-rotating, self-centering valve tip and also by the weld on valve seat. The needle valve can be made with flanged, threaded, butt welded and socket welded ends as well. The needle valve can be built in the streamline of the pipeline in the direction of the arrow located on the valve body.

### Materials:

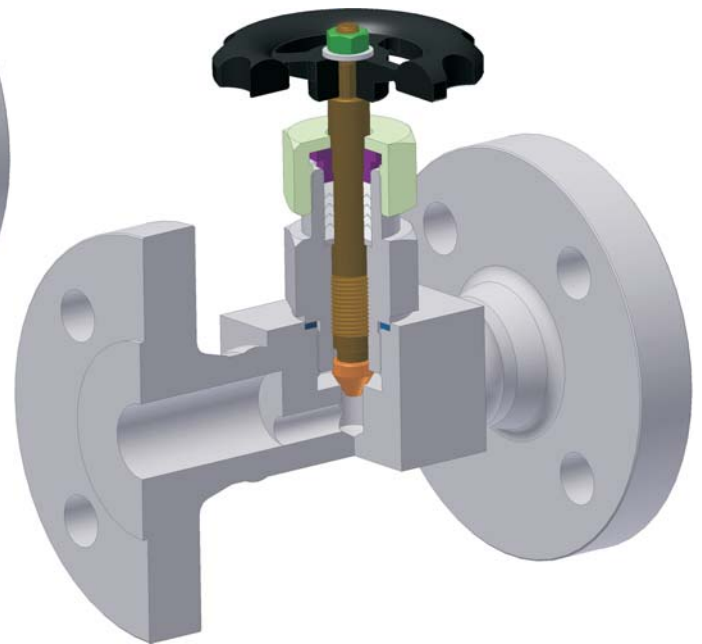
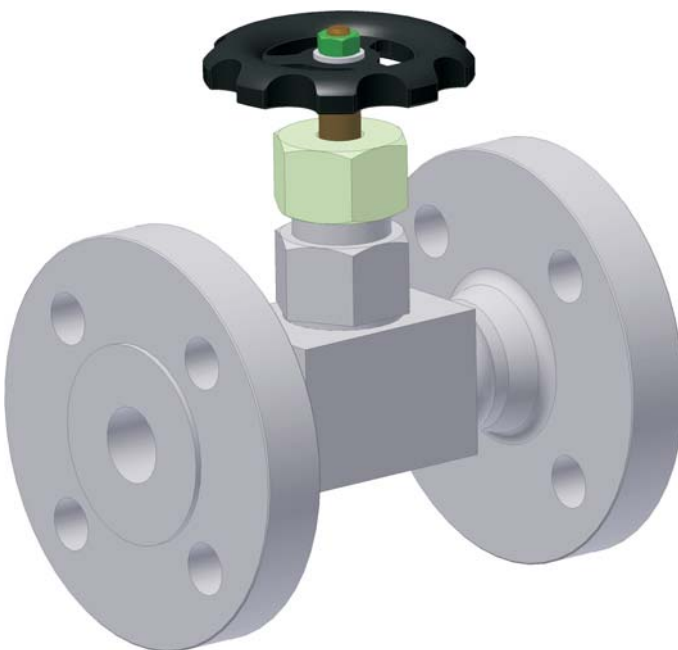
- ASTM A350 LF2
- ASTM A479 316(L)

### Main features:

- Flow regulating valve
- Self-centering tip, closing on conical surface
- Weld on valve seat
- Flanged, threaded, butt welded, or socket welded ends connection

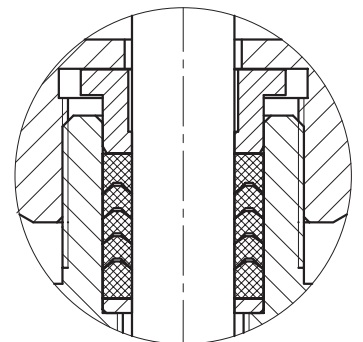
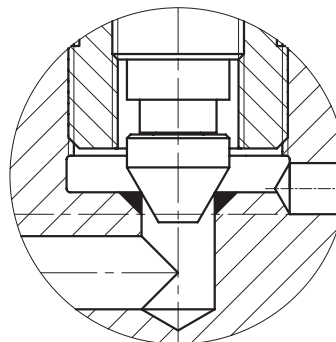
### Design possibilities:

- On customer demand



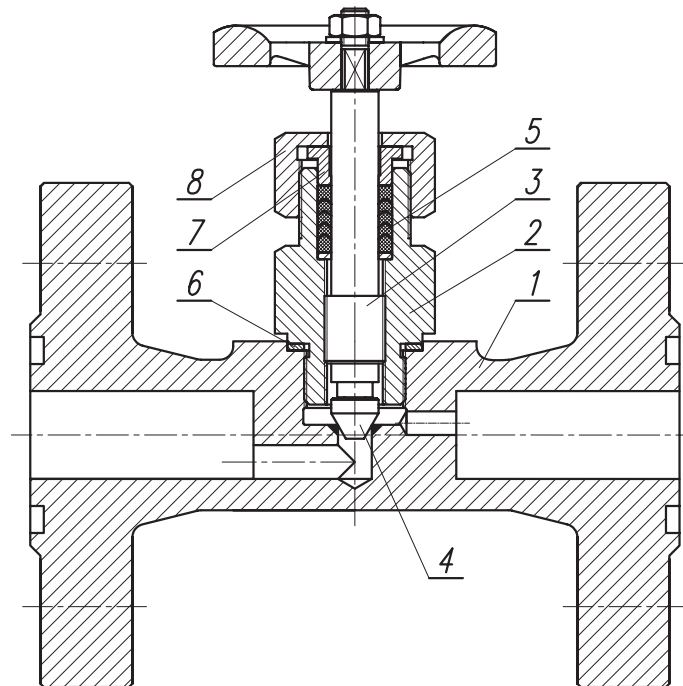
### Design standards:

- Face to face length: ASME B16.10; EN 558
- Socket welded type: ASME B16.11; DIN 3239
- Butt welded type: ASME B16.25; EN 12627
- Threaded type: ASME B1.20.1 NPT
- Flanged type: ASME B16.5; EN 1092-1; GOST 12815; GOST 12821
- Pressure test: API 598; EN 12266-1
- NACE design: NACE MR0175 / ISO 15156



## List of the main components

### ASZ type needle valve



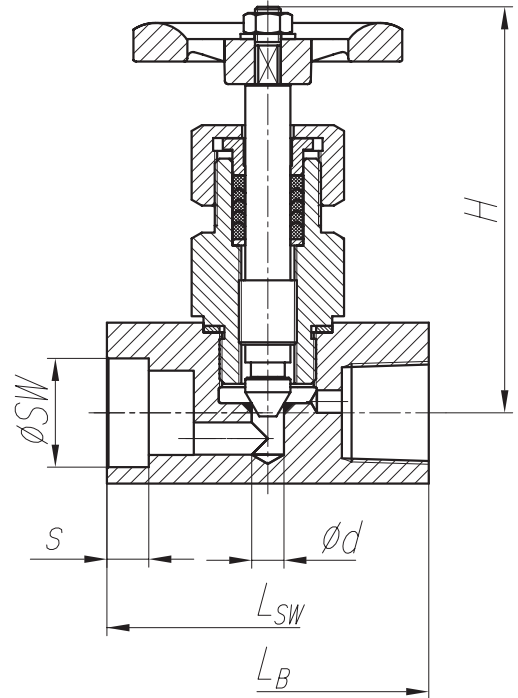
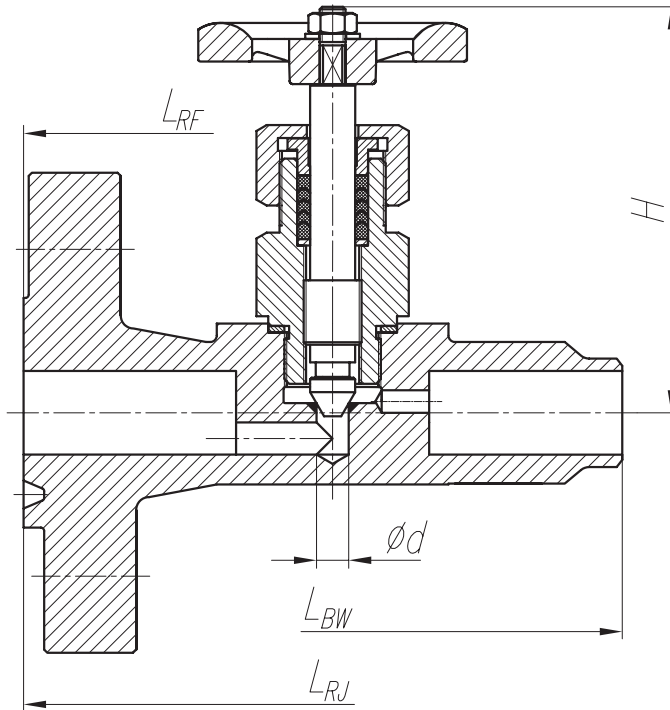
ASZ

N°	Description	Standard design	NACE design	Corrosive design
		T= -46°C ~ +343°C	T= -46°C ~ +343°C	T= -60°C ~ +300°C
1	Body	ASTM A350 LF2 +13Cr	ASTM A350 LF2 +13Cr	ASTM A479 316(L)
2	Gasket cage	ASTM A350 LF2	ASTM A350 LF2	ASTM A479 316(L)
3	Valve shaft	ASTM A276 410	ASTM A182 F6NM	ASTM A276 316(L)
4	Valve head	ASTM A276 410	ASTM A564 630	ASTM A564 630
5	Gland packing	PTFE Grafit	PTFE Grafit	PTFE Grafit
6	Body-bonnet packing	316L+Grafit 316L	316L	316L+Grafit 316L
7	Stuffing box gland	ASTM A276 410	ASTM A182 F6NM	ASTM A276 316(L)
8	Gland nut	ASTM A350 LF2	ASTM A350 LF2	ASTM A276 316(L)

- For other mediums, orders on material quality is based on temperature.

# Chart of dimensions

## ASZ type needle valve ANSI



ASZ

### CLASS 300

NPS	$\varnothing d$ (mm)	$L_{RF}$ (mm)	$L_{RJ}$ (mm)	$L_{BW}$ (mm)	H (mm)
1/2"	6	152	163	152	120
1"	10	203	216	203	126

### CLASS 600

NPS	$\varnothing d$ (mm)	$L_{RF}$ (mm)	$L_{RJ}$ (mm)	$L_{BW}$ (mm)	H (mm)
1/2"	6	165	163	165	120
1"	10	216	216	216	126

### CLASS 900; CLASS 1500

NPS	$\varnothing d$ (mm)	$L_{RF}$ (mm)	$L_{RJ}$ (mm)	$L_{BW}$ (mm)	H (mm)
1/2"	6	216	216	216	120
1"	10	254	254	254	126

### CLASS 2500

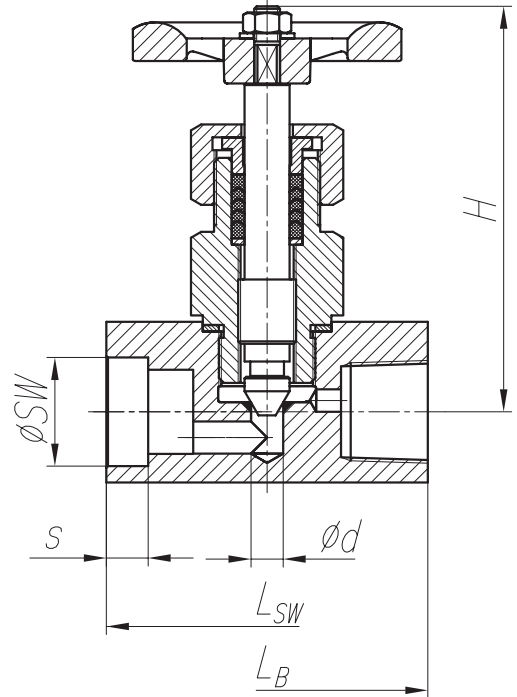
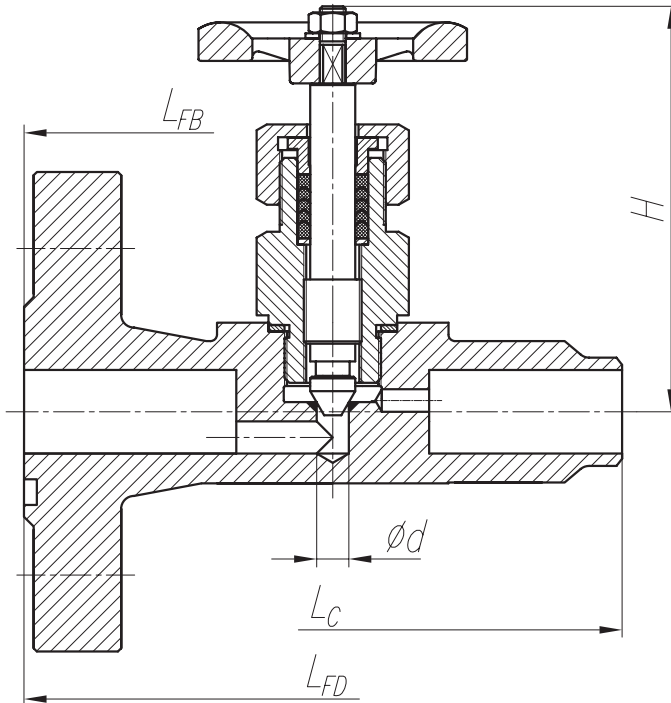
NPS	$\varnothing d$ (mm)	$L_{RF}$ (mm)	$L_{RJ}$ (mm)	$L_{BW}$ (mm)	H (mm)
1/2"	6	264	264	264	120
1"	10	308	308	308	126

### CLASS 800; CLASS 1500; CLASS 2500

NPS	$\varnothing d$ (mm)	$L_{SW}; L_B$ (mm)	$\varnothing SW$ (mm)	$S_{min}$ (mm)	H (mm)
1/2"	6	80	21,8	10	120
1"	10	100	33,9	13	126

# Chart of dimensions

ASZ type needle valve  
EN



ASZ

## PN 40 - 160

DN	$\varnothing d$ (mm)	$L_{FB}; L_{FD}$ (mm)	$L_C$ (mm)	$L_{SW}; L_B$ (mm)	$\varnothing SW$ (mm)	$S_{min}$ (mm)	H (mm)
15	6	130	130	80	21,8	10	120
25	10	160	160	100	33,9	13	126

## PN 250 - 400

DN	$\varnothing d$ (mm)	$L_{FB}; L_{FD}$ (mm)	$L_C$ (mm)	$L_{SW}; L_B$ (mm)	$\varnothing SW$ (mm)	$S_{min}$ (mm)	H (mm)
15	6	210	210	80	21,8	10	120
25	10	230	230	100	33,9	13	126

## KFSZ type needle valve

Dimension range	1/2"
Pressure range	0 - 10000 psi
Temperature range	- 60°C - +150°C

The KFSZ type needle valve stainless steel design made for up to 10000 psi (690 bar) nominal pressure. Long life is ensured by the non-rotating, self-centering tip and the male thread, which is out of contact with the medium located over the stuffing box and the plastic stem guard. Depending on the order the needle valve can be manufactured with connecting threads of NPT 1/2" outside or inside, and also M20x1,5 inside. The valve body can be blow off by the vent plug located on its bottom. The needle valve can be built in the streamline of the pipeline in the direction of the arrow located on the valve body.

### Materials:

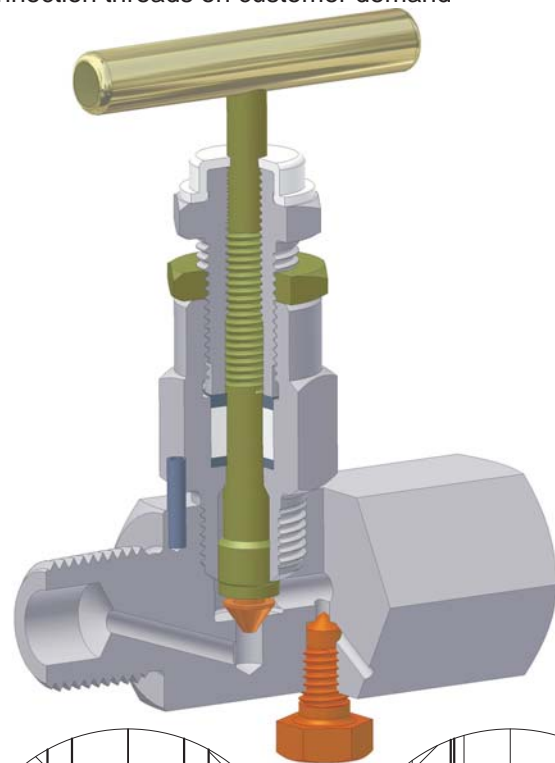
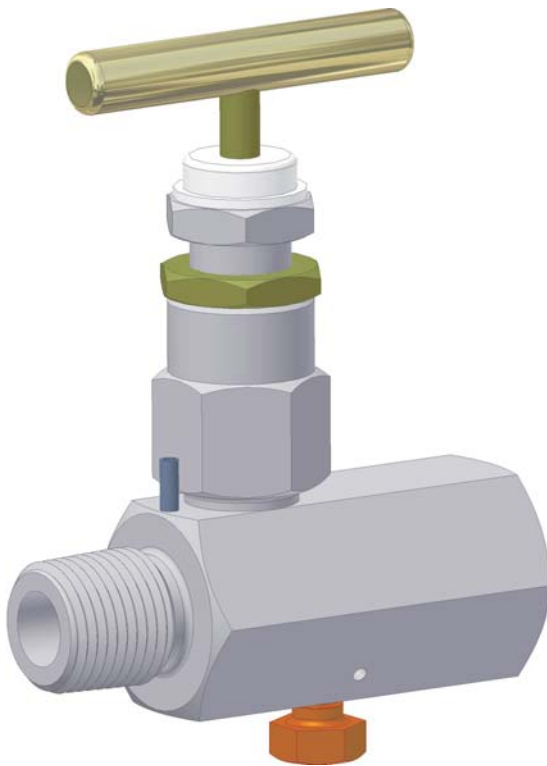
- ASTM A479 316(L)

### Main features:

- Stainless steel design
- Vent plug for body pressure relief
- NPT 1/2" or M20x1,5 connecting threads
- Self-centering tip, closing on conical surface

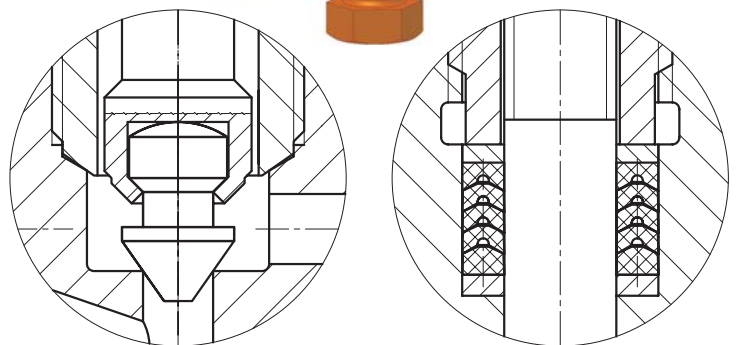
### Design possibilities:

- Connection threads on customer demand



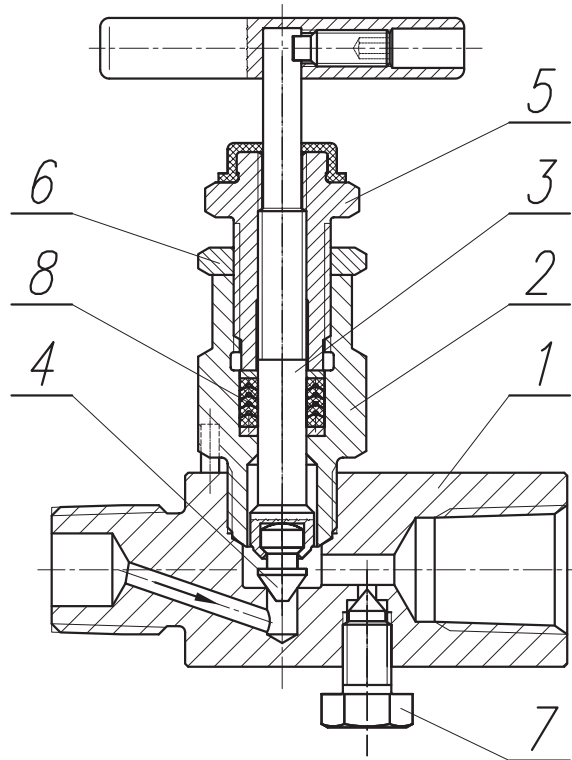
### Design standards:

- Threaded type: ASME B1.20.1 NPT; ISO 965
- Pressure test: API 598; EN 12266-1
- NACE design: NACE MR0175 / ISO 15156



## List of the main components

### KFSZ type needle valve



KFSZ

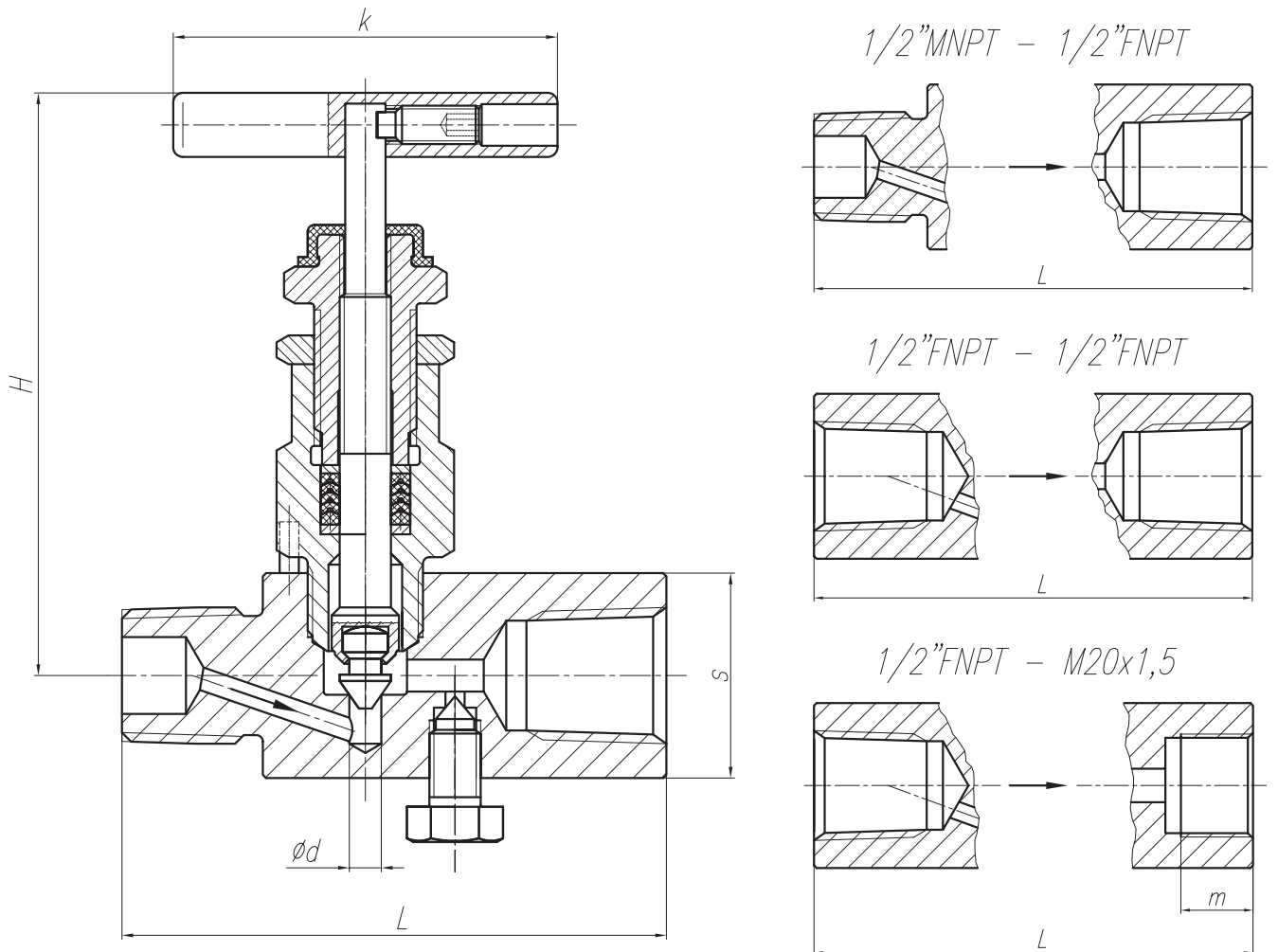
N°	Description	NACE, Corrosion-resistant design
		T= -60°C ~ +150°C
1	Body	ASTM A479 316(L)
2	Gasket cage	ASTM A479 316(L)
3	Valve stem	ASTM A276 316(L)
4	Valve head	ASTM A564 630
5	Gland bolt	ASTM A276 316(L)
6	Counternut	ASTM A276 316(L)
7	Bleeder screw	ASTM A276 316(L)
8	Gland packing	Grafit / PTFE

- For other mediums, orders on material quality is based on temperature.



## Chart of dimensions

### KFSZ type needle valve



#### 6000 psi (414 bar)

NPS	Connection	Ød (mm)	L (mm)	H (mm)	k (mm)	s (mm)	m (mm)
1/2"	MNPT 1/2" FNPT 1/2" M 20x1,5	5	85	91	60	32	14

#### 10000 psi (690 bar)

NPS	Connection	Ød (mm)	L (mm)	H (mm)	k (mm)	s (mm)
1/2"	MNPT 1/2" FNPT 1/2"	4	94	89	60	41

# LM-1 type manometer needle valve

Dimension range	DN 15
Pressure range	PN 40 - 350
Temperature range	- 60°C - +150°C

The LM-1 type manometer needle valve makes possible the connection of the manometers to pipelines. The valve body is a four way cock, and can be manufactured with NPT 1/2" or M20x1,5 connecting threads depending to the order. The valve body can be blown off to provide easy installation or dismantling under pressure as well. The manometer needle valve can be built in the streamline of the pipeline in the direction of the arrow located on the

**Materials:**

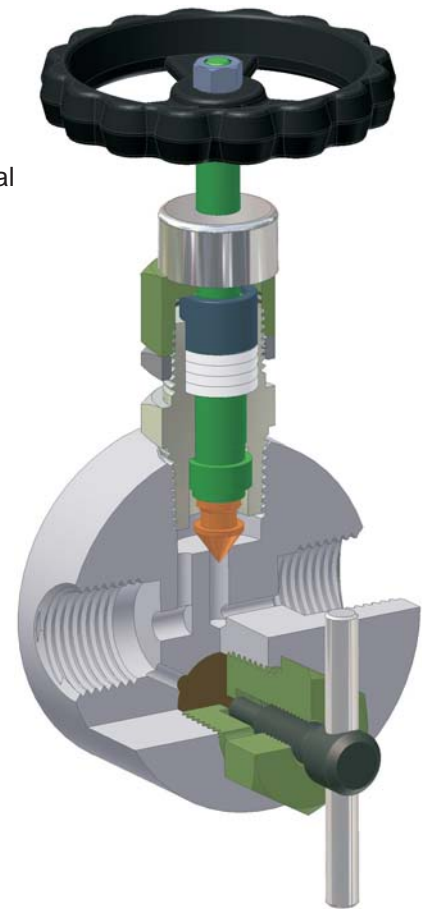
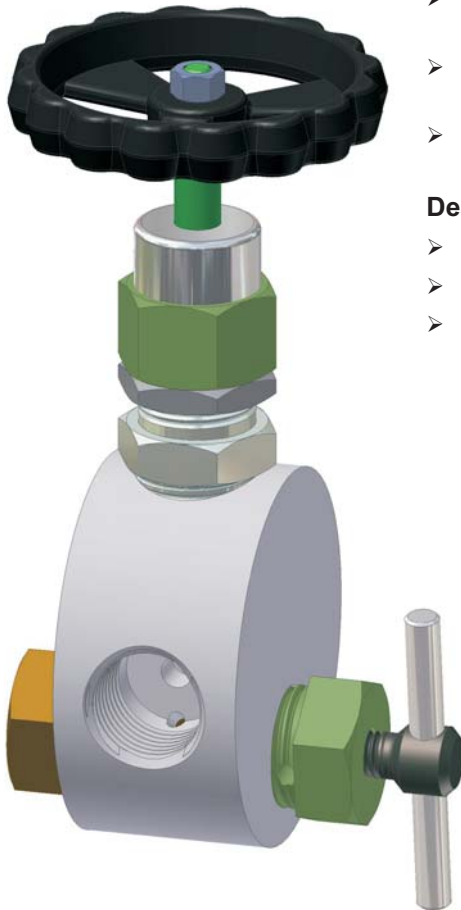
- ASTM A350 LF2
- ASTM A479 316(L)

**Main features:**

- Four-way valve body
- Went plug for body pressure relief
- NPT 1/2" or M20x1,5 connecting threads
- Self-centering tip, closing on conical surface
- Weld on valve seat

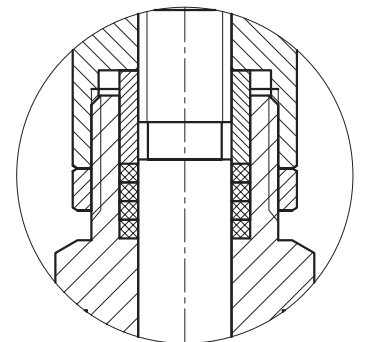
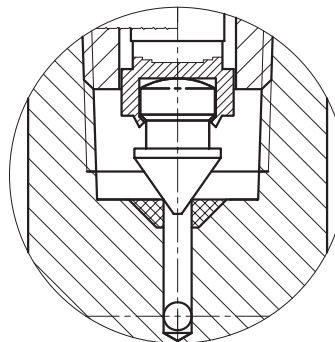
**Design possibilities:**

- Handlever design
- Handwheel design
- Connecting threads on customer demand



**Design standards:**

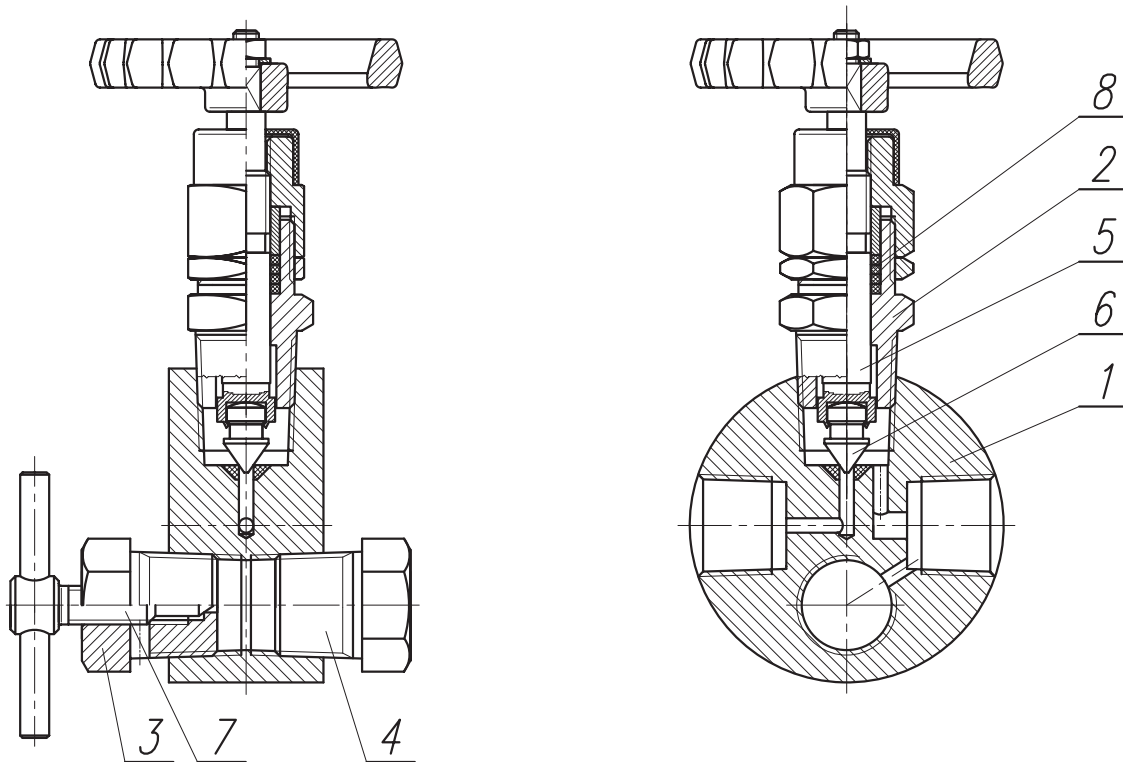
- Threaded type: ASME B1.20.1 NPT; ISO 965
- Pressure test: API 598; EN 12266-1
- NACE design: NACE MR0175 / ISO 15156



LM-1

## List of the main components

### LM-1 type manometer needle valve



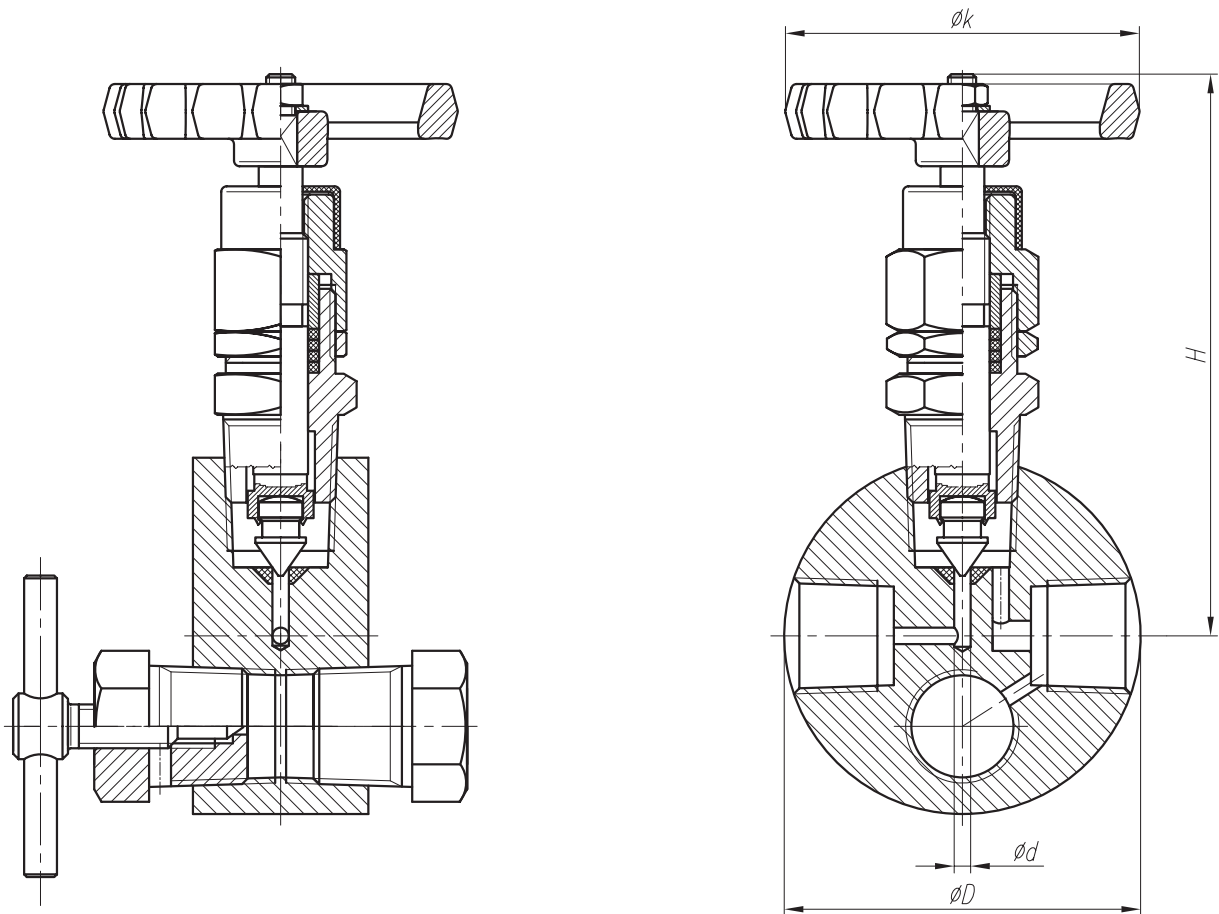
LM-1

N°	Description	Standard design	NACE design	Corrosion-resistant design
		T= -46°C ~ +150°C	T= -46°C ~ +150°C	T= -60°C ~ +150°C
1	Body	ASTM A350 LF2+13Cr	ASTM A350 LF2+13Cr	ASTM A479 316(L)
2	Gasket house	ASTM A350 LF2	ASTM A350 LF2	ASTM A479 316(L)
3	Bleeder body	ASTM A350 LF2	ASTM A350 LF2	ASTM A479 316(L)
4	Closing screw	ASTM A350 LF2	ASTM A350 LF2	ASTM A276 316(L)
5	Stem	ASTM A276 410	ASTM A182 F6NM	ASTM A276 316(L)
6	Valve head	ASTM A276 410	ASTM A564 630	ASTM A564 630
7	Bleeder screw	ASTM A276 410	ASTM A182 F6NM	ASTM A564 630
8	Gasket packing	Grafit / PTFE	Grafit / PTFE	Grafit / PTFE

- For other mediums, orders on material quality is based on temperature

# Chart of dimensions

## LM-1 type manometer needle valve



**PN 40 - 350**

DN	Connection	Ød (mm)	ØD (mm)	H (mm)	Øk (mm)
15	NPT 1/2" M 20x1,5	3	65	102	65

LM-1

# LM-2 type manometer needle valve

Dimension range	DN 15
Pressure range	PN 40 - 350
Temperature range	- 60°C - +150°C

The LM-2 type manometer needle valve differs from the LM-1 type one only in the arrangement of the valve body connections.

**Materials:**

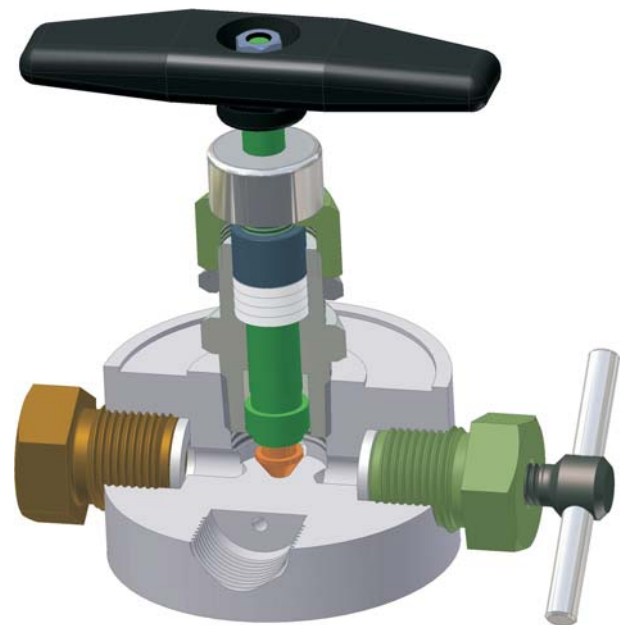
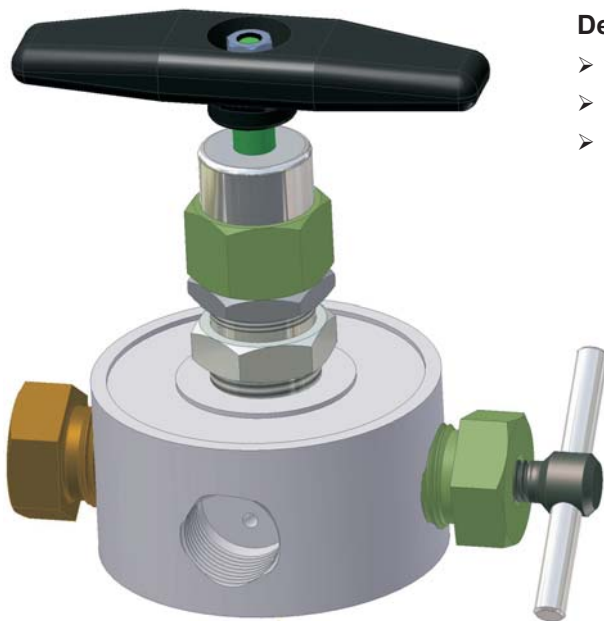
- ASTM A350 LF2
- ASTM A479 316(L)

**Main features:**

- Four-way valve body
- Went plug for body pressure relief
- NPT 1/2" or M20x1,5 connecting threads
- Self-centering tip, closing on conical surface
- Weld on valve seat

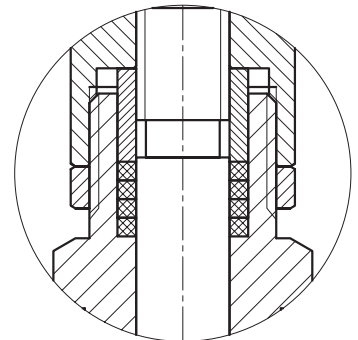
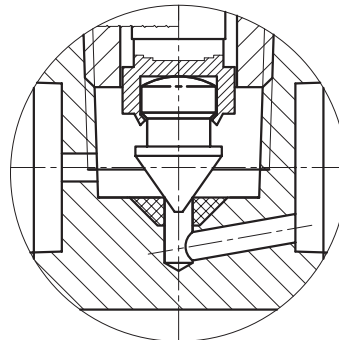
**Design possibilities:**

- Handlever design
- Handwheel design
- Connecting threads on customer demand



**Design standards:**

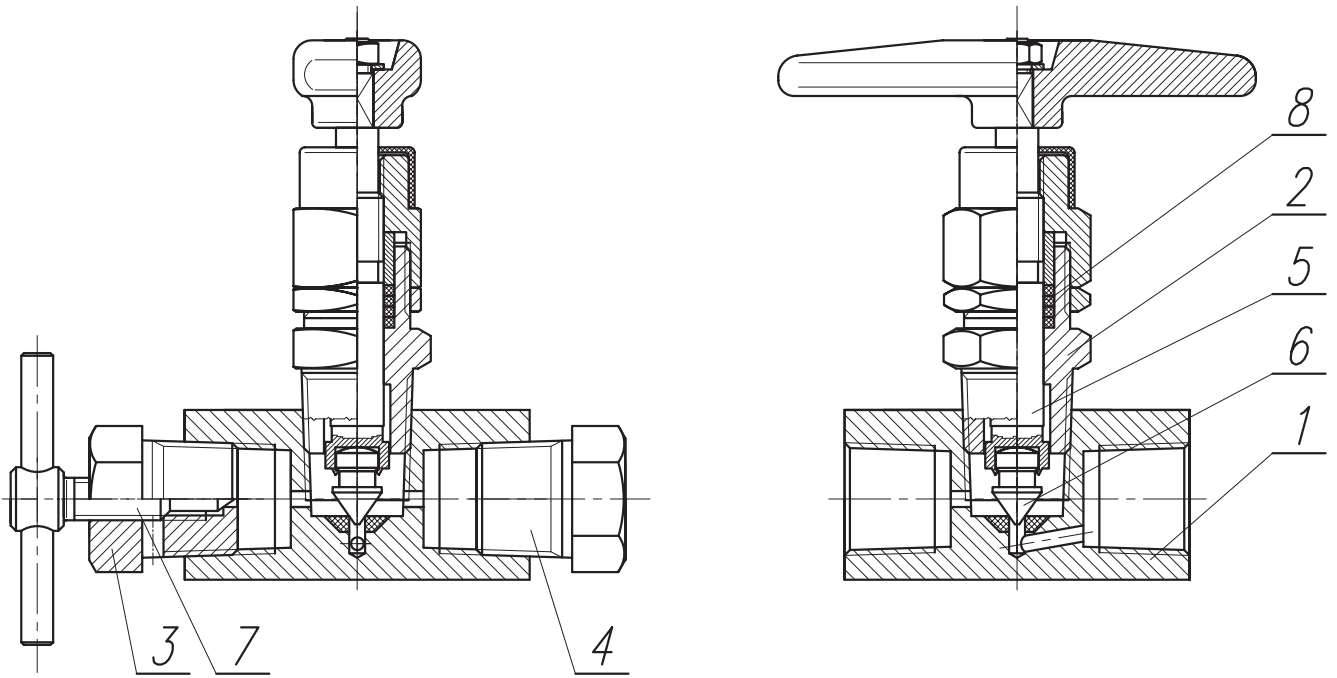
- Threaded type: ASME B1.20.1 NPT; ISO 965
- Pressure test: API 598; EN 12266-1
- NACE design: NACE MR0175 / ISO 15156



LM-2

## List of the main components

### LM-2 type manometer needle valve



LM-2

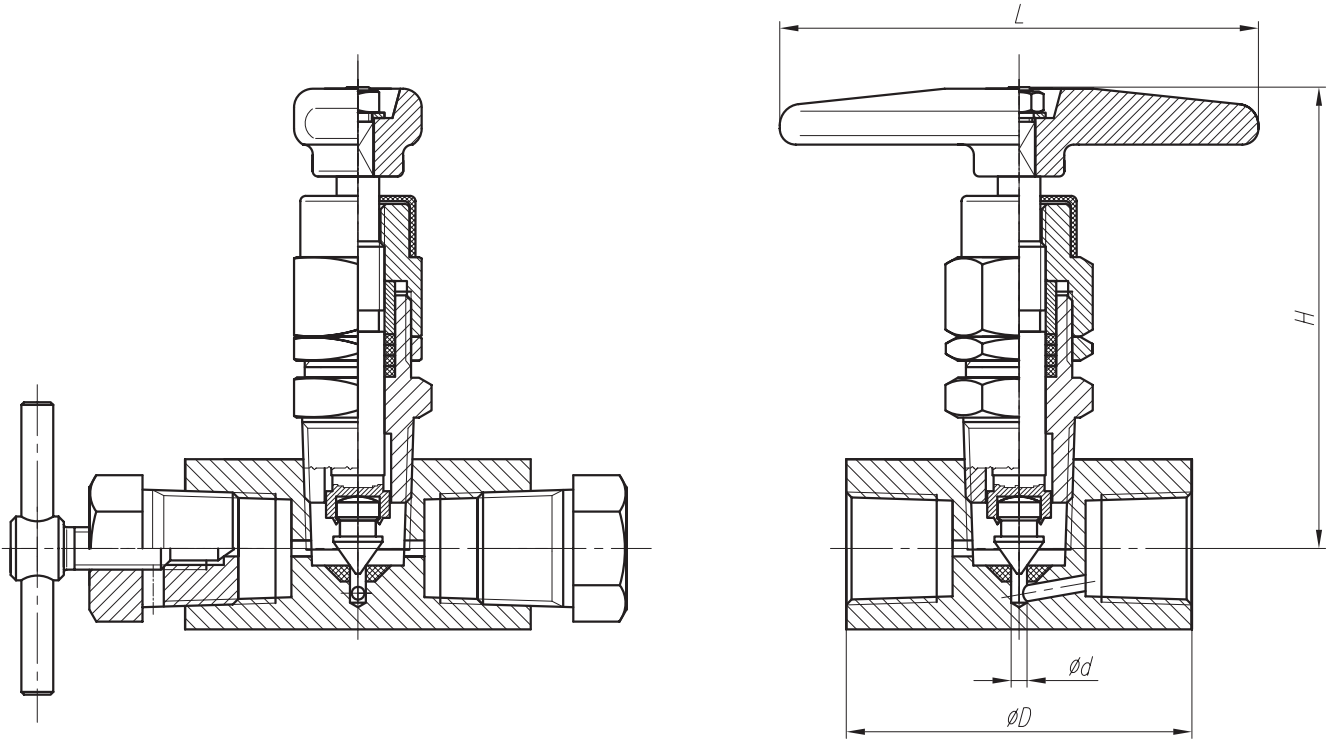
N°	Description	Standard design	NACE design	Corrosion-resistant design
		T= -46°C ~ +150°C	T= -46°C ~ +150°C	T= -60°C ~ +150°C
1	Body	ASTM A350 LF2+13Cr	ASTM A350 LF2+13Cr	ASTM A479 316(L)
2	Gasket house	ASTM A350 LF2	ASTM A350 LF2	ASTM A479 316(L)
3	Bleeder body	ASTM A350 LF2	ASTM A350 LF2	ASTM A479 316(L)
4	Closing screw	ASTM A350 LF2	ASTM A350 LF2	ASTM A276 316(L)
5	Stem	ASTM A276 410	ASTM A182 F6NM	ASTM A276 316(L)
6	Valve head	ASTM A276 410	ASTM A564 630	ASTM A564 630
7	Bleeder screw	ASTM A276 410	ASTM A182 F6NM	ASTM A564 630
8	Gasket packing	Grafit / PTFE	Grafit / PTFE	Grafit / PTFE

- For other mediums, orders on material quality is based on temperature.



# Chart of dimensions

## LM-2 type manometer needle valve



**PN 40 - 350**

DN	Connection	Ød (mm)	ØD (mm)	H (mm)	L (mm)
15	NPT 1/2" M 20x1,5	3	65	90	90

LM-2

# LE-LF type shut-off and control valve

Dimension range	DN 10 - 50 / NPS 3/8" - 2"
Pressure range	PN 16 - 400 / Class 150 - 2500
Temperature range	- 60°C - +550°C

This valve is designed according to API 602 Standard with forged body up to 50mm nominal size, for wide pressure-, and temperature ranges. The LE type valve is suitable for closing gas and liquid mediums streams while the LF type is suitable also for chocking. The valve seat and the disc is welded with Stellite 6 for the purpose of excellent abrasion resistance. The packing of the stuffing box is graphite (or Teflon) rings, which can be replaced during operation as well, in the uppermost position of the stem. The sealing of the bonnet is highly flexible spiral wound gasket. For higher pressures the sealing is a stainless steel gasket ring. The valves can be manufactured with threaded valve seats on demand.

### Materials:

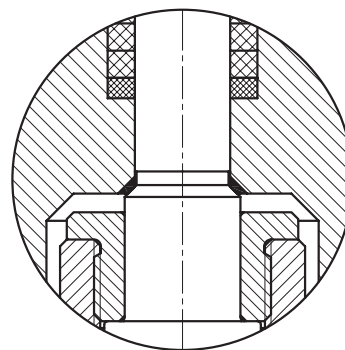
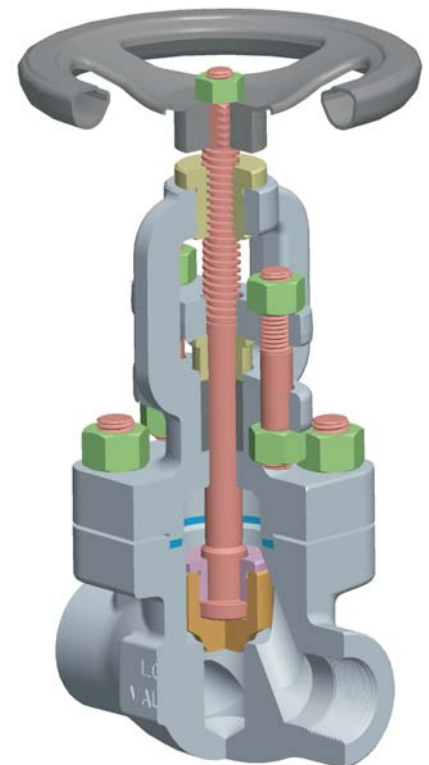
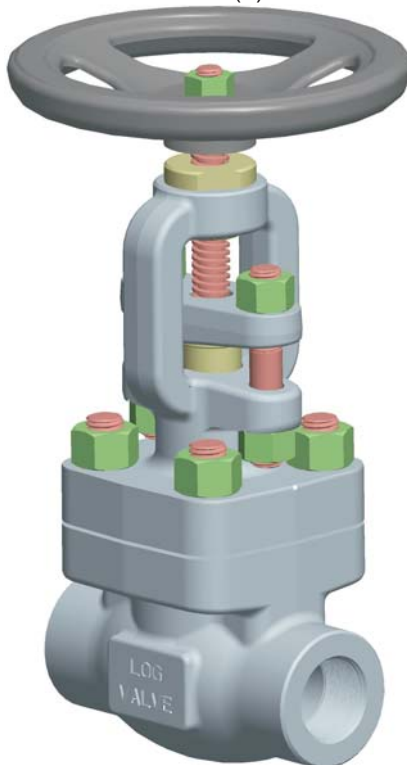
- ASTM A105
- ASTM A350 LF2
- ASTM A182 F11
- ASTM A182 F316(L)

### Main features:

- Disc closing on conical surface
- Bolted bonnet
- Rising stem design with rising handwheel
- Ensured backseat
- Flanged, threaded, butt welded, or socket welded ends

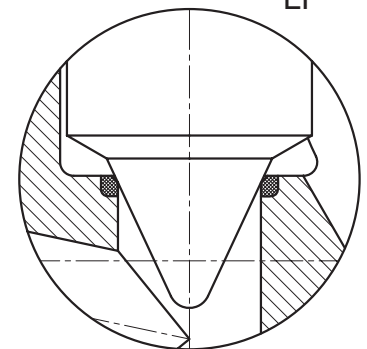
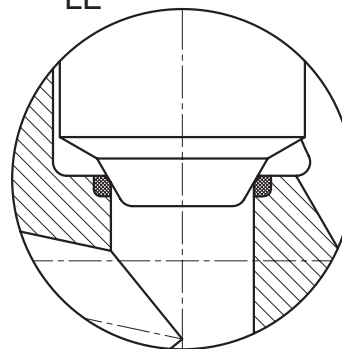
### Design possibilities:

- Renewable valve seat
- Electric motor operation
- Pneumatic operation



LE

LF

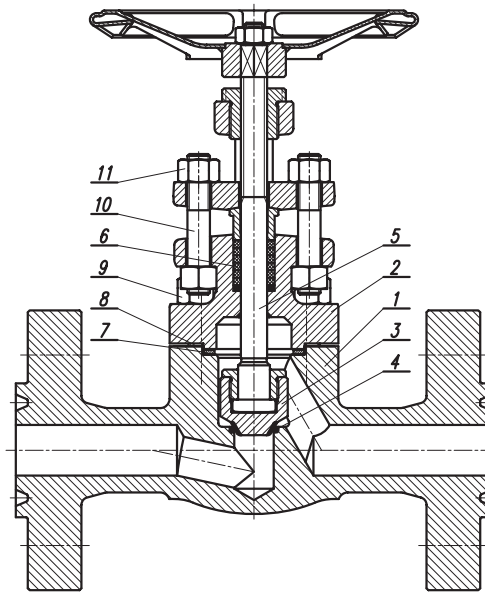


### Design standards:

- Construction: API 602 / ISO 15761
- Face to face length: ASME B16.10; EN 558
- Socket welded type: ASME B16.11; DIN 3239
- Butt welded type: ASME B16.25; EN 12627
- Threaded type: ASME B1.20.1 NPT
- Flanged type: ASME B16.5; EN 1092-1; GOST 12815; GOST 12821
- Pressure test: API 602; EN 12266-1

# List of the main components

## LE-LF type shut-off and control valve



N°	Description	Standard design			NACE design	Corrosion-resistant design
		T= -29°C ~ +427°C	T= -46°C ~ +343°C	T= -20°C ~ +550°C	T= -46°C ~ +343°C	T= -60°C ~ +427°C
1	Body	ASTM A105	ASTM A350 LF2	ASTM A182 F11	ASTM A350 LF2	ASTM A182 F316(L)
2	Bonnet	ASTM A105	ASTM A350 LF2	ASTM A182 F11	ASTM A350 LF2	ASTM A182 F316(L)
3	Valve head	ASTM A276 410 (+HF)	ASTM A276 410 (+HF)	ASTM A276 410 (+HF)	ASTM A182 F6NM (+HF)	ASTM A276 316(L) (+HF)
4	Valve seat	HF ASTM A276 410 (+HF)	HF ASTM A276 410 (+HF)	HF ASTM A276 410 (+HF)	HF ASTM A182 F6NM (+HF)	HF ASTM A276 316(L) (+HF)
5	Stem	ASTM A276 410	ASTM A276 410	ASTM A276 410	ASTM A182 F6NM	ASTM A276 316(L)
6	Gland packing	Grafit	Grafit	Grafit	Grafit	Grafit
7	Body-bonnet packing	Sprial Wound 316L+Grafit	Sprial Wound 316L+Grafit	Sprial Wound 316L+Grafit	ASTM A276 316L	Sprial Wound 316L+Grafit
8; 10	Bolt	ASTM A193 B7	ASTM A320 L7	ASTM A193 B16	ASTM A320 L7M	ASTM A193 B8M Cl.2
9; 11	Nut	ASTM A194 2H	ASTM A194 Gr.4	ASTM A194 8M	ASTM A194 2HM	ASTM A194 8M

- HF = Stellite 6 welding on (min. 350 HB)
- For other mediums, orders on material quality is based on temperature.

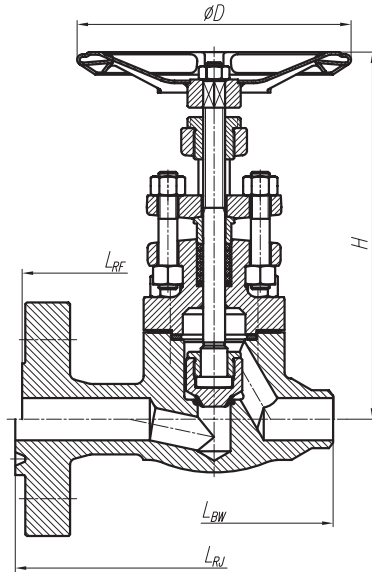
Optional TRIM material combinations:

Trim number (API 602)	Sealing surface of valve head	Sealing surface of valve seat	Stem material
1	410	410	410
5	Stellit 6	Stellit 6	410
8	410	Stellit 6	410
10	316	316	316
12	316	Stellit 6	316
16	Stellit 6	Stellit 6	316

LE-LF

# Chart of dimensions

## LE-LF type shut-off and control valve ANSI


**CLASS 150**

NPS	L <sub>RF</sub> * (mm)	L <sub>RJ</sub> * (mm)	L <sub>BW</sub> (mm)	ØD (mm)	H (mm)
1/2"	152	---	110	100	186
3/4"	178	---	120	100	218
1"	203	216	135	125	225
1 1/4"	216	229	150	125	248
1 1/2"	229	242	170	150	291
2"	267	283	210	150	340

\* CLASS 300 face to face length

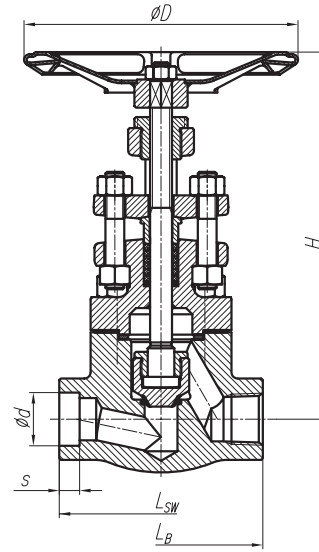
**CLASS 600**

NPS	L <sub>RF</sub> (mm)	L <sub>RJ</sub> (mm)	L <sub>BW</sub> (mm)	ØD (mm)	H (mm)
1/2"	165	163	110	100	189
3/4"	190	190	120	125	228
1"	216	216	135	150	234
1 1/4"	229	229	150	150	278
1 1/2"	241	241	170	200	304
2"	292	295	210	250	354

**CLASS 2500\*\***

NPS	L <sub>RF</sub> (mm)	L <sub>RJ</sub> (mm)	L <sub>BW</sub> (mm)	ØD (mm)	H (mm)
1/2"	264	264	150	150	286
3/4"	273	273	165	200	332
1"	308	308	175	250	352
1 1/4"	349	352	195	250	406
1 1/2"	384	387	230	300	448
2"	451	454	265	350	530

\*\* with ring-joint body-bonnet packing


**CLASS 300**

NPS	L <sub>RF</sub> (mm)	L <sub>RJ</sub> (mm)	L <sub>BW</sub> (mm)	ØD (mm)	H (mm)
1/2"	152	163	110	100	186
3/4"	178	191	120	100	218
1"	203	216	135	125	225
1 1/4"	216	229	150	125	248
1 1/2"	229	242	170	150	291
2"	267	283	210	150	340

**CLASS 900; CLASS 1500**

NPS	L <sub>RF</sub> (mm)	L <sub>RJ</sub> (mm)	L <sub>BW</sub> (mm)	ØD (mm)	H (mm)
1/2"	216	216	110	125	189
3/4"	229	229	120	150	228
1"	254	254	135	175	234
1 1/4"	279	279	150	200	278
1 1/2"	305	305	170	250	304
2"	368	371	210	250	354

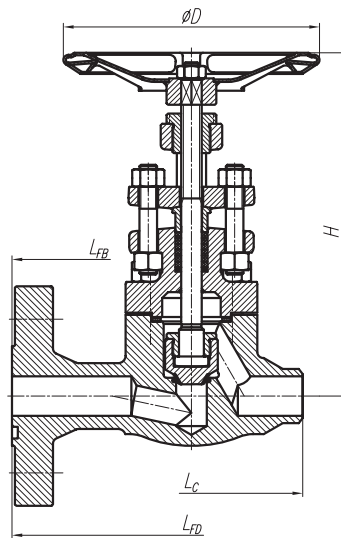
**CLASS 800; CLASS 1500; CLASS 2500\*\***

NPS	L <sub>sw</sub> ; L <sub>b</sub> (mm)		Ød (mm)	S <sub>min</sub> (mm)	ØD (mm)		H (mm)	
	800 1500	2500			800 1500	2500	800 1500	2500
3/8"	90	110	17,6	10	100	125	189	270
1/2"	95	120	21,8	10	125	150	189	286
3/4"	115	145	27,2	13	150	200	228	332
1"	130	165	33,9	13	175	250	234	352
1 1/4"	150	200	42,7	13	200	250	278	406
1 1/2"	170	221	48,5	13	250	300	304	448
2"	210	250	61,2	16	250	350	354	530

LE-LF

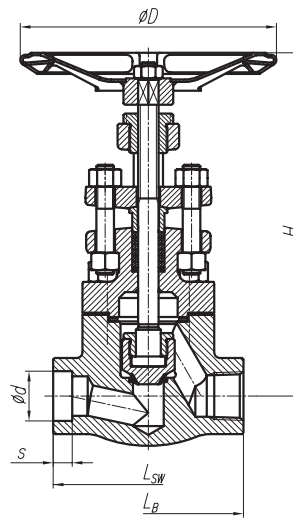
# Chart of dimensions

## LE-LF type shut-off control valve EN



PN 16; PN 25; PN 40

DN	LFB; LFD (mm)	Lc (mm)	Lsw; Lb (mm)	Ød (mm)	S <sub>min</sub> (mm)	ØD (mm)	H (mm)
10	130	---	90	17,6	10	100	186
15	130	110	95	21,8	10	100	186
20	150	120	115	27,2	13	100	218
25	160	135	130	33,9	13	125	225
32	180	150	150	42,7	13	125	248
40	200	170	170	48,8	13	150	291
50	230	210	210	61,2	16	150	340



PN 63

DN	LFB; LFD (mm)	Lc (mm)	Lsw; Lb (mm)	Ød (mm)	S <sub>min</sub> (mm)	ØD (mm)	H (mm)
10	210	---	90	17,6	10	100	186
15	210	110	95	21,8	10	100	186
20	230	120	115	27,2	13	125	218
25	230	135	130	33,9	13	125	225
32	260	150	150	42,7	13	150	248
40	260	170	170	48,8	13	150	291
50	300	210	210	61,2	16	200	340

PN 100; PN 160

DN	LFB; LFD (mm)	Lc (mm)	Lsw; Lb (mm)	Ød (mm)	S <sub>min</sub> (mm)	ØD (mm)	H (mm)
10	210	---	90	17,6	10	100	189
15	210	110	95	21,8	10	100	189
20	230	120	115	27,2	13	125	228
25	230	135	130	33,9	13	150	234
32	260	150	150	42,7	13	150	278
40	260	170	170	48,8	13	200	304
50	300	210	210	61,2	16	250	354

PN 250

DN	LFB; LFD (mm)	Lc (mm)	Lsw; Lb (mm)	Ød (mm)	S <sub>min</sub> (mm)	ØD (mm)	H (mm)
10	230	---	90	17,6	10	100	189
15	230	110	95	21,8	10	125	189
20	---	120	115	27,2	13	150	228
25	260	135	130	33,9	13	175	234
32	---	150	150	42,7	13	200	278
40	300	170	170	48,8	13	250	304
50	350	210	210	61,2	16	250	354

PN 320; PN 400

DN	LFB; LFD (mm)	Lc (mm)	Lsw; Lb (mm)	Ød (mm)	S <sub>min</sub> (mm)	ØD (mm)	H (mm)
10	230	---	110	17,6	10	125	270
15	230	150	120	21,8	10	150	286
20	---	165	145	27,2	13	200	332
25	260	175	165	33,9	13	250	352
32	---	195	200	42,7	13	250	406
40	300	230	221	48,8	13	300	448
50	350	265	250	61,2	16	350	530

LE-LF

# LVCS-1 type spring return check valve

Dimension range	DN 10 - 50 / NPS 3/8" - 2"
Pressure range	PN 16 - 400 / CLASS 150 - 2500
Temperature range	- 60°C - +550°C

A forged body check valve manufactured according to API 602 Standard with up to 50 mm nominal size, for wide pressure-, and temperature ranges. The piston type check valve is made with helical spring returning closing element. The valve can be installed only for one way streams. In case of back stream the valve closes due to spring force and the pressure of medium. The valve seat and the disc is welded with Stellite 6 for the purpose of excellent wearing resistance. The sealing of the bonnet is highly flexible spiral wound gasket. At higher pressures the sealing is made of stainless steel gasket ring. The check valves can be manufactured also with threaded valve seats on demand.

### Materials:

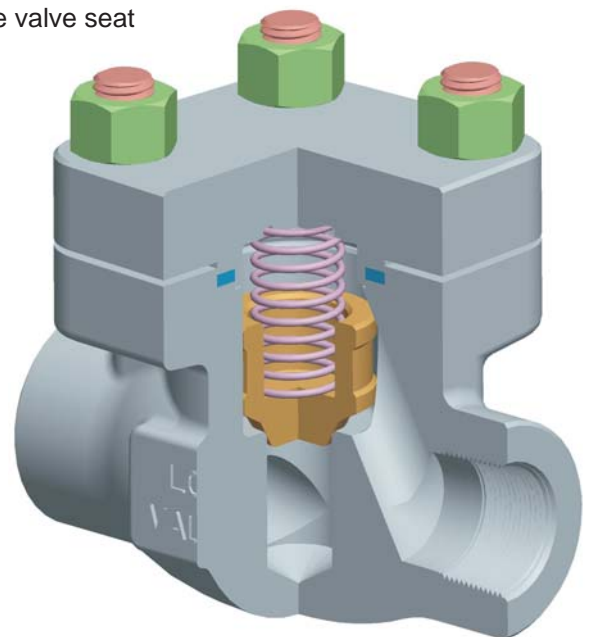
- ASTM A105
- ASTM A350 LF2
- ASTM A182 F11
- ASTM A182 F316(L)

### Main features:

- Forged body
- Bolted bonnet
- Spring return disc closing on conical surface
- Flanged, threaded, butt welded, or socket welded ends

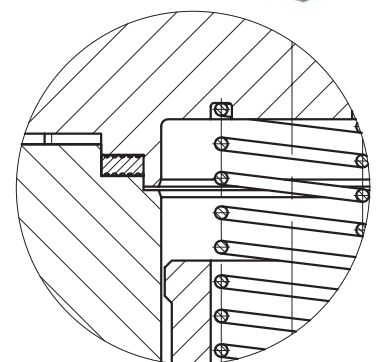
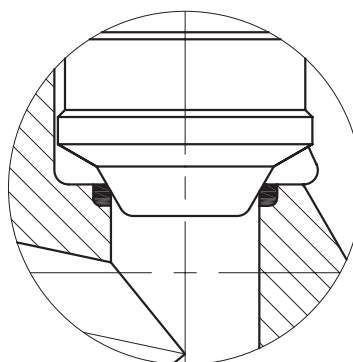
### Design possibilities:

- Renewable valve seat



### Design standards:

- Construction: API 602 / ISO 15761
- Face to face length: ASME B16.10; EN 558
- Socket welded type: ASME B16.11; DIN 3239
- Butt welded type: ASME B16.25; EN 12627
- Threaded type: ASME B1.20.1 NPT
- Flanged type: ASME B16.5; EN 1092-1; GOST 12815; GOST 12821
- Pressure test: API 602; EN 12266-1
- NACE design: NACE MR0175 / ISO 15156

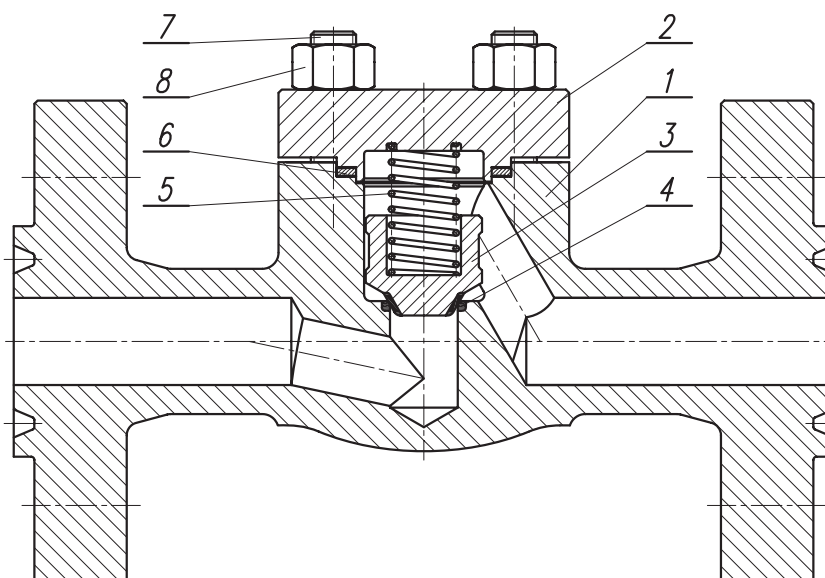


LVCS-1



# List of the main components

## LVCS-1 type spring return check valve



N°	Description	Standard design			NACE design	Corrosion-resistant design
		T= -29°C ~ +427°C	T= -46°C ~ +343°C	T= -20°C ~ +550°C	T= -46°C ~ +343°C	T= -60°C ~ +427°C
1	Body	ASTM A105	ASTM A350 LF2	ASTM A182 F11	ASTM A350 LF2	ASTM A182 F316(L)
2	Bonnet	ASTM A105	ASTM A350 LF2	ASTM A182 F11	ASTM A350 LF2	ASTM A182 F316(L)
3	Záróelem	ASTM A276 410 (+HF)	ASTM A276 410 (+HF)	ASTM A276 410 (+HF)	ASTM A276 316(L) (+HF)	ASTM A276 316(L) (+HF)
4	Valve seat	HF ASTM A276 410 (+HF)	HF ASTM A276 410 (+HF)	HF ASTM A276 410 (+HF)	HF ASTM A276 316(L) (+HF)	HF ASTM A276 316(L) (+HF)
5	Spring	ASTM A313 302	ASTM A313 302	ASTM A313 302	INCONEL X-750	ASTMA313 302
6	Body-bonnet packing	Spiral Wound 316L+Grafit	Spiral Wound 316L+Grafit	Spiral Wound 316L+Grafit	ASTM A276 316L	Spiral Wound 316L+Grafit
7	Bolt	ASTM A193 B7	ASTM A320 L7	ASTM A193 B16	ASTM A320 L7M	ASTM A193 B8M Cl.2
8	Nut	ASTM A194 2H	ASTM A194 Gr.4	ASTM A194 8M	ASTM A194 2HM	ASTM A194 8M

- HF = Stellite 6 welding-on (min. 350 HB)
- For other mediums, orders on material quality is based on temperature

Optional TRIM material combinations:

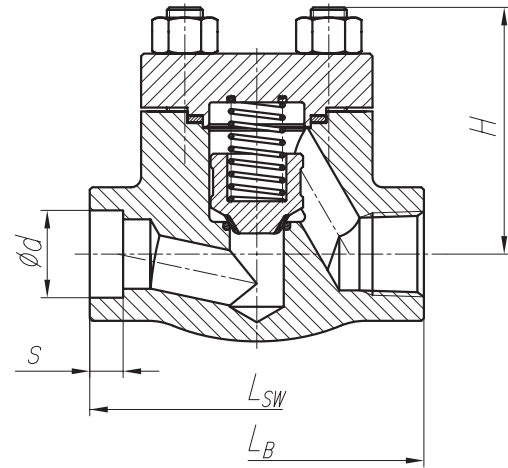
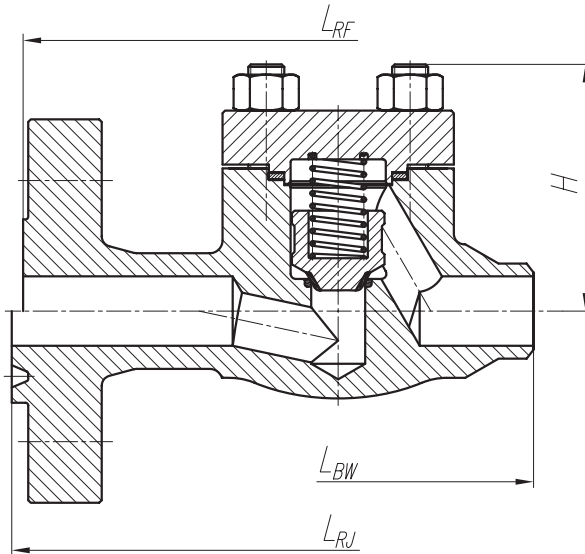
Trim number (API 602)	Sealing surface of closing component	Sealing surface of valve seat
1	410	410
5	Stellit 6	Stellit 6
8	410	Stellit 6
10	316	316
12	316	Stellit 6
16	Stellit 6	Stellit 6

LVCS-1



# Chart of dimensions

## LVCS-1 type spring return check valve ANSI



### CLASS 150

NPS	L <sub>RF</sub> * (mm)	L <sub>RJ</sub> * (mm)	L <sub>BW</sub> (mm)	H (mm)
1/2"	140	---	110	70
3/4"	152	---	120	80
1"	165	178	135	90
1 1/4"	178	191	150	100
1 1/2"	190	203	170	115
2"	216	232	210	140

\* CLASS 300 face to face length

### CLASS 600

NPS	L <sub>RF</sub> (mm)	L <sub>RJ</sub> (mm)	L <sub>BW</sub> (mm)	H (mm)
1/2"	165	163	110	74
3/4"	190	190	120	85
1"	216	216	135	96
1 1/4"	229	229	150	108
1 1/2"	241	241	170	120
2"	292	295	210	150

### CLASS 2500\*\*

NPS	L <sub>RF</sub> (mm)	L <sub>RJ</sub> (mm)	L <sub>BW</sub> (mm)	H (mm)
1/2"	264	264	150	108
3/4"	273	273	165	115
1"	308	308	175	126
1 1/4"	349	352	195	140
1 1/2"	384	387	230	165
2"	451	454	265	190

\*\* with ring-joint body-bonnet packing

### CLASS 300

NPS	L <sub>RF</sub> (mm)	L <sub>RJ</sub> (mm)	L <sub>BW</sub> (mm)	H (mm)
1/2"	140	151	110	70
3/4"	152	165	120	80
1"	165	178	135	90
1 1/4"	178	191	150	100
1 1/2"	190	203	170	115
2"	216	232	210	140

### CLASS 900; CLASS 1500

NPS	L <sub>RF</sub> (mm)	L <sub>RJ</sub> (mm)	L <sub>BW</sub> (mm)	H (mm)
1/2"	216	216	110	74
3/4"	229	229	120	85
1"	254	254	135	96
1 1/4"	279	279	150	108
1 1/2"	305	305	170	120
2"	368	371	210	150

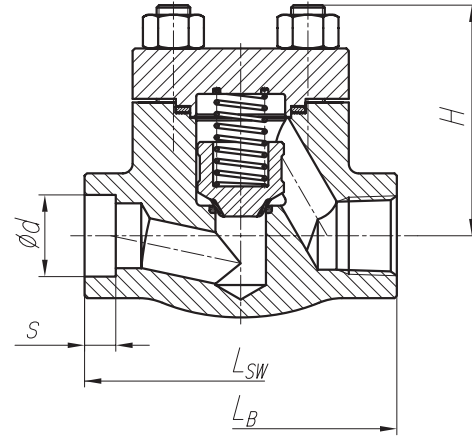
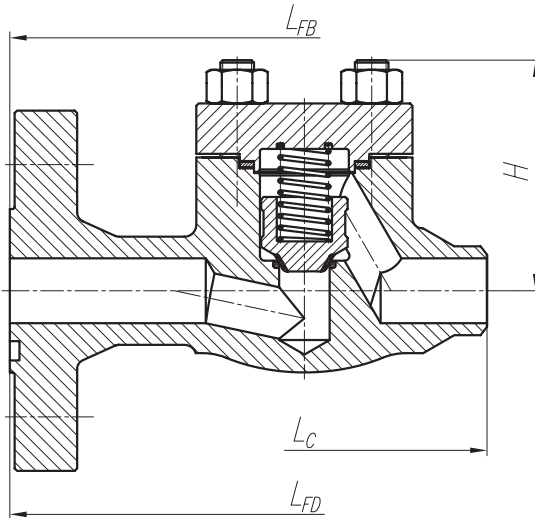
### CLASS 800; CLASS 1500; CLASS 2500\*\*

NPS	L <sub>sw</sub> ; L <sub>B</sub> (mm)		Ød (mm)	S <sub>min</sub> (mm)	H (mm)	
	800 1500	2500			800 1500	2500
3/8"	90	110	17,6	10	74	95
1/2"	95	120	21,8	10	74	108
3/4"	115	145	27,2	13	85	115
1"	130	165	33,9	13	96	126
1 1/4"	150	200	42,7	13	108	140
1 1/2"	170	221	48,8	13	120	165
2"	210	250	61,2	16	150	190

LVCS-1

# Chart of dimensions

## LVCS-1 type spring return check valve EN


**PN 16; PN 25; PN 40**

DN	LFB; LFD (mm)	Lc (mm)	Lsw; Lb (mm)	Ød (mm)	S <sub>min</sub> (mm)	H (mm)
10	130	---	90	17,6	10	70
15	130	110	95	21,8	10	70
20	150	120	115	27,2	13	80
25	160	135	130	33,9	13	90
32	180	150	150	42,7	13	100
40	200	170	170	48,8	13	115
50	230	210	210	61,2	16	140

**PN 63**

DN	LFB; LFD (mm)	Lc (mm)	Lsw; Lb (mm)	Ød (mm)	S <sub>min</sub> (mm)	H (mm)
10	210	---	90	17,6	10	70
15	210	110	95	21,8	10	70
20	230	120	115	27,2	13	80
25	230	135	130	33,9	13	90
32	260	150	150	42,7	13	100
40	260	170	170	48,8	13	115
50	300	210	210	61,2	16	140

**PN 100; PN 160**

DN	LFB; LFD (mm)	Lc (mm)	Lsw; Lb (mm)	Ød (mm)	S <sub>min</sub> (mm)	H (mm)
10	210	---	90	17,6	10	74
15	210	110	95	21,8	10	74
20	230	120	115	27,2	13	85
25	230	135	130	33,9	13	96
32	260	150	150	42,7	13	108
40	260	170	170	48,8	13	120
50	300	210	210	61,2	16	150

**PN 250**

DN	LFB; LFD (mm)	Lc (mm)	Lsw; Lb (mm)	Ød (mm)	S <sub>min</sub> (mm)	H (mm)
10	230	---	90	17,6	10	74
15	230	110	95	21,8	10	74
20	---	120	115	27,2	13	85
25	260	135	130	33,9	13	96
32	---	150	150	42,7	13	108
40	300	170	170	48,8	13	120
50	350	210	210	61,2	16	150

**PN 320; PN 400**

DN	LFB; LFD (mm)	Lc (mm)	Lsw; Lb (mm)	Ød (mm)	S <sub>min</sub> (mm)	H (mm)
10	230	---	110	17,6	10	95
15	230	150	120	21,8	10	108
20	---	165	145	27,2	13	115
25	260	175	165	33,9	13	126
32	---	195	200	42,7	13	140
40	300	230	221	48,8	13	165
50	350	265	250	61,2	16	190

**LVCS-1**

# LVCS-2 type swing-check valve

Dimension range	DN 50 - 150 / NPS 2" - 6"
Pressure range	PN 16 - 250 / CLASS 150 - 1500
Temperature range	- 60°C - +427°C

This swing type check valve is made for wide pressure-, and temperature ranges. The valve can be installed only for one way streams. In case of back stream the valve closes due to own weight of the closing element and also the pressure of the medium. The valve body is welded for smaller sizes and of casted design for bigger sizes. The valve seat and the disc is welded with Stellite 6 for the purpose of excellent wearing resistance. The valve seat can be made in welded or renewable, threaded versions. The sealing of the bonnet is highly flexible spiral wound gasket. For higher pressures the sealing is made of stainless steel gasket ring, or self-sealing graphite ring.

**Materials:**

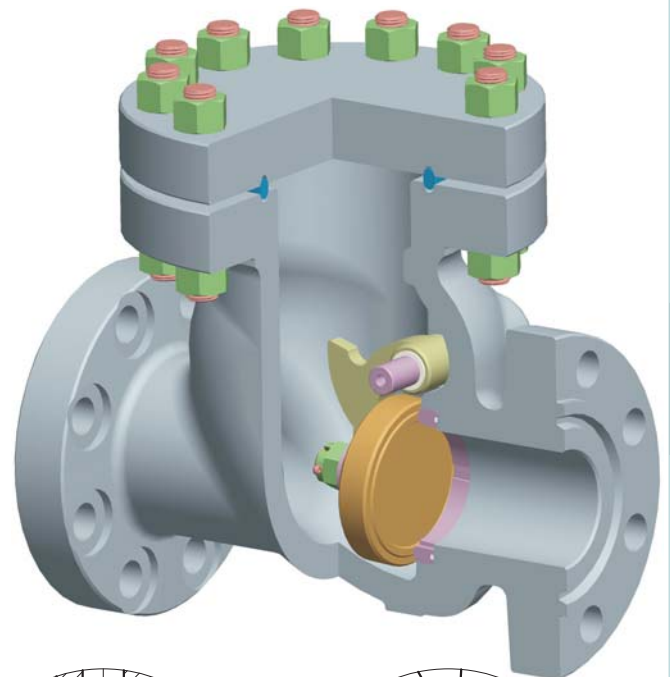
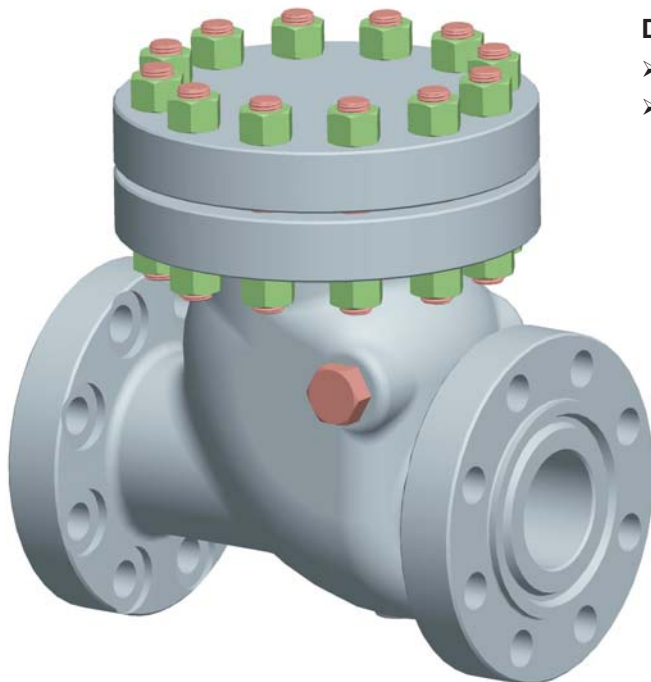
- ASTM A350 LF2; ASTM A352 LCC
- ASTM A479 316(L); ASTM A351 CF8M

**Main features:**

- Cast or welded body
- Bolted bonnet
- Self adjusting disc
- Flanged, or butt welded ends

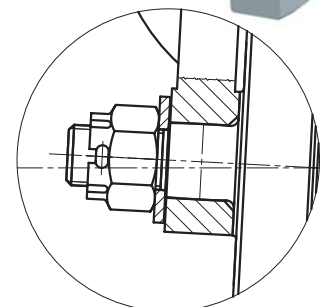
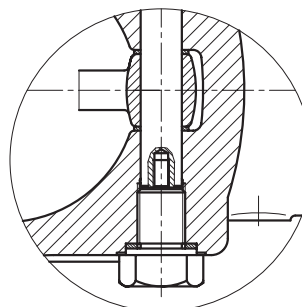
**Design possibilities:**

- Renewable valve seat
- Pressure seal bonnet in case of higher pressures



**Design standards:**

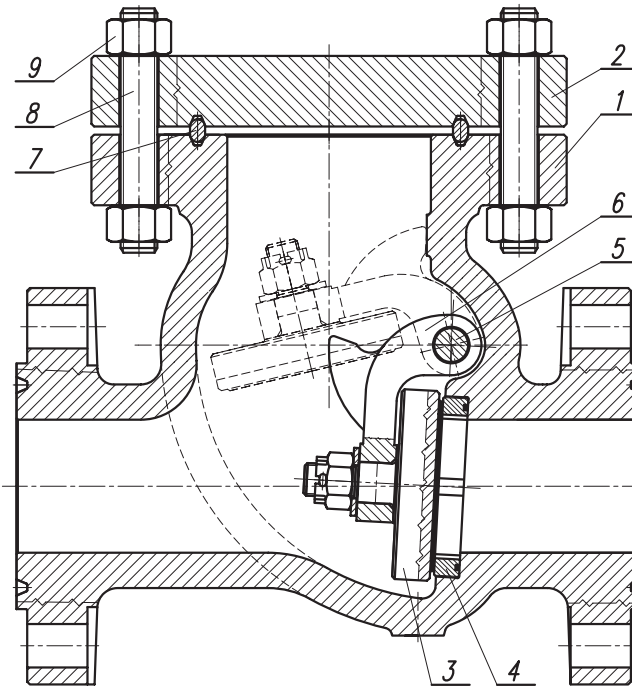
- Construction: API 6D / ISO 14313
- Face to face length: ASME B16.10
- Butt welded type: ASME B16.25; EN 12627
- Flanged type: ASME B16.5; EN 1092-1; GOST 12815; GOST 12821
- Pressure test: API 6D; EN 12266-1
- NACE design: NACE MR0175 / ISO 15156



LVCS-2

## List of the main components

### LVCS-2 type swing-check valve



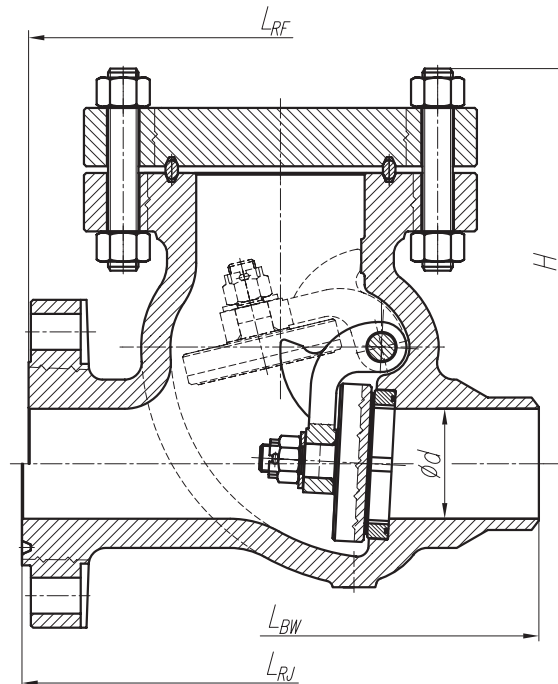
N°	Description	Standard design	NACE design	Corrosion-resistant design
		T= -46°C ~ +343°C	T= -46°C ~ +343°C	T= -60°C ~ +427°C
1	Body	ASTM A352 LCC ASTM A350 LF2	ASTM A352 LCC ASTM A350 LF2	ASTM A351 CF8M ASTM A479 316(L)
2	Bonnet	ASTM A350 LF2	ASTM A350 LF2	ASTM A479 316(L)
3	Disc	ASTM A350 LF2 +HF	ASTM A276 316(L) +HF	ASTM A479 316(L) +HF
4	Valve seat	HF ASTM A276 316(L) +HF	HF ASTM A276 316(L) +HF	HF ASTM A276 316(L) +HF
5	Axle	ASTM A276 410	ASTM A564 630	ASTM A276 316(L)
6	Swinging lever	ASTM A352 LCC ASTM A350 LF2	ASTM A351 CF8M ASTM A276 316(L)	ASTM A351 CF8M ASTM A276 316(L)
7	Body-bonnet packing	Spiral Wound 316L+Grafít	ASTM A276 316(L)	Spiral Wound 316L+Grafít
8	Bolt	ASTM A320 L7	ASTM A320 L7M	ASTM A193 B8M Cl.2
9	Nut	ASTM A194 Gr.4	ASTM A194 2HM	ASTM A194 8M

- HF = Stellite 6 welding-on (min. 350 HB)
- For other mediums, orders on material quality is based on temperature

LVCS-2

# Chart of dimensions

## LVCS-2 type swing-check valve ANSI



### CLASS 150

NPS	Ød (mm)	$L_{RF}^*$ (mm)	$L_{RJ}^*$ (mm)	$L_{BW}$ (mm)	H (mm)
2"	49	267	283	267	150
2 1/2"	62	292	308	292	170
3"	74	318	333	318	180
4"	100	356	371	356	202
6"	150	445	460	445	255

### CLASS 300

NPS	Ød (mm)	$L_{RF}$ (mm)	$L_{RJ}$ (mm)	$L_{BW}$ (mm)	H (mm)
2"	49	267	283	267	165
2 1/2"	62	292	308	292	185
3"	74	318	333	318	203
4"	100	356	371	356	232
6"	150	445	460	445	290

\* CLASS 300 face to face length

### CLASS 600

NPS	Ød (mm)	$L_{RF}^*$ (mm)	$L_{RJ}^*$ (mm)	$L_{BW}$ (mm)	H (mm)
2"	49	292	295	292	203
2 1/2"	62	330	333	330	238
3"	74	356	359	356	285
4"	100	432	435	432	315
6"	150	559	562	559	383

### CLASS 900

NPS	Ød (mm)	$L_{RF}$ (mm)	$L_{RJ}$ (mm)	$L_{BW}$ (mm)	H (mm)
2"	49	368	371	368	225
2 1/2"	62	419	422	419	265
3"	74	381	384	381	315
4"	100	457	460	457	350
6"	150	610	613	610	425

### CLASS 1500

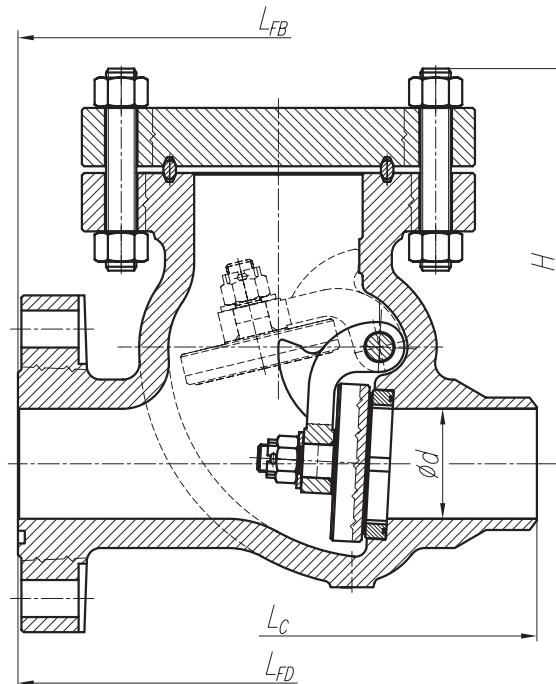
NPS	Ød (mm)	$L_{RF}$ (mm)	$L_{RJ}$ (mm)	$L_{BW}$ (mm)	H (mm)
2"	49	368	371	368	245
2 1/2"	62	419	422	419	285
3"	74	470	473	470	340
4"	100	546	549	546	380
6"	144	705	711	705	460

LVCS-2

# Chart of dimensions

## LVCS-2 type swing-check valve

### EN



#### PN 16; PN 25

DN	Ød (mm)	LFB; LFD (mm)	Lc (mm)	H (mm)
50	49	267	267	150
65	62	292	292	170
80	74	318	318	180
100	100	356	356	202
150	150	445	445	255

#### PN 40

DN	Ød (mm)	LFB; LFD (mm)	Lc (mm)	H (mm)
50	49	267	267	165
65	62	292	292	185
80	74	318	318	203
100	100	356	356	232
150	150	445	445	290

#### PN 63

DN	Ød (mm)	LFB; LFD (mm)	Lc (mm)	H (mm)
50	49	292	292	203
65	62	330	330	238
80	74	356	356	285
100	100	406	406	315
150	150	495	495	383

#### PN 100

DN	Ød (mm)	LFB; LFD (mm)	Lc (mm)	H (mm)
50	49	292	292	203
65	62	330	330	238
80	74	356	356	285
100	100	432	432	315
150	150	559	559	383

#### PN 160

DN	Ød (mm)	LFB; LFD (mm)	Lc (mm)	H (mm)
50	49	368	368	225
65	62	419	419	265
80	74	381	381	315
100	100	457	457	350
150	150	610	610	425

#### PN 250

DN	Ød (mm)	LFB; LFD (mm)	Lc (mm)	H (mm)
50	49	368	368	245
65	62	419	419	285
80	74	470	470	340
100	100	546	546	380
150	144	705	705	460

LVCS-2



# LPSZ type control butterfly valve

Dimension range	DN 80 - 600 / NPS 3" - 24"
Pressure range	PN 64/75
Temperature range	- 60°C - +120°C

The LPSZ type control butterfly valve is suitable for controlling liquid and gas medium flows. Its advantage against other regulating valves is the lower pressure loss, and its significantly shorter installation length. The valve disc mounted onto the stem of high strength controls the flow when it turns around changing the size of flow cross section together with the flowing medium volume. The LPSZ butterfly control valve is not suitable for totally tight closure.

### Materials:

- ASTM A352 LCC
- ASTM A351 CF8M

### Main features:

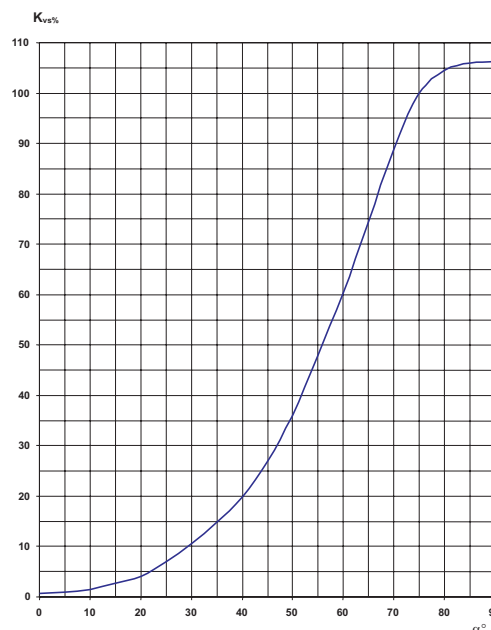
- High-strength stem
- PTFE bearings
- Flat disc
- Butt welded ends

### Design possibilities:

- Electric motor operation
- Lever actuating
- Direct actuating

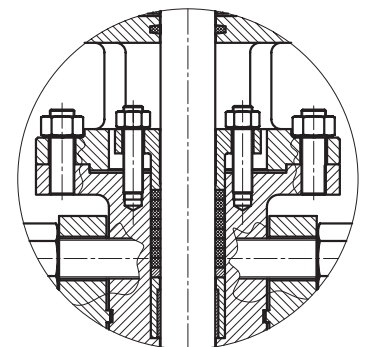


Valve characteristic curve



### Design standards:

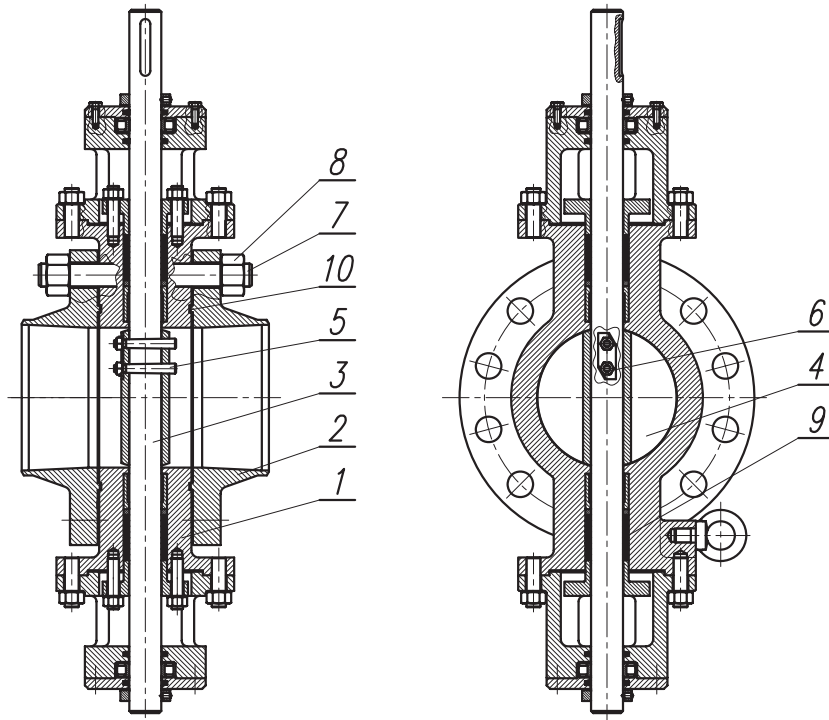
- Butt welded design: ASME B16.25; EN 12627
- Pressure test: API 6D; EN 12266-1
- NACE design: NACE MR0175 / ISO 15156





## List of the main components

### LPSZ type control butterfly valve

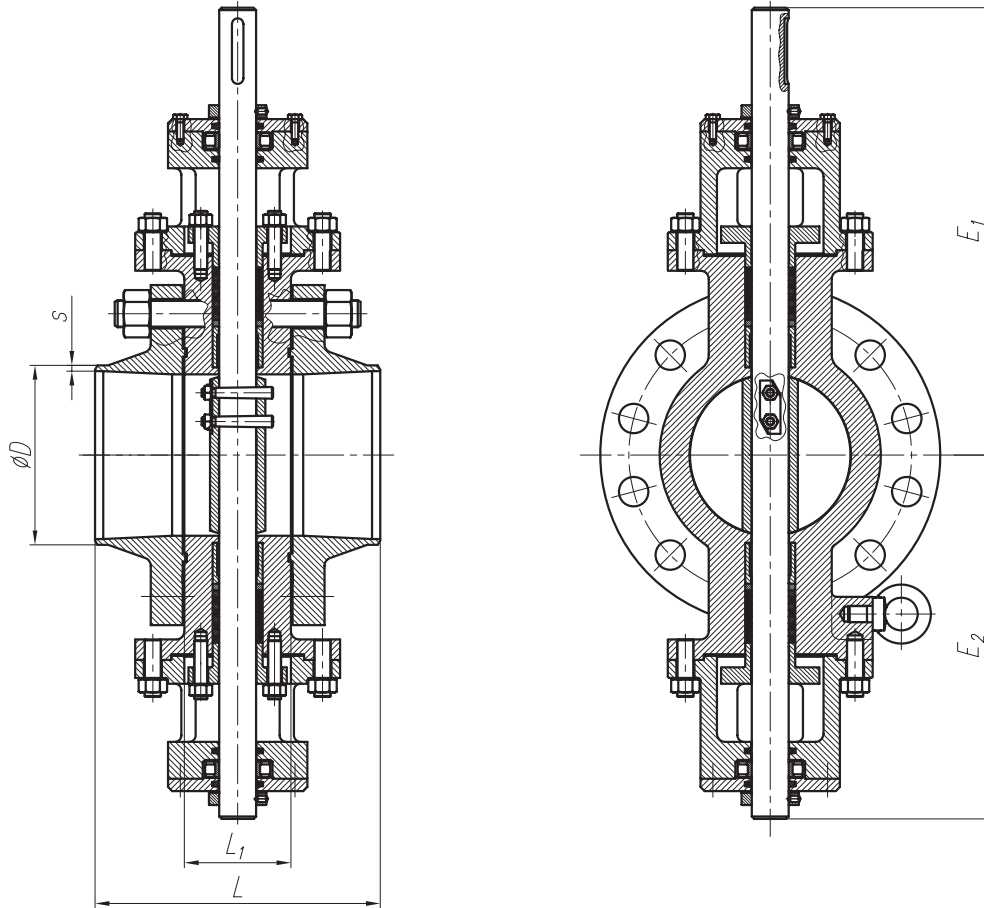


N°	Description	Standard design	NACE design	Corrosion-resistant design
		T= -46°C ~ +120°C	T= -46°C ~ +120°C	T= -60°C ~ +80°C
1	Body	ASTM A352 LCC	ASTM A352 LCC	ASTMA351 CF8M
2	Flange	ASTM A350 LF2	ASTM A350 LF2	ASTM A182 F316(L)
3	Axle	ASTM A564 630	ASTM A564 630	ASTM A564 630
4	Disc	ASTM A487 4N	ASTM A487 4N	ASTM A351 CF8M
5	Threadedtaper dowel	ASTM A564 630	ASTM A564 630	ASTM A564 630
6	Screw nut	ASTM A194 Gr.4	ASTM A194 2HM	ASTM A194 8M
7	Adapterr	ASTM A320 L7	ASTM A320 L7M	ASTM A193 B8M Cl.2
8	Screw nut	ASTM A194 Gr.4	ASTM A194 2HM	ASTM A194 8M
9	Stuffing box sealing	PTFE / Grafit	PTFE / Grafit	PTFE / Grafit
10	Body-flange sealing	316L+Grafit	316L+Grafit	316L+Grafit

- For other mediums, orders on material quality is based on temperature.

# Chart of dimensions

## LPSZ type control butterfly valve EN



### PN 25

DN	L (mm)	L <sub>1</sub> (mm)	E <sub>1</sub> (mm)	E <sub>2</sub> (mm)	ØD (mm)	s (mm)
600	437	210	1045	703	610	11

### PN 64/75

DN	L (mm)	L <sub>1</sub> (mm)	E <sub>1</sub> (mm)	E <sub>2</sub> (mm)	ØD (mm)	s (mm)
80	228	85	430	290	88,9	3,6
100	239	85	460	315	114,3	4
150	284	100	500	365	158,3	5,6
200	348	130	550	440	219,1	7,1
250	376	130	566	454	273	8,8
300	406	180	602	498	323,9	11
350	477	180	640	535	355,6	12
400	501	200	686	579	406,4	12
500	557	220	769	658	*	*

\* On customer demand

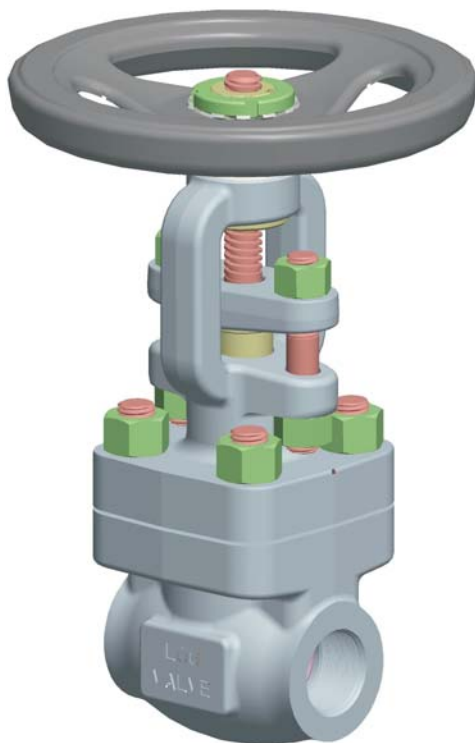
# LCT type wedge gate valve

Dimension range	DN 10 - 50 / NPS 3/8" - 2"
Pressure range	PN 16 - 400 / CLASS 150 - 2500
Temperature range	- 60°C - +550°C

This forged body gate valve is manufactured according to API 602 Standard, with up to 50 mm nominal size, for wide pressure-, and temperature range. The design is of rising stem with non-rising handwheel. The seat rings pressed into the body and the gate is welded with Stellite 6 for the purposes of excellent wearing resistance. The packing of the stuffing box is graphite (or Teflon) rings, which can be replaced during operation as well in the uppermost position of the stem. The sealing of the bonnet is highly flexible spiral wound gasket. For higher pressures the sealing is made of stainless steel ring.

### Materials:

- ASTM A105
- ASTM A350 LF2
- ASTM A182 F11
- ASTM A182 F316(L)

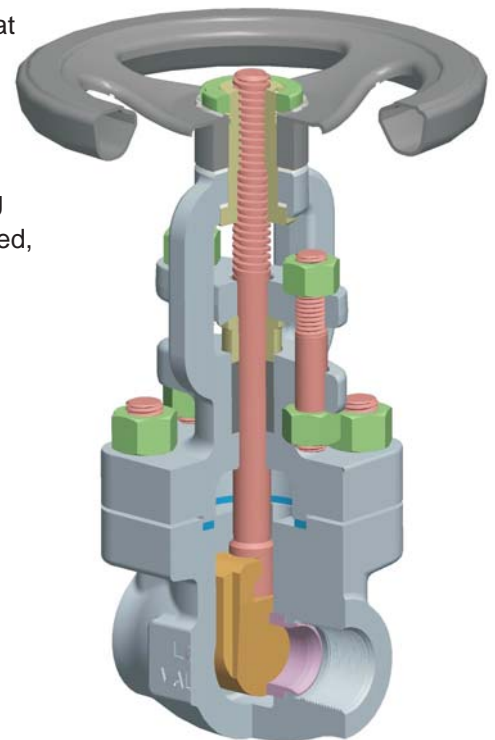


### Main features:

- Full bore
- Bolted bonnet
- Solid wedge and pressed seat rings
- Rising stem design with non-rising hand wheel
- Backseat ensured
- Stem nut with double bearing
- Flanged, threaded, butt welded, or socket welded ends

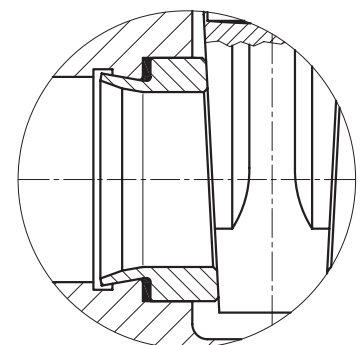
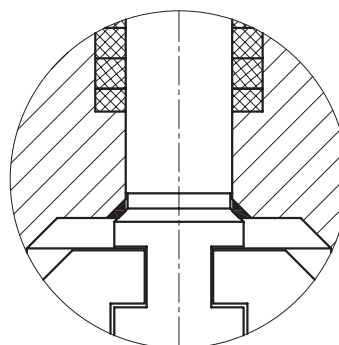
### Design possibilities:

- Electric motor operation
- Pneumatic operation



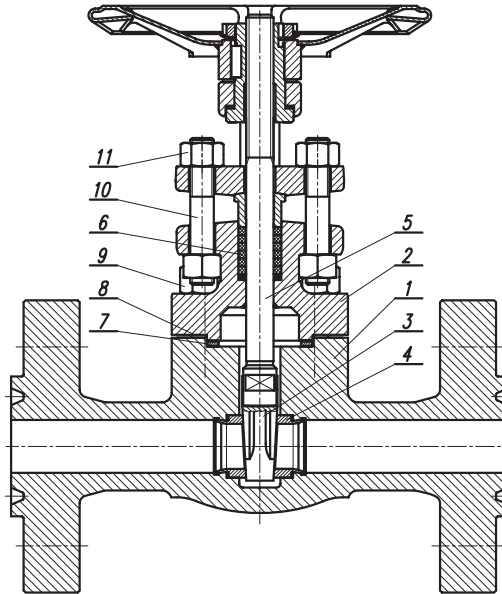
### Design standards:

- Construction: API 602 / ISO 15761
- Face to face length: ASME B16.10; EN 558
- Socket welded type: ASME B16.11; DIN 3239
- Butt welded type: ASME B16.25; EN 12627
- Threaded type: ASME B1.20.1; NPT
- Flanged type: ASME B16.5; EN 1092-1;
- GOST 12815; GOST 12821
- Pressure test: API 602; EN 12266-1



## List of the main components

### LCT type wedge gate valve



N°	Description	Standard design			NACE design	Corrosion-resistant design
		T= -29°C ~ +427°C	T= -46°C ~ +343°C	T= -20°C ~ +550°C	T= -46°C ~ +343°C	T= -60°C ~ +427°C
1	Body	ASTM A105	ASTM A350 LF2	ASTM A182 F11	ASTM A350 LF2	ASTM A182 F316(L)
2	Bonnet	ASTM A105	ASTM A350 LF2	ASTM A182 F11	ASTM A350 LF2	ASTM A182 F316(L)
3	Wedge	ASTM A276 410 (+HF)	ASTM A276 410 (+HF)	ASTM A276 410 (+HF)	ASTM A182 F6NM (+HF)	ASTM A276 316(L) (+HF)
4	Seat ring	ASTM A276 410 (+HF)	ASTM A276 410 (+HF)	ASTM A276 410 (+HF)	ASTM A182 F6NM (+HF)	ASTM A276 316(L) (+HF)
5	Stem	ASTM A276 410	ASTM A276 410	ASTM A276 410	ASTM A182 F6NM	ASTM A276 316(L)
6	Gland packing	Grafit	Grafit	Grafit	Grafit	Grafit
7	Body-bonnet packing	Spiral Wound 316L+Grafit	Spiral Wound 316L+Grafit	Spiral Wound 316L+Grafit	ASTM A276 316L	Spiral Wound 316L+Grafit
8; 10	Stud bolt	ASTM A193 B7	ASTM A320 L7	ASTM A193 B16	ASTM A320 L7M	ASTM A193 B8M Cl.2
9; 11	Nut	ASTM A194 2H	ASTM A194 Gr.4	ASTM A194 8M	ASTM A194 2HM	ASTM A194 8M

- HF = Stellite 6 welding-on (min. 350 HB)
- For other mediums, orders on material quality is based on temperature.

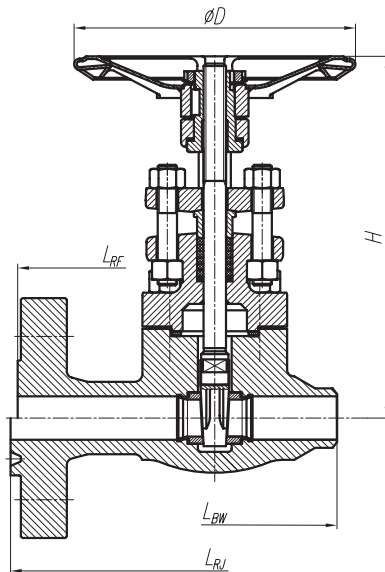
Optional TRIM material combinations:

Trim number (API 602)	Sealing surface of wedge	Sealing surface of seat ring	Stem material
1	410	410	410
5	Stellite 6	Stellite 6	410
8	410	Stellite 6	410
10	316	316	316
12	316	Stellite 6	316
16	Stellite 6	Stellite 6	316

LCT

# Chart of dimensions

LCT type wedge gate valve  
ANSI



**CLASS 150**

NPS	L <sub>RF</sub> * (mm)	L <sub>RJ</sub> * (mm)	L <sub>BW</sub> (mm)	ØD (mm)	H (mm)
1/2"	140	---	105	100	179
3/4"	152	---	120	100	210
1"	165	178	130	125	217
1 1/4"	178	191	140	125	238
1 1/2"	190	203	165	150	280
2"	216	232	190	150	327

\* CLASS 300 face to face length

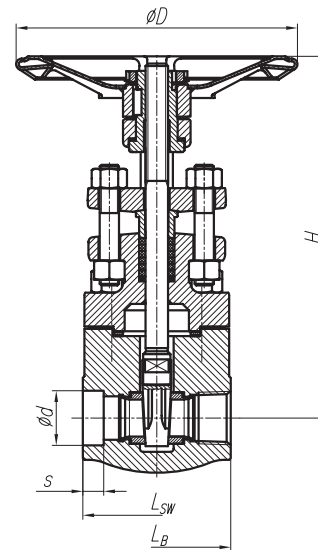
**CLASS 600**

NPS	L <sub>RF</sub> (mm)	L <sub>RJ</sub> (mm)	L <sub>BW</sub> (mm)	ØD (mm)	H (mm)
1/2"	165	163	105	100	182
3/4"	190	190	120	125	220
1"	216	216	130	150	225
1 1/4"	229	229	140	150	268
1 1/2"	241	241	165	200	292
2"	292	295	190	250	340

**CLASS 2500\*\***

NPS	L <sub>RF</sub> (mm)	L <sub>RJ</sub> (mm)	L <sub>BW</sub> (mm)	ØD (mm)	H (mm)
1/2"	264	264	150	150	275
3/4"	273	273	165	200	319
1"	308	308	175	250	338
1 1/4"	349	352	195	250	391
1 1/2"	384	387	230	300	431
2"	451	454	265	350	510

\*\*with ring-joint body-bonnet packing



**CLASS 300**

NPS	L <sub>RF</sub> (mm)	L <sub>RJ</sub> (mm)	L <sub>BW</sub> (mm)	ØD (mm)	H (mm)
1/2"	140	151	105	100	179
3/4"	152	165	120	125	210
1"	165	178	130	125	217
1 1/4"	178	191	140	150	238
1 1/2"	190	203	165	150	280
2"	216	232	190	190	327

**CLASS 900; CLASS 1500**

NPS	L <sub>RF</sub> (mm)	L <sub>RJ</sub> (mm)	L <sub>BW</sub> (mm)	ØD (mm)	H (mm)
1/2"	216	216	105	125	182
3/4"	229	229	120	150	220
1"	254	254	130	175	225
1 1/4"	279	279	140	200	268
1 1/2"	305	305	165	250	292
2"	368	371	190	250	340

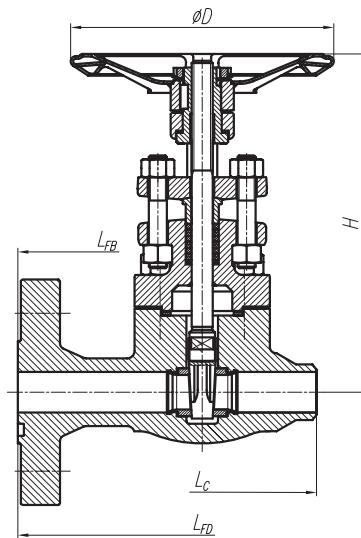
**CLASS 800; CLASS 1500; CLASS 2500\*\***

NPS	L <sub>SW</sub> ; L <sub>B</sub> (mm)		Ød (mm)	S <sub>min</sub> (mm)	ØD (mm)		H (mm)	
	800 1500	2500			800 1500	2500	800 1500	2500
3/8"	80	105	17,6	10	100	125	182	260
1/2"	85	110	21,8	10	125	150	182	275
3/4"	100	130	27,2	13	150	200	220	319
1"	115	150	33,9	13	175	250	225	338
1 1/4"	130	170	42,7	13	200	250	268	391
1 1/2"	150	195	48,8	13	250	300	292	431
2"	180	235	61,2	16	250	350	340	510

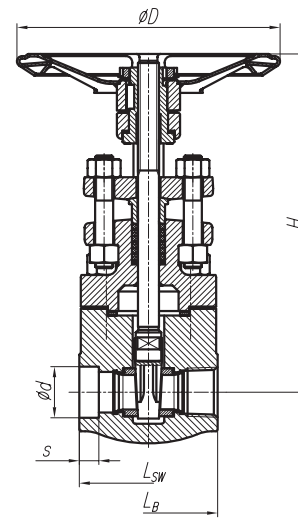
LCT

# Chart of dimensions

## LCT type wedge gate valve EN


**PN 16; PN 25; PN 40**

DN	L <sub>FB</sub> ; L <sub>FD</sub> (mm)	L <sub>c</sub> (mm)	L <sub>sw</sub> ; L <sub>B</sub> (mm)	Ø <sub>d</sub> (mm)	S <sub>min</sub> (mm)	ØD (mm)	H (mm)
10	130	---	80	17,6	10	100	186
15	130	105	85	21,8	10	100	186
20	150	120	100	27,2	13	100	218
25	160	130	115	33,9	13	125	225
32	180	140	130	42,7	13	125	248
40	200	165	150	48,8	13	150	291
50	230	190	180	61,2	16	150	340


**PN 63**

DN	L <sub>FB</sub> ; L <sub>FD</sub> (mm)	L <sub>c</sub> (mm)	L <sub>sw</sub> ; L <sub>B</sub> (mm)	Ø <sub>d</sub> (mm)	S <sub>min</sub> (mm)	ØD (mm)	H (mm)
10	210	---	80	17,6	10	100	186
15	210	105	85	21,8	10	100	186
20	230	120	100	27,2	13	125	218
25	230	130	115	33,9	13	125	225
32	260	140	130	42,7	13	150	248
40	260	165	150	48,8	13	150	291
50	300	190	180	61,2	16	200	340

**PN 100; PN 160**

DN	L <sub>FB</sub> ; L <sub>FD</sub> (mm)	L <sub>c</sub> (mm)	L <sub>sw</sub> ; L <sub>B</sub> (mm)	Ø <sub>d</sub> (mm)	S <sub>min</sub> (mm)	ØD (mm)	H (mm)
10	210	---	80	17,6	10	100	189
15	210	105	85	21,8	10	100	189
20	230	120	100	27,2	13	125	228
25	230	130	115	33,9	13	150	234
32	260	140	130	42,7	13	150	278
40	260	165	150	48,8	13	200	304
50	300	190	180	61,2	16	250	354

**PN 250**

DN	L <sub>FB</sub> ; L <sub>FD</sub> (mm)	L <sub>c</sub> (mm)	L <sub>sw</sub> ; L <sub>B</sub> (mm)	Ø <sub>d</sub> (mm)	S <sub>min</sub> (mm)	ØD (mm)	H (mm)
10	230	---	80	17,6	10	100	189
15	230	105	85	21,8	10	125	189
20	---	120	100	27,2	13	150	228
25	260	130	115	33,9	13	175	234
32	---	140	130	42,7	13	200	278
40	300	165	150	48,8	13	250	304
50	350	190	180	61,2	16	250	354

**PN 320; PN 400**

DN	L <sub>FB</sub> ; L <sub>FD</sub> (mm)	L <sub>c</sub> (mm)	L <sub>sw</sub> ; L <sub>B</sub> (mm)	Ø <sub>d</sub> (mm)	S <sub>min</sub> (mm)	ØD (mm)	H (mm)
10	230	---	105	17,6	10	125	270
15	230	150	110	21,8	10	150	286
20	---	165	130	27,2	13	200	332
25	260	175	150	33,9	13	250	352
32	---	195	170	42,7	13	250	406
40	300	230	195	48,8	13	300	448
50	350	265	235	61,2	16	350	530



## LRT type gate valve

Dimension range	DN 50 - 200 / NPS 2" - 8"
Pressure range	PN 16 - 250 / CLASS 150 – 1500
Temperature range	- 60°C - +427°C

This casted body gate valve with flexible closing element is manufactured according to API 600 Standard for wide pressure-, and temperature ranges. The design is rising stem with non-rising handwheel. The seat rings are welded or renewable threaded designs. The seat rings and wedge sealing surfaces is welded with Stellite 6 for the purposes of excellent wearing resistance. The packing of the stuffing box is graphite (or Teflon) rings, which can be replaced during operation as well in the uppermost position of the stem. The sealing of the bonnet is highly flexible spiral wound gasket. For higher pressures the sealing is made of stainless steel ring.

### Materials:

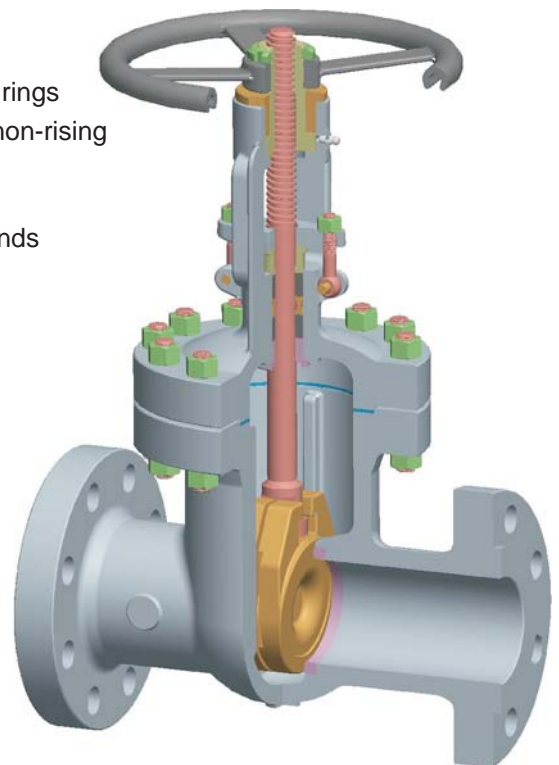
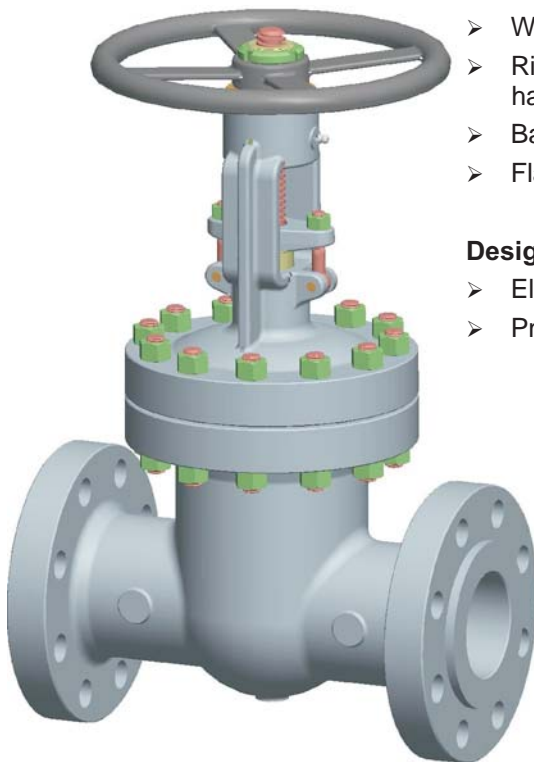
- ASTM A216 WCB
- ASTM A352 LCC
- ASTM A351 CF8M

### Main features:

- Cast body and bonnet
- Flexible wedge
- Welded or threaded seat rings
- Rising stem design with non-rising handwheel
- Backseat ensured
- Flanged or butt welded ends

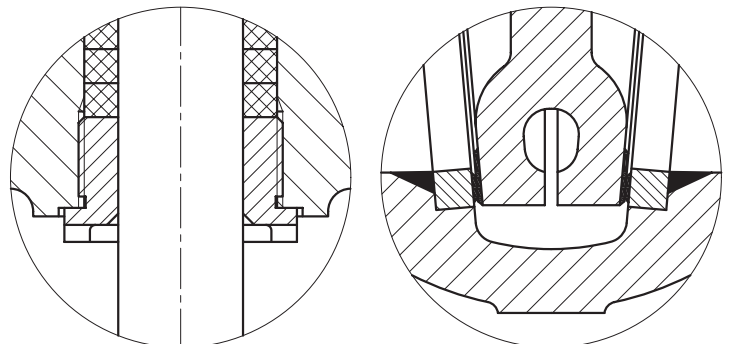
### Design possibilities:

- Electric motor operation
- Pneumatic operation



### Design standards:

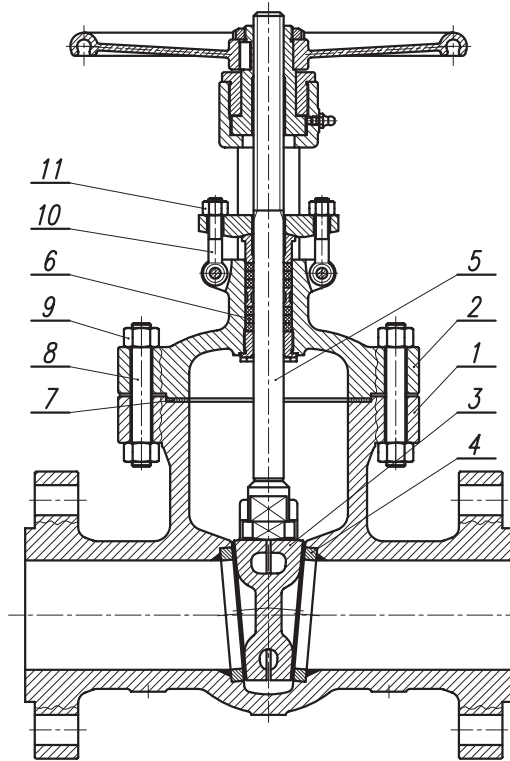
- Construction: API 602 / ISO 10434
- Face to face length: ASME B16.10; EN 558
- Butt welded type: ASME B16.25; EN 12627
- Flanged type: ASME B16.5; EN 1092-1; GOST 12815; GOST 12821
- Pressure test: API 602; EN 12266-1





## List of the main components

### LRT type gate valve



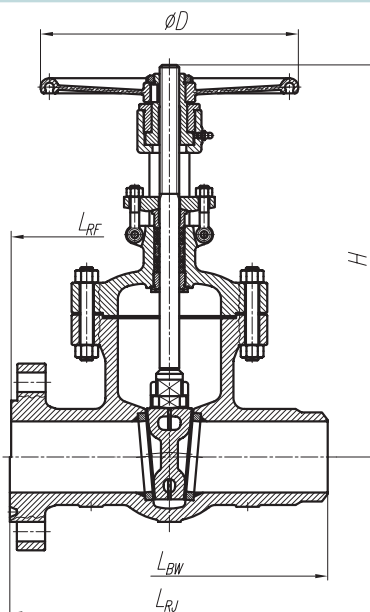
N°	Description	Standard design		Corrosion-resistant design
		T= -29°C ~ +427°C	T= -46°C ~ +343°C	T= -60°C ~ +427°C
1	Body	ASTM A216 WCB	ASTM A352 LCC	ASTM A351 CF8M
2	Cover	ASTM A216 WCB	ASTM A352 LCC	ASTM A351 CF8M
3	Wedge	ASTM A216 WCB (+HF)	ASTM A352 LCC (+HF)	ASTM A351 CF8M (+HF)
4	Seat ring	ASTM A105 (+HF)	ASTM A350 LF2 (+HF)	ASTM A276 316(L) (+HF)
5	Stem	ASTM A276 410	ASTM A276 410	ASTM A276 316(L)
6	Gland packing	Grafit	Grafit	Grafit
7	Body-bonnet packing	Spiral Wound 316L+Grafit	Spiral Wound 316L+Grafit	Spiral Wound 316L+Grafit
8; 10	Stud bolt	ASTM A193 B7	ASTM A320 L7	ASTM A193 B8M Cl.2
9; 11	Nut	ASTM A194 2H	ASTM A194 Gr.4	ASTM A194 8M

- HF = Stellite 6 welding-on (min. 350 HB)
- For other mediums, orders on material quality is based on temperature.

LRT

# Chart of dimensions

LRT type gate valve  
ANSI



## CLASS 150

NPS	LRF (mm)	LBJ (mm)	LBW (mm)	ØD (mm)	H (nyitva) (mm)
2"	178	191	216	200	389
2 1/2"	190	203	241	200	439
3"	203	216	283	250	500
4"	229	241	305	250	595
6"	267	279	403	350	777
8"	292	305	419	350	975

## CLASS 300

NPS	LRF (mm)	LBJ (mm)	LBW (mm)	ØD (mm)	H (nyitva) (mm)
2"	216	232	216	200	430
2 1/2"	241	257	241	250	505
3"	283	298	283	250	530
4"	305	321	305	250	630
6"	403	419	403	350	800
8"	419	435	419	400	1008

## CLASS 600

NPS	LRF (mm)	LBJ (mm)	LBW (mm)	ØD (mm)	H (nyitva) (mm)
2"	292	295	292	250	455
2 1/2"	330	333	330	250	588
3"	356	359	356	250	550
4"	432	435	432	350	690
6"	559	562	559	450	910
8"	660	663	660	500	1065

## CLASS 900

NPS	LRF (mm)	LBJ (mm)	LBW (mm)	ØD (mm)	H (nyitva) (mm)
2"	368	371	368	300	620
2 1/2"	419	422	419	350	705
3"	381	384	381	350	737
4"	457	460	457	400	825
6"	610	613	610	500	1065
8"	737	740	737	600	1219

## CLASS 1500

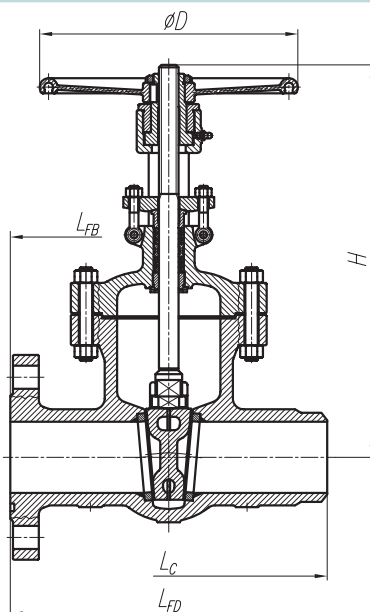
NPS	LRF (mm)	LBJ (mm)	LBW (mm)	ØD (mm)	H (nyitva) (mm)
2"	368	371	368	350	695
2 1/2"	419	422	419	400	705
3"	470	473	470	400	770
4"	546	549	546	500	872
6"	705	711	705	600	1092
8"	832	842	832	610*	1400

\* with drive gear

LRT

# Chart of dimensions

LRT type gate valve  
 EN



## PN 16

DN	L <sub>FB</sub> ; L <sub>FD</sub> (mm)	L <sub>c</sub> (mm)	ØD (mm)	H (nyitva) (mm)
50	178	216	200	389
65	190	241	200	439
80	203	283	250	500
100	229	305	250	595
150	267	403	350	777
200	292	419	350	975

## PN 25; PN 40

DN	L <sub>FB</sub> ; L <sub>FD</sub> (mm)	L <sub>c</sub> (mm)	ØD (mm)	H (nyitva) (mm)
50	216	216	200	430
65	241	241	250	505
80	283	283	250	530
100	305	305	250	630
150	403	403	350	800
200	419	419	400	1008

## PN 63; PN 100

DN	L <sub>FB</sub> ; L <sub>FD</sub> (mm)	L <sub>c</sub> (mm)	ØD (mm)	H (nyitva) (mm)
50	250	250	250	455
65	290	290	250	588
80	310	310	250	550
100	350	350	350	690
150	450	450	450	910
200	550	550	500	1065

## PN 160

DN	L <sub>FB</sub> ; L <sub>FD</sub> (mm)	L <sub>c</sub> (mm)	ØD (mm)	H (nyitva) (mm)
50	300	300	300	620
65	360	360	350	705
80	390	390	350	737
100	450	450	400	825
150	600	600	500	1065
200	750	750	600	1219

## PN 250

DN	L <sub>FB</sub> ; L <sub>FD</sub> (mm)	L <sub>c</sub> (mm)	ØD (mm)	H (nyitva) (mm)
50	350	350	350	695
65	400	400	400	705
80	450	450	400	770
100	520	520	500	872
150	700	700	600	1092
200	800	800	610*	1400

\* with drive gear

LRT

# LPT - LPBT type parallel gate valve

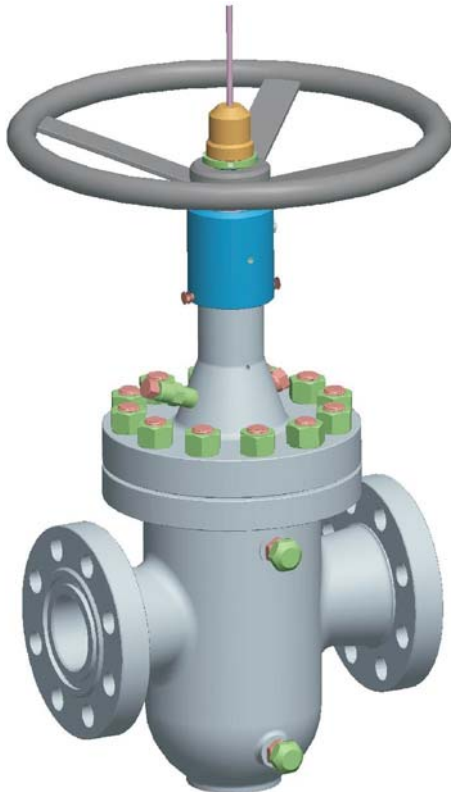
Dimension range	DN 50 - 150 / NPS 2" - 6"
Pressure range	PN 25 - 160 / CLASS 300 – 900
Temperature range	- 60°C - +150°C

According to API 6D Standard, it is made with casted body, parallel closing element gate valve with soft sealing rings. The design is of rising stem with non-rising handwheel. The gate formed split closing element ensures tight closure and low actuating torque. The gate valve has low flow loss as it makes provide turbulence-free flow stream. The gate is supplied with hard chrome or nickel for the purpose of excellent wearing resistance.

The LPBT is of spring returning type, mounted with pneumatic actuator is ideal as safety closing valve.

### Materials:

- ASTM A352 LCC
- ASTM A351 CF8M

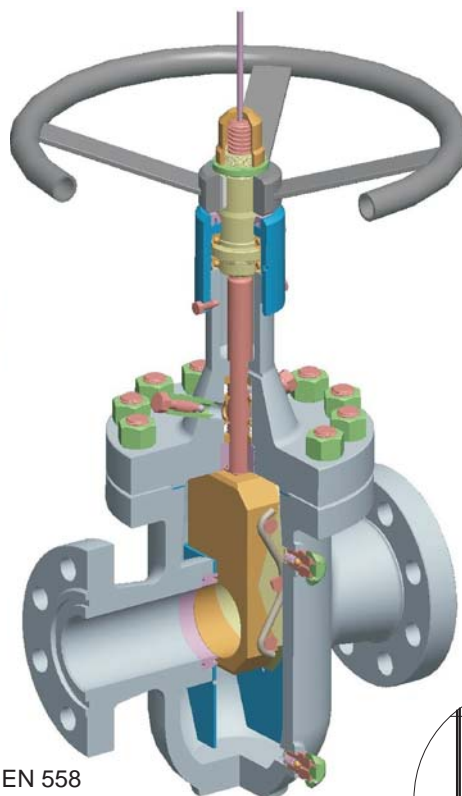


### Main features:

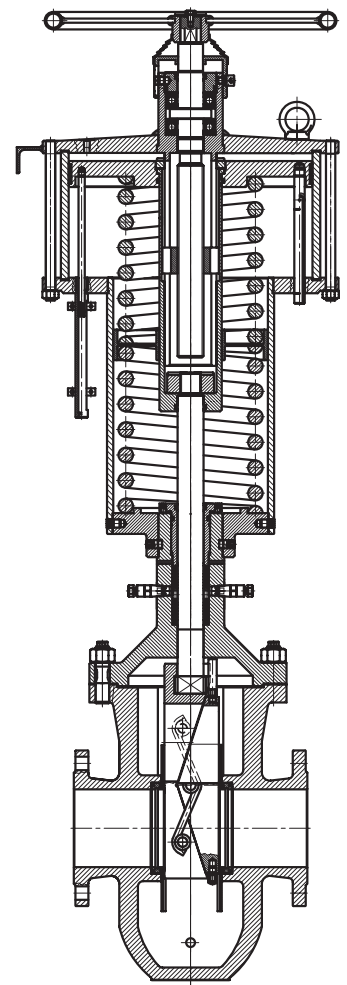
- Cast steel body and bonnet
- Rising stem design with non-rising handwheel
- Parallel, split gate
- Turbulence-free flow
- Flanged or butt welded ends

### Design possibilities:

- Electric motor operation
- Pneumatic operation

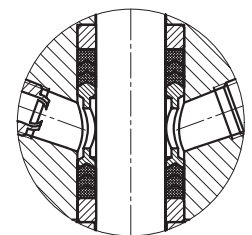
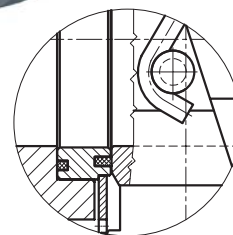


LPBT spring returning type with pneumatic actuator



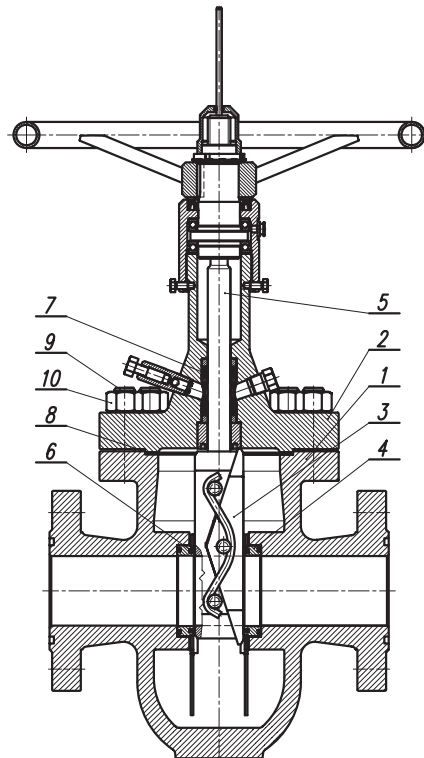
### Design standards:

- Construction: API 6D / ISO 14313
- Face to face length: ASME B16.10; EN 558
- Butt welded design: ASME B16.25; EN 12627
- Flanged design: ASME B16.5; EN 1092-1; GOST 12815; GOST 12821
- Pressure test: API 6D; EN 12266-1



## List of the main components

### LPT type parallel gate valve



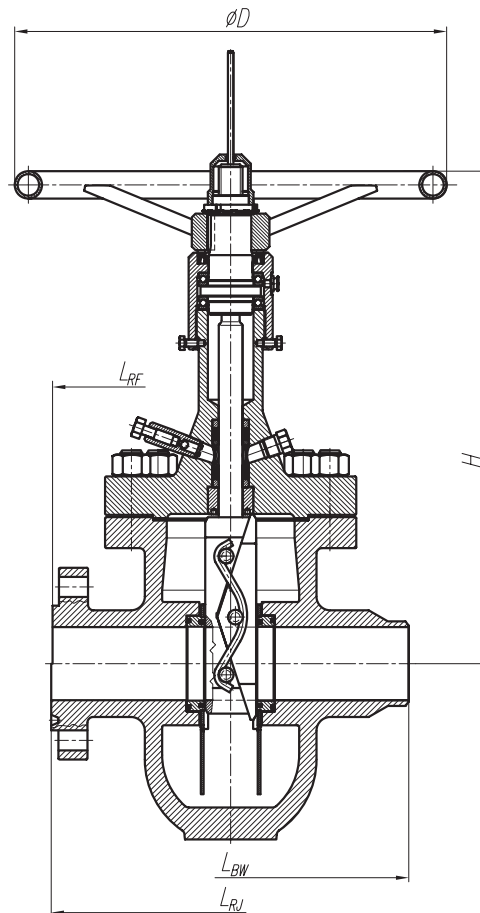
N°	Description	Standard design	Corrosive resistant design
		T= -46°C ~ +150°C	T= -60°C ~ +150°C
1	Body	ASTM A352 LCC	ASTM A351 CF8M
2	Bonnet	ASTM A352 LCC	ASTM A351 CF8M
3	Wedge	ASTM A350 LF2 +ENP/HCr	ASTM A182 316(L) +ENP/HCr
4	Seat ring	ASTM A350 LF2 +ENP	ASTM A276 316(L)
5	Stem	ASTM A276 410	ASTM A276 316(L)
6	Packing ring	PTFE DEVLON-V PEEK	PTFE DEVLON-V PEEK
7	Gland packing	Grafit / PTFE	Grafit / PTFE
8	Body-bonnet sealing	Spiral Wound 316L+Grafit	Spiral Wound 316L+Grafit
9	Stud bolt	ASTM A320 L7	ASTM A193 B8M Cl.2
10	Nut	ASTM A194 Gr.4	ASTM A194 8M

- ENP = Electroless Nickel Plating
- HCr = Hard Chromium Plating
- For other mediums, orders on material quality is based on temperature.

# Chart of dimensions

## LPT type parallel gate valve

### ANSI



#### CLASS 300

NPS	L <sub>RF</sub> (mm)	L <sub>RJ</sub> (mm)	L <sub>BW</sub> (mm)	ØD (mm)	H (mm)
2"	216	232	216	320	440
2 1/2"	241	257	241	320	495
3"	283	298	283	370	540
4"	305	321	305	420	623
6"	403	419	403	470	774

#### CLASS 600

NPS	L <sub>RF</sub> (mm)	L <sub>RJ</sub> (mm)	L <sub>BW</sub> (mm)	ØD (mm)	H (mm)
2"	292	295	292	370	440
2 1/2"	330	333	330	370	495
3"	356	359	356	420	540
4"	432	435	432	470	623
6"	559	562	559	400*	774

\* With drive gear

#### CLASS 900

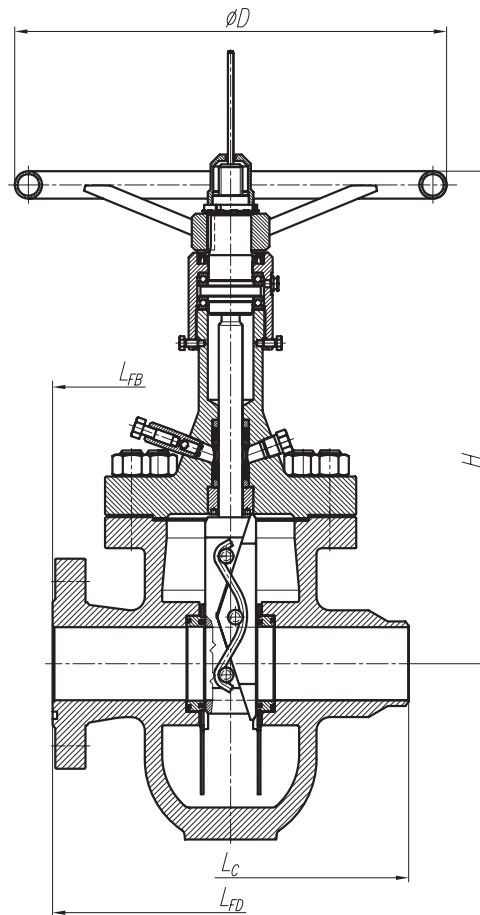
NPS	L <sub>RF</sub> (mm)	L <sub>RJ</sub> (mm)	L <sub>BW</sub> (mm)	ØD (mm)	H (mm)
2"	368	371	368	370	440
2 1/2"	419	422	419	420	495
3"	381	384	381	470	540
4"	457	460	457	520	623
6"	610	613	610	400*	774

\* With drive gear

# Chart of dimensions

## LPT type parallel gate valve

### EN



#### PN 25; PN 40

DN	L <sub>FB</sub> ; L <sub>FD</sub> (mm)	L <sub>c</sub> (mm)	ØD (mm)	H (mm)
50	250	250	320	440
65	290	290	320	495
80	310	310	370	540
100	350	350	420	623
150	450	450	470	774

#### PN 63

DN	L <sub>FB</sub> ; L <sub>FD</sub> (mm)	L <sub>c</sub> (mm)	ØD (mm)	H (mm)
50	250	250	320	440
65	290	290	370	495
80	310	310	420	540
100	350	350	470	623
150	450	450	520	774

#### PN 100

DN	L <sub>FB</sub> ; L <sub>FD</sub> (mm)	L <sub>c</sub> (mm)	ØD (mm)	H (mm)
50	250	250	370	440
65	290	290	370	495
80	310	310	420	540
100	350	350	470	623
150	450	450	400*	774

\* With drive gear

#### PN 160

DN	L <sub>FB</sub> ; L <sub>FD</sub> (mm)	L <sub>c</sub> (mm)	ØD (mm)	H (mm)
50	300	300	370	440
65	360	360	420	495
80	390	390	470	540
100	450	450	520	623
150	600	600	400*	774

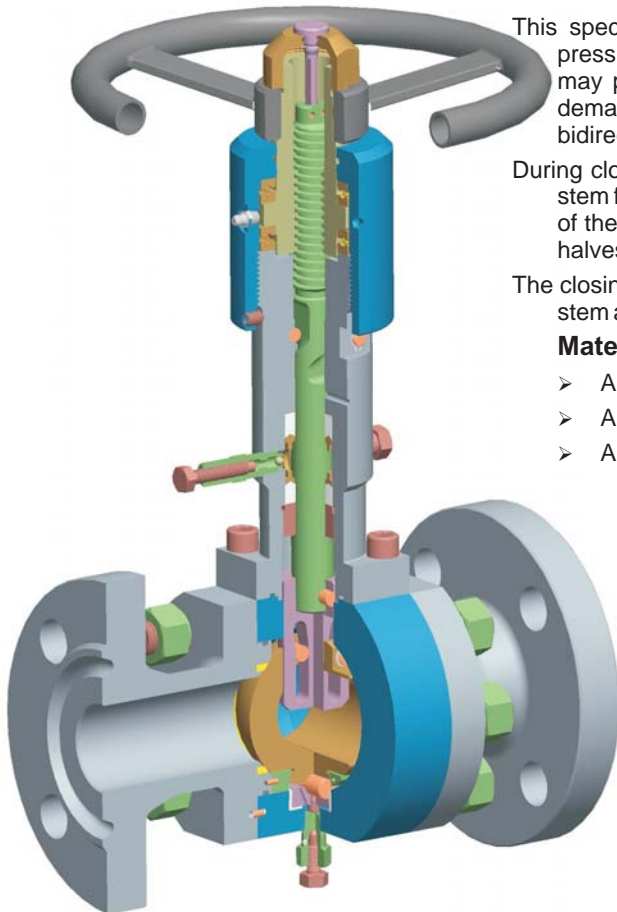
\* With drive gear

LPT



# LBX type dual closing ball valve

Dimension range	DN 50 - 200 / NPS 2" - 8"
Pressure range	PN 16 - 160 / Class 150 - 900
Temperature range	- 60°C - +150°C



This special valve with split closing element is designed for low and middle pressures. The dual closing ball valve – similarly to the traditional ball valve – may provide straight flow via the total cross section but with small torque demand contrary to the traditional one. The construction of the device ensures bidirectional sealing so the valves can be built in both flow directions.

During closing process the stem goes down while the spiral cam located on the stem forces the stem and the closing element to turn 90° frictionless. At the end of the closing process the wedge formed grooves tilting the closing element-halves to the sealing surfaces, providing closing in both directions.

The closing element is manufactured with high hardness nickel coating, while the stem and the activating head are nitrided.

**Materials:**

- ASTM A105
- ASTM A350 LF2
- ASTM A182 F316(L)

**Main features:**

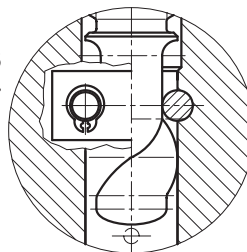
- Straight flow
- Split closing element
- Both side closing
- 90° turn of stem
- Turning and tilting closing element-halves
- Small torque demand as there is no friction between the closing element and the sealing
- Drain plug on the body
- Flanged or butt welded ends

**Design possibilities:**

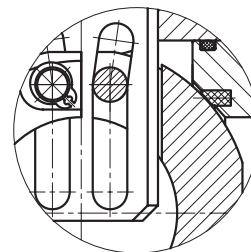
- Electric motor operation
- Pneumatic operation
- Hydraulic operation

**Design standards:**

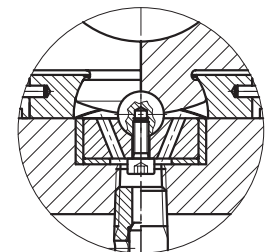
- Face to face length: ASME B16.10; EN 558
- Butt welded type: ASME B16.25; EN 12627
- Flanged type: ASME B16.5; EN 1092-1; GOST 12815; GOST 12821
- Pressure test: API 6D; EN 12266-1
- NACE design: NACE MR0175 / ISO 15156



Opened position, stem on the upper dead point position

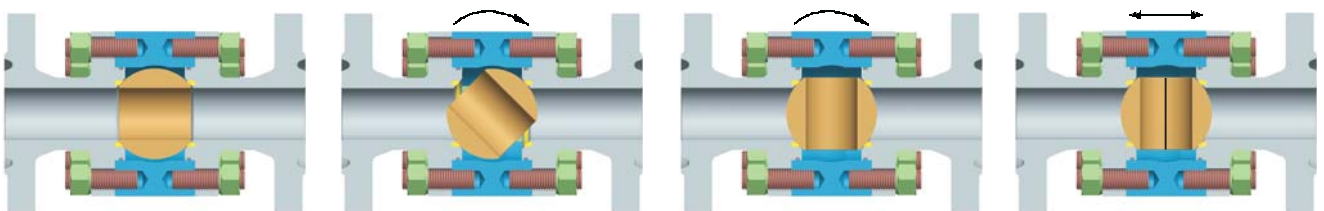


By descending the stem, the cam makes the closing elements rotating through the activator head



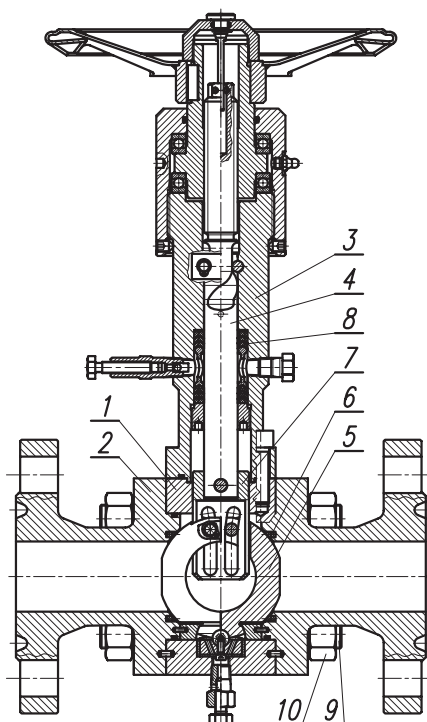
By 90° turning the closing elements turn into shutting position

While further descending, the stem the activating head opens the closing element-halves and presses them onto the seat ring



## List of the main components

### LBX type dual closing ball valve

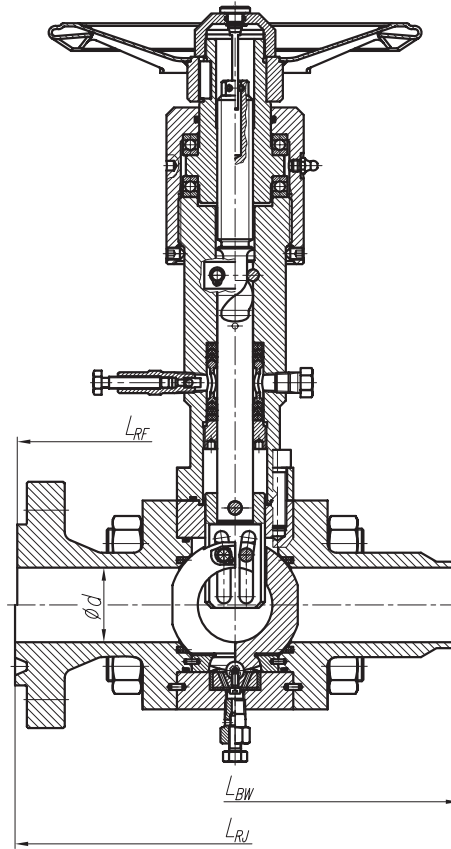


N°	Description	Standard design		NACE design	Corrosion-resistant design
		T= -29°C ~ +150°C	T= -46°C ~ +150°C	T= -46°C ~ +120°C	T= -60°C ~ +150°C
1	Body	ASTM A105	ASTM A350 LF2	ASTM A350 LF2	ASTM A182 316(L)
2	Flanged stub	ASTM A105	ASTM A350 LF2	ASTM A350 LF2	ASTM A182 316(L)
3	Bonnet	ASTM A105	ASTM A350 LF2	ASTM A350 LF2	ASTM A479 316(L)
4	Stem	ASTM A322 4140 (1)	ASTM A322 4140 (1)	ASTM A564 630	ASTM A564 630
5	Closing element	ASTM A322 4140 +ENP	ASTM A322 4140 +ENP	ASTM A182 F51 (+ENP)	ASTM A276 316(L)
6	Packing ring	PTFE DEVLON-V PEEK	PTFE DEVLON-V PEEK	PTFE DEVLON-V PEEK	PTFE DEVLON-V PEEK
7	Operating head	ASTM A322 4140 (1)	ASTM A322 4140 (1)	ASTM A564 630	ASTM A564 630
8	Gland packing	PTFE	PTFE	PTFE	PTFE
9	Bolt	ASTM A320 L7M	ASTM A320 L7M	ASTM A320 L7M	ASTM A193 B8M Cl.2
10	Nut	ASTM A194 2HM	ASTM A194 2HM	ASTM A194 2HM	ASTM A194 8M
	"O"-ring	VITON	VITON GLT	VITON GLT	VITON FVMQ

- (1) Nitrided
- ENP = Electroless Nickel Plating
- Materials for other mediums and temperature ranges according to purchase order
- The material of "O"-rings depends on the medium

# Chart of dimensions

## LBX type dual closing ball valve ANSI



### CLASS 150

NPS	d (mm)	$L_{RF}$ * (mm)	$L_{RJ}$ * (mm)	$L_{BW}$ * (mm)
2"	49	216	232	216
2 1/2"	62	241	257	241
3"	74	282	298	282
4"	100	305	321	305
6"	150	403	419	457
8"	201	502	518	521

### CLASS 300

NPS	d (mm)	$L_{RF}$ (mm)	$L_{RJ}$ (mm)	$L_{BW}$ (mm)
2"	49	216	232	216
2 1/2"	62	241	257	241
3"	74	282	298	282
4"	100	305	321	305
6"	150	403	419	457
8"	201	502	518	521

\* CLASS 300 face to face length

### CLASS 600

NPS	d (mm)	$L_{RF}$ (mm)	$L_{RJ}$ (mm)	$L_{BW}$ (mm)
2"	49	292	295	292
2 1/2"	62	330	333	330
3"	74	356	359	356
4"	100	432	435	432
6"	150	559	562	559

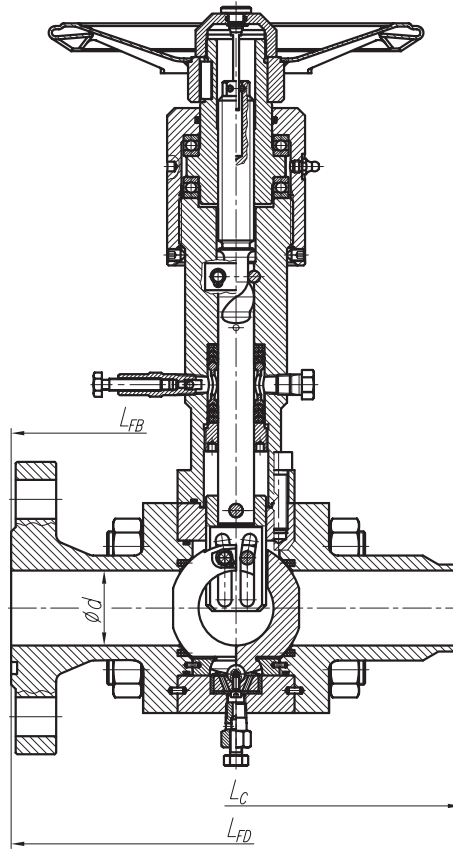
### CLASS 900

NPS	d (mm)	$L_{RF}$ (mm)	$L_{RJ}$ (mm)	$L_{BW}$ (mm)
2"	49	368	371	368
2 1/2"	62	419	422	419
3"	74	381	384	381
4"	100	457	460	457
6"	150	610	613	610

# Chart of dimensions

## LBX type dual closing ball valve

### EN



#### PN 16; PN 25; PN 40; PN 63

DN	d (mm)	L <sub>FB</sub> : L <sub>FD</sub> (mm)	L <sub>C</sub> (mm)
50	49	230	230
65	62	290	290
80	74	310	310
100	100	350	350
150	150	480	480
200	201	600	600

#### PN 100; PN 160

DN	d (mm)	L <sub>FB</sub> : L <sub>FD</sub> (mm)	L <sub>C</sub> (mm)
50	49	300	300
65	62	340	340
80	74	380	380
100	100	430	430
150	150	550	550