

Product Catalogue

Conventional Valves



Engineering, Equipment and Consulting

2016



The company **ENEQ CONSULT Ltd.** has the necessary resources in the field of deliveries to all sectors of the power, petrol and gas equipment industry.

The policy and strategy of our company are directed at the complex solutions for implementation of the projects, starting from deliveries of the equipment, its installation, operation and servicing.

Our suppliers and partners – the worldwide manufacturers from the Czech Republic, Croatia, Italy, Russia.

The general principles of our company are, as follows:

- Individual approach towards every single partner in relation to the products that we offer, in view of highly-technological quality of the equipment, which is in conformity with the world standards, as well as competitive prices to the satisfaction of our partners-employers;

Type “K” – fixtures for conventional power engineering with application in thermal power engineering, the oil and gas, chemical, food, water, marine and other industries.

The general design of the fixtures is in conformity with EN, whereas our company can also offer designs in accordance with GOST, API and BSI. These fixtures are manufactured using materials and fitting dimensions under EN, ASME, ASTM and GOST standards. There is also an option for special execution of dimensions and materials as per the individual requirements of the customer.

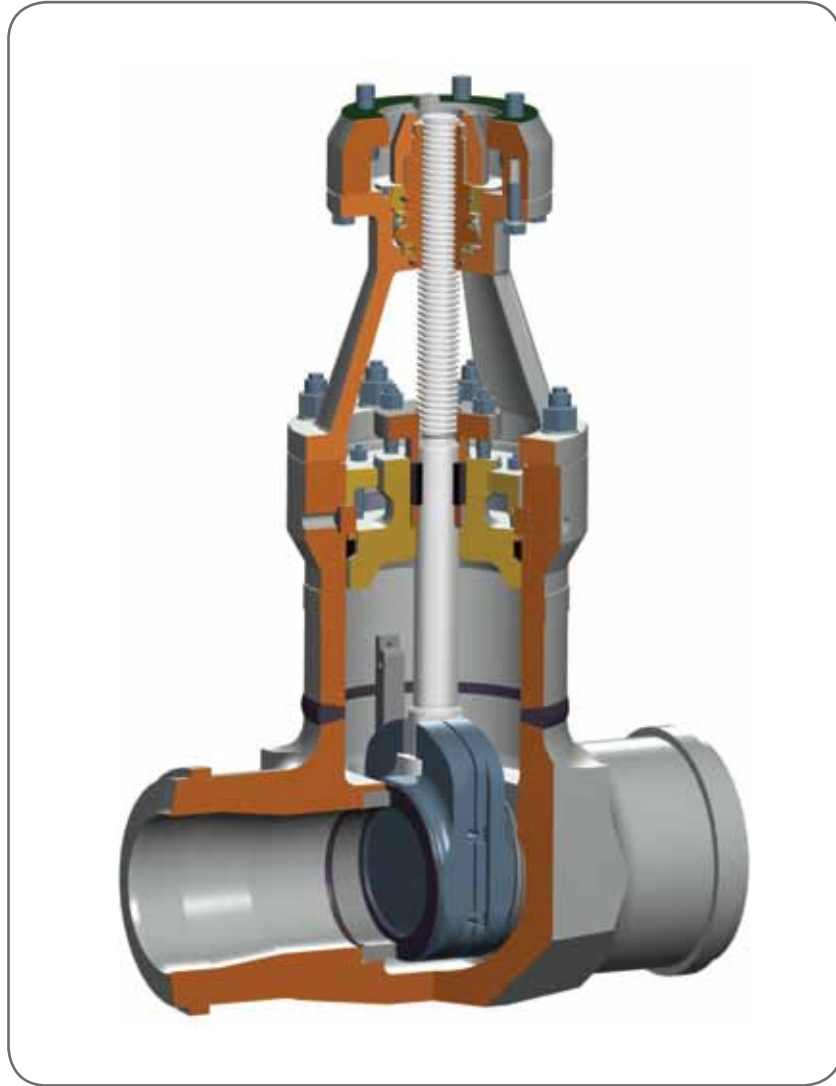
The company is capable of delivering any other type of specialized fixtures, beyond those proposed in this catalogue, by request of the customer.

We offer warranty for all products from delivery to post-warranty servicing.

We hope for a fruitful collaboration and express our gratitude for your trust!



Type K12
DN 65-400
PN 63 - 250



Forged Gate Valve with Pressure Sealed Bonnet

Butt-Welded, Flanged



DATA SHEET K12

Application

- Shut-off valve

• Fluids

Water, water steam and other fluids based on material selection

• Industry

Power engineering, chemical industry, nuclear power

• Environments

Normal, tropical, explosive, seismic

Technical description

- Body is die of free forging
- Yoke cast or welded
- Seats are pressed in the body and seal welded
- Sealing surfaces of the seats and wedge are hard-alloyed (Stellite)
- Spindle packing and sealing ring of the pressure seal bonnet are made of expanded graphite
- For the flanged gate valves, the flanges are welded to the body
- The gate valves design includes sizing of the main components according to the pressure-temperature system
- Gate valves can be operated in position open - close

Accessories

- By-pass
- Gland with permanently pressed spring (Live Loading System)
- Membrane Rupture Insurance Devices
- Another accessories upon request

Testing

- Gate valves shall be tested with water for the strength, impermeability, operational capacity and tightness depending on the operating parameters and material of the body according to EN 12266-1
- Minimum test pressure for the strength test is 1.5 x PN
- Strength welds shall be inspected by radiography
- Operation
- Hand wheel (on request with locking device)
- Electric servo motor (also for seismic requirements) - standard connection dimensions according to ISO 5210
- Direct remote control
- Bevel gear



Connection

- Welding and flange according to CSN, EN, ANSI, GOST, DIN or according to customer requirements

Installation

- Gate valves can be mounted in any position regardless the direction of the working fluid flow
- Gate valves with electric actuator with oil filling - see installation instructions from the manufacturer
- It is recommended to installed the gate valves of larger diameters in the horizontal piping with vertical sapindle and control at the top

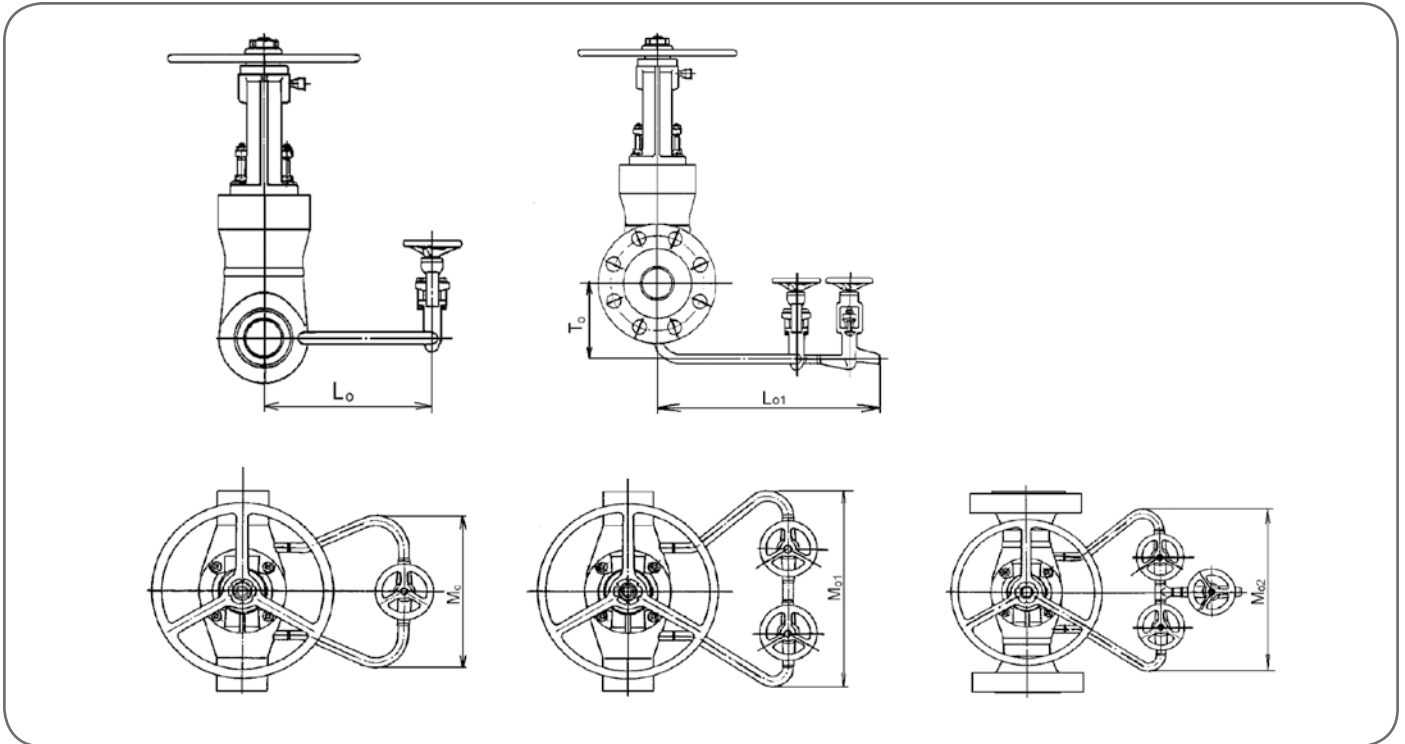
By-pass

- Gate valves are standardly equipped with the protection of the inner part by the valve K89
- Gate valves up to DN 250 are designed for full pressure drop and bypass is not needed
- AT the customer's request, bypass with one to three valves can be supplied



DATA SHEET K12

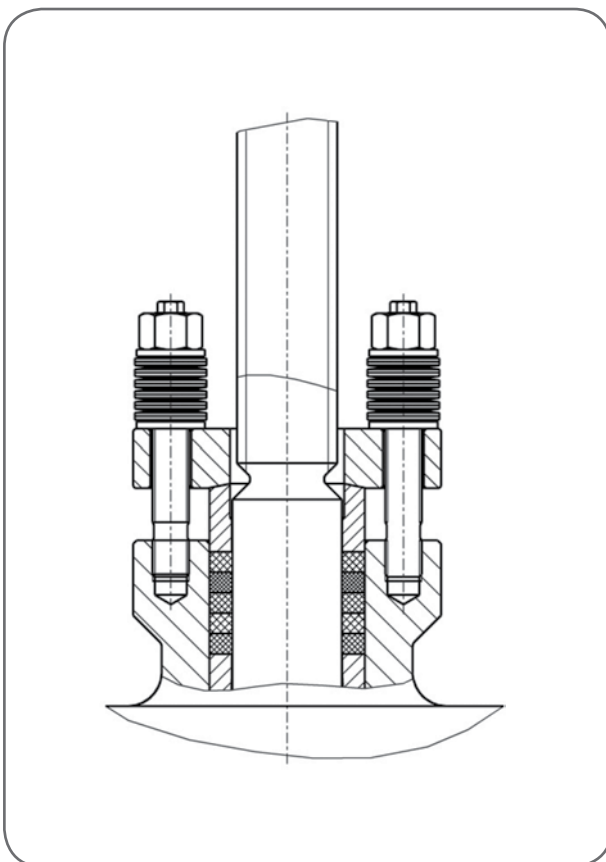
By-pass



Gate valve	By-pass valve		Side by-pass			Block by-pass			
DN/d	DN	PN	1 valve			2 valves		3 valves	
			Lo	Mo	Lo	Mo ₁	Lo ₁	Mo ₂	To
65/50 65/55	15	63 250	355	295	355	560	680	560	190
80/75 100/75			355	335	355	600	680	600	212
125/110 150/110			355	405	355	670	680	670	245
175/125	25		-	-	515	685	880	685	267
175/150 200/150			-	-	515	685	880	685	267
225/175			-	-	515	735	880	735	299
250/200 375/200			-	-	515	785 805	880	785 805	326
250/225	40		-	-	670	985	1160	985	
275/225 300/225			-	-	670	1175	1160	1175	406
300/250			-	-	670	1205	1160	1205	406
350/275 400/275		-	-	670	1115	1160	1115	438 473	

DATA SHEET K12

Central cavity equalization against overpressure



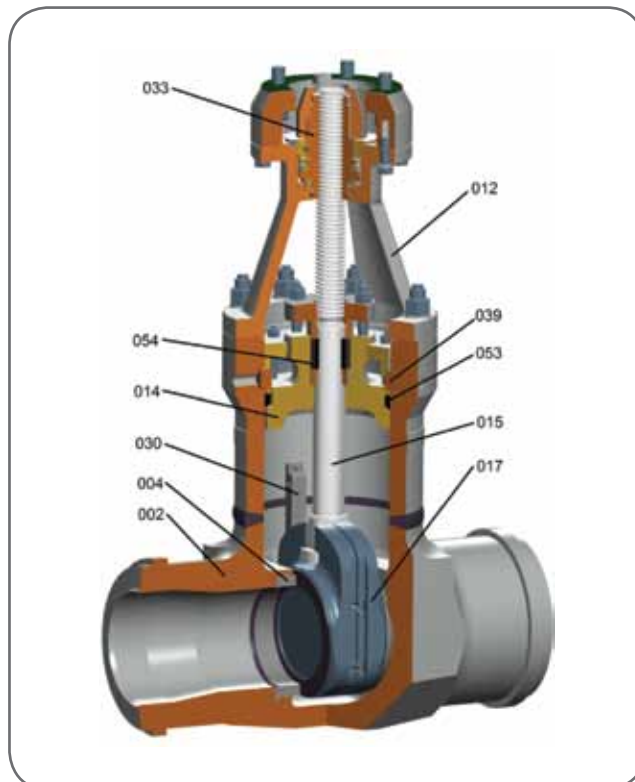
In some pipe systems may occur a situation where after the shut-down of the system and after subsequent cooling, a certain amount of water remains in the central part of the closed gate valve, ie in the space above the wedge. If after some time the gate valve closed that way again begins to heat (eg using by-pass), due to the temperature increase the pressure of the fluid between the plates of the wedge and above the wedge will increase. In order not to damage the valve by the pressure increase, the gate valve is fitted with the protection of the inner part by the valve K89. Relief valve is positioned on the pipe led out from the central part just below the pressure seal bonnet. The solution is universal and applicable to all gate valve and operating parameters, does not change bidirectional use of the valve. The safety device is fitted to the condenser loop lead out of the gate valve body outside its thermal insulation. Due to the replacement of the rupture disk during operation, the part of the safety device is the pressure measurement shut-off valve with locking device to prevent unallowed manipulation. By selecting an appropriate condensing loop be used the relief device with horizontal or vertical connection. Detailed description of the relief device is indicated in a separate catalogue sheet "K89 - Membrane rupture insurance device".

Live Loading System

- On request it is possible to supply the packing with permanently pressed spring (so-called Live Loading System)
- This design is used in cases where a special working fluid is used, where the nature of the operation eliminates regular maintenance of the packing or where operating conditions do not permit frequent check of the valves

DATA SHEET K12

Materials of main parts



Pos.	Name	Material						
		Non alloy	Low alloy		High alloy	Stainless		
002	Body	11416, CSN 411416, P250GH (C22.8), 1.0460	15128 - CSN 415128	16Mo3 (15Mo3), 1.5415	11CrMo9-10, 1.7383, (10CrMo9-10, 1.7380), 13CrMoV-45, 1.7335, 14MoV6-3, 1.7715	15NiCuMoNb5-6-4, 1.4903	X10CrMoVNb9-1, 1.6368	X6CrNiTi18-10, 1.4541, 08X18H10T, GOST 5632
004	Seat							
005	Flange							
017	Wedge							
039	Segmented ring	11416		11CrMo9-10 (10CrMo910)				
014	Pressure sealed							
011	Connection branch	16Mo3	10CrMo	16Mo3 10CrMo910		16Mo3	10CrMo9-10	X6Cr, 08X
030	Wedge guide	11416		11CrMo9-10		11CrMo9-10		17027.4
053 054	Sealing ring	Expanded graphite						
012	Yoke	GS-17CrMo5-5, 427744, 11CrMo9-10, 15128						
015	Stem	X22Cr, 10V12-1, 17134, X39CrMo17-1						
	Hardfacing	Typ Stellite						
033	Stem nut	423046, 423047, CC333G						

DATA SHEET K12

Operating data

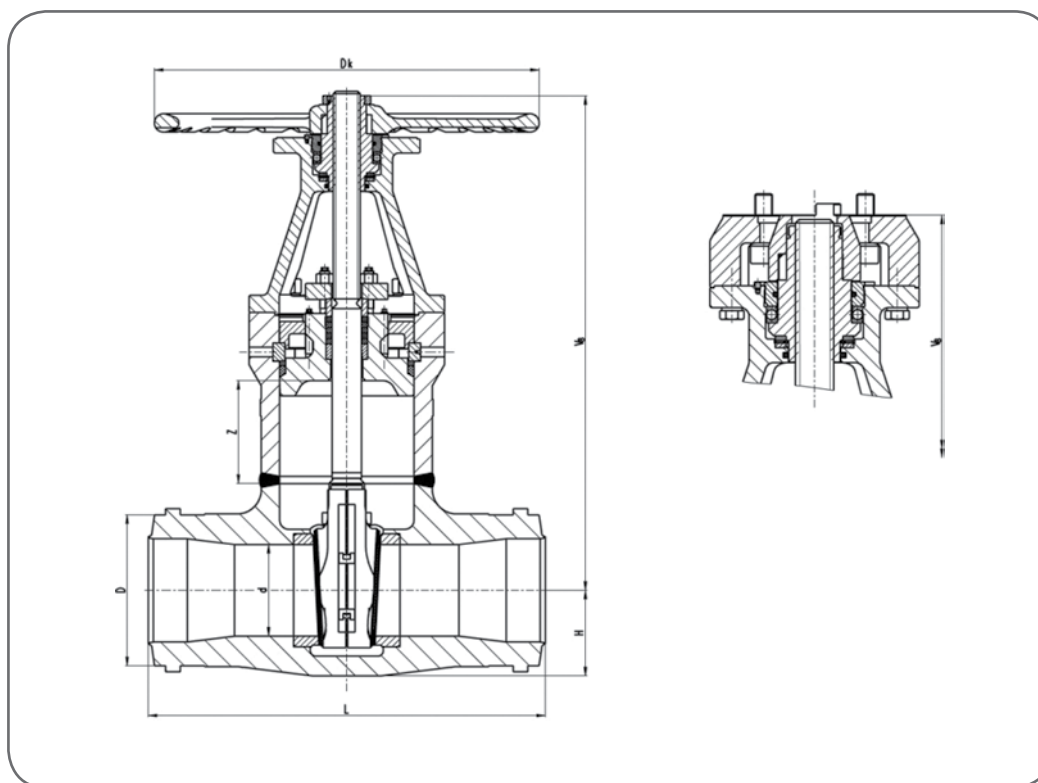
Material of body	PN	Working pressure MPa / Working temperature °C											
		200	250	300	350	400	450	500	520	540	560	580	600
P250GH (C22.8) (W.Nr. 1.0460)	63	5,7	4,9	4,2	3,7	2,9	2,2	-	-	-	-	-	-
	100	9,0	7,8	6,7	5,8	4,6	3,5	-	-	-	-	-	-
	160	14,4	12,5	10,7	9,3	7,4	5,6	-	-	-	-	-	-
	250	22,5	19,6	16,7	14,5	11,6	6,7	-	-	-	-	-	-
	320	28,8	25	21,3	18,6	14,8	11,1	-	-	-	-	-	-
	400	35,9	31,3	26,7	23,2	18,6	13,9	-	-	-	-	-	-
11416	63	6,3	5,6	4,8	4,1	3,6	2,5	-	-	-	-	-	-
	100	10,0	8,8	7,7	6,6	5,7	4,0	-	-	-	-	-	-
	160	16,0	14,1	12,2	10,5	9,1	6,4	-	-	-	-	-	-
	250	24,9	22,0	19,1	16,4	14,2	10,0	-	-	-	-	-	-
	320	31,9	28,2	24,5	21,0	18,2	12,8	-	-	-	-	-	-
	400	39,9	35,2	30,6	26,2	22,7	16,0	-	-	-	-	-	-
15NiCuMoNb5 (W.Nr. 1.6368)	63	6,3	6,3	6,3	6,3	6,3	6,3	-	-	-	-	-	-
	100	10,0	10,0	10,0	10,0	10,0	10,0	-	-	-	-	-	-
	160	16,0	16,0	16,0	16,0	16,0	16,0	-	-	-	-	-	-
	250	25,0	25,0	25,0	25,0	25,0	25,0	-	-	-	-	-	-
	320	32,0	32,0	32,0	32,0	32,0	32,0	-	-	-	-	-	-
	400	40,0	40,0	40,0	40,0	40,0	40,0	-	-	-	-	-	-
16Mo3 (15Mo3) (W.Nr. 1.5415)	63	6,3	6,0	5,3	5,1	4,9	4,7	3,4	2,2	-	-	-	-
	100	10,0	9,6	8,4	8,1	7,8	7,5	5,4	3,4	-	-	-	-
	160	16,0	15,3	13,4	13,0	12,5	12,1	8,6	5,5	-	-	-	-
	250	25,0	23,9	21,0	20,3	19,6	18,8	13,5	8,6	-	-	-	-
	320	32,0	30,6	26,9	26,0	25,0	24,1	17,3	10,9	-	-	-	-
	400	40,0	38,3	33,6	32,5	31,3	30,1	21,6	13,7	-	-	-	-
13CrMo4-5 (W.Nr. 1.7335)	63	6,3	6,3	6,3	6,0	5,8	5,5	5,0	3,4	2,2	1,5	-	-
	100	10,0	10,0	10,0	9,6	9,3	8,7	7,9	5,4	3,5	2,3	-	-
	160	16,0	16,0	16,0	15,3	14,8	13,9	12,7	8,7	5,7	3,7	-	-
	250	25,0	25,0	25,0	23,9	23,2	21,7	19,9	13,6	8,8	5,8	-	-
	320	32,0	32,0	32,0	30,6	29,7	27,8	25,4	17,4	11,3	7,4	-	-
	400	40,0	40,0	40,0	38,3	37,1	34,8	31,8	21,8	14,1	9,3	-	-
11CrMo9-10 (W.Nr. 1.7383) (10CrMo9-10)	63	6,3	6,3	6,3	6,3	6,3	6,0	4,9	3,8	2,8	2,1	1,6	1,2
	100	10,0	10,0	10,0	10,0	10,0	9,6	7,8	6,0	4,5	3,4	2,6	2,0
	160	16,0	16,0	16,0	16,0	16,0	15,3	12,5	9,6	7,2	5,4	4,1	3,2
	250	25,0	25,0	25,0	25,0	25,0	23,9	19,6	14,9	11,3	8,4	6,4	4,9
	320	32,0	32,0	32,0	32,0	32,0	30,6	25,0	19,1	14,5	10,8	8,2	6,3
	400	40,0	40,0	40,0	40,0	40,0	38,3	31,3	23,9	18,1	13,4	10,2	7,9
14MoV6-3 (W.Nr. 1.7715)	63	6,3	6,3	6,3	6,3	6,3	6,3	6,3	5,4	4,1	3,1	-	-
	100	10,0	10,0	10,0	10,0	10,0	10,0	10,0	8,6	6,6	5,0	-	-
	160	16,0	16,0	16,0	16,0	16,0	16,0	16,0	13,8	10,5	8,0	-	-
	250	25,0	25,0	25,0	25,0	25,0	25,0	25,0	21,6	16,4	12,5	-	-
	320	32,0	32,0	32,0	32,0	32,0	32,0	32,0	27,6	21,0	16,0	-	-
	400	40,0	40,0	40,0	40,0	40,0	40,0	40,0	34,6	26,2	19,9	-	-
15128	63	6,3	6,3	6,3	6,3	6,3	6,3	6,2	4,8	3,7	2,8	2,2	1,6
	100	10,0	10,0	10,0	10,0	10,0	10,0	9,8	7,6	5,9	4,5	3,5	2,6
	160	16,0	16,0	16,0	16,0	16,0	16,0	15,7	12,2	9,4	7,2	5,6	4,2
	250	25,0	25,0	25,0	25,0	25,0	25,0	24,5	19	14,6	11,3	8,7	6,5
	320	32,0	32,0	32,0	32,0	32,0	32,0	31,4	24,3	18,7	14,5	11,1	8,3
	400	40,0	40,0	40,0	40,0	40,0	40,0	39,2	30,4	23,4	18,1	13,9	10,4
X10CrMoVNb9-1 (W.Nr. 1.4903)	63	6,3	6,3	6,3	6,3	6,3	6,3	6,3	6,3	6,3	5,5	4,4	3,4
	100	10,0	10,0	10,0	10,0	10,0	10,0	10,0	10,0	10,0	8,7	7,0	5,4
	160	16,0	16,0	16,0	16,0	16,0	16,0	16,0	16,0	16,0	13,9	11,1	8,7
	250	25,0	25,0	25,0	25,0	25,0	25,0	25,0	25,0	25,0	21,7	17,4	13,6
	320	32,0	32,0	32,0	32,0	32,0	32,0	32,0	32,0	32,0	27,8	22,3	17,4
	400	40,0	40,0	40,0	40,0	40,0	40,0	40,0	40,0	40,0	34,8	27,8	21,8

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Material of body	PN	Working pressure MPa / Working temperature °C											
		200	250	300	350	400	450	500	520	540	560	580	600
X6CrNiTi18-10 (W.Nr. 1.4541)	63	6,1	5,4	5,0	4,7	4,6	4,4	4,3	4,3	4,3	4,3	3,9	3,1
	100	9,7	8,5	7,9	7,5	7,2	7,0	6,9	6,9	6,9	6,8	6,2	5,0
	160	15,5	13,6	12,6	12,1	11,6	11,2	11,0	11,0	11,0	10,9	9,9	8,0
	250	24,2	21,3	19,7	18,8	18,1	17,5	17,2	17,2	17,1	17,1	15,5	12,5
	320	31,0	27,3	25,2	24,1	23,2	22,4	22,1	22	21,9	21,9	19,8	16,0
	400	38,7	34,1	31,5	30,1	29,0	28,1	27,6	27,5	27,4	27,4	24,8	19,9
08X18H10T	63	6,0	5,6	5,4	5,0	4,8	4,5	4,1	3,8	3,5	3,1	2,8	2,5
	100	9,5	8,8	8,5	7,9	7,7	7,1	6,6	6,0	5,5	5,0	4,5	4,0
	160	15,2	14,1	13,6	12,7	12,2	11,4	10,5	9,6	8,8	8,0	7,2	6,5
	250	23,8	22,0	21,3	19,9	19,1	17,8	16,4	15,0	13,7	12,5	11,3	10,1
	320	30,4	28,2	27,3	25,4	24,5	22,8	21,0	19,3	17,5	15,9	14,4	12,9
	400	38,0	35,2	34,1	31,8	30,6	28,5	26,2	21,9	21,9	19,9	18,1	16,2

DATA SHEET K12

Dimensions Butt-welded type, PN 63 - 250



Gate valves for electric actuators and gears

DN/d	H mm	L mm	V8 mm	Z mm	m
65/50	55	360	420	68	53
65/55	55	360	420	68	52
80/75	78	450	540	90	90
100/75	78	450	540	90	89
100/110	115	450	700	130	195
125/110	115	550	700	130	215
150/110	115	550	700	130	208
125/125	125	550	765	145	285
150/125	125	550	765	145	280
175/125	125	650	765	145	305
150/150	140	550	825	168	350
175/150	140	650	825	168	375
200/150	140	650	825	168	372
175/175	165	650	970	200	460
200/175	165	650	970	200	460
225/175	165	700	970	200	487
200/200	190	650	1070	240	705
225/200	190	700	1070	240	725
250/200	190	800	1070	240	750
275/200	190	850	1070	240	790
225/225	215	700	1180	270	980

DATA SHEET K12

250/225	215	800	1180	270	1060
275/225	215	850	1180	270	1080
300/225	215	900	1180	270	1100
250/250	240	1000	1325	290	1415
275/250	240	1000	1325	290	1410
300/250	270	1000	1325	290	1470
275/275	275	1000	1590	305	2150
300/275	275	1100	1590	305	2360
350/275	275	1100	1590	305	2440
400/275	275	1100	1590	305	2360

Note: „D“ according to ČSN, EN, DIN or on the customer's request

Gate valves for electric actuators and gears

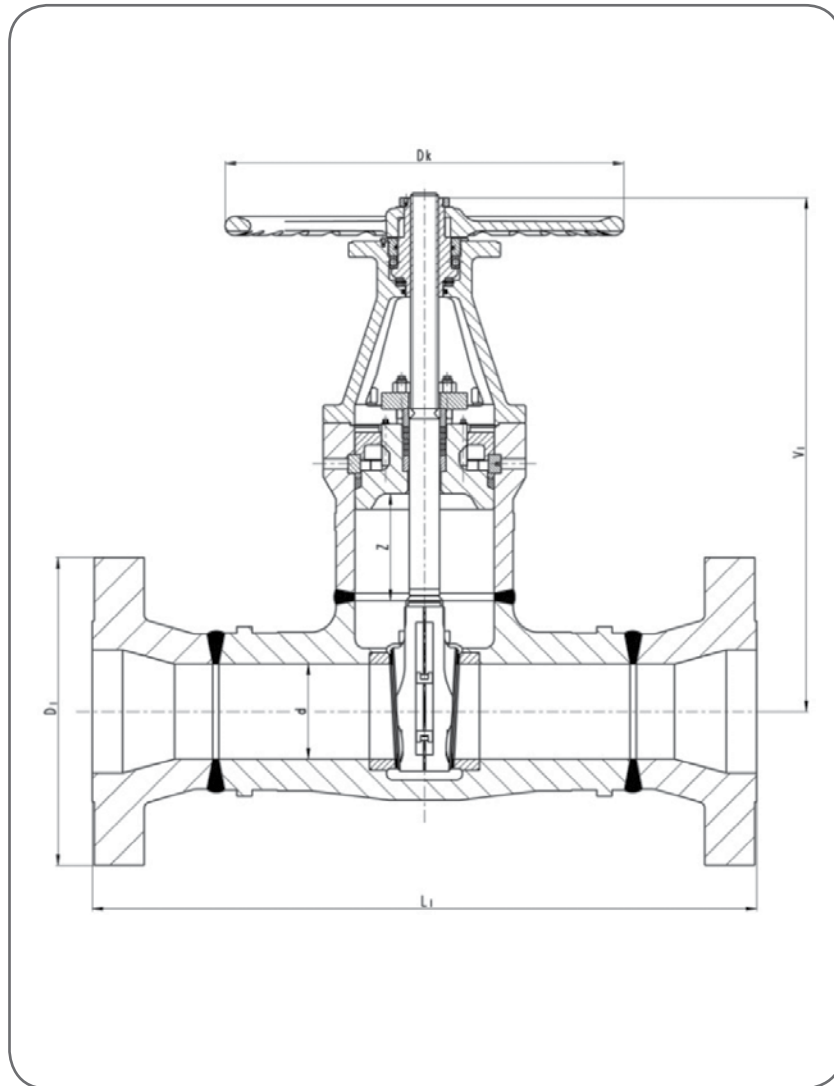
DN/d	D_k mm	H mm	L mm	V_g mm	Z mm	m kg
65/50	300	55	360	410	68	53
65/55	300	55	360	410	68	52
80/75	400	78	450	530	90	90
100/75	400	78	450	530	90	89
100/110	500	115	450	680	130	195
125/110	500	115	550	680	130	215
150/110	500	115	550	680	130	208
125/125	630	125	550	755	145	285
150/125	630	125	550	755	145	280
175/125	630	125	650	755	145	305
150/150	630	140	550	815	168	350
175/150	630	140	650	815	168	375
200/150	630	140	650	815	168	372
175/175	710	165	650	955	200	460
200/175	710	165	650	955	200	460
225/175	710	165	700	955	200	487
200/200	710	190	650	1050	240	705
225/200	710	190	700	1050	240	725
250/200	710	190	800	1050	240	750
275/200	710	190	850	1050	240	790
225/225	800	215	700	1160	270	980
250/225	800	215	800	1160	270	1060
275/225	800	215	850	1160	270	1080
300/225	800	215	900	1160	270	1100
250/250	-	240	1000	1310	290	1415
275/250	-	240	1000	1310	290	1410
300/250	-	270	1000	1310	290	1470
275/275	-	275	1000	1580	305	2150
300/275	-	275	1100	1580	305	2360
350/275	-	275	1100	1580	305	2360
400/275	-	275	1100	1580	305	2640

Note: „D“ according to ČSN, EN, DIN or on the customer's request



DATA SHEET K12

Flanged type, PN 63 - 250

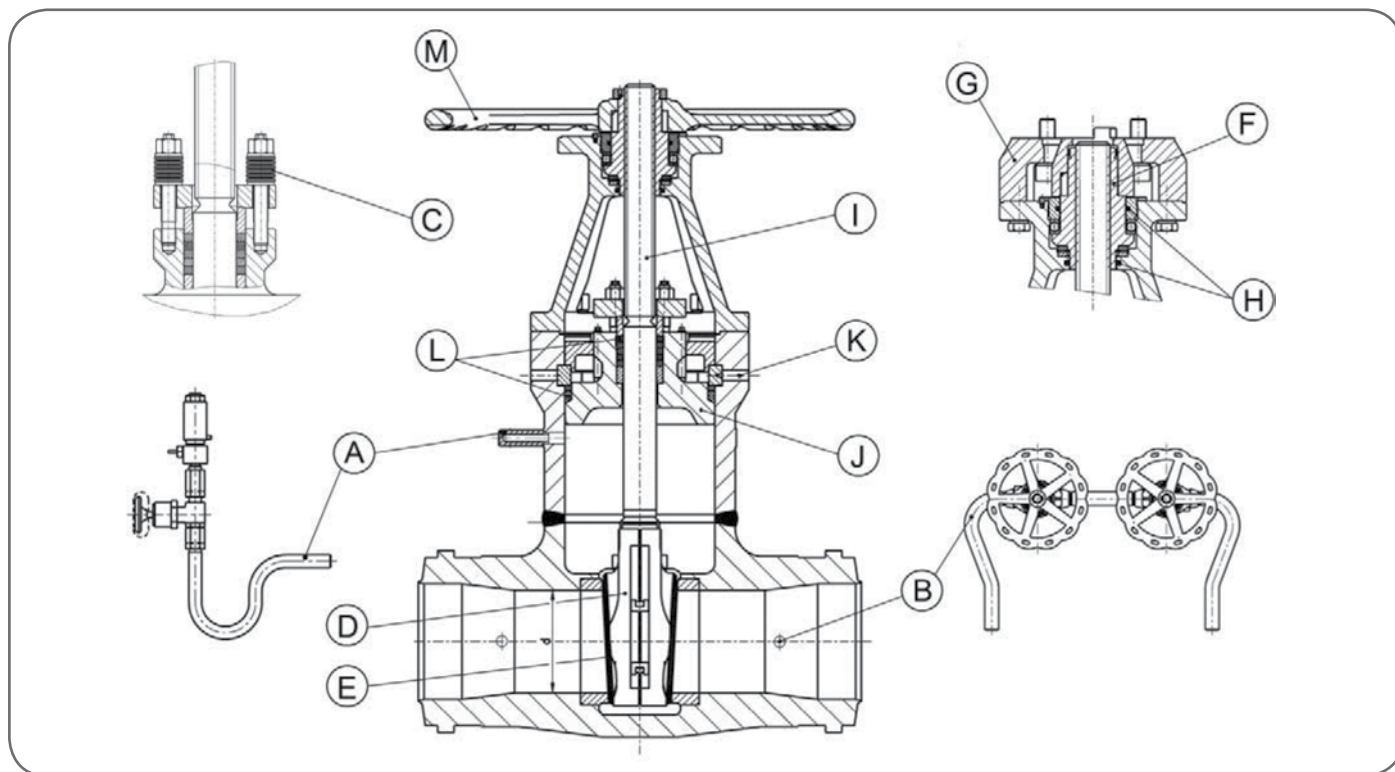


- Flange connection dimensions according to ČSN EN 1092-1
- Building length of the flanged valves according to ČSN EN 558
- Dimensions according to the drawing are available on request, other flange connection is possible after agreement with the manufacturer



DATA SHEET K12

Advantages of construction



- A** **Protection of the inner part against overpressure:**
The inner part of the valve is protected against overpressure by the membrane rupture insurance device
- B** **Bypass:**
Allows to heat the valve and reduce the pressure drop (available on request)
- C** **Live Loading System:**
The stem packing is permanently pressed by a set of disk springs (supplied on request)
- D** **The wedge design:**
Reliable fitting and sealing. Allows easy removal of the plates at the customer
- E** **Sealing surfaces:**
The sealing surfaces of the wedge and seats are equipped with a weld of hard weld alloy
- F** **Yoke:**
Yoke is provided with a bronze spindle nut with needle and ball bearing with the pressure lubrication for the easy control of the valve
- G** **Actuator connection:**
Possibility to connect all drives conforming to ISO 5210
- H** **Dust rings:**
Dust rings protect the bearings from dirt
- I** **Spindle:**
The spindle is non-rotating, rising, allowing better sealing in the packing
- J** **Pressure seal bonnet:**
Pressure seal bonnet without a central nut simplifies and accelerates its removal
- K** **Openings in place of the split ring:**
Simplify the removal of the split ring
- L** **Sealing:**
Pressure seal ring and the sealing rings are made of the expanded graphite. Guarantee reliability
- M** **Non-rising hand wheel with sticking point:**
Advantage in case of lack of space and for achieve of required operating effect

**Type K02
DN 65 - 400
PN 63 - 400**



**Forged Gate Valve
with Pressure Sealed Bonnet**

Butt-Welded, Flanged



DATA SHEET K02

Application

- Shut-off valve

• Fluids

Water, water steam and other fluids based on material selection

• Industry

Power engineering, chemical industry, nuclear power

• Environments

Normal, tropical, explosive, seismic

Technical description

- Valve body is die or free forgings
- Yokes are cast or fabricated
- Seats are pressed in the body and seal welded
- Seat faces are hardfaced with Stellite
- Gland packing and gaskets are made from expanded graphite
- Flanges are welded to the body
- Gate valves can be operated in position open – close

Accessories

- By-pass
- Gland with permanently pressed spring (Live Loading System)
- Membrane Rupture Insurance Devices
- Another accessories upon request

Testing

- Valves are pressure tested with water, steam or air for strength and tightness in accordance with operating data and material according to the standard EN 12266 – 1
- Minimum pressure for the strength test is $1,5 \times P_N$
- Non destruction tests and ultrasonic tests are performed on all welds exposed in operation to fluid pressure

Installation

- Valves can be installed in any position, irrespective of the direction of medium flow
- Large valves are recommended to be installed in horizontal pipes with their stems positioned upward

Connection

- Butt-welded and flanged type according to ČSN, EN, ANSI, GOST, DIN or according to customer requests



Operation

- Hand wheel (with locking device, if required)
- Electric actuator (standard connection dimensions according to ISO 5210)
- Spur gear
- Bevel gear
- Remote control device

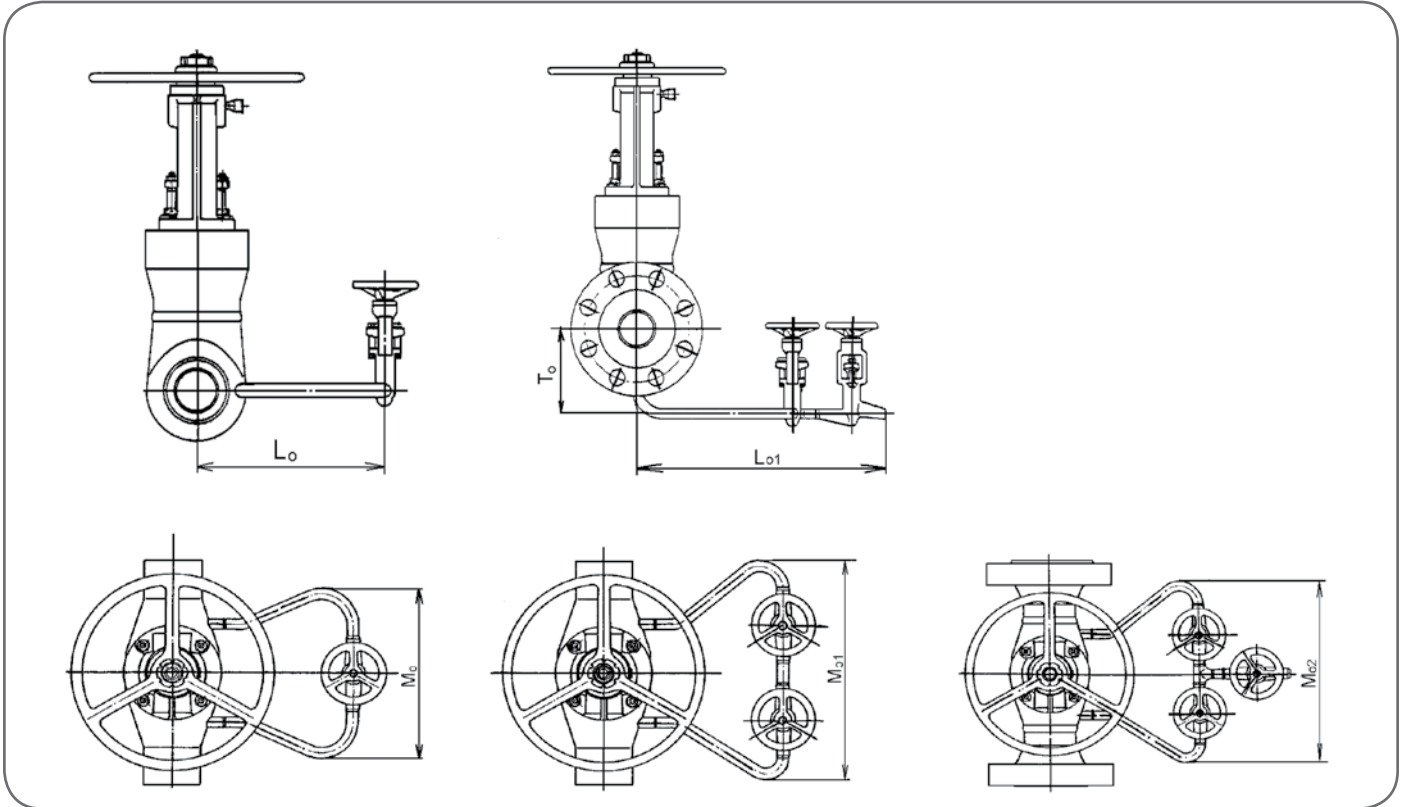
By-pass

- Valves till PN 250 are constructed for full Δp , using by-pass is not a necessity
- If the by-pass is required, it can be equipped with one up to three valves
- Central cavity equalization against overpressure (K89) can be provided upon request



DATA SHEET KO2

By-pass



Gate valve		By-pass valve		Side by-pass Pipeline by-pass					
DN/d	DN	PN	Lo	1 valve Mo	Lo	2 valves		3 valves	
						Mo1	Lo1	Mo2	To
65/50 65/55	15	63 ÷ 250	355	295	355	560	680	560	190
80/75 100/75			355	335	355	600	680	600	212
125/110 150/110			355	405	355	670	680	670	245
175/125			-	-	515	685	880	685	267
175/150 200/150	25		-	-	515	685	880	685	267
225/175			-	-	515	735	880	735	299
250/200 275/200			-	-	515	785 805	880	785 805	326
250/225	40		-	-	670	985	1160	985	406
275/225 300/225			-	-	670	1175	1160	1175	406
300/250			-	-	670	1205	1160	1205	406
350/275 400/275		-	-	670	1115	1160	1115	438 473	

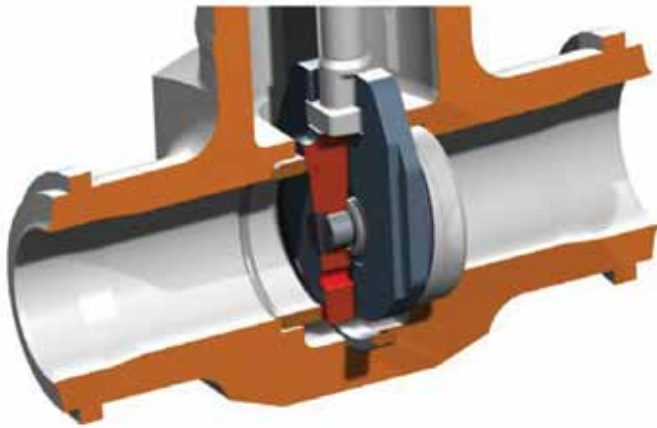
DATA SHEET K02

Central cavity equalization against overpressure

Description of the situation: the gate valve is shut off; the pipeline is put out of action for overhaul works, etc.; quantity of flow, hot water-steam leftovers in the central cavity of the valve situated in the upper part of the wedge. After completing the works, one can use the by-pass system to warm the valve up before putting the pipeline back into operation. The problem may start when the VALVE IS SHUTT OFF and due to the rising temperature the pressure goes up not only in between 2 parts flexible wedge, but in the central cavity as well. The valve could be seriously damaged if the overpressure goes out of control. Therefore we strongly recommend to our customers to include the safety measures into their order-sheets as follows:

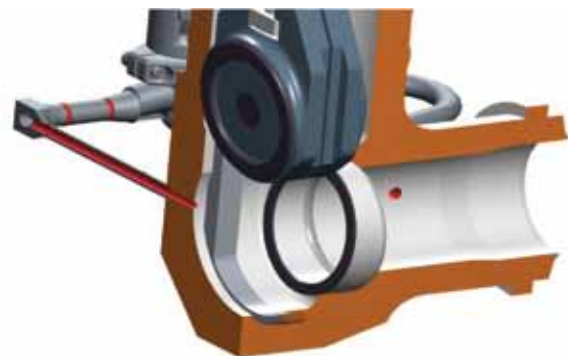
Construction solutions

A. Drilling of one side of the wedge or in the seat to get the central cavity and side output connected. Simple, non costly and effective solution. Works in one way only, arrow indication necessary.



Blow-out in the wedge

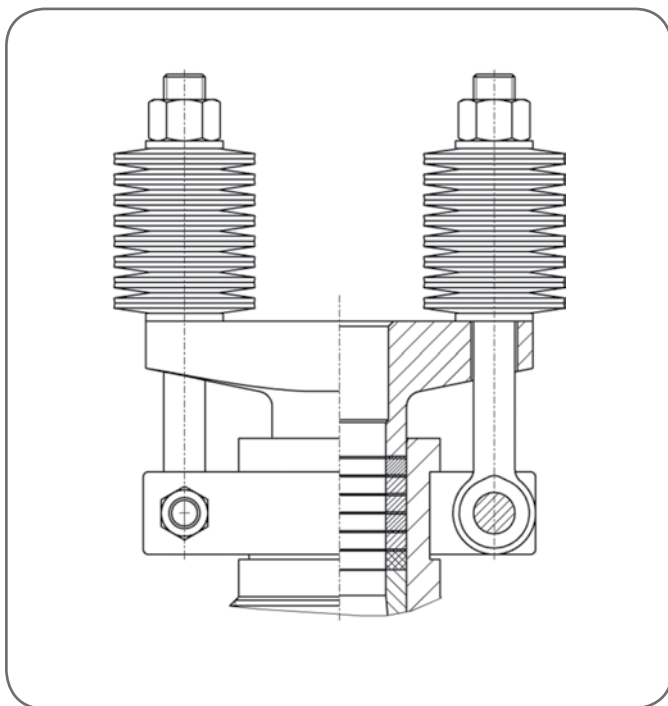
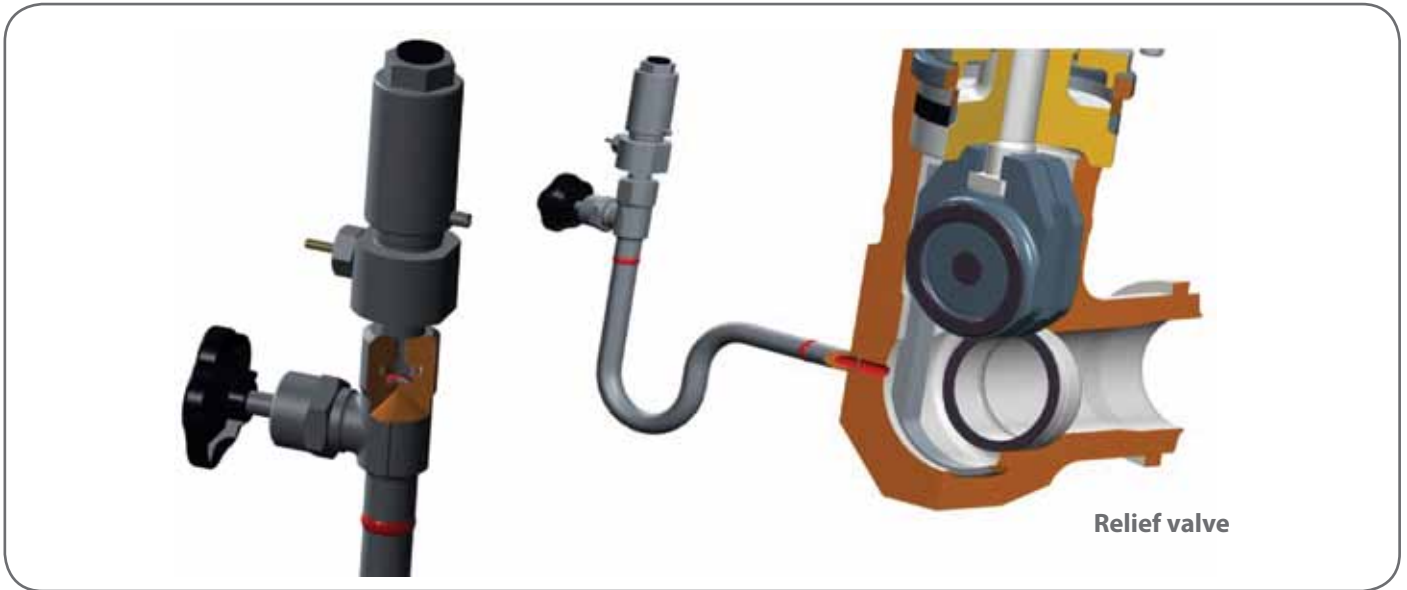
B. By-pass with minimum 2 valves, especially for the valves from DN 200. Acc. direction of flow 1 by-pass valve must be kept constantly open.



Blow-out in the seat

DATA SHEET K02

C. Relief valve fixed on a small pipe pulled out from the cavity of the valve. General solution covering a full range of the gate valves and working parameters. Gate valve, which is protected by relief valve is two way. Relief valve is fixed on a small pipe pulled out from the cavity of the valve outside of the thermal isolation. Because of changing the bursting disc during operation there is a piezometric globe valve with locking device preventing prohibited manipulation. The rating of the pressure balance has to be specified in the order sheet. (You can find the detailed description in separate date sheet K89 – Relief valve.)

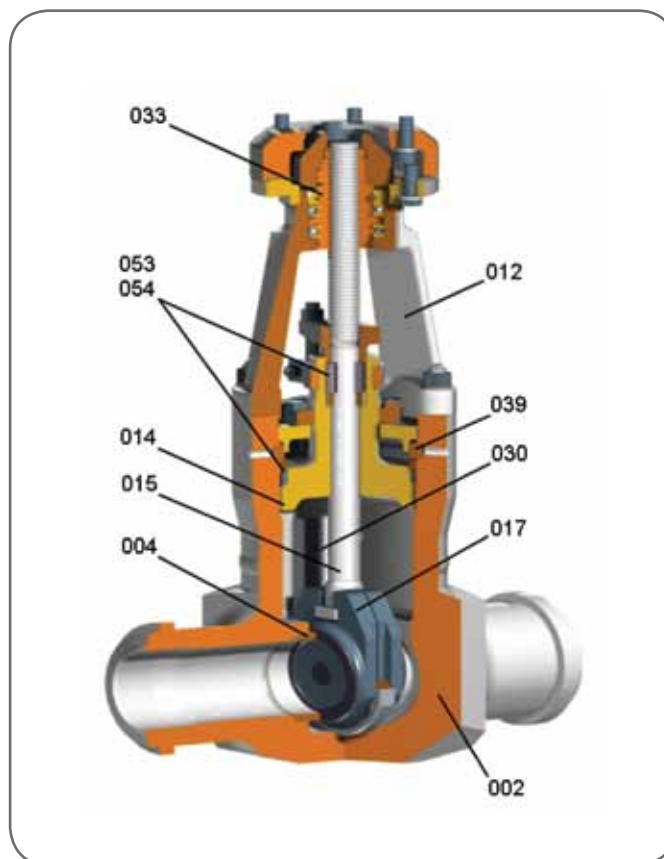


Live Loading System

- Gate valve can be supplied with gland with permanently pressed spring upon request (Live Loading System)
- This construction is used in cases where the working conditions do not allow to check frequently the condition of the valve, or the character of operating eliminates periodic maintenance of the gland

DATA SHEET KO2

Materials of main parts



Pos.	Name	Material						
		Non alloy		Low alloy		High alloy		Stainless
002	Body	11416, CSN 411416, P250GH (C22.8), 1.0460	15128 - CSN 415128	16Mo3 (15Mo3), 1.5415	11CrMo9-10, 1.7383, (10CrMo9-10, 1.7380), 13CrMoV-45, 1.7335, 14MoV6-3, 1.7715	15NiCuMoNb5-6-4, 1.4903	X10CrMoVNb9-1, 1.6368	X6CrNiTi18-10, 1.4541, 08X18H10T, GOST 5632
004	Seat							
005	Flange							
017	Wedge							
039	Segmented ring							
014	Pressure sealed	11416		11CrMo9-10 (10CrMo910)				
011	Connection branch	16Mo3	10CrMo	16Mo3	10CrMo910	16Mo3	10CrMo9-10	X6Cr, 08X
030	Wedge guide	11523, S35532G3	15128		11CrMo9-10 (10CrMo910)		X10CrMoVNb9-1	17027.4
053	Sealing ring	Expanded graphite						
054								
012	Yoke	GS-17CrMo5-5, 427744, 11CrMo9-10, 15128						
015	Stem	X22Cr, 10V12-1, 17134, X39CrMo17-1						
	Hardfacing	Type Stellite						
033	Stem nut	423046, 423047, CC333G						

DATA SHEET K02

Operating data

Material of body	PN	Working pressure MPa / Working temperature °C											
		200	250	300	350	400	450	500	520	540	560	580	600
P250GH (C22.8) (W.Nr. 1.0460)	63	5,7	4,9	4,2	3,7	2,9	2,2	-	-	-	-	-	-
	100	9,0	7,8	6,7	5,8	4,6	3,5	-	-	-	-	-	-
	160	14,4	12,5	10,7	9,3	7,4	5,6	-	-	-	-	-	-
	250	22,5	19,6	16,7	14,5	11,6	6,7	-	-	-	-	-	-
	320	28,8	25	21,3	18,6	14,8	11,1	-	-	-	-	-	-
	400	40,0	31,3	26,7	23,2	18,6	13,9	-	-	-	-	-	-
11416	63	6,3	5,6	4,8	4,1	3,6	2,5	-	-	-	-	-	-
	100	10,0	8,8	7,7	6,6	5,7	4,0	-	-	-	-	-	-
	160	16,0	14,1	12,2	10,5	9,1	6,4	-	-	-	-	-	-
	250	24,9	22,0	19,1	16,4	14,2	10,0	-	-	-	-	-	-
	320	31,9	28,2	24,5	21,0	18,2	12,8	-	-	-	-	-	-
	400	39,9	35,2	30,6	26,2	22,7	16,0	-	-	-	-	-	-
15NiCuMoNb5-6-4 (W.Nr. 1.6368)	63	6,3	6,3	6,3	6,3	6,3	6,3	-	-	-	-	-	-
	100	10,0	10,0	10,0	10,0	10,0	10,0	-	-	-	-	-	-
	160	16,0	16,0	16,0	16,0	16,0	16,0	-	-	-	-	-	-
	250	25,0	25,0	25,0	25,0	25,0	25,0	-	-	-	-	-	-
	320	32,0	32,0	32,0	32,0	32,0	32,0	-	-	-	-	-	-
	400	40,0	40,0	40,0	40,0	40,0	40,0	-	-	-	-	-	-
16Mo3 (15Mo3) (W.Nr. 1.5415)	63	6,3	6,0	5,3	5,1	4,9	4,7	3,4	2,2	-	-	-	-
	100	10,0	9,6	8,4	8,1	7,8	7,5	5,4	3,4	-	-	-	-
	160	16,0	15,3	13,4	13,0	12,5	12,1	8,6	5,5	-	-	-	-
	250	25,0	23,9	21,0	20,3	19,6	18,8	13,5	8,6	-	-	-	-
	320	32,0	30,6	26,9	26,0	25,0	24,1	17,3	10,9	-	-	-	-
	400	40,0	38,3	33,6	32,5	31,3	30,1	21,6	13,7	-	-	-	-
13CrMo4-5 (W.Nr. 1.7335)	63	6,3	6,3	6,3	6,0	5,8	5,5	5,0	3,4	2,2	1,5	-	-
	100	10,0	10,0	10,0	9,6	9,3	8,7	7,9	5,4	3,5	2,3	-	-
	160	16,0	16,0	16,0	15,3	14,8	13,9	12,7	8,7	5,7	3,7	-	-
	250	25,0	25,0	25,0	23,9	23,2	21,7	19,9	13,6	8,8	5,8	-	-
	320	32,0	32,0	32,0	30,6	29,7	27,8	25,4	17,4	11,3	7,4	-	-
	400	40,0	40,0	40,0	38,3	37,1	34,8	31,8	21,8	14,1	9,3	-	-
11CrMo9-10 (W.Nr. 1.7383) (10CrMo9-10)	63	6,3	6,3	6,3	6,3	6,3	6,0	4,9	3,8	2,8	2,1	1,6	1,2
	100	10,0	10,0	10,0	10,0	10,0	9,6	7,8	6,0	4,5	3,4	2,6	2,0
	160	16,0	16,0	16,0	16,0	16,0	15,3	12,5	9,6	7,2	5,4	4,1	3,2
	250	25,0	25,0	25,0	25,0	25,0	23,9	19,6	14,9	11,3	8,4	6,4	4,9
	320	32,0	32,0	32,0	32,0	32,0	30,6	25,0	19,1	14,5	10,8	8,2	6,3
	400	40,0	40,0	40,0	40,0	40,0	38,3	31,3	23,9	18,1	13,4	10,2	7,9
14MoV6-3 (W.Nr. 1.7715)	63	6,3	6,3	6,3	6,3	6,3	6,3	6,3	5,4	4,1	3,1	-	-
	100	10,0	10,0	10,0	10,0	10,0	10,0	10,0	8,6	6,6	5,0	-	-
	160	16,0	16,0	16,0	16,0	16,0	16,0	16,0	13,8	10,5	8,0	-	-
	250	25,0	25,0	25,0	25,0	25,0	25,0	25,0	21,6	16,4	12,5	-	-
	320	32,0	32,0	32,0	32,0	32,0	32,0	32,0	27,6	21,0	16,0	-	-
	400	40,0	40,0	40,0	40,0	40,0	40,0	40,0	34,6	26,2	19,9	-	-
	63	6,3	6,3	6,3	6,3	6,3	6,3	6,2	4,8	3,7	2,8	2,2	1,6
	100	10,0	10,0	10,0	10,0	10,0	10,0	9,8	7,6	5,9	4,5	3,5	2,6
	160	16,0	16,0	16,0	16,0	16,0	16,0	15,7	12,2	9,4	7,2	5,6	4,2
	250	25,0	25,0	25,0	25,0	25,0	25,0	24,5	19	14,6	11,3	8,7	6,5
	320	32,0	32,0	32,0	32,0	32,0	32,0	31,4	24,3	18,7	14,5	11,1	8,3
	400	40,0	40,0	40,0	40,0	40,0	40,0	39,2	30,4	23,4	18,1	13,9	10,4
X10CrMoVNb9-1 (W.Nr. 1.4903)	63	6,3	6,3	6,3	6,3	6,3	6,3	6,3	6,3	6,3	5,5	4,4	3,4
	100	10,0	10,0	10,0	10,0	10,0	10,0	10,0	10,0	10,0	8,7	7,0	5,4
	160	16,0	16,0	16,0	16,0	16,0	16,0	16,0	16,0	16,0	13,9	11,1	8,7
	250	25,0	25,0	25,0	25,0	25,0	25,0	25,0	25,0	25,0	21,7	17,4	13,6
	320	32,0	32,0	32,0	32,0	32,0	32,0	32,0	32,0	32,0	27,8	22,3	17,4
	400	40,0	40,0	40,0	40,0	40,0	40,0	40,0	40,0	40,0	34,8	27,8	21,8

DATA SHEET K02

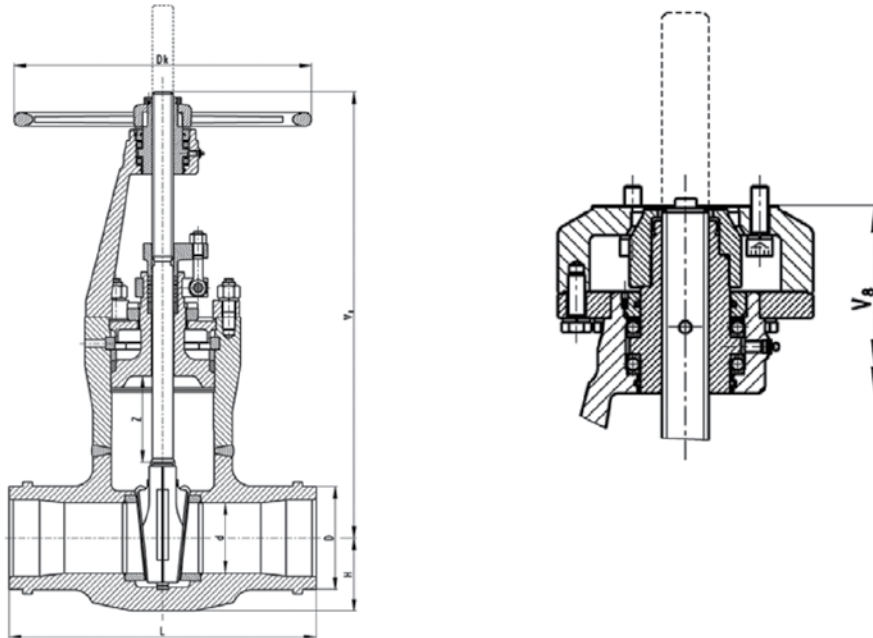
Material of body	Working pressure MPa / Working temperature °C												
	PN	200	250	300	350	400	450	500	520	540	560	580	600
X6CrNiTi18-10 (W.Nr. 1.4541)	100	9,7	8,5	7,9	7,5	7,2	7,0	6,9	6,9	6,9	6,8	6,2	5,0
	160	15,5	13,6	12,6	12,1	11,6	11,2	11,0	11,0	11,0	10,9	9,9	8,0
	250	24,2	21,3	19,7	18,8	18,1	17,5	17,2	17,2	17,1	17,1	15,5	12,5
	320	31,0	27,3	25,2	24,1	23,2	22,4	22,1	22	21,9	21,9	19,8	16,0
	400	38,7	34,1	31,5	30,1	29,0	28,1	27,6	27,5	27,4	27,4	24,8	19,9
08X18H10T	63	6,0	5,6	5,4	5,0	4,8	4,5	4,1	3,8	3,5	3,1	2,8	2,5
	100	9,5	8,8	8,5	7,9	7,7	7,1	6,6	6,0	5,5	5,0	4,5	4,0
	160	15,2	14,1	13,6	12,7	12,2	11,4	10,5	9,6	8,8	8,0	7,2	6,5
	250	23,8	22,0	21,3	19,9	19,1	17,8	16,4	15,0	13,7	12,5	11,3	10,1
	320	30,4	28,2	27,3	25,4	24,5	22,8	21,0	19,3	17,5	15,9	14,4	12,9
	400	38,0	35,2	34,1	31,8	30,6	28,5	26,2	21,9	21,9	19,9	18,1	16,2

DATA SHEET K02

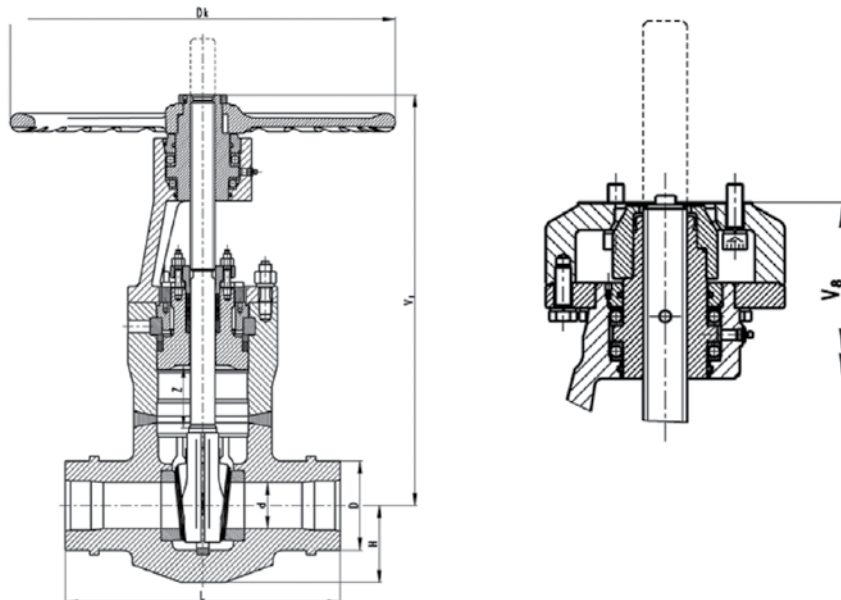
Dimensions

Butt-welded type, PN 63 - 250, PN 320 - 400

PN 63 - 250



PN 320 - 400



DATA SHEET K02

Gate valves for electric actuators and gears

PN	Dn/d	D _k mm	H mm	L mm	V _g mm	Z mm	m kg
63 - 250	65/50	By ČSN, EN, DIN or by request of the customer	70	360	481	69	60
	65/55		70	360	481	69	60
	80/75		91	450	620	94	103
	100/75		91	450	620	94	101
	100/110		127	450	803	132	-
	125/110		127	550	803	132	245
	150/110		127	550	803	132	237
	125/125		155	550	915	171	425
	150/125		155	550	915	171	-
	175/125		155	650	915	171	425
	150/150		155	550	951	187	-
	175/150		155	650	951	187	425
	200/150		155	650	951	187	425
	175/175		170	650	1136	201	-
	200/175		170	650	1136	201	-
	225/175		170	700	1136	201	621
	200/200		205	650	1233	247	-
	225/200		205	700	1233	247	-
	250/200		205	800	1233	247	854
	275/200		205	850	1233	247	975
	225/225		235	700	1360	279	-
	250/225		235	800	1360	279	1216
	275/225		235	850	1360	279	1234
	300/225		235	900	1360	279	1257
	250/250		260	1000	123	295	-
	275/250		260	1000	1523	295	-
	300/250		260	1000	1523	295	1677
	275/275		285	1000	1823	306	2787
	300/275		285	1000	1823	306	3013
	350/275		285	1000	1823	306	2787
400/275	285	1000	1823	306	3013		
320 - 400	65-100/50	88	360	500	69	92	
	65-100/55	88	360	500	69	92	
	80/75	125	450	716	102	212	
	100/75	125	450	716	102	212	
	100/80	125	450	677	113	340	
	125/80	125	450	677	113	340	
	150/80	125	450	677	113	340	
	125/100	140	500	737	134	412	
	150/100	140	500	737	134	412	
	150/125	180	550	952	150	830	
	200/150	210	650	1116	188	887	
	225/175	244	960	1446	210	2183	
	250/175	244	960	1446	210	2183	
	250/200	255	960	1424	225	2144	
	300/250	310	1200	1760	293	3842	
	300/275	320	1200	1914	314	4255	
450/300	370	1290	1972	365	5799		



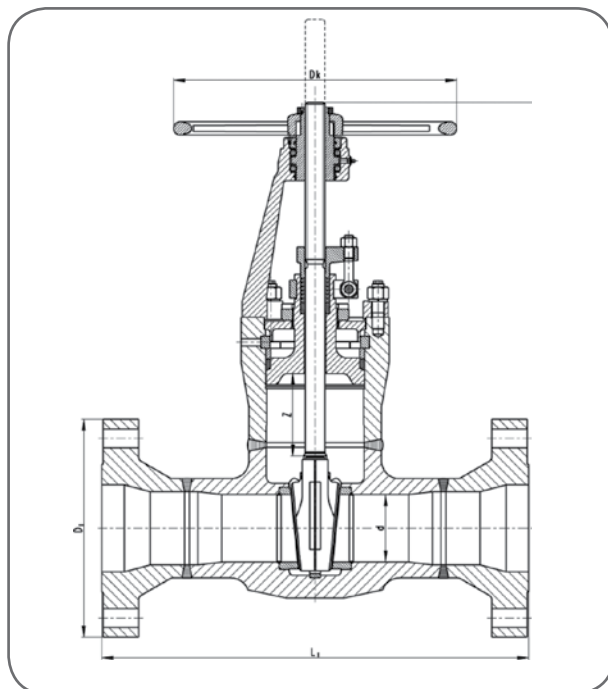
DATA SHEET K02

Gate valves with hand wheel

PN	DN/d	D mm	Dk mm	H mm	L mm	V _s mm	Z mm	m kg
63 - 250	65/50	By CSN, EN, DIN or by request of the customer	300	70	360	460	69	45
	65/55		300	70	360	460	69	45
	80/75		400	91	450	610	94	90
	100/75		400	91	450	610	94	88
	100/110		500	127	450	783	132	
	125/110		500	127	550	783	132	225
	150/110		500	127	550	783	132	218
	125/125		630	155	550	914	171	
	150/125		630	155	550	914	171	
	175/125		630	155	650	914	171	419
	150/150		630	155	550	949	187	
	175/150		630	155	650	949	187	411
	200/150		630	155	650	949	187	411
	175/175		710	170	650	1125	201	
	200/175		710	170	650	1125	201	
	225/175		710	170	700	1125	201	578
	200/200		710	205	650	1213	247	
	225/200		710	205	700	1213	247	
	250/200		710	205	800	1213	242	813
	275/200		710	205	850	1213	242	934
	225/225		800	235	700	1354	279	
	250/225		800	235	800	1354	279	
	275/225		800	235	850	1354	279	
	300/225		800	235	900	1354	279	
	250-300/250		-	260	1000	-	-	-
	275-400/275		-	285	1000	-	-	-
	320 - 400		65/100/50		400	88	360	410
65/100/55			400	88	360	410	69	150
80-100/75			630	125	450	667	102	205
100-150/80			630	125	450	552	113	335
125 150/100			630	140	500	582	134	405

DATA SHEET K02

Flanged type, PN 63 - 250



DN/d	PN	D ₁ mm	V ₁ mm	Z mm	L ₁ mm	Dk mm	m kg
65/50-55	63	205	460	69	290	0	51
	100	220	460	69	290	0	53
	160	220	460	69	360	0	54
	250	230	460	69	425	0	58
80/75	63	215	610	94	310	400	97
	100	230	610	94	310	400	99
	160	230	610	94	390	400	101
	250	255	610	94	470	400	107
100/75	63	250	610	94	350	400	98
	100	265	610	94	350	400	102
	160	265	610	94	450	400	104
	250	300	610	94	550	400	116
125/110	63	295	783	132	400	500	240
	100	315	703	132	400	500	246
	160	315	703	132	525	500	250
	250	340	783	132	650	500	264
150/110	63	345	783	132	450	500	240
	100	355	783	132	450	500	247
	160	355	783	132	600	500	253
	250	390	783	132	750	500	278

DATA SHEET K02

DN/d	PN	D ₁ mm	V ₁ mm	Z mm	L ₁ mm	Dk mm	m kg
175-200/150	63	415	949	187	550	630	446
	100	430	949	187	550	630	462
	160	430	949	187	750	630	472
	250	485	949	187	950	630	521
250/200	63	470	1213	242	650	710	862
	100	505	1213	242	650	710	895
	160	515	1213	242	900	710	911
	250	585	1213	242	1150	710	103
300/225	63	530	1354	279	750	800	
	100	585	1354	279	750	800	
	160	585	1354	279	1050	800 ¹⁾	
	250	690	1354	279	1350	800 ¹⁾	
300/250	63	upon request					
	100						
	160						
	250						

Notes:

Connection dimensions of flange types according to ČSN EN 1092-1.

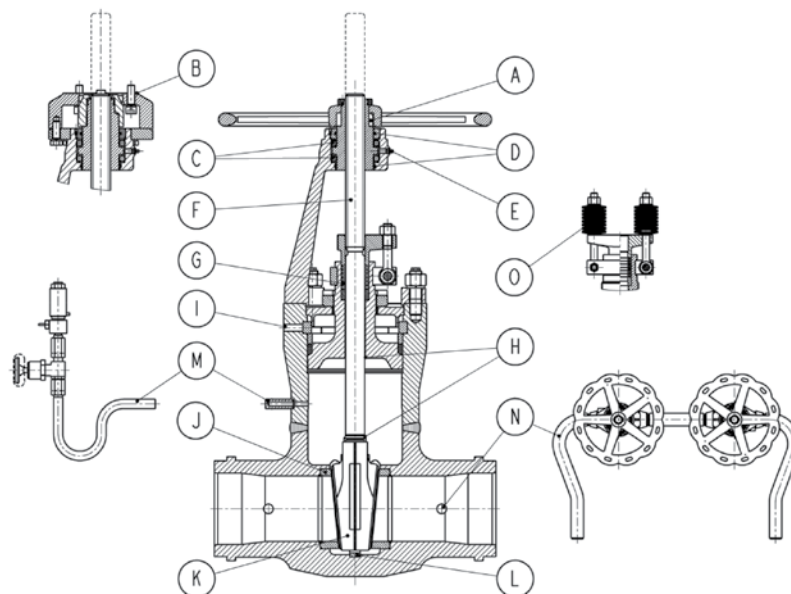
Dimensions of flange types according to ČSN EN 558.

Other flange type upon request.

1) With gear

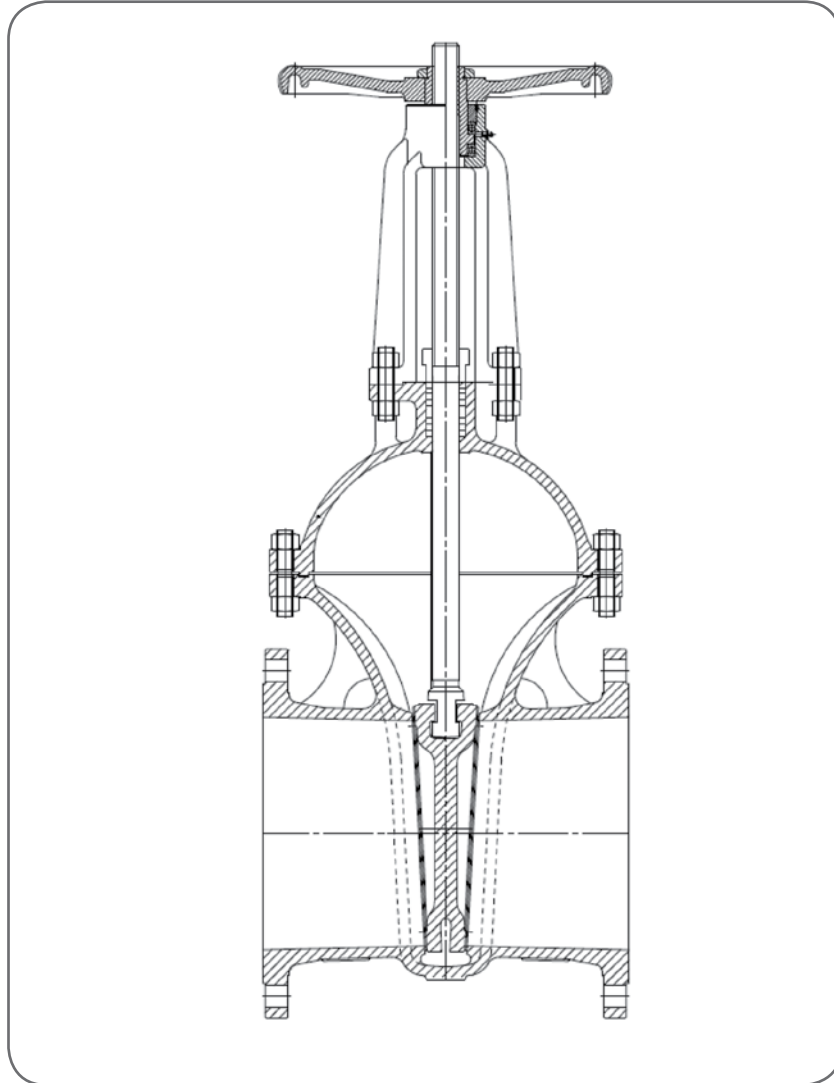
DATA SHEET K02

Advantages of construction



- | | |
|----------|--|
| A | Non-rising hand wheel with sticking point:
Advantage in case of lack of space and for achieve of required operating effect |
| B | Identical connection for actuators and gears according to ISO 5210:
Possibility to use control elements of different producers |
| C | Bronze stem nut placed in two rolling bearings:
Facilitate the operation |
| D | Dust rings:
Protected space of the bearings against dirts |
| E | Pressure lubrication:
Facilitate the operation, prolonge the life time of bearings |
| F | Shaft rising, non-turning:
Reliable sealing of shaft in gland |
| G | Stem gland packing, expanded graphite with side wiping rings:
Reliable sealing, ecology |
| H | Backward stopper of stem:
Additional sealing by the stem for change of gland packing and emergency running |
| I | Slots in body in the place of segmented ring:
Facilitate dismounting of segmented ring |
| J | Sealing surfaces hardfaced:
Long-term life time, resistance against waring-out |
| K | Wedge with inclined boards:
Reliable fitting and sealing |
| L | Possibility to dismount the line of wedge
Easy dismounting during change of seat |
| M | Central cavity equalization against overpressure:
Secure the body against prohibited increase of pressure |
| N | By-pass:
Enables warming and pressure equalizing |
| O | Stem gland packing, Live Loading System:
Permanently pressed spring |

**Type K03
DN 50 - 1000
PN 16 - 100**



Gate Valve

Butt-Welded, Flanged



DATA SHEET K03

Application

- Shut-off valve

• Fluids

Water, steam, crude petroleum and petroleum products, natural gas, gas condensate, saturated and superheated steam, technological solutions, oxygen and other neutral and aggressive gases or liquids

• Industry

Power industry, chemical and petrochemical industry, metallurgy

• Environments

Normal, tropical, explosive, seismic

Technical description

- Body and bonnet from cast materials
- Stem is forged
- Body seats and sealing surfaces hardfaced
- Packing and gaskets between body and bonnet are from graphite (asbest-free materials)
- Valves can be with or without by-pass for the full pressure drop
- Flanged valves have flanges and body cast from one piece
- Use one-way ball bearing for DN100 and above

Connection

- Butt-welded acc.to EN-12627, flanged according to EN-1092-1 or according to customer requirements
- Face to face dimension acc. to EN-558-1

Testing

- Valves are pressure tested with water for strength and tightness in accordance with working parameters and material of body according to EN-12266
- Minimum pressure for the strength testing is 1,5 x PN

Installation

- Gate valves can be mounted in any position regardless of the direction of flow
- For electrically actuated valves must take care to manufacturer's instructions

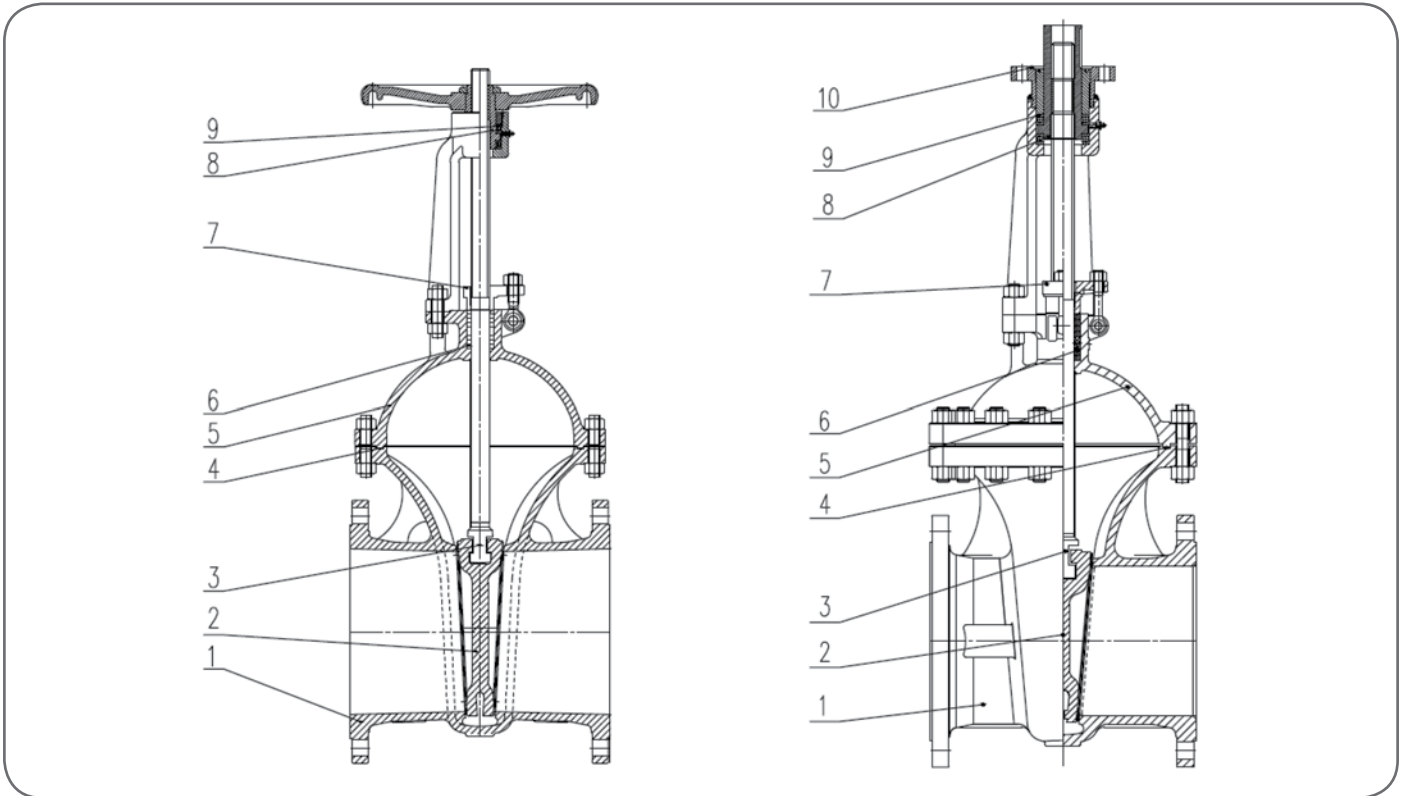
Operation

- Hand wheel (turns right at closing)
- Gear box
- Electric actuator (in end position „closed“ switched off by torque, in the „open“ shut off from the set position)
- Combination of manual gearbox with an electric actuator



DATA SHEET KO3

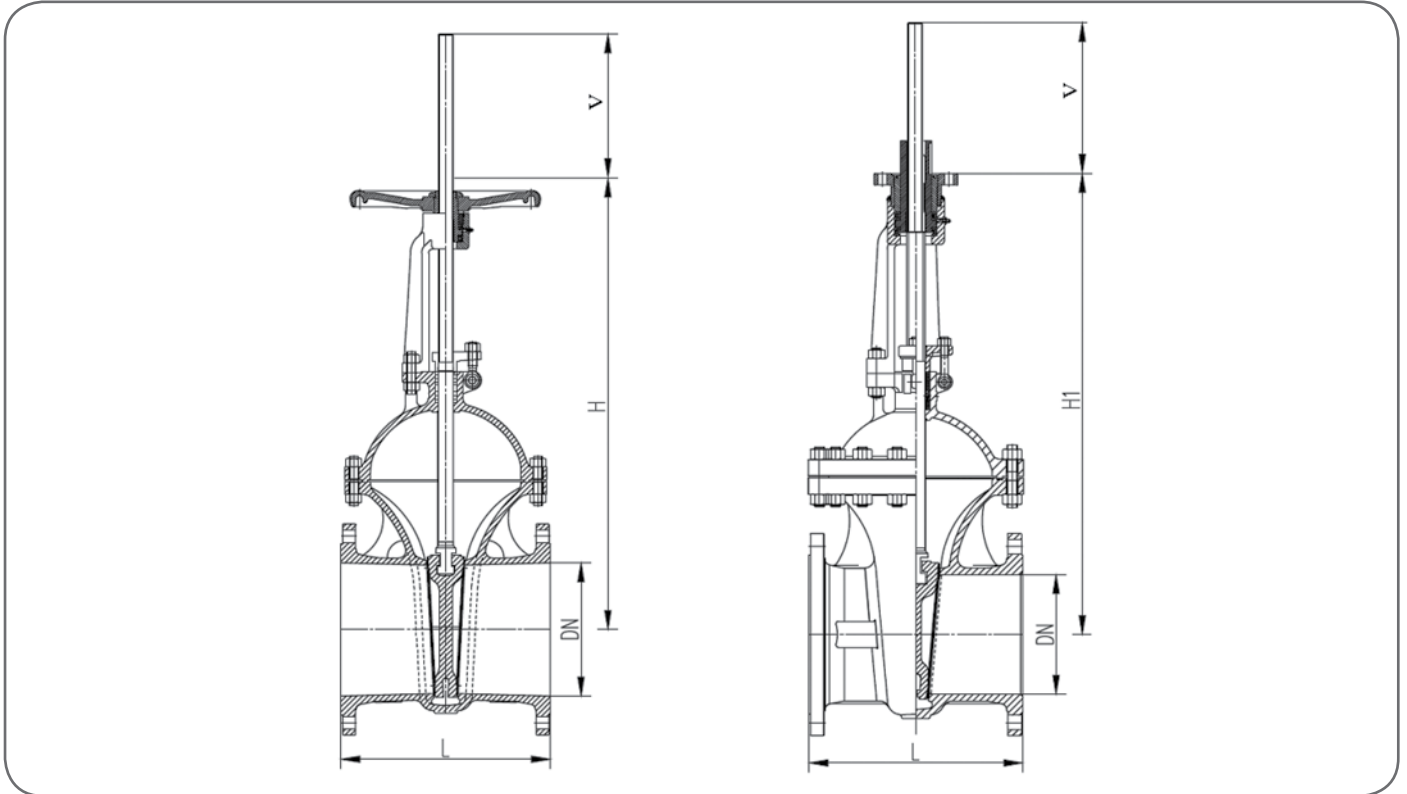
Materials of main parts



Pos.	Name	Carbon steel material	Stainless steel material	Material for high temperature		
1	Body	1.0619 (A216 WCB)	1.4408 (A351 CF8M)	1.7357 (A217 WC6)	1.7390 (A217 WC9)	1.7386 (A217 C12A)
2	Wedge	1.0619 (A216 WCB)	1.4408 (A351 CF8M)	1.7357 (A217 WC6)	1.7390 (A217 WC9)	1.7386 (A217 C12A)
3	Stem	X20Cr13	SS316	X20Cr13	X20Cr13	X20Cr13
4	Gasket	Graphite + stainless steel				
5	Bonnet	1.0619 (A216 WCB)	1.4408 (A351 CF8M)	1.7357 (A217 WC6)	1.7390 (A217 WC9)	1.7386 (A217 C12A)
6	Packing	Graphite				
7	Gland cover	1.0619 (A216 WCB)	1.4408 (A351 CF8M)	1.7357 (A217 WC6)	1.7390 (A217 WC9)	1.7386 (A217 C12A)
8	Stem nut	GGG40.3				
9	Bearing	One-way ball bearing				
10	ISO 5210 flange	1.0619 (A216 WCB)	1.4408 (A351 CF8M)	1.7357 (A217 WC6)	1.7390 (A217 WC9)	1.7386 (A217 C12A)

DATA SHEET K03

Dimensions



PN	DN	L mm	H mm	V mm	Weight kg		H1 mm	Torque Nm	Top flange ISO 5210
					FL	BW			
16	50	250	358	70	22	17	365	25	F10
	65	270	375	83	32	27	405	30	F10
	80	280	433	96	43	30	425	35	F10
	100	300	502	120	52	45	480	40	F10
	125	325	612	145	80	68	570	55	F10
	150	350	676	170	100	85	650	80	F14
	200	400	820	220	140	118	770	140	F14
	250	450	969	270	233	216	810	210	F14
	300	500	1142	320	337	306	945	300	F16
	350	550	1280	366	515	461	1085	400	F16
	400	600	1452	417	645	576	1375	590	F25
	500	700	1676	518	947	773	1575	780	F25
	600	800	1864	620	1458	1208	1835	1280	F25
	700	900	2360	690	1953	1823	2360	2200	F25
	800	1000	2980	790	3100	2760	2980	2500	F30
900	1100	3509	970	4860	4780	3150	3600	F35	
1000	1200	3873	1071	5700	5600	3210	4700	F35	

DATA SHEET K03

PN	DN	L mm	H mm	V mm	Weight kg		H1 mm	Torque Top flange	
					FL	BW		Nm	ISO 5210
25	50	250	358	70	22	20	365	25	F10
	65	270	375	83	32	26	405	30	F10
	80	280	433	96	39	35	425	35	F10
	100	300	502	120	51	44	480	50	F10
	125	325	608	145	79	69	570	70	F10
	150	350	676	170	90	80	650	100	F14
	200	400	820	220	150	126	770	180	F14
	250	450	969	270	250	211	810	290	F14
	300	500	1142	320	360	310	945	420	F16
	350	550	1270	366	562	506	1085	580	F16
	400	600	1435	417	696	613	1375	850	F25
	500	700	1594	512	1021	898	1575	1150	F25
	600	800	1964	614	1258	1007	1835	1900	F25
	700	900	2690	690	2080	1810	2690	2710	F25
	800	1000	3160	790	2960	2495	3160	3900	F25
900	1100	3509	970	4860	4260	3150	5400	F35	
1000	1200	3873	1071	5700	5000	3210	7000	F35	
40	50	250	397	70	30	25	370	30	F14
	65	290	453	83	38	40	410	40	F14
	80	310	496	96	52	50	450	50	F14
	100	350	568	120	78	70	540	75	F14
	125	400	608	145	92	95	640	110	F14
	150	450	700	170	136	135	715	180	F14
	200	550	848	220	249	215	852	300	F14
	250	650	1025	270	361	310	1014	470	F16
	300	750	1180	320	570	470	1165	730	F25
	350	850	1298	366	717	580	1235	1000	F25
	400	950	1435	417	956	740	1420	1280	F30
	500	1150	1960	512	1390	1000	1960	2000	F35
	600	1350	2265	614	1920	1580	2265	3400	F35
	700	1560	2890	690	2590	2010	2830	5000	F35
	800	1880	3560	790	3200	2590	3520	6800	F35
63	50	250	418	70	42	35	370	35	F14
	65	280	465	83	48	50	410	50	F14
	80	310	496	96	57	63	450	70	F14
	100	350	582	120	93	81	540	110	F14
	125	400	638	145	114	110	630	180	F14
	150	450	718	170	198	160	715	260	F14
	200	550	916	219	345	293	855	500	F16
	250	650	1053	267	482	447	1015	820	F25
	300	750	1203	318	588	535	1165	1250	F30
	350	850	1278	356	869	690	1235	1500	F30
	400	950	1457	404	1134	900	1420	2200	F30
	500	1150	2100	493	1390	1130	2060	3400	F35
	600	1350	2360	598	1920	1620	2300	6200	F35
	700	1550	2980	670	2680	2200	2890	8600	F35
	800	1750	3670	760	3420	2820	3560	13000	F35



DATA SHEET K03

PN	DN	L	H	V	Weight kg		H1	Torque Top flange	
		mm	mm	mm	FL	BW	mm	Nm	ISO 5210
100	50	250	420	70	45	38	372	50	F14
	65	280	465	83	58	54	413	70	F14
	80	310	496	96	70	75	455	110	F14
	100	350	616	120	107	85	544	170	F14
	125	400	714	145	140	115	630	280	F14
	150	450	773	170	235	170	715	450	F16
	200	550	934	219	399	347	855	850	F25
	250	650	1090	267	613	513	1015	1450	F25
	300	750	1230	318	950	773	1165	1950	F30
	350	850	1330	356	1215	725	1235	2700	F30
	400	950	1480	404	1480	1102	1420	3600	F35
500	1150	2200	493	1560	1260	2080	6300	F35	
600	1350	2480	598	2200	1780	2380	10000	F35	

Operating data

Material	PN	Working pressure MPa / Working temperature °C													
		100	150	200	250	300	350	400	425	450	500	525	550	575	595
1.0619 (A216 WC6)	16	1,46	1,43	1,38	1,32	1,22	1,14	1,09	-	-	-	-	-	-	-
	25	2,29	2,23	2,16	2,06	1,91	1,82	1,7	-	-	-	-	-	-	-
	40	3,66	3,57	3,46	3,29	3,06	2,92	2,72	-	-	-	-	-	-	-
	63	5,77	5,62	5,45	5,19	4,81	4,59	4,29	-	-	-	-	-	-	-
	100	9,15	8,92	8,65	8,23	7,64	7,29	6,81	-	-	-	-	-	-	-
1.4408 (A351 CF8M)	16	1,33	1,2	1,1	1,02	0,96	0,91	0,87	0,86	0,86	0,83	-	-	-	-
	25	2,07	1,87	1,72	1,6	1,5	1,42	1,36	1,35	1,34	1,3	-	-	-	-
	40	3,32	2,99	2,75	2,56	2,41	2,27	2,18	2,16	2,14	2,08	-	-	-	-
	63	5,22	4,72	4,33	4,03	3,79	3,58	3,43	3,4	3,37	3,28	-	-	-	-
	100	8,29	7,48	6,87	6,39	6,02	5,68	5,45	5,4	5,35	5,21	-	-	-	-
1.7357 (A217 WC6)	16	1,63	1,58	1,49	1,43	1,33	1,23	1,15	1,11	1,07	0,89	0,68	0,35	0,28	0,2
	25	2,54	2,48	2,33	2,23	2,08	1,93	1,8	1,73	1,67	1,39	1,06	0,55	0,43	0,32
	40	4,07	3,96	3,74	3,57	3,33	3,09	2,89	2,77	2,67	2,23	1,7	0,88	0,69	0,52
	63	6,41	6,24	5,88	5,63	5,24	4,86	4,55	4,36	4,2	3,51	2,67	1,39	1,09	1,02
	100	10,17	9,9	9,34	8,93	8,32	7,71	7,22	6,92	6,67	5,57	4,24	2,21	1,74	1,3
1.7390 (A217 WC9)	16	1,63	1,58	1,54	1,46	1,35	1,27	1,15	1,11	1,07	0,88	0,68	0,49	0,33	0,22
	25	2,54	2,48	2,41	2,29	2,11	1,98	1,8	1,73	1,67	1,37	1,07	0,76	0,52	0,34
	40	4,07	3,96	3,85	3,66	3,38	3,18	2,89	2,77	2,67	2,19	1,71	1,21	0,83	0,54
	63	6,41	6,24	6,06	5,76	5,33	5,00	4,55	4,36	4,2	3,46	2,69	1,91	1,31	0,86
	100	10,17	9,9	9,63	9,14	8,46	7,94	7,22	6,92	6,67	5,49	4,28	3,03	2,08	1,36
1.7386 (A217 C12A)	16	1,63	1,58	1,54	1,46	1,35	1,27	1,15	1,11	1,07	0,88	0,68	0,47	0,33	0,23
	25	2,54	2,48	2,41	2,29	2,11	1,98	1,8	1,73	1,67	1,37	1,06	0,74	0,52	0,35
	40	4,07	3,96	3,85	3,66	3,38	3,18	2,89	2,77	2,67	2,19	1,69	1,18	0,83	0,57
	63	6,41	6,24	6,06	5,76	5,33	5,00	4,55	4,36	4,20	3,46	2,66	1,86	1,30	0,89
	100	10,17	9,9	9,63	9,14	8,46	7,94	7,22	6,92	6,67	5,49	4,23	2,96	2,06	1,42



**Type K01 / K91
DN 10 - 65/50
PN 63 - 400**



Globe / Control Valve

Butt-Welded, Flanged



DATA SHEET K01 / K91

Application

• Shut-off valve K01 or throttling valve K91 with (linear) characteristics

• Fluids

Water, steam, gases and other fluids based on material selection

• Industry

Power engineering, chemical industry, nuclear power

• Environments

Normal, tropical, explosive, seismic

Technical description

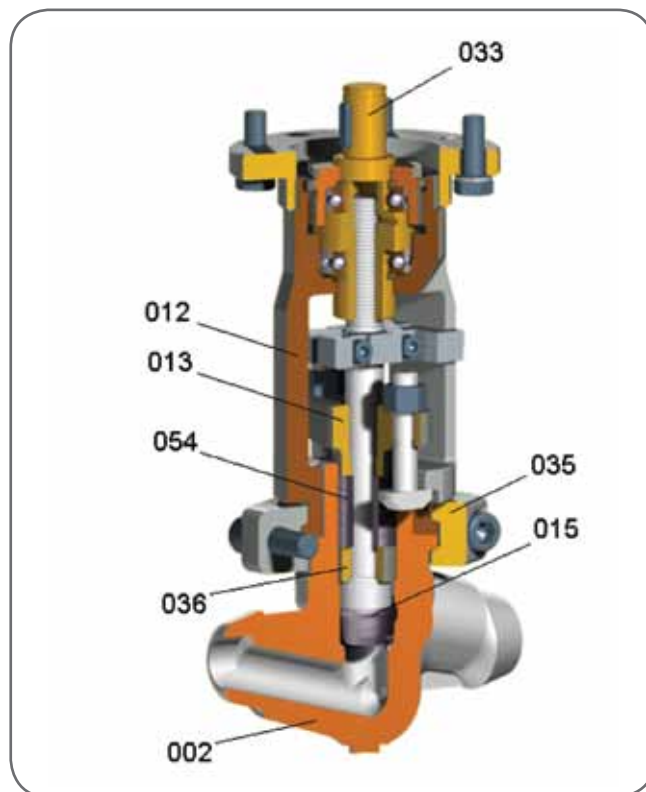
- Body is die forging
- Yoke is casting
- Body seat is hard welded
- Plug and stem are integral, plug seat is hardfaced
- Gland packing and gaskets are made from graphite
- Flanges are welded to the body
- Control valves: Pressure gradient of liquids up to 5 MPa
- Shut-off valves can be operated in position open - close; throttling valve can be operated also in an intermediate position

Testing

- Valves are pressure tested with water, steam or air for strength and tightness in accordance with working parameters and material according to EN 12266-1
- Min. pressure for the strength testing is 1,5 x PN

Operation

- Hand wheel (with locking device, if required)
- Electric actuator
- Remote control
- Bevel gear



Installation

- Valves may be installed in any position, direction of flow under the plug
- Valves K01 can be installed for flow above the plug, if needed

Connection

- Butt - welded and flanged type according to ČSN, EN, DIN, ANSI, GOST or according to customer request

Materials of main parts

Pos.	Name	Material
002	Body	11 416, P250GH (C22.8), 15 128, 11CrMo9-10, (10CrMo910), 13CrMoV4-5, 14MoV6-3, 16Mo3
005	Flange	(15Mo3), X10CrMoVNB9-1, 15NiCuMoNb5-6-4, X6CrNiTi18-10, 08X18H10T
	Seat	Type Stellite 6 (TYP C1111)
013	Bonnet	42 2828, 42 2744, GS-17CrMo5-5
	Shaft	X22CrMoV12-1, 17 134, 14X17H2
015	Hardfacing	Type Stellite 6 (TYP C1111)
	Sleeve	42 2744, GS-17CrMo5-5
035	Back seat	08X18H10T, X6CrNiTi18-10, 17 247
036	Packing ring	Expanded graphite – density 1,7 g/cm3
054	Yoke 4	42 2828, 42 2744, GS-17CrMo5-5
012	Stem nut	423046, 423047, CC333G



DATA SHEET K01 / K91

Operating data

Material of body	PN	Working pressure MPa / Working temperature °C											
		200	250	300	350	400	450	500	520	540	560	580	600
P250GH (C22.8) (W.Nr. 1.0460)	63	6,3	5,7	4,9	4,2	3,3	2,5	-	-	-	-	-	-
	100	10,0	9,0	7,8	6,7	5,2	4,0	-	-	-	-	-	-
	160	16,0	14,4	12,5	10,7	8,3	6,4	-	-	-	-	-	-
	250	25,0	22,5	19,6	16,7	13,0	10,0	-	-	-	-	-	-
	320	32,0	28,8	25,0	21,3	16,7	12,8	-	-	-	-	-	-
11416	400	40,0	35,9	31,3	26,7	20,9	16,0	-	-	-	-	-	-
	63	6,3	5,9	5,2	4,3	3,8	2,5	-	-	-	-	-	-
	100	10,0	9,4	8,2	6,8	6,0	4,0	-	-	-	-	-	-
	160	16,0	15,0	13,2	10,9	9,6	6,4	-	-	-	-	-	-
	250	25,0	23,5	20,6	17,1	14,9	10,0	-	-	-	-	-	-
15NiCuMoNb5-6-4 (W.Nr. 1.6368)	320	32,0	30,1	26,3	21,9	19,1	12,8	-	-	-	-	-	-
	400	40,0	37,6	32,9	27,4	23,9	16,0	-	-	-	-	-	-
	63	6,3	6,3	6,3	6,3	6,3	6,3	-	-	-	-	-	-
	100	10,0	10,0	10,0	10,0	10,0	10,0	-	-	-	-	-	-
	160	16,0	16,0	16,0	16,0	16,0	16,0	-	-	-	-	-	-
16Mo3 (15Mo3) (W.Nr. 1.5415)	250	25,0	25,0	25,0	25,0	25,0	25,0	-	-	-	-	-	-
	320	32,0	32,0	32,0	32,0	32,0	32,0	-	-	-	-	-	-
	400	40,0	40,0	40,0	40,0	40,0	40,0	-	-	-	-	-	-
	63	6,3	6,3	5,5	5,3	5,1	4,9	3,4	2,2	-	-	-	-
	100	10,0	10,0	8,7	8,4	8,1	7,8	5,4	3,4	-	-	-	-
13CrMo4-5 (W.Nr. 1.7335)	160	16,0	16,0	13,9	13,4	13,0	12,5	8,6	5,5	-	-	-	-
	250	25,0	25,0	21,7	21,0	20,3	19,6	13,5	8,6	-	-	-	-
	320	32,0	32,0	27,8	26,9	26,0	25,0	17,3	10,9	-	-	-	-
	400	40,0	40,0	34,8	33,6	32,5	31,3	21,6	13,7	-	-	-	-
	63	6,3	6,3	6,3	6,3	6,0	5,7	5,0	3,4	2,2	1,5	-	-
11CrMo9-10 (W.Nr. 1.7383) (10CrMo9-10)	100	10,0	10,0	10,0	10,0	9,6	9,0	7,9	5,4	3,5	2,3	-	-
	160	16,0	16,0	16,0	16,0	15,3	14,4	12,7	8,7	5,7	3,7	-	-
	250	25,0	25,0	25,0	25,0	23,9	22,5	19,9	13,6	8,8	5,8	-	-
	320	32,0	32,0	32,0	32,0	30,6	28,8	25,4	17,4	11,3	7,4	-	-
	400	40,0	40,0	40,0	40,0	38,3	35,9	31,8	21,8	14,1	9,3	-	-
14MoV6-3 (W.Nr. 1.7715)	63	6,3	6,3	6,3	6,3	6,3	6,3	4,9	3,8	2,8	2,1	1,6	1,2
	100	10,0	10,0	10,0	10,0	10,0	10,0	7,8	6,0	4,5	3,4	2,6	2,0
	160	16,0	16,0	16,0	16,0	16,0	16,0	12,5	9,6	7,2	5,4	4,1	3,2
	250	25,0	25,0	25,0	25,0	25,0	25,0	19,6	14,9	11,3	8,4	6,4	4,9
	320	32,0	32,0	32,0	32,0	32,0	32,0	25,0	19,1	14,5	10,8	8,2	6,3
15128	400	40,0	40,0	40,0	40,0	40,0	40,0	31,3	23,9	18,1	13,4	10,2	7,9
	63	6,3	6,3	6,3	6,3	6,3	6,3	6,3	5,4	4,1	3,1	-	-
	100	10,0	10,0	10,0	10,0	10,0	10,0	10,0	8,6	6,6	5,0	-	-
	160	16,0	16,0	16,0	16,0	16,0	16,0	16,0	13,8	10,5	8,0	-	-
	250	25,0	25,0	25,0	25,0	25,0	25,0	25,0	21,6	16,4	12,5	-	-
X10CrMoVNb9-1 (W.Nr. 1.4903)	320	32,0	32,0	32,0	32,0	32,0	32,0	32,0	27,6	21,0	16,0	-	-
	400	40,0	40,0	40,0	40,0	40,0	40,0	40,0	34,6	26,2	19,9	-	-
	63	6,3	6,3	6,3	6,3	6,3	6,36	6,2	4,8	3,7	2,8	2,2	1,6
	100	10,0	10,0	10,0	10,0	10,0	10,0	9,8	7,6	5,9	4,5	3,5	2,6
	160	16,0	16,0	16,0	16,0	16,0	16,0	15,7	12,2	9,4	7,2	5,6	4,2
X10CrMoVNb9-1 (W.Nr. 1.4903)	250	25,0	25,0	25,0	25,0	25,0	25,0	24,5	19,0	14,6	11,3	8,7	6,5
	320	32,0	32,0	32,0	32,0	32,0	32,0	31,4	24,3	18,7	14,5	11,1	8,3
	400	40,0	40,0	40,0	40,0	40,0	40,0	39,2	30,4	23,4	18,1	13,9	10,4
	63	6,3	6,3	6,3	6,3	6,3	6,3	6,3	6,3	6,3	5,5	4,4	3,4
	100	10,0	10,0	10,0	10,0	10,0	10,0	10,0	10,0	10,0	8,7	7,0	5,4
X10CrMoVNb9-1 (W.Nr. 1.4903)	160	16,0	16,0	16,0	16,0	16,0	16,0	16,0	16,0	16,0	13,9	11,1	8,7
	250	25,0	25,0	25,0	25,0	25,0	25,0	25,0	25,0	25,0	21,7	17,4	13,6
	320	32,0	32,0	32,0	32,0	32,0	32,0	32,0	32,0	32,0	27,8	22,3	17,4
	400	40,0	40,0	40,0	40,0	40,0	40,0	40,0	40,0	40,0	34,8	27,8	21,8

DATA SHEET K01 / K91

Operating data

Material of body	PN	Working pressure MPa / Working temperature °C											
		200	250	300	350	400	450	500	520	540	560	580	600
X6CrNiTi18-10 (W.Nr.1.4541)	63	6,1	5,4	5,0	4,7	4,6	4,4	4,3	4,3	4,3	4,3	3,9	3,1
	100	9,7	8,5	7,9	7,5	7,2	7,0	6,9	6,9	6,9	6,8	6,2	5,0
	160	15,5	13,6	12,6	12,1	11,6	11,2	11,0	11,0	11,0	10,9	9,9	8,0
	250	24,2	21,3	19,7	18,8	18,1	17,5	17,2	17,2	17,1	17,1	15,5	12,5
	320	31,0	27,3	25,2	24,1	23,2	22,4	22,1	22,1	21,9	21,9	19,8	16,0
	400	38,7	34,1	31,5	30,1	29,0	28,1	27,6	27,5	27,4	27,4	24,8	19,9
08X18H10T	63	6,0	5,6	5,4	5,0	4,8	4,5	4,1	3,8	3,5	3,1	2,8	2,5
	100	9,5	8,8	8,5	7,9	7,7	7,1	6,6	6,0	5,5	5,0	4,5	4,0
	160	15,2	14,1	13,6	12,7	12,2	11,4	10,5	9,6	8,8	8,0	7,2	6,5
	250	23,8	22,0	21,3	19,9	19,1	17,8	16,4	15,0	13,7	12,5	11,3	10,1
	320	30,4	28,2	27,3	25,4	24,5	22,8	21,0	19,3	17,5	15,9	14,4	12,9
	400	38,0	35,2	34,1	31,8	30,6	28,5	26,2	24,1	21,9	19,1	18,1	16,2

Loss and orifice flow coefficients

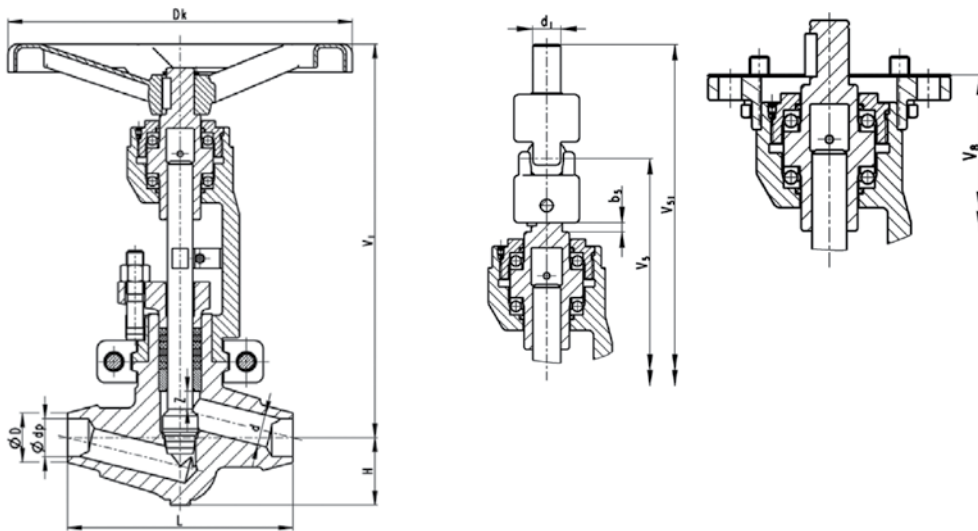
Loss coefficients ξ of shut-off valves and orifice flow coefficients KV of control valves and direction of flow under the plug:

DN		Dimens		Loss coefficients of shut-off valves	Orifice flow coefficients KV of control valves $m^3 \cdot hod^{-1}$
mm	"	d	dp		
10, 15	3/8	10,5	12	6,43	2,33
	1/2				
	3/4	13,5	17		
1					
20, 25	3/4	19	21	6,88	5,36
	1				
	1 1/4	22	28		
	1 1/2				
32, 40	1 1/4	28	31	7,17	10,92
	1 1/2				
	2	32	39		
50	1 1/2	35	39	7,12	15,27
	2				
	2 1/2	43	49		

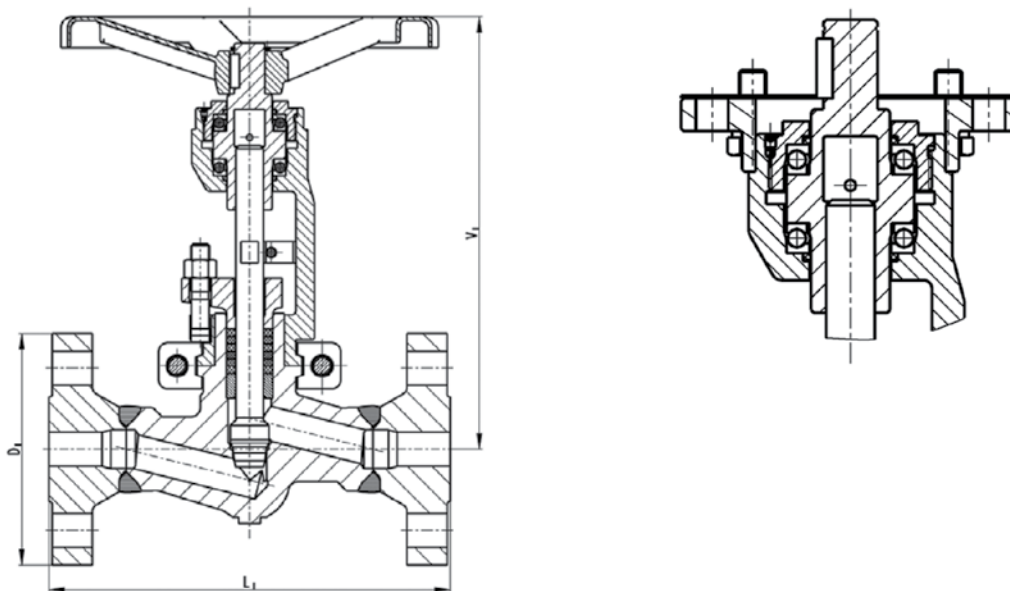
DATA SHEET K01 / K91

Dimensions

Hand wheel, butt-welded type, DN 10 – 65/50, PN 100 – 400



Hand wheel, flanged type, DN 10 – 65/50, PN 63 – 400



DATA SHEET KO1 / K91

DN	PN	D	dp	L	Z	H	Hand wheel			Operation by ISO 5210			Remote control				
		mm	mm	mm	mm	mm	D _k mm	V ₁ mm	m kg	OVL.	V ₈ mm	m kg	d ₁ mm	V ₅ mm	V ₅₁ mm	bs mm	m kg
10	100	14	10	150	12	34	200	234	5,2	F10/E	193	6	18	236	309	6	5,7
	160		10														
	250		9														
	320		8														
	400		7														
15	100	22	17	150	12	34	200	234	5,2	F10/E	193	6	18	236	309	6	5,7
	160		16														
	250		15														
	320		15														
	400		17														
20	100	27	23	160	16	48	250	280	8,6	F10/E	235	9	18	281	354	10	8,9
	160		21														
	250		20														
	320		18														
	400		17														
25	100	35	28	160	16	48	250	280	8,6	F10/E	235	9	18	281	354	10	8,9
	160		26														
	250		24														
	320		24														
	400		28														
32	100	43	36	210	20	66	400	376	20	F10/E F14/E	356 314	27 20	29	379	484	1,5	19,6
	160		34														
	250		31														
	320		28														
	400		27														
40	100	49	41	210	20	66	400	376	21,1	F10/E F14/E	356 314	27 20	29	379	484	1,5	19,6
	160		39														
	250		36														
	320		35														
	400		39														
50	100	61	52	250	36	83	500	450	33,2	F10/E F14/E	429 384	40 32	29	451	556	6	31,2
	160		49														
	250		45														
	320		45														
	400		49														
65/50	100	77	66	250	36	83	500	450	33,2	F10/E F14/E	429 384	40 32	29	451	556	6	31,2
	160		62														
	250		56														
	320		52														
	400		48														

Notes: Dimensions of butt-welded type are by ČSN EN 131075, in case of requirement of another standard (EN, DIN, ANSI, GOST) the dimensions could be different.

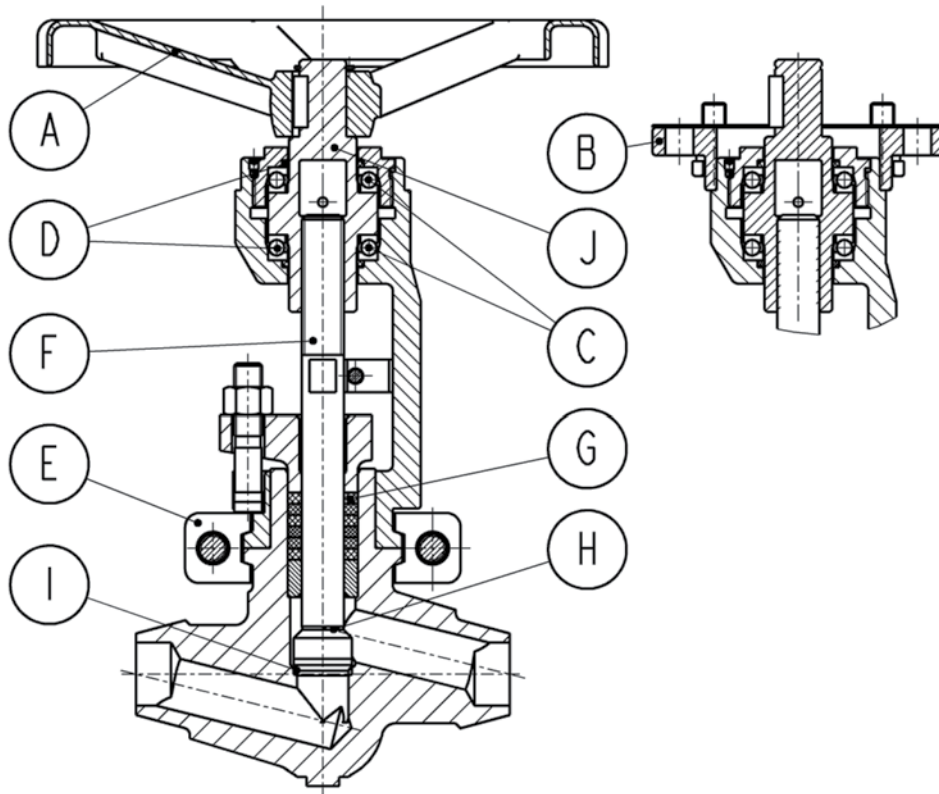
DATA SHEET KO1 / K91

DN	PN	D ₁ mm	L ₁ mm	V ₁ mm	V ₈ mm	m kg	
				Hand wheel	ISO 5210	Hand wheel	ISO 5210
10	63-160	100	210	234	193	7,4	8,2
	250	125	230			9,5	10,3
	320	125	230			9,5	10,3
	400	125	260			10,3	11,1
15	63-160	105	210	234	193	7,6	8,4
	250	130	230			10,2	11
	320	130	230			10,2	11
	400	145	260			12,4	13,2
20	63-100	130	230	280	235	12,6	13
25	63-160	140	230	280	235	13,9	14,3
	250	150	260			15,8	16,2
	320	160	260			19	19,4
	400	180	300			23,5	23,9
20	63-100	155	260	376	F10/E -356	26,4	33,4
40	63-100	170	260	376	F10/E - 356 (F14/E - 314)	28,1	35,1 (28,1)
	160	170	260			28,8	35,8 (28,8)
	250	185	300			33,4	40,4 (33,4)
	320	195	300			37,3	44,3 (37,3)
	400	220	350			48,2	55,2 (48,2)
50	63	180	300	450	F10/E - 429 (F14/E - 384)	42,3	49,1 (41,1)
	100	195	300			43,8	50,6 (42,6)
	160	195	300			46	52,8 (44,8)
	250	200	350			49,6	56,4 (48,4)
	320	210	350			54,6	61,4 (53,4)
	400	235	400			66,6	73,4 (65,4)
65/50	63	205	340	450	F10/E - 429 (F14/E - 384)	44,4	51,2 (43,2)
	100	220	340			46,9	53,7 (45,7)
	160	220	340			50,7	57,5 (49,5)
	250	230	400			58,8	65,6 (57,6)
	320	255	400			72,2	79 (71)
	400	290	450			96,4	103,2 (95,2)

Notes: Dimensions of flanged type are by ČSN EN 1092-1, in case of requirement of another standard (EN, DIN, GOST) the dimensions could be different

DATA SHEET K01 / K91

Advantages of construction



- | | |
|----------|--|
| A | Non-rising hand wheel:
Advantage in case of lack of space |
| B | Identical connection for actuators and gears according to ISO 5210:
Possibility to use control elements of different producers |
| C | Stem nut placed in two rolling bearings:
Facilitate the operation |
| D | Dust rings:
Protected space of the bearings against dirt |
| E | Socket of the connection „body – yoke“:
Enables fast mounting and dismounting |
| F | Shaft rising, non-turning:
Reliable sealing of shaft in gland |
| G | Stem gland packing, expanded graphite:
Reliable sealing, ecology |
| H | Shaft with plug made of one piece:
Enables dismounting of yoke, incl. gland |
| I | Sealing surfaces hardfaced:
Long-term life time, resistance against wearing-out |
| J | Stem nut in one design:
Enables the change of operation type without dismounting of stem nut |

Type K10
DN 6-15
PN 40-250



Globe / Valve

Butt-Welded



DATA SHEET K10

Application

- Shut-off valve

• Fluids

Water, steam, in case of stainless steel version, it can be used also for aggressive fluids and gases

• Industry

Heat distribution, cooling technology, chemical and petrochemical industry, doof industry (in case of stainless steel version)

Technical description

- Valve body is die forging
- Movable rotary stem is made from austenitic steel in all version
- Exchangeable stem nut made from chrome steel is within the body

Testing

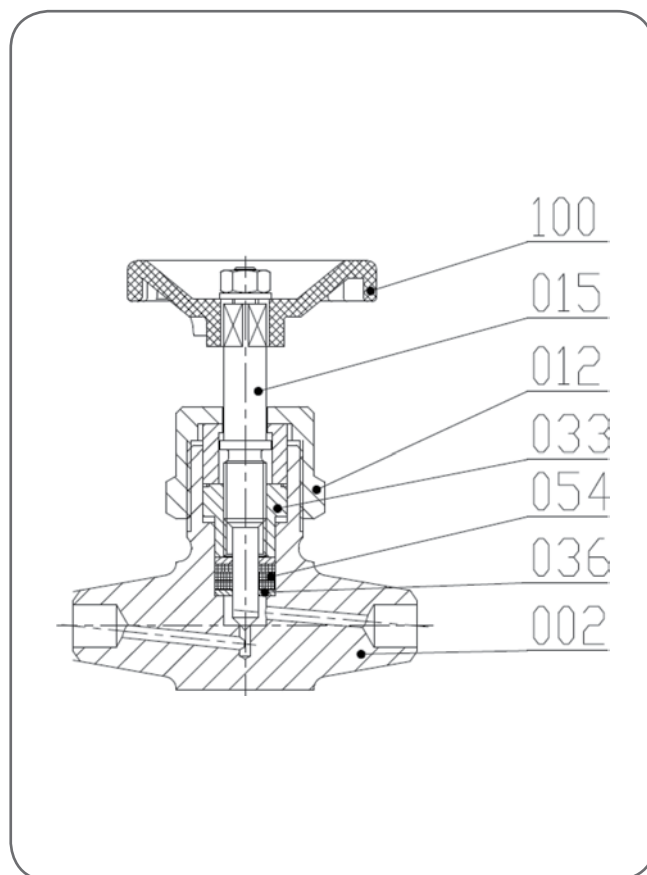
- Valves are pressure tested with water, steam or air for strength and tightness in accordance with working parameters and material of body
- Min. pressure for the strength testing is 1,5 x PN

Installation

- Valves may be installed in any position, with the direction of flow of fluid under the plug

Operation

- Control by flywheel



Connection

- Butt-welded, screwed or flanged connection

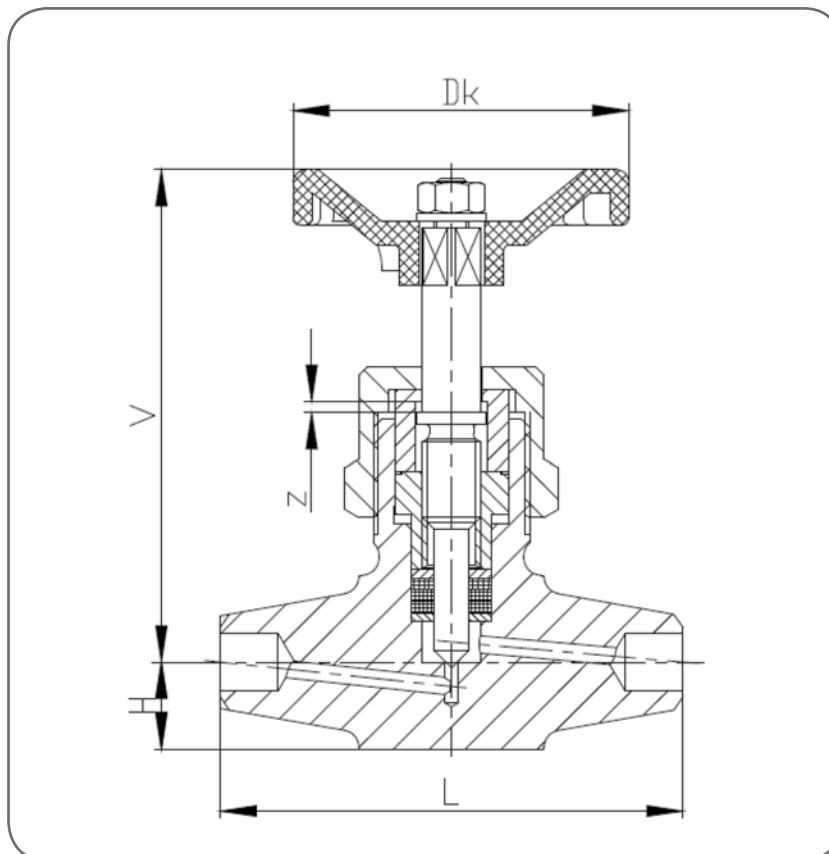
Materials of main parts

Pos.	Name	Material
002	Body	P250GH (1.0460) 10CrMo9-10 (1.7380) X6CrNiTi18-10 (1.4541)
012	Nut	X20Cr13
015	Stem	X6CrNiTi18-10
033	Stem nut	X12Cr13
036	Ring	X30Cr13
054	Sealing ring	Expanded graphite - 1.6 g/cm ³
100	Flywheel	F-8449-1444



DATA SHEET K10

Dimensions



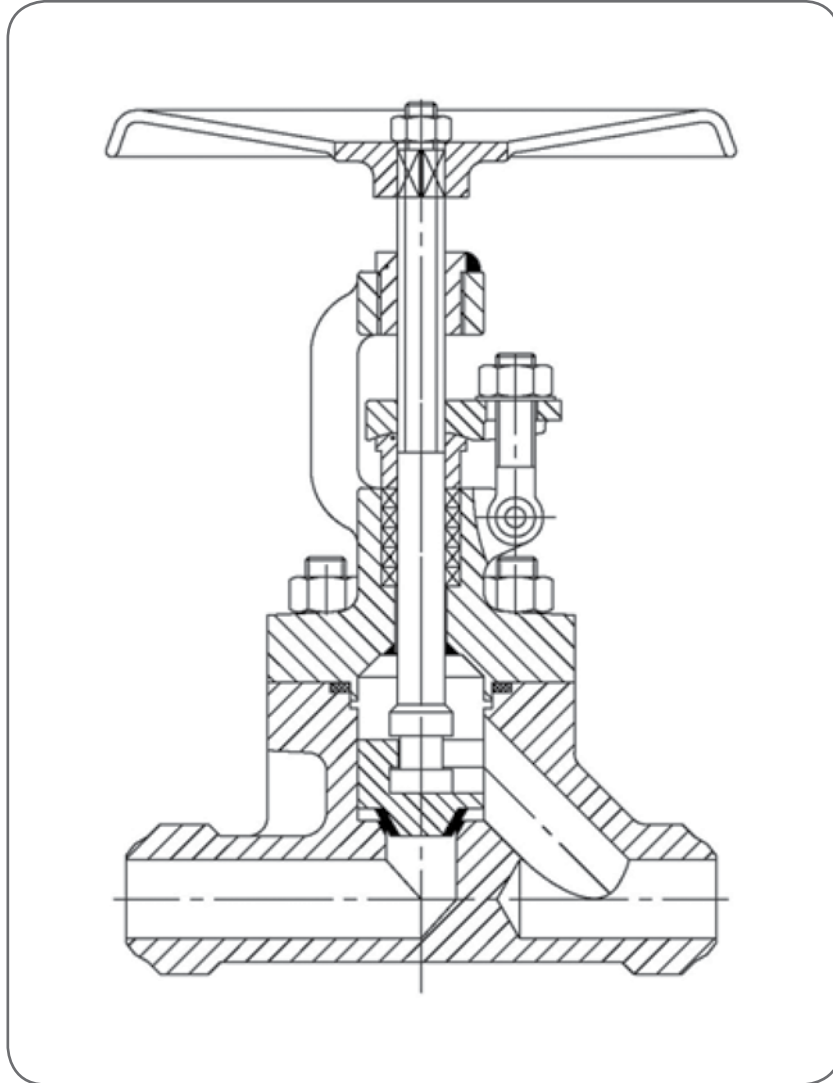
DN	PN	L mm	H mm	z kq	Dk mm	m kq
6	40-250	80	15	5	60	0,8
10	40-250	80	15	5	60	0,8
15	40-250	80	15	5	60	0,8

Operating data

Material	PN	Working pressure MPa / Working temperature °C									
		100	150	200	250	300	350	400	450	500	600
P250GH 1.0460	40	4	4	4	3,59	3,13	2,67	2,09	1,6	-	-
	100	10	10	10	9	7,8	6,7	5,2	4	-	-
	250	25	25	25	22,5	19,6	16,7	13	10	-	-
10CrMo9-10 1.7380	40	4	4	4	4	4	4	4	3,83	3,13	0,79
	100	10	10	10	10	10	10	10	9,6	7,8	2
	250	25	25	25	25	25	25	25	23,9	19,6	4,9
X6CrNiTi18-10 1.4541	40	4	3,94	3,87	3,41	3,15	3,01	2,9	2,81	2,76	1,99
	100	10	9,9	9,7	8,5	7,9	7,5	7,2	7	6,9	5
	250	25	24,6	24,2	21,3	19,7	18,8	18,1	17,5	17,2	12,5



Type K50
DN 15 - 65
PN 63 - 160



Globe Valve

Butt-Welded



DATA SHEET K50

Application

• Valve designed for closing or draining liquid and gaseous media

• Fluids

Water, steam, air, petroleum products, natural gas, gas condensate, technological solutions, oxygen, liquid and non-aggressive gases

• Industry

Power engineering, chemical and petrochemical industry

Technical description

- Stem is rotating, rising
- Plug is the closing element of the valve
- Valve opening is provided slowly, with gradual suspension of the stroke, to prevent hydraulic and thermal shocks in the valve

Installation

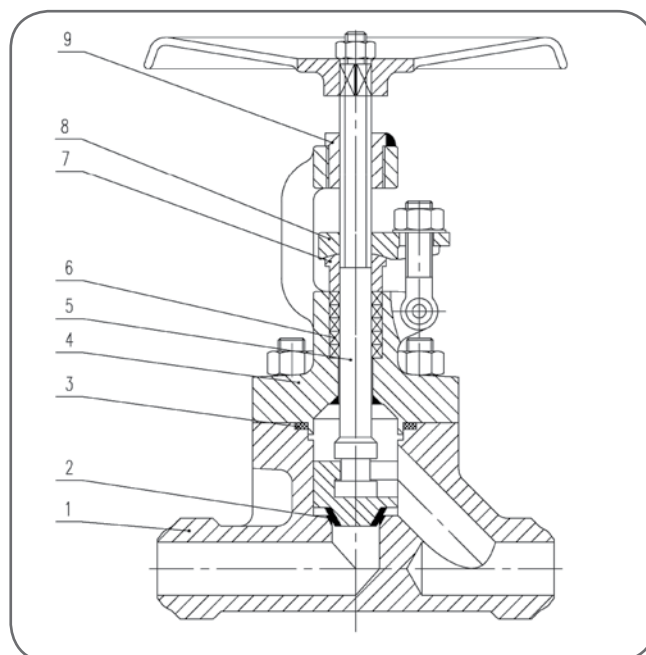
- Valves may be installed in any position, direction of the flow is under the plug

Testing

- Valves are pressure tested with water for strength and tightness in accordance with working parameters and material of body according to EN-12266
- Minimum pressure for the strength testing is 1,5 x PN

Operation

- Hand wheel (with locking device, if required)



- Electric actuator
- Gear box
- Flange ISO 5210 (ready for actuator)

Connection

- Butt-welded according to EN-12627, flanged according to EN1092-1 or according to customer request
- Face to face dimensions according to EN-558-1

Materials of main parts

Pos.	Name	Material
1	Body	1.0460
2	Seat	Stellite 6
3	Stem	Graphite + stainless steel
4	Gasket	1.0460
5	Bonnet	A182 F6
6	Packing	Graphite
7	Gland	13Cr
8	Gland flange	1.0460
9	Stem nut	1.4006

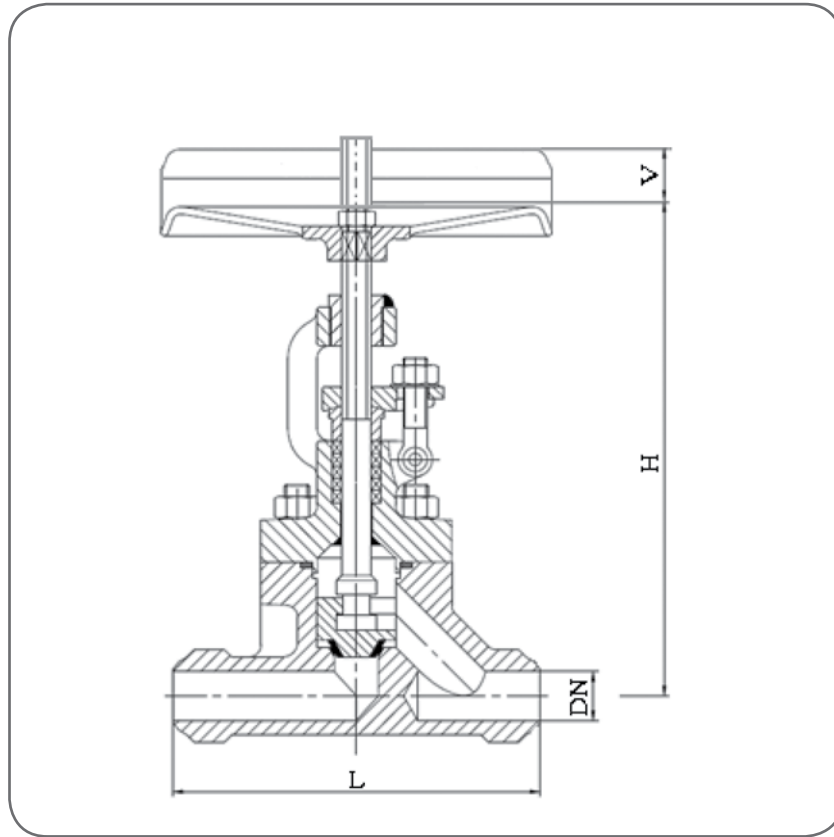
Operating data

Material	PN	Working pressure MPa / Working temperature °C														
		100	150	200	250	300	350	400	425	450	475	500	525	550	575	595
1.0460	63	5,77	5,62	5,45	5,19	4,81	4,59	4,29	3,57	-	-	-	-	-	-	-
	100	9,15	8,92	8,65	8,23	7,64	7,29	6,81	5,67	-	-	-	-	-	-	-
	160	13,91	13,56	13,14	12,51	11,62	11,09	10,35	8,62	-	-	-	-	-	-	-
1.7335	63	6,40	6,19	5,96	5,74	5,33	5,00	4,55	4,36	4,20	3,94	3,14	2,26	1,58	1,09	0,79
	100	10,16	9,82	9,47	9,11	8,46	7,94	7,22	6,92	6,67	6,25	4,98	3,58	2,51	1,74	1,15
	160	15,44	14,92	14,39	13,85	12,86	12,07	10,94	10,53	10,14	9,50	7,57	5,45	3,81	2,64	1,86



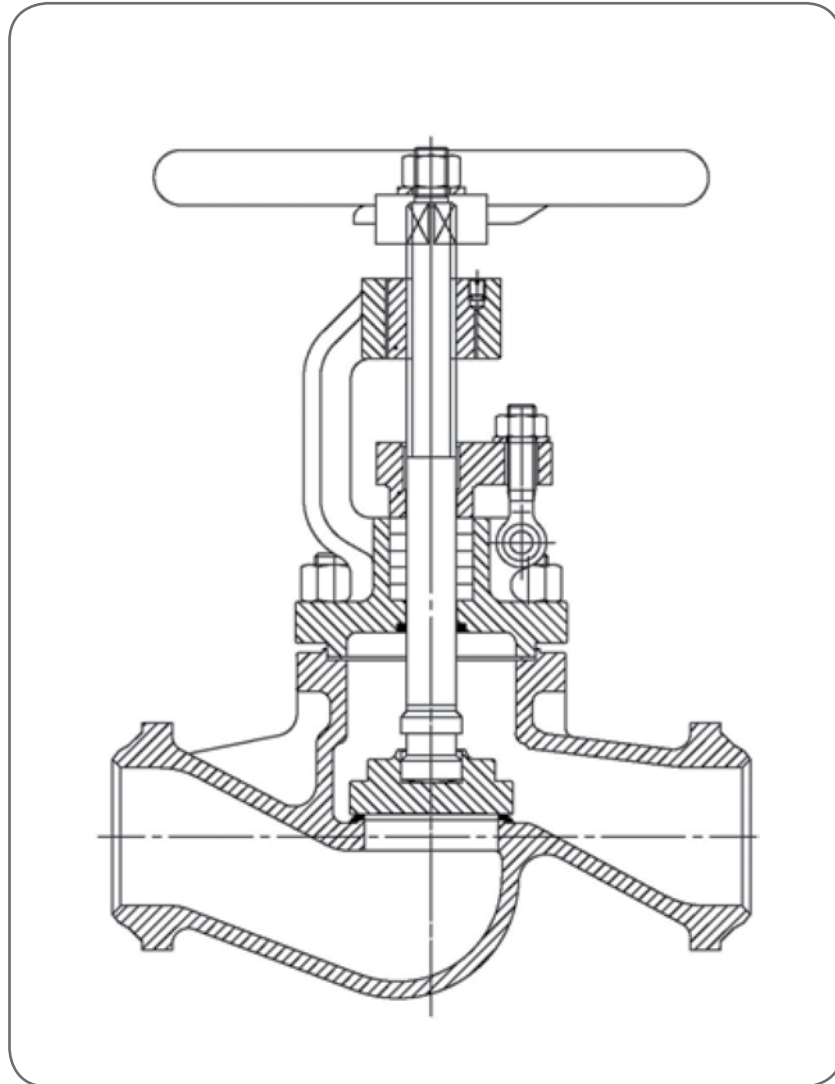
DATA SHEET K50

Dimensions



DN	L mm	H mm	V mm	m kg
15	150	200	13	4,2
20	150	205	18	4,6
25	160	225	20	5,8
32	180	245	25	8,8
40	210	290	42	14
50	250	335	50	19
65/50	250	340	50	19

Type K61
DN 15 - 300
PN 16 - 40



Globe Valve

Butt-Welded, Flanged



DATA SHEET K61

Application

- Designed for closing or throttling the liquid and gaseous medium

• Fluids

Water, steam, air, crude petroleum and petroleum products, natural gas, gas condensate, technological solutions, oxygen, liquid and non-aggressive gases

• Industry

Power engineering, chemical and petrochemical industry

Technical description

- Stem is rotating, rising
- Valve opening is provided slowly, with gradual suspension of the stroke, to prevent hydraulic and thermal shocks in the valve
- Shutt-off valves can be operated in position open-close, throttling valve can be operated also in an intermediate position

Installation

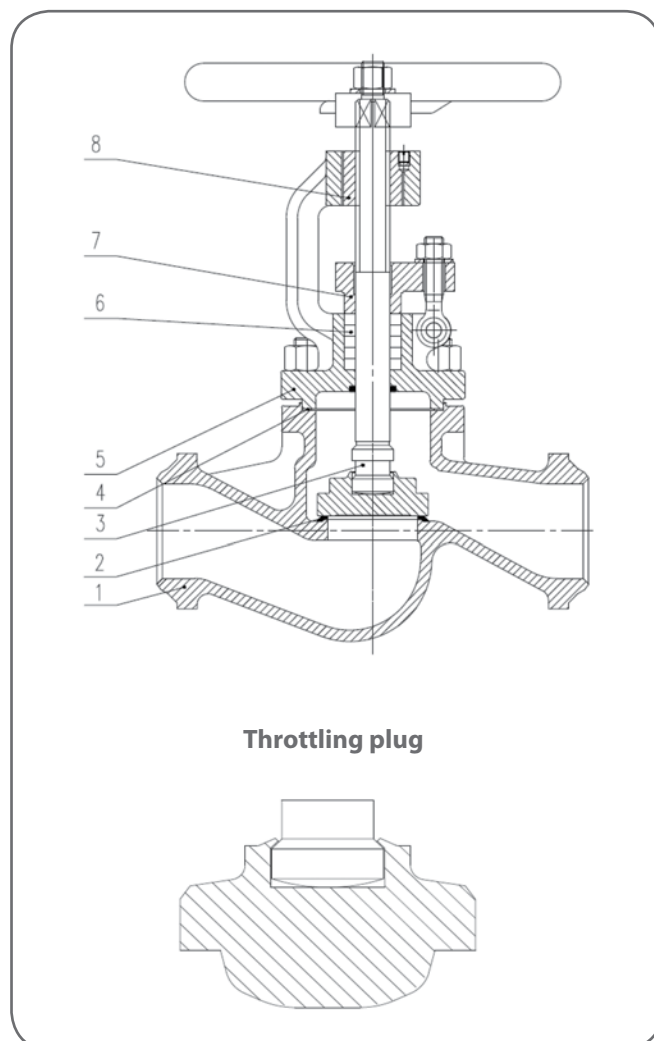
- The valves may be installed in any position, direction of the flow is under the plug

Testing

- The valves are pressure tested with water for strength and tightness in accordance with working parameters and material of body according to EN-12266
- The minimum pressure for the strength testing is 1,5 x PN

Operation

- Hand wheel (with locking device, if required)
- Electric actuator
- Gear box
- Flange ISO 5210 (ready for actuator)



Connection

- Butt-welded according to EN-12627, flanged according to EN1092-1 or to customer request
- Face to face dimensions according to EN-558-1

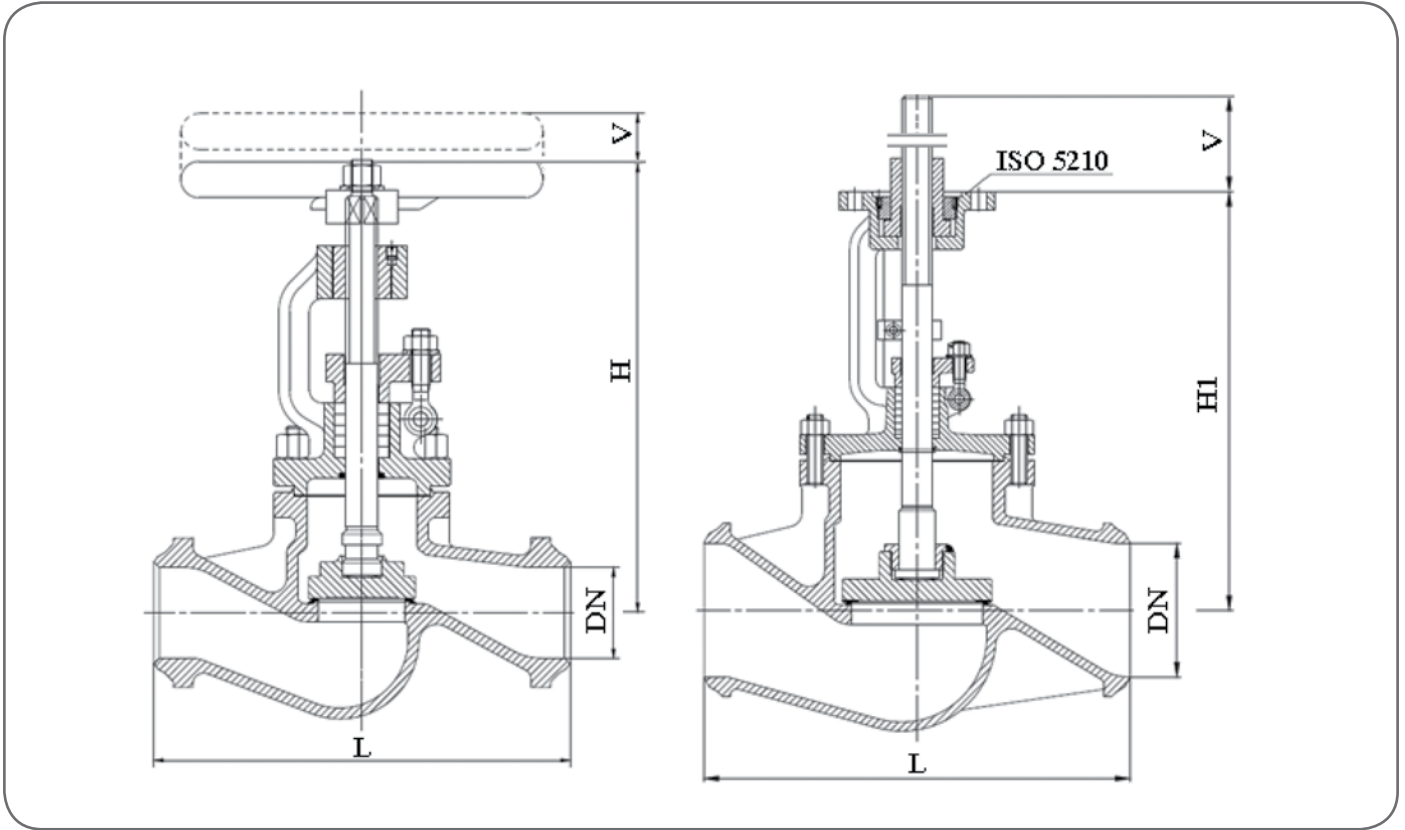
Materials of main parts

Pos.	Name	Material
1	Body	1.0619 (A216 WCB), 1.7357 (A217 WC6), 1.4408 (A351 CF8M)
2	Seat	13Cr, Stellite 6
3	Stem	F316, X20Cr13
4	Gasket	Graphite + stainless steel
5	Bonnet	1.0619 (A216 WCB), 1.7357 (A217 WC6), 1.4408 (A351 CF8M)
6	Packing	Graphite
7	Gland	1.0619 (A216 WCB), 1.7357 (A217 WC6), 1.4408 (A351 CF8M)
8	Stem nut	nut GGG40.3



DATA SHEET K61

Dimensions



DN	PN	L mm	H mm	V mm	H1 mm	ISO 5210	Torque Nm	Weight kg	
								Fl	BW
15	16 25/40	130	176	13	188	F7	11	3,6	2,1
20		150	185	13	188	F7	15	5,2	3,8
25		160	205	16	200	F10	18	6,8	5,1
32		180	220	18	207	F10	20	8,5	5,7
40		200	235	23	227	F10	24	12	8,4
50		230	246	26	244	F10	30	16	12
65	16	290	289	28	284	F10	51	22	18
80		310	315	33	300	F10	84	30	25
100		350	352	37	359	F14	145	39	31
125		400	420	51	417	F14	322	58	49
150		480	475	65	467	F14	350	80	69,5
200		600	545	65	584	F16	630	167	153
250	25/40	730	670	87	684	F25	1150	240	222
300		850	710	114	753	F30	2050	340	315
65		290	289	28	284	F10	51	23	19
80		310	315	33	300	F10	84	33	27
100		350	352	37	359	F14	145	45	36
125		400	420	51	417	F14	322	67	54
150	480	475	65	476	F14	350	87	72	

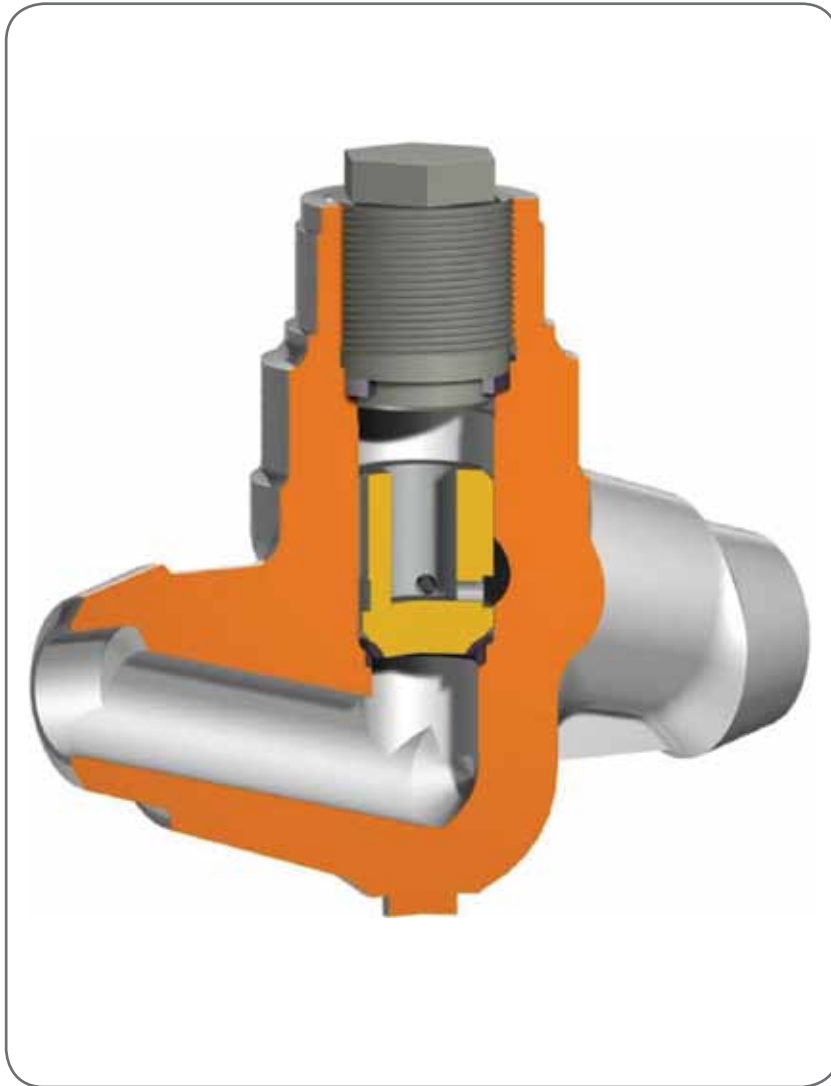
DATA SHEET K61

DN	PN	L mm	H mm	V mm	H1 mm	ISO 5210	Torque Nm	Weight kg	
								F1	BW
200	25	600	545	65	584	F16	630	180	160
250		730	670	87	684	F25	1150	262	237
300		850	710	114	753	F30	2050	372	337
200	40	600	545	65	584	F16	630	189	167
250		730	670	87	684	F25	1150	287	260
300		850	710	114	753	F30	2050	397	355

Operating data

Material	PN	Working pressure MPa / Working temperature °C													
		100	150	200	250	300	350	400	425	450	475	500	525	550	575
1.0619 (A216 WCB)	16	1,46	1,43	1,38	1,32	1,22	1,14	1,09	-	-	-	-	-	-	-
	25	2,29	2,23	2,16	2,06	1,91	1,82	1,70	-	-	-	-	-	-	-
	40	3,66	3,57	3,46	3,29	3,06	2,92	2,72	-	-	-	-	-	-	-
1.4408 (A351 CF8M)	16	1,33	1,20	1,10	1,02	0,96	0,91	0,87	0,86	0,86	0,83	-	-	-	-
	25	2,07	1,87	1,72	1,60	1,50	1,42	1,36	1,35	1,34	1,3	-	-	-	-
	40	3,32	2,99	2,75	2,56	2,41	2,277	2,18	2,16	2,14	2,08	-	-	-	-
1.7357 (A217 WC6)	16	1,63	1,58	1,49	1,43	1,33	1,23	1,15	1,11	1,07	0,89	0,68	0,35	0,28	0,20
	25	2,54	2,48	2,33	2,23	2,08	1,93	1,80	1,73	1,67	1,39	1,06	0,55	0,43	0,32
	40	4,07	3,96	3,74	3,57	3,33	3,09	2,89	2,77	2,67	2,23	1,7	0,88	0,69	0,52

Type K09 / K99
DN 10 - 65/50
PN 63 - 400



Check Valve

Butt-Welded, Flanged



DATA SHEET K09 / K99

Application

- Self-acting valve, used to stop reverse flow of the fluids

• Fluids

Water, steam, gases and other fluids

• Industry

Power engineering, chemical industry

• Environments

Normal, tropical, explosive, seismic

Technical description

- Body is die forging, screwed cover
- Seats are hardfaced (Stellite)
- Sealing ring is made from expanded graphite
- Flanges are welded to the body

Testing

- Valves are pressure tested with water, steam or air for strength and tightness in accordance with working parameters and material according to EN 12266 – 1
- Minimum pressure for the strength testing is 1,5 x PN

Installation

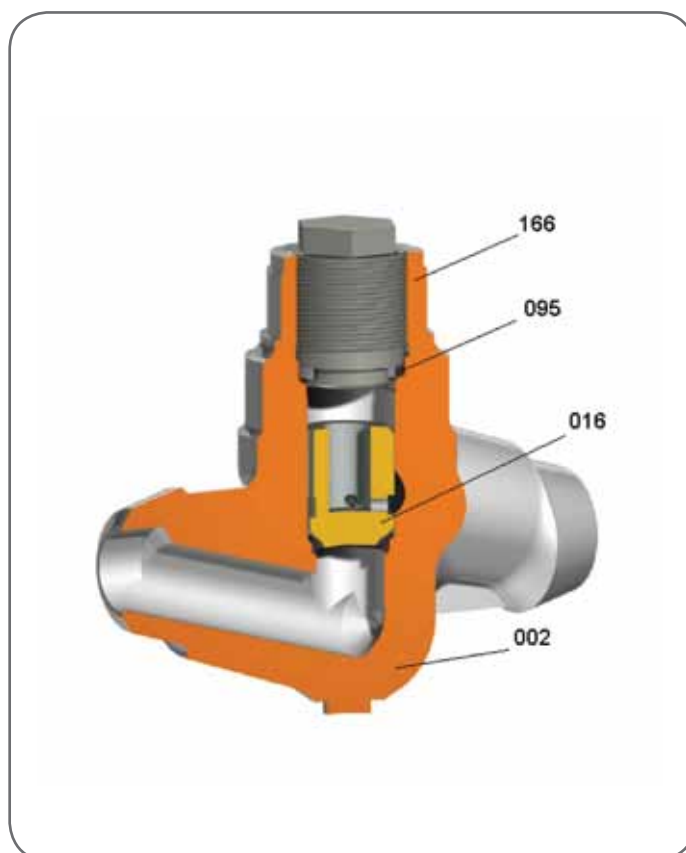
- Valves K09 can be installed in horizontal position
- Valves K99 can be installed in each position because of the spring
- Direction of flow is under the disc

Operation

- Self-acting

Connection

- Butt-welded or flanged type according to ČSN, EN, DIN, ANSI, GOST or according to customer request



Materials of main parts

Pos.	Name	Material
002	Body	11 416, P250GH (C22.8), 15 128, 11CrMo9-10, (10CrMo910), 13CrMoV4-5,
005	Flange	14MoV6-3, 16Mo3 (15Mo3), X10CrMoVNb9-1, 15NiCuMoNb5-6-4, X6CrNiTi18-10, 08X18H10T
016	Seat	Typ Stellite 6 (TYP C1111)
	Plug	08X18H10T, X6CrNiTi18-10, 14X17H2
	Hardfacing	Typ Stellite 6 (TYP C1111)
	Spring	NiCr15Fe7TiAl
095	Sealing ring	Expanded graphite – density 1,7 g/cm3
166	Screwing	17 134, X22CrMoV12-1



DATA SHEET K09 / K99

Operating data

Material of body	PN	Working pressure MPa / Working temperature °C												
		200	250	300	350	400	450	500	520	540	560	580	600	
P250GH (C22.8) (W.Nr. 1.0460)	63	6,3	5,7	4,9	4,2	3,3	2,5	-	-	-	-	-	-	
	100	10,0	9,0	7,8	6,7	5,2	4,0	-	-	-	-	-	-	
	160	16,0	14,4	12,5	10,7	8,3	6,4	-	-	-	-	-	-	
	250	25,0	22,5	19,6	16,7	13,0	10,0	-	-	-	-	-	-	
	320	32,0	28,8	25,0	21,3	16,7	12,8	-	-	-	-	-	-	
11416	400	40,0	35,9	31,3	26,7	20,9	16,0	-	-	-	-	-	-	
	63	6,3	5,9	5,2	4,3	3,8	2,5	-	-	-	-	-	-	
	100	10,0	9,4	8,2	6,8	6,0	4,0	-	-	-	-	-	-	
	160	16,0	15,0	13,2	10,9	9,6	6,4	-	-	-	-	-	-	
	250	25,0	23,5	20,6	17,1	14,9	10,0	-	-	-	-	-	-	
15NiCuMoNb5-6-4 (W.Nr. 1.6368)	320	32,0	30,1	26,3	21,9	19,1	12,8	-	-	-	-	-	-	
	400	40,0	37,6	32,9	27,4	23,9	16,0	-	-	-	-	-	-	
	63	6,3	6,3	6,3	6,3	6,3	6,3	-	-	-	-	-	-	
	100	10,0	10,0	10,0	10,0	10,0	10,0	-	-	-	-	-	-	
	160	16,0	16,0	16,0	16,0	16,0	16,0	-	-	-	-	-	-	
16Mo3 (15Mo3) (W.Nr. 1.5415)	250	25,0	25,0	25,0	25,0	25,0	25,0	-	-	-	-	-	-	
	320	32,0	32,0	32,0	32,0	32,0	32,0	-	-	-	-	-	-	
	400	40,0	40,0	40,0	40,0	40,0	40,0	-	-	-	-	-	-	
	63	6,3	6,3	5,5	5,3	5,1	4,9	3,4	2,2	-	-	-	-	
	100	10,0	10,0	8,7	8,4	8,1	7,8	5,4	3,4	-	-	-	-	
13CrMo4-5 (W.Nr. 1.7335)	160	16,0	16,0	13,9	13,4	13,0	12,5	8,6	5,5	-	-	-	-	
	250	25,0	25,0	21,7	21,0	20,3	19,6	13,5	8,6	-	-	-	-	
	320	32,0	32,0	27,8	26,9	26,0	25,0	17,3	10,9	-	-	-	-	
	400	40,0	40,0	34,8	33,6	32,5	31,3	21,6	13,7	-	-	-	-	
	63	6,3	6,3	6,3	6,3	6,0	5,7	5,0	3,4	2,2	1,5	-	-	
11CrMo9-10 (W.Nr. 1.7383) (10CrMo9-10) (W.Nr. 1.7380)	100	10,0	10,0	10,0	10,0	9,6	9,0	7,9	5,4	3,5	2,3	-	-	
	160	16,0	16,0	16,0	16,0	15,3	14,4	12,7	8,7	5,7	3,7	-	-	
	250	25,0	25,0	25,0	25,0	23,9	22,5	19,9	13,6	8,8	5,8	-	-	
	320	32,0	32,0	32,0	32,0	30,6	28,8	25,4	17,4	11,3	7,4	-	-	
	400	40,0	40,0	40,0	40,0	38,3	35,9	31,8	21,8	14,1	9,3	-	-	
15128	63	6,3	6,3	6,3	6,3	6,3	6,3	4,9	3,8	2,8	2,1	1,6	1,2	
	100	10,0	10,0	10,0	10,0	10,0	10,0	7,8	6,0	4,5	3,4	2,6	2,0	
	160	16,0	16,0	16,0	16,0	16,0	16,0	12,5	9,6	7,2	5,4	4,1	3,2	
	250	25,0	25,0	25,0	25,0	25,0	25,0	19,6	14,9	11,3	8,4	6,4	4,9	
	320	32,0	32,0	32,0	32,0	32,0	32,0	25,0	19,1	14,5	10,8	8,2	6,3	
14MoV6-3 (W.Nr. 1.7715)	400	40,0	40,0	40,0	40,0	40,0	40,0	31,3	23,9	18,1	13,4	10,2	7,9	
	63	6,3	6,3	6,3	6,3	6,3	6,3	6,3	5,4	4,1	3,1	-	-	
	100	10,0	10,0	10,0	10,0	10,0	10,0	10,0	8,6	6,6	5,0	-	-	
	160	16,0	16,0	16,0	16,0	16,0	16,0	16,0	13,8	10,5	8,0	-	-	
	250	25,0	25,0	25,0	25,0	25,0	25,0	25,0	21,6	16,4	12,5	-	-	
X10CrMoVNb9-1 (W.Nr. 1.4903)	320	32,0	32,0	32,0	32,0	32,0	32,0	32,0	27,6	21,0	16,0	-	-	
	400	40,0	40,0	40,0	40,0	40,0	40,0	40,0	34,6	26,2	19,9	-	-	
	63	6,3	6,3	6,3	6,3	6,3	6,3	6,2	4,8	3,7	2,8	2,2	1,6	
	100	10,0	10,0	10,0	10,0	10,0	10,0	9,8	7,6	5,9	4,5	3,5	2,6	
	160	16,0	16,0	16,0	16,0	16,0	16,0	15,7	12,2	9,4	7,2	5,6	4,2	
X10CrMoVNb9-1 (W.Nr. 1.4903)	250	25,0	25,0	25,0	25,0	25,0	25,0	24,5	19,0	14,6	11,3	8,7	6,5	
	320	32,0	32,0	32,0	32,0	32,0	32,0	31,4	24,3	18,7	14,5	11,1	8,3	
	400	40,0	40,0	40,0	40,0	40,0	40,0	39,2	30,4	23,4	18,1	13,9	10,4	
	63	6,3	6,3	6,3	6,3	6,3	6,3	6,3	6,3	6,3	5,5	4,4	3,4	
	100	10,0	10,0	10,0	10,0	10,0	10,0	10,0	10,0	10,0	8,7	7,0	5,4	
X10CrMoVNb9-1 (W.Nr. 1.4903)	160	16,0	16,0	16,0	16,0	16,0	16,0	16,0	16,0	16,0	13,9	11,1	8,7	
	250	25,0	25,0	25,0	25,0	25,0	25,0	25,0	25,0	25,0	21,7	17,4	13,6	
	320	32,0	32,0	32,0	32,0	32,0	32,0	32,0	32,0	32,0	27,8	22,3	17,4	
	400	40,0	40,0	40,0	40,0	40,0	40,0	40,0	40,0	40,0	34,8	27,8	21,8	

DATA SHEET K09 / K99

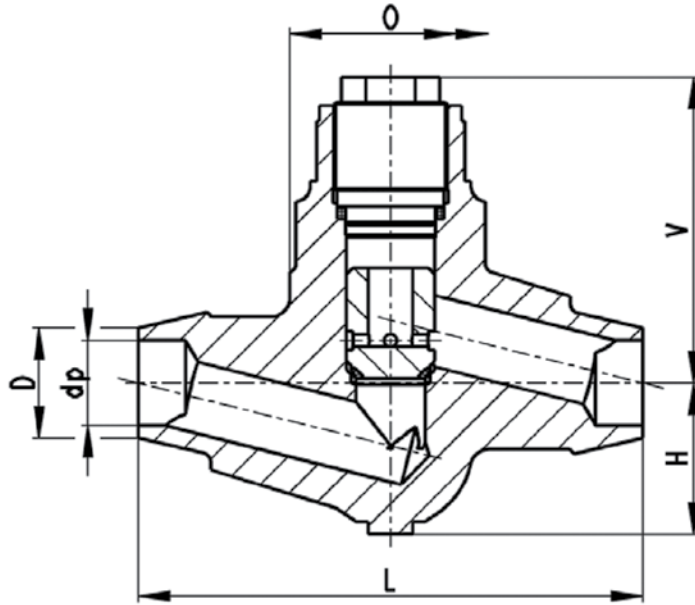
Operating data

Material of body	PN	Working pressure MPa / Working temperature °C											
		200	250	300	350	400	450	500	520	540	560	580	600
X6CrNiTi18-10 (W.Nr. 1.4541)	63	6,1	5,4	5,0	4,7	4,6	4,4	4,3	4,3	4,3	4,3	3,9	3,1
	100	9,7	8,5	7,9	7,5	7,2	7,0	6,9	6,9	6,9	6,8	6,2	5,0
	160	15,5	13,6	12,3	12,1	11,6	11,2	11,0	11,0	11,0	10,9	9,9	8,0
	250	24,2	21,3	25,2	24,1	23,2	22,4	22,1	22,1	21,9	21,9	19,8	16,0
	320	31,0	27,3	25,2	24,1	23,2	22,4	22,1	22,1	21,9	21,9	19,8	16,0
	400	38,7	34,1	31,5	30,1	29,0	28,1	27,6	27,5	27,4	27,4	24,8	19,9
08X18H10T	63	6,0	5,6	5,4	5,0	4,8	4,5	4,1	3,8	3,5	3,1	2,8	2,5
	100	9,5	8,8	8,5	7,9	7,7	7,1	6,6	6,0	5,5	5,0	4,5	4,0
	160	15,2	14,1	13,6	12,7	12,2	11,4	10,5	9,6	8,8	8,0	7,2	6,5
	250	23,8	22,0	21,3	19,9	19,1	17,8	16,4	15,0	13,7	12,5	11,3	10,1
	320	30,4	28,2	27,3	25,4	24,5	22,8	21,0	19,3	17,5	15,9	14,4	12,9
	400	38,0	35,2	34,0	31,8	30,6	28,5	26,2	24,1	21,9	19,9	18,1	16,2

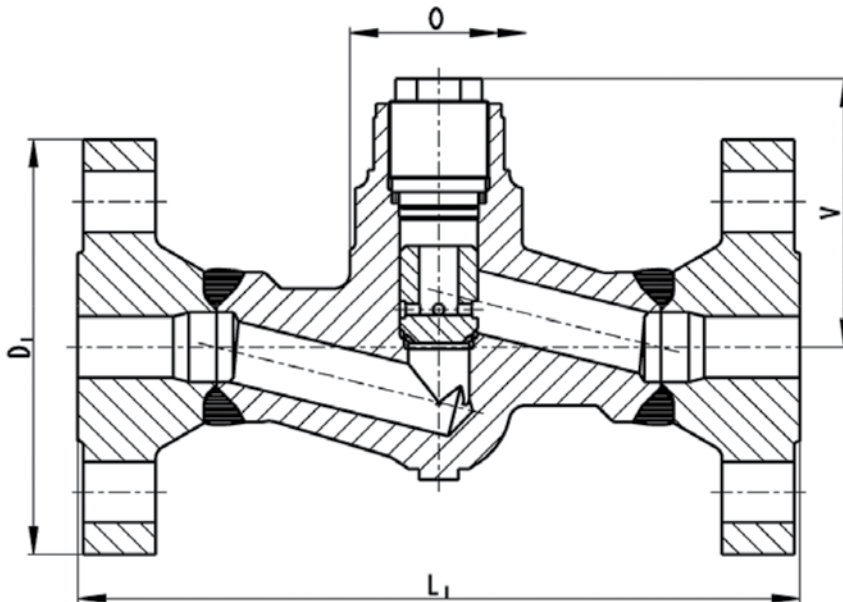
DATA SHEET K09 / K99

Dimensions

Butt-welded type, DN 10 – 65/50, PN 100 – 400



Flanged type, DN 10 – 65/50, PN 63 – 400



DATA SHEET K09 / K99

Butt-welded type, DN 10 – 65/50, PN 100 – 400

DN	PN	D mm	dp mm	L mm	O mm	H mm	V mm	m kg
10	100	14	10	150	54	34	77	2,1
	160		10					
	250		9					
	320		8					
	400		7					
15	100	22	17	150	54	34	77	2,1
	160		16					
	250		15					
	320		15					
	400	27	17					
20	100	27	23	160	54	48	98	3,1
	160	30	21					
	250		20					
	320		18					
	400		17					
25	100	35	28	160	54	48	98	3,1
	160		26					
	250		24					
	320		24					
	400	43	28					
32	100	43	36	210	78	66	128	7,2
	160		34					
	250		31					
	320		28					
	400		27					
40	100	49	41	210	78	66	128	7,2
	160		39					
	250		36					
	320		35					
	400	61	39					
50	100	61	52	250	94	83	145	11,4
	160		49					
	250		45					
	320	64	45					
	400	77	49					
65/50	100	77	66	250	94	83	145	11,4
	160		62					
	250		56					
	320		52					
	400		48					

Notes: Dimensions of butt-welded type are by ČSN 13 1075, in case of requirement of another standard (DIN, EN, ANSI) the dimensions could be different.



DATA SHEET K09 / K99

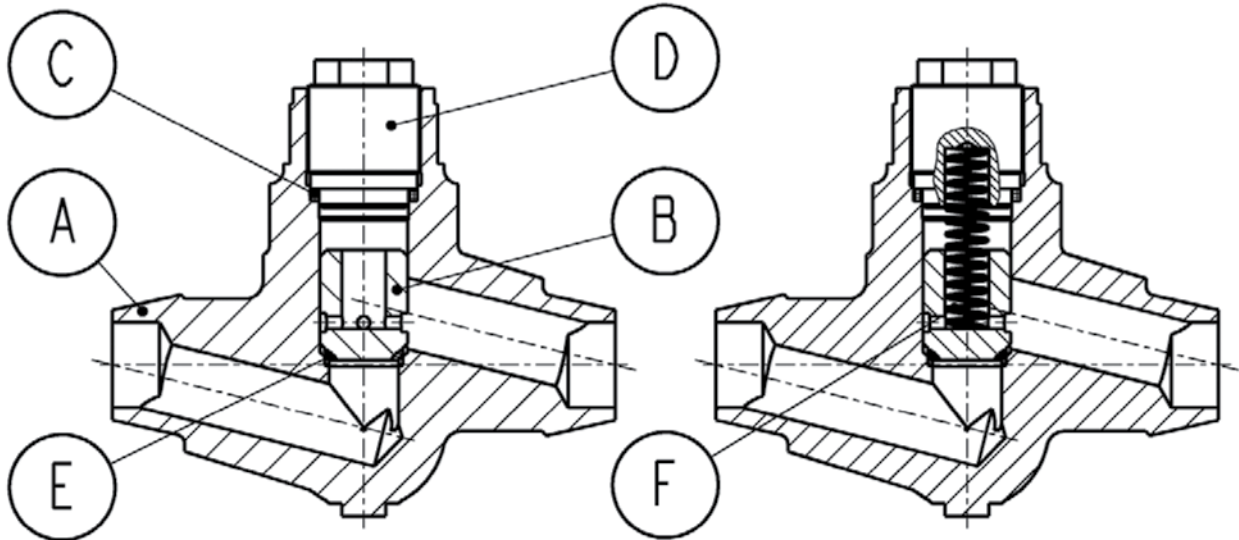
Flanged type, DN 10 – 65/50, PN 63 – 400

DN	PN	D1 mm	L mm	O mm	V mm	m kg
10	63-160	100	210	94	145	4,5
	250	125	230			6,6
	320	125	230			6,6
	400	125	230			7,4
15	63-160	105	210	54	77	4,7
	250	130	230			7,3
	320	130	230			7,3
	400	145	230			9,5
20	63-100	130	230	54	98	7,5
25	63-160	140	230	54	98	8,8
	250	150	260			10,7
	320	160	260			13,9
	400	180	260			18,4
32	63-100	155	260	78	128	13,9
40	63-100	170	260	78	128	15,6
	160	170	260			16,3
	250	185	300			20,9
	320	195	300			24,8
	400	220	300			35,7
50	63	180	230	94	145	21,1
	100	195	230			22,6
	160	195	230			24,8
	250	200	350			28,4
	320	210	350			33,4
	400	235	350			45,4
65/50	63	205	340	94	145	23,2
	100	220	340			25,7
	160	220	340			29,5
	250	230	400			37,6
	320	255	400			51
	400	290	400			75,2

Notes: Dimensions of flanged type are by EN 1092-1, in case of requirement of another standard (DIN, EN, GOST) the dimensions could be different.

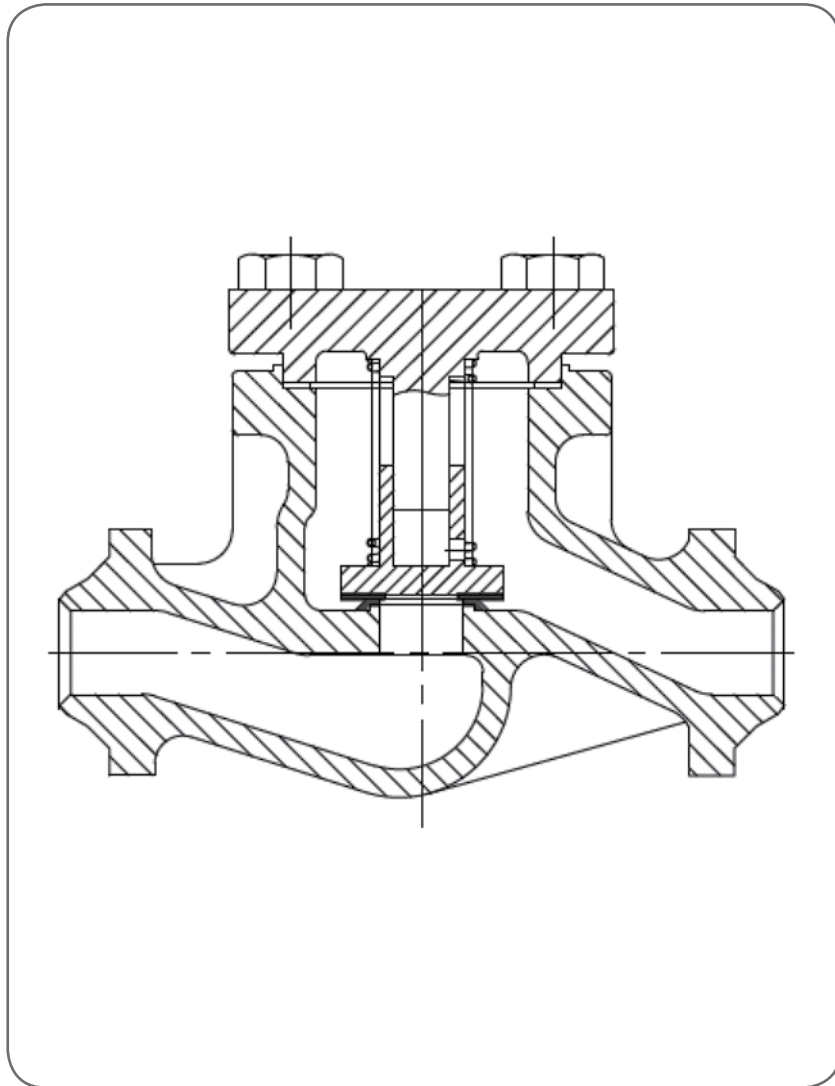
DATA SHEET K09 / K99

Advantages of construction



- A** **Decreased forged body without sealing weld:**
Decrease the weight, exclude the defectoscopy of weld
- B** **Plug maintain in body, with vents and grooves:**
Ensure the equalization of pressure and dehydration of space under plug
- C** **Sealing ring – expanded graphite:**
Reliable sealing, ecology
- D** **Screwing of body:**
Simple element, creates required sealing pressure
- E** **Seats are hardfaced (Stellite):**
Long-term life time, resistance against waring-ou
- F** **Spring:**
Push the plug to seat during position in inclined or vertical pipeline

Type K66
DN 15 - 300
PN 16 - 40



Lift Check Valve

Butt-Welded, Flanged



DATA SHEET K66

Application

• Self-acting closing element; in case of „A“ class leakage, an additional on-off valve should be added to the piping

• Fluids

Water, steam, air, gas and non aggressive medium

• Industry

Power engineering, chemical and petrochemical industry

Technical description

• Lift check valve is self-acting by pressure of the working medium on the plug, which prevents reverse flow and temperature or pressure shocks, achieved by the spring above the plug

• Direction of flow is under the plug

Operation

• Self-acting, by pressure of medium

Testing

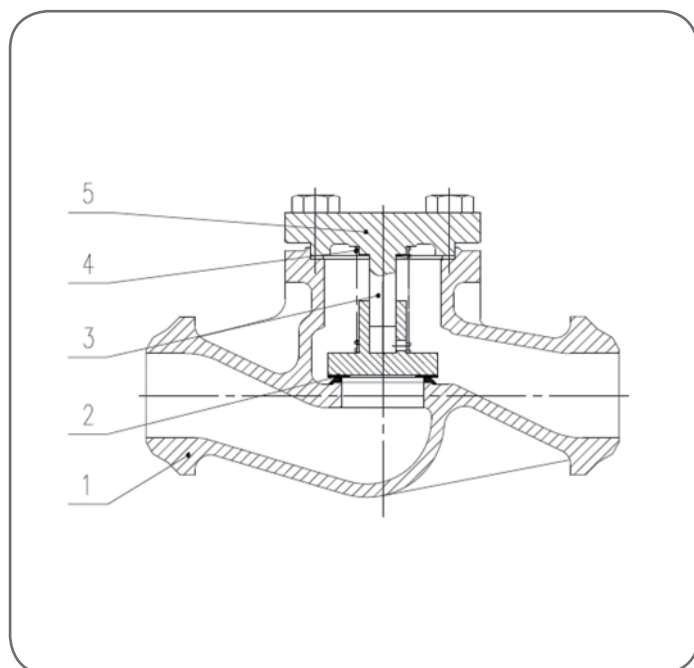
• The valves are pressure tested with water for strength and tightness in accordance with working parameters and material of body according to EN-12266

• The minimum pressure for the strength testing is 1,5 x PN

Installation

• Lift check valve can be installed to horizontal and vertical pipeline

• Direction of flow in vertical position is under the disc



Connection

• Butt-welded according to EN-12627, flanged according to EN-1092-1 or according to customer request

• Face to face dimension according to EN-558-1

Materials of main parts

Pos.	Name	Material
1	Body	1.0619 (A216 WCB), 1.7357 (A217 WC6), 1.4408 (A351 CF8M)
2	Seat	13Cr, Stellite
3	Stem	SS304, SS316
4	Gasket	SS316 + Graphite
5	Bonnet	1.0619 (A216 WCB), 1.7357 (A217 WC6), 1.4408 (A351 CF8M)

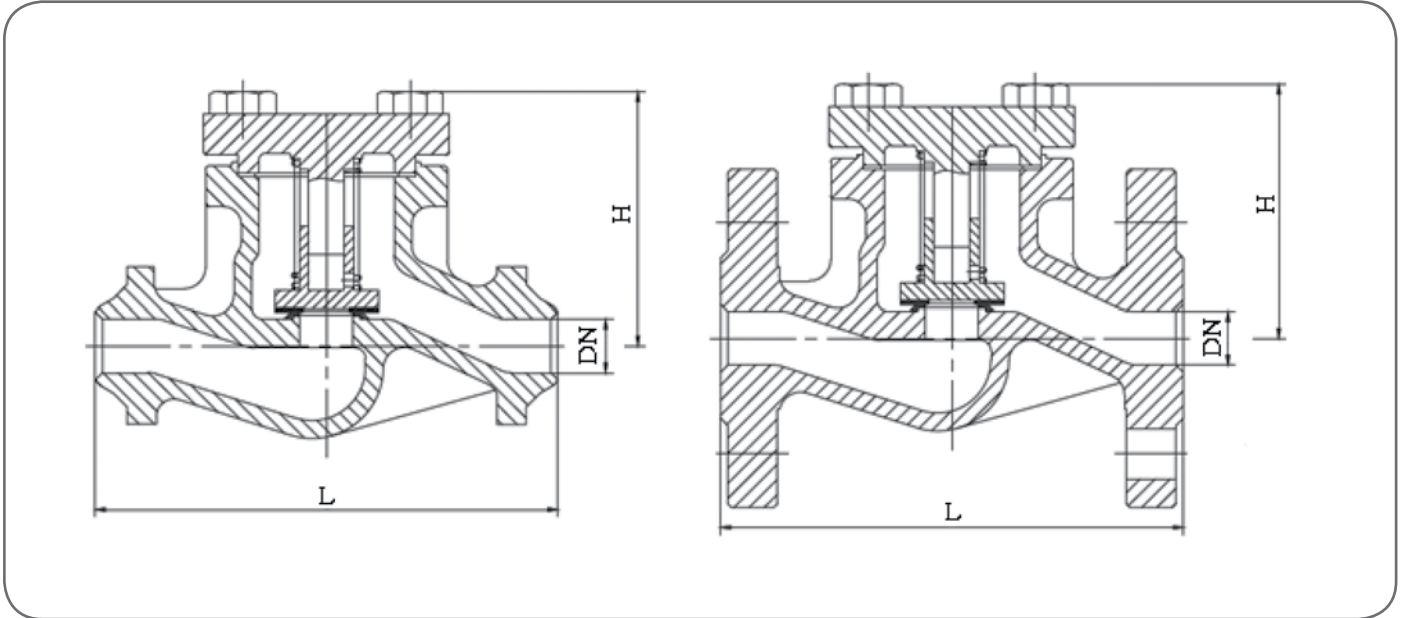
Operating data

Material	PN	Working pressure MPa / Working temperature °C													
		100	150	200	250	300	350	400	425	450	500	525	550	575	595
1.0619 (A216 WCB)	16	1,46	1,43	1,38	1,32	1,22	1,17	1,09	-	-	-	-	-	-	-
	25	2,29	2,23	2,16	2,06	1,91	1,82	1,70	-	-	-	-	-	-	-
	40	3,66	3,57	3,46	3,29	3,06	2,92	2,72	-	-	-	-	-	-	-
1.4408 (A351 CF8M)	16	1,33	1,20	1,10	1,02	0,96	0,91	0,87	0,86	0,86	0,83	-	-	-	-
	25	2,07	1,87	1,72	1,60	1,50	1,42	1,36	1,35	1,34	1,30	-	-	-	-
	40	3,32	2,99	2,75	2,56	2,41	2,27	2,18	2,16	2,14	2,08	-	-	-	-
1.7357 (A217 WC6)	16	1,63	1,58	1,49	1,43	1,33	1,23	1,15	1,11	1,07	0,89	0,68	0,35	0,28	0,20
	25	2,54	2,48	2,33	2,23	2,08	1,93	1,80	1,73	1,67	1,39	1,06	0,55	0,43	0,32
	40	4,07	3,96	3,74	3,57	3,33	3,09	2,89	2,77	2,67	2,23	1,70	0,88	0,69	0,52



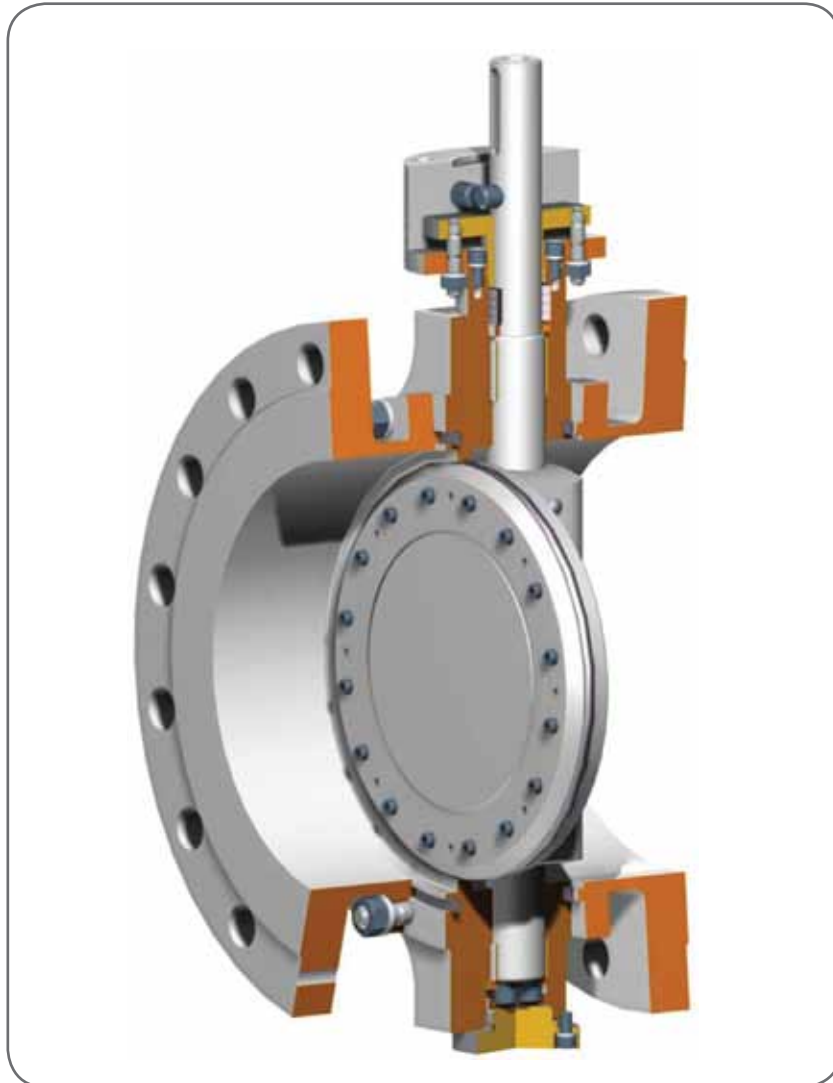
DATA SHEET K66

Dimensions



DN	PN	L mm	H mm	FL	m kg	BW
15	16 25/40	130	69	2,8	1,9	
20		150	70	3,8	2,8	
25		160	75	5,3	3,8	
32		180	78	7,2	4,8	
40		200	85	9	6	
50	16	230	90	12	8,5	
65		290	110	16	12	
80		310	125	23	18	
100		350	150	35	29	
125		400	185	45	37	
150		480	283	62	51	
200		600	340	132	120	
250		730	400	220	203	
300		850	445	330	308	
65		25/40	290	110	17	13
80	310		125	24	19	
100	350		150	39	30	
125	400		185	50	38	
150	480		283	68	54	
200	25	600	340	143	123	
250		730	400	233	208	
300		850	445	350	316	
200	40	600	340	153	129	
250		730	400	250	223	
300		850	445	390	348	

**Type K06
DN 50 - 1800
PN 6 - 25**



**Shut-off Butterfly Valve
with Double Eccentricity**

Wafer, Flanged, Butt-Welded



DATA SHEET K06

Application

• Industrial valves designed for entire closing or opening of the medium flow; they also can be used to regulate the medium flow

• Fluids

Water (sewage, supply water, drinking water), steam, oils, natural gas, coke oven gas and other non-aggressive liquids and gases

• Industry

Water industry, chemical and petrochemical industry, nsugar industry, pulp and paper industry, nuclear power, geothermal resources, tankers

Technical description

- Designed with double eccentricity
- Full bore
- The axis of the control shaft is outside the sealing – seat axis; this solution enables an adequate sealing of the whole disc
- Disc closure is eccentrically inserted to the body and attached on the control shaft and the pin, inserted rotatably in the self-lubricating sliding bearings
- Shaft is sealed with the gland
- Material of sealing EPDM, NBR, PTFE, FPM – VITON
- Pin sealed with flat asbestos-free sealing
- Disc from stainless steel on request
- Building length according to ČSN EN 558-1, line 16 – WAFER type
- Building length according to ČSN EN 558-1, line 14 (DIN 3202-1, line F4) – flange type
- Actuator mounting in accordance with ISO 5211
- Inner spaces can be provided by protection layers (RILSAN, HALAR,...)
- Marking according to EN standards

Implementation of the connection ends

- WAFER type: Body made of one piece, sealing surfaces bolted to the body
- Flanged type: Body made of one piece, flanges bolted to the body
- Butt-welded type: Body made of one piece, butt-welded ends bolted to the body

Operation

- Manual gear
- Level gear
- Electric actuator
- Pneumatic actuator



Testing

- Valves are tested according to ČSN EN 12266-1

Advantages

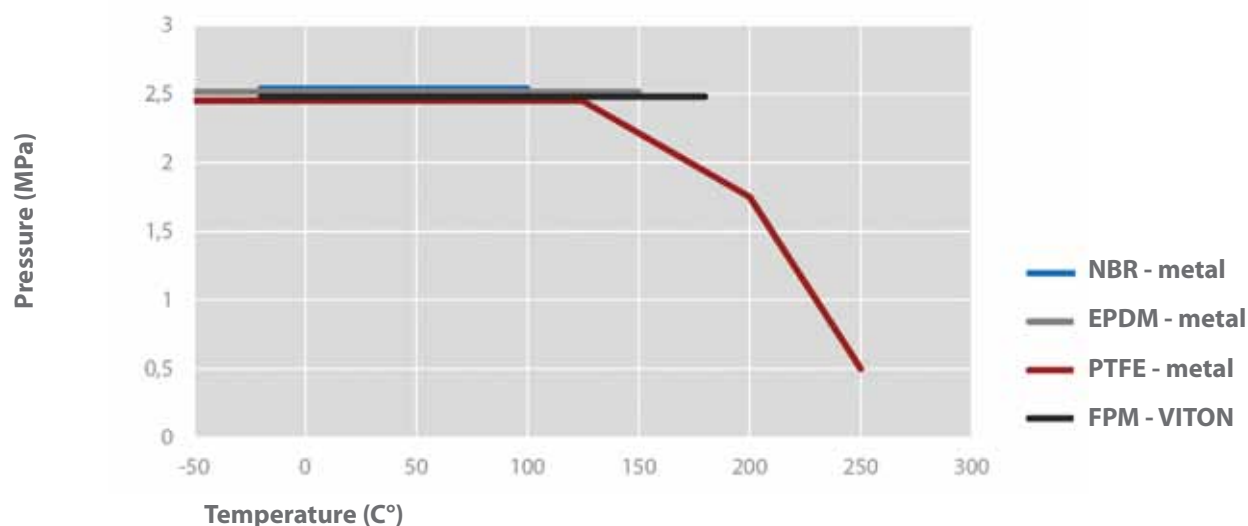
- Guaranteed sealing in both directions at nominal working pressure on request
- Possibility to use the valve for rough regulation, material of sealing - stainless steel (in this case, the valve is not possible to use for closing)
- Till DN 600 (including) possibility of dismantling the butt-welded body from pipeline without burning of the welds
- Simple adaptation of the flange size for actuator mounting according to customer request
- Possibility of adjustments of the flange type building length according to customer requests
- Connection for the following pressure ranges: PN 6, 10, 16, 25 (on request other standard GOST)



DATA SHEET K06

Operating data

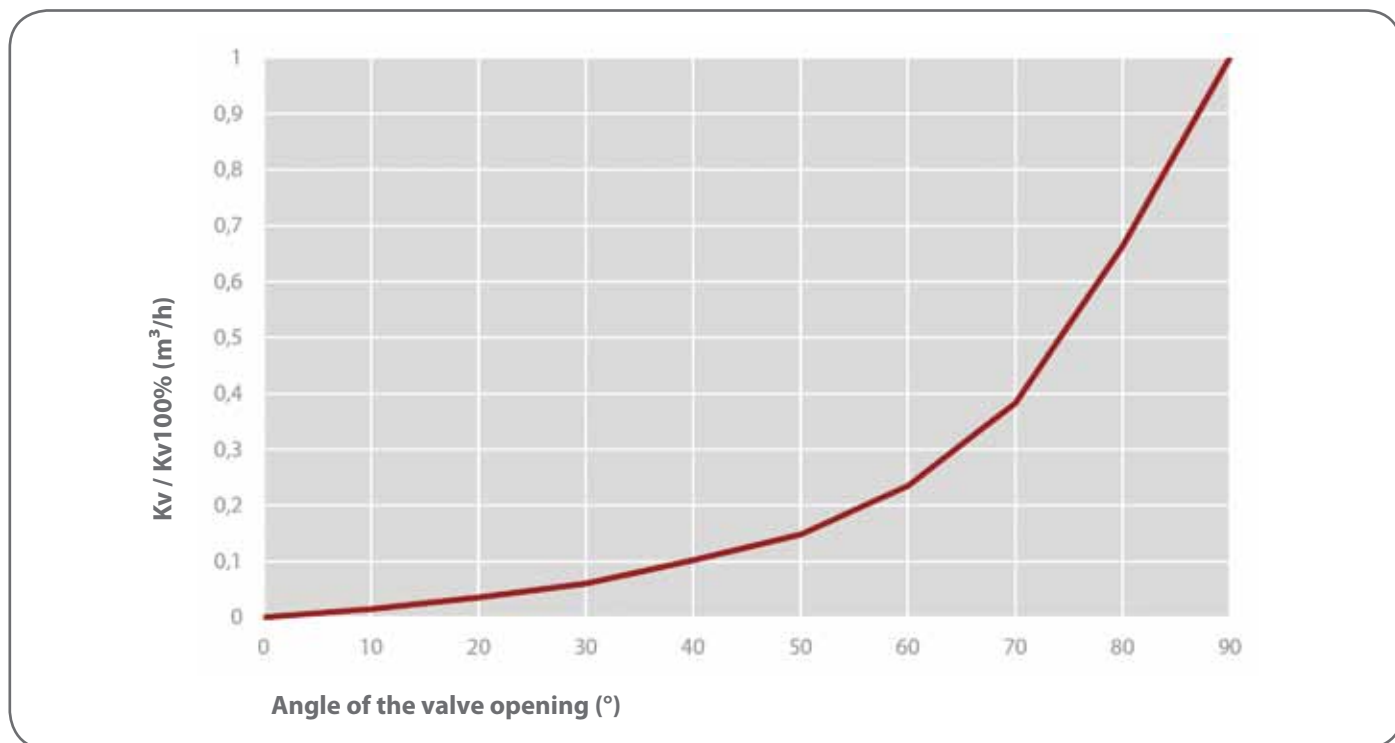
Graph: Dependence of pressure and temperature



Material of body	Working pressure MPa / Working temperature °C								
	PN	20	100	150	200	250	300	350	400
P265GH (W.Nr.1.0425)	6	0,6	0,6	0,6	0,6	0,53	0,46	0,4	0,34
	10	1,0	1,0	1,0	1,0	0,88	0,77	0,66	0,57
	16	1,6	1,6	1,6	1,6	1,41	1,23	1,06	0,91
	25	2,5	2,5	2,5	2,5	2,2	1,93	1,65	1,43
P355NH (W.Nr.1.0565)	6	0,6	0,6	0,6	0,6	0,6	0,6	0,55	0,44
	10	1,0	1,0	1,0	1,0	1,0	1,0	0,91	0,74
	16	1,6	1,6	1,6	1,6	1,6	1,6	1,46	1,18
	25	2,5	2,5	2,5	2,5	2,5	2,5	2,28	1,85
P355NL1 (W.Nr.1.0566) P355NL2 (W.Nr.1.1106)	6	0,6	0,6	0,6	0,6	0,6	0,6	0,55	0,44
	10	1,0	1,0	1,0	1,0	1,0	1,0	0,91	0,74
	16	1,6	1,6	1,6	1,6	1,6	1,6	1,46	1,18
	25	2,5	2,5	2,5	2,5	2,5	2,5	2,28	1,85
X2CrNiMo17-12-2 (W.Nr.1.4404)	6	0,6	0,6	0,55	0,5	0,47	0,44	0,42	0,41
	10	1,0	1,0	0,92	0,84	0,78	0,74	0,7	0,69
	16	1,6	1,6	1,47	1,34	1,25	1,18	1,12	1,1
	25	2,5	2,5	2,3	2,1	1,95	1,85	1,75	1,73
X6CrNiTi18-10 (W.Nr.1.4541)	6	0,6	0,6	0,58	0,55	0,51	0,47	0,45	0,43
	10	1,0	1,0	0,97	0,91	0,85	0,79	0,75	0,72
	16	1,6	1,6	1,55	1,46	1,36	1,26	1,2	1,15
	25	2,5	2,5	2,43	2,28	2,13	1,98	1,88	1,8
	40	4,0	4,0	3,88	3,64	3,4	3,16	3,0	2,88

DATA SHEET K06

Characteristic of flow



Operating parameters

Working temperature °C	Material of sealing	Proper application	Improper application
From -40 to +150	EPDM	Steam, hot water, ozone Mineral oils and fats	Mineral oils and fats
From -20 to +100	NBR	Water, air, oil, petrol, kerosen, non-aggressive gases	
From -20 to +180	FPM - VITON	High chemical resistance, fireproof; oil products, blast furnace, coke oven gas	Steam and hot water
From -50 to +250	PTFE	High chemical resistance, suitable for nearly any media in the pH range 0 – 14	
From +250 to +400	Stainless steel	High chemical and heat resistance (only control valves)	Valve is not possible to use as a close valve

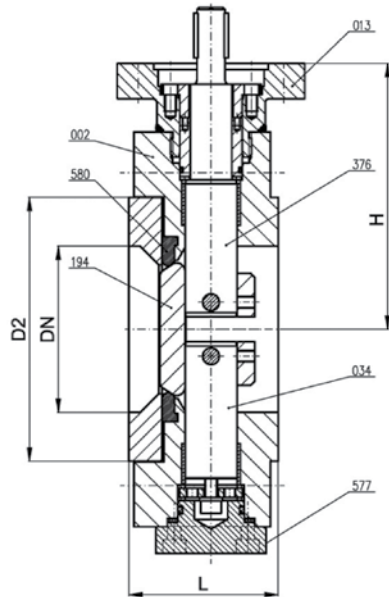


DATA SHEET K06

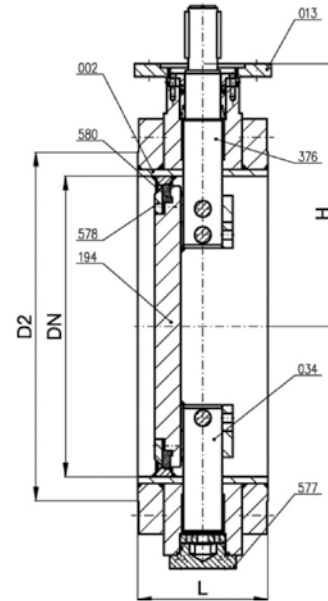
Materials of main parts / Dimensions according to EN

Wafer type, DN 50 – 1000, PN 6 – 25

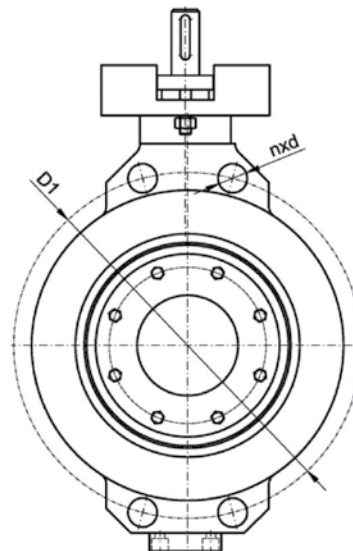
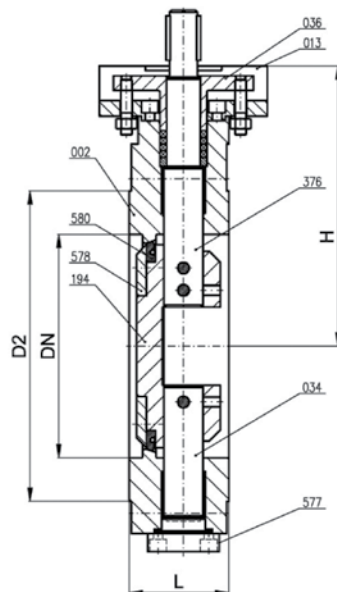
DN 50 – 125



DN 700 – 1000



DN 150 – 600



DATA SHEET KO6

Materials of main parts

Pos.	Name	Material	
		Carbon steel	Stainless steel
002	Body	P265GH P355NH P355NL1, NL2	X6CrNiTi18-10 X2CrNiMo17-12-2
194	Disc		
576	Intermediate carrier		
013	Glang flange		
036	Glang bushing		
577	Cover		
580	Sealing	Stainless steel + sealing PTFE, EPDM, NBR, FKM	
376	Shaft	376 Shaft X20Cr13	X6CrNiTi18-10

Dimensions according to EN

PN	DN	D ₁ mm	D ₂ mm	H mm	L mm	n	d mm	m kg
6	50	110	90	117	43	4	14	5
	65	130	110	135	46	4	14	8
	80	150	128	152	64	4	14	11
	100	170	148	170	64	4	18	13
	125	200	178	205	70	8	18	18
	150	225	202	220	76	8	18	21
	200	280	258	251	89	8	18	34
	250	335	312	281	114	12	18	48
	300	395	365	315	114	12	22	63
	350	445	415	363	127	12	22	88
	400	495	465	407	140	16	22	120
	450	550	520	456	152	16	22	149
	500	600	570	529	152	20	22	194
	600	705	670	534	178	20	26	362
10	700	810	775	607	229	24	26	466
	800	920	880	807	241	24	30	635
	900	1020	980	850	241	24	30	749
	1000	1120	1080	922	300	28	30	893
	50	125	102	117	43	4	18	5
	65	145	122	135	46	8	18	8
	80	160	138	152	64	8	18	11
	100	180	158	170	64	8	18	13
	125	210	188	205	70	8	18	19
	150	240	212	220	76	8	22	22
	200	295	268	251	89	8	22	35
	250	350	320	281	114	12	22	51
	300	400	370	315	114	12	22	65
	350	460	430	363	127	16	22	96
	400	515	482	407	140	16	26	136
	450	565	532	456	152	20	26	158
	500	620	585	529	152	20	26	209
	600	725	685	534	178	20	30	367
700	840	800	607	229	24	30	472	
800	950	905	807	241	24	33	637	
900	1050	1005	850	241	28	33	773	
1000	1160	1110	922	300	28	36	925	

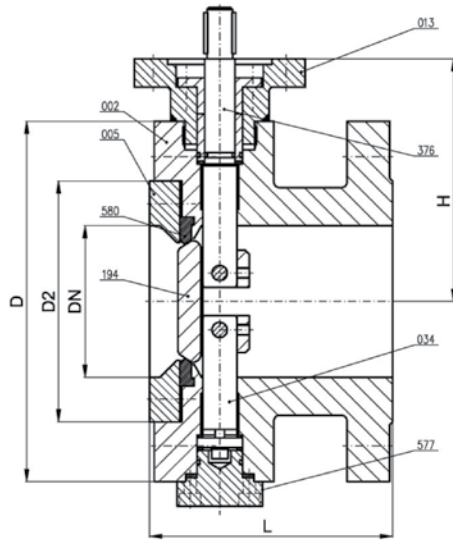
DATA SHEET K06

PN	DN	D ₁ mm	D ₂ mm	H mm	l mm	n	d mm	m kg
16	50	125	102	117	43	4	18	5
	65	146	122	135	46	8	18	8
	80	160	138	152	64	8	18	11
	100	180	158	170	64	8	18	13
	125	210	188	205	70	8	18	19
	150	240	212	220	76	8	22	22
	200	295	268	251	89	12	22	35
	250	355	320	281	114	12	26	51
	300	410	378	315	114	12	26	68
	350	470	438	363	127	16	26	100
	400	525	490	407	140	16	30	141
	450	585	550	456	152	20	30	179
	500	650	610	529	152	20	33	238
	600	770	725	534	178	20	36	398
	700	840	795	607	229	24	36	489
	800	950	900	807	241	24	39	641
900	1050	1000	850	241	28	39	796	
1000	1170	1115	922	300	28	42	949	
25	50	125	102	117	43	4	18	5
	65	146	122	135	46	8	18	8
	80	160	138	152	64	8	18	11
	100	190	162	170	64	8	22	13
	125	220	188	205	70	8	26	19
	150	250	218	220	76	8	26	23
	200	310	278	251	89	12	26	37
	250	370	335	281	114	12	30	56
	300	430	395	315	114	16	30	75
	350	490	450	363	127	16	33	108
	400	550	505	407	140	16	36	154
	450	600	555	456	152	20	36	200
	500	660	615	529	152	20	36	259
	600	770	720	534	178	20	39	396
	700	875	820	607	229	24	42	495
	800	930	930	807	241	24	48	670
900	1090	1030	850	241	28	48	824	
1000	1210	1140	922	300	28	56	964	

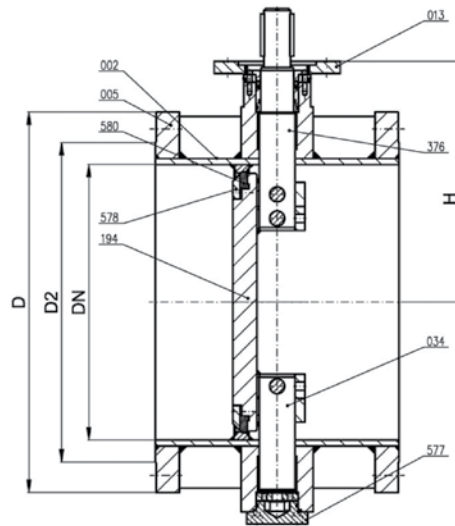
DATA SHEET K06

Butt-welded type, DN 100 – 1800, PN 6 – 25

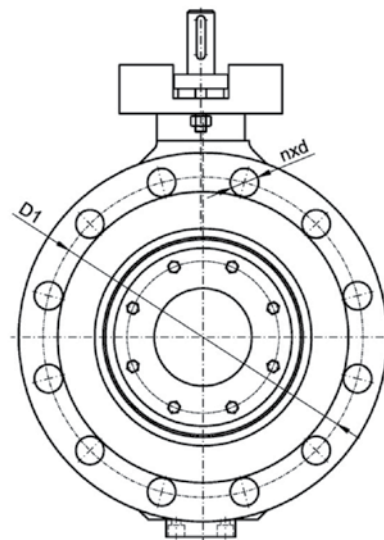
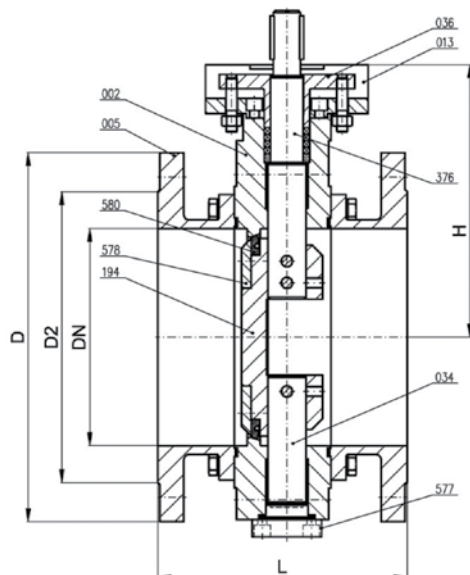
DN 100 – 125



DN 700 – 1800



DN 150 – 600



DATA SHEET KO6

Materials of main parts

Pos.	Name	Material			
		Carbon steel	Stainless steel		
002	Body	P265GH P355NH P355NL1, NL2	X6CrNiTi18-10 X2CrNiMo17-12-2		
005	Flange / butt-welded ends				
577	Cover				
036	Gland bushing				
013	Flange				
194	Disc				
578	Pressure ring				
580	Sealing			Stainless steel + sealing PTFE, EPDM, NBR, FKM	
376	Shaft			X20Cr13	X6CrNiTi18-10
034	Pin				

Dimensions according to EN

PN	DN	D	D ₁	D ₂	H	L	n	d	m
		mm	mm	mm	mm	mm		mm	kg
6	100	200	170	148	170	190	4	18	23
	125	240	200	178	205	200	8	18	30
	150	265	225	202	220	210	8	18	35
	200	320	280	258	251	230	8	18	55
	250	375	375	312	281	250	12	18	75
	300	440	395	365	315	270	12	22	104
	350	490	445	415	363	290	12	22	139
	400	540	495	465	407	310	16	22	182
	450	595	550	520	456	330	16	22	182
	500	645	600	570	529	350	20	22	253
	600	755	705	670	534	390	20	26	353
	700	860	810	775	607	430	24	26	498
	800	975	920	880	607	471	24	30	627
	900	1075	1020	980	850	510	24	30	723
	1000	1175	1120	1080	922	550	28	30	1056
10	100	220	180	158	170	190	8	18	23
	125	250	210	188	205	200	8	18	34
	150	285	240	212	220	210	8	22	40
	200	340	295	268	251	230	8	22	62
	250	395	350	320	281	250	12	22	82
	300	445	400	370	315	270	12	22	113
	350	505	460	430	363	290	16	22	150
	400	565	515	482	407	310	16	26	198
	450	615	565	532	456	330	20	26	193
	500	670	620	585	529	350	20	26	268
	600	780	725	685	534	390	20	30	367
	700	895	840	800	607	430	24	30	522
	800	1015	950	905	807	470	24	33	694
	900	1115	1050	1005	850	510	28	33	892
	1000	1230	1160	1110	922	550	28	36	1172
1200	1455	1380	1330	1007	630	32	39	1518	
1400	1675	1590	1535	1122	710	36	42	1779	
1600	1915	1820	1760	1220	790	40	48	2503	
1800	2115	2020	1960	1450	870	44	48	4750	



DATA SHEET K06

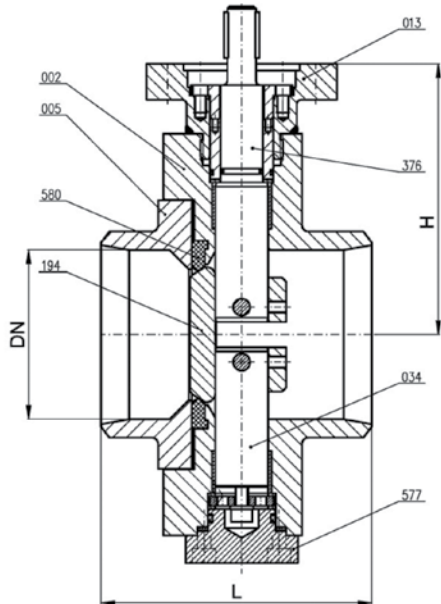
PN	DN	D mm	D ₁ mm	D ₂ mm	H mm	L mm	n	d mm	m kg
16	100	220	180	158	170	190	8	18	25
	125	250	210	188	205	200	8	18	37
	150	285	240	212	220	210	8	22	40
	200	340	295	268	251	230	12	22	61
	250	405	355	320	281	250	12	26	84
	300	460	410	378	315	270	12	26	119
	350	520	470	438	363	290	16	26	160
	400	580	525	490	407	310	16	30	217
	450	640	585	550	456	330	20	30	231
	500	715	650	610	529	350	20	33	391
	600	840	770	725	534	390	20	36	610
	700	910	840	795	607	430	24	36	695
	800	1025	950	900	807	470	24	39	720
	900	1125	1050	1000	850	510	28	39	994
	1000	1255	1170	1115	922	550	28	42	1229
	1200	1485	1390	1330	1007	630	32	48	1605
1400	1685	1590	1530	1122	710	36	48	1892	
1600	1930	1820	1750	1220	790	40	56	2937	
1800	2130	2020	1950	1450	870	44	56	5550	
25	100	235	190	162	170	190	8	22	27
	125	270	220	188	205	200	8	26	38
	150	300	250	218	220	210	8	26	47
	200	360	310	278	251	230	12	26	73
	250	425	370	335	281	250	12	30	98
	300	485	430	395	315	270	16	30	137
	350	555	490	450	363	290	16	33	192
	400	620	550	550	407	310	16	36	261
	450	670	600	555	456	330	20	36	275
	500	730	660	615	529	350	20	36	377
	600	845	770	720	534	390	20	39	508
	700	960	875	820	607	430	24	42	643
	800	1085	930	930	807	470	24	48	847
	900	1185	1090	1030	850	510	28	48	1114
	1000	1320	1210	1140	922	550	28	56	1379
	1200	1530	1420	1350	1032	630	32	56	2375
1400	1755	1640	1560	1200	710	36	62	2676	
1600	1975	1860	1780	1300	790	40	62	3810	
1800	2195	2070	1985	1450	870	44	70	6860	

Note: Parametr „D“ according to dimension of pipeline

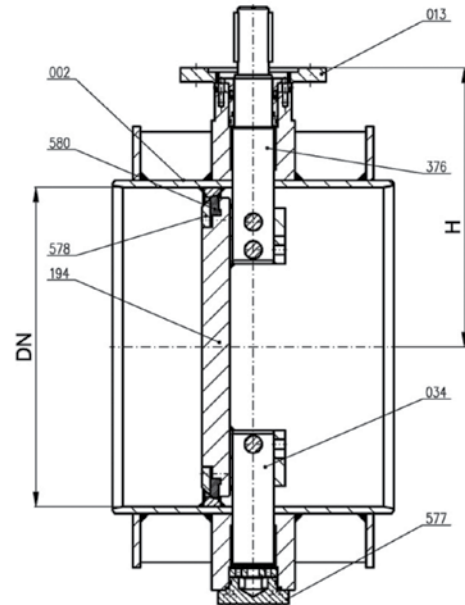
DATA SHEET K06

Butt-welded type, DN 100 – 1800, PN 6 – 25

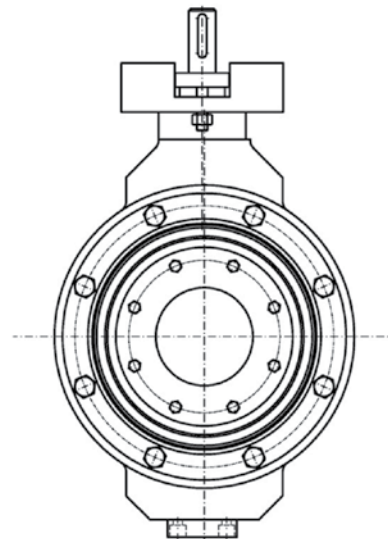
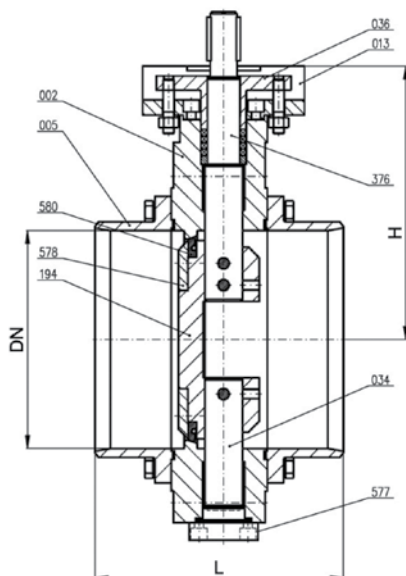
DN 100 - 125



DN 700 – 1800



DN 150 – 600



DATA SHEET KO6

Materials of main parts

Pos.	Name	Material	
		Carbon steel	Stainless steel
002	Body	P265GH P355NH P355NL1, NL2	X6CrNiTi18-10 X2CrNiMo17-12-2
005	Flange / butt-welded ends		
577	Cover		
036	Gland bushing		
013	Flange		
194	Disc		
578	Pressure ring		
580	Sealing	Stainless steel + sealing PTFE, EPDM, NBR, FKM	
376	Shaft	X20Cr13	X6CrNiTi18-10
034	Pin		

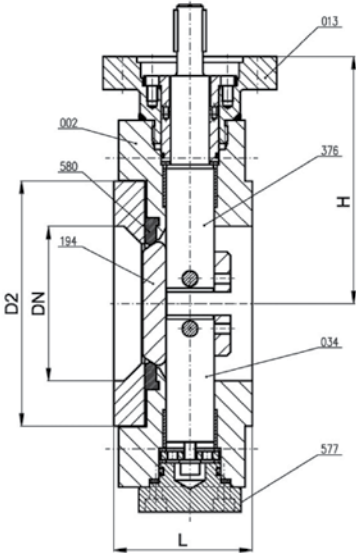
Dimensions according to EN

PN	DN	H mm	L mm	m kg	PN	DN	H mm	L mm	m kg
6	100	170	190	17	10	100	170	190	17
	125	205	200	22		125	205	200	22
	150	220	210	25		150	220	210	25
	200	251	230	41		200	251	230	41
	250	281	250	55		250	281	250	54
	300	315	270	78		300	315	270	81
	350	363	290	109		350	363	290	110
	400	407	310	149		400	407	310	151
	450	456	330	177		450	456	330	177
	500	529	350	195		500	529	350	195
	600	534	390	266		600	534	390	273
	700	607	430	369		700	607	430	369
	800	807	471	510		800	807	470	510
	900	850	510	663		900	850	510	663
	1000	922	550	910		1000	922	550	940
	1200	1007	630	1169		1200	1007	630	1150
1400	1122	710	1412	1400	1122	710	1490		
1600	1220	790	1752	1600	1220	790	1928		
1800	1450	870	2156	1800	1450	870	2410		
16	100	170	190	17	25	100	170	190	17
	125	205	200	25		125	205	200	25
	150	220	210	26		150	220	210	29
	200	251	230	41		200	251	230	43
	250	281	250	54		250	281	250	56
	300	315	270	80		300	315	270	83
	350	363	290	110		350	363	290	114
	400	407	310	153		400	407	310	161
	450	456	330	138		450	456	330	150
	500	529	350	200		500	529	350	219
	600	534	390	280		600	534	390	280
	700	607	430	382		700	607	430	382
	800	807	470	514		800	807	470	563
	900	850	510	668		900	850	510	731
	1000	922	550	940		1000	922	550	950
	1200	1007	630	1150		1200	1032	630	1420
1400	1122	710	1382	1400	1200	710	1757		
1600	1220	790	2194	1600	1300	790	2582		
1800	1450	870	2742	1800	1450	870	3228		

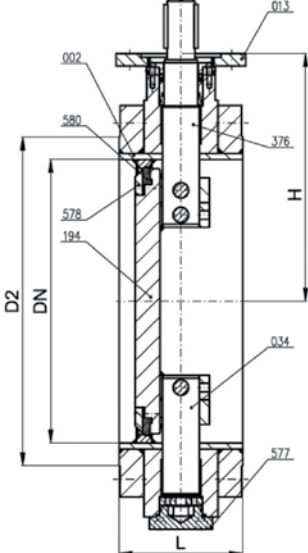
DATA SHEET K06

LUG Type, DN 50 – 1000, PN 6 – 25

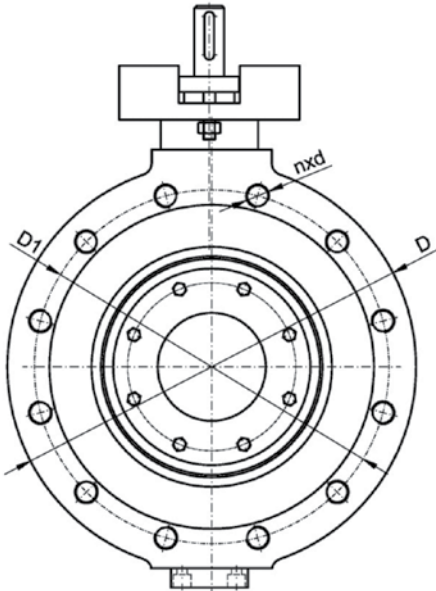
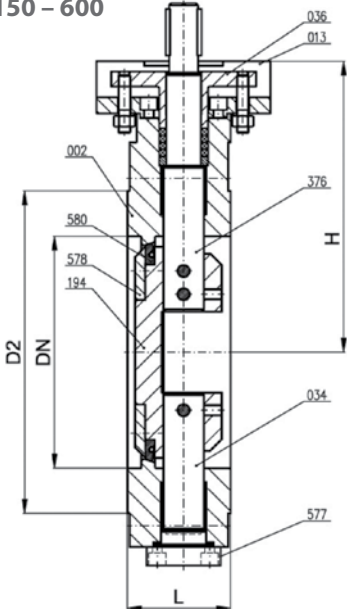
DN 50 - 125



DN 700 – 1000



DN 150 – 600



DATA SHEET KO6

Materials of main parts

Pos.	Name	Material	
		Carbon steel	Stainless steel
002	Body	P265GH P355NH P355NL1, NL2	X6CrNiTi18-10 X2CrNiMo17-12-2
194	Disc		
578	Pressure ring		
013	Flange		
036	Gland bushing		
577	Cover	Stainless steel + sealing PTFE, EPDM, NBR, FKM	
580	Sealing		
376	Shaft		
034	Pin	X20Cr13	X6CrNiTi18-10

Dimensions according to EN

PN	DN	D ₁ mm	D ₂ mm	D mm	H mm	L mm	n	d	m kg
6	50	110	90	140	117	43	4	M12	9
	65	130	110	160	135	46	4	M12	14
	80	150	128	190	152	64	4	M12	19
	100	170	148	210	170	64	4	M16	22
	125	200	178	240	205	70	8	M16	31
	150	225	202	265	220	76	8	M16	36
	200	280	258	320	251	89	8	M16	58
	250	335	312	375	281	114	12	M16	82
	300	395	365	440	315	114	12	M20	107
	350	445	415	490	363	127	12	M20	150
	400	495	465	540	407	140	16	M20	204
	450	550	520	595	456	152	16	M20	253
	500	600	570	645	529	152	20	M20	291
	600	705	670	755	534	178	20	M24	543
	700	810	775	860	607	229	24	M24	699
800	920	880	975	807	241	24	M27	953	
900	1020	980	1075	850	241	24	M27	1123	
1000	1120	1080	1175	922	300	28	M27	1340	
10	50	125	102	165	117	43	4	M16	9
	65	145	122	185	135	46	8	M16	14
	80	160	138	200	152	64	8	M16	19
	100	180	158	220	170	64	8	M16	22
	125	210	188	250	205	70	8	M16	29
	150	240	212	285	220	76	8	M20	38
	200	295	268	340	251	89	8	M20	60
	250	350	320	395	281	114	12	M20	87
	300	400	370	445	315	114	12	M20	111
	350	460	430	505	363	127	16	M20	163
	400	515	482	565	407	140	16	M24	231
	450	565	532	615	456	152	20	M24	269
	500	620	585	670	529	152	20	M24	314
	600	725	685	780	534	178	20	M27	551
	700	840	800	895	607	229	24	M27	708
800	950	905	1015	807	241	24	M30	956	
900	1050	1005	1115	850	241	28	M30	1160	
1000	1160	1110	1230	922	300	28	M33	1388	

DATA SHEET K06

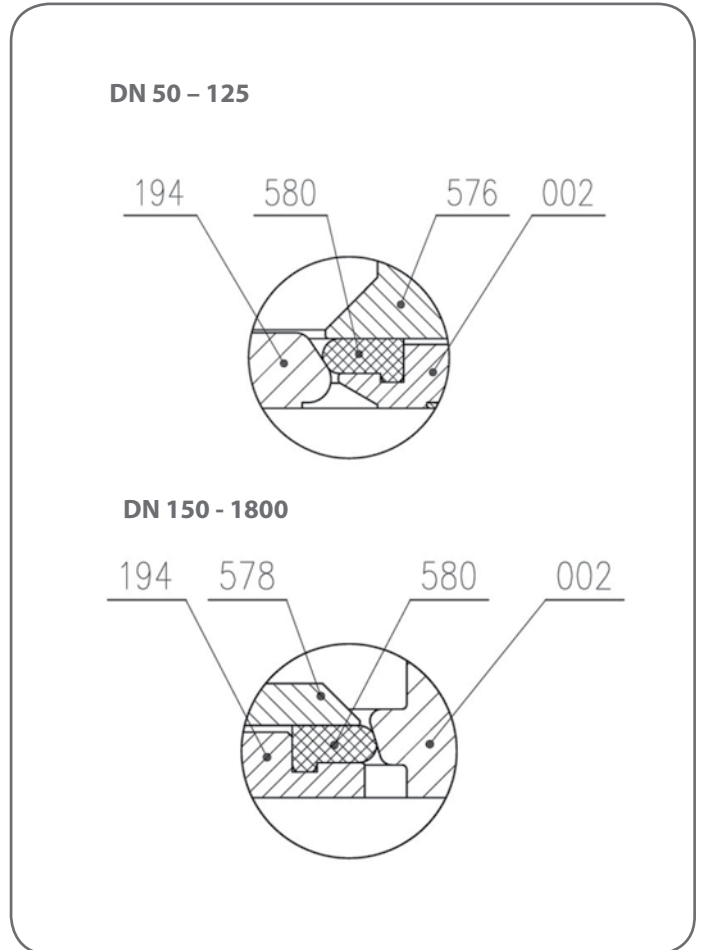
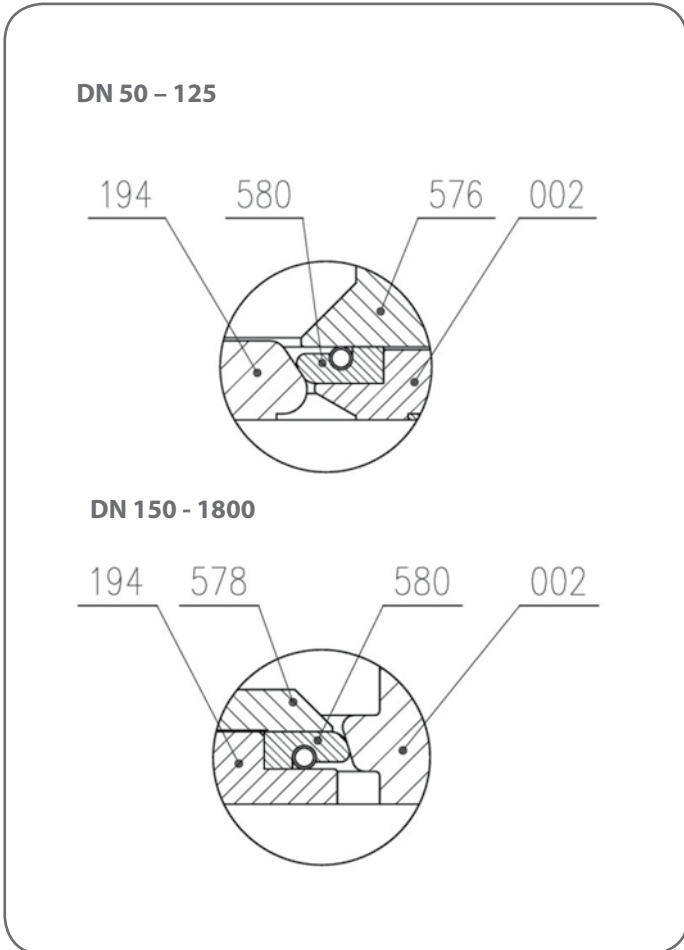
PN	DN	D ₁ mm	D ₂ mm	D mm	H mm	L mm	n	d	d m kg
16	50	125	102	165	117	43	4	M16	9
	65	146	122	185	135	46	8	M16	14
	80	160	138	200	152	64	8	M16	17
	100	180	158	220	170	64	8	M16	22
	125	210	188	250	205	70	8	M16	33
	150	240	212	285	220	76	8	M20	37
	200	295	268	340	251	89	12	M20	60
	250	355	320	405	281	114	12	M24	87
	300	410	378	460	315	114	12	M24	115
	350	470	438	520	363	127	16	M24	158
	400	525	490	580	407	140	16	M27	231
	450	585	550	640	456	152	20	M27	304
	500	650	610	715	529	152	20	M30	357
	600	770	725	840	534	178	20	M33	597
	700	840	795	910	607	229	24	M33	734
800	950	900	1025	807	241	24	M36y3	1090	
900	1050	1000	1125	850	241	28	M36x3	1195	
1000	1170	1115	1255	922	300	28	M39x3	1424	
25	50	125	102	165	117	43	4	M16	9
	65	146	122	185	135	46	8	M16	14
	80	160	138	200	152	64	8	M16	19
	100	190	162	235	170	64	8	M20	22
	125	220	188	270	205	70	8	M24	29
	150	250	218	300	220	76	8	M24	39
	200	310	278	360	251	89	12	M24	63
	250	370	335	425	281	114	12	M27	95
	300	430	395	485	315	114	16	M27	128
	350	490	450	555	363	127	16	M30	184
	400	550	505	620	407	140	16	M33	262
	450	600	555	670	456	152	20	M33	340
	500	660	615	730	529	152	20	M33	389
	600	770	720	845	534	178	20	M36x3	657
	700	875	820	960	607	229	24	M39x3	743
800	930	930	1085	807	241	24	M45x3	1005	
900	1090	1030	1185	850	241	28	M45x3	1236	
1000	1210	1140	1320	922	300	28	M52x3	1446	

DATA SHEET K06

Sealing of the disc

Teflon sealing ring
(PTFE)

Rubber sealing ring
(EPDM, NBR, FKM-VITON)

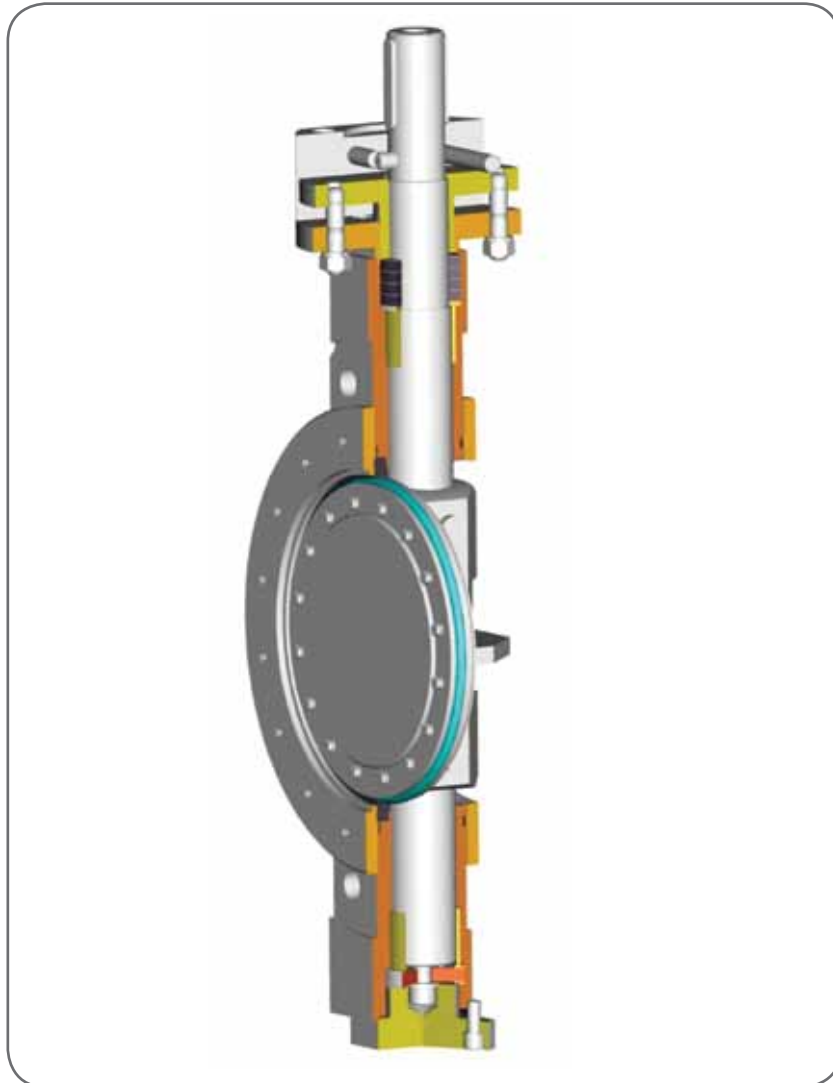


Pos.	Name	Material	
		Carbon steel	Stainless steel
002	Body	x	x
194	Disc	x	x
576	Intermediate carrier	x	x
578	Pressure ring	x	x
580	Sealing ring	Stainless steel + PTFE	

Pos.	Name	Material	
		Carbon steel	Stainless steel
002	Body	x	x
194	Disc	x	x
576	Intermediate carrier	x	x
578	Pressure ring	x	x
580	Sealing ring	EPDM, NBR, FKM -VITON	



DN 100 - 1200
PN 6 - 40



Shut-off Butterfly Valve with Double Eccentricity

Wafer, Flanged, Butt-Welded



DATA SHEET K16

Application

- Industrial valves designed for entire closing or opening of the medium flow; they also can be used to regulate the medium flow
- Guaranteed sealing A in both directions at nominal working pressure:

Valves DN 100 - 300, PN 6- 25 (40)

Valves DN 350 - 1200, PN 6 - 25

• Fluids

Water (sewage, supply water, drinking water), steam, oils, natural gas, coke oven gas and other non-aggressive liquids and gases

• Industry

Water industry, chemical and petrochemical industry, sugar industry, pulp and paper industry, nuclear power, geothermal resources, tankers

Technical description

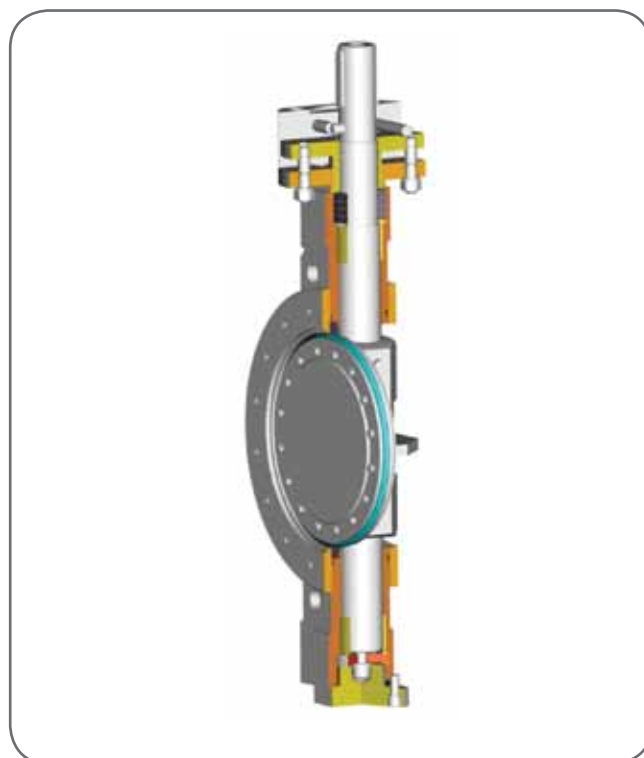
- Designed with double eccentricity
- Full bore
- The axis of the control shaft is outside the sealing – seat axis; this solution enables an adequate sealing of the whole disc
- Disc closure is eccentrically inserted to the body and attached on the control shaft and the pin, inserted rotatably in the self-lubricating sliding bearings
- Shaft is sealed with the gland
- Material of sealing metal - metal (metal - PTEE)
- Building length according to ČSN EN 558, line 16 – WAFER type
- Building length according to ČSN EN 558, line 14 (DIN 3202-1, line F4) – flange type
- Actuator mounting in accordance with ISO 5211
- Inner spaces can be provided by protection layers (RILSAN, HALAR,...)
- Marking according to EN standards

Connection ends

- WAFER type: PN 6 - 40
- Flanged type: PN 6 - 25 (40)
- Butt-welded type: PN 6 - 25 (40)
- LUG type PN 6 - 40

Installation

- Shut - off valves are installed on horizontal, vertical and oblique pipes so that the arrow on the body goes along with the direction of the medium flow
- The axis of the valve disc rotation can be both in the horizontal and vertical position



Testing

- Valves are tested according to ČSN EN 12266-1

Operation

- Manual gear
- Level gear
- Electric actuator
- Pneumatic actuator

Advantages

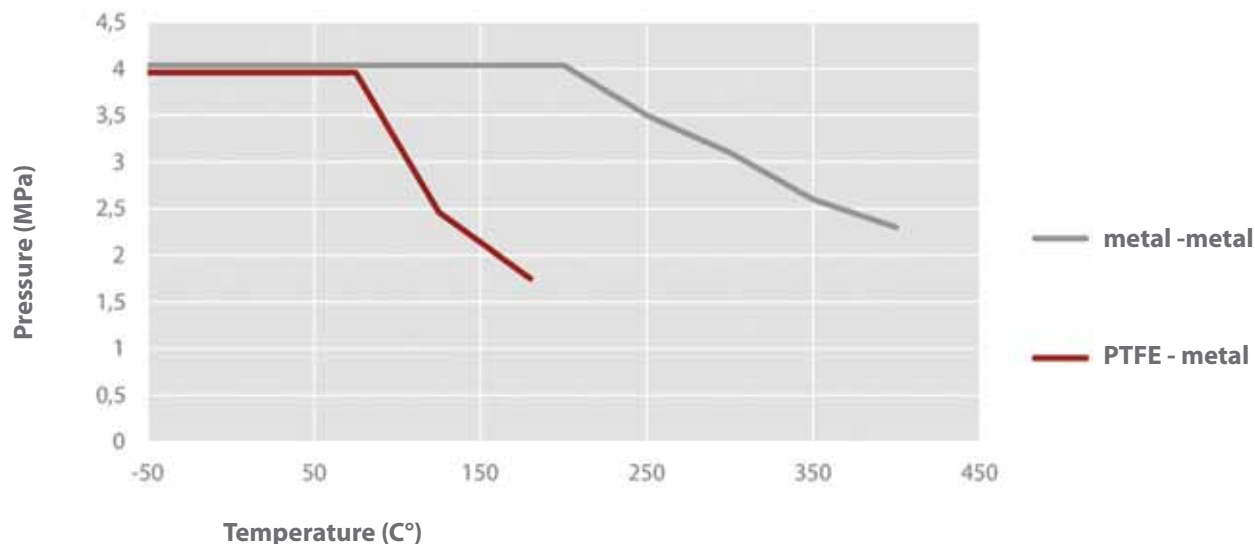
- Guaranteed sealing in both directions at nominal working pressure on request
- Possibility to use the valve for rough regulation, material of sealing metal - metal, guaranteed sealing A according to EN 12266-1
- Possibility of dismantling the butt - welded body from pipeline without burning of the weld
- Simple adaptation of the flange size for actuator mounting according to customer request
- Possibility of adjustments of the flange type building length according to customer requests
- Connection for the following pressure ranges: PN 6, 10, 16, 25, 40 (on request other types of connection can be used)



DATA SHEET K16

Operating data

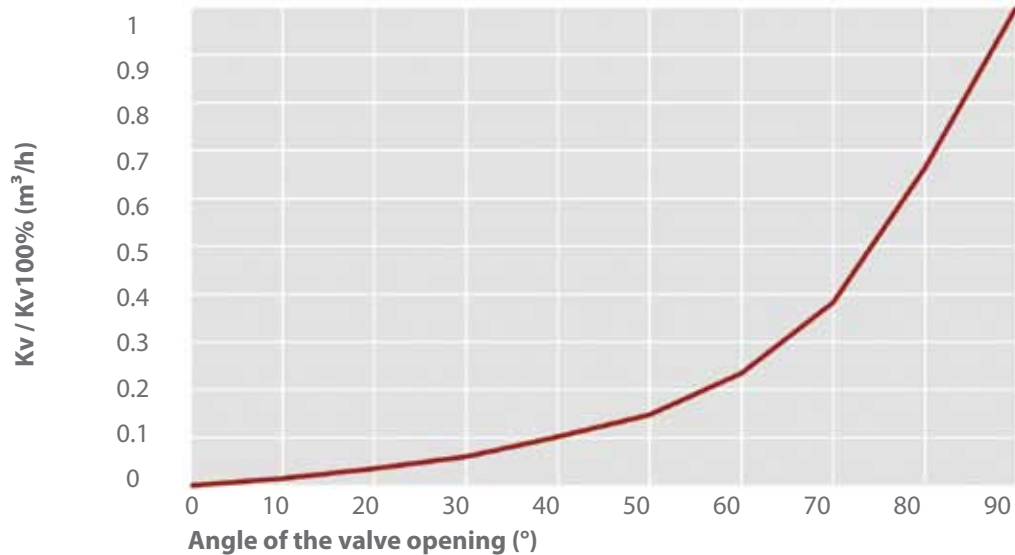
Graph: Dependence of pressure and temperature



Material of body	PN	Working pressure MPa / Working temperature °C										
		-50	-30	-20	20	100	150	200	250	300	350	400
P265GH	6	-	-	-	0,6	0,6	0,6	0,6	0,53	0,46	0,4	0,34
	10	-	-	-	1,0	1,0	1,0	1,0	0,88	0,77	0,66	0,57
	16	-	-	-	1,6	1,6	1,6	1,6	1,41	1,23	1,06	0,91
	25	-	-	-	2,5	2,5	2,5	2,5	2,2	1,93	1,65	1,43
	40	-	-	-	4,0	4,0	4,0	4,0	3,52	3,08	2,64	2,28
P355NL1 (W.Nr.1.0566) (W.Nr.1.1106)	6	0,6	0,6	0,6	0,6	0,6	0,6	0,6	0,6	0,6	0,55	0,44
	10	1,0	1,0	1,0	1,0	1,0	1,0	1,0	1,0	1,0	0,91	0,74
	16	1,6	1,6	1,6	1,6	1,6	1,6	1,6	1,6	1,6	1,46	1,18
	25	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,28	1,85
	40	4,0	4,0	4,0	4,0	4,0	4,0	4,0	4,0	4,0	3,64	2,96
X2CrNiMo17-12-2	6	0,6	0,6	0,6	0,6	0,6	0,55	0,5	0,47	0,44	0,42	0,41
	10	1,0	1,0	1,0	1,0	1,0	0,92	0,84	0,78	0,74	0,7	0,69
	16	1,6	1,6	1,6	1,6	1,6	1,47	1,34	1,25	1,18	1,12	1,1
	25	2,5	2,5	2,5	2,5	2,5	2,3	2,1	1,95	1,85	1,75	1,73
	40	4,0	4,0	4,0	4,0	4,0	3,68	3,36	3,12	2,96	2,8	2,76
X6CrNiTi18-10 (W. Nr.1.4541)	6	0,6	0,6	0,6	0,6	0,6	0,58	0,55	0,51	0,47	0,45	0,43
	10	1,0	1,0	1,0	1,0	1,0	0,97	0,91	0,85	0,79	0,75	0,72
	16	1,6	1,6	1,6	1,6	1,6	1,55	1,46	1,36	1,26	1,2	1,15
	25	2,5	2,5	2,5	2,5	2,5	2,43	2,28	2,13	1,98	1,88	1,8
	40	4,0	4,0	4,0	4,0	4,0	3,88	3,64	3,4	3,16	3,0	2,88

DATA SHEET K16

Characteristic of flow



Working temperature
°C

From -50 to +180
From +250 to +400

Material of sealing

PTFE
Stainless steel

Operating parameters

Proper application

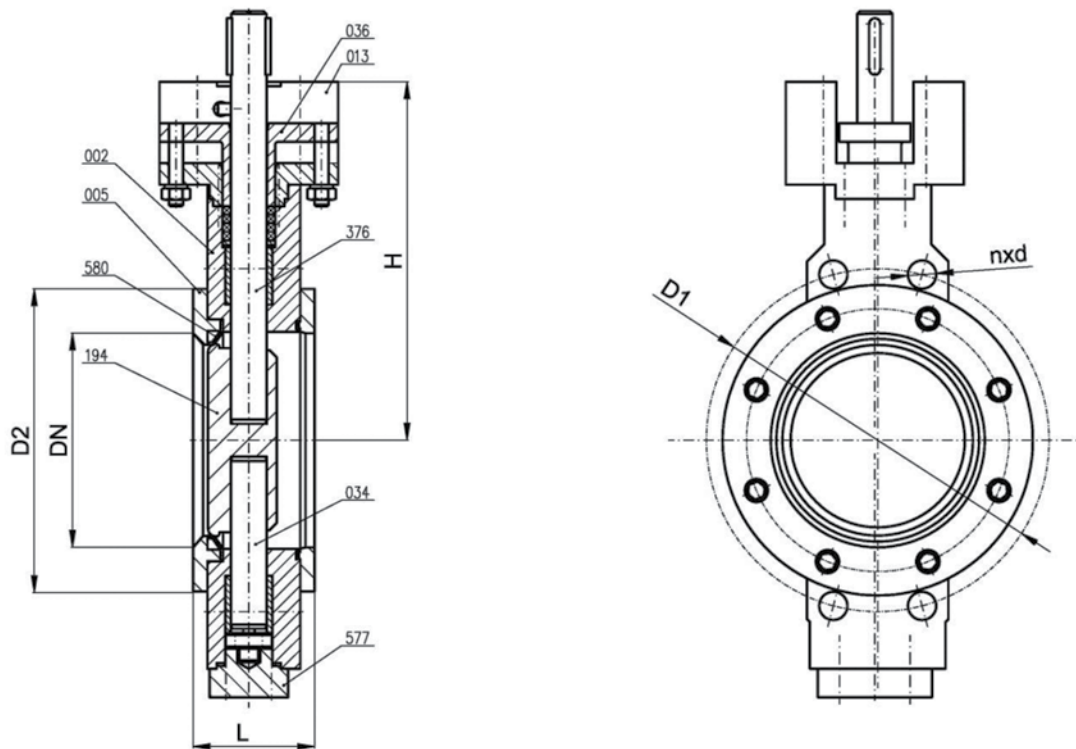
High chemical resistance, suitable for nearly any media in the pH range 0 - 14
High chemical and heat resistance



DATA SHEET K16

Materials of main parts / Dimensions according to EN

WAFER type, DN 100 - 600, PN 6 - 40



Materials of main parts

Pos.	Name	Material	
		Carbon steel	Stainless steel
002	Body	P265GH P355NL1, NL2	X6CrNiTi18-10 X2CrNiMo17-12-2
005	Flange		
036	Gland bushing		
013	Gland flange		
577	Cover		
194	Disc	X6CrNiTi18-10, X2CrNiMo17-12-2	
376	Shaft	X20Cr13	X6CrNiTi18-10
580	Sealing - seat	PTFE, INCONEL, stainless steel	



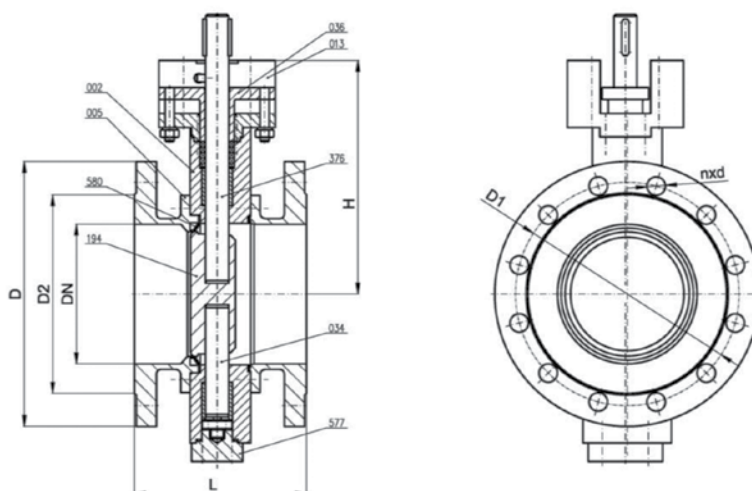
DATA SHEET K16

Dimensions according to EN

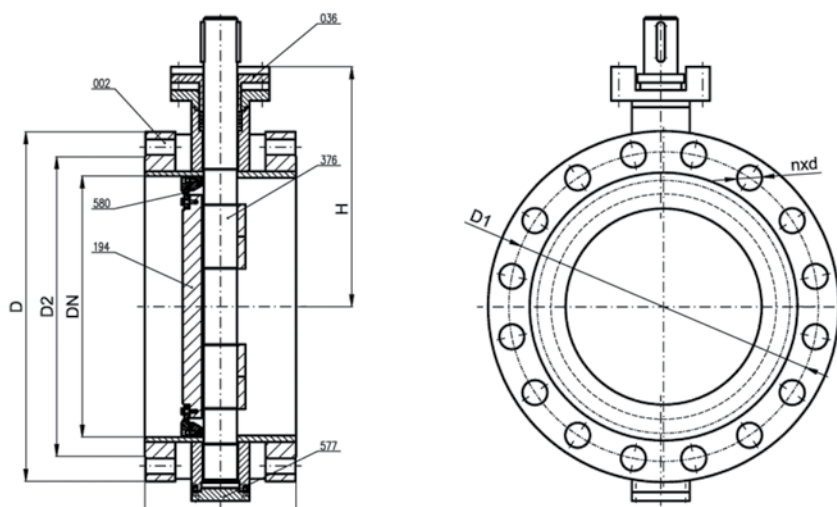
PN	DN	L mm	D ₁ mm	D ₂ mm	nxd	H mm	m kg
6	100	64	170	148	4x18	170	13
	125	70	200	178	8x18	205	18
	150	76	225	202	8x18	220	21
	200	89	280	258	8x18	251	34
	250	114	335	312	12x18	281	48
	300	114	395	365	12x22	315	63
	350	127	445	415	12x22	363	88
	400	140	495	465	16x22	407	120
	500	152	600	570	20x22	529	194
10	600	178	705	670	20x26	534	362
	100	64	180	158	8x18	170	13
	125	70	210	188	8x18	205	19
	150	76	240	212	8x22	220	22
	200	89	295	268	8x22	251	35
	250	114	350	320	12x22	281	51
	300	114	400	370	12x22	315	65
	350	127	460	430	16x22	363	96
	400	140	515	482	16x26	407	136
16	500	152	620	585	20x26	529	209
	600	178	725	685	20x30	534	367
	100	64	180	158	8x18	170	13
	125	70	210	188	8x18	205	19
	150	76	240	212	8x22	220	22
	200	89	295	268	12x22	251	35
	250	114	355	320	12x26	281	51
	300	114	410	378	12x26	315	68
	350	127	470	438	16x26	363	100
25	400	140	525	490	16x30	407	141
	500	152	650	610	20x33	529	238
	600	178	770	725	20x36	534	398
	100	64	190	162	8x22	170	13
	125	70	220	188	8x26	205	19
	150	76	250	218	8x26	220	23
	200	89	310	278	12x26	251	37
	250	114	370	335	12x30	281	56
	300	114	430	395	16x30	315	75
40	350	127	490	450	16x33	363	108
	400	140	550	505	16x36	407	154
	500	152	660	615	20x36	529	259
	600	178	770	720	20x39	534	438
	100	64	190	162	8x22	220	15
	125	70	220	188	8x26	255	22
	150	76	250	218	8x26	270	26
	200	89	320	285	12x30	300	43
	250	114	385	345	12x33	311	64
300	114	450	410	16x33	365	86	

DATA SHEET K16

WAFER type, DN 100 - 600, PN 6 - 25 (40)



WAFER type, DN 700 - 1200, PN 6 - 25



Materials of main parts

Pos.	Name	Material	
		Carbon steel	Stainless steel
002	Body		
005	Flange / butt-welded ends		
036	Gland bushing	P265GH	X6CrNiTi18-10
013	Gland flange	P355NL1, NI2	X2CrNiMo17-12-2
577	Cover		
194	Disc	X6CrNiTi18-10, X2CrNiMo17-12-2	
376	Shaft	X20Cr13	X6CrNiTi18-10
580	Sealing - seat	PTFE, INCONEL, stainless steel	



DATA SHEET K16

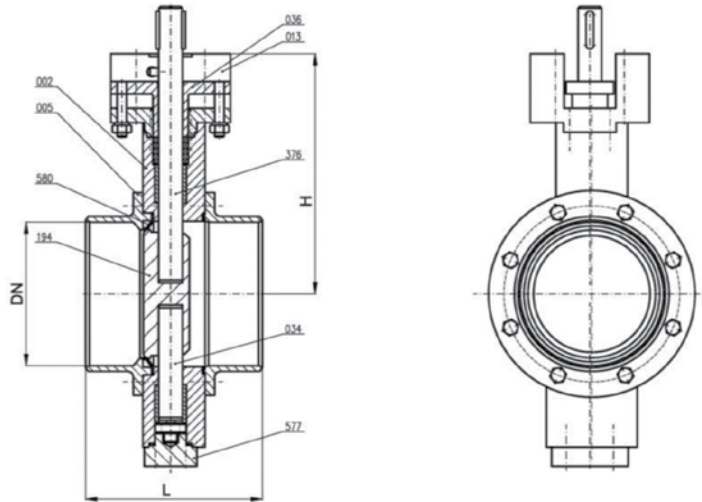
PN	DN	L mm	D mm	D ₁ mm	D ₂ mm	nxd	H mm	m kg
6	100	190	200	170	148	4x18	170	23
	125	200	240	200	178	8x18	205	30
	150	210	265	225	202	8x18	220	35
	200	230	320	280	258	8x18	251	55
	250	250	375	335	312	12x18	281	75
	300	270	440	395	365	12x22	315	104
	350	290	490	445	415	12x22	363	139
	400	310	540	495	465	16x22	407	182
	500	350	645	600	570	20x22	579	253
	600	390	755	705	670	20x26	584	353
	700	430	860	810	775	24x26	680	747
	800	470	975	920	880	24x30	900	941
	900	510	1075	1020	980	24x30	945	1085
	1000	550	1175	1120	1080	28x30	1030	1563
1200	630	1405	1340	1295	32x33	1150	2054	
10	100	190	220	180	158	8x18	170	23
	125	200	250	210	188	8x18	205	35
	150	210	285	240	212	8x18	220	40
	200	230	340	295	268	8x22	251	62
	250	250	395	350	320	12x22	281	82
	300	270	445	400	370	12x22	315	113
	350	290	505	460	430	16x22	363	150
	400	310	565	515	482	16x26	407	198
	500	350	670	620	585	20x26	529	268
	600	390	780	725	685	20x30	534	367
	700	430	895	840	800	24x30	680	783
	800	470	1015	950	905	24x33	900	1041
	900	510	1115	1050	1005	28x33	945	1338
	1000	550	1230	1160	1110	28x36	1030	1735
1200	630	1455	1380	1330	32x39	1150	2247	
16	100	190	220	180	158	8x18	170	25
	125	200	250	210	188	8x18	205	37
	150	210	285	240	212	8x22	220	40
	200	230	340	295	268	12x22	251	51
	250	250	405	355	320	12x26	281	84
	300	270	460	410	378	12x26	315	119
	350	290	520	470	438	16x26	363	160
	400	310	580	525	490	16x30	407	217
	500	350	715	650	610	20x33	529	294
	600	390	840	770	725	20x36	534	492
	700	430	910	840	795	24x36	680	1043
	800	470	1025	950	900	24x39	900	1230
	900	510	1125	1050	1000	28x39	945	1491
	1000	550	1255	1170	1115	28x42	1030	1819
1200	630	1485	1390	1330	32x48	1150	2375	

DATA SHEET K16

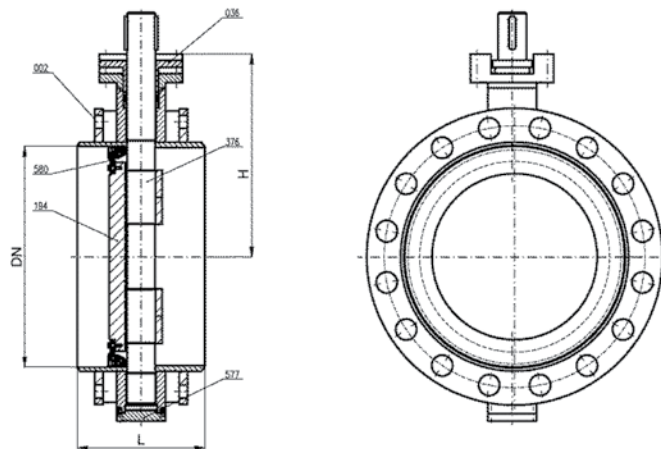
PN	DN	L mm	D mm	D ₁ mm	D ₂ mm	nxd	H mm	m kg
25	100	190	235	190	162	8x22	170	27
	125	200	270	220	188	8x26	205	38
	150	210	300	250	218	8x26	220	47
	200	230	360	310	278	12x26	251	73
	250	250	425	370	335	12x30	281	98
	300	270	485	430	395	16x30	315	137
	350	290	555	490	450	16x33	363	192
	400	310	620	550	505	16x36	407	261
	500	350	730	660	615	20x42	680	1102
	600	390	845	770	720	20x39	534	508
	700	430	960	875	820	24x42	680	1102
	800	470	1085	990	930	24x48	900	1280
	900	510	1185	1090	1030	28x48	945	1671
	1000	550	1320	1210	1140	28x56	1030	2040
1200	630	1530	1420	130	32x56	1150	3515	
40	100	190	235	190	162	8x22	170	35
	125	200	270	220	188	8x25	205	50
	150	210	300	250	218	8x26	220	61
	200	230	375	320	285	12x30	251	95
	250	250	450	385	345	12x33	281	128
	300	270	515	450	410	16x33	315	178

DATA SHEET K16

Butt - welded type, DN 100 - 600, PN 6 - 25 (40)



Butt - welded type, DN 700 - 1200, PN 6 - 25



Materials of main parts

Pos.	Name	Material	
		Carbon steel	Stainless steel
002	Body	P265GH P355NL1, NI2	X6CrNiTi18-10 X2CrNiMo17-12-2
005	Flange / butt-welded ends		
036	Gland bushing	X6CrNiTi18-10, X2CrNiMo17-12-2	X6CrNiTi18-10
013	Gland flange		
577	Cover	PTFE, INCONEL, stainless steel	
194	Disc		
376	Shaft		
580	Sealing - seat		

DATA SHEET K16

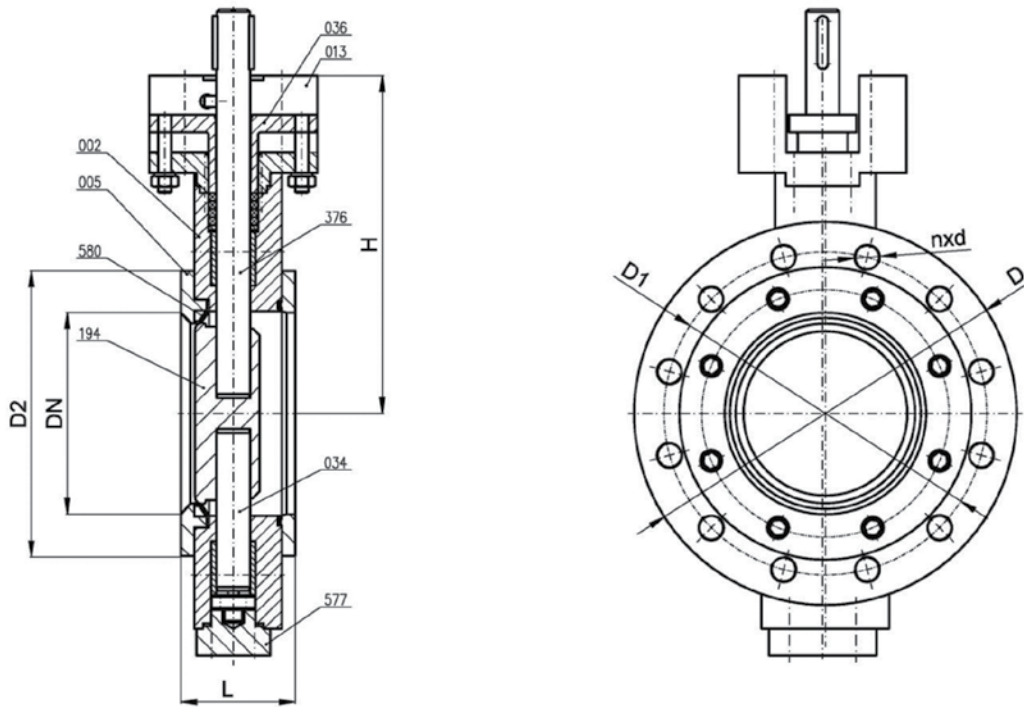
PN	DN	L mm	H mm	m kg
6	100	190	170	17
	125	200	205	22
	150	210	220	25
	200	230	251	41
	250	250	281	55
	300	270	315	78
	350	290	363	109
	400	310	407	149
	500	350	529	195
	600	390	534	266
	700	430	680	554
	800	470	900	765
	900	510	945	995
	1000	550	1030	1347
1200	630	1150	1702	
10	100	190	170	17
	125	200	205	22
	150	210	220	25
	200	230	251	41
	250	250	281	54
	300	270	315	81
	350	290	363	110
	400	310	407	151
	500	350	529	195
	600	390	534	273
	700	430	680	554
	800	470	900	765
	900	510	945	995
	1000	550	1030	1391
1200	630	1150	1702	
16	100	190	170	17
	125	200	205	25
	150	210	220	26
	200	230	251	41
	250	250	281	54
	300	270	315	81
	350	290	363	110
	400	310	407	153
	500	350	529	200
	600	390	534	280
	700	430	680	573
	800	470	900	771
	900	510	945	1002
	1000	550	1030	1391
1200	630	1150	1730	

DATA SHEET K16

PN	DN	L mm	H mm	m kg
25	100	190	170	17
	125	200	205	25
	150	210	220	29
	200	230	251	43
	250	250	281	56
	300	270	315	83
	350	290	363	114
	400	310	407	161
	500	350	529	219
	600	390	534	280
	700	430	680	573
	800	470	900	845
	900	510	945	1097
40	1000	550	1030	1406
	1200	630	1150	2102
	100	190	170	20
	125	200	205	29
	150	210	220	33
	200	230	251	49
	250	250	281	64
	300	270	315	96

DATA SHEET K16

LUG Type, DN 100 - 600, PN 6 - 40



Materials of main parts

Pos.	Name	Material	
		Carbon steel	Stainless steel
002	Body	P265GH P355NL1, NI2	X6CrNiTi18-10 X2CrNiMo17-12-2
005	Flange		
036	Gland bushing		
013	Gland flange		
194	Disc		
577	Cover		
578	Pressure ring		
376	Shaft	X20Cr13	X6XrNiTi18-10
556	Sealing	INCONEL, stainless steel	
580	Sealing - seat	PTFE, INCONEL, stainless steel	



DATA SHEET K16

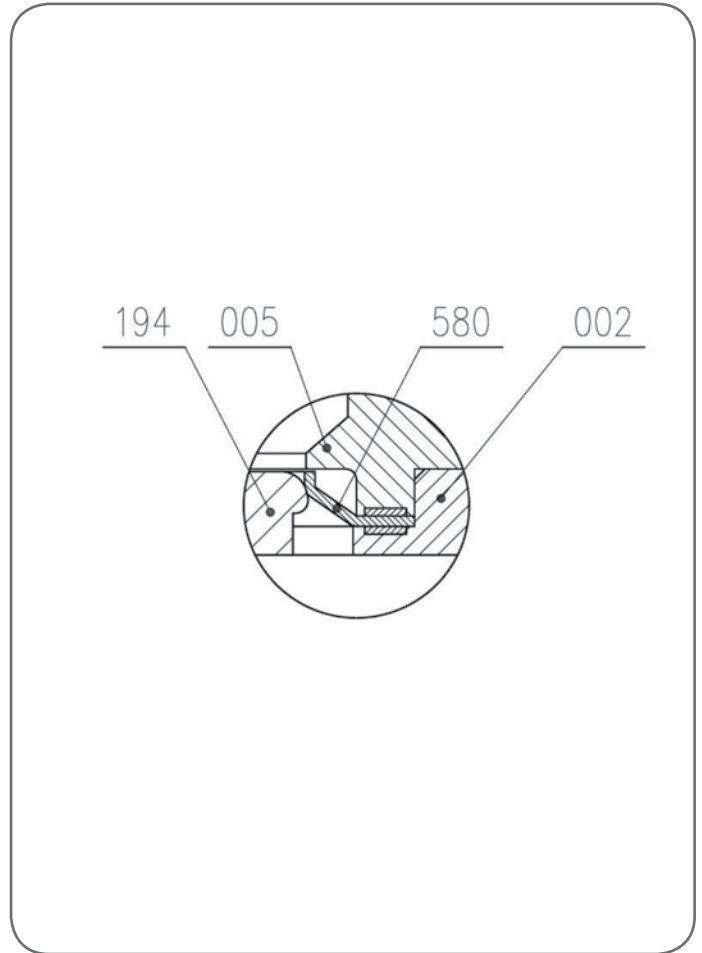
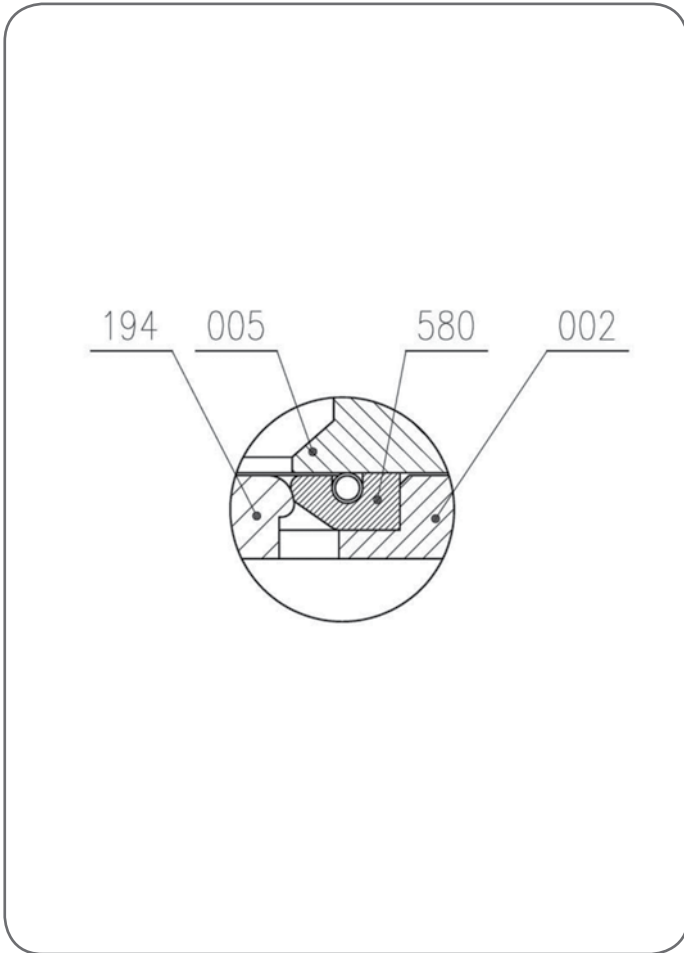
Pn	DN	L	D	D ₁	D ₂	nxd		H	m
		mm	mm	mm	mm			mm	kg
6	100	170	148	210	170	64	4	M16	22
	125	200	178	240	205	70	8	M16	31
	150	225	202	265	220	76	8	M16	36
	200	280	258	320	251	89	8	M16	58
	250	335	312	375	281	114	12	M16	85
	300	395	365	440	315	114	12	M20	107
	350	445	415	490	363	127	12	M20	150
	400	495	465	540	407	140	16	M20	204
	500	600	570	645	529	152	20	M20	291
10	600	705	670	755	534	178	20	M24	543
	100	180	158	220	170	64	8	M16	22
	125	210	188	250	205	70	8	M16	32
	150	240	212	285	220	76	8	M20	38
	200	295	268	340	251	89	8	M20	60
	250	350	320	395	281	114	12	M20	87
	300	400	370	445	315	114	12	M20	111
	350	460	430	505	363	127	16	M20	163
	400	515	482	565	407	140	16	M24	231
16	500	620	585	670	529	152	20	M24	314
	600	725	685	780	534	178	20	M27	551
	100	180	158	220	170	64	8	M16	22
	125	210	188	250	205	70	8	M16	33
	150	240	212	285	220	76	8	M20	37
	200	295	268	340	251	89	12	M20	60
	250	355	320	405	281	114	12	M24	87
	300	410	378	460	315	114	12	M24	116
	350	470	438	520	363	127	16	M24	170
25	400	525	490	580	407	140	16	M27	240
	500	650	610	715	529	152	20	M30	357
	600	770	725	840	534	178	20	M33	597
	100	190	162	235	170	64	8	M20	22
	125	220	188	270	205	70	8	M24	33
	150	250	218	300	220	76	8	M24	39
	200	310	278	360	251	89	12	M24	63
	250	370	335	425	281	114	12	M27	95
	300	430	395	485	315	114	16	M27	128
40	350	490	450	555	363	127	16	M30	184
	400	550	505	620	407	140	16	M33	262
	500	660	615	730	529	152	20	M33	389
	600	770	720	845	534	178	20	M36x3	554
	100	190	162	235	220	64	8	M20	26
	125	220	188	270	255	70	8	M24	37
40	150	250	218	300	270	76	8	M24	44
	200	320	285	375	300	89	12	M27	73
	250	385	345	450	311	114	12	M30	109
	300	450	410	515	365	114	16	M30	146

DATA SHEET K16

Sealing of the disc

Teflon sealing ring
(PTFE)

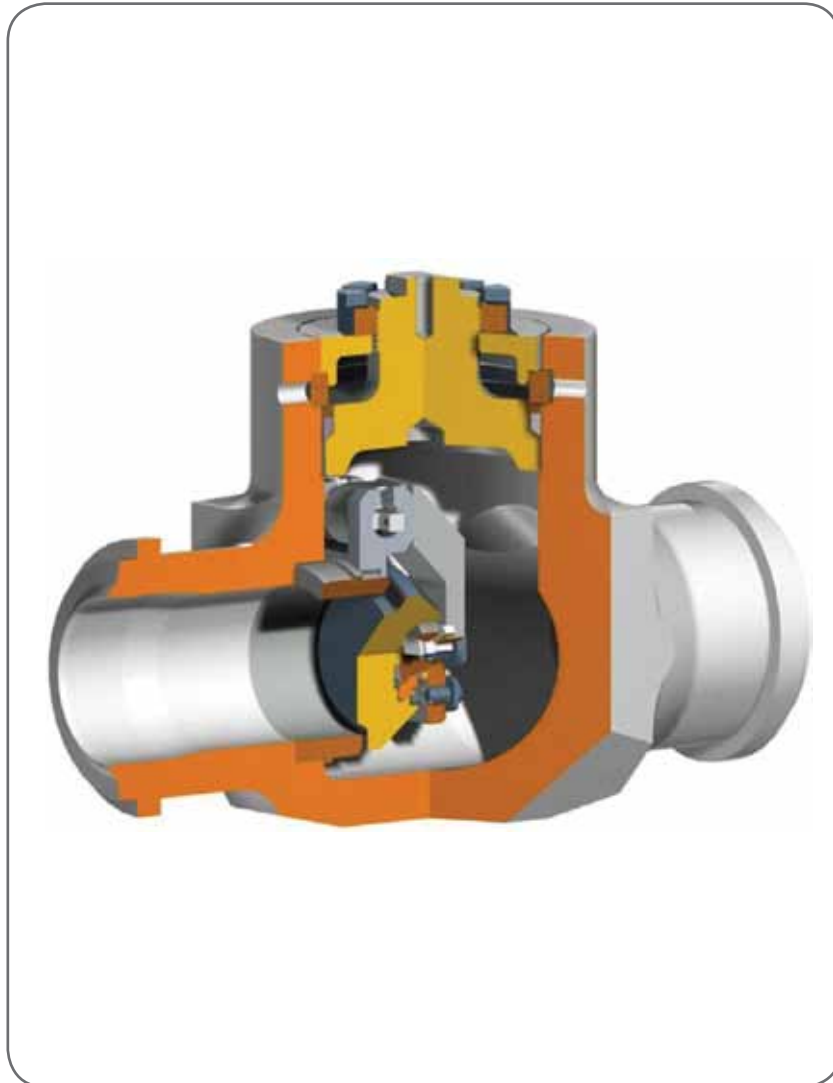
Metal sealing ring



Pos.	Name	Material	
		Carbon steel	Stainless steel
002	Body	x	x
005	Flange Butt-welded ends	x	x
194	Disc	Stainless steel	
580	Sealing-seat	PTFE	

Pos.	Name	Material	
		Carbon steel	Stainless steel
002	Body	x	x
576	Flange Butt-welded ends	x	x
194	Disc	Stainless steel	
580	Sealing-seat	INCONEL, stainless steel	

Type K05
DN 65 - 400
PN 63 - 400



Swing Check Valve

Butt-Welded, Flanged



DATA SHEET KO5

Application

- Self-acting check valve
- **Fluids**
Water, steam
- **Industry**
Power engineering, chemical industry
- **Environments**
Normal, tropical, explosive, seismic

Technical description

- Valve body is die or free forgings
- Body seats are pressed in the body and seal welded
- Seat faces are hardfaced with Stellite
- Sealing ring is made from expanded graphite
- Body and disc seats are hardfaced

Testing

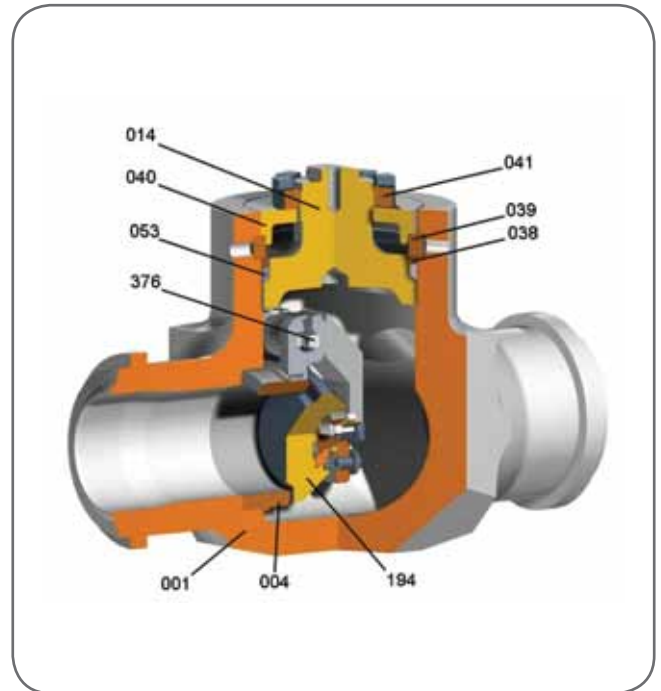
- Valves are pressure tested with water, steam or air for strength and tightness in accordance with working parameters and material according to EN 12266 – 1
- Minimum pressure for the strength test is 1,5 x PN

Connection

- Butt-welded and flanged type according to ČSN, EN, DIN, ANSI, GOST

Operation

- Self-acting



Installation

- Valves can be installed in horizontal pipelines, with pressure seal cover upwards
- Direction of flow is under the disc

Pos.	Name	Material										
		Non alloy		Low alloy steel			High alloy steel		Stainless steel			
001	Body	11 416	P250GH (C22.8)	15 128	14MoV6-3	16Mo3 (15Mo3)	13CrMoV4-5	11CrMo9-10 (10CrMo910)	15NiCuMoNb5-6-4	X10CrMoVNB9-1	X6CrNiTi18-10	08X18H10T
004	Seat											
005	Flange											
194	Disc											
014	Pressure sealed	11416			11CrMo9-10 (10CrMo910)							
039	Segmented ring	11416			11CrMo9-10 (10CrMo910)							
038	Retaining ring	11416			11CrMo9-10 (10CrMo910)							
040	Cover	11 416			15 128, 42 2744, GS-17CrMo5-5, 11CrMo9-10							
041	Nut	11 600, E335										
053	Sealing ring	Expanded graphite										
376	Pin	17 134, X22CrMoV12-1										
	Hardfacing	Typ Stellite 6, C1111										

DATA SHEET KO5

Operating data

Material of body	PN	Working pressure MPa / Working temperature °C											
		200	250	300	350	400	450	500	520	540	560	580	600
P250GH (C22.8) (W.Nr.1.0460)	63	5,7	4,9	4,2	3,7	2,9	2,2	-	-	-	-	-	-
	100	9,0	7,8	6,7	5,8	4,6	3,5	-	-	-	-	-	-
	160	14,4	12,5	10,7	9,3	7,4	5,6	-	-	-	-	-	-
	250	22,5	19,6	16,7	14,5	11,6	6,7	-	-	-	-	-	-
	320	28,8	25	21,3	18,6	14,8	11,1	-	-	-	-	-	-
11416	400	35,9	31,3	26,7	23,2	18,6	13,9	-	-	-	-	-	-
	63	6,3	5,6	4,8	4,1	3,6	2,5	-	-	-	-	-	-
	100	10,0	8,8	7,7	6,6	5,7	4,0	-	-	-	-	-	-
	160	16,0	14,1	12,2	10,5	9,1	6,4	-	-	-	-	-	-
	250	24,9	22,0	19,1	16,4	14,2	10,0	-	-	-	-	-	-
15NiCuMoNb5-6-4 (W.Nr.1.6368)	320	31,9	28,2	24,5	21,0	18,2	12,8	-	-	-	-	-	-
	400	39,9	35,2	30,6	26,2	22,7	16,0	-	-	-	-	-	-
	63	6,3	6,3	6,3	6,3	6,3	6,3	-	-	-	-	-	-
	100	10,0	10,0	10,0	10,0	10,0	10,0	-	-	-	-	-	-
	160	16,0	16,0	16,0	16,0	16,0	16,0	-	-	-	-	-	-
16Mo3 (15Mo3) (W.Nr.1.5415)	250	25,0	25,0	25,0	25,0	25,0	25,0	-	-	-	-	-	-
	320	32,0	32,0	32,0	32,0	32,0	32,0	-	-	-	-	-	-
	400	40,0	40,0	40,0	40,0	40,0	40,0	-	-	-	-	-	-
	63	6,3	6,0	5,3	5,1	4,9	4,7	3,4	2,2	-	-	-	-
	100	10,0	9,6	8,4	8,1	7,8	7,5	5,4	3,4	-	-	-	-
13CrMo4-5 (W.Nr.1.7335)	160	16,0	15,3	13,4	13,0	12,5	12,1	8,6	5,5	-	-	-	-
	250	25,0	23,9	21,0	20,3	19,6	18,8	13,5	8,6	-	-	-	-
	320	32,0	30,6	26,9	26,0	25,0	24,1	17,3	10,9	-	-	-	-
	400	40,0	38,3	33,6	32,5	31,3	30,1	21,6	13,7	-	-	-	-
	63	6,3	6,3	6,3	6,0	5,8	5,5	5,0	3,4	2,2	1,5	-	-
11CrMo9-10 (W.Nr.1.7383)	100	10,0	10,0	10,0	9,6	9,3	8,7	7,9	5,4	3,5	2,3	-	-
	160	16,0	16,0	16,0	15,3	14,8	13,9	12,7	8,7	5,7	3,7	-	-
	250	25,0	25,0	25,0	23,9	23,2	21,7	19,9	13,6	8,8	5,8	-	-
	320	32,0	32,0	32,0	30,6	29,7	27,8	25,4	17,4	11,3	7,4	-	-
	400	40,0	40,0	40,0	38,3	37,1	34,8	31,8	21,8	14,1	9,3	-	-
10CrMo9-10	63	6,3	6,3	6,3	6,3	6,3	6,0	4,9	3,8	2,8	2,1	1,6	1,2
	100	10,0	10,0	10,0	10,0	10,0	9,6	7,8	6,0	4,5	3,4	2,6	2,0
	160	16,0	16,0	16,0	16,0	16,0	15,3	12,5	9,6	7,2	5,4	4,1	3,2
	250	25,0	25,0	25,0	25,0	25,0	23,9	19,6	14,9	11,3	8,4	6,4	4,9
	320	32,0	32,0	32,0	32,0	32,0	30,6	25,0	19,1	14,5	10,8	8,2	6,3
14MoV6-3 (W.Nr.1.7715)	400	40,0	40,0	40,0	40,0	40,0	38,3	31,3	23,9	18,1	13,4	10,2	7,9
	63	6,3	6,3	6,3	6,3	6,3	6,3	6,3	5,4	4,1	3,1	-	-
	100	10,0	10,0	10,0	10,0	10,0	10,0	10,0	8,6	6,6	5,0	-	-
	160	16,0	16,0	16,0	16,0	16,0	16,0	16,0	13,8	10,5	8,0	-	-
	250	25,0	25,0	25,0	25,0	25,0	25,0	25,0	21,6	16,4	12,5	-	-
15128	320	32,0	32,0	32,0	32,0	32,0	32,0	32,0	27,6	21,0	16,0	-	-
	400	40,0	40,0	40,0	40,0	40,0	40,0	40,0	34,6	26,2	19,9	-	-
	63	6,3	6,3	6,3	6,3	6,3	6,3	6,2	4,8	3,7	2,8	-	-
	100	10,0	10,0	10,0	10,0	10,0	10,0	10,0	9,8	7,6	5,9	4,5	-
	160	16,0	16,0	16,0	16,0	16,0	16,0	15,7	12,2	9,4	7,2	-	-
X10CrMoVNb9-1 (W.Nr.1.4903)	250	25,0	25,0	25,0	25,0	25,0	25,0	24,5	19	14,6	11,3	-	-
	320	32,0	32,0	32,0	32,0	32,0	32,0	31,4	24,3	18,7	14,5	-	-
	400	40,0	40,0	40,0	40,0	40,0	40,0	39,2	30,4	23,4	18,1	-	-
	63	6,3	6,3	6,3	6,3	6,3	6,3	6,3	6,3	6,3	5,5	4,4	3,4
	100	10,0	10,0	10,0	10,0	10,0	10,0	10,0	10,0	10,0	8,7	7,0	5,4
X10CrMoVNb9-1 (W.Nr.1.4903)	160	16,0	16,0	16,0	16,0	16,0	16,0	16,0	16,0	16,0	13,9	11,1	8,7
	250	25,0	25,0	25,0	25,0	25,0	25,0	25,0	25,0	25,0	21,7	17,4	13,6
	320	32,0	32,0	32,0	32,0	32,0	32,0	32,0	32,0	32,0	27,8	22,3	17,4
	400	40,0	40,0	40,0	40,0	40,0	40,0	40,0	40,0	40,0	34,8	27,8	21,8

DATA SHEET K05

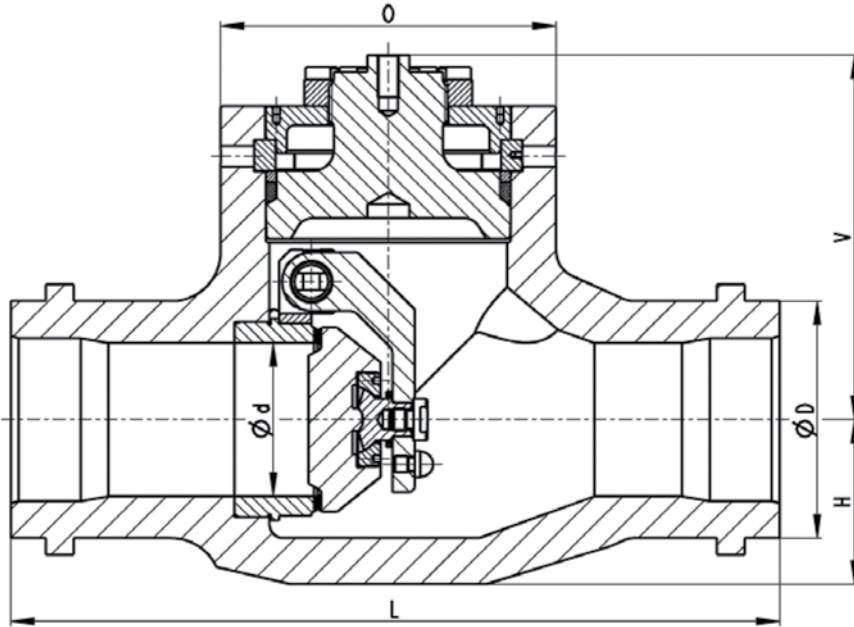
Operating data

Material of body	PN	Working pressure MPa / Working temperature °C											
		200	250	300	350	400	450	500	520	540	560	580	600
X6CrNiTi18-10 (W.Nr. 1.4541)	63	6,1	5,4	5,0	4,7	4,6	4,4	4,3	4,3	4,3	4,3	3,9	3,1
	100	9,7	8,5	7,9	7,5	7,2	7,0	6,9	6,9	6,9	6,8	6,2	5,0
	160	15,5	13,6	12,6	12,1	11,6	11,2	11,0	11,0	11,0	10,9	9,9	8,0
	250	24,2	21,3	19,7	18,8	18,1	17,5	17,2	17,2	17,1	17,1	15,5	12,5
	320	31,0	27,3	25,2	24,1	23,2	22,4	22,1	22	21,9	21,9	19,8	16,0
	400	38,7	34,1	31,5	30,1	29,0	28,1	27,6	27,5	27,4	27,4	24,8	19,9
08X18H10T (W.Nr.1.6368)	63	6,0	5,6	5,4	5,0	4,8	4,5	4,1	3,8	3,5	3,1	2,8	2,5
	100	9,5	8,8	8,5	7,9	7,7	7,1	6,6	6,0	5,5	5,0	4,5	4,0
	160	15,2	14,1	13,6	12,7	12,2	11,4	10,5	9,6	8,8	8,0	7,2	6,5
	250	23,8	22,0	21,3	19,9	19,1	17,8	16,4	15,0	13,7	12,5	11,3	10,1
	320	30,4	28,2	27,3	25,4	24,5	22,8	21,0	19,3	17,5	15,9	14,4	12,9
	400	38,0	35,2	34,2	31,8	30,6	28,5	26,2	24,1	21,9	19,9	18,1	16,2

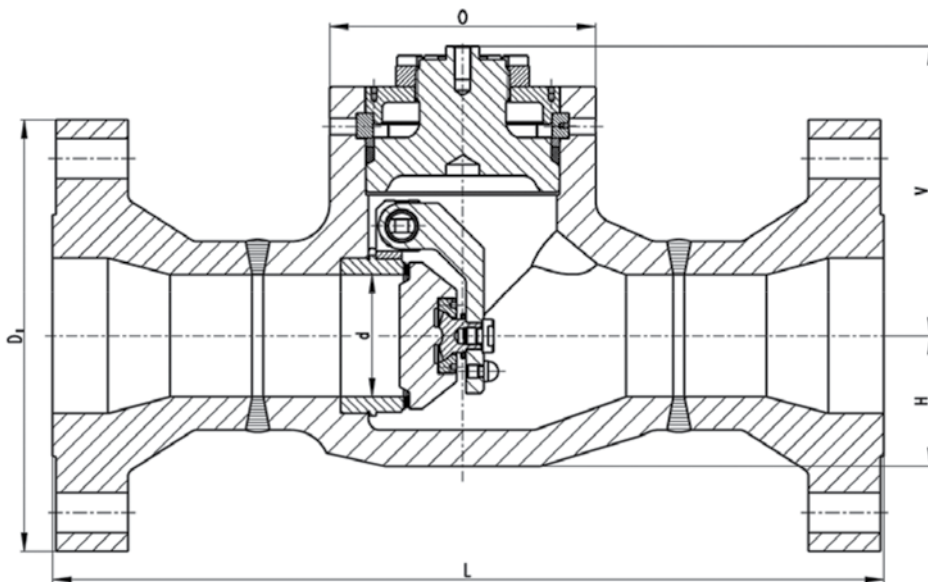
DATA SHEET K05

Dimensions

Butt-welded type, PN 63 – 250, PN 30 – 400



Flanged type, PN 63 – 250



DATA SHEET KO5

Butt-welded type, PN 63 – 250, PN 30 – 400

PN	DN/d	L mm	D mm	H mm	V mm	O mm	m kg
63 - 250	65/50	360	By CSN, EN, DIN or by request of the customer	65	160	135	23
	65/55	360		65	160	135	23
	80/75	450		88	200	175	55
	100/75	450		88	200	175	53
	125/110	550		118	270	235	129
	150/110	550		118	270	235	126
	175/125	650		145	330	305	230
	175/150	650		150	335	305	250
	200/150	650		150	335	305	250
	225/175	700		175	377	360	357
	250/200	800		195	418	400	530
	275/200	850		195	418	400	613
	250/225	800		225	485	450	706
	275/225	850		225	485	450	733
	300/225	900		225	485	450	762
	300/250	1000		270	640	560	1320
350/275	1000	280	640	560	1465		
400/275	1000	280	640	560	1605		
320 - 400	65/50	360	By CSN, EN, DIN or by request of the customer	80	300	180	55
	65/55	360		80	300	180	55
	80/55	360		80	300	180	54
	100/55	360		80	300	180	53
	80-100/75	450		-	-	-	-
	100-150/80	450		-	-	-	-
	125-150/100	500		-	-	-	-
	125-150/125	600		175	385	345	360
	175-200/125	600		175	385	345	365
	175-225/150	650		-	-	-	-
	200-250/175	650		-	-	-	-
	250-275/200	800		-	-	-	-
	250-300/225	900		-	-	-	-
	300/250	1000		-	-	-	-
	300/275	1000		-	-	-	-
	350-400/300	1200		-	-	-	-
	400/350	1400		-	-	-	-
	450/350	1500		420	1070	860	5874
500/400	1500	-	-	-	-		

DATA SHEET KO5

Flanged type, PN 63 – 250

PN	DN/d	D1 mm	d mm	H mm	V mm	O mm	L1 mm	m kg
63	65/55	205	55	65	460	135	290	35
100		220					290	40
160		220					360	47
250		230					425	53
63	80/75	215	75	88	200	175	310	69
100		230					310	75
160		230					390	83
250		235					470	91
63	100/75	250	75	88	200	175	350	73
100		265					350	83
160		265					450	93
250		300					550	108
63	125/110	295	110	118	270	235	400	159
100		315					400	175
160		315					525	193
250		340					650	210
63	150/110	345	110	118	270	235	450	168
100		355					450	190
160		355					600	198
250		390					750	246
63	200/150	415	150	150	335	305	550	323
100		430					550	361
160		430					750	400
250		485					950	460
63	250/200	470	200	195	418	400	650	630
100		505					650	710
160		515					900	783
250		585					1150	906
63	300/225	530	225	225	485	450	750	632
100		585					750	762
160		585					1050	868
250		690					1350	*
63	300/250	530	250	270	640	560	750	*
100		585					750	*
160		585					1050	*
250		690					1350	*

*) upon request

Notes:

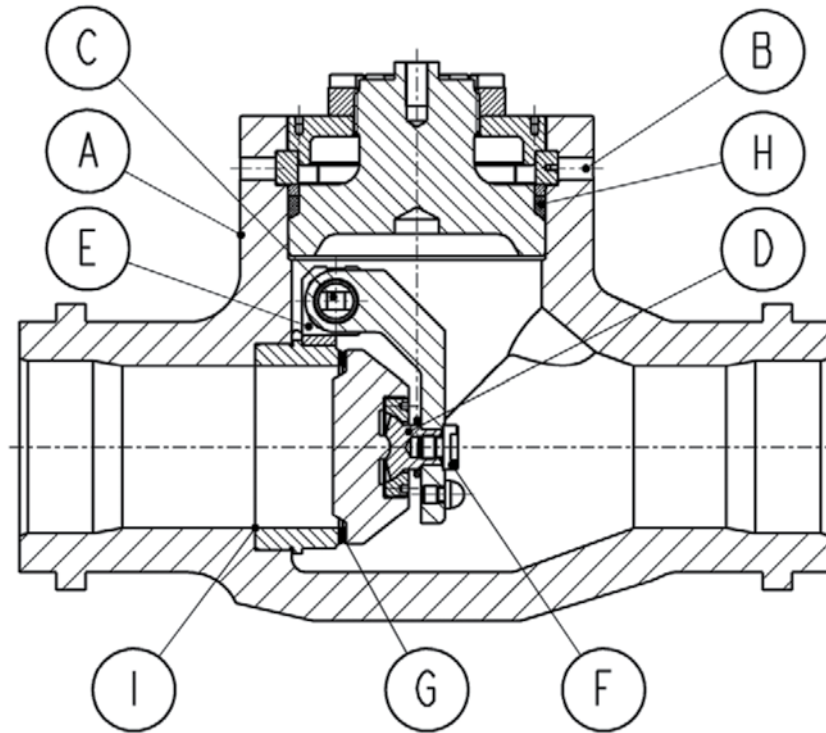
Connection dimensions of flange types according to ČSN EN 1092-1.

Other flange type upon request.



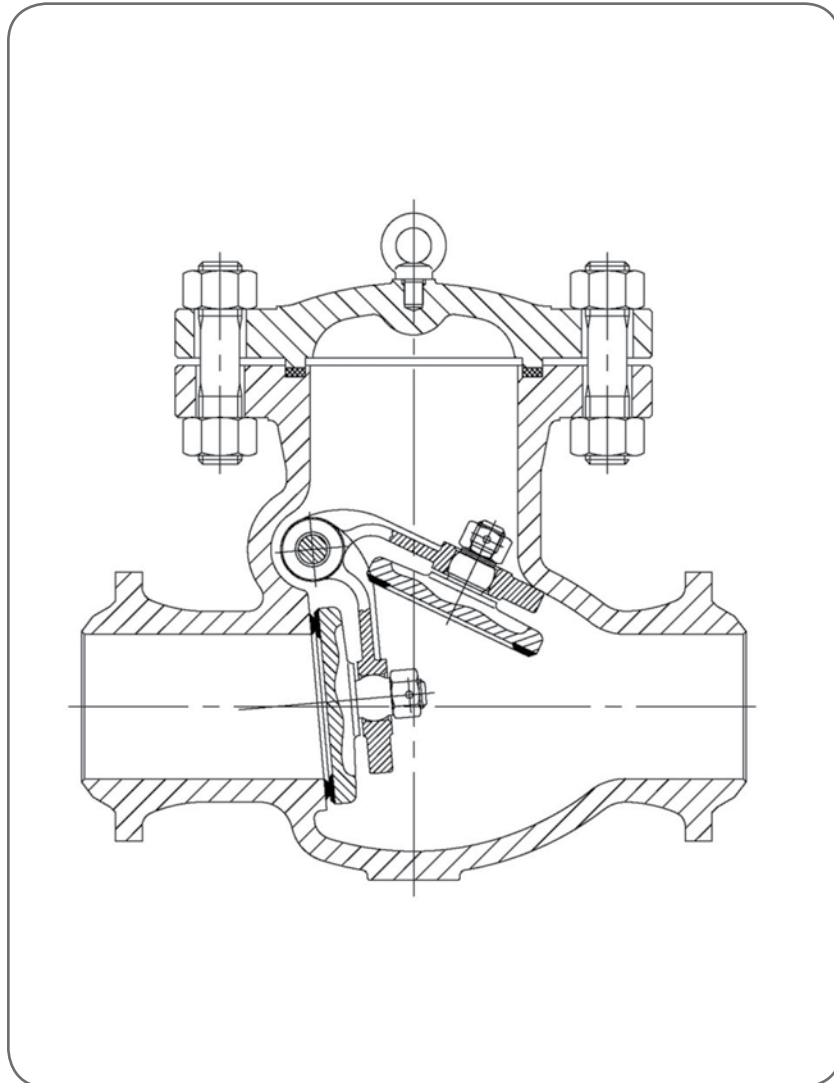
DATA SHEET K05

Advantages of construction



- A** **Decreased forged body without sealing weld:**
Decrease the weight, exclude the defectoscopy of weld
- B** **Vents in the body in the place of segmented ring:**
Facilitate the dismantling of segmented ring
- C** **Pin of sling inside the body:**
Does not go through the body, does not influence external sealing
- D** **Connection „shoulder – disc“:**
Enables inclining. Perfect contact of sealing surfaces of closure
- E** **Hang of shoulder:**
Places in seat, does not influence external sealing
- F** **Connection „shoulder of the disc – pin“:**
Simple, reliable: easy mounting and dismantling
- G** **Seat faces are hardfaced with Stellite:**
Long-term life time, resistance against wearing-out
- H** **Sealing ring – expanded graphite:**
Reliable sealing, ecology
- I** **Seat placed in body:**
Put with overlap, connected by sealing weld

Type K08
DN 50 - 400
PN 16 - 100



Swing Check Valve

Butt-Welded, Flanged



DATA SHEET K08

Application

• Self-acting check valve, used to stop reverse flow of working medium or shocks in the pipeline

• Fluids

Water, steam, air, crude petroleum and petroleum products, natural gas and non-aggressive gases

• Industry

Power engineering, chemical and petrochemical industry

Technical description

- Swing check valve has full bored flow
- The disc is articulated fixed to arm swung on stud
- Direction of flow on disc pushes it up
- Opposite direction of flow push the disc to sealing surface
- Material of sealing surface can be 13Cr or Stellite 6

Operation

- Self-acting, by pressure of medium

Testing

- Valves are pressure tested with water for strength and tightness in accordance with working parameters and material of body according to EN-12266
- Minimum pressure for the strength testing is 1,5 x PN

Installation

- Swing check valve can be installed to horizontal and vertical pipeline
- Direction of flow in vertical position is under the disc

Connection

- Butt-welded according to EN-12627, flanged according to EN-1092-1 or according to customer request
- Face to face dimension according to EN-558-1

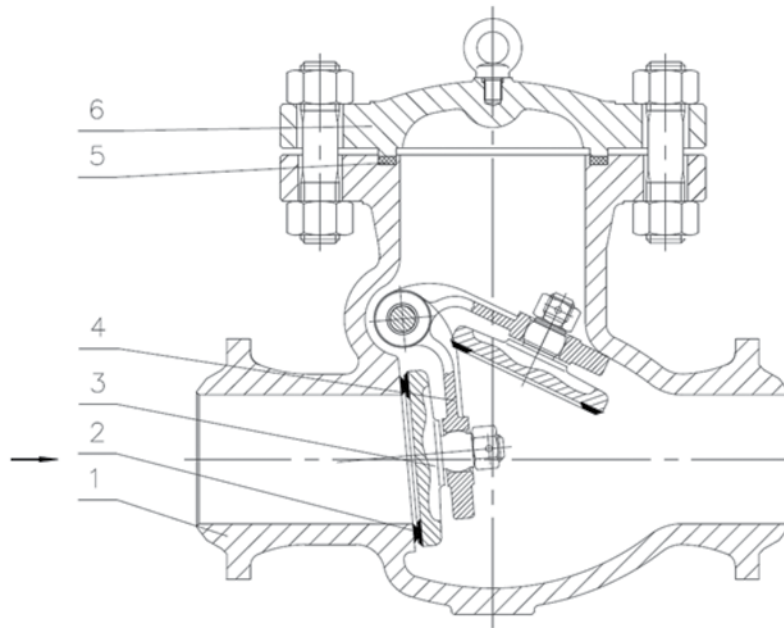
Operating data

Material	PN	Working pressure MPa / Working temperature °C															
		100	150	200	250	300	350	400	425	450	500	510	520	530	550	575	595
1.0619 (A216 WCB)	16	1,46	1,43	1,38	1,32	1,22	1,17	1,09	-	-	-	-	-	-	-	-	-
	25	2,29	2,23	2,16	2,06	1,91	1,82	1,70	-	-	-	-	-	-	-	-	-
	40	3,66	3,57	3,46	3,29	3,06	2,92	2,72	-	-	-	-	-	-	-	-	-
	63	5,77	5,62	5,45	5,19	4,81	4,59	4,29	-	-	-	-	-	-	-	-	-
	100	9,15	8,92	8,65	8,23	7,64	7,29	6,81	-	-	-	-	-	-	-	-	-
1.4408 (A351 CF8M)	16	1,33	1,20	1,10	1,02	0,96	0,91	0,87	0,86	0,86	0,83	-	-	-	-	-	-
	25	2,07	1,87	1,72	1,60	1,50	1,42	1,36	1,35	1,34	1,30	-	-	-	-	-	-
	40	3,32	2,99	2,75	2,56	2,41	2,27	2,18	2,16	2,14	2,08	-	-	-	-	-	-
	63	5,22	4,72	4,33	4,03	3,79	3,58	3,43	3,40	3,37	3,28	-	-	-	-	-	-
	100	8,29	7,48	6,87	6,39	6,02	5,68	5,45	5,40	5,35	5,21	-	-	-	-	-	-
1.7357 (A217 WC6)	16	1,63	1,58	1,49	1,43	1,33	1,23	1,15	1,11	1,07	0,89	0,84	0,68	0,56	0,35	0,28	0,20
	25	2,54	2,48	2,33	2,23	2,08	1,93	1,80	1,73	1,67	1,39	1,31	1,06	0,88	0,55	0,43	0,32
	40	4,07	3,96	3,74	3,57	3,33	3,09	2,89	2,77	2,67	2,23	2,09	1,70	1,41	0,88	0,69	0,52
	63	6,41	6,24	5,88	5,63	5,24	4,86	4,55	4,36	4,20	3,51	3,30	2,67	2,22	1,39	1,09	1,02
	100	10,17	9,90	9,34	8,93	8,32	7,71	7,22	6,92	6,67	5,57	5,23	4,24	3,52	2,21	1,74	1,30



DATA SHEET K08

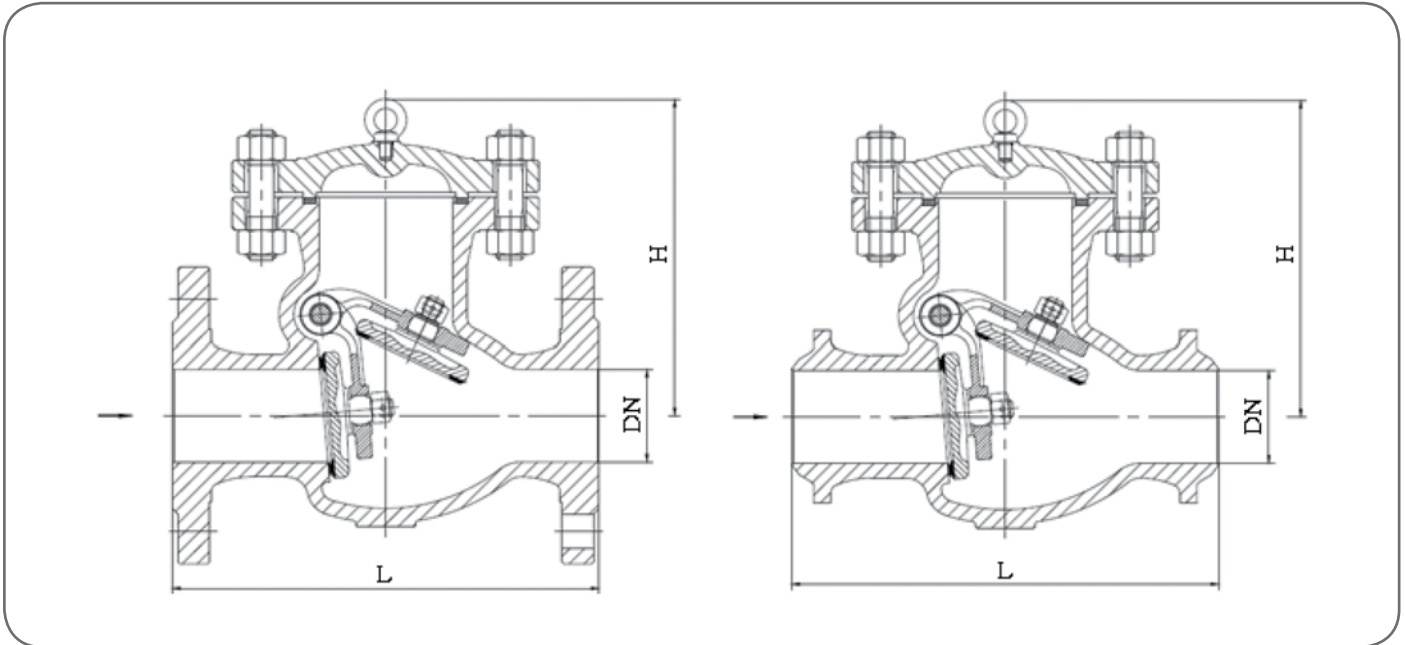
Materials of main parts



Pos.	Name	Material
1	Body	1.0619 (A216 WCB), 1.7357 (A217 WC6), 1.4408 (A351 CF8M)
2	Seat	13Cr, Stellite 6
3	Disc	1.0619 (A216 WCB), 1.7357 (A217 WC6), 1.4408 (A351 CF8M)
4	Arm	1.0619 (A216 WCB), 1.7357 (A217 WC6), 1.4408 (A351 CF8M)
5	Gasket	Graphite + stainless steel
6	Bonnet	1.0619 (A216 WCB), 1.7357 (A217 WC6), 1.4408 (A351 CF8M)

DATA SHEET K08

Dimensions

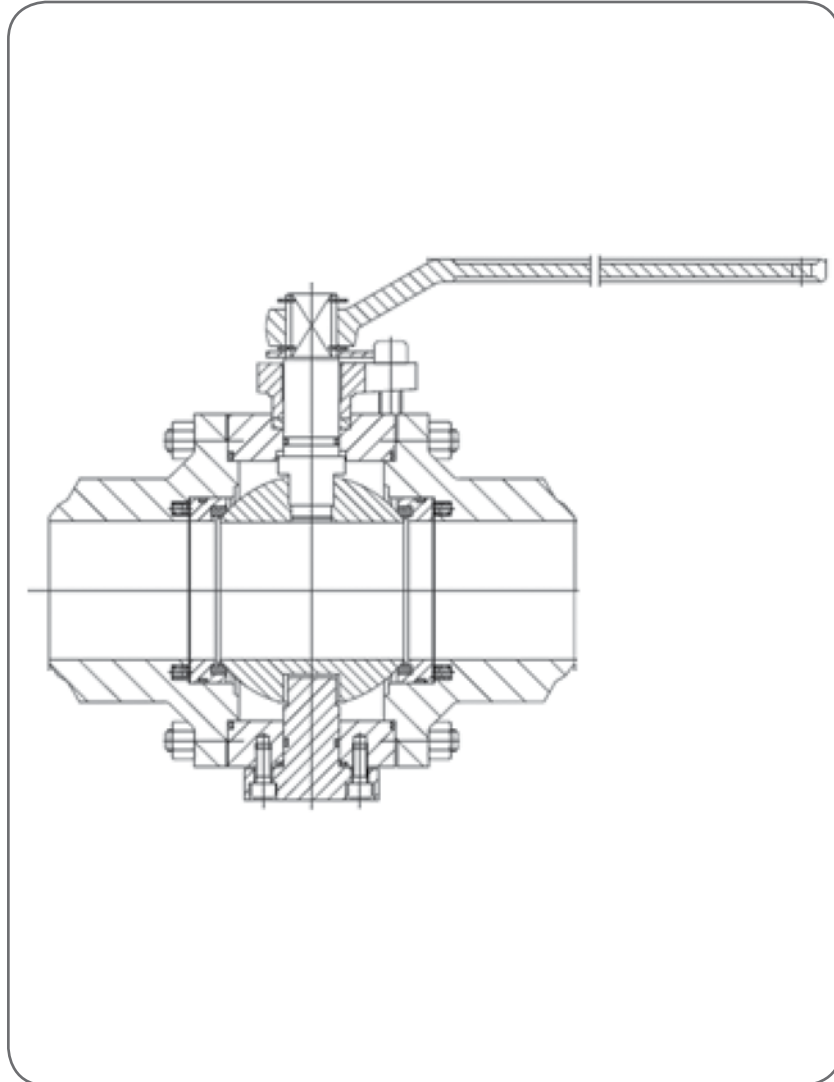


DN	PN	L mm	H mm	FL	BW	m kg
50	16	230	160	22	16	
65		290	177	26	20	
80		310	187	33	25	
100		350	202	39	30	
125		400	227	57	45	
150		480	263	80	65	
200		550	293	95	73	
250		650	330	175	143	
300		750	392	260	219	
350		850	430	360	306	
400		950	480	496	427	
50		25	230	160	22	16
65	290		177	30	22	
80	310		192	35	26	
100	350		217	52	39	
125	400		250	73	54	
150	480		270	103	80	
200	550		350	135	103	
250	650		410	196	150	
300	750		430	285	225	
350	850		450	388	302	
400	950		510	526	417	

DATA SHEET K08

DN	PN	L mm	H mm	FL	BW	m kg
50	40	230	160	22	16	
65		290	175	30	22	
80		310	185	35	26	
100		350	220	52	39	
125		400	248	73	54	
150		480	276	103	80	
200		550	350	212	171	
250		650	410	297	232	
300		750	430	362	272	
350		850	518	450	330	
400		950	560	565	437	
50		63	300	170	30	21
65	340		197	41	29	
80	380		235	48	35	
100	430		265	72	53	
125	500		296	108	79	
150	550		297	155	113	
200	650		357	217	149	
250	775		405	341	252	
300	900		465	472	351	
350	1025		514	627	465	
400	1150	568	882	670		
50	100	300	192	41	28	
65		340	207	48	30	
80		380	235	72	52	
100		430	265	108	79	
125		500	313	130	90	
150		550	360	217	162	
200		650	420	341	249	
250		775	480	472	331	
300		900	540	598	388	
350		1025	-	-	-	
400		1150	-	-	-	

Type K31
DN 50 - 1000
PN 16 - 100



Trunnion Ball Valve

Butt-Welded, Flanged



DATA SHEET K31

Application

- Trunnion ball valve type K31 is designed to fully open or close the flow of the working medium

• Fluids

Water, steam, oxygen, non-aggressive liquids, natural gas, coke oven gas

Technical description

- Full opening ball valve
- Operating temperature range – depending on the seal:
Nylon from -60 °C to +80 °C
PTFE/RPTFE from -50 °C to +150 °C
PEEK from -100 °C to +250 °C
Metal from -100 °C to +300 °C
- Provides tightness relative to environment throughout the life cycle. Tightness of the seal: Class "A" GOST 9544-2005 (no visible leaks)
- Working environment direction: standard - any (bilateral)
- The ball is loosely mounted in the pin, and the pressure on the ball is created by the seats
- Sealing elements of the ball valve body are movable seats
- The pin is made of electrochemical nickel or chrom plated low alloy carbon steel or stainless steel. The choice of material is determined depending on the operating medium and operational parameters. When opening or closing the ball valve, the pin performs a rotary motion at an angle of 90°
- The version assumes the use of forged and cast materials
- Seats version meets the fire safe design requirements.
- Seats are made of electrochemical nickel-plated low alloy steel
- Seats are spring-actuated by the cylindrical springs made of stainless steel, which provide pre-tensioning of the seats to the plug providing the sealing of the closure seal at low pressures
- The ball valves for flammable and explosive gaseous media, regardless of the nominal size are manufactured as antistatic
- The design of ball valves of all sizes and different pressure was successfully tested for safety in case of fire in accordance with API or BS
- Depending on the needs of the customer, the ball valves can be manufactured in various designs

Testing

- Ball valves are standardly tested in accordance with API 598 or in accordance with EN-12266

Installation

- The ball valves are mounted to the pipeline in any position
- In the case of control with the electric actuator, it is necessary to observe all the instructions that apply to the installation of the control device

Connection

- Butt-welded connection acc. to ASME B16.5, EN-12627, GOST, OST, flange connection acc. to EN-1092-1, GOST12815-80, in the case of need in accordance with the requirement of the customer
- Combined connection (one nozzle is made for the butt welded connection - the other for the flange connection)
- Building length of the valve acc. to ASME B16.10 or EN-558-1, in the case of need in accordance with the requirement of the customer

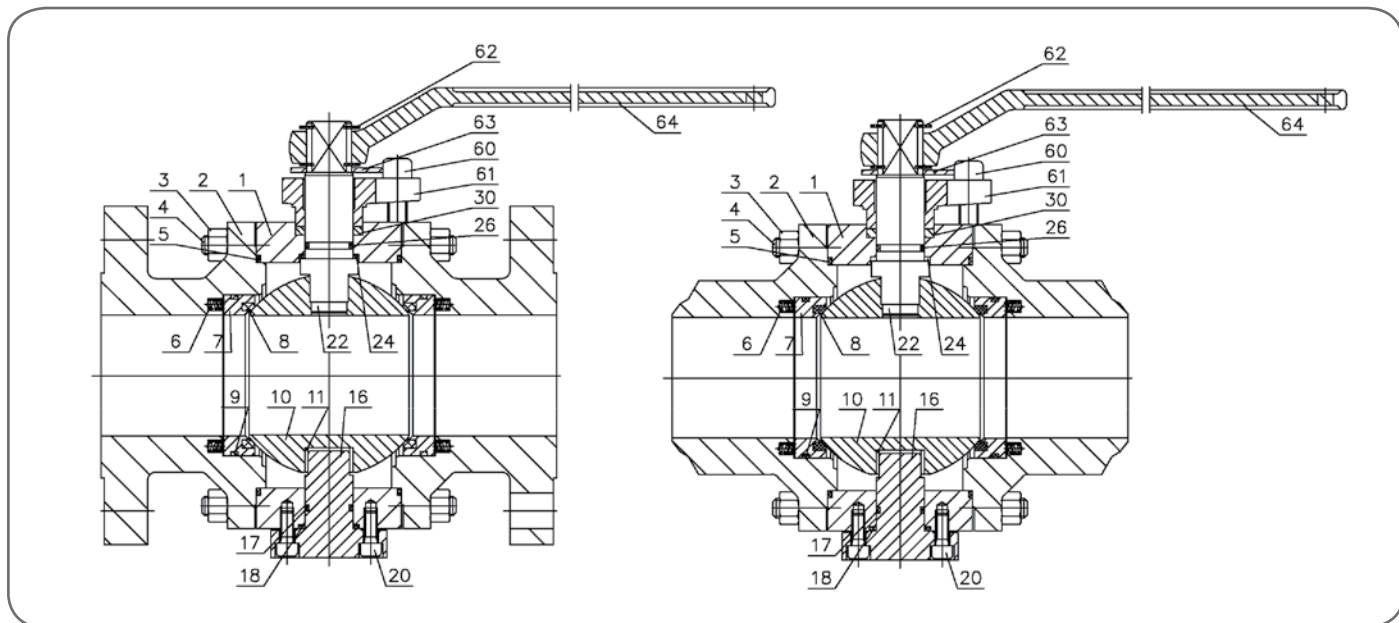
Operation

- Manual control with the handwheel
- Manual control with the gearbox
- Electric actuator or electric gearbox in addition to the gearbox



DATA SHEET K31

Materials of main parts



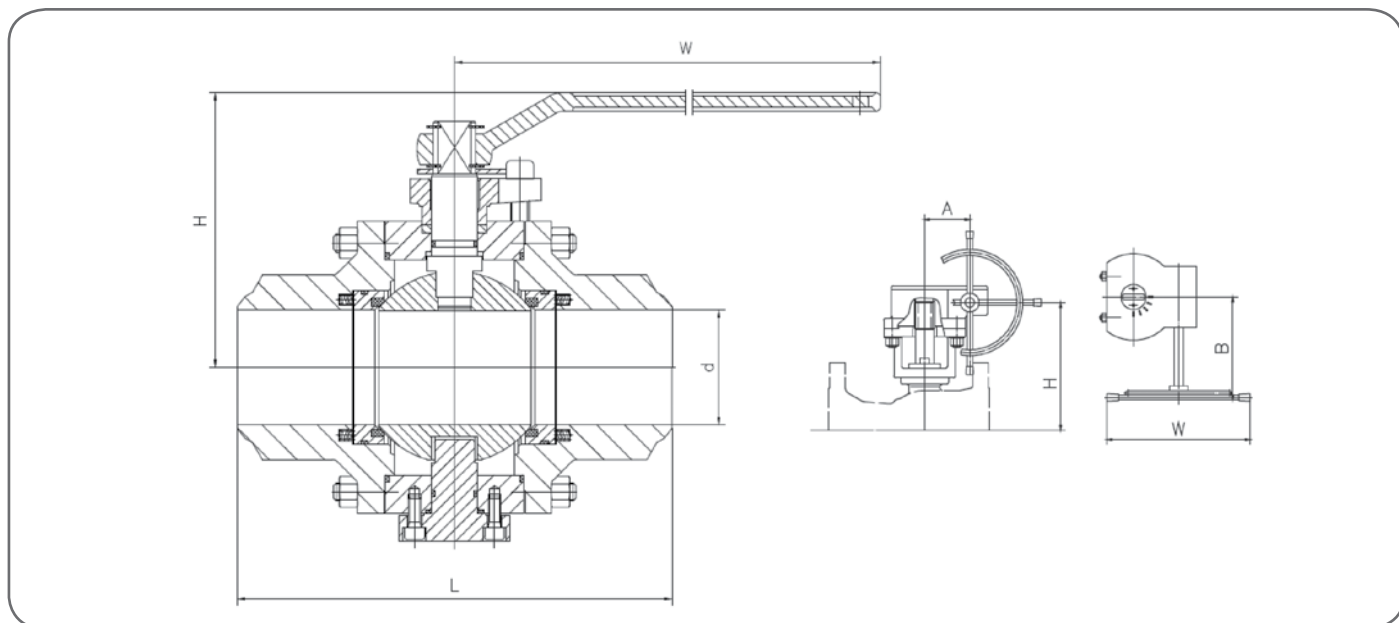
Pos.	Name	Material					
		Cast steel body			Forged body		
1	Body	ASTM A216-WCB	ASTM A352-LCB/LCC	ASTM A351-CF8/CF8M	ASTM A105	ASTM A350-LF2/LF3	ASTM A182-F304/F316
2	Bonnet	ASTM A216-WCB	ASTM A352-LCB/LCC	ASTM A351-CF8/CF8M	ASTM A105	ASTM A350-LF2/LF3	ASTM A182-F304/F316
3	Nut	ASTM A194-2H/2HM	ASTM A194-4	ASTM A194-2HM/8	ASTM A194-2H/2HM	Astm A194-4	ASTM A194-2HM/8
4	Screw	ASTM A193-B7/B7M	ASTM A320-L7	ASTM A193-B7M/B8	ASTM A193-B7/B7M	ASTM A320-L7	ASTM A193-B7M/B8
5	Ring	VITON					
6	Spring	INCONELX-750					
7	Seat	ASTM A105	ASTM A182G304	ASTM A182-F304/F316	ASTM A105	ASTM A350-LF2/LF3	ASTM A182-F304/F316
8	Seat insertion segment	RPTFE/NYLON					
9	Ring	VITON					
10	Ball	ASTM A182-F6a	ASTM A182-F304	ASTM A182-F304/F316	ASTM A105	ASTM A182-F304	ASTM A182-F304/F316
11	Bearing	304 + PTFE					
16	Pin	ASTM A182-F6a	ASTM A182-F304	ASTM A182-F304/F316	ASTM A105	ASTM A182-F304	ASTM A182-F304/F316
17	Ring	VITON					

DATA SHEET K31

Pos.	Name	Material					
		Cast steel body			Forged body		
18	Ring	VITON					
20	Screw	ASTM A193-B7/B7M	ASTM A320 L7	ASTM A193-B7M/B8	ASTM A193-B7/B7M	ASTM A320 L7	ASTM A193-B7M/B8
22	Stem	ASTM A182-F6a	ASTM A182-F304	ASTM A182-F304/F316	ASTM A182-F6a	ASTM A182-F304	ASTM A182-F304/316
23	Bearing	304 + PTFE					
24	Retaining washer	304+PTFE					
26	Ring	VITON					
30	Gland	Graphite					
58	Discharge valve	ANSI 1045	ASTM A182-F304	ASTM A182-F304/F316	Carbon steel		
60	Screw	ASTM A193-B7/B7M	ASTM A320 L7	ASTM A193-B7M/B8	ASTM A193-B7/B7M	ASTM A320 L7	ASTM A193-B7M/B8
61	Flange nut	Carbon steel					
62	Safety collar	Carbon steel					
63	Fixing device	Carbon steel					
64	Wrench	Carbon steel					

DATA SHEET K31

Dimensions



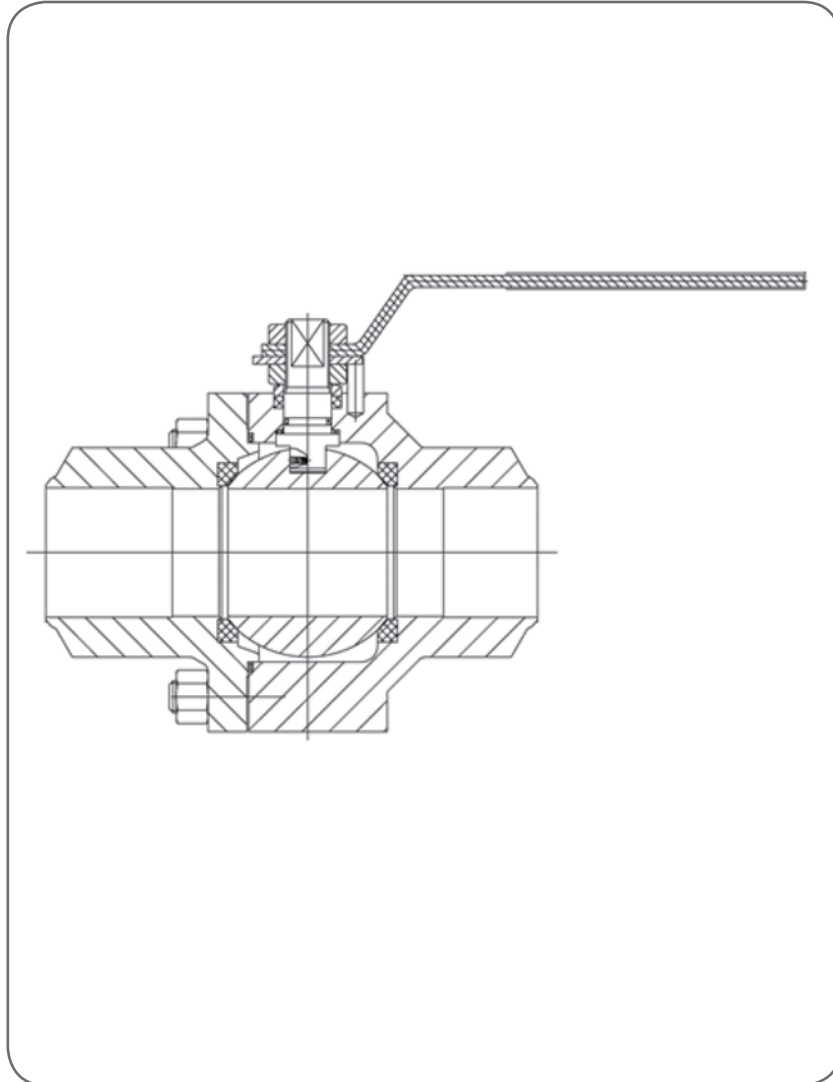
DN	PN	d (mm)	L (mm)	H (mm)	W (mm)	A (mm)	B (mm)	m (kg)
50	16	51	178	176	350	-	-	27
80		76	203	215	400	-	-	54
100		102	229	252	500	-	-	89
150		152	394	330	1050			160
200		203	457	448	300	105	190	253
250		254	533	505	300	105	190	387
300		30	610	556	400	185	320	559
350		337	686	620	500	195	350	760
400		387	762	700	500	195	350	1020
450		438	864	750	500	215	380	1215
500		489	914	805	500	215	380	1793
550		540	1016	890	500	215	380	2359
600		591	1067	1110	500	280	460	3099
650		625	1143	1140	500	280	460	3685
700		686	1245	1180	500	280	460	4490
750		737	1295	1220	500	280	460	5215
800		787	1372	1250	500	280	460	6800
850		832	1473	1300	500	280	460	7800
900	876	1524	1350	650	200	640	8800	
1000	986	1753	1450	700	240	620	12560	

DATA SHEET K31

DN	PN	d (mm)	L (mm)	H (mm)	W (mm)	A (mm)	B (mm)	m (kg)
50	25 40	51	216	176	350	-	-	27
80		76	283	215	400	-	-	55
100		102	305	252	500	-	-	92
150		152	403	330	1050	-	-	182
200		203	502	448	300	105	190	278
250		254	568	505	350	125	205	500
300		305	648	556	400	185	320	733
350		337	762	620	500	195	350	1029
400		387	838	700	500	195	350	1418
450		438	914	750	500	215	380	1592
500		489	991	805	500	215	380	2195
550		540	1092	890	500	215	380	2788
600		591	1143	1110	500	280	460	3460
650		635	1245	1140	500	280	460	4660
700		686	1346	1180	500	280	460	5770
750		737	1397	1220	500	280	460	6590
800		787	1524	1250	500	280	460	7932
850		832	1626	1300	500	280	460	9040
900		876	1727	1350	650	200	640	10093
1000		976	1956	1450	700	240	620	13776
50	63 100	51	295	192	600	-	-	31
65		58	330	190	400	-	-	50
80		76	359	279	1000	-	-	62
100		102	435	315	1500	-	-	113
150		152	562	323	500	185	320	253
200		203	664	381	500	185	320	485
250		254	791	518	500	215	380	758
300		305	841	568	500	215	380	1067
400		387	994	730	500	215	380	1525
450		438	1095	795	500	215	380	2095
500		489	1200	825	500	215	380	2638
600		489	1200	825	500	215	380	4736
650		591	1407	973	500	280	460	5647
700		635	1461	945	610	300	500	6758
750		686	1562	1038	610	300	500	8377
800		737	1664	1088	610	300	500	9738
850	737	1664	108	610	300	00	11336	

Dimensions of the ball valves with flange connection are the same as for the butt-welded connection

Type K30
DN 15 - 300
PN 16 - 100



Floating Ball Valve

Butt-Welded, Flanged



DATA SHEET K30

Application

- Floating ball valve type K30 is designed to fully open or close the flow of the working medium

• Fluids

Liquid and gaseous media, such as: air, non-aggressive liquids, petroleum products, natural gas, coke oven gas

Technical description

- Full opening ball valve
- Operating temperature range – depending on the seal:
Nylon from -60°C to +80°C
PTFE/RPTFE from -50°C to +150°C
PEEK from -100°C to +250°C
Metal from -100°C to +300°C
- Provides tightness relative to environment throughout the life cycle. Tightness of the seal: Class "A" GOST 9544-2005 (no visible leaks)
- Working environment direction: standard - any (bilateral)
- The ball is loosely mounted in the pin, and the pressure on the ball is created by the seats
- Sealing of the joining body-bonnet – with two seals
- Seats version meets the FIRE SAFE DESIGN requirements
- The version assumes the use of forged and cast materials
- The ball valves for flammable and explosive gaseous media, regardless of the nominal size are manufactured as antistatic
- The design of ball valves of all sizes and different pressure was successfully tested for safety in case of fire in accordance with API or BS
- To prevent a malfunction, the ball valve can be locked in the open or closed position by the locking device
- Depending on the needs of the customer, the ball valves can be manufactured in various designs

Testing

- Ball valves are standardly tested in accordance with API 598 or in accordance with EN-12266

Installation

- The ball valves are mounted to the pipeline in any position.
- In the case of control with the electric actuator, it is necessary to observe all the instructions that apply to the installation of the control device

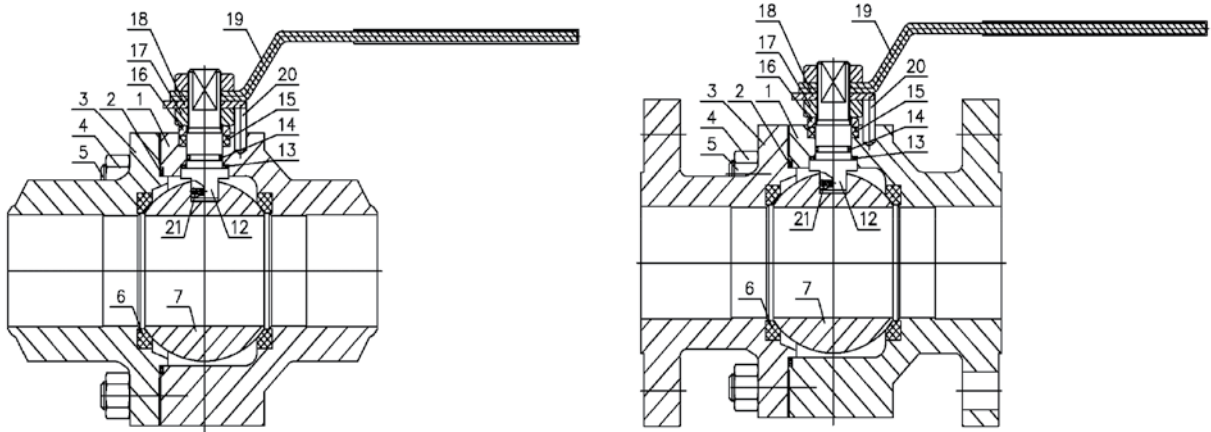
Operation

- Manual control with the handwheel
- Manual control with the gearbox
- Electric actuator or electric gearbox in addition to the gearbox



DATA SHEET K30

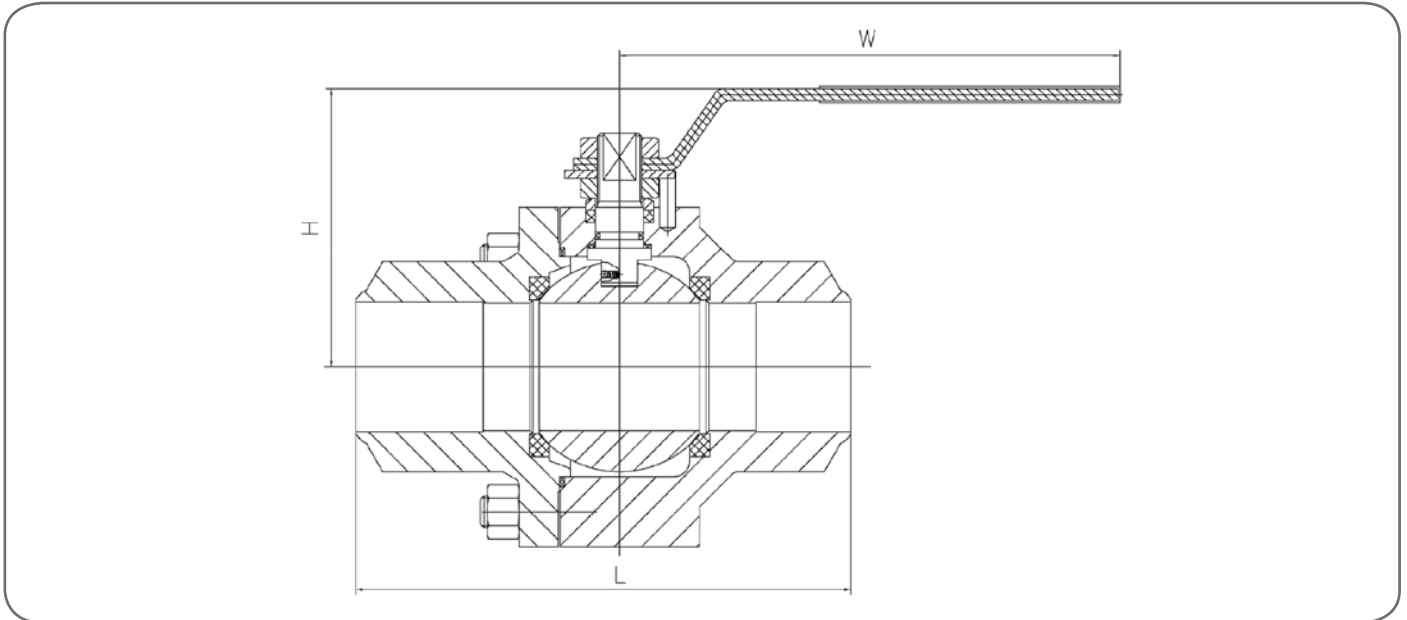
Materials of main parts



Pos.	Name	Material						
		Cast steel body			Forged body			
1	Body	ASTM A216-WCB	ASTM A352-LCB/LCC	ASTM A351-CF8/CF8M	ASTM A105	ASTM A350 LF2	ASTM A182 F316	
2	Ring	304 + graphite			VITON			
3	Bonnet	ASTM A216-WCB	ASTM A352-LCB/LCC	ASTM A351-CF8/CF8M	ASTM A105 ASTM	ASTM A350 LF2	ASTM A182 F316	
4	Nut	ASTM A194-2H/2HM	ASTM A194 4	ASTM A194-2HM/8	A194-2H/2HM	ASTM A194 4	ASTMA194-2HM/8	
5	Stud	ASTM A193-B7/B7M	ASTM A320 L7	ASTM A193-B7M/B8	ASTM A193-B7/B7M	ASTM A320 L7	ASTM A193-B7M/B8	
6	Seat ring	PTFE/NYLON			RPTFE/NYLON			
7	Ball	ASTM A182-F304		ASTM A182-F304/F316	ASTM A105+ENP	ASTM A350 LF2+ENP	ASTM A182 F316	
12	Stem	ASTM A182-F304		ASTM A182-F304/F316	ASTM A182-F6a		ASTM A182 F316	
13	Bearing	304+PTFE			304+PTFE		316+PTFE	
14	Ring	VITON						
15	Gasket	PTFE / graphite						
16	Gland nut	ASTM A216-WCB	ASTM A352-LCB/LCC	ASTM A351-CF8/CF8M	Carbon steel		Stainless steel	
17	Nut	ASTM A193-B7/B7M	ASTM A320 L7	ASTM A193-B7M/B8	ASTM A194-2H/2HM	ASTM A194 4	ASTMA194-2HM/8	
18	Plate	Carbon steel					Stainless steel	
19	Level	ASTM A216-WCB			Carbon steel		Stainless steel	

DATA SHEET K30

Dimensions



DN	PN	L (mm)	H (mm)	W (mm)	m (kg)
15	16	118	84	130	8,5
20		117	88	130	10
25		127	95	140	13
40		165	120	250	20
50		178	130	250	27
65		190	160	400	40
80		203	185	400	54
100		229	210	450	89
125		356	220	450	124
150		394	295	1050	160
200		457	335	1500	253
250		533	505	350	387
300		610	556	400	559

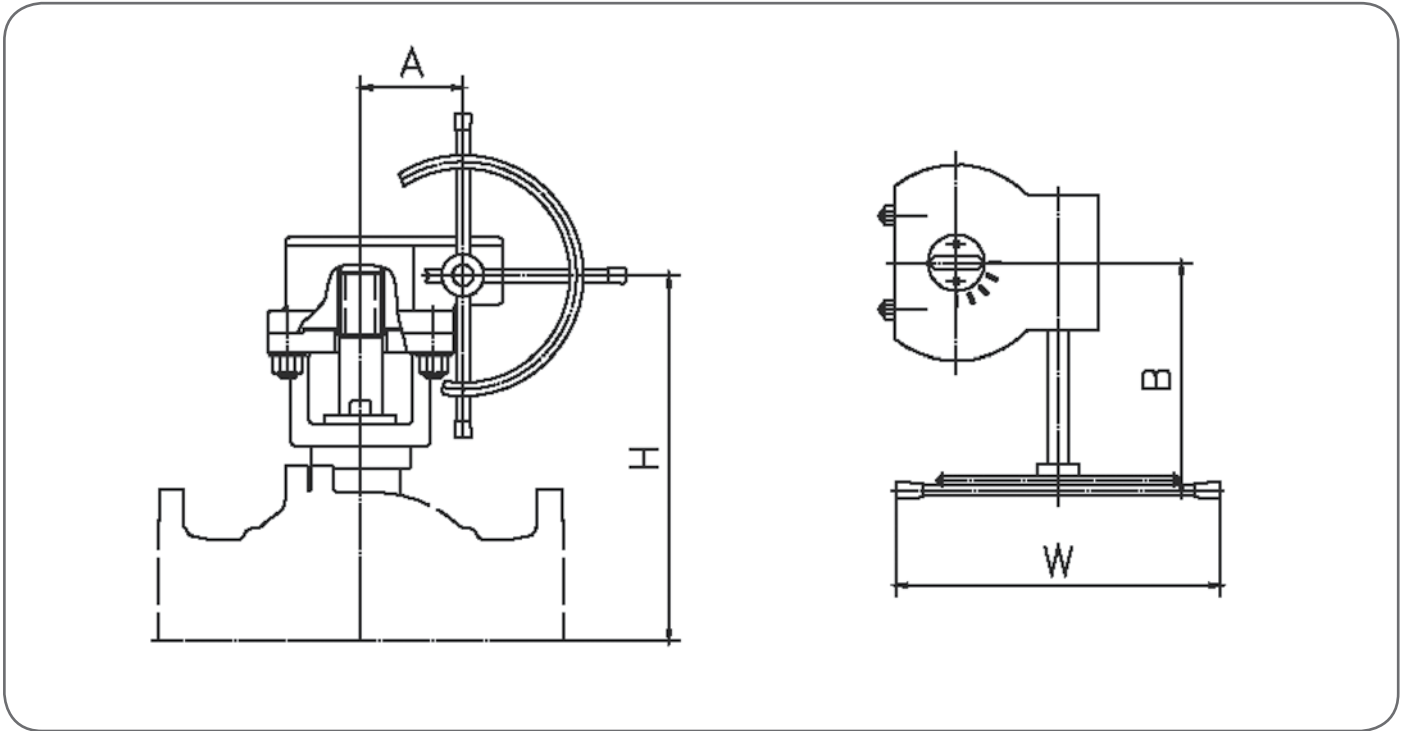
DATA SHEET K30

DN	PN	L (mm)	H (mm)	W (mm)	m (kg)
15	25 40	140	84	130	8,5
20		152	88	130	11
25		165	95	140	15
40		191	120	250	21
50		216	140	250	27
65		241	160	400	41
80		283	180	400	55
100		305	208	450	92
125		381	220	450	137
150		403	335	1050	182
200		502	350	1050	278
250		568	410	1300	500
300		648	495	1300	733
15		63 100	165	100	200
20	190		100	200	6
25	216		100	200	10
40	241		120	250	21
50	292		192	500	31
65	324		236	800	46
80	356		279	1000	62
100	432		315	1500	113
125	495		319	1500	185
150	559		323	500	253
200	660		381	500	485
250	787		518	500	758
300	838		568	500	1067

Dimensions of the ball valves with flange connection are the same as for the butt-welded connection

DATA SHEET K30

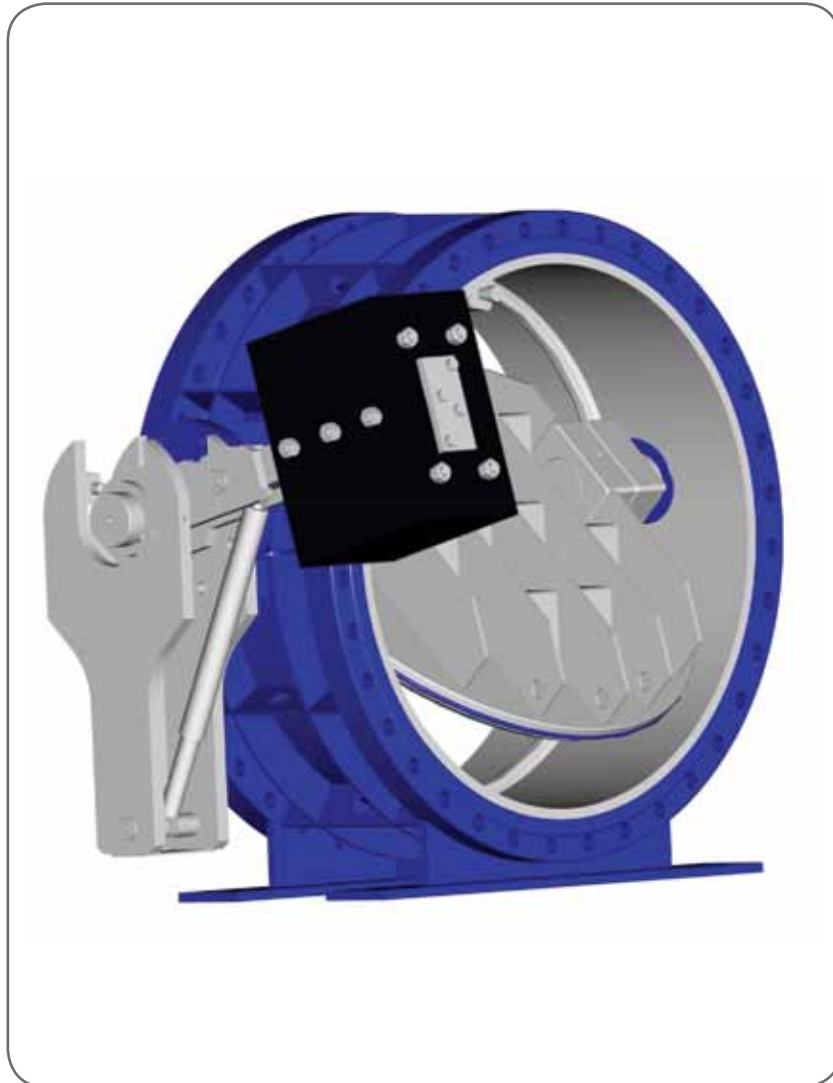
Manual control with the gear box



PN16					PN25,40					PN63,100				
DN	A	H	W	B	DN	A	H	W	B	DN	A	H	W	B
150	125	325	350	205	150	125	325	350	205	150	185	323	500	320
200	185	415	355	320	200	105	415	355	190	200	185	381	500	320
250	360	475	365	340	250	125	505	600	205	250	215	518	500	380
300	185	556	600	320	300	185	556	600	320	300	215	568	500	380



**Type K18
DN 300 - 1800
PN 6 - 25**

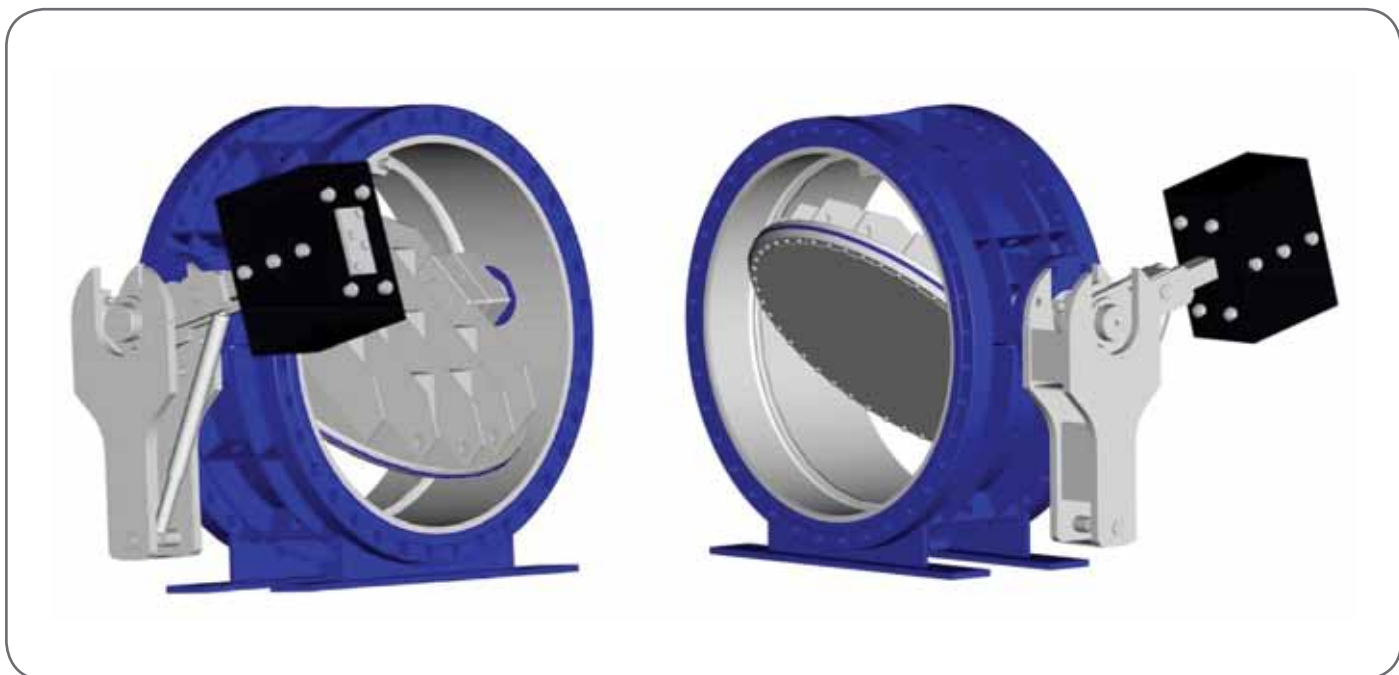


**Check Valve Combined
with double eccentricity**

Flanged



DATA SHEET K18



Application

- Special industrial valve fulfilling the function of the check valve

- **Combined closure** – valve may fulfil the function of the check valve with the possibility of rough regulation of the fluid flow

- **Fluids**

Water (waste, service, drinking), air, steam, oils, crude oil and oil products, natural gas, coke oven and stack gas, other non-aggressive fluids and gases

- **Industry**

Conventional power, nuclear power, water supply industry, chemical industry, petrochemical industry, pulp and paper industry, geothermal sources

Connection

- Valve supplied in flanged type as a standard (flanges welded to the body) according to EN1092-1
- Other type on customers request

Installation

- Valves shall be installed in the horizontal piping in order to arrow on the body can correspond with the direction of the medium flow
- Valve disc rotation axis is situated in the horizontal position

Technical description

- Valve with double eccentricity
- Axis of the control shaft outside the sealing – seat axis; this solution enables sufficient sealing of the entire disc
- Closing disc eccentrically laid in the body and fastened on the control shaft and pin bedded in a rotary way in self-lubricated friction bearings
- Shaft sealed by means of “O” rings
- Soft-fitted valve – with EPDM, NBR or FPM sealing element
- Guaranteed sealing B according to EN 12266-1 in the direction of back flow to the pump (guaranteed sealing A when using hydro engine)
- Pin sealed by means of flat asbestos-free sealing
- Valve as a standard produced from carbon (P265GH or P355NL) or stainless (X6CrNiTi18-10) steel, the seat welded into the body
- Building length according to ČSN EN 558-1, series 14 (DIN 3202 – 1, series F4) – flanged type
- Protective coatings may be applied to the internal areas based on the customer requirements
- Marking in compliance with the EN standards

Testing

- Valves testing according to ČSN EN 12266-1

DATA SHEET K18

Application

• **Automatic operation:** Valve is equipped with a damper and the weight. Damper ensures continuous movement at automated closing upon back flow of the medium and it prevents uncontrolled impact at disc fitting closely in the fitting seat. Delivery with adjustable damper where the speed of the fitting closing can be regulated is possible upon request.

• **Automatic operation with the option of closing using electric actuator:** Weight together with the damper ensuring automated closing with damping at the medium back-flow are situated on the lever on the shaft from one side; on the other side there is an electric actuator with a clutch and a gear box placed. Electric actuator ensures valve opening or closing or adjusting in the arbitrary position any time when following the request for the regulation function.

• **Automatic operation with the option of controlling the function by hydroactuator:** The same as in the previous case when the valve is equipped with the weight but instead of the damper there is a linear hydro-cylinder installed allowing continuous opening, closing and gross

regulation of the flow. Delivery may also include a hydraulic pump with the control panel with the possibility to integrate the functions based on the customer requirements – e.g. multi-level closing, definition of the function in case of power supply disconnection, position transmitter, terminal switches etc.

Advantages

- Due to passive control force of the weight on the lever, the fitting may be closed at loss of pressure up to 2,5 bars
- Possibility of two-phase closing (slow fitting closely to the seat) – in case of hydroactuator control fully adjustable period of both phase duration
- Function of the back fitting (including two-phase proper closing) is maintained also in case of electricity supply disconnection
- Possibility of adjustment for building lengths according to the customer request
- Connection according to EN 1092-1 (after agreement also another GOST standard)

Operating data

Material of body	PN	Working pressure MPa / Working temperature °C			
		20	100	150	200
P265GH (W.Nr.1.0425)	6	0,60	0,60	0,60	0,60
	10	1,00	1,00	1,00	1,00
	16	1,60	1,60	1,60	1,60
	25	2,50	2,50	2,50	2,50
P355NL1 (W.Nr.1.0566)	6	0,60	0,60	0,60	0,60
	10	1,00	1,00	1,00	1,00
P355NL2 (W.Nr.1.1106)	16	1,60	1,60	1,60	1,60
	25	2,50	2,50	2,50	2,50
X6CrNiTi18-10 (W.Nr.1.4541)	6	0,60	0,60	0,58	0,55
	10	1,00	1,00	0,97	0,91
	16	1,60	1,60	1,55	1,46
	25	2,50	2,50	2,43	2,28

Operating conditions

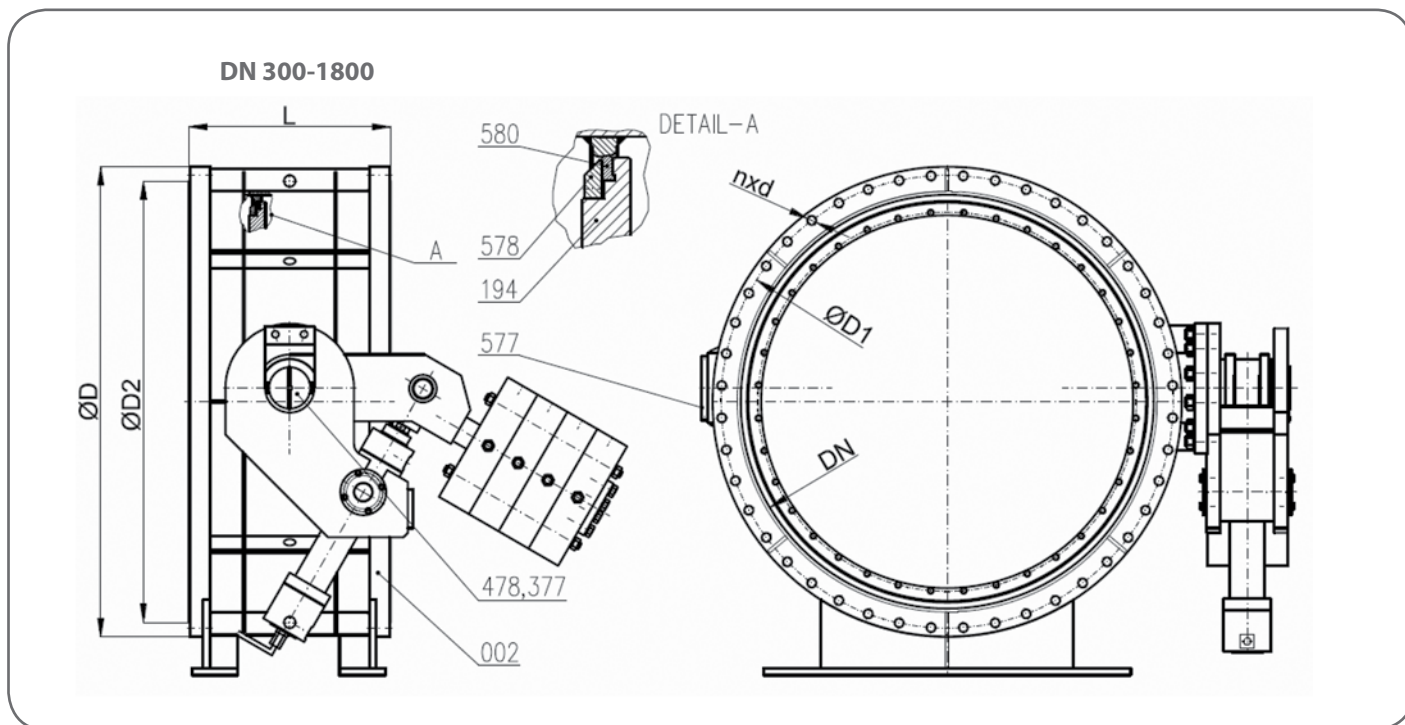
Working temperature °C	Material of sealing	Proper application	Improper application
From -40 to +150	EPDM	Steam, hot water, ozone	Mineral oils and fats
From -20 to +100	NBR	Water, air, oil, petroleum, kerosene, non-aggressive gases	
From -20 to +180	FPM - VITON	High chemical and heat resistance; oil products, stack and coke - oven gas	Steam and hot water



DATA SHEET K18

Materials of main parts

Flanged type, DN 300 – 1800, PN 6 – 25



Pos.	Name	Material	
		Carbon steel	Stainless steel
002	Body		
577	Cover		
194	Disc		
578	Pressure ring		
580	Sealing		
377	Shaft		
478	Pin		
		P265GH P355NL1, NL2	X6CrNiTi18-10
		S355J2	
		Stainless sealing surface + sealing EPDM, NBR, FKM	
		X20Cr13	X6CrNiTi18-10, X17CrNi16-2

DATA SHEET K18

Dimensions according to EN

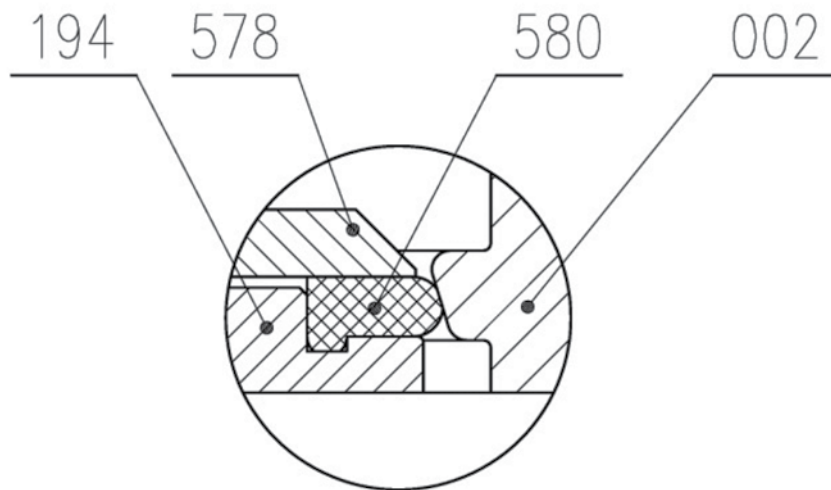
PN	DN	D mm	D1 mm	D2 mm	H mm	L mm	n	d mm	m kg
6	300	440	395	365	410	270	12	22	260
	350	490	445	415	460	290	12	22	350
	400	540	495	465	520	310	16	22	415
	450	595	550	520	570	330	16	22	455
	500	645	600	570	620	350	20	22	635
	600	755	705	670	720	390	20	26	880
	700	860	810	775	820	430	24	26	1090
	800	975	920	880	930	471	24	30	1250
	900	1075	1020	980	1050	510	24	30	1450
	1000	1175	1120	1080	1100	550	28	30	2100
	1200	1405	1340	1295	1300	630	32	33	2800
	1400	1630	1560	1510	1500	710	36	36	3100
	1600	1830	1760	1710	1700	790	40	36	3500
1800	2045	1970	1920	1900	870	44	39	5500	
10	300	445	400	370	410	270	12	22	283
	350	505	460	430	460	290	16	22	375
	400	565	515	482	520	310	16	26	482
	450	615	565	532	570	330	20	26	495
	500	670	620	585	620	350	20	26	670
	600	780	725	685	720	390	20	30	950
	700	895	840	800	820	430	24	30	1150
	800	1015	950	905	930	470	24	33	1400
	900	1115	1050	1005	1050	510	28	33	1750
	1000	1230	1160	1110	1100	550	28	36	2340
	1200	1455	1380	1330	1300	630	32	39	3180
	1400	1675	1590	1535	1500	710	36	42	3800
	1600	1915	1820	1760	1700	790	40	48	4505
1800	2115	2020	1960	1900	870	44	48	6500	
16	300	460	410	378	410	270	12	26	305
	350	520	470	438	460	290	16	26	400
	400	580	525	490	520	310	16	30	505
	450	640	585	550	570	330	20	30	525
	500	715	650	610	620	350	20	33	710
	600	840	770	725	720	390	20	36	1010
	700	910	840	795	820	430	24	36	1205
	800	1025	950	900	930	470	24	39	1490
	900	1125	1050	1000	1050	510	28	39	1875
	1000	1255	1170	1115	1100	550	28	42	2230
	1200	1485	1390	1330	1300	630	32	48	3200
	1400	1685	1590	1530	1500	710	36	48	3890
	1600	1930	1820	1750	1700	790	40	56	4900
1800	2130	2020	1950	1900	870	44	56	7500	
25	300	485	430	395	410	270	16	30	315
	350	555	490	450	460	290	16	33	410
	400	620	550	550	520	310	16	36	525
	450	670	600	555	570	330	20	36	560
	500	730	660	615	620	350	20	36	750
	600	845	770	720	720	390	20	39	1060
	700	960	875	820	820	430	24	42	1250
	800	1085	990	930	930	470	24	48	1550
	900	1185	1090	1030	1050	510	28	48	1930
	1000	1320	1210	1140	1100	550	28	56	2400
	1200	1530	1420	1350	1300	630	32	56	3800
	1400	1755	1640	1560	1500	710	36	62	5000
	1600	1975	1860	1780	1700	790	40	62	5800
1800	2195	2070	1985	1900	870	44	70	8360	

DATA SHEET K18

Sealing of the disc

Rubber sealing ring (EPDM, NBR, FKM-VITON)

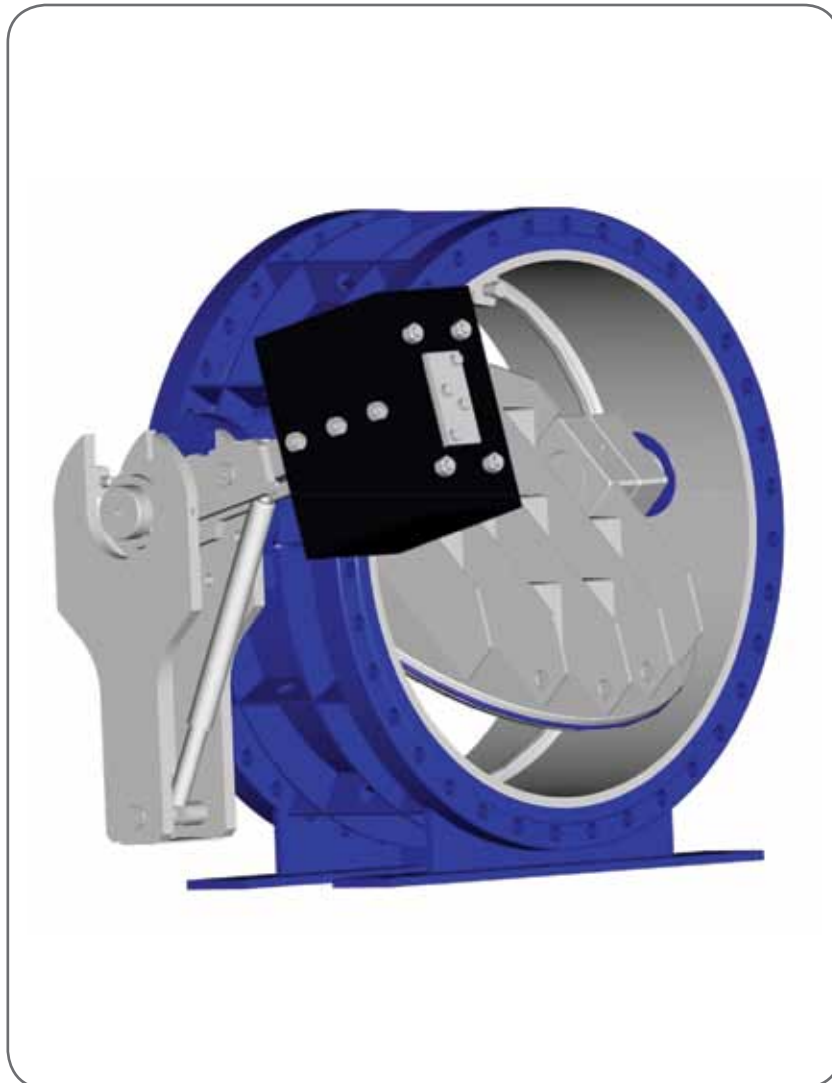
DN 300-1800



Pos.	Name	Material	
		Carbon steel	Stainless steel 1
002	Body	x	x
194	Disc	x	x
578	Pressure ring	x	x
580	Sealing ring	EPDM, NBR, FKM -VITON	



**Type K18
DN 300 - 1800
PN 6 - 25**

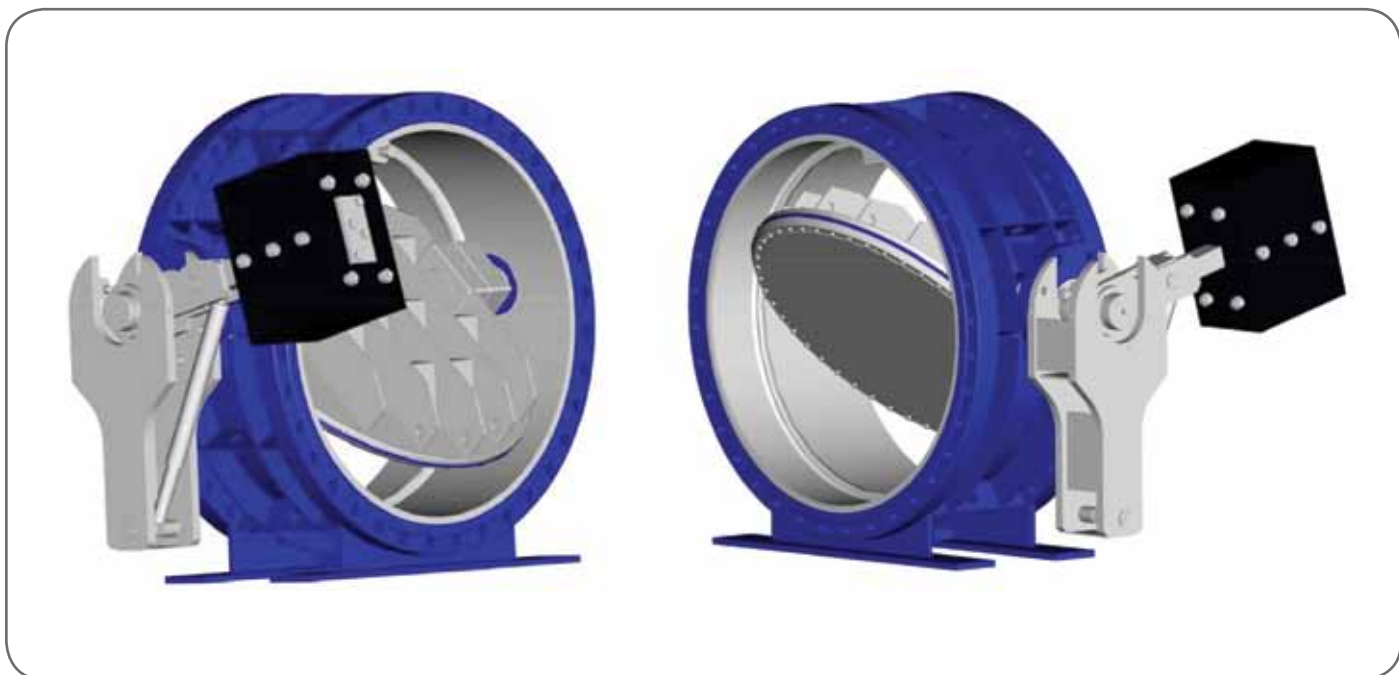


**Check Valve Combined
with double eccentricity**

Flanged



DATA SHEET K18



Application

- Special industrial valve fulfilling the function of the check valve
- **Combined closure** – valve may fulfil the function of the check valve with the possibility of rough regulation of the fluid flow
- **Fluids**
Water (waste, service, drinking), air, steam, oils, crude oil and oil products, natural gas, coke oven and stack gas, other non-aggressive fluids and gases
- **Industry**
Conventional power, nuclear power, water supply industry, chemical industry, petrochemical industry, pulp and paper industry, geothermal sources

Connection

- Valve supplied in flanged type as a standard (flanges welded to the body) according to EN1092-1
- Other type on customers request

Installation

- Valves shall be installed in the horizontal piping in order to arrow on the body can correspond with the direction of the medium flow
- Valve disc rotation axis is situated in the horizontal position

Technical description

- Valve with double eccentricity
- Axis of the control shaft outside the sealing – seat axis; this solution enables sufficient sealing of the entire disc
- Closing disc eccentrically laid in the body and fastened on the control shaft and pin bedded in a rotary way in self-lubricated friction bearings
- Shaft sealed by means of “O” rings
- Soft-fitted valve – with EPDM, NBR or FPM sealing element
- Guaranteed sealing B according to EN 12266-1 in the direction of back flow to the pump (guaranteed sealing A when using hydro engine)
- Pin sealed by means of flat asbestos-free sealing
- Valve as a standard produced from carbon (P265GH or P355NL) or stainless (X6CrNiTi18-10) steel, the seat welded into the body
- Building length according to ČSN EN 558-1, series 14 (DIN 3202 – 1, series F4) – flanged type
- Protective coatings may be applied to the internal areas based on the customer requirements
- Marking in compliance with the EN standards

Testing

- Valves testing according to ČSN EN 12266-1

DATA SHEET K18

Application

• **Automatic operation:** Valve is equipped with a damper and the weight. Damper ensures continuous movement at automated closing upon back flow of the medium and it prevents uncontrolled impact at disc fitting closely in the fitting seat. Delivery with adjustable damper where the speed of the fitting closing can be regulated is possible upon request.

• **Automatic operation with the option of closing using electric actuator:** Weight together with the damper ensuring automated closing with damping at the medium back-flow are situated on the lever on the shaft from one side; on the other side there is an electric actuator with a clutch and a gear box placed. Electric actuator ensures valve opening or closing or adjusting in the arbitrary position any time when following the request for the regulation function.

• **Automatic operation with the option of controlling the function by hydroactuator:** The same as in the previous case when the valve is equipped with the weight but instead of the damper there is a linear hydro-cylinder installed allowing continuous opening, closing and gross

regulation of the flow. Delivery may also include a hydraulic pump with the control panel with the possibility to integrate the functions based on the customer requirements – e.g. multi-level closing, definition of the function in case of power supply disconnection, position transmitter, terminal switches etc.

Advantages

- Due to passive control force of the weight on the lever, the fitting may be closed at loss of pressure up to 2,5 bars
- Possibility of two-phase closing (slow fitting closely to the seat) – in case of hydroactuator control fully adjustable period of both phase duration
- Function of the back fitting (including two-phase proper closing) is maintained also in case of electricity supply disconnection
- Possibility of adjustment for building lengths according to the customer request
- Connection according to EN 1092-1 (after agreement also another GOST standard)

Operating data

Material of body	PN	Working pressure MPa / Working temperature °C			
		20	100	150	200
P265GH (W.Nr.1.0425)	6	0,60	0,60	0,60	0,60
	10	1,00	1,00	1,00	1,00
	16	1,60	1,60	1,60	1,60
	25	2,50	2,50	2,50	2,50
P355NL1 (W.Nr.1.0566) P355NL2 (W.Nr.1.1106)	6	0,60	0,60	0,60	0,60
	10	1,00	1,00	1,00	1,00
	16	1,60	1,60	1,60	1,60
X6CrNiTi18-10 (W.Nr.1.4541)	25	2,50	2,50	2,50	2,50
	6	0,60	0,60	0,58	0,55
	10	1,00	1,00	0,97	0,91
	16	1,60	1,60	1,55	1,46
	25	2,50	2,50	2,43	2,28

Operating conditions

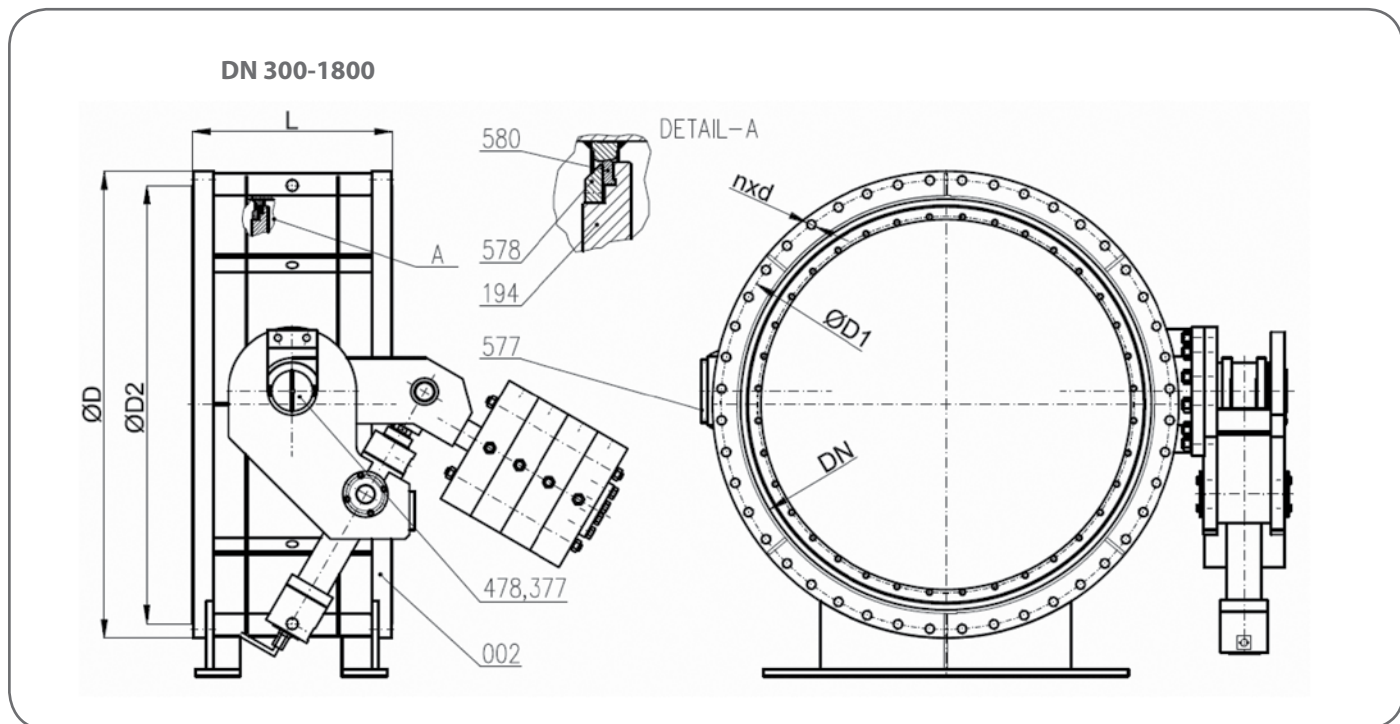
Working temperature °C	Material of sealing	Proper application	Improper application
From -40 to +150	EPDM	Steam, hot water, ozone	Mineral oils and fats
From -20 to +100	NBR	Water, air, oil, petroleum, kerosene, non-aggressive gases	
From -20 to +180	FPM - VITON	High chemical and heat resistance; oil products, stack and coke - oven gas	Steam and hot water



DATA SHEET K18

Materials of main parts

Flanged type, DN 300 – 1800, PN 6 – 25



Pos.	Name	Material	
		Carbon steel	Stainless steel
	Body	P265GH P355NL1, NL2	X6CrNiTi18-10
	Cover		
	Disc		
	Pressure ring		
	Sealing	S355J2	
	Shaft	Stainless sealing surface + sealing EPDM, NBR, FKM	
	Pin	X20Cr13	X6CrNiTi18-10, X17CrNi16-2



DATA SHEET K18

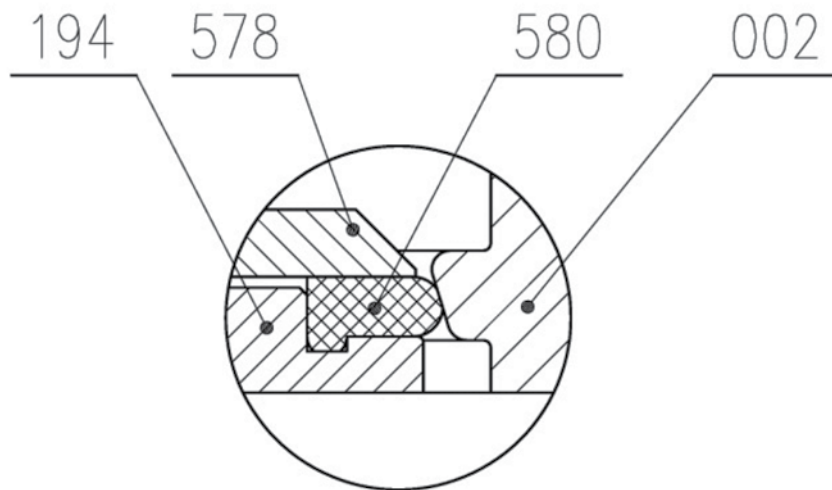
Dimensions according to EN

PN	DN	D mm	D1 mm	D2 mm	Hmm	Lmm	n	d mm	m kg
6	300	440	395	365	410	270	12	22	260
	350	490	445	415	460	290	12	22	350
	400	540	495	465	520	310	16	22	415
	450	595	550	520	570	330	16	22	455
	500	645	600	570	620	350	20	22	635
	600	755	705	670	720	390	20	26	880
	700	860	810	775	820	430	24	26	1090
	800	975	920	880	930	471	24	30	1250
	900	1075	1020	980	1050	510	24	30	1450
	1000	1175	1120	1080	1100	550	28	30	2100
	1200	1405	1340	1295	1300	630	32	33	2800
	1400	1630	1560	1510	1500	710	36	36	3100
	1600	1830	1760	1710	1700	790	40	36	3500
1800	2045	1970	1920	1900	870	44	39	5500	
10	300	445	400	370	410	270	12	22	283
	350	505	460	430	460	290	16	22	375
	400	565	515	482	520	310	16	26	482
	450	615	565	532	570	330	20	26	495
	500	670	620	585	620	350	20	26	670
	600	780	725	685	720	390	20	30	950
	700	895	840	800	820	430	24	30	1150
	800	1015	950	905	930	470	24	33	1400
	900	1115	1050	1005	1050	510	28	33	1750
	1000	1230	1160	1110	1100	550	28	36	2340
	1200	1455	1380	1330	1300	630	32	39	3180
	1400	1675	1590	1535	1500	710	36	42	3800
	1600	1915	1820	1760	1700	790	40	48	4505
1800	2115	2020	1960	1900	870	44	48	6500	
16	300	460	410	378	410	270	12	26	305
	350	520	470	438	460	290	16	26	400
	400	580	525	490	520	310	16	30	505
	450	640	585	550	570	330	20	30	525
	500	715	650	610	620	350	20	33	710
	600	840	770	725	720	390	20	36	1010
	700	910	840	795	820	430	24	36	1205
	800	1025	950	900	930	470	24	39	1490
	900	1125	1050	1000	1050	510	28	39	1875
	1000	1255	1170	1115	1100	550	28	42	2230
	1200	1485	1390	1330	1300	630	32	48	3200
	1400	1685	1590	1530	1500	710	36	48	3890
	1600	1930	1820	1750	1700	790	40	56	4900
1800	2130	2020	1950	1900	870	44	56	7500	
25	300	485	430	395	410	270	16	30	315
	350	555	490	450	460	290	16	33	410
	400	620	550	500	520	310	16	36	525
	450	670	600	555	570	330	20	36	560
	500	730	660	615	620	350	20	36	750
	600	845	770	720	720	390	20	39	1060
	700	960	875	820	820	430	24	42	1250
	800	1085	990	930	930	470	24	48	1550
	900	1185	1090	1030	1050	510	28	48	1930
	1000	1320	1210	1140	1100	550	28	56	2400
	1200	1530	1420	1350	1300	630	32	56	3800
	1400	1755	1640	1560	1500	710	36	62	5000
	1600	1975	1860	1780	1700	790	40	62	5800
1800	2195	2070	1985	1900	870	44	70	8360	

DATA SHEET K18

Sealing of the disc

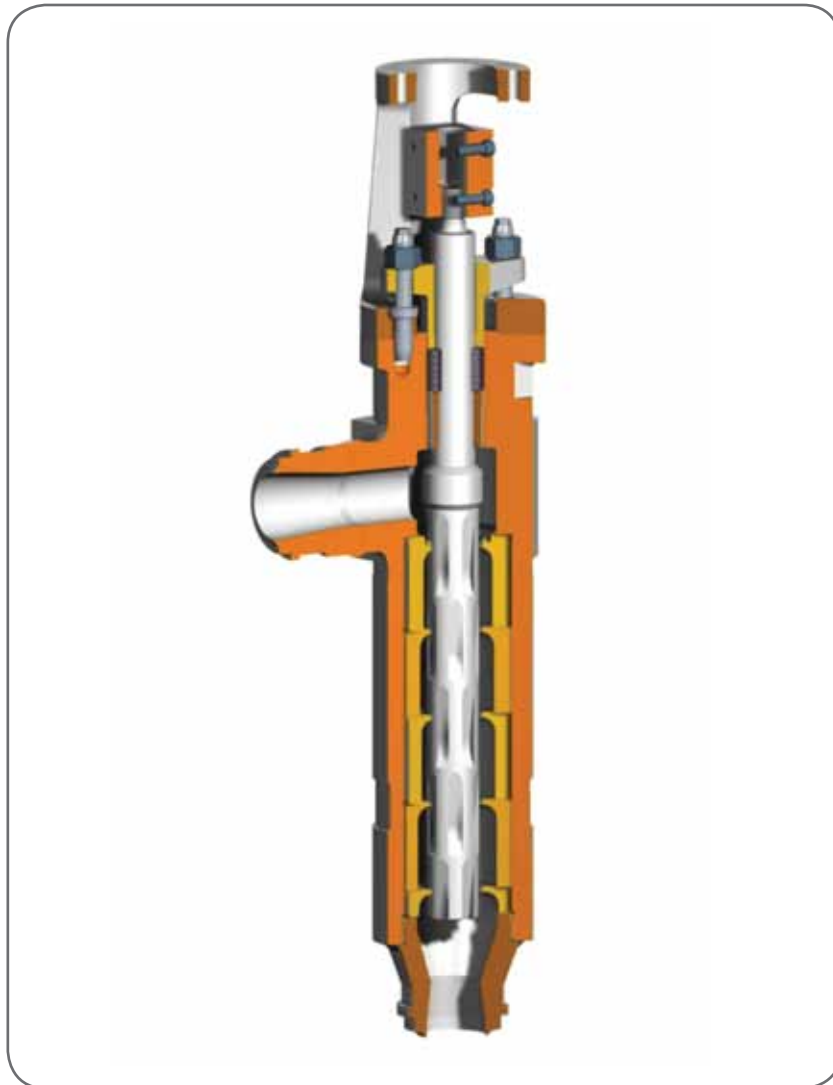
Rubber sealing ring (EPDM, NBR, FKM-VITON)



Pos.	Name	Material	
		Carbon steel	Stainless steel 1
002	Body	x	x
194	Disc	x	x
578	Pressure ring	x	x
580	Sealing ring	EPDM, NBR, FKM -VITON	



Type K81
DN 25 - 150
PN 63 - 400



Multistage Control Valve

Butt-Welded



DATA SHEET K81

Application

• Regulation valves reducing pressure drop for fluids (i.e. the pressure difference at the inlet and outlet side) in the range of 5.1 to 20 MPa, for vapor and gas expansion ratio (i.e. the ratio of the outlet pressure to the inlet pressure) in the range of 0.7 to 0.2

• Industry

Power engineering, chemical facilities

• Environment

Normal, tropical, explosive, seismic

Technical description

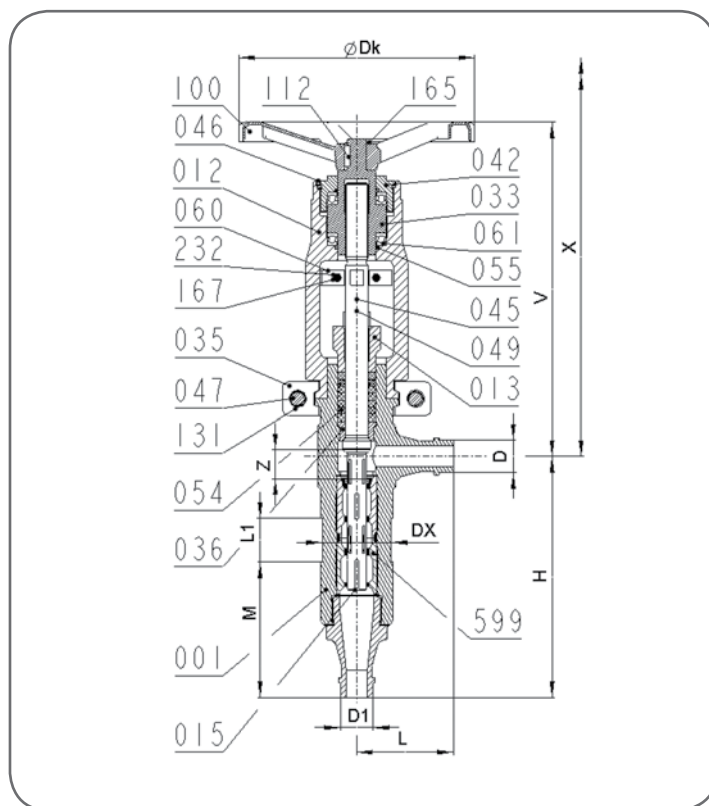
- Angle valve
- Forged body
- Gland valve

Operation

- Manual
- Electric servomotor

Connection

- Butt-welded



Valves with manual control

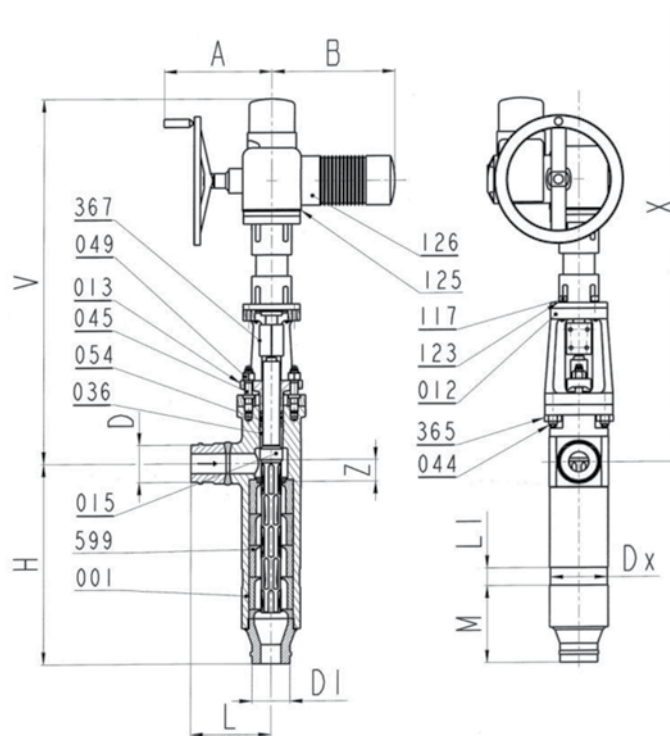
Dimensions

DN	PN (CLASS)	A	B	D	D1	Dx	H	L	L1	M	V	X	z	m
40/80	63-400 (400-2500)	408	325	49	89	105	350	120	45	150	905	1200	44	105
65/125		408	325	77	140	150	00	200	55	210	945	1250	64	155
80/80		408	325	89	89	175	483	250	55	238	955	1250	73	245
100/100		408	325	116	116	175	623	250	55	235	955	1250	68	210



DATA SHEET K81

Valves with electric servomotor

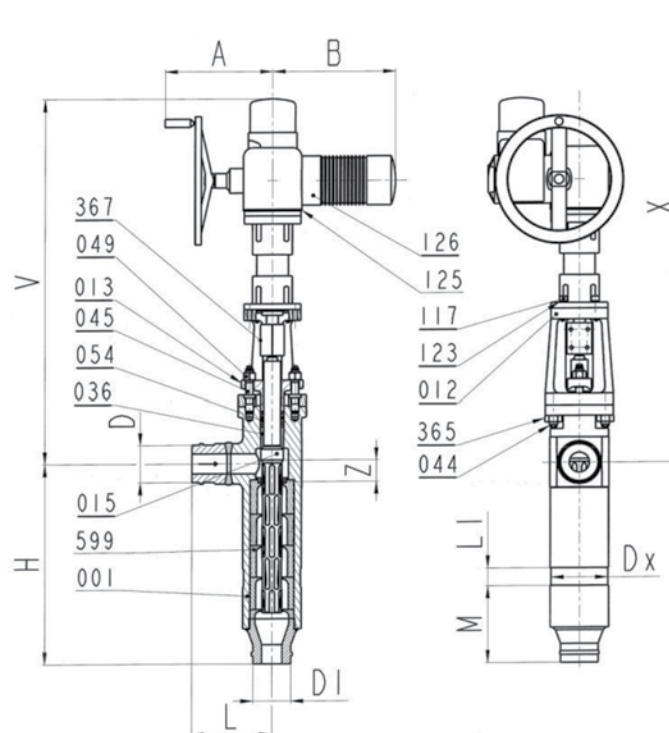


DN	PN (CLASS)	A	B	D	D1	Dx	H	L	L1	M	V	X	z	m
40/80		282	254	49	89	105	350	120	45	150	800	1100	44	90
65/125	63-400	282	254	77	140	150	500	200	55	210	800	1100	64	140
80/80	(400-2500)	384	336	89	89	175	483	250	55	238	901	1200	73	260
100/100		384	336	116	116	175	623	250	55	235	901	1200	68	260



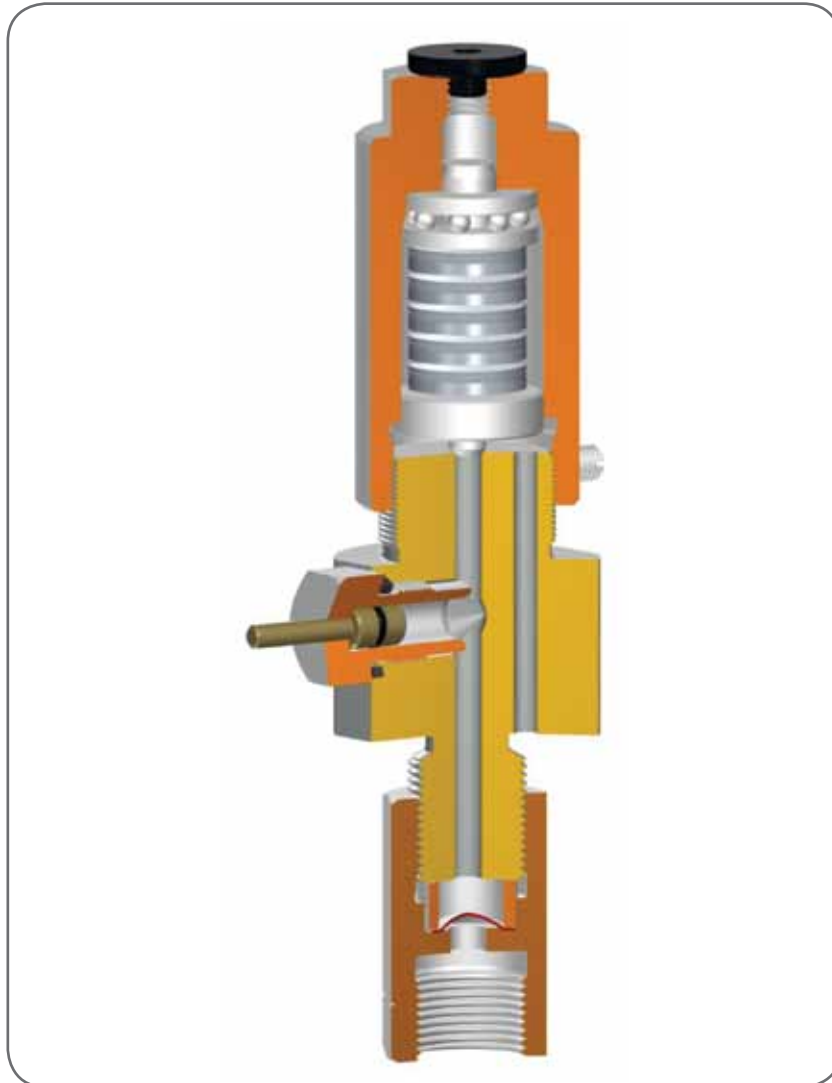
DATA SHEET K81

Materials of main parts



Pos.	Name	Material
001	Body	Carbon, non alloyed steel: 11416, l*55?5Cr{CS5^ Low alloyed steel: 15128,14MoV6-3,13CrMo4-5,16Mo3,10CrMo910 High alloyed steel: 15NiCuMoNb5-6-4, X10CrMoVNB9-1 Austenitic steel: X6CrNiTi18-10, 08X18H10T
599	Insert	X6CrNiTi 18-10, 08X18H10T
	Surfacing	Type Stellite 6 (type CI 111)
015	Stem	17029.4, 17027.4
012	Yoke	15128,11 CrMo9-10
013	Gland lid	15128,42 2744, GS-17CrMo5-5
036	Bushing	08X18H10T,X6CrNiTi 18-10,17 247
044	Bolt	15320,40CrMoV4-7
045	Screw	15 320,40CrMoV4-7
049	Nut	15 236,42CrMo4, 34Cr4
054	Sealing ring	Expanded graphite - density 1,7 g/cm ³
367	Coupling	15128,11 CrMo9-10
365	Nut	15320,40CrMoV4-7
125	Isolating ring	TEMAPLUS
117	Screw	CSN EN IS04762
123	Washer	DIN 7980
126	El. servomotor	Auma

Type K89
DN 15
PN 63 - 630



Relief Valve
Membrane Rupture Insurance Devices

Butt-Welded



DATA SHEET K89

Application

• Protection of the central cavity of the valve against overpressure

• Fluids

Water, steam and non-aggressive working fluids

• Industry

Power plants, chemical and industry appliances

Technical description

- Body made of stainless steel
- Protected by bursting disc
- Blow off by the part with disc springs

Accessories

- Condensing pipe
- Shut-off valve with the locking device
- Coupling components with seal
- Bursted disc indicator

Connection

- Butt-welded according to ČSN EN 12627, ČSN 131075, DIN 2559
- Other upon request

Operating and maintenance

- AK 9908.89 – Technical description and instructions to operating, maintenance and repair of the relief valvet

Operating data

- Seals up to 1,1 operating pressure P_p , blows off at 1,3 P_p

Operation

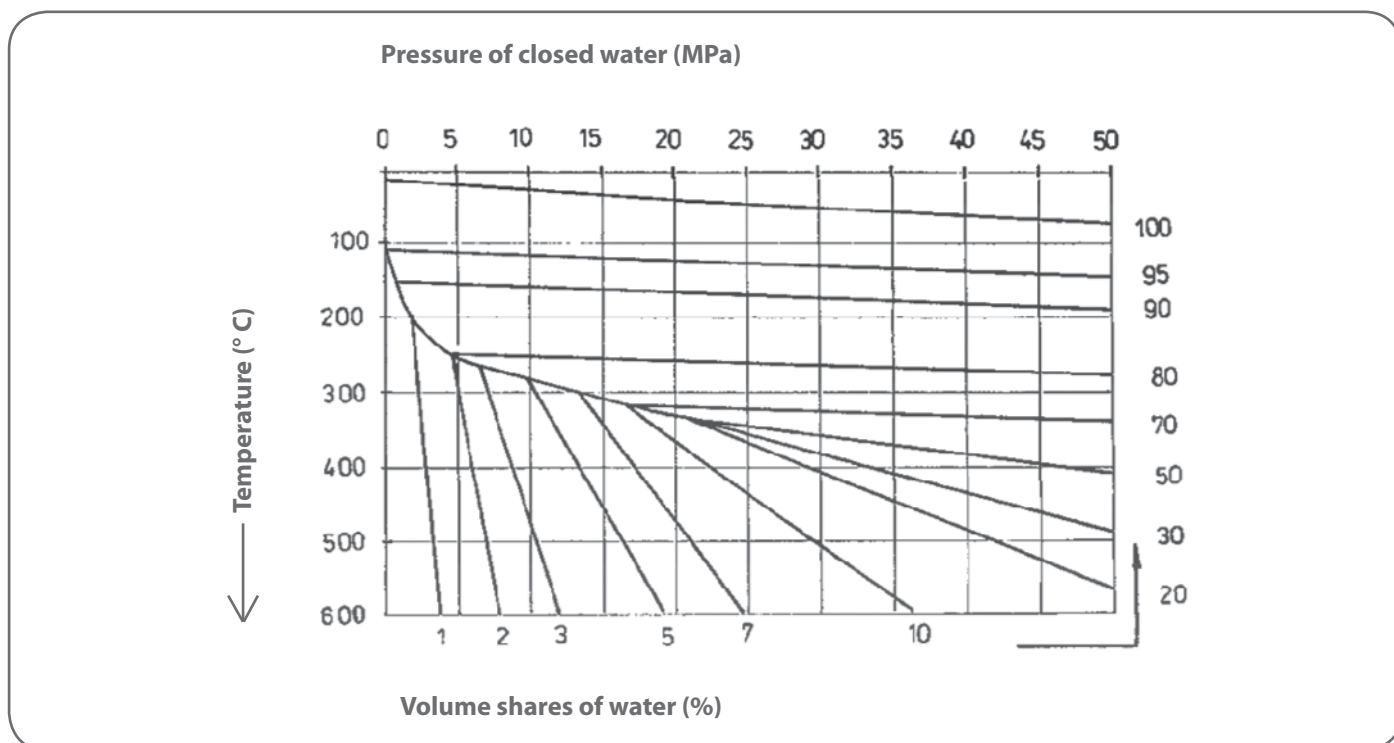
- Self-acting



Directive / standard	Name
97/23/ES	Directive of European Parliament
CSN EN 19	Industrial valves - marking of the metal valves
CSN EN 1503-1	Valves - Materials for bodies, covers with holes and covers - Part 1
CSN EN 10204	Types of documents of controls
CSN EN 12266-1	Industrial valves - Testing of valves - Part 1: Pressure testing
CSN EN 12516-2	Industrial valves - Strength design of the casing - Part 2: The calculation method for the steel casing of the valve
CSN EN ISO 4126-2	Safety device with a bursting disc
DIN 2093	Disc mats

DATA SHEET K89

The increase of the pressure in central cavity of the valve, depending on volume fraction of water and temperature changes



Materials of main parts

Materials

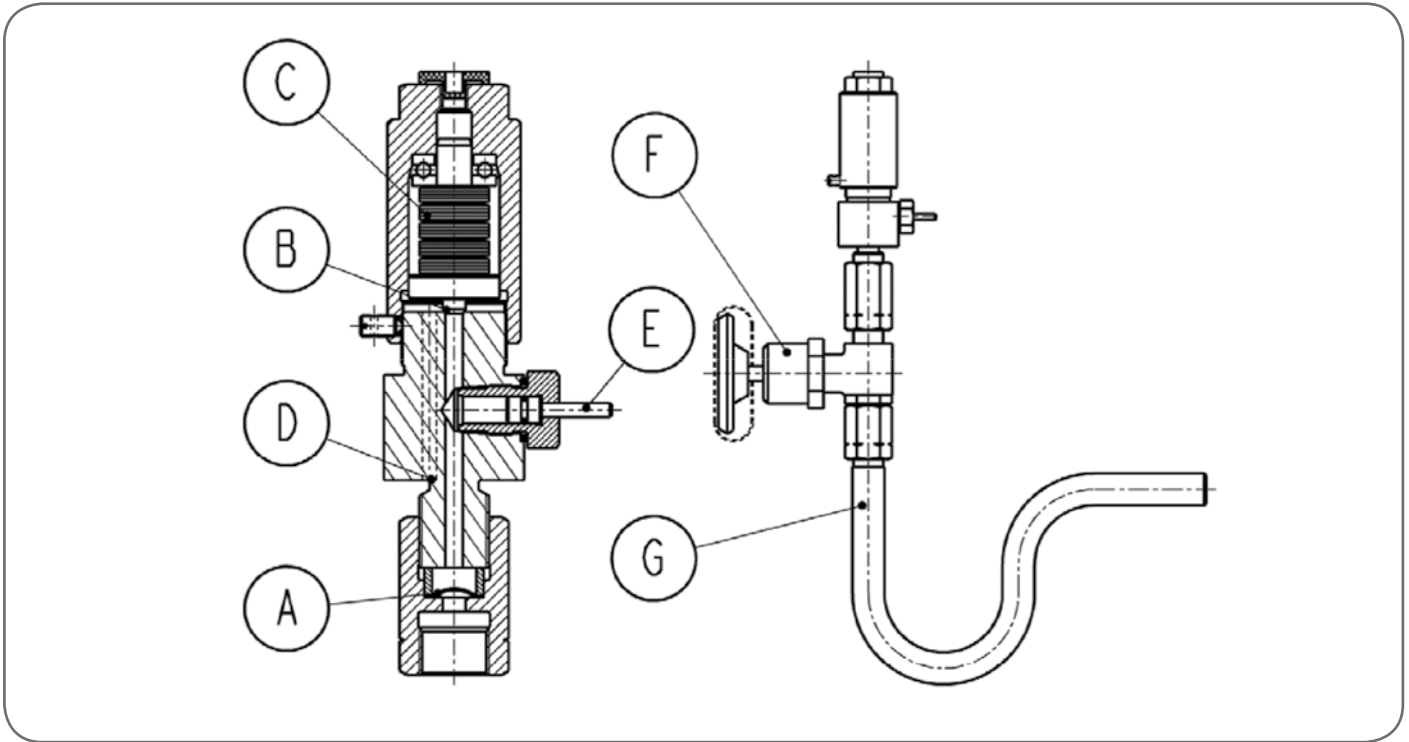
Name				
Body of the secured valve	11416, P250GH	15128	X10CrMoVNb9-1	08X18H10T
	13CrMo4-5	10CrMo910		X6CrNiTi18-10
	15NiCuMoNb5-6-4	11CrMo9-10		
	16Mo3 (15Mo3)	14MoV6-3		
Condensing loop	16Mo3	11CrMo9-10	X10CrMoVNb9-1	08X18H10T X6CrNiTi18-10
Body K89	08X18H10T, X6CrNiTi18-10			
Shut-off valve	AN 137517 - A - PN 630			
Sealing	424005			
Bursting disc	NI			
Disc spring	DIN 2093			
Sealing ring	DIN 7603			
Indicator	08X18H10T, X6CrNiTi18-10			
Sealing ring	17027			
„O” ring	Rubber			

Note:Spare parts – bursting disc – 2 pcs. with delivery



DATA SHEET K89

Advantages of construction



- | | |
|----------|--|
| A | Bursting device:
Reliable valve protection against overpressure |
| B | Closing seat of the blow off part:
Blow-off and closing of the flow after bursting of the bursting disc |
| C | Disc springs:
Ensure closing |
| D | Drain:
Safe removal of the working fluid |
| E | Bursting signalization:
Information for operating staff and control centre |
| F | Globe valve with locking device:
Prevents manipulation during operation, closes during changing of bursting disc |
| G | Condensing pipe:
Lowers temperature of medium, allows position outside the isolation of the valve |