



**TAMP**

**PRODUCT CATALOGUE**





# INDUSTRIAL VALVES PRODUCTION



## HISTORY

RASCO - TAMP has a long tradition of manufacturing industrial valves and equipment. The manufacture of valves began back in 1959, and since 1968 we have been delivering the products to foreign customers across Europe, Africa and Asia.

Valves for energy facilities and industrial plants are a priority on our development path. We are specialized in products of large dimensions up to DN2200.

## PRODUCTS

The product range consists of a wide selection of pipe devices and equipment for the transport of fluids, gases. Valves are manufactured for pressures up to 63 bar and dimensions with a diameter up to 2200 mm.

RASCO - TAMP manufactures valves for standard and special purposes. In our design office, we design new products according to customers' requirements.

- gate valves of all shapes up to DN 2000 mm
- SLUICE GATES for water management and wastewater treatment
- butterfly valves up to DN 2200 mm
- swing and butterfly check valves up to DN 1200 mm
- turbine inlet valves up to DN 2200 mm
- level regulators with a float up to DN 300 mm
- face-to-face and disface-to-face pieces and compensators
- air release valves and flame arresters for reservoirs
- Welded constructions upon customer's request





The largest valve in the history of the  
RASCO - TAMP - DN 1500 / year . 2006<sup>th</sup>



*RASCO - TAMP  
manufactures valves  
for standard and special  
purposes. In our design  
office, we design new  
products according to  
customers' requirements.*



## **VALVES ARE OFFERED WITH THE FOLLOWING DRIVE SYSTEMS**

- gear
- electric motor drive
- pneumatic drive
- hydraulic drive.

## **EQUIPMENT**

RASCO - TAMP has large manufacturing capacities to produce and process metal objects, especially large industrial welded products. We are also equipped with the most modern equipment for surface protection by painting.

Large dimension parts are processed on horizontal (Karusel) lathes of max 3300 mm processing diameter and on horizontal drilling machines (Bohrwerk).

The welding shop is equipped with machines for all types of welding and built-up welding.

Cutting and cold forming of materials is performed using advanced CNC presses for sheet metal bending, CNC plasma cutter and CNC shears.

Small dimension parts are manufactured on CNC drilling machines, universal lathes and milling machines.

In addition, there is also the possibility of a round and flat grinding and a vertical planing.







## REFERENCES

In more than 50 years of industry experience, we have successfully completed numerous challenging projects.

Solutions tailored to the individual customer's needs in the oil and gas, chemical and petrochemical industries, as well as in the energy and water management comply with the applicable standards.

RASCO - TAMP products are installed in many countries in Europe, and perform their function in a secure and reliable manner.



# GATE VALVES

Gate valves are widely used in public utilities for water supply, sewage and heating systems, in energy facilities to produce steam, hot water, compressed air, etc., in metallurgy for coke-oven gas and gaseous fuels, in the petrochemical and chemical industry, shipbuilding and other branches of economic activity. They are installed in both main and technological pipelines wherever care is taken of the energy losses during transport, especially transport of liquids.

In the closed position of the wedge, the flow of the operational substance is stopped, and the pipeline sections are hermetically separated.

In the open position of the wedge, the smooth flow of the operational substance with relatively little loss of energy is ensured. The application of valves is particularly recommended in the pipelines in which they are fully open or fully closed during operation.

The direction of the operational substance flow can be arbitrary, and even variable. Not recommended for frequent opening – closing.

Gate valves are not suitable for regulating the operational substance flow.



2000

**DN**



63

**PN**



425

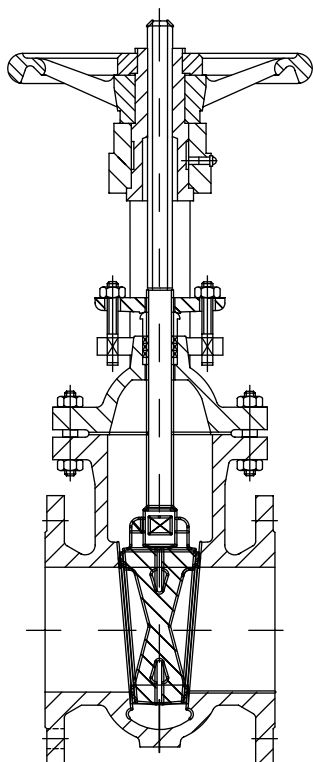
**TEMP**





A

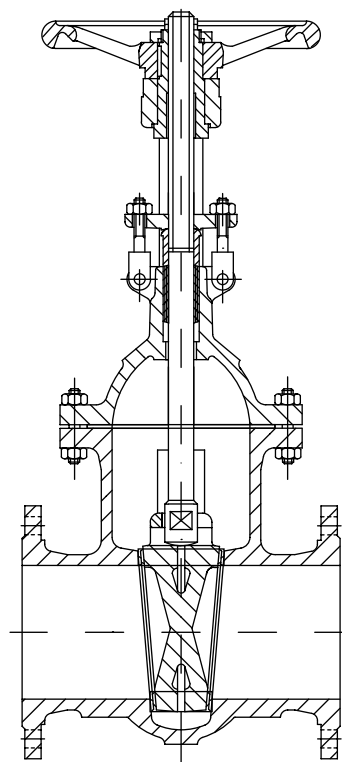
## FLAT

Solid  
wedgeFlexible  
wedgeDouble disc  
wedge

DN	40 - 2000	PN	1 - 10/16
APPLICATION TEMPERATURE		150°C - 1200°C	
STANDARD		▪ EN 558 - 1    ▪ Series 14	
SPINDLE STRUCTURE		▪ Non-rising    ▪ Rising	
Connection		Flange	

B

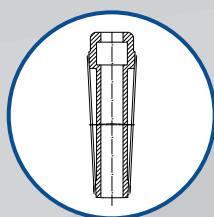
## OVAL

Solid  
wedgeFlexible  
wedgeDouble disc  
wedge

DN	40 - 1200	PN	6 - 25
APPLICATION TEMPERATURE		150°C - 425°C	
STANDARD		▪ EN 558-1    ▪ Series 15    ▪ GOST	
SPINDLE STRUCTURE		▪ Non-rising    ▪ Rising	
Connection		Flange	

## WEDGE TYPES

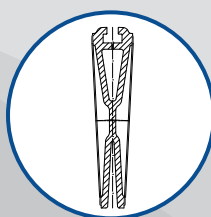
## Solid wedge



Solid wedge of a gate valve has a wedged round plate shape, which can be raised and lowered at a right angle to the flow direction, using a spindle and trapezoidal threaded nut. It is used in operating conditions of lower pressures and temperatures.

Cast cast iron sealing rings of a wedge are made of stainless steel or non-ferrous metals.  
In gate valves of cast steel or steel, rings are made by welding on stainless steel.

## Flexible wedge

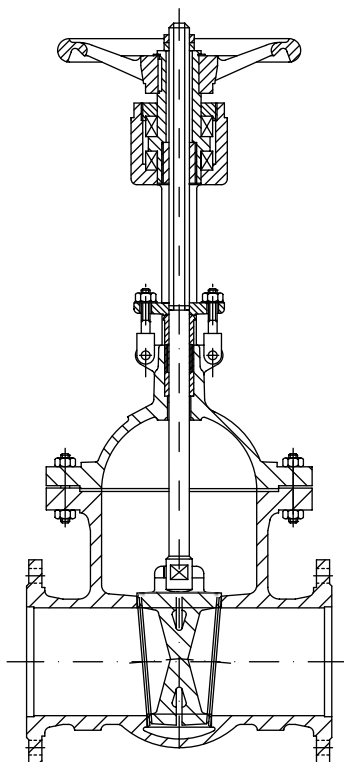


Elastic wedge of a gate valve has a wedged round plate shape, which can be raised and lowered at a right angle to the flow direction, using a spindle and trapezoidal threaded nut. It is used in operating conditions of medium pressures and temperatures.

In gate valves of cast steel or steel, rings are made by welding on stainless steel.



## ROUND



Solid wedge

Flexible wedge

### Double disc wedge

<b>DN</b>	50 - 1200	<b>PN</b>	25 - 63
<b>APPLICATION TEMPERATURE</b>		230°C - 425°C	
<b>STANDARD</b>	▪ EN 558 - 1	▪ Series 26	▪ Series 15
<b>SPINDLE STRUCTURE</b>		▪ Non-rising	▪ Rising
<b>Connection</b>		Flange	

**D**

## KNIFE

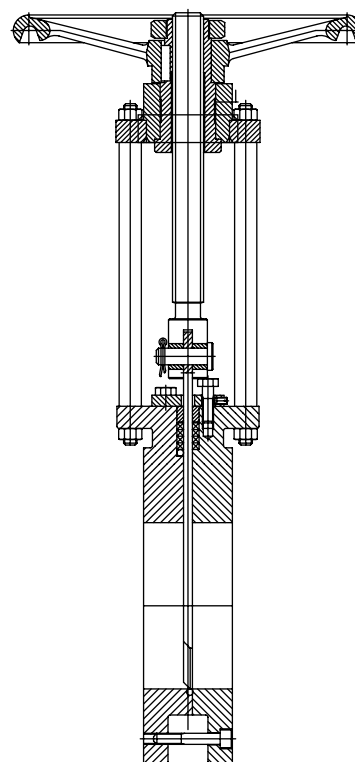
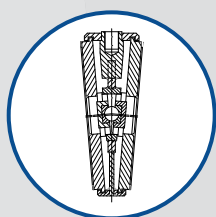


Plate  
wedge

<b>DN</b>	150 - 1200	<b>PN</b>	2,5 - 16
<b>APPLICATION TEMPERATURE</b>		80°C - 230°C	
<b>STANDARD</b>	▪ EN 558 - 1	▪ Series 13 ▪ Series 16	▪ ANSI
<b>SPINDLE STRUCTURE</b>		▪ Non-rising	▪ Rising
<b>Connection</b>		▪ Flange	▪ Non - flange

## Double disc wedge



Double disc wedge of a gate valve has a wedged round plate shape, which can be raised and lowered at a right angle to the flow direction, using a spindle and trapezoidal threaded nut. It is used in operating conditions of high pressures and temperatures. The plates are Double disc thanks to a ball spacer. The plates are made of cast steel or Knife materials, and the rings are welded with a stainless electrode.

## Plate wedge

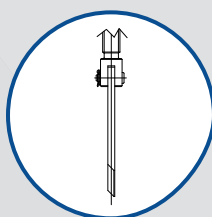


Plate wedge of a gate valve has a flat plate shape, which can be raised and lowered at a right angle to the flow direction, using a spindle and trapezoidal threaded nut. It is mostly made of stainless materials. A required specific pressure for ensuring hermetic sealing is achieved by the contact of appropriate surfaces of a sealing plate disc and sealing rings, accommodated in the proper channels of the housing.







**6.3210**  
**6.3230**  
**6.3234**



**6 - 10**  
**0,6 - 10**  
**0,6 - 10**



**40 - 150**  
**200 - 1400**  
**40 - 1400**



**150°C**  
**150°C**  
**230°C**

## SCOPE OF APPLICATION

Gate valves are used as sealing devices in pipelines to stop the flow of a flowing fluid. In the basic version, the embedded materials are suitable for the flow of water, steam, gas, oil and petroleum products, as well as for other non-aggressive fluids, whereas for aggressive fluids, a valve is produced from special materials.

## PRODUCT DESIGN

Products are manufactured according to the current EN standards for this type of products, and they can also be manufactured according to DIN, ANSI or GOST standard.

Connection is a flange according to EN 1092-1.

Face-to-face dimensions are in accordance with EN 558-1 or with a face-to-face dimension upon special request (40).

In the basic version, the products are made for manual operation using a hand wheel with a direct connection or a gear connection.

The products are also made with an electric, hydraulic or pneumatic drive system.

## APPLICATION

Gate valves have found a wide range of applications in thermal power, hydroelectric power, petrochemical and refinery plants in water treatment, as well as in utilities buildings.

## PRESSURES AND TEMPERATURES

The valves made of grey cast iron JL 1040 (GJL-250) are designed for temperatures from -10 °C to +230 °C, and according to the standard EN 1561.

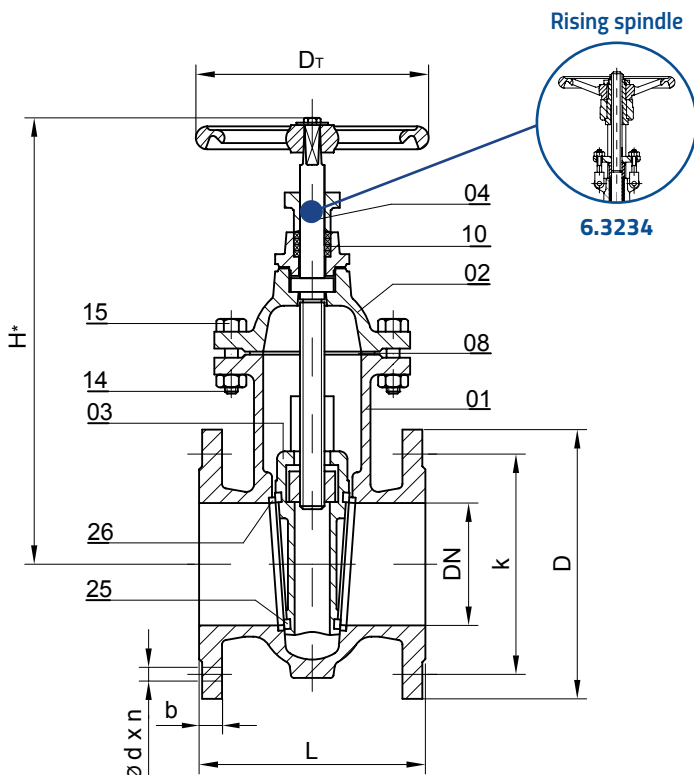


## MATERIALS

The material of which the gate valve main parts are made is grey cast iron JL 1040, the spindle is made of stainless steel, and sealing rings are made of brass, stainless steel or of their own material. Manufactured in accordance with PED 97/23/EC.

## TESTING

Testing is conducted in the manufacturer's test station using hydro test-water or air (6 bar), depending on the requirements for the use of the gate valve, and in accordance with the standard EN 12266-1 Part 1 and Part 2. Hermeticity classes can range from class A to D, where A is the class of zero leakage rate (100% airtight), and other classes have allowable leakage depending on the requirements for use and the product's nominal size (DN).



## MATERIAL STANDARD

Position	Name	Material	Material No.
01.02	Housing – cover	GJL - 250 (JL 1040)	0.6025
10	Spindle seal	Non-asbestos braid	-
11	Screw	-	5,6
07	Nut	-	5
04	Spindle	X20Cr13	1.4021
09	Sealing plate disc	Aramid	-
03	Wedge	GJL - 250 (JL 1040)	0.6025
25-26	Brass	CuZn39Pb3	CF724R

## STANDARDS USED

Technical requirements	Face-to-face dimension: FTF 14	Standard connecting flange: PN 10	Structure	Testing	Test report: 3.1
pr EN 1171	EN 558-1	EN 1092-1	EN 19	EN 12266-1	EN 10204

## RELATIONSHIP BETWEEN OPERATING PRESSURE AND TEMPERATURE

	DN	-10 > + 120	> 150	> 180	> 200	> 225
<b>6.3210</b>	40 - 150	10	9	8,4	-	-
<b>6.3230</b>	200 - 300	6	5,4	5	-	-
	350 - 500	4	3,6	3,4	-	-
	600 - 700	2,5	2,3	2,1	-	-
	800	1,6	1,4	1,3	-	-
	900 - 1000	1	0,9	0,8	-	-
<b>6.3234</b>	40 - 150	10	9	8,4	8	7,4
	200 - 300	6	5,4	5	4,8	4,4
	350 - 500	4	3,6	3,4	3,2	3
	600 - 700	2,5	2,3	2,1	2	1,9
	800	1,6	1,4	1,3	1,3	1,2
	900 - 1000	1	0,9	0,8	0,8	0,7

## DIMENSIONS AND WEIGHTS

6.3210									
DN	L	D	b	k	d	n	H*	DT	G [kg]
40	140	150	18	110	19	4	227	140	8,5
50	150	165	20	125	19	4	247	140	9,5
65	170	185	20	145	19	4	275	160	13
80	180	200	22	160	19	8	300	160	16
100	190	220	24	180	19	8	340	180	21
125	200	250	26	210	19	8	400	200	30
150	210	285	26	240	23	8	420	200	37,5

6.3230									
200	230	340	22	295	23	8	550	315	70
250	250	395	24	350	23	12	635	400	120
300	270	445	24	400	23	12	715	400	150
350	290	505	26	460	23	16	825	400	200
400	310	565	28	515	28	16	935	500	270
450	330	615	28	565	28	20	995	500	335
500	350	670	30	620	28	20	1130	640	405
600	390	780	30	725	31	20	1310	720	650
700	430	895	32	840	31	24	1470	-	840
800	470	1015	34	950	34	24	1590	-	1250
900	510	1115	36	1050	34	28	2020	-	1730
1000	550	1230	36	1160	37	28	2250	-	1900
1200	630	1455	40	1380	41	32	2430	-	2900
1400	710	1575	44	1520	31	36	3050	-	3810

6.3234									
40	150	150	16	110	19	4	300	160	15
50	150	165	16	125	19	4	325	160	18
65	170	185	16	145	19	4	360	160	22
80	180	200	18	160	19	8	400	200	28
100	190	220	18	180	19	8	450	200	38
125	200	250	20	210	19	8	550	200	47
150	210	285	20	240	23	8	660	250	61
200	230	340	22	295	23	8	755	315	76
250	250	395	24	350	23	12	980	400	126
300	270	445	24	400	23	12	1110	400	160
350	290	505	26	460	23	16	1355	400	235
400	310	565	28	515	28	16	1475	500	305
450	330	615	28	565	28	20	1610	500	370
500	350	670	30	620	28	20	1760	640	440
600	390	780	30	725	31	20	2040	720	710
700	430	895	32	840	31	24	2300	-	925
800	470	1015	34	950	34	24	2675	-	1375
900	510	1115	36	1050	34	28	2950	-	1900
1000	550	1230	36	1160	37	28	3330	-	2090
1200	630	1455	40	1380	41	32	3770	-	3190
1400	710	1575	44	1520	31	36	4340	-	4190

## SPECIAL FEATURES

### A - With additional operating elements

Code	Description
1	With a gear and electric motor drive
2	With a gear that can be toothed or worm
3	With a directly connected electric motor drive
4	With a lever mechanism for quick closing
5	With a sprocket (instead of a manual wheel)
7	With a pneumatic cylinder drive
8	With a hydraulic cylinder drive

### B - With extended or additional cylinder elements

Code	Description	
23	With a gear and electric motor drive	BP
24	With a gear that can be toothed or worm	DP
25	With the position indicator of the sealing body	PI
26	With a directly connected electric motor drive	LS
32	With a lever mechanism for quick closing	GS
33 - 34	With a sprocket (instead of a manual wheel)	
35	With a pneumatic cylinder drive	ER
36	With a hydraulic cylinder drive	
37 - 38	With counter flanges and a connection kit	FS
39	With a locking latch	LD
42	With a heating jacket	
44	With an opening for connecting a water pot for spindle water-sealing	
46	With a drain valve	DV

### C - Additional features

Code	Description
28	With processed guide rails for horizontal installation
29	With additional parts for installation or manipulation
30	With an air release plug on the cover
40	With special face-to-face dimensions





**6.3400**  
**6.3401**  
**6.3402**  
**6.3403**



**0,6 - 10**  
**0,6 - 10**  
**0,6 - 10/16**  
**0,6 - 10**



**50 - 1200**  
**50 - 1200**  
**1200**  
**400 - 1200**



**150°C**  
**230°C**  
**400°C**  
**400°C**

## SCOPE OF APPLICATION

Gate valves are used as sealing devices in pipelines to stop the flow of a flowing fluid. In the basic version, the embedded materials are suitable for the flow of water, steam, gas, oil and petroleum products, as well as for other non-aggressive fluids, whereas for aggressive fluids, a valve is produced from special materials.

## PRODUCT DESIGN

Products are manufactured according to the current EN standards for this type of products, and they can also be manufactured according to DIN or GOST standard.

Connection is a flange according to EN 1092-1 or it has welding ends.

Face-to-face dimensions are in accordance with EN 558-1 or with a face-to-face dimension upon a special request.

In the basic version, the products are made for manual operation using a hand wheel with a direct connection or a gear connection.

The products are also made with an electric, hydraulic or pneumatic drive system.

## APPLICATION

Gate valves have found a wide range of applications in thermal power, hydroelectric power, petrochemical and refinery plants in water treatment, as well as in utilities buildings.

## PRESSURES AND TEMPERATURES

Steel valves in the standard version are made of carbon steel groups 1E1 and 3E0, and they are used for temperatures from -10 °C to +300/400 °C.

For temperatures from -254 °C to +600 °C, the embedded materials are alloy steel group 4E0, 5E0, 6E0, 7E0 or stainless steel group 11E0, 12E0, 14E0, 15E0.

The application and use of the valves, where the standard EN 12516-1 specifies pressure and temperature dependence, depends on the embedded materials.



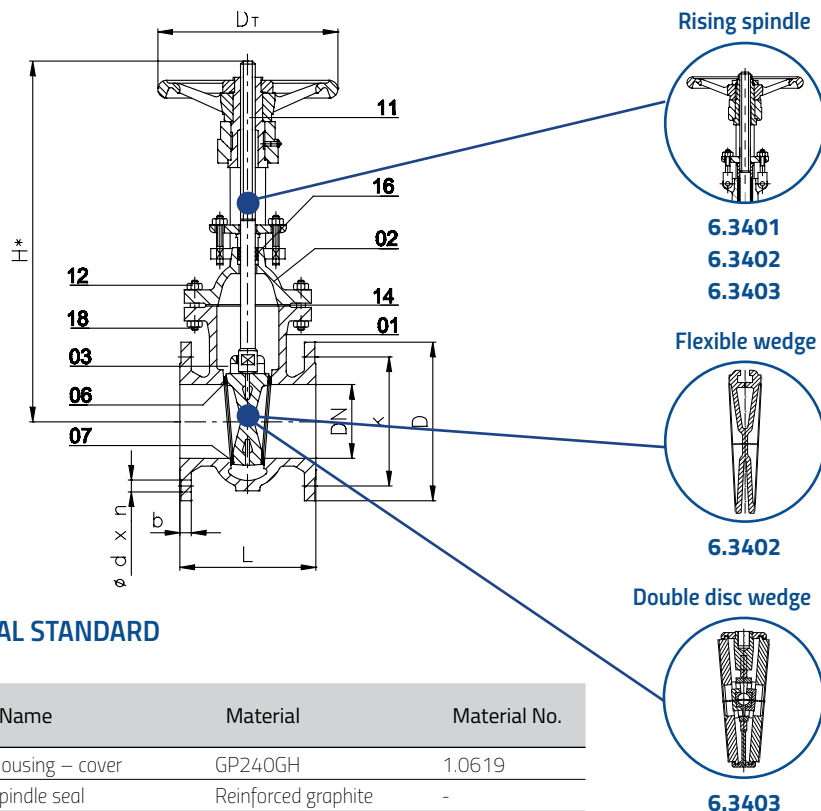
## MATERIALS

The material of the main parts is cast steel 1.0619, the spindle is made of stainless steel, and sealing surfaces are made of stainless steel or of their own material.

Manufactured in accordance with PED 97/23/EC.

## TESTING

Testing is conducted in the manufacturer's test station using hydro test-water or air (6 bar), depending on the requirements for the use of the gate valve, and in accordance with the standard EN 12266-1 Part 1 and Part 2. Hermeticity classes can range from class A to D, where A is the class of zero leakage rate (100% airtight), and other classes have allowable leakage depending on the requirements for use and the product's nominal size (DN).



## MATERIAL STANDARD

Position	Name	Material	Material No.
01.02	Housing – cover	GP240GH	1.0619
14	Spindle seal	Reinforced graphite	-
18	Screw		1.7225
12	Nut		1.1191
11	Spindle	X20Cr13	1.4021
16	Spindle seal	Graphite braid	-
03	Wedge	GP240GH/H II	1.0619/1.0425
06	Sealing ring – of a housing	Inox B17MoFe	1.4115
07	Sealing ring – of a wedge	Inox B17Fe	1.4015

## STANDARDS USED

Compliance with standards	Face-to-face dimension: FTF 14	Standard connecting flange: Flange PN 10 / 16	Structure	Testing	Test report: 3.1
EN 1984	EN 558-1	EN 1092-1	EN 19	EN 12266 - 1,2	EN 10204

## RELATIONSHIP BETWEEN OPERATING PRESSURE AND TEMPERATURE

	DN	-10 > +50	> 100	> 200	> 250	> 300	> 400
6.3400	FLAT CAST STEEL GATE VALVE – Solid wedge – Non-rising spindle						
	40 - 150	9,74	8,53	7,11	-	-	-
	200 - 300	5,58	5,12	4,26	-	-	-
	350 - 500	4	3,6	3,4	-	-	-
	600 - 700	2,32	2,13	1,78	-	-	-
	800	1,6	1,4	1,3	-	-	-
	900 - 1000	1	0,9	0,8	-	-	-
6.3401	FLAT CAST STEEL GATE VALVE – Solid wedge – Rising spindle						
	40 - 150	10	8,53	7,11	6,5	-	-
	200 - 300	6	5,12	4,26	3,9	-	-
	350 - 500	4	3,6	3,2	3,0	-	-
	600 - 700	2,5	2,13	1,78	1,62	-	-
	800	1,6	1,4	1,3	1,3	-	-
	900 - 1000	1	0,9	0,8	0,8	-	-
6.3402	FLAT CAST STEEL GATE VALVE – Flexible wedge – Rising spindle						
	40 - 150	10	8,53	7,11	6,5	5,89	5,28
	200 - 300	6	5,12	4,26	3,9	3,53	3,17
	350 - 500	4	3,6	3,2	3,0	2,7	2,43
	600 - 700	2,5	2,13	1,78	1,62	1,47	1,32
	800	1,6	1,4	1,3	1,2	1,08	0,97
	900 - 1000	1	0,9	0,8	0,7	0,63	0,57

## DIMENSIONS AND WEIGHTS

6.3400									
6.3401									
6.3402									
6.3403									
DN	L	D	b	k	d	n	D <sub>T</sub>	H*	G [kg]
50	150	165	20	125	18	4	160	370	20
65	170	185	18	145	18	4	160	390	24
80	180	200	20	160	18	8	160	420	31
100	190	220	20	180	18	8	200	470	42
125	200	250	22	210	18	8	200	575	51
150	210	285	22	240	22	8	200	630	66
200	230	340	24	295	22	8	250	755	83
250	250	395	26	350	22	12	315	980	138
300	270	445	26	400	22	12	315	1110	175
350	290	505	26	460	22	16	400	1355	260
400	310	565	28	515	26	16	400	1475	335
450	330	615	28	565	26	20	400	1610	405
500	350	670	28	620	26	20	500	1760	485
600	390	780	28	725	30	20	500	2040	780
700	430	895	30	840	30	24	630	2300	1015
800	470	1015	32	950	33	24	720	2675	1510
900	510	115	34	1050	33	28	-	2950	2090
1000	550	1230	34	1160	36	28	-	3330	2300
1200	630	1455	40	1380	39	32	-	3770	3510

## SPECIAL FEATURES

### A - With additional operating elements

Code	Description
1	With a gear and electric motor drive
2	With a gear that can be toothed or worm
3	With a directly connected electric motor drive
4	With a lever mechanism for quick closing
5	With a sprocket (instead of a manual wheel)
7	With a pneumatic cylinder drive
8	With a hydraulic cylinder drive

### B - With extended or additional cylinder elements

Code	Description	
23	With a gear and electric motor drive	BP
24	With a gear that can be toothed or worm	DP
25	With the position indicator of the sealing body	PI
26	With a directly connected electric motor drive	LS
32	With a lever mechanism for quick closing	GS
33 - 34	With a sprocket (instead of a manual wheel)	
35	With a pneumatic cylinder drive	ER
36	With a hydraulic cylinder drive	
37 - 38	With counter flanges and a connection kit	FS
39	With a locking latch	LD
42	With a heating jacket	
44	With an opening for connecting a water pot for spindle water-sealing	
46	With a drain valve	DV

### C - Additional features

Code	Description
28	With processed guide rails for horizontal installation
29	With additional parts for installation or manipulation
30	With an air release plug on the cover
40	With special face-to-face dimensions





**6.3580**  
**6.3582**  
**6.3584**  
**6.3590\***



**2,5**  
**6**  
**10**  
**6**



**500 - 2000**  
**500 - 1500**  
**500 - 1500**  
**1100**



**300°C**  
**300°C**  
**300°C**  
**300°C**

## SCOPE OF APPLICATION

Gate valves are used as sealing devices in pipelines to stop the flow of a flowing fluid. In the basic version, the embedded materials are suitable for the flow of water, steam, gas, oil and petroleum products, as well as for other non-aggressive fluids, whereas for aggressive fluids, a valve is produced from special materials.

## PRODUCT DESIGN

Products are manufactured according to the current EN standards for this type of products, and they can also be manufactured according to DIN, ANSI or GOST standard.

Connection is a flange according to EN 1092-1 or it has welding ends.

Face-to-face dimensions are in accordance with EN 558-1 or with a face-to-face dimension upon a special request.

In the basic version, the products are made for manual operation using a hand wheel with a direct connection or a gear connection. The products are also made with an electric, hydraulic or pneumatic drive system.

## APPLICATION

Gate valves have found a wide range of applications in thermal power, hydroelectric power, petrochemical and refinery plants, cast iron and steel plants, in water treatment, as well as in utilities buildings.

## PRESSURES AND TEMPERATURES

Steel valves in the standard version are made of carbon steel groups 1E1 and 3E0, and they are used for temperatures from -10 °C to +300/400 °C.

For temperatures from -254 °C to +600 °C, the embedded materials are alloy steel group 4E0, 5E0, 6E0, 7E0 or stainless steel group 11E0, 12E0, 14E0, 15E0.

The application and use of the valves, where the standard EN 12516-1 specifies pressure and temperature dependence, depends on the embedded materials.

\* **6.3590** Hot-air gate valve in blast furnaces – air temperature is 1200 °C, but the gate valve is cooled with water from cooling chambers through which water circulates constantly. The gate valve is normally made of the material S235JRG2 which is designed for temperatures up to 300 °C.

For temperatures above 300 °C, the gate valves are made of materials of other qualities.



## MATERIALS

The main parts are made of carbon structural steel 1.0038, the spindle is made of stainless steel 1.4021, the seat is made of stainless steel with a min 13% Cr.

Upon a special request, these parts can be made from materials of other qualities. Manufactured in accordance with PED 97/23/EC.

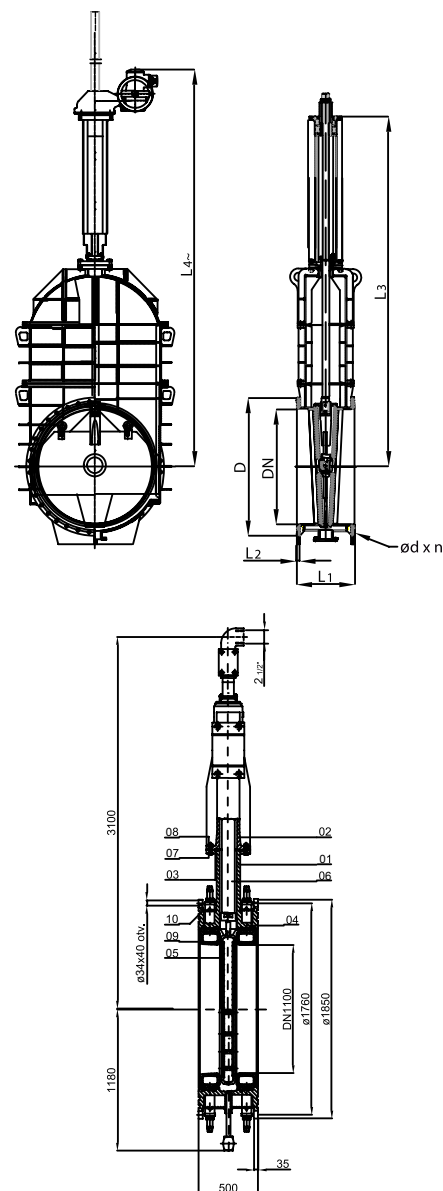
## TESTING

Testing is conducted in the manufacturer's test station using hydro test-water or air (6 bar), depending on the requirements for the use of the gate valve, and in accordance with the standard EN 12266-1 Part 1 and Part 2.

Hermeticity classes can range from class A to D, where A is the class of zero leakage rate (100% airtight), and other classes have allowable leakage depending on the requirements for use and the product's nominal size (DN).

## MATERIAL STANDARD

Position	Name	Material	Material No.
<b>6.3580 ; 6.3582 ; 6.3584</b>			
	Housing	S235JRG2	1.0038
	Cover	S235JRG2	1.0038
	Gasket	Graphite	-
	Screw	Steel for screws	1.7218
	Nut	Steel for screws	1.1191
	Spindle	Stainless steel	1.4021
	Gasket	Graphite	-
	Wedge	S235JRG2	1.0038
	Housing seat	13Cr - Mo hardfacing	1.4115
	Wedge seat	13Cr - hardfacing	1.4015
<b>6.3590</b>			
01,02	Housing, cover	S235JRG2	1.0038
03	Gasket	Non-asbestos	-
04	Gasket	Non-asbestos	-
05	Wedge	S235JRG2	1.0038
06	Sliding pipes	H11	1.0425
07	Screw	Steel for screws	8.8
08	Nut	Steel for screws	8
09	Seat ring	S235JRG2	1.0038
10	Cooling jacket	S235JRG2	1.0038



## STANDARDS USED

Compliance with standards	Face-to-face dimension: FTF 14 Connection	Flange PN 6 / 10	Structure	Testing	Test report: 3.1
pr EN 1171	EN 558 - 1	EN 1092 - 1	EN 19	EN 12266 - 1	EN 10204

## TESTING (RELATIONSHIP BETWEEN OPERATING PRESSURE AND TEMPERATURE EN 12516 - 1:2005)

	Nominal diameter	Nominal pressure	Maximum allowable operating pressure at operating temperature			For neutral fluids	Pressure at testing [bar]	
	DN	PN	100°C	200°C	300°C		Housing P10, 11, 20	Closing P12, 21
<b>6.3580</b>	500 - 2000	2,5	1,83	1,57	1,19	Ambient temperature up to -10 °C.	3,75	2,75
<b>6.3582</b>	500 - 1500	6	4,38	3,78	2,85	Ambient temperature up to -10 °C.	3,75	2,75
<b>6.3584</b>	500 - 1500	10	7,31	6,29	4,75	Ambient temperature up to -10 °C.	15	11

DIMENSIONS

6.3580								
6.3582								
6.3584								
6.3590								
DN	D	Dk	d	n	L1	L2	L3	L4
500	670	620	26	20	350	28	1640	2155
600	780	725	30	20	390	28	1910	2430
700	895	840	30	24	430	30	2184	2700
800	1015	950	33	24	470	32	2515	3035
900	1115	1050	33	28	510	34	2830	3350
1000	1230	1160	36	28	550	34	3140	3660
1200	1455	1380	39	32	630	38	3770	4020
1400	1675	1590	42	36	710	42	4260	4500
1500	1690	1630	42	36	750	42	4450	5000
1600	1915	1820	48	40	790	46	4774	5294
1800	2115	2020	48	44	870	50	5340	5865
2000	2325	2230	48	48	950	54	5909	6430



## SPECIAL FEATURES

### A - With additional operating elements

Code	Description
1	With a gear and electric motor drive
2	With a gear that can be toothed or worm
3	With a directly connected electric motor drive
4	With a lever mechanism for quick closing
5	With a sprocket (instead of a manual wheel)
7	With a pneumatic cylinder drive
8	With a hydraulic cylinder drive

### B - With extended or additional cylinder elements

Code	Description	
23	With a gear and electric motor drive	BP
24	With a gear that can be toothed or worm	DP
25	With the position indicator of the sealing body	PI
26	With a directly connected electric motor drive	LS
32	With a lever mechanism for quick closing	GS
33 - 34	With a sprocket (instead of a manual wheel)	
35	With a pneumatic cylinder drive	ER
36	With a hydraulic cylinder drive	
37 - 38	With counter flanges and a connection kit	FS
39	With a locking latch	LD
42	With a heating jacket	
44	With an opening for connecting a water pot for spindle water-sealing	
46	With a drain valve	DV

### C - Additional features

Code	Description
28	With processed guide rails for horizontal installation
29	With additional parts for installation or manipulation
30	With an air release plug on the cover
40	With special face-to-face dimensions



## OVAL

Grey cast iron  
Ductile cast cast iron



6.3218  
6.3238  
6.3242



10 - 16  
6 - 16  
6 - 16



40 - 300  
40 - 1200  
40 - 1200



150°C  
150°C  
230°C

### SCOPE OF APPLICATION

Gate valves are used as sealing devices in pipelines to stop the flow of a flowing fluid. In the basic version, the embedded materials are suitable for the flow of water, steam, gas, oil and petroleum products, as well as for other non-aggressive fluids, whereas for aggressive fluids, a valve is produced from special materials.

### PRODUCT DESIGN

Products are manufactured according to the current EN standards for this type of products, and they can also be manufactured according to DIN, ANSI or GOST standard.

Connection is a flange according to EN 1092-1 or it has welding ends.

Face-to-face dimensions are in accordance with EN 558-1 or with a face-to-face dimension upon a special request.

In the basic version, the products are made for manual operation using a hand wheel with a direct connection or a gear connection.

The products are also made with an electric, hydraulic or pneumatic drive system.

### APPLICATION

Gate valves have found a wide range of applications in thermal power, hydroelectric power, petrochemical and refinery plants in water treatment, as well as in utilities buildings.

### PRESSURES AND TEMPERATURES

The valves made of grey cast iron JL 1040 (GJL-250) are designed for temperatures from -10 °C to +230 °C, and according to the standard EN 1561.

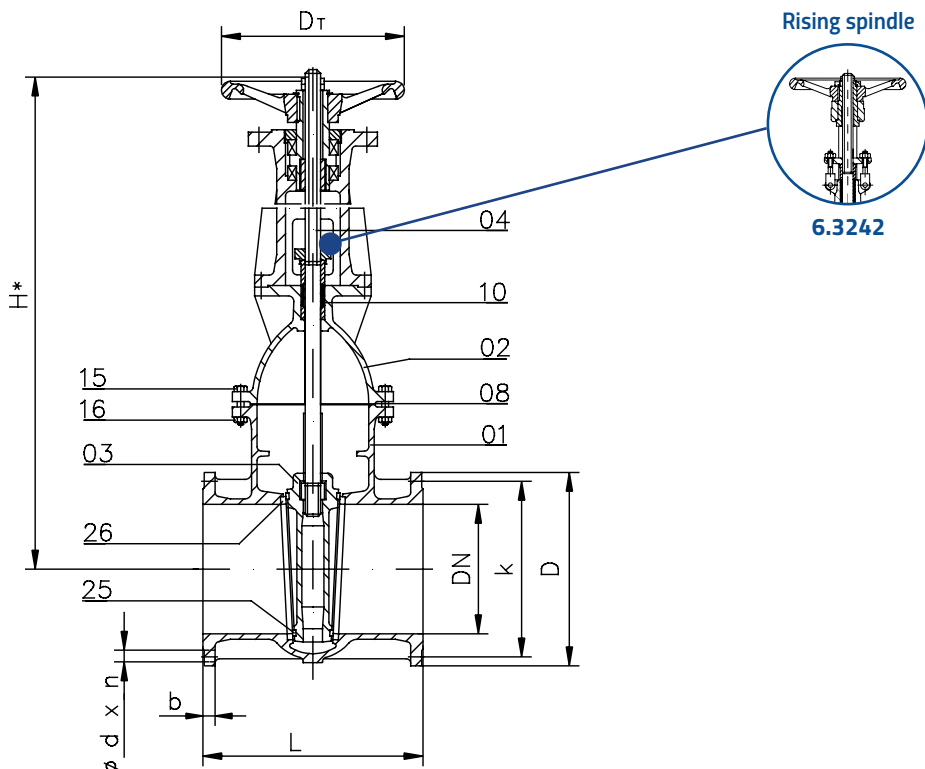


## MATERIALS

The main parts are made of cast cast iron JL 1040 or ductile cast cast iron, the spindle is made of stainless steel, and sealing ring is made of brass, stainless steel or of its own material. Manufactured in accordance with PED 97/23/EC.

## TESTING

Testing is conducted in the manufacturer's test station using hydro test-water or air (6 bar), depending on the requirements for the use of the gate valve, and in accordance with the standard EN 12266-1 Part 1 and Part 2. Hermeticity classes can range from class A to D, where A is the class of zero leakage rate (100% airtight), and other classes have allowable leakage depending on the requirements for use and the product's nominal size (DN).



## MATERIAL STANDARD

Position	Name	Material	Material No.
01.02	Housing – cover	GJL - 250 (JL 1040)	0.6025
10	Spindle seal	Non-asbestos braid	-
11	Screw	-	5,6
07	Nut	-	5
04	Spindle	X20Cr13	1.4021
09	Sealing plate disc	Aramid	-
03	Wedge	GJL - 250 (JL 1040)	0.6025
25-26	Brass	CuZn39Pb3	CF724R

## STANDARDS USED

Compliance with standards	Face-to-face dimension: FTF 14	Standard connecting flange: Flange PN 16/10/6	Structure	Testing	Report on testing: 3.1
pr EN 1171	EN 558-1	EN 1092-2	EN 19	EN 12266-1,2	EN 10204

## RELATIONSHIP BETWEEN OPERATING PRESSURE AND TEMPERATURE

DN	-10 > + 120	> 150	> 180	> 200	> 225
6.3218	40 - 150	16	15	13	-
6.3238	200 - 600	10	9	8,4	-
	700 - 1200	6	5,4	5	-
6.3242	40 - 150	16	15	13	10
	200 - 600	10	9	8,4	8
	700 - 1200	6	5,4	5	4,8

## DIMENSIONS AND WEIGHTS

6.3218										6.3238			
6.3238										6.3242			
6.3242													
DN	L	D	b	k	d	n	DT	H*	G [kg]	H*	G [kg]	H*	G [kg]
40	240	150	18	110	19	4	200	224	12	250	16	375	18
50	250	165	20	125	19	4	200	255	16	285	19	400	23
65	270	185	20	145	19	4	250	298	19	320	26	460	30
80	280	200	22	160	19	8	250	320	22	335	33	500	37
100	300	235	24	190	23	8	315	370	32	380	43	560	49
125	325	270	26	220	28	8	315	408	42	450	54	640	58
150	350	300	26	250	28	8	315	465	53	480	68	700	74
200	400	340	26	295	23	12	400	625	106	600	124	880	130
250	450	400	28	355	28	12	500	735	135	710	195	1150	215
300	500	455	28	410	28	12	500	836	205	800	255	1280	270
350	550	520	30	470	28	16	500	-	-	890	345	1420	370
400	600	580	32	525	31	16	630	-	-	1000	435	1550	460
450	650	640	32	585	31	20	630	-	-	1100	515	1650	560
500	700	715	34	650	34	20	720	-	-	1200	640	1880	690
600	800	840	36	770	37	20	720	-	-	1360	890	2145	960
700	900	895	40	840	31	24	800	-	-	1730	1350	2370	1460
800	1000	1015	44	950	34	24	800	-	-	1890	1810	2570	1960
900	1100	1115	46	1050	34	28	800	-	-	2065	2460	2920	2650
1000	1200	1230	50	1160	37	28	-	-	-	2365	3580	3270	3810
1200	1400	1455	56	1380	41	32	-	-	-	2635	5250	3760	5510

## SPECIAL FEATURES

### A - With additional operating elements

Code	Description
1	With a gear and electric motor drive
2	With a gear that can be toothed or worm
3	With a directly connected electric motor drive
4	With a lever mechanism for quick closing
5	With a sprocket (instead of a manual wheel)
7	With a pneumatic cylinder drive
8	With a hydraulic cylinder drive

### B - With extended or additional cylinder elements

Code	Description	
23	With a gear and electric motor drive	BP
24	With a gear that can be toothed or worm	DP
25	With the position indicator of the sealing body	PI
26	With a directly connected electric motor drive	LS
32	With a lever mechanism for quick closing	GS
33 - 34	With a sprocket (instead of a manual wheel)	
35	With a pneumatic cylinder drive	ER
36	With a hydraulic cylinder drive	
37 - 38	With counter flanges and a connection kit	FS
39	With a locking latch	LD
42	With a heating jacket	
44	With an opening for connecting a water pot for spindle water-sealing	
46	With a drain valve	DV

### C - Additional features

Code	Description
28	With processed guide rails for horizontal installation
29	With additional parts for installation or manipulation
30	With an air release plug on the cover
40	With special face-to-face dimensions



**6.3410**  
**6.3413**  
**6.3414**  
**6.3416**



**16**  
**16**  
**16**  
**16**



**50 - 1200**  
**50 - 1200**  
**50 - 1200**  
**50 - 1200**



**200°C**  
**230°C**  
**400°C (600°C)\***  
**400°C (600°C)\***

## SCOPE OF APPLICATION

Gate valves are used as sealing devices in pipelines to stop the flow of a flowing fluid. In the basic version, the embedded materials are suitable for the flow of water, steam, gas, oil and petroleum products, as well as for other non-aggressive fluids, whereas for aggressive fluids, a valve is produced from special materials.

## PRODUCT DESIGN

Products are manufactured according to the current EN standards for this type of products, and they can also be manufactured according to DIN, ANSI or GOST standard.

Connection is a flange according to EN 1092-1 or it has welding ends.

Face-to-face dimensions are in accordance with EN 558-1 or with a face-to-face dimension upon a special request.

In the basic version, the products are made for manual operation using a hand wheel with a direct connection or a gear connection. The products are also made with an electric, hydraulic or pneumatic drive system.

## APPLICATION

Gate valves have found a wide range of applications in thermal power, hydroelectric power, petrochemical and refinery plants in water treatment, as well as in utilities buildings.

## PRESSURES AND TEMPERATURES

Steel valves in the standard version are made of carbon steel groups 1E1 and 3E0, and they are used for temperatures from -10 °C to +300/400 °C.

For temperatures from -254 °C to +600 °C, the embedded materials are alloy steel group 4E0, 5E0, 6E0, 7E0 or stainless steel group 11E0, 12E0, 14E0, 15E0.

The application and use of the valves, where the standard EN 12516-1 specifies pressure and temperature dependence, depends on the embedded materials.

\* Temperatures up to 600 °C are possible for gate valves made of special materials.

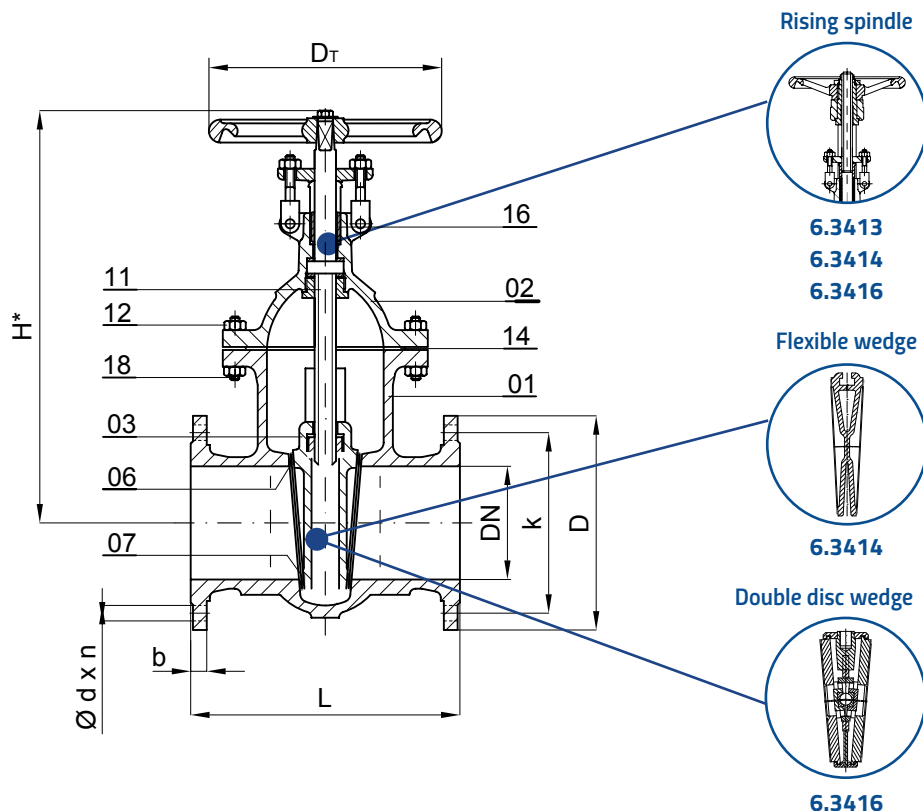


## MATERIALS

The material of the main parts is cast steel 1.0619, the spindle is made of stainless steel, and sealing surfaces are made of stainless steel or of their own material. Manufactured in accordance with PED 97/23/EC.

## TESTING

Testing is conducted in the manufacturer's test station using hydro test-water or air (6 bar), depending on the requirements for the use of the gate valve, and in accordance with the standard EN 12266-1 Part 1 and Part 2. Hermeticity classes can range from class A to D, where A is the class of zero leakage rate (100% airtight), and other classes have allowable leakage depending on the requirements for use and the product's nominal size (DN).



## MATERIAL STANDARD

Position	Name	Material	Material No.
01.02	Housing – cover	GP240GH	1.0619
14	Spindle seal	Reinforced graphite	-
18	Screw	42CrMo4	1.7225
12	Nut	Ck45	1.1191
11	Spindle	X20Cr13	1.4021
16	Spindle seal	Graphite braid	-
03	Wedge	GP240GH/H II	1.0619/1.0425
06	Sealing ring – of a housing	Inox B17MoFe	1.4115
07	Sealing ring – of a wedge	Inox B17Fe	1.4015

## STANDARDS USED

Compliance with standards	Face-to-face dimension: FTF 15	Standard connecting flange: Flange PN 16	Structure	Testing	Test report: 3.1
EN 1984	EN 558-1	EN 1092-1	EN 19	EN 12266-1,2	EN 10204

## TESTING

	Nominal diameter	Nominal pressure	Maximum allowable operating pressure at operating temperature					For neutral liquids, gases, steam and condensate	Pressure at testing [bar]	
	DN	PN	100°C	200°C	250°C	300°C	400°C		Housing P10, 11, 20	Closing P12, 21
6.3410	50 - 1200	16	13,6	11,4	-	-	-	Ambient temperature min -10 °C	24	17,6
6.3413	50 - 1200	16	13,6	11,4	10,4	-	-	Ambient temperature min -10 °C	24	17,6
6.3414	50 - 1200	16	13,6	11,4	10,4	9,4	8,4	Ambient temperature min -10 °C	24	17,6
6.3416	50 - 1200	16	13,6	11,4	10,4	9,4	8,4	Ambient temperature min -10 °C	24	17,6



## DIMENSIONS AND WEIGHTS

6.3410												
6.3413										6.3413		
6.3414										6.3414		
6.3414										6.3414		
DN	L	D	b	k	d	n	H*	DT	G [kg]	H*	DT	G [kg]
50	250	165	20	125	18	4	330	250	24	420	250	31
65	270	185	18	145	18	4	400	250	33	515	250	43
80	280	200	20	160	18	8	425	250	38	540	250	47
100	300	235	20	190	18	8	460	315	60	575	320	67
125	325	270	22	220	18	8	510	315	75	630	320	84
150	350	300	22	250	22	8	545	315	102	695	320	112
200	400	340	24	295	22	12	690	400	150	905	400	179
250	450	400	26	355	26	12	865	500	245	1170	500	280
300	500	455	28	410	26	12	950	500	315	1305	500	365
350	550	520	30	470	26	16	1130	500	380	1475	500	426
400	600	580	32	525	30	16	1210	630	480	1590	640	533
450	650	640	32	585	30	20	1620	630	670	1780	640	785
500	700	715	36	650	33	20	1465	630	815	1960	640	906
600	800	840	40	770	36	20	1620	630	1200	2230	640	1340
700	900	910	42	840	36	24	1800	800	1550	2500	800	1772
800	1000	1025	42	950	39	24	1960	800	2150	2780	800	2452
900	1100	1125	44	1050	39	28	2100	800	3070	3100	800	3520
1000	1200	1255	46	1170	42	28	2355	-	4550	3450	-	5060
1200	1400	1485	52	1390	48	32	2650	-	6670	3840	-	7380

## SPECIAL FEATURES

### A - With additional operating elements

Code	Description
1	With a gear and electric motor drive
2	With a gear that can be toothed or worm
3	With a directly connected electric motor drive
4	With a lever mechanism for quick closing
5	With a sprocket (instead of a manual wheel)
7	With a pneumatic cylinder drive
8	With a hydraulic cylinder drive

### B - With extended or additional cylinder elements

Code	Description	
23	With a gear and electric motor drive	BP
24	With a gear that can be toothed or worm	DP
25	With the position indicator of the sealing body	PI
26	With a directly connected electric motor drive	LS
32	With a lever mechanism for quick closing	GS
33 - 34	With a sprocket (instead of a manual wheel)	
35	With a pneumatic cylinder drive	ER
36	With a hydraulic cylinder drive	
37 - 38	With counter flanges and a connection kit	FS
39	With a locking latch	LD
42	With a heating jacket	
44	With an opening for connecting a water pot for spindle water-sealing	
46	With a drain valve	DV

### C - Additional features

Code	Description
28	With processed guide rails for horizontal installation
29	With additional parts for installation or manipulation
30	With an air release plug on the cover
40	With special face-to-face dimensions



6.3420  
6.3423  
6.3424  
6.3426



25  
25  
25  
25



50 - 500  
50 - 500  
50 - 500  
50 - 500



200°C  
230°C  
400°C (600°C)\*  
400°C (600°C)\*

## SCOPE OF APPLICATION

Gate valves are used as sealing devices in pipelines to stop the flow of a flowing fluid. In the basic version, the embedded materials are suitable for the flow of water, steam, gas, oil and petroleum products, as well as for other non-aggressive fluids, whereas for aggressive fluids, a valve is produced from special materials.

## PRODUCT DESIGN

Products are manufactured according to the current EN standards for this type of products, and they can also be manufactured according to DIN, ANSI or GOST standard.

Connection is a flange according to EN 1092-1 or it has welding ends.

Face-to-face dimensions are in accordance with EN 558-1 or with a face-to-face dimension upon a special request.

In the basic version, the products are made for manual operation using a hand wheel with a direct connection or a gear connection.

The products are also made with an electric, hydraulic or pneumatic drive system.

## APPLICATION

Gate valves have found a wide range of applications in thermal power, hydroelectric power, petrochemical and refinery plants in water treatment, as well as in utilities buildings.

## PRESSURES AND TEMPERATURES

Steel valves in the standard version are made of carbon steel groups 1E1 and 3E0, and they are used for temperatures from -10 °C to +300/400 °C.

For temperatures from -254 °C to +600 °C, the embedded materials are alloy steel group 4E0, 5E0, 6E0, 7E0 or stainless steel group 11E0, 12E0, 14E0, 15E0.

The application and use of the valves, where the standard EN 12516-1 specifies pressure and temperature dependence, depends on the embedded materials.

\* Temperatures up to 600 °C are possible for gate valves made of special materials.

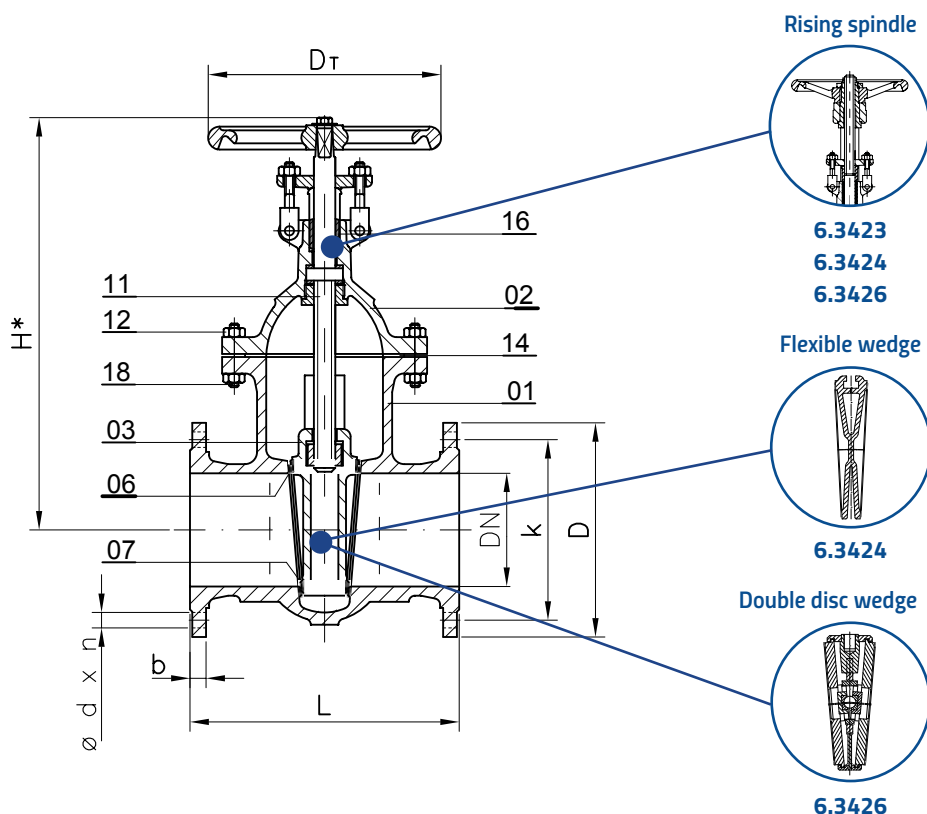


## MATERIALS

The material of the main parts is cast steel 1.0619, the spindle is made of stainless steel, and sealing surfaces are made of stainless steel or of their own material. Manufactured in accordance with PED 97/23/EC.

## TESTING

Testing is conducted in the manufacturer's test station using hydro test-water or air (6 bar), depending on the requirements for the use of the gate valve, and in accordance with the standard EN 12266-1 Part 1 and Part 2. Hermeticity classes can range from class A to D, where A is the class of zero leakage rate (100% airtight), and other classes have allowable leakage depending on the requirements for use and the product's nominal size (DN).



## MATERIAL STANDARD

Position	Name	Material	Material No.
01.02	Housing – cover	GP240GH	1.0619
14	Spindle seal	Reinforced graphite	-
18	Screw	42CrMo4	1.7225
12	Nut	Ck45	1.1191
11	Spindle	X20Cr13	1.4021
16	Spindle seal	Graphite braid	-
03	Wedge	GP240GH/H II	1.0619/1.0425
06	Sealing ring – of a housing	Inox B17MoFe	1.4115
07	Sealing ring – of a wedge	Inox B17Fe	1.4015

## STANDARDS USED

Compliance with standards	Face-to-face dimension: FTF 15	Standard connecting flange: Flange PN 25	Structure	Testing	Test report: 3.1
EN 1984	EN 558-1	EN 1092-1	EN 19	EN 12266-1,2	EN 10204

## TESTING

	Nominal diameter	Nominal pressure	Maximum allowable operating pressure at operating temperature					For neutral liquids, gases, steam and condensate	Pressure at testing [bar]	
	DN	PN	100°C	200°C	250°C	300°C	400°C		Housing P10, 11, 20	Cover P12, 21
6.3420	50 - 500	25	21,3	17,8	-	-	-	Ambient temperature min -10 °C	37,5	27,5
6.3423	50 - 500	25	21,3	17,8	16,2	-	-	Ambient temperature min -10 °C	37,5	27,5
6.3424	50 - 500	25	21,3	17,8	16,2	14,7	13,2	Ambient temperature min -10 °C	37,5	27,5
6.3426	50 - 500	25	21,3	17,8	16,2	14,7	13,2	Ambient temperature min -10 °C	37,5	27,5

## DIMENSIONS AND WEIGHTS

6.3420												
6.3423										6.3423		
6.3424										6.3424		
6.3426										6.3426		
DN	L	D	b	k	d	n	H*	DT	G [kg]	H*	DT	G [kg]
50	250	165	20	125	18	4	330	250	24	420	250	30
65	270	185	22	145	18	8	400	250	33	515	250	42
80	280	200	24	160	18	8	425	250	38	540	250	48
100	300	235	24	190	22	8	460	315	60	575	320	65
125	325	270	26	220	26	8	510	315	75	630	320	84
150	350	300	28	250	26	8	545	315	102	695	320	112
200	400	360	30	310	26	12	690	400	150	905	400	173
250	450	425	32	370	30	12	865	500	245	1170	500	270
300	500	485	34	430	30	16	950	500	315	1305	500	350
350	550	555	38	490	33	16	1130	500	380	1475	500	425
400	600	620	40	550	36	16	1210	630	480	1590	630	535
450	650	670	42	600	36	20	1620	630	670	1780	630	725
500	700	730	44	660	39	20	1465	630	815	1960	630	925

## SPECIAL FEATURES

### A - With additional operating elements

Code	Description
1	With a gear and electric motor drive
2	With a gear that can be toothed or worm
3	With a directly connected electric motor drive
4	With a lever mechanism for quick closing
5	With a sprocket (instead of a manual wheel)
7	With a pneumatic cylinder drive
8	With a hydraulic cylinder drive

### B - With extended or additional cylinder elements

Code	Description	
23	With a gear and electric motor drive	BP
24	With a gear that can be toothed or worm	DP
25	With the position indicator of the sealing body	PI
26	With a directly connected electric motor drive	LS
32	With a lever mechanism for quick closing	GS
33 - 34	With a sprocket (instead of a manual wheel)	
35	With a pneumatic cylinder drive	ER
36	With a hydraulic cylinder drive	
37 - 38	With counter flanges and a connection kit	FS
39	With a locking latch	LD
42	With a heating jacket	
44	With an opening for connecting a water pot for spindle water-sealing	
46	With a drain valve	DV

### C - Additional features

Code	Description
28	With processed guide rails for horizontal installation
29	With additional parts for installation or manipulation
30	With an air release plug on the cover
40	With special face-to-face dimensions





6.3486  
6.3493  
6.3494



1,6 MPa  
1,6 MPa  
1,6 MPa



50 - 200  
50 - 200  
50 - 200



425°C  
425°C  
425°C

## SCOPE OF APPLICATION

Gate valves are used as sealing devices in pipelines to stop the flow of a flowing fluid. In the basic version, the embedded materials are suitable for the flow of water, steam, gas, oil and petroleum products, as well as for other non-aggressive fluids, whereas for aggressive fluids, a valve is produced from special materials.

## PRODUCT DESIGN

Products are manufactured according to the current GOST standards for this type of products.

Connection is a flange or it has welding ends according to GOST standards.

Face-to-face dimensions are in accordance with GOST 12815 standard or with a face-to-face dimension upon a special request.

In the basic version, the products are made for manual operation using a hand wheel with a direct connection or a gear connection.

The products are also made with an electric, hydraulic or pneumatic drive system.

## APPLICATION

Gate valves have found a wide range of applications in thermal power, hydroelectric power, petrochemical and refinery plants in water treatment, as well as in utilities buildings.

## PRESSURES AND TEMPERATURES

Steel valves in the standard version are made of carbon steel groups 1E1 and 3E0, and they are used for temperatures from -10 °C to +300/400 °C.

For temperatures from -254 °C to +600 °C, the embedded materials are alloy steel group 4E0, 5E0, 6E0, 7E0 or stainless steel group 11E0, 12E0, 14E0, 15E0.

The application and use of the valves, where the standard EN 12516-1 specifies pressure and temperature dependence, depends on the embedded materials.



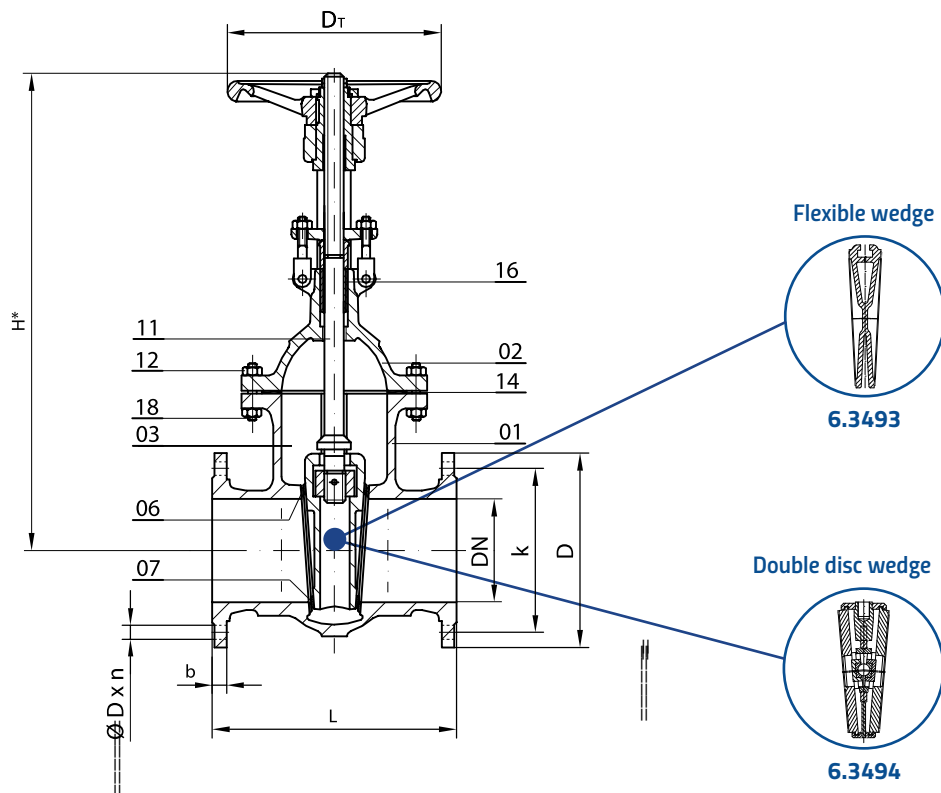
## MATERIALS

The material of the main parts is cast steel 1.0619, the spindle is made of stainless steel, and sealing surfaces are made of stainless steel or of their own material.

Manufactured in accordance with PED 97/23/EC.

## TESTING

Testing is conducted in the manufacturer's test station using hydro test-water or air (6 bar), depending on the requirements for the use of the gate valve, and in accordance with the standard EN 12266-1 Part 1 and Part 2. Hermeticity classes can range from class A to D, where A is the class of zero leakage rate (100% airtight), and other classes have allowable leakage depending on the requirements for use and the product's nominal size (DN).



## MATERIAL STANDARD

Position	Name	Material	Material No.
01.02	Housing – cover	GP240GH	1.0619
14	Spindle seal	Reinforced graphite	-
18	Screw	42CrMo4	1.7225
12	Nut	Ck45	1.1191
11	Spindle	X20Cr13	1.4021
16	Spindle seal	Graphite braid	-
03	Wedge	GP240GH/H II	1.0619/1.0425
06	Sealing ring – of a housing	Inox B17MoFe	1.4115
07	Sealing ring – of a wedge	Inox B17Fe	1.4015

## STANDARDS USED

Compliance with standards	Face-to-face length	Standard connecting flange	Structure	Testing	Test report: 3.1
GOST	GOST 12815.80	GOST 12819-80	GOST	EN 12266-1,2	EN 10204

## TESTING

	Nominal diameter	Nominal pressure	Maximum allowable operating pressure at operating temperature				For neutral liquids, gases, steam and condensate	Pressure at testing [bar]	
	DN	P <sub>y</sub> (bar)	160°C	200°C	250°C	400°C		Housing P10, 11, 20	Closing P12, 21
6.3486	50 - 200	1,6 (16)	13,6	11,4	10,4	-	Ambient temperature min -10 °C	24 (2,4 Ry)	17,6 (1,76 Ry)
6.3493	50 - 200	1,6 (16)	13,6	11,4	10,4	8,4	Ambient temperature min -10 °C	24 (2,4 Ry)	17,6 (1,76 Ry)
6.3494	50 - 200	1,6 (16)	13,6	11,4	10,4	8,4	Ambient temperature min -10 °C	24 (2,4 Ry)	17,6 (1,76 Ry)

\* Dimensions over DN 200 are identical with DIN-EN standard 558-1 Series 15.

## DIMENSIONS AND WEIGHTS

6.3486											
6.3493											
6.3494								6.3494			
DN	L	D	b	k	d	n	DT	H*	G [kg]	H*	G [kg]
50	180	160	17	125	18	4	250	420	30	420	31
80	210	195	20	160	18	8	250	540	46	540	47
100	230	215	20	180	18	8	315	575	63	575	67
150	280	280	24	240	22	8	315	695	109	695	112
200	330	335	26	295	22	12	400	905	168	905	179
250	450	405	30	355	26	12	500	1170	265	1170	280

## SPECIAL FEATURES

### A - With additional operating elements

Code	Description
1	With a gear and electric motor drive
2	With a gear that can be toothed or worm
3	With a directly connected electric motor drive
4	With a lever mechanism for quick closing
5	With a sprocket (instead of a manual wheel)
7	With a pneumatic cylinder drive
8	With a hydraulic cylinder drive

### B - With extended or additional cylinder elements

Code	Description	
23	With a gear and electric motor drive	BP
24	With a gear that can be toothed or worm	DP
25	With the position indicator of the sealing body	PI
26	With a directly connected electric motor drive	LS
32	With a lever mechanism for quick closing	GS
33 - 34	With a sprocket (instead of a manual wheel)	
35	With a pneumatic cylinder drive	ER
36	With a hydraulic cylinder drive	
37 - 38	With counter flanges and a connection kit	FS
39	With a locking latch	LD
42	With a heating jacket	
44	With an opening for connecting a water pot for spindle water-sealing	
46	With a drain valve	DV

### C - Additional features

Code	Description
28	With processed guide rails for horizontal installation
29	With additional parts for installation or manipulation
30	With an air release plug on the cover
40	With special face-to-face dimensions

# ROUND

Welded construction



**6.3520**  
**6.3526**



**25**  
**25**



**500 - 700**  
**500 - 1200**



**230°C**  
**400°C (600°C)\***

## SCOPE OF APPLICATION

Gate valves are used as sealing devices in pipelines to stop the flow of a flowing fluid. In the basic version, the embedded materials are suitable for the flow of water, steam, gas, oil and petroleum products, as well as for other non-aggressive fluids, whereas for aggressive fluids, a valve is produced from special materials.

## PRODUCT DESIGN

Products are manufactured according to the current EN standards for this type of products, and they can also be manufactured according to DIN, ANSI or GOST standard.

Connection is a flange according to EN 1092-1 or it has welding ends.

Face-to-face dimensions are in accordance with EN 558-1 or with a face-to-face dimension upon a special request.

In the basic version, the products are made for manual operation using a hand wheel with a direct connection or a gear connection. The products are also made with an electric, hydraulic or pneumatic drive system.

## APPLICATION

Gate valves have found a wide range of applications in thermal power, hydroelectric power, petrochemical and refinery plants in water treatment, as well as in utilities buildings.

## PRESSURES AND TEMPERATURES

Steel valves in the standard version are made of carbon steel groups 1E1 and 3E0, and they are used for temperatures from -10 °C to +300/400 °C.

For temperatures from -254 °C to +600 °C, the embedded materials are alloy steel group 4E0, 5E0, 6E0, 7E0 or stainless steel group 11E0, 12E0, 14E0, 15E0.

The application and use of the valves, where the standard EN 12516-1 specifies pressure and temperature dependence, depends on the embedded materials.



\* Temperatures up to 600 °C are possible for gate valves made of special materials.

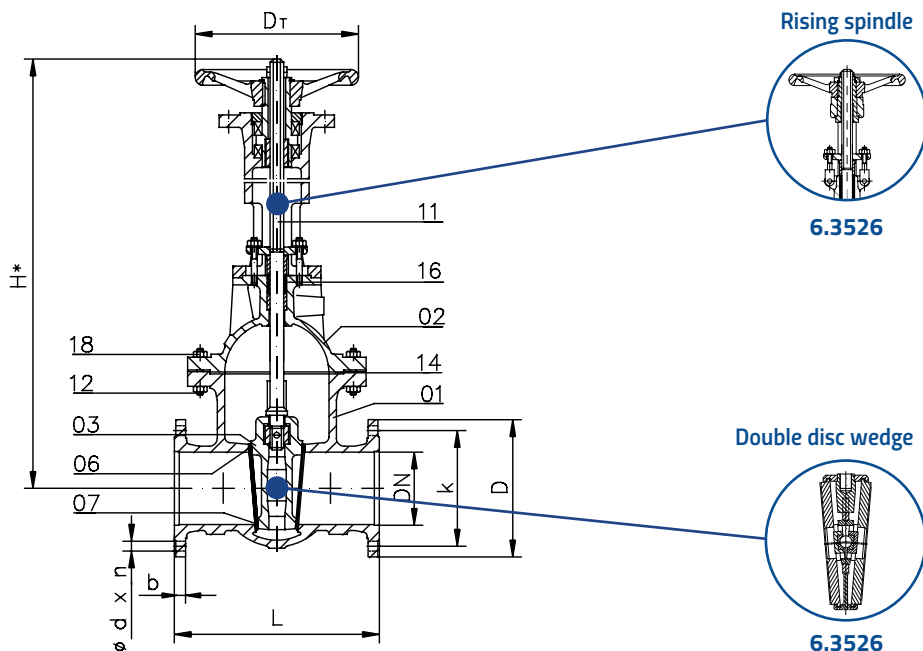
## MATERIALS

The material of the main parts is cast steel 1.0619, or carbon structural steel, the spindle is made of stainless steel, and sealing surfaces are made of stainless steel or of their own material.

Manufactured in accordance with PED 97/23/EC.

## TESTING

Testing is conducted in the manufacturer's test station using hydro test-water or air (6 bar), depending on the requirements for the use of the gate valve, and in accordance with the standard EN 12266-1 Part 1 and Part 2. Hermeticity classes can range from class A to D, where A is the class of zero leakage rate (100% airtight), and other classes have allowable leakage depending on the requirements for use and the product's nominal size (DN).



## MATERIAL STANDARD

Position	Name	Material	Material No.
01.02	Housing – cover	S235JRG2 (HII)	1.0038 (1.0425)
14	Cover gasket	Reinforced graphite	-
18	Screw	42CrMo4	1.7218
12	Nut	Ck45	1.1191
11	Spindle	X20Cr13	1.4021
16	Spindle seal	Graphite braid	-
03	Wedge (shutter)	S235JRG2 (HII)	1.0038 (1.0425)
06	Sealing ring – of a housing	Inox B17MoFe	1.4115
07	Sealing ring – of a wedge	InoxB17Fe	1.4015

## STANDARDS USED

Compliance with standards	Face-to-face dimension: FTF 26	Standard connecting flange: Flange PN 25	Structure	Testing	Test report: 3.1
EN 1984	EN 558-1	EN 1092-1	EN 19	EN 12266-1,2	EN 10204

## DIMENSIONS

	Nominal diameter	Nominal pressure	Maximum allowable operating pressure at operating temperature					For neutral liquids, gases, steam and condensate	Pressure at testing [bar]	
	DN	PN	100°C	150°C	200°C	300°C	400°C		Housing P10, 11, 20	Closing P12, 21
6.3520	500 - 1000		18,3	17,1	15,7	-	-	Ambient temperature min -10 °C	37,5	1.0038
	500 - 1000		21,3	19,8	17,8	-	-	Ambient temperature min -10 °C	37,5	1.0038
6.3526	500 - 1200		18,3	17,1	15,7	11,9	-	Ambient temperature min -10 °C	37,5	1.0425
	500 - 1200		21,3	19,8	17,8	14,7	13,2	Ambient temperature min -10 °C	37,5	1.0425



## DIMENSIONS

6.3520							
6.3526							
DN	L	D	b	k	d	n	DT
500	1150	730	44	660	36	20	800
600	1350	840	46	770	39	20	800
700	1550	960	46	875	42	24	800
800	1750	1085	50	990	48	24	*
900	1950	1185	54	1090	48	28	*
1000	2150	1320	58	1210	56	28	*
1200	2450	1530	62	1420	56	32	*

\* gear required

## SPECIAL FEATURES

### A - With additional operating elements

Code	Description
1	With a gear and electric motor drive
2	With a gear that can be toothed or worm
3	With a directly connected electric motor drive
4	With a lever mechanism for quick closing
5	With a sprocket (instead of a manual wheel)
7	With a pneumatic cylinder drive
8	With a hydraulic cylinder drive

### B - With extended or additional cylinder elements

Code	Description	
23	With a gear and electric motor drive	BP
24	With a gear that can be toothed or worm	DP
25	With the position indicator of the sealing body	PI
26	With a directly connected electric motor drive	LS
32	With a lever mechanism for quick closing	GS
33 - 34	With a sprocket (instead of a manual wheel)	
35	With a pneumatic cylinder drive	ER
36	With a hydraulic cylinder drive	
37 - 38	With counter flanges and a connection kit	FS
39	With a locking latch	LD
42	With a heating jacket	
44	With an opening for connecting a water pot for spindle water-sealing	
46	With a drain valve	DV

### C - Additional features

Code	Description
28	With processed guide rails for horizontal installation
29	With additional parts for installation or manipulation
30	With an air release plug on the cover
40	With special face-to-face dimensions

## ROUND

Cast steel



6.3440  
6.3443  
6.3444  
6.3446  
6.3546



40  
40  
40  
40  
40



50 - 500  
50 - 500  
50 - 500  
50 - 500  
500 - 800



200°C  
250°C  
400°C (600°C)\*  
400°C (600°C)\*  
400°C (600°C)\*

## SCOPE OF APPLICATION

Gate valves are used as sealing devices in pipelines to stop the flow of a flowing fluid. In the basic version, the embedded materials are suitable for the flow of water, steam, gas, oil and petroleum products, as well as for other non-aggressive fluids, whereas for aggressive fluids, a valve is produced from special materials.

## PRODUCT DESIGN

Products are manufactured according to the current EN standards for this type of products, and they can also be manufactured according to DIN, ANSI or GOST standard.

Connection is a flange according to EN 1092-1 or it has welding ends.

Face-to-face dimensions are in accordance with EN 558-1 or with a face-to-face dimension upon a special request.

In the basic version, the products are made for manual operation using a hand wheel with a direct connection or a gear connection. The products are also made with an electric, hydraulic or pneumatic drive system.

## APPLICATION

Gate valves have found a wide range of applications in thermal power, hydroelectric power, petrochemical and refinery plants in water treatment, as well as in utilities buildings.

## PRESSURES AND TEMPERATURES

Steel valves in the standard version are made of carbon steel groups 1E1 and 3E0, and they are used for temperatures from -10 °C to +300/400 °C.

For temperatures from -254 °C to +600 °C, the embedded materials are alloy steel group 4E0, 5E0, 6E0, 7E0 or stainless steel group 11E0, 12E0, 14E0, 15E0.

The application and use of the valves, where the standard EN 12516-1 specifies pressure and temperature dependence, depends on the embedded materials.

\* Temperatures up to 600 °C are possible for gate valves made of special materials.



## MATERIALS

The material of the main parts is cast steel 1.0619, or carbon structural steel, the spindle is made of stainless steel, and sealing surfaces are made of stainless steel or of their own material.

Manufactured in accordance with PED 97/23/EC.

## TESTING

Testing is conducted in the manufacturer's test station using hydro test-water or air (6 bar), depending on the requirements for the use of the gate valve, and in accordance with the standard EN 12266-1 Part 1 and Part 2. Hermeticity classes can range from class A to D, where A is the class of zero leakage rate (100% airtight), and other classes have allowable leakage depending on the requirements for use and the product's nominal size (DN).

## MATERIAL STANDARD

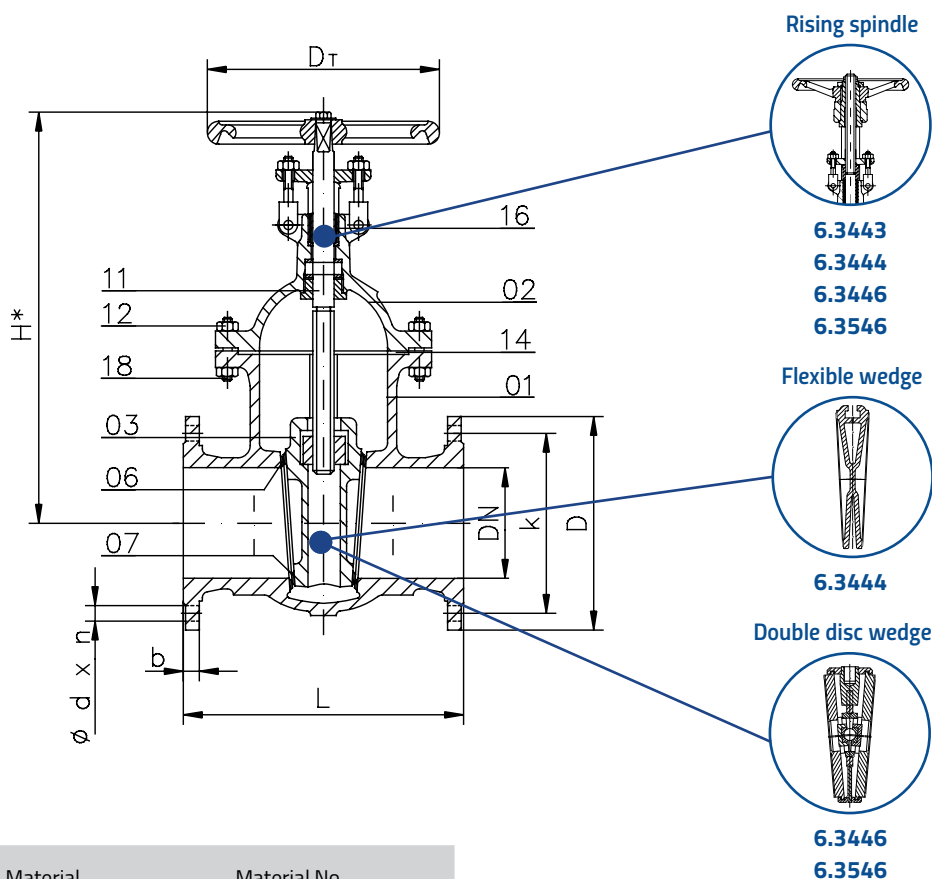
Position	Name	Material	Material No.
01.02	Housing – cover	GP240GH	1.0619
14	Spindle seal	Reinforced graphite	-
18	Screw	42CrMo4	1.7225
12	Nut	Ck45	1.1191
11	Spindle	X20Cr13	1.4021
16	Spindle seal	Graphite braid	-
03	Wedge	GP240GH/H II	1.0619/1.0425
06	Sealing ring – of a housing	Inox B17MoFe	1.4115
07	Sealing ring – of a wedge	Inox B17Fe	1.4015

## STANDARDS USED

Compliance with standards	Face-to-face dimension: FTF 26	Standard connecting flange: Flange PN 40	Structure	Testing	Test report: 3.1
EN 1984	EN 558-1	EN 1092-1	EN 19	EN 12266-1,2	EN 10204

## TESTING

	Nominal diameter	Nominal pressure	Maximum allowable operating pressure at operating temperature					For neutral liquids, gases, steam and condensate	Pressure at testing [bar]	
	DN	PN	100°C	150°C	200°C	250°C	400°C		Housings P10, 11, 20	Closings P12, 21
6.3440	50 - 500	40	37,2	31,7	28,4	-	-	Ambient temperature min -10 °C	60	44
6.3443	50 - 500	40	37,2	31,7	28,4	26,0	-	Ambient temperature min -10 °C	60	44
6.3444	50 - 500	40	37,2	31,7	28,4	26,0	21,1	Ambient temperature min -10 °C	60	44
6.3446	50 - 500	40	37,2	31,7	28,4	26,0	21,1	Ambient temperature min -10 °C	60	44
6.3546	500 - 800	40	37,2	31,7	28,4	26,0	21,1	Ambient temperature min -10 °C	60	44



## DIMENSIONS AND WEIGHTS

6.3440											
6.3443										6.3443	
6.3444										6.3444	
6.3446										6.3446	
6.3546										6.3546	
DN	L	D	b	k	d	n	D <sub>T</sub>	H*	G [kg]	H*	G [kg]
50	250	165	20	125	18	4	250	395	31	485	37
65	290	185	22	145	18	8	315	420	43	535	51
80	310	200	24	160	18	8	315	460	52	575	60
100	350	235	24	190	22	8	315	515	63	630	72
125	400	270	26	220	26	8	315	640	103	760	118
150	450	300	28	250	26	8	315	695	125	845	141
200	550	375	34	320	30	12	500	790	210	1005	235
250	650	450	38	385	33	12	500	895	385	1205	430
300	750	515	42	450	33	16	630	985	515	1340	575
350	850	580	46	510	36	16	630	1120	655	1465	730
400	950	660	50	585	39	16	630	1325	840	1705	930
500	1150	755	52	670	42	20	800	1500	1480	2000	1580
600	1350	890	60	795	48	20	800	1830	2250	2450	2380
700	1550	995	64	900	48	24	-	2050	4020	2850	4180
800	1750	1140	72	1030	56	24	-	2415	5200	3400	5420

## SPECIAL FEATURES

### A - With additional operating elements

Code	Description
1	With a gear and electric motor drive
2	With a gear that can be toothed or worm
3	With a directly connected electric motor drive
4	With a lever mechanism for quick closing
5	With a sprocket (instead of a manual wheel)
7	With a pneumatic cylinder drive
8	With a hydraulic cylinder drive

### B - With extended or additional cylinder elements

Code	Description	
23	With a gear and electric motor drive	BP
24	With a gear that can be toothed or worm	DP
25	With the position indicator of the sealing body	PI
26	With a directly connected electric motor drive	LS
32	With a lever mechanism for quick closing	GS
33 - 34	With a sprocket (instead of a manual wheel)	
35	With a pneumatic cylinder drive	ER
36	With a hydraulic cylinder drive	
37 - 38	With counter flanges and a connection kit	FS
39	With a locking latch	LD
42	With a heating jacket	
44	With an opening for connecting a water pot for spindle water-sealing	
46	With a drain valve	DV

### C - Additional features

Code	Description
28	With processed guide rails for horizontal installation
29	With additional parts for installation or manipulation
30	With an air release plug on the cover
40	With special face-to-face dimensions



## ROUND

Cast steel



6.3460  
6.3463  
6.3464  
6.3466



63  
63  
63  
63



50 - 300  
50 - 300  
50 - 300  
50 - 300



200°C  
230°C (250°C)\*  
400°C (600°C)\*  
400°C (600°C)\*

## SCOPE OF APPLICATION

Gate valves are used as sealing devices in pipelines to stop the flow of a flowing fluid. In the basic version, the embedded materials are suitable for the flow of water, steam, gas, oil and petroleum products, as well as for other non-aggressive fluids, whereas for aggressive fluids, a valve is produced from special materials.

## PRODUCT DESIGN

Products are manufactured according to the current EN standards for this type of products, and they can also be manufactured according to DIN, ANSI or GOST standard.

Connection is a flange according to EN 1092-1 or it has welding ends.

Face-to-face dimensions are in accordance with EN 558-1 or with a face-to-face dimension upon a special request.

In the basic version, the products are made for manual operation using a hand wheel with a direct connection or a gear connection.

The products are also made with an electric, hydraulic or pneumatic drive system.

## APPLICATION

Gate valves have found a wide range of applications in thermal power, hydroelectric power, petrochemical and refinery plants in water treatment, as well as in utilities buildings.

## PRESSURES AND TEMPERATURES

Steel valves in the standard version are made of carbon steel groups 1E1 and 3E0, and they are used for temperatures from -10 °C to +300/400 °C.

For temperatures from -254 °C to +600 °C, the embedded materials are alloy steel group 4E0, 5E0, 6E0, 7E0 or stainless steel group 11E0, 12E0, 14E0, 15E0.

The application and use of the valves, where the standard EN 12516-1 specifies pressure and temperature dependence, depends on the embedded materials.

\* Temperatures up to 600 °C are possible for gate valves made of special materials.



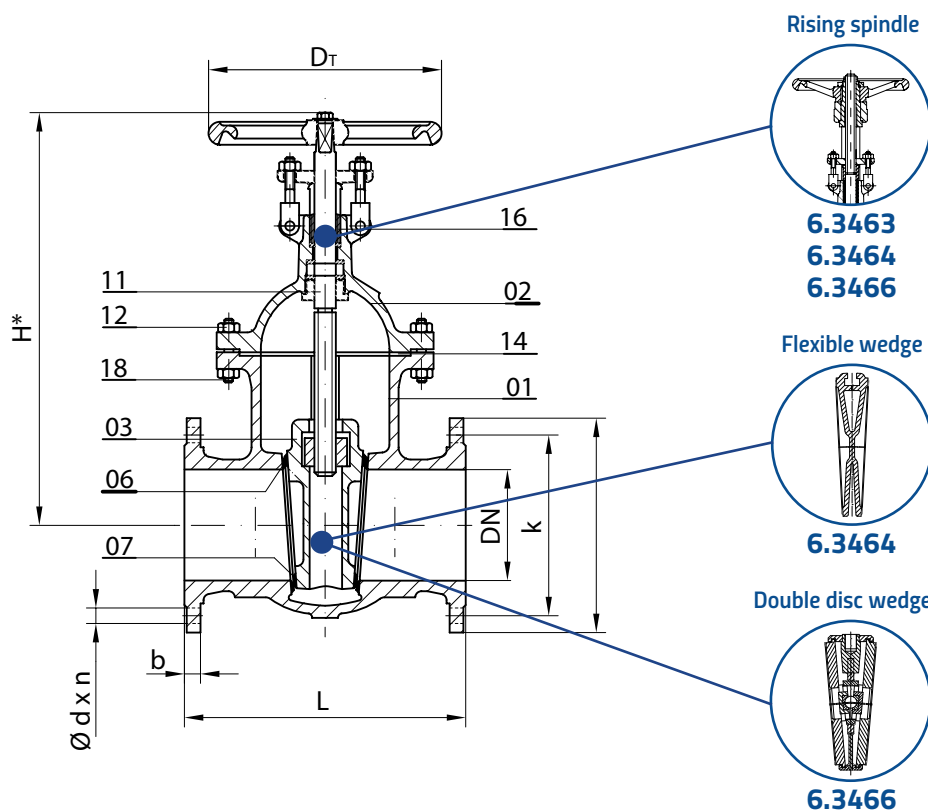
## MATERIALS

The material of the main parts is cast steel 1.0619, the spindle is made of stainless steel, and sealing surfaces are made of stainless steel or of their own material.

Manufactured in accordance with PED 97/23/EC.

## TESTING

Testing is conducted in the manufacturer's test station using hydro test-water or air (6 bar), depending on the requirements for the use of the gate valve, and in accordance with the standard EN 12266-1 Part 1 and Part 2. Hermeticity classes can range from class A to D, where A is the class of zero leakage rate (100% airtight), and other classes have allowable leakage depending on the requirements for use and the product's nominal size (DN).



## MATERIAL STANDARD

Position	Name	Material	Material No.
01.02	Housing – cover	GP240GH	1.0619
14	Spindle seal	Reinforced graphite	-
18	Screw	42CrMo4	1.7225
12	Nut	Ck45	1.1191
11	Spindle	X20Cr13	1.4021
16	Spindle seal	Graphite braid	-
03	Wedge	GP240GH/H II	1.0619/1.0425
06	Sealing ring – of a housing	Inox B17MoFe	1.4115
07	Sealing ring – of a wedge	Inox B17Fe	1.4015

## STANDARDS USED

Compliance with standards	Face-to-face dimension: FTF 26	Standard connecting flange: Flange PN 63	Structure	Testing	Test report: 3.1
EN 1984	EN 558-1	EN 1092-1	EN 19	EN 12266-1,2	EN 10204

## TESTING

	Nominal diameter	Nominal pressure	Maximum allowable operating pressure at operating temperature					For neutral liquids, gases, steam and condensate	Pressure at testing [bar]	
	DN	PN	100°C	150°C	200°C	250°C	400°C		Housings P10, 11, 20	Closings P12, 21
6.3460	50 - 300	63	53,7	49,9	-	-	-	Ambient temperature min -10 °C	94,5	69,3
6.3463	50 - 300	63	53,7	49,9	44,8	40,9	-	Ambient temperature min -10 °C	94,5	69,3
6.3464	50 - 300	63	53,7	49,9	44,8	40,9	33,3	Ambient temperature min -10 °C	94,5	69,3
6.3466	50 - 300	63	53,7	49,9	44,8	40,9	33,3	Ambient temperature min -10 °C	94,5	69,3

DIMENSIONS AND WEIGHTS

6.3460											
6.3463										6.3463	
6.3464										6.3464	
6.3466										6.3466	
DN	L	D	b	k	d	n	D <sub>T</sub>	H*	G [kg]	H*	G [kg]
50	250	180	26	135	22	4	250	395	40	485	46
65	290	205	26	160	22	8	315	420	56	535	63
80	310	215	28	170	22	8	315	460	67	575	74
100	350	250	30	200	26	8	315	515	82	630	90
125	400	295	34	240	30	8	315	640	134	760	147
150	450	345	36	280	33	8	315	695	163	845	176
200	550	415	42	345	36	12	500	790	273	1005	290
250	650	470	46	400	36	12	500	895	500	1205	535
300	750	530	52	460	36	16	630	985	670	1340	640

## SPECIAL FEATURES

### A - With additional operating elements

Code	Description
1	With a gear and electric motor drive
2	With a gear that can be toothed or worm
3	With a directly connected electric motor drive
4	With a lever mechanism for quick closing
5	With a sprocket (instead of a manual wheel)
7	With a pneumatic cylinder drive
8	With a hydraulic cylinder drive

### B - With extended or additional cylinder elements

Code	Description	
23	With a gear and electric motor drive	BP
24	With a gear that can be toothed or worm	DP
25	With the position indicator of the sealing body	PI
26	With a directly connected electric motor drive	LS
32	With a lever mechanism for quick closing	GS
33 - 34	With a sprocket (instead of a manual wheel)	
35	With a pneumatic cylinder drive	ER
36	With a hydraulic cylinder drive	
37 - 38	With counter flanges and a connection kit	FS
39	With a locking latch	LD
42	With a heating jacket	
44	With an opening for connecting a water pot for spindle water-sealing	
46	With a drain valve	DV

### C - Additional features

Code	Description
28	With processed guide rails for horizontal installation
29	With additional parts for installation or manipulation
30	With an air release plug on the cover
40	With special face-to-face dimensions

Grey cast iron  
Cast steel  
Fabricated steel



6.3702  
6.3703  
6.3711  
6.3736



10  
16  
10 - 16  
10 - 16



300 - 600  
300, 700  
150, 250  
250



110°C  
230°C  
80°C  
80°C

## SCOPE OF APPLICATION

Gate valves are used as sealing devices in pipelines to stop the flow of a flowing fluid. This type of gate valves is designed for dense fluids. In the basic version, the embedded materials are suitable for the flow of water, thick mixture, mixture of water and particles of solid materials (for example: ash), powdered materials, as well as for other non-aggressive fluids, whereas for aggressive fluids, a valve is produced of special materials.

## PRODUCT DESIGN

Products are manufactured according to the current EN standards for this type of products, and they can also be manufactured according to other standards.

Connection is a flange according to EN 1092-1 or it has welding ends.

Face-to-face dimensions are in accordance with EN 558-1 or with a face-to-face dimension upon a special request.

In the basic version, the products are made for manual operation using a hand wheel with a direct connection or a gear connection.

The products are also made with an electric, hydraulic or pneumatic drive system.

## APPLICATION

Gate valves have found a wide range of applications in thermal power plants, paper processing industry, petrochemical and refinery plants in water treatment as well as in utilities buildings.

## PRESSURES AND TEMPERATURES

Steel valves in the standard version are made of carbon steel groups 1E1 and 3E0, and they are used for temperatures from -10 °C to +300/400 °C.

For temperatures from -254 °C to +600 °C, the embedded materials are alloy steel group 4E0, 5E0, 6E0, 7E0 or stainless steel group 11E0, 12E0, 14E0, 15E0.

The application and use of the valves, where the standard EN 12516-1 specifies pressure and temperature dependence, depends on the embedded materials.



## MATERIALS

The material of the main parts is grey cast iron, cast steel or carbon structural steel, the spindle is made of stainless steel, sealing plate disc of stainless steel, and sealing surface is made of rubber.

Manufactured in accordance with PED 97/23/EC.

## TESTING

Testing is conducted in the manufacturer's test station using hydro test-water or air (6 bar), depending on the requirements for the use of the gate valve, and in accordance with the standard EN 12266-1 Part 1 and Part 2.

Hermeticity classes can range from class A to D, where A is the class of zero leakage rate (100% airtight), and other classes have allowable leakage depending on the requirements for use and the product's nominal size (DN).

## MATERIAL STANDARD

Position	Name	Material			Material No.
		<b>6.3703</b>	<b>6.3711 ; 6.3736</b>	<b>6.3702</b>	
01.02	Housing	GP240GH (1.0619)	S235JRG2 (1.0038)	GJL - 250	-
14	Spindle seal	Reinforced graphite	Wiper – EPDM	-	-
18	Screw	CK 45	CK 45	CK 45	1.1191
12	Nut	CK 45	CK 45	CK 45	1.1191
11	Spindle	x20Cr13	x20Cr13	x20Cr13	1.4021
16	Spindle seal	Graphite braid			-
03	Cover	GP240GH (1.0619)	S235JRG2 (1.0038)	1.4301	-
06	Sealing ring – of a housing	Inox B17 MoFe	Cuff EPDM	1.4301	1.4115
07	Sealing ring – of a wedge	Plate 1.4301	1.4301	1.4301	-

## STANDARDS USED

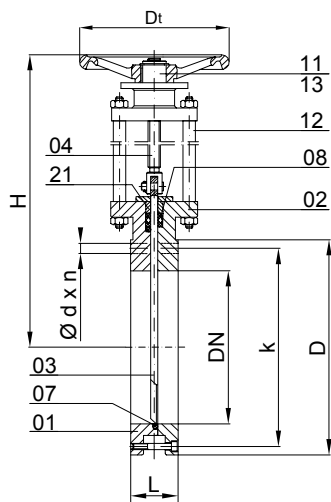
	Compliance with standards	Face-to-face dimensions	Standard connection: Flange PN 16	Structure	Testing	Test report:
<b>6.3703</b>	EN 1984	EN 558 - 1 (FTF 13)	EN 1092-1	EN 19	EN 12266-1,2	EN 10204 3.1
<b>6.3711 / 6.3736</b>	EN 1984	EN 558 - 1 (FTF 25)	Without flange	EN 19	EN 12266-1,2	EN 10204 3.1
<b>6.3702</b>	EN 1984	EN 558 - 1 (FTF 16)	Without flange	EN 19	EN 12266-1,2	EN 10204 3.1

## TESTING

	Nominal diameter	Nominal pressure	Maximum allowable operating pressure at operating temperature				For neutral liquids, gases, steam and condensate	Pressure at testing [bar]	
	DN	PN	70°C	80°C	200°C	230°C		Housings P10, 11, 20	Closings P12, 21
<b>6.3702</b>	150 - 600	10	10	10	-	-	Ambient temperature min -10 °C	15	11
<b>6.3703</b>	300, 700	16	-	-	-	13	Ambient temperature min -10 °C	24	17,6
<b>6.3711</b>	150, 250	10	10	10	-	-	Ambient temperature min -10 °C	15	11
<b>6.3736</b>	250	16	16	16	-	-	Ambient temperature min -10 °C	24	17,6

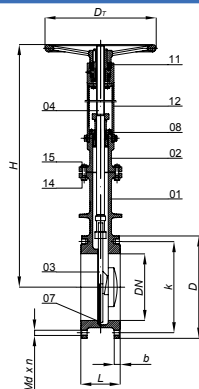
DIMENSIONS AND WEIGHTS

6.3702



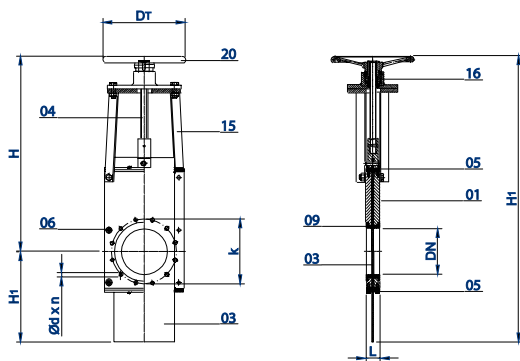
DN	L	D	k	Through holes		Thread		DT	H*	G [kg]
				d	n	d	n	ISO 5210		
300	114	445	400	23	8	M20	4	F14	865	140
350	120	505	460	23	12	M20	4	F16	1005	170
400	120	565	515	28	12	M24	6	F16	1080	190
450	140	615	565	28	14	M24	6	F16	1200	320
500	150	670	620	31	14	M27	6	F25	1300	420
550	178	725	675	31	14	M27	6	F25	1430	490
600	178	780	725	34	14	M30	6	F25	1645	560

6.3703



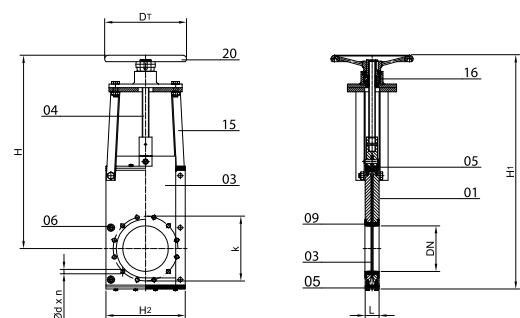
DN	L	D	b	k	d	n	DT	H*	G [kg]
300	178	445	400	28	M20	12	500	1272	219
700	292	895	840	42	M27	24	800	2470	1314

6.3711



DN	L	H1	k	Thread		DT	H*	G [kg]
				d	n			
150	70	339	240	M20	8	315	735	93
250	76	493	355	M24	12	500	1060	215

6.3736



DN	L	H1	H2	k	Thread		DT	H*	G [kg]
					d	n			
250	76	1285	400	355	M24	12	500	1060	215



## SPECIAL FEATURES

### A - With additional operating elements

Code	Description
1	With a gear and electric motor drive
2	With a gear that can be toothed or worm
3	With a directly connected electric motor drive
4	With a lever mechanism for quick closing
5	With a sprocket (instead of a manual wheel)
7	With a pneumatic cylinder drive
8	With a hydraulic cylinder drive

### B - With extended or additional cylinder elements

Code	Description	
23	With a gear and electric motor drive	BP
24	With a gear that can be toothed or worm	DP
25	With the position indicator of the sealing body	PI
26	With a directly connected electric motor drive	LS
32	With a lever mechanism for quick closing	GS
33 - 34	With a sprocket (instead of a manual wheel)	
35	With a pneumatic cylinder drive	ER
36	With a hydraulic cylinder drive	
37 - 38	With counter flanges and a connection kit	FS
39	With a locking latch	LD
42	With a heating jacket	
44	With an opening for connecting a water pot for spindle water-sealing	
46	With a drain valve	DV

### C - Additional features

Code	Description
28	With processed guide rails for horizontal installation
29	With additional parts for installation or manipulation
30	With an air release plug on the cover
40	With special face-to-face dimensions



# BUTTERFLY VALVES

Butterfly valves are widely used in public utilities buildings of water, sewage and heating systems, in energy facilities to produce steam, hot water, compressed air, etc., in the petrochemical and chemical industry, shipbuilding and other branches of economic activity.

They are installed in both main and technological pipelines wherever care is taken of the energy losses during transport, especially transport of liquids.

In the closed position of the disc, the flow of the operational substance is stopped, and the pipeline sections are hermetically separated.

In the open position of the disc, the smooth flow of the operational substance with relatively little loss of energy is ensured.



# 2100

**DN**



# 40

**PN**



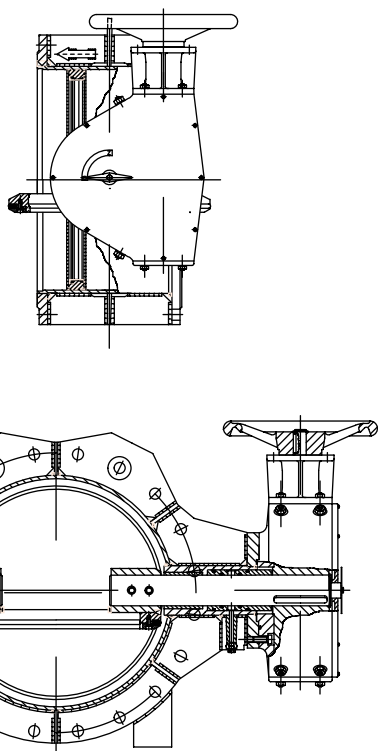
# 400

**TEMP**



A

## DOUBLE ECCENTRIC

Double eccentric  
butterfly valve

DN	200 - 2000	PN	2,5 - 40
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## APPLICATION TEMPERATURE

Rubber / metal	120 / 180
----------------	-----------

Metal / Metal (1.0038)	300
------------------------	-----

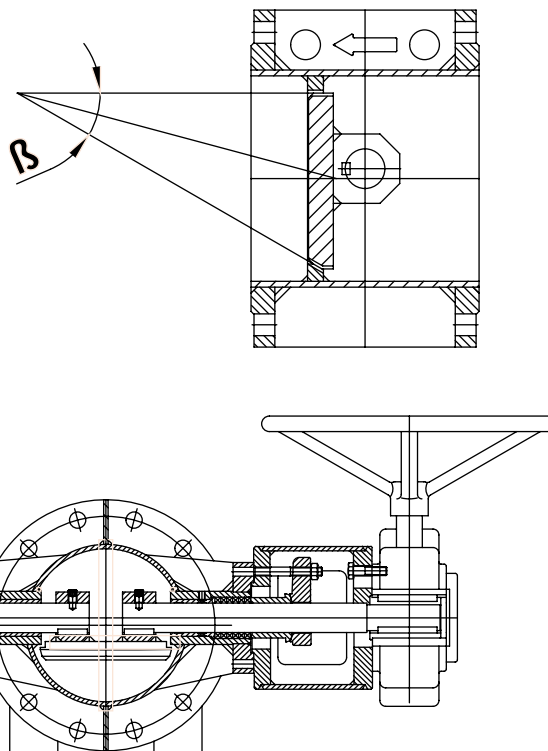
Metal / Metal (1.0425)	400
------------------------	-----

STANDARD	Series 14
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Connection	Flange
------------	--------

B

## TRIPLE ECCENTRIC



Triple eccentric butterfly valve

DN	200 - 1400	PN	10 - 40
----	------------	----	---------

## APPLICATION TEMPERATURE

Metal / Metal (1.0038)	300
------------------------	-----

Metal / Metal (1.0038)	400
------------------------	-----

STANDARD	Series 14
----------	-----------

Connection	Flange
------------	--------

## DISC CONSTRUCTION

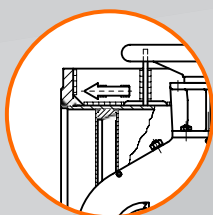
## Double eccentric closing

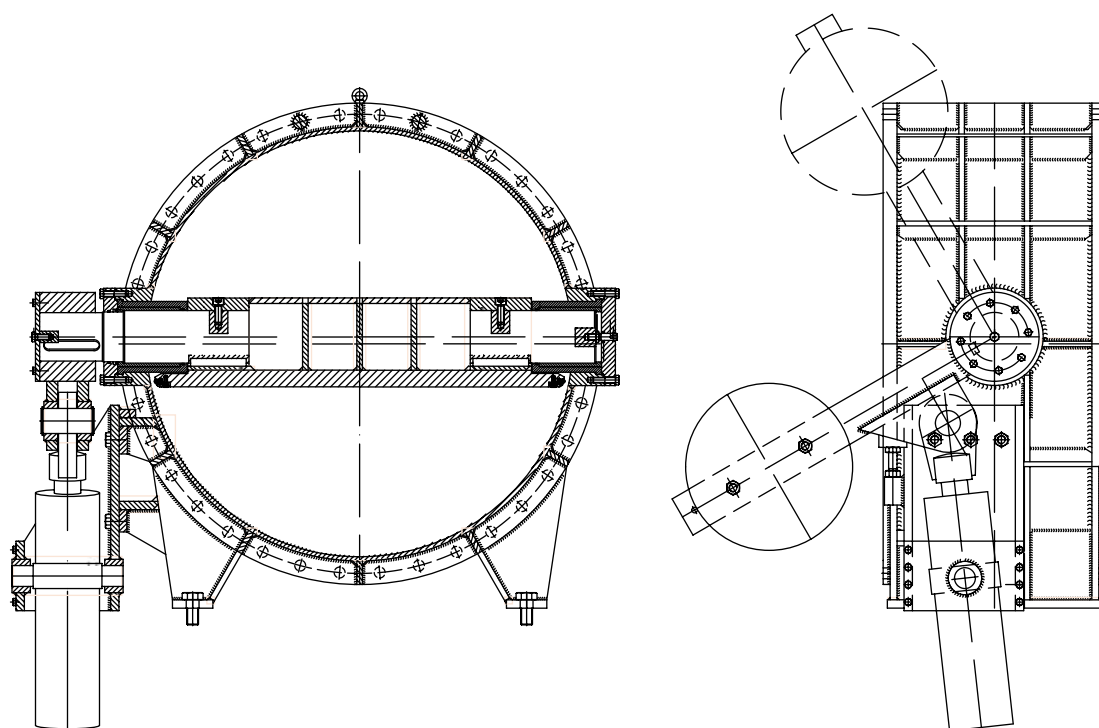
A circular-shaped sealing plate disc is mounted eccentrically relative to the housing axis, which provides a continuous surface of the seat and friction is reduced when handling.

The sealing surfaces can be made of stainless steel (metal/metal closing), of rubber on the disc and of stainless steel in the housing (rubber/metal closing) or of alternately arranged stainless steel

sheet layers and of graphite on the disc and stainless steel in the housing ("sandwich"/metal closing).

The sealing plate disc is rotated by 90° by means of a self-braking gear.





Double eccentric butterfly valve

DN	400 - 2100	PN	6 - 40
APPLICATION TEMPERATURE	70°C		
STANDARD	Series 14		
Connection	Flange		

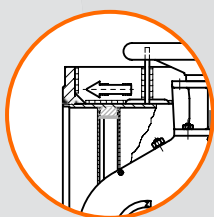
### Triple eccentric closing

A circular-shaped sealing plate disc is mounted eccentrically relative to the housing axis, sealing surface is produced elliptically, which provides a continuous surface of the seat and friction is reduced when handling.

The sealing surfaces can be made of stainless steel (metal/metal closing), or of alternately arranged stainless steel sheet layers and

graphite on the disc and stainless steel in the housing ("sandwich"/metal closing).

The sealing plate disc is rotated by 90° by means of a self-braking gear.







# DOUBLE ECCENTRIC

Welded construction



6.3600  
6.3608  
6.3616  
6.3624  
6.3632  
6.3640



2,5  
6  
10  
16  
25  
40



300 - 2000  
200 - 1800  
200 - 1400  
200 - 1200  
200 - 1000  
200 - 800



70°C

## SCOPE OF APPLICATION

Butterfly valves are used as sealing devices in pipelines to stop the flow of a flowing fluid. In the basic version, the embedded materials are suitable for the flow of water, steam, gas, oil and petroleum products, as well as for other non-aggressive fluids, whereas for aggressive fluids, butterfly valves are produced of special materials and special disc.

## PRODUCT DESIGN

Products are manufactured according to the current EN standards for this type of products, and they can also be manufactured according to DIN, ANSI or GOST standard. The products are constructed as double eccentric or triple eccentric. The butterfly valve is constructed with a rubber sealing surface of the wedge and metal seat in the housing (rubber/metal closing).

Connection is a flange according to EN 1092-1 or it has welding ends. Face-to-face dimensions are in accordance with EN 558-1, Series 14 or with a face-to-face dimension upon a special request (40). In the basic version, the products are made for a manual operation using a hand wheel with a connection via the gear. The products are also made with an electric, hydraulic or pneumatic drive system.

## APPLICATION

Butterfly valves are used in thermal power, hydroelectric power, petrochemical and refinery plants in water treatment, as well as in utilities buildings.

## PRESSURES AND TEMPERATURES

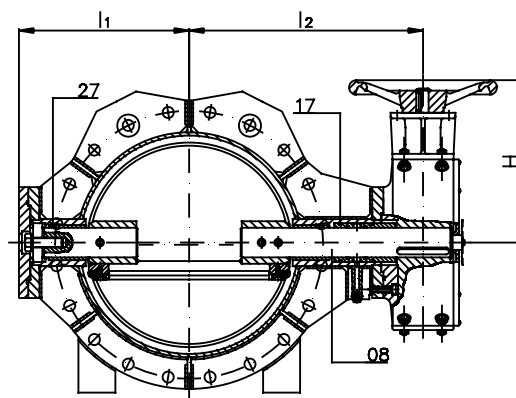
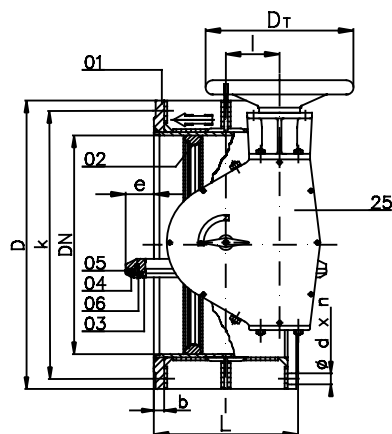
Steel valves in the standard version are made of carbon steel groups 1E1 and 3E0, and they are used for temperatures from -10 °C to +300/400 °C.

For temperatures from -254 °C to +600 °C, the embedded materials are alloy steel group 4E0, 5E0, 6E0, 7E0 or stainless steel group 11E0, 12E0, 14E0, 15E0.

The application and use of the valves, where the standard EN 12516-1 specifies pressure and temperature dependence, depends on the embedded materials.

\* Products with rubber/metal closings.





## MATERIALS

The materials are carbon, alloy or stainless steel in a Welded construction made of fabricated steel materials in accordance with standard PED 97/23/EC.

The material of the wedge sealing ring can be Perbunan N, EPDM or FPM (Viton).

## MATERIAL STANDARD

Position	Name	Material	Material No.
01	Housing	S235JRG2	1.0038
02	Sealing ring – of a housing	Inox B17Fe	1.4015
03	Disc	S235JRG2	1.0038
05	Sealing ring – of a disc	EPDM > 120°C / Viton > 180°C	
08 - 07	Shaft – Journal	X20Cr13	1.4021
19	Shaft seal	EPDM > 120°C / Viton > 180°C	
	Sliding bearing sleeve	CuAl10Fe	2.0936
	Cage	CuZn39Pb3	2.0401

## TESTING

Testing is conducted in the manufacturer's test station using hydro test-water or air (6 bar), depending on the requirements for the use of the butterfly valve, and in accordance with the standard EN 12266-1 Part 1 and Part 2.

Hermeticity classes can range from class A to D, where A is the class of zero leakage rate (100% airtight), and other classes have allowable leakage depending on the requirements for use and the product's nominal size (DN).

## STANDARDS USED

Compliance with standards	Face-to-face dimension: FTF 14	Connection: Flange PN 2.5 / 40	Structure	Testing	Test report: 3.1
EN 593	EN 558-1	EN 1092-1	EN 19	EN 12266-1	EN 10204

## RELATIONSHIP BETWEEN PRESSURE AND TEMPERATURE

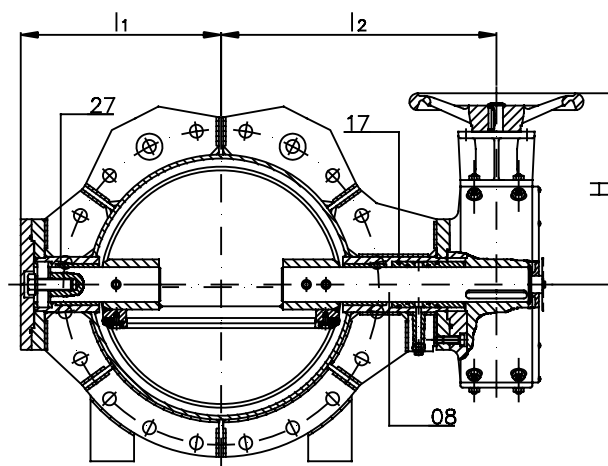
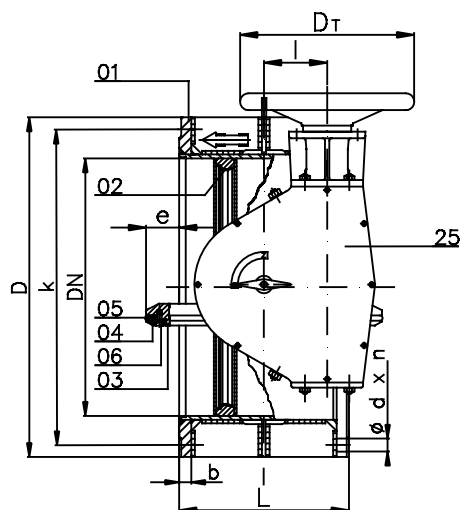
	Nominal diameter	Nominal pressure	Maximum allowable operating pressure at operating temperature (EPDM / VITON)			For neutral liquids, gases, steam and condensate	Pressure at testing [bar]	
	DN	PN	100°C	120°C	180°C		Housings P10, 11, 20	Closings P12, 21
6.3600	200 - 2000	2,5	1,83	1,78	1,63	Ambient temperature min -10 °C	15	11
6.3608	200 - 1800	6	4,38	4,26	3,90	Ambient temperature min -10 °C	9	6,6
6.3616	200 - 1400	10	7,31	7,11	6,50	Ambient temperature min -10 °C	15	11
6.3624	200 - 1200	16	11,7	11,38	10,42	Ambient temperature min -10 °C	24	17,6
6.3632	200 - 1000	25	18,3	17,82	16,26	Ambient temperature min -10 °C	37,5	27,5
6.3640	200 - 800	40	29,2	28,44	26,04	Ambient temperature min -10 °C	60	44

## DIMENSIONS AND WEIGHTS

6.3600													PN 2,5
DN	L	D	b	k	d	n	e	l	l <sub>1</sub>	l <sub>2</sub>	D <sub>f</sub>	H*	G* [kg]
200	230	320	22	280	18	8	-	45	240	305	200	180	70
250	250	375	22	335	18	12	-	45	250	315	200	180	90
300	270	440	22	395	22	12	3	50	260	340	250	210	112
350	290	490	22	445	22	12	18	50	270	350	250	210	140
400	310	540	22	495	22	16	30	63	300	400	315	250	175
450	330	595	24	550	22	16	45	80	330	450	400	290	215
500	350	645	24	600	22	20	56	80	360	480	400	290	270
600	390	755	24	705	26	20	90	100	435	575	500	350	360
700	430	860	24	810	26	24	120	125	510	670	630	470	530
800	470	975	24	920	30	24	150	125	565	725	630	470	630
900	510	1075	26	1020	30	24	175	160	640	820	720	530	820
1000	550	1175	26	1120	30	28	205	160	700	880	720	530	1010
1200	630	1375	26	1320	30	32	260	200	850	1050	800	670	1520
1400	710	1630	26	1560	30	36	320	200	990	1190	800	670	2950
1600	790	1830	26	1760	30	40	380	250	1080	1300	1000	780	3680
1800	870	1990	26	2130	30	48							4690
2000	950	2190	26	2130	30	48							5800

6.3608													PN 6
200	230	320	20	280	18	8	-	45	240	305	200	180	70
250	250	375	22	335	18	12	-	45	250	315	200	180	90
300	270	440	22	395	22	12	3	50	260	340	250	210	112
350	290	490	22	445	22	12	18	50	270	350	250	210	185
400	310	540	22	495	22	16	30	63	300	400	315	250	198
450	330	595	22	550	22	16	45	80	330	450	400	290	235
500	350	645	24	600	22	20	56	80	360	480	400	290	290
600	390	755	24	705	26	20	90	100	435	575	500	350	425
700	430	860	24	810	26	24	120	125	510	670	630	470	575
800	470	975	24	920	30	24	150	125	565	725	630	470	760
900	510	1075	26	1020	30	24	175	160	640	820	720	530	990
1000	550	1175	26	1120	30	28	205	160	700	880	720	530	1290
1200	630	1375	28	1320	33	32	260	200	850	1050	800	670	1980
1400	710	1630	32	1560	36	36	320	200	990	1190	800	670	2950
1600	790	1830	34	1760	36	40	380	250	1080	1300	1000	780	3680
1800	870	2045	36	1970	39	44	435	250	1200	1420	1000	780	4690

6.3616													PN 10
200	230	340	24	295	22	8	-	45	240	305	200	180	70
250	250	395	26	350	22	12	-	50	250	330	250	210	90
300	270	445	26	400	22	12	3	50	260	340	250	210	135
350	290	505	26	460	22	16	18	50	270	350	250	210	185
400	310	565	26	515	26	16	30	63	310	410	315	250	198
450	330	615	28	565	26	20	45	80	330	450	400	290	235
500	350	670	28	620	26	20	56	80	390	510	400	290	290
600	390	780	28	725	30	20	90	100	465	605	500	350	425
700	430	895	30	840	30	24	120	125	540	700	630	470	575
800	470	1015	32	950	33	24	150	125	600	760	630	470	760
900	510	1115	34	1050	33	28	175	160	690	870	720	530	990
1000	550	1230	34	1160	36	28	205	160	750	930	720	530	1290
1200	630	1455	38	1380	39	32	260	200	920	1120	800	670	1990
1400	710	1675	42	1590	42	36	320	250	1060	1280	1000	780	2850



6.3624

PN 40

DN	L	D	b	k	d	n	e	l	l <sub>1</sub>	l <sub>2</sub>	D <sub>T</sub>	H*	G [kg]
200	230	340	24	295	22	12	-	50	250	330	250	210	106
250	250	405	26	355	26	12	-	50	260	340	250	210	140
300	270	460	28	410	26	12	3	63	270	370	315	250	175
350	290	520	30	470	26	16	18	63	285	385	315	250	215
400	310	580	32	525	30	16	30	80	345	465	400	290	270
450	330	640	34	585	30	20	45	80	365	485	400	290	340
500	350	715	34	650	33	20	56	100	430	570	500	350	400
600	390	840	36	770	36	20	90	100	510	650	500	350	570
700	430	910	36	840	36	24	120	125	580	740	630	470	800
800	470	1025	38	950	39	24	150	160	650	830	720	530	980
900	510	1125	40	1050	39	28	175	160	740	920	720	530	1250
1000	550	1250	4	1170	42	28	205	200	810	1010	800	670	1600
1200	630	1480	48	1390	48	32	260	250	980	1200	1000	780	2500

6.3632

PN 25

DN	L	D	b	k	d	n	e	l	l <sub>1</sub>	l <sub>2</sub>	D <sub>T</sub>	H*	G [kg]
200	230	360	30	310	26	12	-	50	260	340	250	210	-
250	250	425	32	370	30	12	-	63	270	370	315	250	-
300	270	485	34	430	30	16	3	63	280	380	315	250	190
350	290	555	38	490	33	16	18	80	300	420	400	290	245
400	310	620	40	550	36	16	30	80	360	480	400	290	325
450	330	670	42	600	36	20	45	100	380	520	500	350	385
500	350	730	44	660	36	20	56	100	450	590	500	350	420
600	390	845	46	770	39	20	90	125	530	690	630	470	620
700	430	910	46	875	42	24	120	160	610	790	720	530	960
800	470	1085	50	990	48	24	150	160	680	860	720	530	1450
900	510	1185	54	1090	48	28	175	200	780	980	800	670	2050
1000	550	1320	58	1210	56	28	205	250	850	1070	1000	780	2350

6.3640

PN 40

DN	L	D	b	k	d	n	e	l	l <sub>1</sub>	l <sub>2</sub>	D <sub>T</sub>	H*	G [kg]
200	230	375	34	320	30	12	-	63	270	370	315	250	220
250	250	450	38	385	33	12	-	63	285	385	315	250	290
300	270	515	42	450	33	16	3	80	300	420	400	290	360
350	290	580	46	510	36	16	18	80	325	445	400	290	450
400	310	660	50	585	39	16	30	100	390	530	500	350	570
450	330	685	50	610	39	20	45	100	410	550	500	350	720
500	350	755	52	670	42	20	56	125	480	645	630	470	830
600	390	890	60	795	48	20	90	160	570	750	720	530	1180
700	430	995	64	900	48	24	120	160	650	830	720	530	1670
800	470	1140	72	1030	56	24	150	200	730	950	800	670	2050

## SPECIAL FEATURES

### A - with additional operating elements

Code	Description
1	With a gear and electric motor drive
2	With a gear that can be toothed or worm
3	With a directly connected electric motor drive
4	With a lever mechanism for quick closing
5	With a sprocket (instead of a manual wheel)
7	With a pneumatic cylinder drive
8	With a hydraulic cylinder drive

### B - with extended or additional elements

Code	Description	
25	With the position indicator of the sealing body	PI
26 - 27	With limit switches	LS
35	With a stand and extended spindle	ER
36	With a drive shaft connection for driving	
37 - 38	With counter flanges and a connection kit	FS
39	With a locking latch	LD

### C - additional features

Code	Description
29	With additional parts for installation or manipulation
40	With special face-to-face dimensions
41	Manufacture and delivery without a gear



# DOUBLE ECCENTRIC

Welded construction



6.3650  
6.3651  
6.3652  
6.3653  
6.3654  
6.3655



2,5  
6  
10  
16  
25  
40



200 - 1800  
200 - 1800  
200 - 1200  
200 - 1200  
200 - 1000  
200 - 800



300°C/400°C

## SCOPE OF APPLICATION

Butterfly valves are used as sealing devices in pipelines to stop the flow of a flowing fluid. In the basic version, the embedded materials are suitable for the flow of water, steam, gas, oil and petroleum products, as well as for other non-aggressive fluids, whereas for aggressive fluids, butterfly valves are produced of special materials and special disc.

## APPLICATION

Butterfly valves are used in thermal power, hydroelectric power, petrochemical and refinery plants in water treatment, as well as in utilities buildings.

## PRODUCT DESIGN

Products are manufactured according to the current EN standards for this type of products, and they can also be manufactured according to DIN, ANSI or GOST standard. The products are constructed as double eccentric. Closing and disc structure characterize a special sandwich closing consisting of alternate layers of stainless steel and graphite, while the seat is made of stainless steel with a min. 13% Cr ("sandwich/metal closing").

Connection is a flange according to EN 1092-1 or it has welding ends. Face-to-face dimensions are in accordance with EN 558-1, Series 14 or with a face-to-face dimension upon a special request. In the basic version, the products are made for manual operation using a hand wheel with a gear connection. The products are also made with an electric, hydraulic or pneumatic drive system.

## PRESSURES AND TEMPERATURES

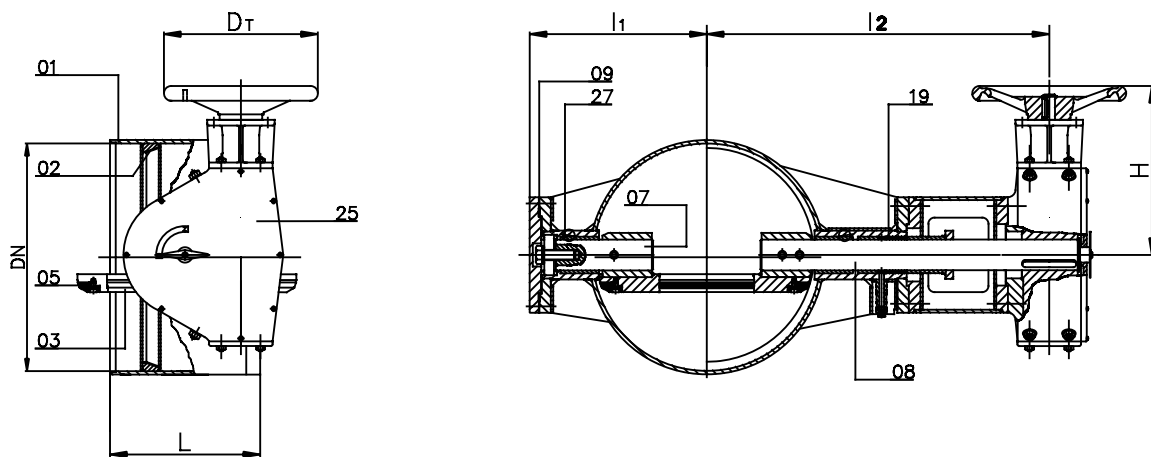
Steel valves in the standard version are made of carbon steel groups 1E1 and 3E0, and they are used for temperatures from -10 °C to +300/400 °C.

For temperatures from -254 °C to +600 °C, the embedded materials are alloy steel group 4E0, 5E0, 6E0, 7E0 or stainless steel group 11E0, 12E0, 14E0, 15E0. The application and use of the valves, where the standard EN 12516-1 specifies pressure and temperature dependence, depends on the embedded materials.



\* Products with metal/sandwich (inox/graphite) closing.





\* Design without flanges with "BW" welding ends EN 12627.

## MATERIALS

The materials are carbon, alloy or stainless steel in a Welded construction made of fabricated steel materials in accordance with standard PED 97/23/EC.

## MATERIAL STANDARD

Position	Name	Material	Material No.
01	Housing	S235JRG2	1.0038
02	Sealing ring – of a housing	Inox B17Fe	1.4015
03	Disc	S235JRG2	1.0038
05	Sealing ring – of a disc	Inox / Graphite ring	1.4301 / Grafit
08 - 07	Shaft – Journal	X20Cr13	1.4021
19	Shaft seal	Graphite braid	
	Sliding bearing sleeve	CuAl10Fe	2.0936

## TESTING

Testing is conducted in the manufacturer's test station using hydro test-water or air (6 bar), depending on the requirements for the use of the butterfly valve, and in accordance with the standard EN 12266-1 Part 1 and Part 2.

Hermeticity classes can range from class A to D, where A is the class of zero leakage rate (100% airtight), and other classes have allowable leakage depending on the requirements for use and the product's nominal size (DN).

## STANDARDS USED

Compliance with standards	Face-to-face dimension: FTF 14	Connection: Flange PN 2.5 / 40	Structure	Testing	Test report: 3.1
EN 593	EN 558-1	EN 1092 - 1	EN 19	EN 12266-1	EN 10204

## RELATIONSHIP BETWEEN PRESSURE AND TEMPERATURE (for material of basic design 1.0038)

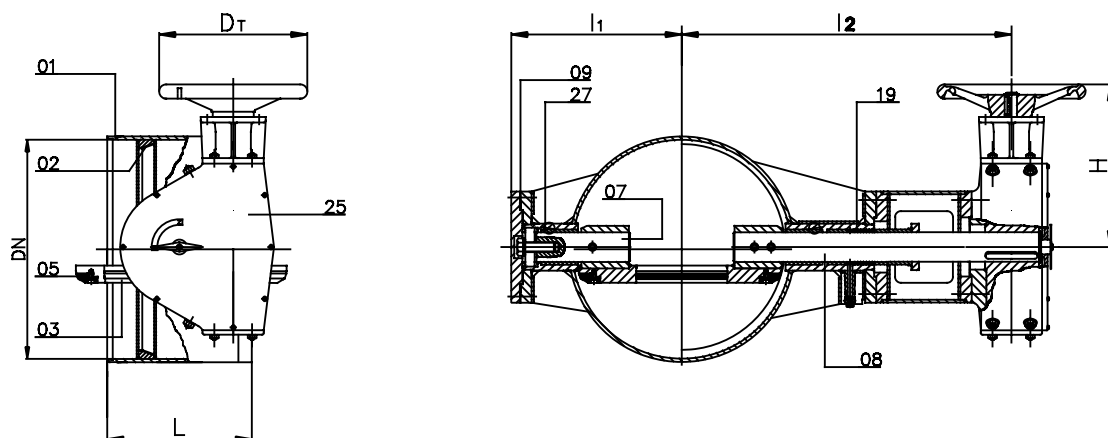
	Nominal diameter	Nominal pressure	Maximum allowable operating pressure at operating temperature			For neutral liquids, gases, steam and condensate	Pressure at testing [bar]	
	DN	PN	100°C	200°C	300°C		Housings P10, 11, 20	Closing P12
6.3650	200 - 1800	2.5	1,83	1,57	1,19	Ambient temperature min -10 °C	3,75	2.75
6.3651	200 - 1800	6	4,38	3,78	2,85	Ambient temperature min -10 °C	9	6,6
6.3652	200 - 1200	10	7,31	6,29	4,75	Ambient temperature min -10 °C	16	11
6.3653	200 - 1200	16	13,6	11,4	9,4	Ambient temperature min -10 °C	24	17,6
6.3654	200 - 1000	25	21,3	17,8	14,7	Ambient temperature min -10 °C	37,5	27,5
6.3655	200 - 800	40	34,1	28,4		Ambient temperature min -10 °C	60	44

## DIMENSIONS

6.3650						PN 2,5
DN	L	D	b	k	d	n
200	230	320	20	280	18	8
250	250	375	22	335	18	12
300	270	440	22	395	22	12
350	290	490	22	445	22	12
400	310	540	22	495	22	16
450	330	595	24	550	22	16
500	350	645	24	600	22	20
600	390	755	24	705	26	20
700	430	860	24	810	26	24
800	470	975	24	920	30	24
900	510	1075	26	1020	30	24
1000	550	1175	26	1120	30	28
1200	630	1375	26	1320	30	32
1400	710	1575	26	1520	30	36
1600	790	1790	26	1730	30	40
1800	870	1990	26	1930	30	44

6.3651						PN 6
200	230	320	20	280	18	8
250	250	375	22	335	18	12
300	270	440	22	395	22	12
350	290	490	22	445	22	12
400	310	540	22	495	22	16
450	330	595	22	550	22	16
500	350	645	24	600	22	20
600	390	755	24	705	26	20
700	430	860	24	810	26	24
800	470	975	24	920	30	24
900	510	1075	26	1020	30	24
1000	550	1175	26	1120	30	28
1200	630	1375	28	1320	33	32
1400	710	1630	32	1560	36	36
1600	790	1830	34	1760	36	40
1800	870	2045	36	1970	39	44

6.3652						PN 10
200	230	320	20	295	22	8
250	250	375	22	350	22	12
300	270	460	26	400	22	12
350	290	520	26	460	22	16
400	310	580	26	515	26	16
450	330	640	28	565	26	20
500	350	715	28	620	26	20
600	390	840	28	725	30	20
700	430	910	30	840	30	24
800	470	1025	32	950	33	24
900	510	1125	34	1050	33	28
1000	550	1250	34	1160	36	28
1200	630	1455	38	1380	39	32



\* Design without flanges with "BW" welding ends EN 1267.

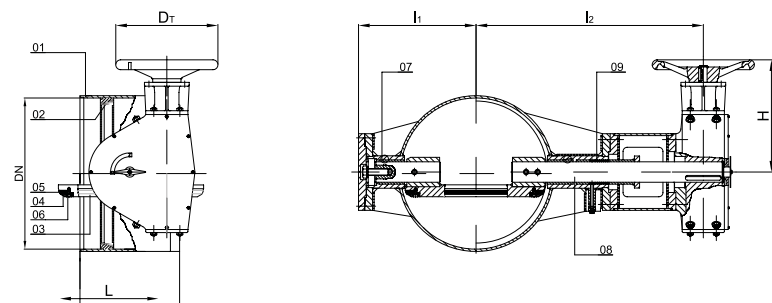
#### 6.3653

PN 40

DN	L	D	b	k	d	n
200	230	340	24	295	22	8
250	250	405	26	350	26	12
300	270	460	28	400	26	12
350	290	520	30	460	26	16
400	310	580	32	515	30	16
450	330	640	34	565	30	20
500	350	715	34	620	33	20
600	390	840	36	725	36	20
700	430	910	36	840	36	24
800	470	1025	38	950	39	24
900	510	1125	40	1050	39	28
1000	550	1255	42	1160	42	28

#### 6.3654

PN 25



DN	L	D	b	k	d	n	G [kg]
200	230	360	30	310	26	12	-
250	250	425	32	370	30	12	-
300	270	485	34	430	30	16	190
350	290	555	38	490	33	16	245
400	310	620	40	550	36	16	325
450	330	670	42	600	36	20	385
500	350	730	44	660	36	20	420
600	390	845	46	770	39	20	620
700	430	960	46	875	42	24	960
800	470	1085	50	990	48	24	1450
900	510	1185	54	1090	48	28	2050
1000	550	1320	58	1210	56	28	2350

\* Design without flanges with "BW" welding ends EN 1267.

#### 6.3655

PN 40

DN	L	D	b	k	d	n
200	230	375	34	320	30	12
250	250	450	38	385	33	12
300	270	515	42	450	33	16
350	290	580	46	510	36	16
400	310	660	50	585	39	16
450	330	685	50	610	39	20
500	350	755	52	670	42	20
600	390	890	60	795	48	20
700	430	995	64	900	48	24
800	470	1140	72	1030	56	24

## SPECIAL FEATURES

### A - with additional operating elements

Code	Description
1	With a gear and electric motor drive
2	With a gear that can be toothed or worm
3	With a directly connected electric motor drive
4	With a lever mechanism for quick closing
5	With a sprocket (instead of a manual wheel)
7	With a pneumatic cylinder drive
8	With a hydraulic cylinder drive

### B - with extended or additional elements

Code	Description	
25	With the position indicator of the sealing body	PI
26 - 27	With limit switches	LS
35	With a stand and extended spindle	ER
36	With a drive shaft connection for driving	
37 - 38	With counter flanges and a connection kit	FS
39	With a locking latch	LD

### C - additional features

Code	Description
29	With additional parts for installation or manipulation
40	With special face-to-face dimensions
41	Manufacture and delivery without a gear



# DOUBLE ECCENTRIC

Welded construction



6.3694  
6.3695  
6.3696  
6.3697  
6.3698  
6.3699



2,5  
6  
10  
16  
25  
40



200 - 2000  
200 - 2000  
200 - 2000  
200 - 1600  
200 - 1000  
200 - 800



300°C/400°C

## SCOPE OF APPLICATION

Butterfly valves are used as sealing devices in pipelines to stop the flow of a flowing fluid. In the basic version, the embedded materials are suitable for the flow of water, steam, gas, oil and petroleum products, as well as for other non-aggressive fluids, whereas for aggressive fluids, butterfly valves are produced of special materials and special disc.

## APPLICATION

Butterfly valves are used in thermal power, hydroelectric power, petrochemical and refinery plants in water treatment, as well as in utilities buildings.

## PRODUCT DESIGN

Products are manufactured according to the current EN standards for this type of products, and they can also be manufactured according to DIN, ANSI or GOST standard. The products are constructed as double eccentric. Closing and disc structure characterize a metal closing (metal/metal).

Connection is a flange according to EN 1092-1 or it has welding ends. Face-to-face dimensions are in accordance with EN 558-1, Series 14 or with a face-to-face dimension upon a special request.

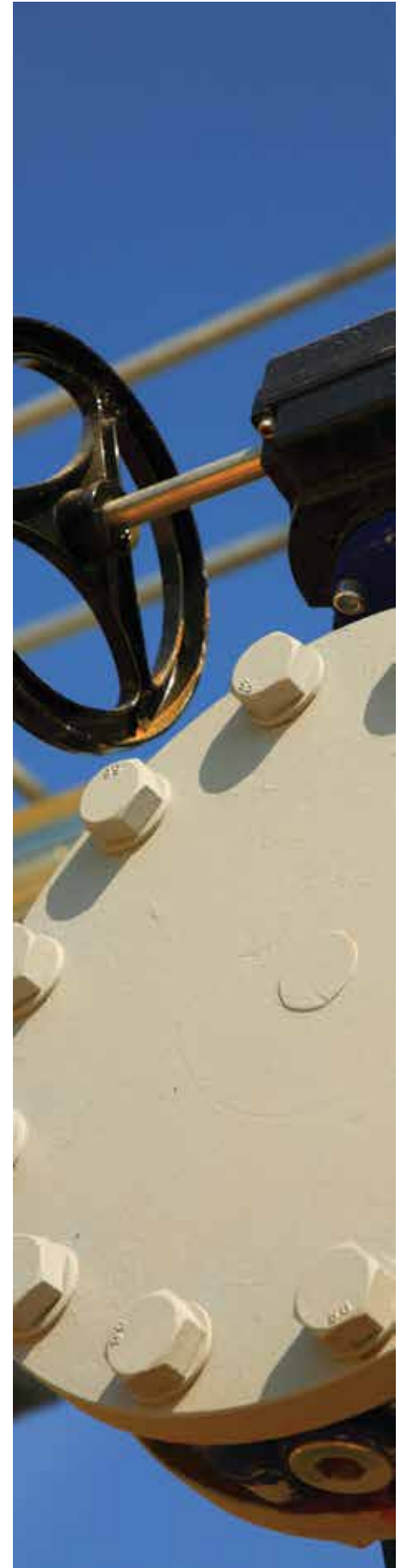
In the basic version, the products are made for manual operation using a hand wheel with a gear connection. The products are also made with an electric, hydraulic or pneumatic drive system.

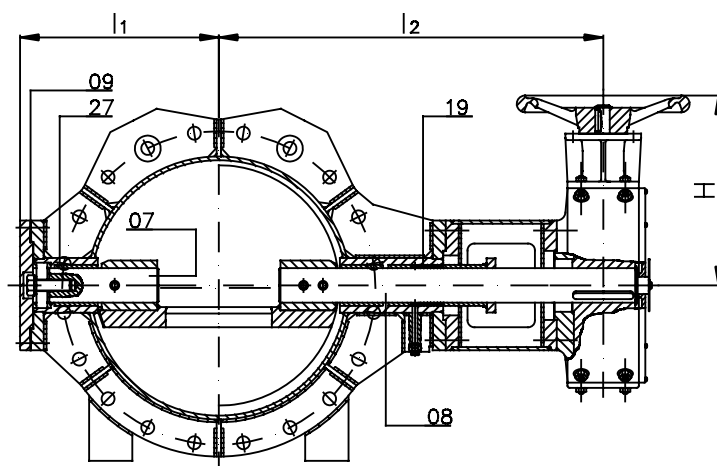
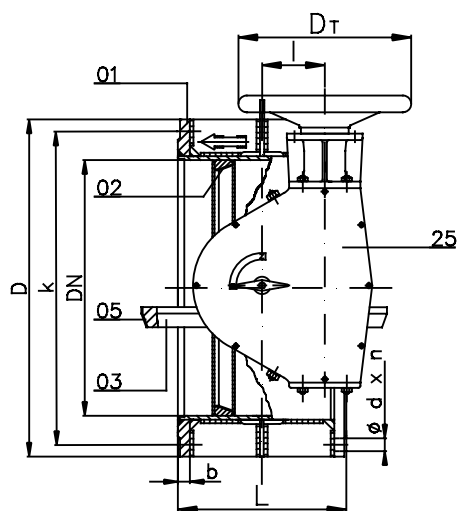
## PRESSURES AND TEMPERATURES

Steel valves in the standard version are made of carbon steel groups 1E1 and 3E0, and they are used for temperatures from -10 °C to +300/400 °C.

For temperatures from -254 °C to +600 °C, the embedded materials are alloy steel group 4E0, 5E0, 6E0, 7E0 or stainless steel group 11E0, 12E0, 14E0, 15E0.

The application and use of the valves, where the standard EN 12516-1 specifies pressure and temperature dependence, depends on the embedded materials.





## MATERIALS

The materials are carbon, alloy or stainless steel in a Welded construction made of fabricated steel materials in accordance with standard PED 97/23/EC.

## MATERIAL STANDARD

Position	Name	Material	Material No.
01	Housing	S235JRG2	1.0038
02	Sealing ring – of a housing	Inox B17Fe	1.4015
03	Disc	S235JRG2	1.0038
05	Sealing ring – of a disc	Inox B17Fe	1.4015
08 - 07	Shaft – Journal	X20Cr13	1.4021
19	Shaft seal	Graphite braid	
	Sliding bearing sleeve	CuAl10Fe	2.0936

## TESTING

Testing is conducted in the manufacturer's test station using hydro test-water or air (6 bar), depending on the requirements for the use of the gate valve, and in accordance with

the standard EN 12266-1 Part 1 and Part 2. Hermeticity classes can range from class A to D, where A is the class of zero leakage rate (100% airtight), and other classes

have allowable leakage depending on the requirements for use and the product's nominal size (DN).

## STANDARDS USED

Compliance with standards	Face-to-face dimension: FTF 14	Connection: Flange PN 2.5 / 40	Structure	Testing	Test report: 3.1
EN 593	EN 558-1	EN 1092 - 1	EN 19	EN 12266-1	EN 10204

## TESTING

	Nominal diameter	Nominal pressure	Maximum allowable operating pressure at operating temperature			For neutral liquids, gases, steam and condensate	Pressure at testing [bar]	
	DN	PN	100°C	200°C	300°C		Housings P10, 11, 20	Closing P12
6.3694	200 - 1200	2.5	2,13	1,78	1,32	Ambient temperature min -10 °C	3,75	2.75
6.3695	200 - 1800	6	1,83	1,57	1,19	Ambient temperature min -10 °C	9	6,6
6.3696	200 - 1400	10	4,38	3,78	2,85	Ambient temperature min -10 °C	15	11
6.3697	200 - 1200	16	7,31	6,29	4,75	Ambient temperature min -10 °C	15	11
6.3698	200 - 1000	25	18,3	15,7	11,9	Ambient temperature min -10 °C	37,5	27,5
6.3699	200 - 800	40	29,2	25,2	19,9	Ambient temperature min -10 °C	60	44

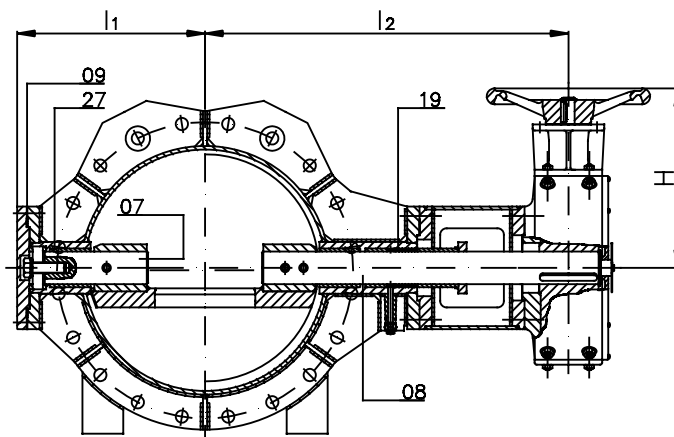
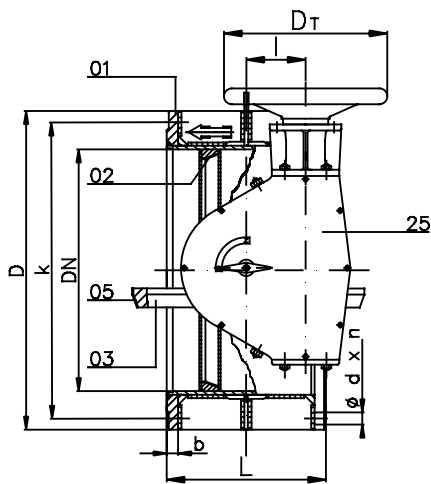


## DIMENSIONS

6.3694						PN 2,5
DN	L	D	b	k	d	n
200	230	320	22	280	18	8
250	250	375	22	335	18	12
300	270	440	22	395	22	12
350	290	490	22	445	22	12
400	310	540	22	495	22	16
450	330	595	24	550	22	20
500	350	645	24	600	22	20
600	390	755	24	705	26	20
700	430	860	24	810	26	24
800	470	975	24	920	30	24
900	510	1075	26	1020	30	24
1000	550	1175	26	1120	30	28
1200	630	1375	26	1320	30	32
1400	710	1575	26	1520	30	36
1600	790	1790	26	1730	30	40
1800	870	1990	26	1930	30	44

6.3695						PN 6
200	230	320	20	280	18	8
250	250	375	22	335	18	12
300	270	440	22	395	22	12
350	290	490	22	445	22	12
400	310	540	22	495	22	16
450	330	595	22	550	22	16
500	350	645	24	600	22	20
600	390	755	24	705	26	20
700	430	860	24	810	26	24
800	470	975	24	920	30	24
900	510	1075	26	1020	30	24
1000	550	1175	26	1120	30	28
1200	630	1375	28	1320	33	32
1400	710	1630	32	1560	36	36
1600	790	1830	34	1760	36	40
1800	870	2045	36	1970	39	44

6.3696						PN 10
200	230	340	24	295	22	8
250	250	395	26	350	22	12
300	270	445	26	400	22	12
350	290	505	26	460	22	16
400	310	565	26	515	26	16
450	330	615	28	565	26	20
500	350	670	28	620	26	20
600	390	780	28	725	30	20
700	430	895	30	840	30	24
800	470	1015	32	950	33	24
900	510	1115	34	1050	33	28
1000	550	1230	34	1160	36	28
1200	630	1455	38	1380	39	32
1400	710	1675	42	1590	42	36



6.3697

PN 16

DN	L	D	b	k	d	n
200	230	340	24	295	22	12
250	250	405	26	355	26	12
300	270	460	28	410	26	12
350	290	520	30	470	26	16
400	310	580	32	525	30	16
450	330	640	34	585	30	20
500	350	715	34	650	33	20
600	390	840	36	770	36	20
700	430	910	36	840	36	24
800	470	1025	38	950	39	24
900	510	1125	40	1050	39	28
1000	550	1255	42	1170	42	28
1200	630	1485	48	1390	48	32

6.3698

PN 25

200	230	360	30	310	26	12
250	250	425	32	370	30	12
300	270	485	34	430	30	16
350	290	555	38	490	33	16
400	310	620	40	550	36	16
450	330	670	42	600	36	20
500	350	730	44	660	36	20
600	390	845	46	770	39	20
700	430	60	46	875	42	24
800	470	1085	50	990	48	24
900	510	1185	54	1090	48	28
1000	550	1320	58	1210	56	28

6.3699

PN 40

200	230	375	34	320	30	12
250	250	450	38	385	33	12
300	270	515	42	450	33	16
350	290	580	46	510	36	16
400	310	660	50	585	39	16
450	330	685	50	610	39	20
500	350	755	52	670	42	20
600	390	890	60	795	48	20
700	430	995	64	900	48	24
800	470	1140	72	1030	56	24

## SPECIAL FEATURES

### A - with additional operating elements

Code	Description
1	With a gear and electric motor drive
2	With a gear that can be toothed or worm
3	With a directly connected electric motor drive
4	With a lever mechanism for quick closing
5	With a sprocket (instead of a manual wheel)
7	With a pneumatic cylinder drive
8	With a hydraulic cylinder drive

### B - with extended or additional elements

Code	Description	
25	With the position indicator of the sealing body	PI
26 - 27	With limit switches	LS
35	With a stand and extended spindle	ER
36	With a drive shaft connection for driving	
37 - 38	With counter flanges and a connection kit	FS
39	With a locking latch	LD

### C - additional features

Code	Description
29	With additional parts for installation or manipulation
40	With special face-to-face dimensions
41	Manufacture and delivery without a gear



# TRIPLE ECCENTRIC

Welded construction



6.3686  
6.3687  
6.3688  
6.3689



10  
16  
25  
40



200 - 1400  
200 - 1200  
200 - 1000  
200 - 800



300°C/400°C

## SCOPE OF APPLICATION

Butterfly valves are used as sealing devices in pipelines to stop the flow of a flowing fluid. In the basic version, the embedded materials are suitable for the flow of water, steam, gas, oil and petroleum products, as well as for other non-aggressive fluids, whereas for aggressive fluids, butterfly valves are produced of special materials and special disc.

Butterfly valves with triple eccentricity require less force when opening.

## PRODUCT DESIGN

Products are manufactured according to the current EN standards for this type of products, and they can also be manufactured according to DIN, ANSI or GOST standard. The products are constructed as triple eccentric. Closing and disc structure characterise either a rubber, metal or special sandwich closing.

Connection is a flange according to EN 1092-1 or it has welding ends.

Face-to-face dimensions are in accordance with EN 558-1, Series 14 or with a face-to-face dimension upon a special request.

In the basic version, the products are made for manual operation using a hand wheel with a gear connection. The products are also made with an electric, hydraulic or pneumatic drive system.

## APPLICATION

Butterfly valves are used in thermal power, hydroelectric power, petrochemical and refinery plants in water treatment, as well as in utilities buildings.

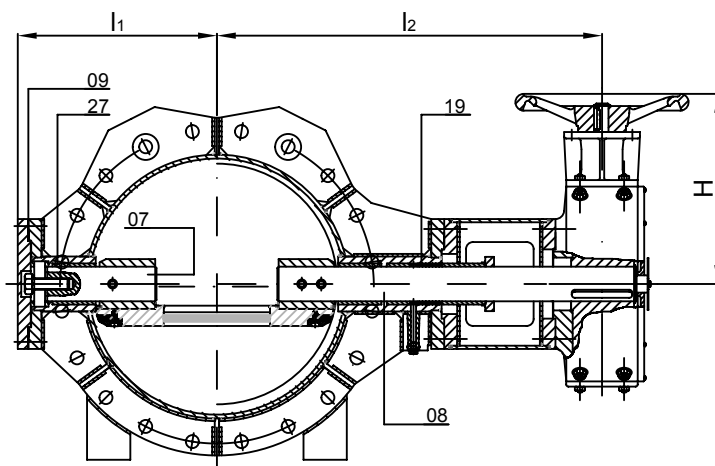
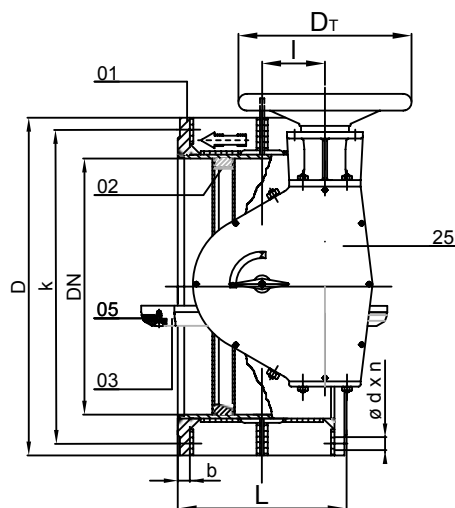
## PRESSURES AND TEMPERATURES

Steel valves in the standard version are made of carbon steel groups 1E1 and 3E0, and they are used for temperatures from -10 °C to +300/400 °C.

For temperatures from -254 °C to +600 °C, the embedded materials are alloy steel group 4E0, 5E0, 6E0, 7E0 or stainless steel group 11E0, 12E0, 14E0, 15E0.

The application and use of the valves, where the standard EN 12516-1 specifies pressure and temperature dependence, depends on the embedded materials.





## MATERIALS

The materials are carbon, alloy or stainless steel in a Welded construction made of fabricated steel materials in accordance with standard PED 97/23/EC.

## MATERIAL STANDARD

Position	Name	Material	Material No.
01	Housing	S235JRG2	1.0038
02	Sealing ring – of a housing	Inox B17Fe	1.4015
03	Disc	S235JRG2	1.0038
05	Sealing ring – of a disc	Inox B17Fe	1.4015
08 - 07	Shaft – Journal	X20Cr13	1.4021
19	Shaft seal	Graphite braid	
	Sliding bearing sleeve	CuAl10Fe	2.0936

## TESTING

Testing is conducted in the manufacturer's test station using hydro test-water or air (6 bar), depending on the requirements for the use of the butterfly valve, and in accordance with the

standard EN 12266-1 Part 1 and Part 2. Hermeticity classes can range from class A to D, where A is the class of zero leakage rate (100% airtight), and other classes have allowable

leakage depending on the requirements for use and the product's nominal size (DN).

## STANDARDS USED

Compliance with standards	Face-to-face dimension: FTF 14	Connection: Flange PN 10 / 40	Structure	Testing	Test report: 3.1
EN 593	EN 558 - 1	EN 1092 - 1	EN 19	EN 12266 - 1,2	EN 10204

## TESTING

	Nominal diameter	Nominal pressure	Maximum allowable operating pressure at operating temperature			For neutral liquids, gases, steam and condensate	Pressure at testing [bar]	
	DN	PN	100°C	200°C	300°C		Housings P10, 11, 20	Closing P12
6.3686	200 - 1200	2.5	2,13	1,78	1,32	Ambient temperature min -10 °C	3,75	2.75
6.3687	200 - 1200	6	1,83	1,57	1,19	Ambient temperature min -10 °C	9	6,6
6.3688	200 - 1200	10	4,38	3,78	2,85	Ambient temperature min -10 °C	15	11
6.3689	200 - 1200	16	7,31	6,29	4,75	Ambient temperature min -10 °C	15	11

## DIMENSIONS AND WEIGHTS

6.3686													PN 2,5
DN	L	D	b	k	d	n	e	l	l <sub>1</sub>	l <sub>2</sub>	D <sub>1</sub>	H*	G [kg]
150	210	285	22	240	22	8	-	50	188	350	250	210	83
200	230	240	24	295	22	8	-	50	265	460	250	210	100
250	250	395	26	350	22	12	-	63	280	490	315	250	130
300	270	445	26	400	22	12	3	63	290	510	315	250	160
350	290	505	26	460	22	16	18	63	305	530	315	250	200
400	310	565	26	515	26	16	30	80	345	610	400	290	250
450	330	615	28	565	26	20	45	100	370	670	500	350	315
500	350	670	28	620	26	20	56	100	430	740	500	350	370
600	390	780	28	725	30	20	90	125	515	855	630	470	520
700	430	895	30	840	30	24	120	160	585	980	720	530	730
800	470	1015	32	950	33	24	150	160	660	1060	720	530	900
900	510	1115	34	1050	33	28	175	200	735	1185	800	670	1200
1000	550	1230	34	1160	36	28	205	200	810	1270	800	670	1500
1200	630	1455	38	1380	39	32	260	250	985	1520	1000	780	2200

6.3687													PN 6
200	230	340	24	295	22	12	-	63	270	485	315	250	120
250	250	405	26	355	26	12	-	63	290	500	315	250	160
300	270	460	28	410	26	12	3	63	300	540	315	250	200
350	290	520	30	470	26	16	18	80	320	565	400	290	250
400	310	580	32	525	30	16	30	100	380	665	500	350	315
450	330	640	34	585	30	20	45	100	405	705	500	350	400
500	350	715	34	650	33	20	56	125	470	800	630	470	470
600	390	840	36	770	36	20	90	125	560	900	630	470	670
700	430	910	36	840	36	24	120	160	625	1020	720	530	920
800	470	1025	38	950	39	24	150	200	700	1130	800	670	1160
900	510	1125	40	1050	39	28	175	200	785	1235	1000	780	1500
1000	550	1250	42	1170	42	28	205	250	870	1350	1000	780	1900
1200	630	1480	48	1390	48	32	260	315	1045	1600	1000	920	2900

6.3688													PN 10
200	230	360	30	310	26	12	-	63	280	495	315	250	170
250	250	425	32	370	30	12	-	80	300	530	400	290	230
300	270	485	34	430	30	16	3	80	310	550	400	290	290
350	290	555	38	490	33	16	18	100	335	580	500	350	350
400	310	620	40	550	36	16	30	100	395	680	500	350	450
450	330	670	42	600	36	20	45	125	420	740	630	470	560
500	350	730	44	660	36	20	56	125	490	820	630	470	650
600	390	845	46	770	39	20	90	160	580	940	720	530	920
700	430	960	46	875	42	24	120	200	650	1070	800	670	1300
800	470	1085	50	990	48	24	150	200	730	1160	800	670	1600
900	510	1185	54	1090	48	28	175	250	825	195	1000	780	2150
1000	550	1320	58	1210	56	28	205	315	910	1410	1000	920	2700

6.3689													PN 16
200	230	375	34	320	30	12	-	80	290	525	400	290	240
250	250	450	38	385	33	12	-	80	315	545	400	290	320
300	270	515	42	450	33	16	3	100	330	590	500	350	400
350	290	580	46	510	36	16	18	100	360	605	500	350	500
400	310	660	50	585	39	16	30	125	425	730	630	470	630
450	330	685	50	610	39	20	45	125	450	770	630	470	800
500	350	755	52	670	42	20	56	160	520	860	720	530	920
600	390	890	60	795	48	20	90	200	620	1000	800	670	1300
700	430	995	64	900	48	24	120	250	695	1160	1000	780	1850
800	470	1140	72	1030	56	24	150	250	780	915	1000	780	2250

## SPECIAL FEATURES

### A - with additional operating elements

Code	Description
1	With a gear and electric motor drive
2	With a gear that can be toothed or worm
3	With a directly connected electric motor drive
4	With a lever mechanism for quick closing
5	With a sprocket (instead of a manual wheel)
7	With a pneumatic cylinder drive
8	With a hydraulic cylinder drive

### B - with extended or additional elements

Code	Description	
25	With the position indicator of the sealing body	PI
26 - 27	With limit switches	LS
35	With a stand and extended spindle	ER
36	With a drive shaft connection for driving	
37 - 38	With counter flanges and a connection kit	FS
39	With a locking latch	LD

### C - additional features

Code	Description
29	With additional parts for installation or manipulation
40	With special face-to-face dimensions
41	Manufacture and delivery without a gear



## TURBINE INLET VALVES

Welded construction



8.3612  
8.3620  
8.3628  
8.3636



6  
10  
16  
25



400 - 2100  
400 - 2100  
400 - 2100  
400 - 1400



70°C

### SCOPE OF APPLICATION

Butterfly - turbine inlet valves are used as sealing devices in pipelines to stop the flow of a flowing fluid. In the basic version, the embedded materials are suitable for the flow of water.

Turbine inlet butterfly valves are made as sealing devices in hydroelectric power plants, which are driven by either a single-acting or double-acting hydraulic cylinder, depending on the purpose and requirements.

### APPLICATION

Turbine inlet valves are used in hydroelectric power plants in water treatment.

### PRODUCT DESIGN

Products are manufactured according to the current EN standards for this type of products, and they can also be manufactured according to DIN, ANSI or GOST standard. The products are constructed as double eccentric or triple eccentric. Closing and disc structure characterise either a rubber, metal or special sandwich closing.

Connection is a flange according to EN 1092-1 or it has welding ends. Face-to-face dimensions are in accordance with EN 558-1, Series 14 or with a face-to-face dimension upon a special request.

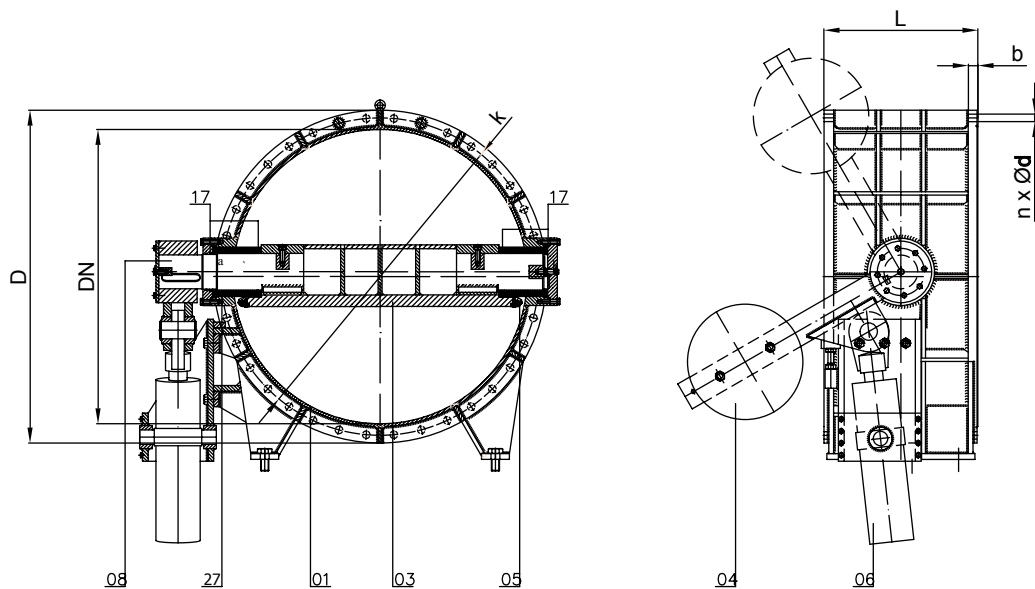
In the basic version, they are made with either a single-acting or double-acting hydraulic cylinder and a counterweight.

### PRESSURES AND TEMPERATURES

Steel valves in the standard version are made of carbon steel groups 1E1 and 3E0, and they are used for temperatures from -10 °C to +300/400 °C.

The application and use of the valves, where the standard EN 12516-1 specifies pressure and temperature dependence, depends on the embedded materials.





## MATERIALS

The materials are carbon, alloy or stainless steel in a Welded construction made of fabricated steel materials in accordance with standard PED 97/23/EC.

The material of the sealing ring of the disc is rubber, the seat is made of stainless steel with a min 13% Cr.

## MATERIAL STANDARD

Position	Name	Material	Material No.
01	Housing	S235JRG2	1.0038
03	Disc	S235JRG2	1.0038
08	Shaft	X20Cr13	1.4021
05	Sealing ring – of a disc	Rubber	EPDM
02	Sealing ring – of a housing	Inox B17Fe	1.4015
27	Sliding bearing	Bronze	CC483K
04	Counterweight	S23JRG2	1.0038
06	Hydr. cylinder – single-acting or double-acting		

## TESTING

Testing is conducted in the manufacturer's test station using hydro test-water or air (6 bar), depending on the requirements for the use of the gate valve, and in accordance with

the standard EN 12266-1 Part 1 and Part 2. Hermeticity classes can range from class A to D, where A is the class of zero leakage rate (100% airtight), and other classes

have allowable leakage depending on the requirements for use and the product's nominal size (DN).

## STANDARDS USED

Compliance with standards	Face-to-face dimension: FTF 14	Connection: Flange PN 6 – 25	Structure	Testing	Test report: 3.1
EN 593	EN 558 - 1	EN 1092 - 1	EN 19	EN 12266 - 1,2	EN 10204

## TESTING

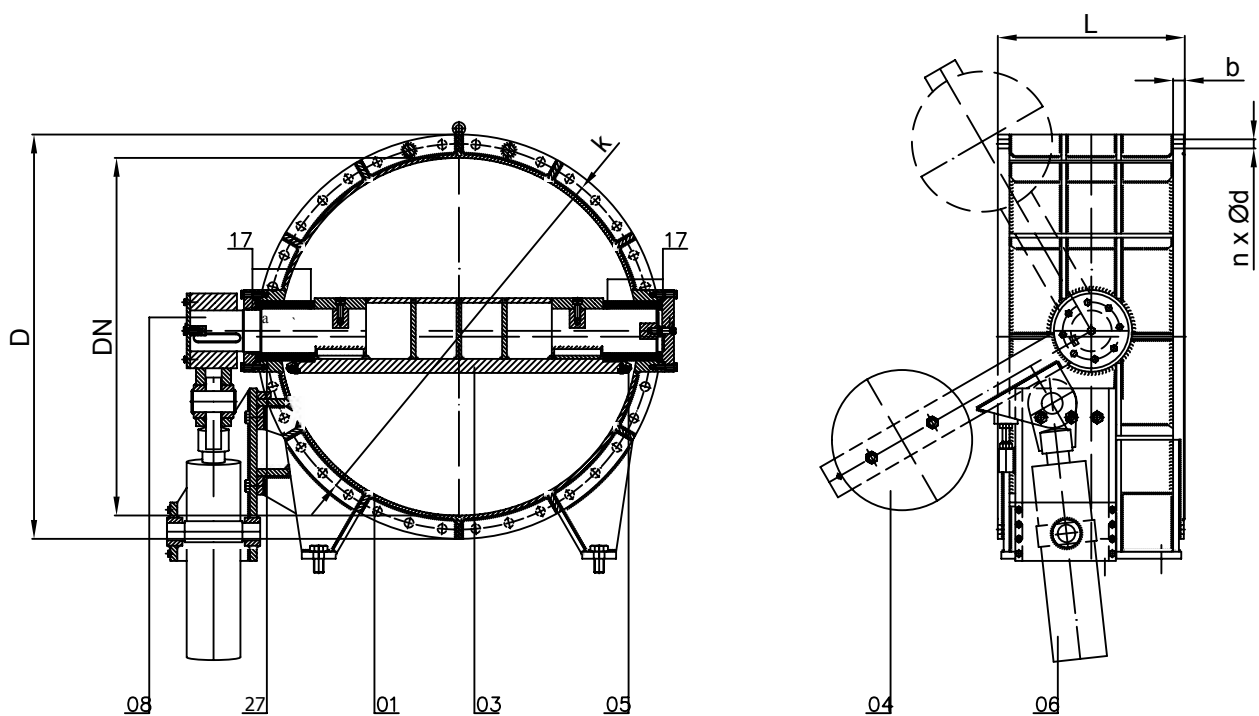
	Nominal diameter	Nominal pressure	Maximum allowable operating pressure at operating temperature	For neutral liquids, gases, steam and condensate	Pressure at testing [bar]	
	DN	PN	70°C		Housings P10, 11, 20	Closing P12
6.3612	400 - 2000	6	6	Ambient temperature min -10 °C	9	6,6
6.3620	400 - 2000	10	10	Ambient temperature min -10 °C	15	11
6.3628	400 - 2000	16	16	Ambient temperature min -10 °C	24	17,6
6.3636	400 - 1400	25	25	Ambient temperature min -10 °C	37,5	27,5

## DIMENSIONS AND WEIGHTS

6.3612							PN 6
DN	L	D	b	k	d	n	G [kg]
400	310	540	22	495	22	16	300
450	330	595	22	550	22	16	430
500	350	645	24	600	22	20	475
600	390	755	24	705	26	20	605
700	430	860	24	810	26	24	730
800	470	975	24	920	30	24	860
900	510	1075	26	1020	30	24	1240
1000	550	1175	26	1120	30	28	1550
1200	630	1375	28	1320	33	32	2240
1400	710	1630	32	1560	36	36	3780
1500	750	1730	34	1660	36	36	4220
1600	790	1830	34	1760	36	40	5500
1800	870	2045	36	1970	39	44	6620
2000	950	2265	38	2180	42	48	7650

6.3620							PN 10
400	310	565	26	515	26	16	430
450	330	615	28	565	26	20	470
500	350	670	28	620	26	20	580
600	390	780	28	725	30	20	670
700	430	895	30	840	30	24	820
800	470	1015	32	950	33	24	1200
900	510	1115	34	1050	33	28	1640
1000	550	1230	34	1160	36	28	1900
1200	630	155	38	1380	39	32	3270
1400	710	1675	42	1590	42	36	4050
1500	750	1785	44	1700	42	36	5680
1600	790	1915	48	1820	48	40	6200
1800	870	2115	50	2020	48	44	8350
2000	950	2325	54	2230	48	48	9030

6.3628							PN 16
400	310	580	32	525	30	16	475
450	330	640	34	585	30	20	605
500	350	715	34	650	33	20	645
600	390	840	36	770	36	20	820
700	430	910	36	840	36	24	1120
800	470	1025	38	950	39	24	1380
900	510	1125	40	1050	39	28	1720
1000	550	1255	42	1170	42	28	3020
1200	630	1485	48	1390	48	32	3780
1400	710	1685	52	1590	48	36	5590
1500	750	1820	56	1710	56	36	6450
1600	790	1930	58	1820	56	40	6880
1800	870	2130	62	2020	56	44	9290
2000	950	2345	66	2230	62	48	9900



6.3636

PN 25

DN	L	D	b	k	d	n	G [kg]
400	310	620	40	550	36	16	600
450	330	670	42	600	36	20	690
500	350	730	44	660	36	20	950
600	390	845	46	770	39	20	1200
700	430	960	46	875	42	24	1550
800	470	1085	50	990	48	24	2660
900	510	1185	54	1090	48	28	3050
1000	550	1320	58	1210	56	28	4560
1200	630	1530	62	1420	56	32	5220
1400	710	1755	70	1640	62	36	7720

## SPECIAL FEATURES

### A - with additional operating elements

Code	Description
1	With a gear and electric motor drive
8 (8.3612 - 8.3628)	With a hydraulic cylinder drive

### B - with extended or additional elements

Code	Description	
25	With the position indicator of the sealing body	PI
26 - 27	With limit switches	LS
37 - 38	With counter flanges and a connection kit	FS
39	With a locking latch	LD

### C - additional features

Code	Description
29	With additional parts for installation or manipulation
40	With special face-to-face dimensions

# NON-RETURN VALVES

NON-RETURN VALVES are pipe check valves that are used in pipe systems for stopping operating fluid backflow.

These valves allow the operating fluid flow in only one - particular direction, and upon the cessation of flow, the disc is closed thereby preventing backflow.



**1200**

**DN**



**40**

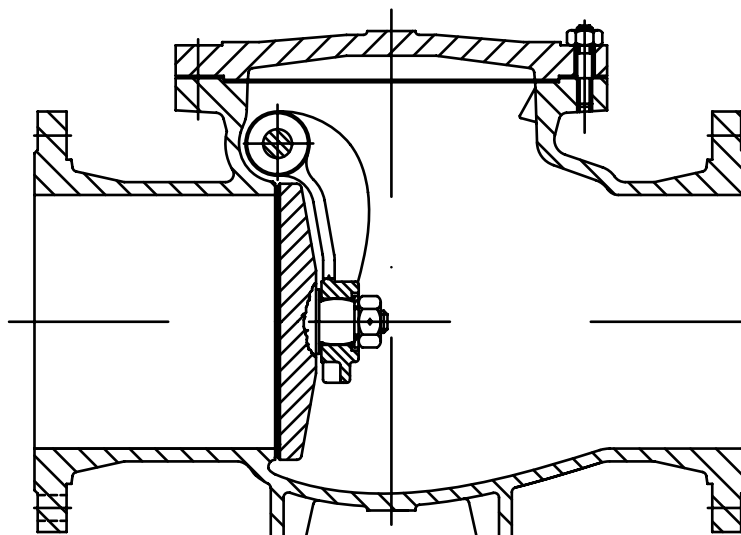
**PN**



**400**

**TEMP**





<b>DN</b>	▪ 400 - 350 Cast type	▪ 400 - 1200 Welded construction	<b>PN</b>	▪ 10 - 63 Cast type	▪ 10 - 40 Welded construction
<b>APPLICATION TEMPERATURE</b>			▪ 70°C    ▪ 120°C    ▪ 180°C    ▪ 300°C    ▪ 400°C		
<b>STANDARD</b>			Series 1 for PN up to 40, Series 2 for PN up to 63		
<b>CONNECTION</b>			Flanged according to EN 558 - 1 without flanges with welding ends EN 12627		

## METHODS OF CLOSING

### Flat seat

A disc in the form of a circular plate and a sealing ring are lever-connected to the axle whose axis of rotation is in the seat plane.

It allows flow in only one - predetermined direction.

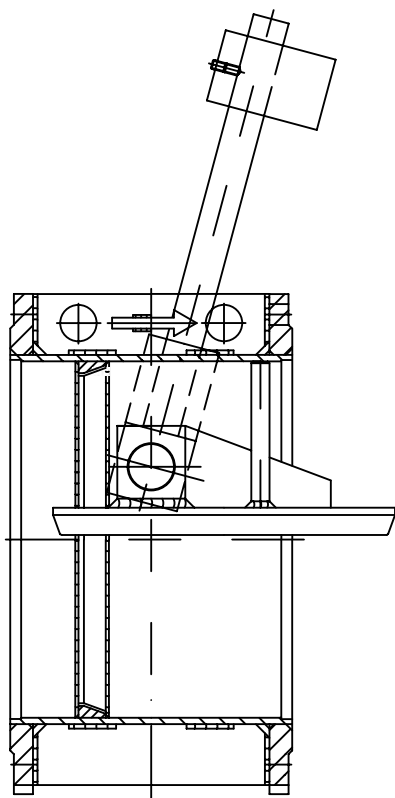
### Double eccentric seat

A disc in the form of a circular plate and a sealing ring are lever-connected to the axle whose axis of rotation is double eccentric relative to the housing axis. It allows flow in only one - predetermined direction.



B

## BUTTERFLY CHECK VALVES

With a lever and  
weightWith a shock ab-  
sorber

<b>DN</b>	150 - 1200	<b>PN</b>	2,5 - 40
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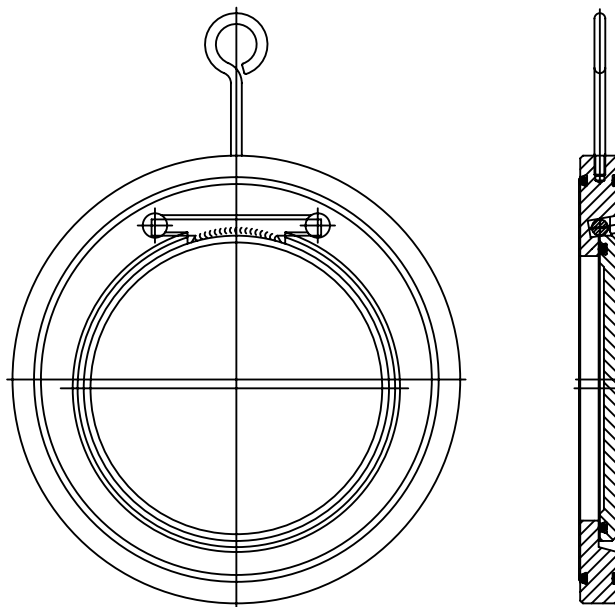
<b>APPLICATION TEMPERATURE</b>	▪ 120°C	▪ 180°C	▪ 300°C (500°C)
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<b>STANDARD</b>	Series 14
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<b>CONNECTION</b>	Flanged according to EN 558 - 1 without flanges with welding ends EN 12627
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B

## WAFER CHECK VALVES



Without a spring

With a spring

<b>DN</b>	50 - 600	<b>PN</b>	10 - 40
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<b>APPLICATION TEMPERATURE</b>	▪ 1.0038: 300°C	▪ 1.0425: 400°C
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<b>STANDARD</b>	According to the manufacturer's in-house standard
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<b>CONNECTION</b>	Without flanges, planned for insertion between flanges
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## NON-RETURN VALVES

# SWING CHECK VALVES

Cast steel



6.4147  
6.4150  
6.4151  
6.4156  
6.4159  
6.4162



10  
16  
25  
40  
40  
63



40 - 350  
40 - 350  
40 - 350  
40 - 350  
40 - 350  
40 - 350



400°C

### SCOPE OF APPLICATION

Non-return valves are used as security organs in the pipelines to prevent fluid backflow. In the basic version, the embedded materials are suitable for the flow of water, steam, gas, oil and petroleum products, as well as for other non-aggressive fluids, whereas for aggressive fluids, the products are made of special materials.

### PRODUCT DESIGN

Products are manufactured according to the current EN standards for this type of products, and they can also be manufactured according to DIN, ANSI or GOST standard. Swing check valves are designed so that they can be installed even in a vertical position. Closing and shutter structure characterize a metal closing.

Connection is a flange or it has welding ends according to EN 1092-1. WAFFER CHECK VALVES are manufactured without flanges - for insertion between flanges.

Face-to-face dimensions are in accordance with EN 558-1 or with a face-to-face dimension upon a special request.

### APPLICATION

Non-return valves are used in thermal power, hydroelectric power plants in water treatment, as well as in utilities buildings.

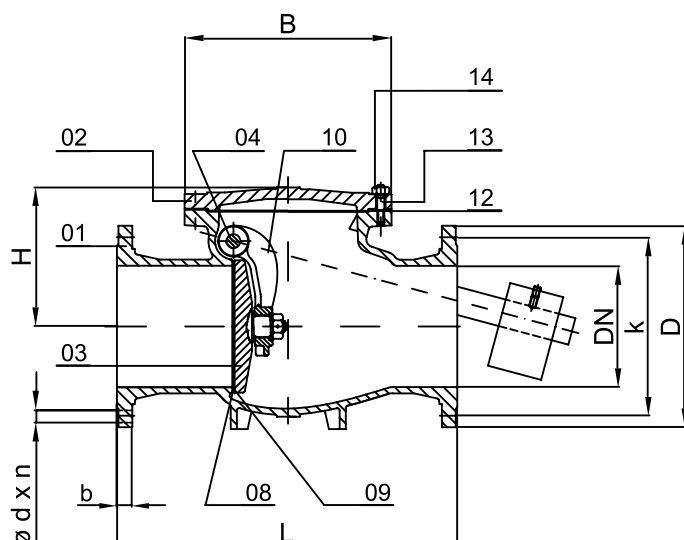
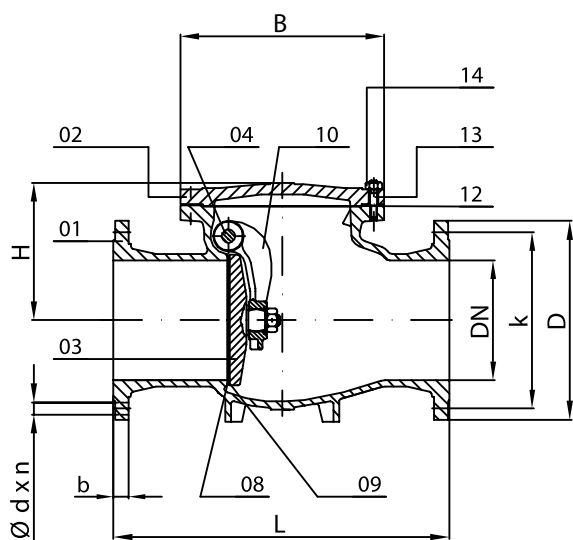
### PRESSURES AND TEMPERATURES

Steel valves in the standard version are made of carbon steel groups 1E1 and 3E0, and they are used for temperatures from -10 °C to +300/400 °C.

For temperatures from -254 °C to + 600 °C, the embedded materials are alloy steel group 4E0, 5E0, 6E0, 7E0 or stainless steel group 11E0, 12E0, 14E0, 15E0.

The application and use of the valves, where the standard EN 12516-1 specifies pressure and temperature dependence, depends on the embedded materials.





\* A structure with a lever and a weight.

## MATERIALS

The materials are carbon, alloy or stainless steel in a cast or welded construction made of fabricated steel materials in accordance with standard PED 97/23/EC.

## MATERIAL STANDARD

Position	Name	Material	Material No.
01,02	Housing, cover	GP240GH	1.0619
03	Disc	GP240GH	1.0619
04	Axle	X20Cr13	1.4021
10	Disc holder	GP240GH	1.0619
08	Sealing ring – of a housing	Inox B17MoFe	1.4115
09	Sealing ring – of a disc	Inox B17Fe	1.4015
12	Spindle seal	Reinforced graphite	
13	Screw		1.7225
14	Nut		1.1191

## TESTING

Testing is conducted in the manufacturer's test station using hydro test-water or air (6 bar), depending on the requirements for the use of the swing check valve, and in

accordance with the standard EN 12266-1 Part 1 and Part 2. Hermeticity classes can range from class A to D, where A is the class of zero leakage rate (100% airtight),

and other classes have allowable leakage depending on the requirements for use and the product's nominal size (DN).

## STANDARDS USED

Technical requirements	Face-to-face dimension: FTF 14	Connection: Flange PN 6 - PN 40	Structure	Testing	Test report: 3.1
EN 14341	EN 558 - 1	EN 1092 - 1	EN 19	EN 12266 - 1,2	EN 10204

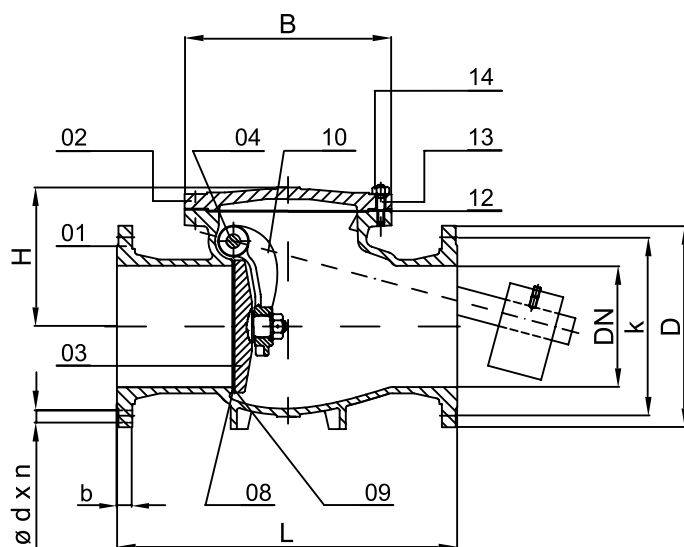
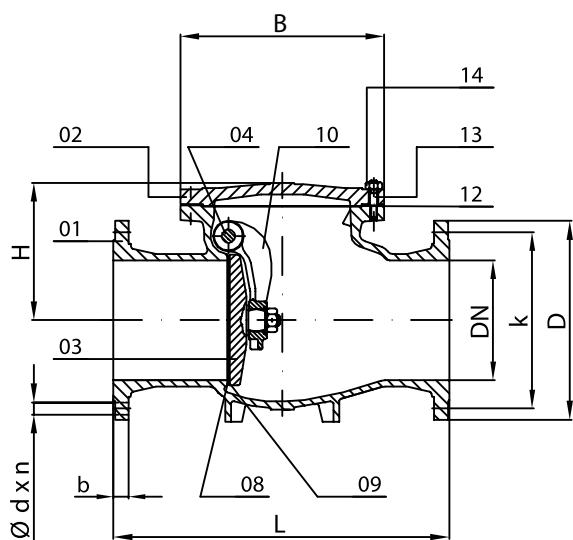
## RELATIONSHIP BETWEEN PRESSURE AND TEMPERATURE

	Nominal diameter	Nominal pressure	Maximum allowable operating pressure at operating temperature			For neutral liquids, gases, steam and condensate	Pressure at testing [bar]	
	DN	PN	100°C	200°C	300°C		Housings P10, 11, 20	Closings P12, 21
6.4147	40 - 350	10	8,53	7,11	5,89	Ambient temperature min -10 °C	16	11
6.4150	40 - 350	16	13,6	11,4	9,4	Ambient temperature min -10 °C	24	17,6
6.4156	40 - 350	25	21,3	19,8	14,7	Ambient temperature min -10 °C	37,5	27,5
6.4159	40 - 350	40	34,1	28,4	23,5	Ambient temperature min -10 °C	60	44
6.4162	40 - 350	63	53,7	44,8	37,1	Ambient temperature min -10 °C	94,5	69,3

## DIMENSIONS AND WEIGHTS

6.4147									PN 10
6.4148 *									
DN	L	D	b	k	d	n	B	H*	G [kg]
40	200	150	18	110	19	4	135	120	13
50	230	165	20	125	19	4	155	135	15
65	290	185	18	145	19	4	180	145	26
80	310	200	20	160	19	8	210	160	33
100	350	220	20	180	19	8	230	175	45
125	400	250	22	210	19	8	280	210	58
150	480	285	22	240	23	8	325	230	80
200	500	340	24	295	23	8	365	280	140
250	600	395	26	350	23	12	395	360	345
300	700	445	28	400	23	12	435	420	515
350	980	505	30	460	23	16	530	440	380
6.4150									PN 16
6.4151 *									
40	200	150	18	110	19	4	135	120	13
50	230	165	20	125	19	4	155	135	15
65	290	185	18	145	19	4	180	145	26
80	310	200	20	160	19	8	210	160	33
100	350	220	20	180	19	8	230	175	45
125	400	250	22	210	19	8	280	210	58
150	480	285	22	240	23	8	325	230	80
200	500	340	24	295	23	12	365	280	140
250	600	405	26	355	28	12	395	360	345
300	700	460	28	410	28	12	435	420	515
350	980	520	30	470	28	16	530	440	380
6.4156									PN 25
6.4157 *									
40	200	150	18	110	19	4	135	120	14
50	230	165	20	125	19	4	155	135	16
65	290	185	22	145	19	4	180	145	27
80	310	200	24	160	19	8	210	160	33
100	350	235	24	190	23	8	230	175	48
125	400	270	26	250	28	8	280	210	65
150	480	300	28	280	28	8	325	230	95
200	600	360	30	310	28	12	365	280	155
250	730	425	32	370	31	12	395	360	255
300	850	485	34	430	31	12	435	420	335
350	980	555	38	490	34	16	530	440	420
6.4159									PN 40
6.4160 *									
40	200	150	18	110	19	4	135	120	14
50	230	165	20	125	19	4	155	135	16
65	290	185	22	145	19	8	180	145	27
80	310	200	24	160	19	8	210	160	33
100	350	235	24	190	23	8	230	175	48
125	400	270	26	220	28	8	280	210	65
150	480	300	28	250	28	8	325	230	95
200	600	375	34	320	31	12	365	280	160
250	730	450	38	385	34	12	395	360	270
300	850	515	42	450	34	16	435	420	360
350	980	580	46	510	37	16	530	440	490

\* A structure with a lever and a weight.



\* A structure with a lever and a weight.

6.4162									PN 63
6.4163 *									
40	260	150	18	110	19	4	170	120	14
50	300	180	26	135	23	4	180	145	25
65	340	205	26	160	23	8	200	155	45
80	380	215	28	170	23	8	230	170	60
100	430	250	30	200	28	8	270	190	75
125	500	295	34	240	31	8	325	225	110
150	550	345	36	280	34	8	380	245	180
200	650	415	42	345	37	12	420	295	260
250	775	470	46	400	37	12	445	375	390
300	900	530	52	460	37	16	480	440	500
350	1025	600	56	525	41	16	580	460	690

## SPECIAL FEATURES

### B - With extended or additional elements

Code	Description	
25	With the disc position indicator (mechanical or electrical)	PI
26 - 27	With limit switches	LS
37 - 38	With counter flanges and a connection kit	FS

### C - Additional features

Code	Description
29	With additional parts for installation or manipulation
30	With an air release plug on the cover (for swing check valves)
31	With a spring or hydraulic shock absorber
43	Structure with two levers

## NON-RETURN VALVES

# SWING CHECK VALVES

Welded construction



**6.4168**  
**6.4169**  
**6.4171**  
**6.4172**  
**6.4174**  
**6.4175**  
**6.4177**  
**6.4178**



**10**  
**10**  
**16**  
**16**  
**25**  
**25**  
**40**  
**40**



**400 - 1200**



**300°C / 500°C**

### SCOPE OF APPLICATION

Non-return valves are used as security organs in the pipelines to prevent fluid backflow. In the basic version, the embedded materials are suitable for the flow of water, steam, gas, oil and petroleum products, as well as for other non-aggressive fluids, whereas for aggressive fluids, they are produced of special materials and special disc.

### PRODUCT DESIGN

Products are manufactured according to the current EN standards for this type of products, and they can also be manufactured according to DIN, ANSI or GOST standard. Swing check valves are constructed as flat, but they can also be slanted.

Closing and shutter structure characterise steel closing (metal/metal), but it can also be a rubber closing.

Connection is a flange according to EN 1092-1 or it has welding ends.

Face-to-face dimensions are in accordance with EN 558-1 or with a face-to-face dimension upon a special request.

### APPLICATION

Non-return valves are used in thermal power, hydroelectric power plants in water treatment, as well as in utilities buildings.

### PRESSURES AND TEMPERATURES

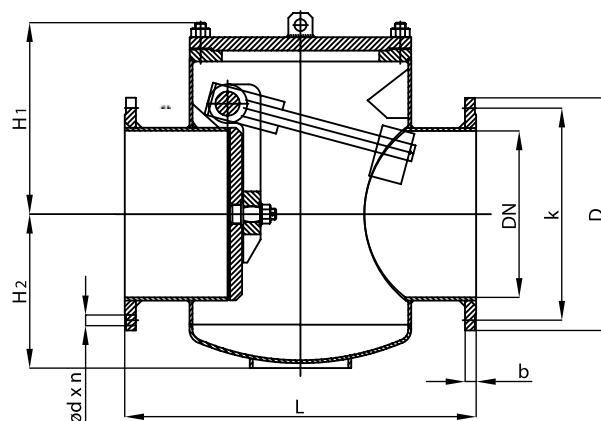
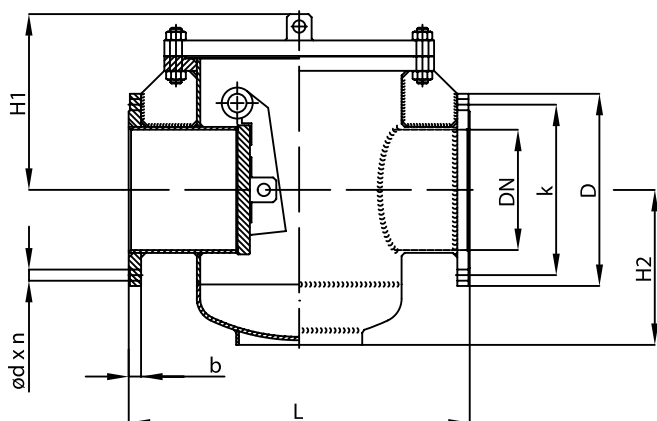
Steel valves in the standard version are made of carbon steel groups 1E1 and 3E0, and they are used for temperatures from -10 °C to +300/400 °C.

For temperatures from -254 °C to +600 °C, the embedded materials are alloy steel group 4E0, 5E0, 6E0, 7E0 or stainless steel group 11E0, 12E0, 14E0, 15E0.

The application and use of the valves, where the standard EN 12516-1 specifies pressure and temperature dependence, depends on the embedded materials.



\* Materials: 1.0038 for the T = 300 °C ; 1.0425 for the T = 400°C



\* A structure with a lever and a weight.

## MATERIALS

The materials are carbon, alloy or stainless steel in a welded construction made of fabricated steel and steel bars in accordance with standard PED 97/23/EC.

## MATERIAL STANDARD

Name	Material	Material No.
Housing, cover	S235JRG2	1.0038
Sealing plate disc	Graphite plate	-
Screw without head	42CrMo4	1.7225
Nut	Ck45	1.1191
Shaft	X20Cr13	1.4021
Disc holder	S235JRG2	1.0038
Disc	S235JRG2	1.0038
Housing seat	Wear weld 13Cr-Mo	1.4115
Seat ZT	Wear weld 13CR	1.4015

## TESTING

Testing is conducted in the manufacturer's test station using hydro test-water or air (6 bar), depending on the requirements for the use of the swing check valve, and in

accordance with the standard EN 12266-1 Part 1 and Part 2. Hermeticity classes can range from class A to D, where A is the class of zero leakage rate (100% airtight),

and other classes have allowable leakage depending on the requirements for use and the product's nominal size (DN).

## STANDARDS USED

Technical requirements	Face-to-face dimension: FTF 1	Connection: Flange PN 10	Structure	Testing	Test report: 3.1
EN 14341	EN 558 - 1	EN 1092 - 1	EN 19	EN 12266 - 1,2	EN 10204

## RELATIONSHIP BETWEEN PRESSURE AND TEMPERATURE

		Nominal diameter	Nominal pressure	Maximum allowable operating pressure at operating temperature			For neutral liquids, steam and gases	Pressure at testing [bar]	
		DN	PN	100°C	200°C	300°C		Housings P10, 11, 20	Closing P12
6.4168	6.4169	400 - 1200	10	7,31	6,29	4,57	Ambient temperature min -10 °C	15	11
6.4171	6.4172	400 - 1200	16	11,7	10,1	7,6	Ambient temperature min -10 °C	24	17,6
6.4174	6.4175	400 - 1200	25	21,3	17,8	13,2	Ambient temperature min -10 °C	37,5	27,5
6.4177	6.4178	400 - 1200	40	34,1	28,4	21,1	Ambient temperature min -10 °C	60	44



## DIMENSIONS

6.4168								PN 10
6.4169 *								PN 10
DN	L	D	b	k	d	n	H1	H2
400	1100	565	26	515	26	16	505	425
450	1200	615	28	565	26	20	570	460
500	1250	670	28	620	26	20	635	495
600	1450	780	28	725	30	20	675	535
700	1650	895	30	840	30	24	750	610
800	1850	1015	32	950	33	24	815	675
900	2050	1115	34	1050	33	28	945	805
1000	2250	1230	34	1160	36	28	1115	975
1200	-	1455	38	1380	39	32	1390	1250

6.4171								PN 16
6.4172 *								PN 16
400	1100	580	32	525	30	16	505	425
450	1200	640	34	585	30	20	570	460
500	1250	715	34	650	33	20	635	495
600	1450	840	36	770	36	20	675	535
700	1650	910	36	840	36	24	750	610
800	1850	1025	38	950	39	24	815	675
900	2050	1125	40	1050	39	28	945	805
1000	2250	1255	42	1170	42	28	1115	975
1200	-	1485	48	1390	48	32	1390	1250

6.4174								PN 25
6.4175 *								PN 25
400	1100	620	40	550	36	16	505	425
450	1200	670	42	600	36	20	570	460
500	1250	730	44	660	36	20	635	495
600	1450	845	46	770	39	20	675	535
700	1650	960	46	875	42	24	750	610
800	1850	1085	50	990	48	24	815	675
900	2050	1185	54	1090	48	28	945	805
1000	2250	1320	58	1210	56	28	1115	975
1200	-	1530	69	1420	56	32	1390	1250

6.4177								PN 40
6.4178 *								PN 40
400	1100	660	50	585	39	16	505	425
450	1200	685	50	610	39	20	570	460
500	1250	755	52	670	42	20	635	495
600	1450	890	60	795	48	20	675	535
700	1650	995	64	900	48	24	750	610
800	1850	1140	72	1030	56	24	815	675
900	2050	1250	76	1140	56	28	945	805
1000	2250	1360	80	1250	56	28	1115	975
1200	-	1575	88	1460	62	32	1390	1250

\* A structure with a lever and a weight.

## SPECIAL FEATURES

### B - With extended or additional elements

Code	Description	
25	With the disc position indicator (mechanical or electrical)	PI
26 - 27	With limit switches	LS
37 - 38	With counter flanges and a connection kit	FS

### C - Additional features

Code	Description	
29	With additional parts for installation or manipulation	
30	With an air release plug on the cover (for swing check valves)	
31	With a spring or hydraulic shock absorber	
43	Structure with two levers	

## BUTTERFLY CHECK VALVES

Welded construction



6.4180  
6.4182  
6.4184  
6.4186  
6.4188



6  
10  
16  
25  
40



200 - 1200  
200 - 1200  
200 - 1200  
200 - 1200  
200 - 1200



300°C / 500°C

### SCOPE OF APPLICATION

Non-return valves are used as security bodies in the pipelines to prevent fluid backflow. In the basic version, the embedded materials are suitable for the flow of water, steam, gas, oil and petroleum products, as well as for other non-aggressive fluids, whereas for aggressive fluids, the NON-RETURN VALVES are produced of special materials and special disc.

### PRODUCT DESIGN

Products are manufactured according to the current EN standards for this type of products, and they can also be manufactured according to DIN, ANSI or GOST standard. The butterfly check valves are constructed as double eccentric. Closing and shutter structure characterize a metal closing.

Connection is a flange according to EN 1092-1.

Face-to-face dimensions are in accordance with EN 558-1 or with a face-to-face dimension upon a special request.

### APPLICATION

Non-return valves are used in thermal power, hydroelectric power plants in water treatment, as well as in utilities buildings.

### PRESSURES AND TEMPERATURES

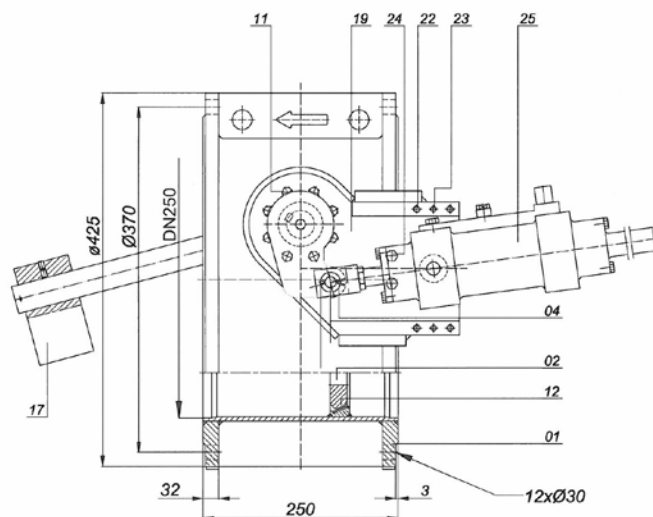
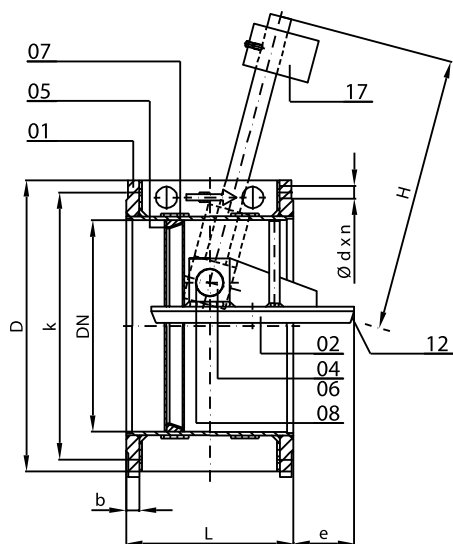
Steel valves in the standard version are made of carbon steel groups 1E1 and 3E0, and they are used for temperatures from -10 °C to +300/400 °C.

For temperatures from -254 °C to +600 °C, the embedded materials are alloy steel group 4E0, 5E0, 6E0, 7E0 or stainless steel group 11E0, 12E0, 14E0, 15E0.

The application and use of the valves, where the standard EN 12516-1 specifies pressure and temperature dependence, depends on the embedded materials.

\* 1.0038 for t = 300 °C; 1.0425 for t = 400 °C





\* Butterfly check valve with a shock absorber.

## MATERIALS

The materials are carbon, alloy or stainless steel in a cast or welded construction made of fabricated steel materials in accordance with standard PED 97/23/EC.

## MATERIAL STANDARD

Position	Name	Material	Material No.
01	Housing	S235JRG2	1.0038
25	Shock absorber	-	1.0038
02	Wedge	S235JRG2	1.0038
04	Shaft	X20Cr13	1.4021
06	Sliding bearing	Bronze	CC 483 K
08	Shaft seal	EPDM	-
05	Housing seat	Wear weld 13Cr-Mo	1.4115
12	Disc seat	Wear weld 13Cr	1.4015

## TESTING

Testing is conducted in the manufacturer's test station using hydro test-water or air (6 bar), depending on the requirements for the use of the butterfly check valve, and in

accordance with the standard EN 12266-1 Part 1 and Part 2. Hermeticity classes can range from class A to D, where A is the class of zero leakage rate (100% airtight),

and other classes have allowable leakage depending on the requirements for use and the product's nominal size (DN).

## STANDARDS USED

Technical requirements	Face-to-face dimension: FTF 14	Connection: Flange PN 6 / 40	Structure	Testing	Test report: 3.1
EN 14341	EN 558 - 1	EN 1092 - 1	EN 19	EN 12266 - 1,2	EN 10204

## RELATIONSHIP BETWEEN PRESSURE AND TEMPERATURE

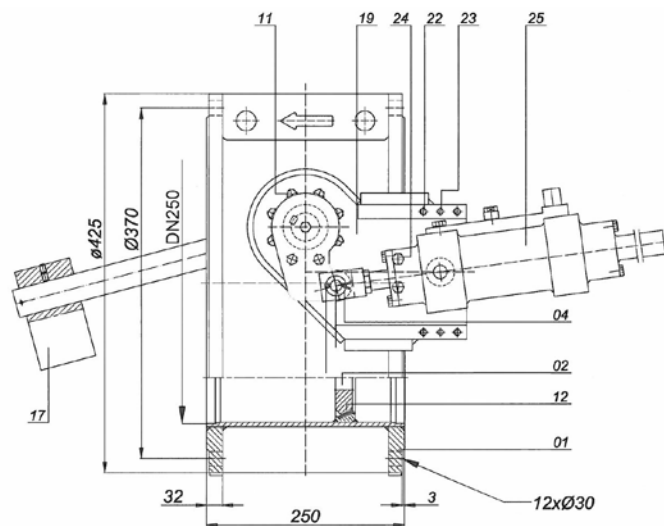
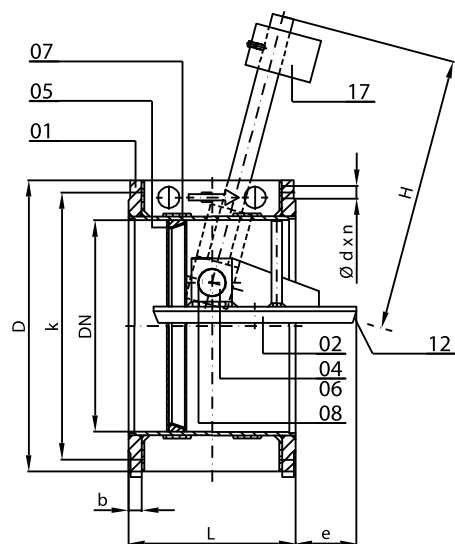
	Nominal diameter	Nominal pressure	Maximum allowable operating pressure at operating temperature			For neutral liquids, gases, steam and condensate	Pressure at testing [bar]	
	DN	PN	100°C	200°C	300°C		Housings P10, 11, 20	Closings P12, 21
6,4/180	200 - 1200	6	4,38	3,78	2,85	Ambient temperature min -10 °C	9	6,6
6,4/182	200 - 1200	10	7,31	6,29	4,75	Ambient temperature min -10 °C	16	11
6,4/184	200 - 1200	16	11,7	10,1	7,7	Ambient temperature min -10 °C	25,6	17,6
6,4/186	200 - 1200	25	18,3	15,7	11,9	Ambient temperature min -10 °C	40	27,5
6,4/188	200 - 1200	40	29,2	25,2	19,9	Ambient temperature min -10 °C	60	44

## DIMENSIONS AND WEIGHTS

6.4180									PN 6
DN	L	D	b	k	d	n	e	H*	G [kg]
200	230	320	20	280	19	8	25	300	53
250	250	375	22	335	19	12	50	325	71
300	270	440	22	395	23	12	74	360	100
350	290	490	22	445	23	12	86	400	132
400	310	540	22	495	23	16	112	450	180
450	330	595	22	550	23	16	137	480	210
500	350	645	24	600	23	20	161	530	240
600	390	755	24	705	28	20	208	600	350
700	430	860	24	810	28	24	258	670	520
800	470	945	24	920	31	24	308	750	670
900	510	1075	26	1020	31	24	355	850	900
1000	550	1175	26	1120	31	28	405	950	1150
1200	630	1405	28	1340	34	32	503	1050	1800

6.4182									PN 10
200	230	340	24	295	23	8	25	300	55
250	250	395	26	350	23	12	50	325	75
300	270	445	26	400	23	12	74	360	105
350	290	505	26	460	23	12	86	400	140
400	310	565	26	515	28	16	112	450	185
450	330	615	28	565	28	16	137	480	215
500	350	670	28	620	28	20	161	530	250
600	390	780	28	725	31	20	208	600	360
700	430	895	30	840	31	24	258	670	530
800	470	1015	32	950	34	24	308	750	680
900	510	1115	34	1050	34	24	355	850	910
1000	550	1230	34	1160	37	28	405	950	1200
1200	630	1455	38	1380	41	32	503	1050	1900

6.4184									PN 16
200	230	340	24	295	23	8	25	300	70
250	250	405	26	350	28	12	50	325	90
300	270	460	28	400	28	12	74	360	122
350	290	520	30	460	28	12	85	400	158
400	310	580	32	515	31	16	110	450	212
450	330	640	32	565	31	16	134	480	255
500	350	715	34	620	34	20	159	530	310
600	390	840	36	725	37	20	206	600	468
700	430	910	36	840	37	24	256	670	630
800	470	1025	38	950	41	24	305	750	775
900	510	1125	40	1050	41	24	353	850	1064
1000	550	1225	42	1170	44	28	413	950	1415
1200	630	1485	48	1390	50	32	500	1050	2280



\* Butterfly check valve with a shock absorber.

6.4186									PN 25
DN	L	D	b	k	d	n	e	H*	G [kg]
200	230	360	30	310	28	12	25	300	107
250	250	425	32	370	31	12	48	325	140
300	270	485	34	430	31	16	71	360	172
350	290	555	38	490	34	16	84	400	238
400	310	620	40	550	37	16	107	450	332
450	330	670	42	600	37	20	131	480	400
500	350	730	44	660	37	20	154	530	452
600	390	845	46	770	41	20	202	600	641
700	430	960	48	845	44	24	251	670	1108
800	470	1085	50	990	50	24	298	750	1426
900	510	1185	54	1090	50	28	345	850	2053
1000	550	1320	58	1210	57	28	393	950	2676
1200	630	1530	62	1420	57	32	490	1050	4309

6.4188									PN 40
DN	L	D	b	k	d	n	e	H*	G [kg]
200	230	375	34	320	31	12	25	300	130
250	250	450	38	385	34	12	48	325	170
300	270	515	42	450	34	16	71	360	210
350	290	580	46	510	38	16	84	400	285
400	310	660	50	585	41	16	107	450	400
450	330	685	50	610	41	20	131	480	480
500	350	755	52	670	44	20	154	530	540
600	390	890	60	795	50	20	202	600	770
700	430	995	64	900	50	24	251	670	1330
800	470	1140	72	1030	57	24	298	750	1700
900	510	1250	76	1140	57	28	345	850	2500
1000	550	1360	80	1250	57	28	393	950	3200
1200	630	1575	88	1460	62	32	490	1050	5100

## SPECIAL FEATURES

### B - With extended or additional elements

Code	Description	
25	With the disc position indicator (mechanical or electrical)	PI
26 - 27	With limit switches	LS
37 - 38	With counter flanges and a connection kit	FS

### C - Additional features

Code	Description	
29	With additional parts for installation or manipulation	
30	With an air release plug on the cover (for swing check valves)	
31	With a spring or hydraulic shock absorber	
43	Structure with two levers	





## WAFER CHECK VALVES

Fabricated steel



**6.4101**  
**6.4102**  
**6.4103**  
**6.4104**



**10**  
**16**  
**25**  
**40**



**40 - 600**  
**40 - 600**  
**40 - 600**  
**40 - 600**



**160°C**

### SCOPE OF APPLICATION

Non-return valves are used as security bodies in the pipelines to prevent fluid backflow. In the basic version, the embedded materials are suitable for the flow of water, steam, gas, oil and petroleum products, as well as for other non-aggressive fluids, whereas for aggressive fluids, they are produced of special materials and special disc.

### PRODUCT DESIGN

Products are manufactured according to the current EN standards for this type of products, and they can also be manufactured according to DIN, ANSI or GOST standard.

Shutter structure characterize a soft closing. Wafer check valves are manufactures without flanges – for insertion between flanges according to EN 1092-1 or other standards.

Face-to-face dimensions are in accordance with EN 558-1 or with a face-to-face dimension upon a special request.

### APPLICATION

Non-return valves are used in thermal power, hydroelectric power plants in water treatment, as well as in utilities buildings.

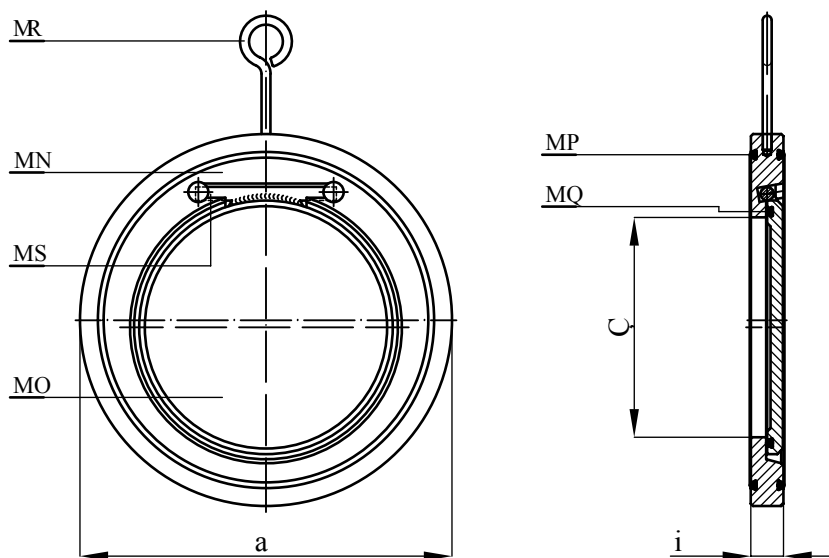
### PRESSURES AND TEMPERATURES

Steel valves in the standard version are made of carbon steel groups 1E1 and 3E0, and they are used for temperatures from -10 °C to +300/400 °C.

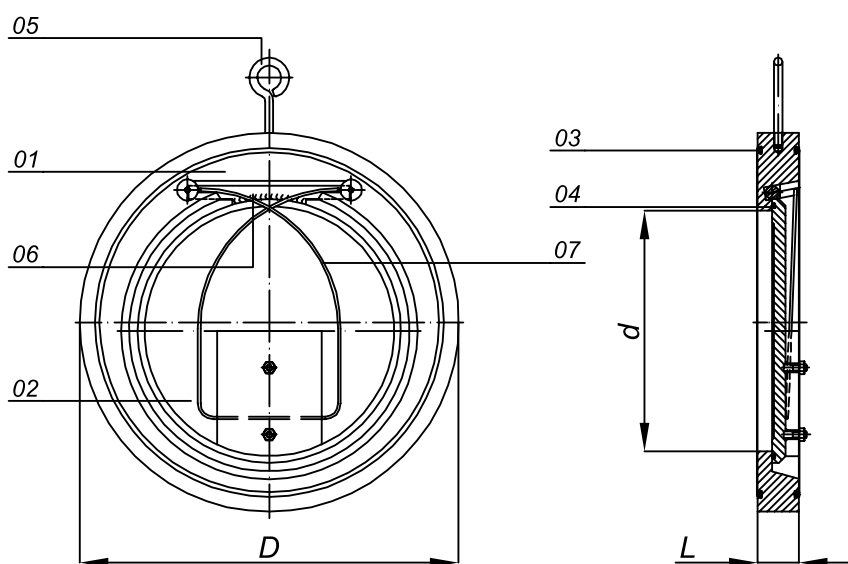
For temperatures from -254 °C to +600 °C, the embedded materials are alloy steel group 4E0, 5E0, 6E0, 7E0 or stainless steel group 11E0, 12E0, 14E0, 15E0.

The application and use of the valves, where the standard EN 12516-1 specifies pressure and temperature dependence, depends on the embedded materials.





\* Wafer check valves without a spring.



\* Wafer check valves with a spring.

## MATERIALS

The materials are carbon, alloy or stainless steel in a cast or Welded construction made of fabricated steel materials in accordance with standard PED 97/23/EC.

## TESTING

Testing is conducted in the manufacturer's test station using hydro test-water or air (6 bar), depending on the requirements for the use of the wafer check valve, and in accordance with the standard EN 12266-1 Part 1 and Part 2. Hermeticity classes can range from class A to D, where A is the class of zero leakage rate (100% airtight), and other classes have allowable leakage depending on the requirements for use and the product's nominal size (DN).

## MATERIAL STANDARD

Ord. No.	Name	Material	Mater. St.
01,02	Housing, sealing plate disc	S235JRG2	1.0038
03	"O" ring	EPDM / silicone	-
04	"O" ring	EPDM / silicone	-
05	Holder	S235JRG2	1.0038
06	Axle	X20Cr13	1.4021
07	Spring	Steel for springs	1.8159

## DIMENSIONS AND WEIGHTS

6.4101					PN 10		
6.4102					PN 16		
6.4103					PN 25		
DN	L	d	G [kg]	Kv (m³/h)	D	D	D
40	14	22	0,6	23	94	94	94
50	14	30	0,9	49	109	109	109
65	14	38	1,3	75	129	129	129
80	14	49	1,6	125	144	144	144
100	18	68	2,1	183	164	164	170
125	18	86	3,1	340	194	194	196
150	20	110	5,0	500	220	220	226
200	29	156	11,1	1100	275	275	286
250	29	190	15,0	1610	330	331	343
300	38	236	24,9	2290	380	386	403
350	41	270	37,3	2890	440	446	460
400	51	310	55,2	3700	491	498	517
450	58	360	75,5	5310	541	558	567
500	65	405	106,0	6550	596	620	627
600	70	486	156,0	9500	698	698	734

6.4104						PN 40
DN	L	D	d	G [kg]	L*	G* [kg]
40	14	94	22	0,60	22	1,1
50	14	109	30	0,90	22	1,4
65	14	129	38	1,30	22	1,9
80	14	144	49	1,60	22	2,3
100	18	164	68	2,10	24	3,1
125	18	194	86	3,10	26	4,6
150	20	220	110	5,00	29	6,7
200	29	275	156	11,10	43	14,6
250	29	330	190	15,00	43	20,1
300	38	380	236	24,90	50	30,8
350	41	440	270	37,30	52	39,1
400	51	491	310	55,20	62	63,3
(450)	58	541	360	75,50	62	83,1
500	65	631	405	106,0	80	118,5
600	70	750	486	156,0	90	176,4

## OTHER PRODUCTS

### SLUICE GATES

Sluice gates are used in melioration systems, in water discharge and water charge accumulation systems, in water treatment plants, hydroelectric power plants and other areas of economic activity.

Sluice gates are not divided by nominal openings and nominal pressures, as they adapt to the installation place conditions, and their dimensions depend on the channel dimensions and the fluid height in front of the sluice.

### CONTROL VALVES

Control valves are used in water treatment plants, hydroelectric power plants and other areas of economic activity.

Control valves with a float are shut-off regulating valves which are primarily designed to regulate water level in the reservoir, i.e. to maintain water level at the required level.

### STRAINERS

Strainers are used in industrial pipelines in business facilities, power plants, heating plants and water-resource management facilities. Strainers are used to prevent the passage of smaller foreign bodies and various impurities through the pipeline.

To protect the equipment such as pumps, valves, measuring and control equipment and other devices against damage, impurities accumulators are installed before them.



# 2000

**DN**



# 40

**PN**



# 400

**TEMP**

## FLAP VALVES

Flap valves are used as shut-off check valves at the end of pipelines in melioration systems, in water discharge and water charge accumulation systems, in water treatment plants, hydroelectric power plants and other areas of economic activity.

Flap valves allow the passage of fluid only in the direction out of the pipe, and they are automatically closed after the liquid is released. The backflow and entry of foreign bodies into the pipeline are disabled.

## MOUNTING - DISMOUNTING PIECES

Demounting pieces are used in pipelines as coupling elements. The use of these elements facilitates the installation of pipe fittings or any device into the pipeline, with the possibility of adjusting the mounting length within the limits that the demounting piece allows.

The longitudinal compensators are installed in pipelines to compensate for displacements that result from heat and other dilatation.

In addition to this function, they enable easy mounting of elements in the pipeline within the limits of available displacements.

## PETROLEUM VALVES

Petroleum valves are used in the petroleum industry, oil refineries, warehouses of petroleum products, petrochemical and chemical industries.

These valves are used as safety devices on the equipment. Air release valves are used to equalize pressure in reservoirs when they are loaded or unloaded, and to equalize pressure differences arising as a result of thermal expansion of fluid.

These valves entirely automatically perform their function. Flame arresters are installed in the equipment in locations where it is necessary to prevent the passage of a possible flame.

Oil safety valve is used in the petroleum industry as a safety device.

A

## SLUICE GATES

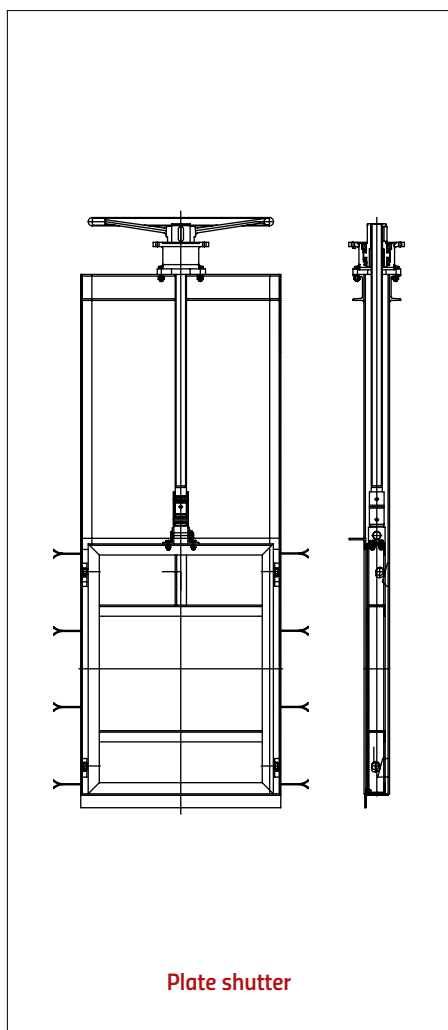
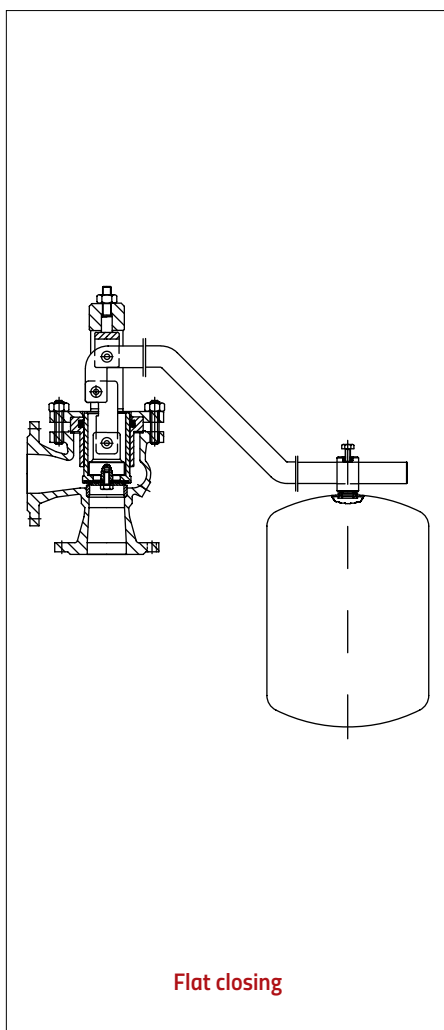


Plate shutter

DN	PN	1/2, 5/6
APPLICATION TEMPERATURE	70°C	
STANDARD	According to the manufacturer's standard	
SPINDLE STRUCTURE	Rising Gear rack	Non-rising With two spindles
CONNECTION	▪ With stays    ▪ Flange	

B

## CONTROL VALVES

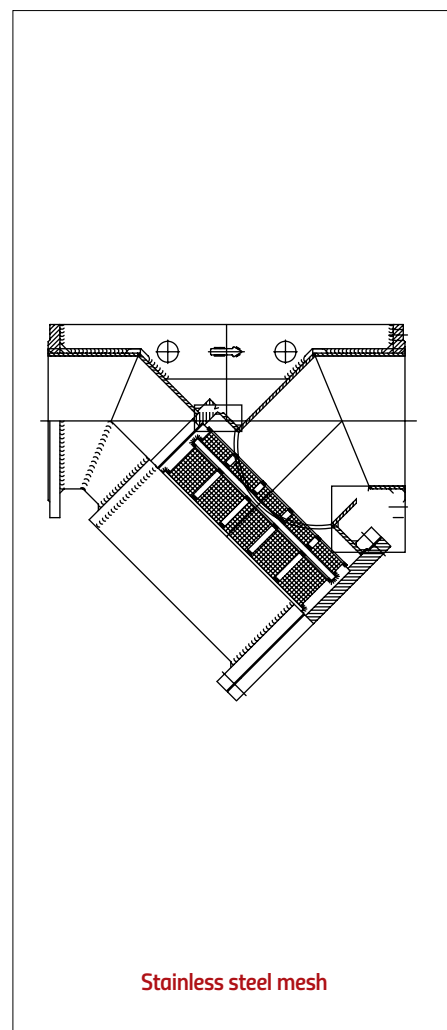


Flat closing

DN	50 - 1800	PN	6 - 40
APPLICATION TEMPERATURE	400°C		
STANDARD	CTF (125, 155, 175, 225, 275, 325)		
SPINDLE STRUCTURE			
CONNECTION	▪ Non-flange    ▪ Flange		

C

## STRAINERS



Stainless steel mesh

DN	50 - 600	PN	10 - 40
APPLICATION TEMPERATURE	400°C		
STANDARD	Series 1		
SPINDLE STRUCTURE			
CONNECTION	▪ Non-flange    ▪ Flange		

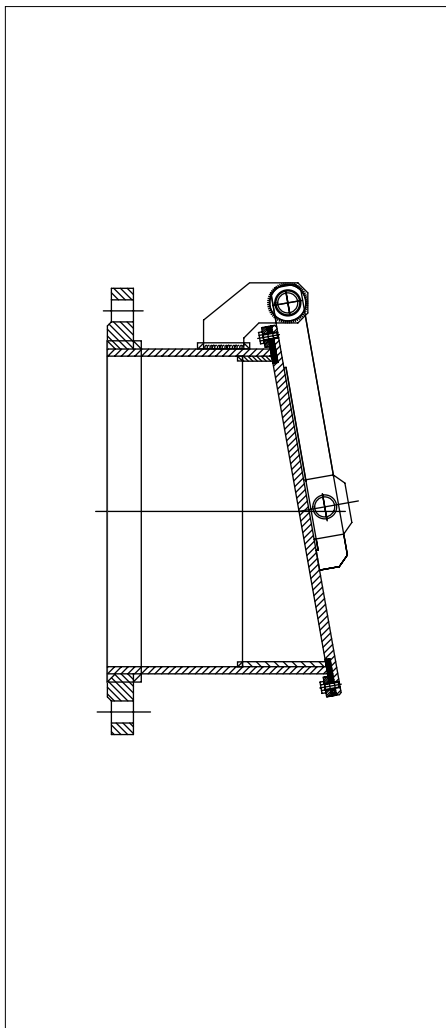
## METHODS OF CLOSING

## Plate shutter

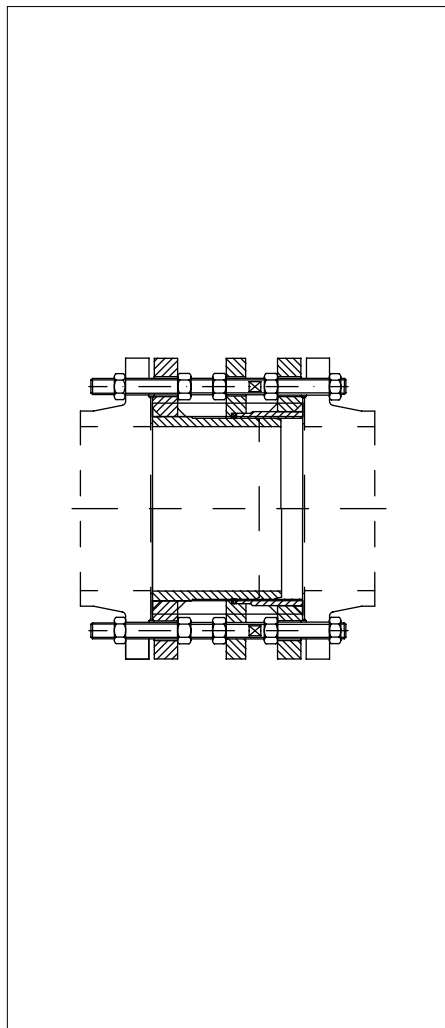
Plate wedge of a sluice gate is shaped as a flat rectangular plate, which can be raised and lowered at a right angle to the flow direction. It is made of structural steel or of stainless materials. Hermetic sealing is achieved by the contact of appropriate surfaces of a sealing plate disc and sealing surface of a housing. The usual sealing used is rubber/metal. Sealing is one-way and may be downstream or upstream.

## Stainless steel mesh

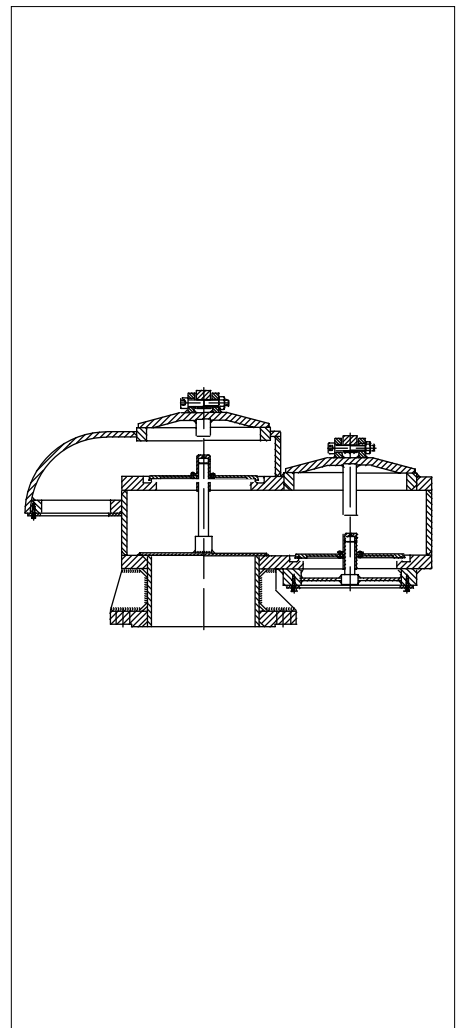
Stainless steel mesh of a certain density is used for collecting impurities from the flowing fluid that passes through the mesh. Cleaning and/or replacement of the mesh is simple. It is carried out by removing the cover and removing the mesh from its position. The time interval for mesh cleaning depends on how dirty the operational fluid is.

**D****FLAP VALVES**

<b>DN</b>	50 - 1200	<b>PN</b>	6 - 16
<b>APPLICATION TEMPERATURE</b>	70°C		
<b>STANDARD</b>	90 - 360		
<b>SPINDLE STRUCTURE</b>			
<b>CONNECTION</b>	Flange		

**E****MOUNT - DEMOUNT. PIECES**

<b>DN</b>	40 - 2000	<b>PN</b>	6 - 40
<b>APPLICATION TEMPERATURE</b>	70°C		
<b>STANDARD</b>	?		
<b>SPINDLE STRUCTURE</b>			
<b>CONNECTION</b>	Flange		

**F****PETROLEUM VALVES**

<b>DN</b>	80 - 200	<b>PN</b>	150 lb
<b>APPLICATION TEMPERATURE</b>	70°C		
<b>STANDARD</b>	?		
<b>SPINDLE STRUCTURE</b>			
<b>CONNECTION</b>	Flange		





# SLUICE GATES

Welded construction



6.5314  
6.5324  
6.5325  
6.5327  
6.5334



1/2,5/6  
1/2,5/6  
1/2,5/6  
1/2,5/6  
1/2,5/6



300 - 2000  
300 - 2000  
300 - 2000  
300 - 2000  
> 1200



70°C

## SCOPE OF APPLICATION

Sluice gates are used as sealing devices in pipelines to stop the flow of water. In the basic version, the embedded materials are suitable for use in the channels where water, precipitation or wastewater flows.

## APPLICATION

Sluice gates are used in channel, hydroelectric power plants, water treatment plants, in channel irrigation/drainage systems, as well as in utilities buildings.

## PRODUCT DESIGN

Products are manufactured according to the current EN standards for this type of products, and they can also be manufactured according to other standards. Sluices are built in their concrete beds or on the wall, and can also have a flange connection according to EN 1092-1 or other standards.

Face-to-face dimensions are in accordance with EN 558-1 or with a face-to-face dimension upon a special request. They are made with one or more spindles, and can also be made with a gear rack.

In the basic version, the products are made for manual operation using a hand wheel with a direct connection or a gear connection. The products are also made with an electro-motor, hydraulic or pneumatic drive system.

## PRESSURES AND TEMPERATURES

Steel valves in the standard version are made of carbon steel groups 1E1 and 3E0, and they are used for temperatures from -10 °C to +300/400 °C.

The application and use of the valves, where the standard EN 12516-1 specifies pressure and temperature dependence, depends on the embedded materials.

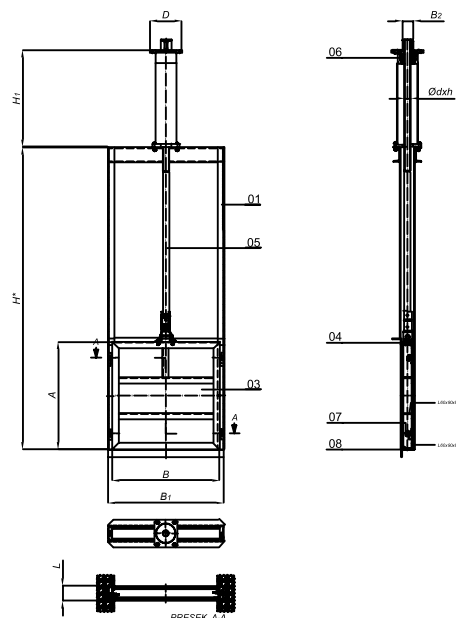


## MATERIALS

The materials are carbon, alloy or stainless steel in a Welded construction made of fabricated steel and steel bars in accordance with standard PED 97/23/EC.

## TESTING

Testing is conducted in the manufacturer's test station using hydro test-water or air (6 bar), depending on the requirements for the use of the sluice gate valves, and in accordance with the standard EN 12266-1 Part 1 and Part 2. Hermeticity classes can range from class A to D, where A is the class of zero leakage rate (100% airtight), and other classes have allowable leakage depending on the requirements for use and the product's nominal size (DN).



## MATERIAL STANDARD

Position	Name	Material	Material No.
01	Frame	S235JRG2	1.0038
02	Stays	Steel for screws	8,8
03	Plate (shutter)	S235JRG2	1.0038
04	Rubber seal	NBR	-
05	Spindle	X20Cr13	1.4021
06	Threaded bushing	Grey cast iron	JL 1040
07	Cam	S235JRG2	1.0038
08	Rubber seal	NBR	-

## DIMENSIONS

6.5314									
6.5324									
6.5325									
6.5334									
B x A	L	A	B	B <sub>1</sub> *	B <sub>2</sub> *	H <sub>1</sub> *	H*	d x h	D <sub>T</sub>
800 x 700	140	700	800	880	100	800	2200	Tr 55 x 9	300
1400 x 1200	140	1200	1400	1080	100	800	3200	Tr 55 x 9	300
1500 x 1000	140	1000	1500	1580	100	800	2800	Tr 55 x 9	300
1500 x 1100	140	1100	1500	1580	100	800	3000	Tr 55 x 9	300
1200 x 1400	140	1400	1200	1200	100	800	3600	Tr 55 x 9	300

\* In addition to the listed measures, the sluices can be made according to the customer's specification.

\*\* There is an option to put a gear rack - factory number 6.5325 instead of the spindle.

## SPECIAL FEATURES

Code	Description
25	With extensions for distant management
25	With the disc position indicator (mechanical or electrical)
29	With additional parts for installation or manipulation
39	With a locking latch
08 - 09	Product or its parts made of special materials
45	Product constructed or made upon the customer's special request

# ANGULAR OUTLET VALVE WITH A FLOAT

Grey cast iron



6.4302



16



50 - 250



70°C

### SCOPE OF APPLICATION

Angular outlet valves are used as sealing devices in tanks to stop the flow of a flowing fluid, when it reaches the set level. These valves operate automatically using the built-in float. In the basic version, the embedded materials are suitable for the flow of water, as well as for other non-aggressive fluids.

### PRODUCT DESIGN

Products are manufactured according to the current EN standards for this type of products, and they can also be manufactured according to DIN, ANSI or GOST standard. Connection is a flange according to EN 1092-1.

Face-to-face dimensions are in accordance with EN 558-1 or with a face-to-face dimension upon a special request.

### APPLICATION

Control valves are used in hydroelectric power, petrochemical and refinery plants in water treatment, as well as in utilities buildings.

### PRESSURES AND TEMPERATURES

The valves made of grey cast iron JL 1040 (GJL-250) are designed for temperatures from -10 °C to +230 °C.

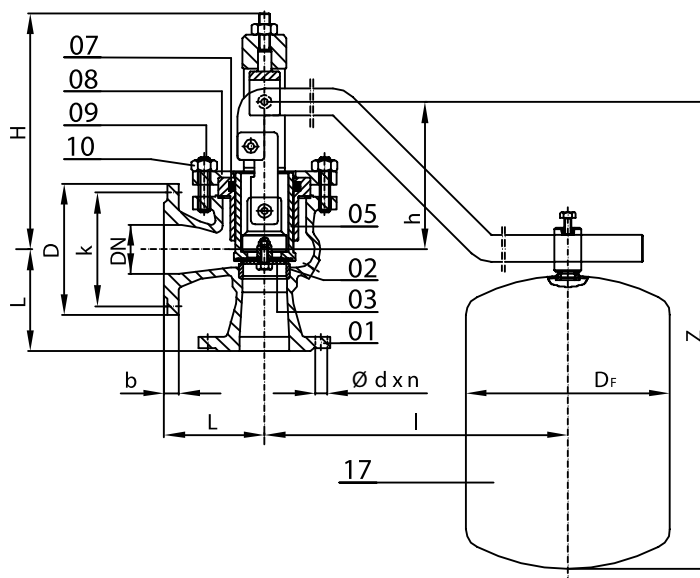


## MATERIALS

The materials are grey cast iron JL 1040 and/or carbon structural steel, brass, alloy or stainless steel in a Welded construction made of Fabricated steel and steel bars in accordance with standard PED 97/23/EC.

## TESTING

Testing is conducted in the manufacturer's test station using hydro test-water or air (6 bar), depending on the requirements for the use of the gate valve, and in accordance with the standard EN 12266-1 Part 1 and Part 2. Hermeticity classes can range from class A to D, where A is the class of zero leakage rate (100% airtight), and other classes have allowable leakage depending on the requirements for use and the product's nominal size (DN).



## MATERIAL STANDARD

Position	Name	Material	Material No.
01	Housing	GJL-250 (JL 1040)	0.6025
08	Cover	GJL-250 (JL 1040)	0.6025
07	Sealing ring	NBR	-
09	Screw without head	Steel for screws	5,6
10	Nut	Steel for screws	5
05	Piston	Brass	2.1352
03	Disc seat	NBR	-
02	Housing seat	X20Cr13	1.4021
17	Float	X20Cr13	1.4021

## STANDARDS USED

Technical requirements	Face-to-face dimension: CTF 8	Connection: Flange PN 16	Structure	Testing	Test report: 3.1
EN ISO 4126 - 1	EN 558 - 1	EN 1092 - 1	EN 19	EN 12266 - 1	EN 10204

## TESTING

6.4302	Nominal diameter	Nominal pressure	Maximum allowable operating pressure at operating temperature		Pressure at testing [bar]	
	DN	PN	70°C		Housings P10, 11, 20	Closings P12, 21
			For neutral fluids			
	50 - 150	16	16	Ambient temperature min -10 °C	24	17,6
	200 - 250	10	10	Ambient temperature min -10 °C	16	11

## DIMENSIONS AND WEIGHTS

6.4302												
DN	L	D	b	k	d	n	H	h	D <sub>f</sub>	Z	I	G [kg]
50	125	165	20	125	19	4	335	205	320	560	600	25,5
65	145	185	20	145	19	4	330	200	320	520	800	39
80	155	200	22	160	19	4	340	210	320	555	900	44
100	175	220	24	180	19	8	335	205	360	560	1100	51
125	200	250	24	210	19	8	380	250	360	580	1200	62
150	225	285	26	240	23	8	390	260	360	630	1250	100
200	275	340	24	295	23	8	650	465	480	740	1300	160
250	325	395	26	350	23	12	720	507	480	845	1500	235

## SLANTED

Welded construction



6.4258  
6.4266  
6.4267  
6.4268



16  
16  
25  
40



50 - 150  
200 - 600  
200 - 600  
200 - 600



230°C  
300°C  
300°C  
400°C

## SCOPE OF APPLICATION

Strainers are used in pipelines for collecting impurities from the fluid passing through the pipeline. In the basic version, the embedded materials are suitable for the flow of water, steam, gas, oil and petroleum products, as well as for other non-aggressive fluids, whereas for aggressive fluids, compensators are produced of special materials.

## PRODUCT DESIGN

Products are manufactured according to the current EN standards for this type of products, and they can also be manufactured according to DIN, ANSI or GOST standard. The very structure may be slanted or flat depending on the requirements and purpose. The mesh is made with openings of various calibration, and depending on the granulation of particles that need to be removed from the flowing fluid.

Connection is a flange according to EN 1092-1.

Face-to-face dimensions are in accordance with EN 558-1 Series 1 or with a face-to-face dimension upon a special request.

## APPLICATION

Strainers are used in the treatment of industrial, i.e. process waters in water supply and heating systems.

## PRESSURES AND TEMPERATURES

Steel valves in the standard version are made of carbon steel groups 1E1 and 3E0, and they are used for temperatures from -10 °C to +300/400 °C.

For temperatures from -254 °C to +600 °C, the embedded materials are alloy steel group 4E0, 5E0, 6E0, 7E0 or stainless steel group 11E0, 12E0, 14E0, 15E0.

The application and use of the valves, where the standard EN 12516-1 specifies pressure and temperature dependence, depends on the embedded materials.

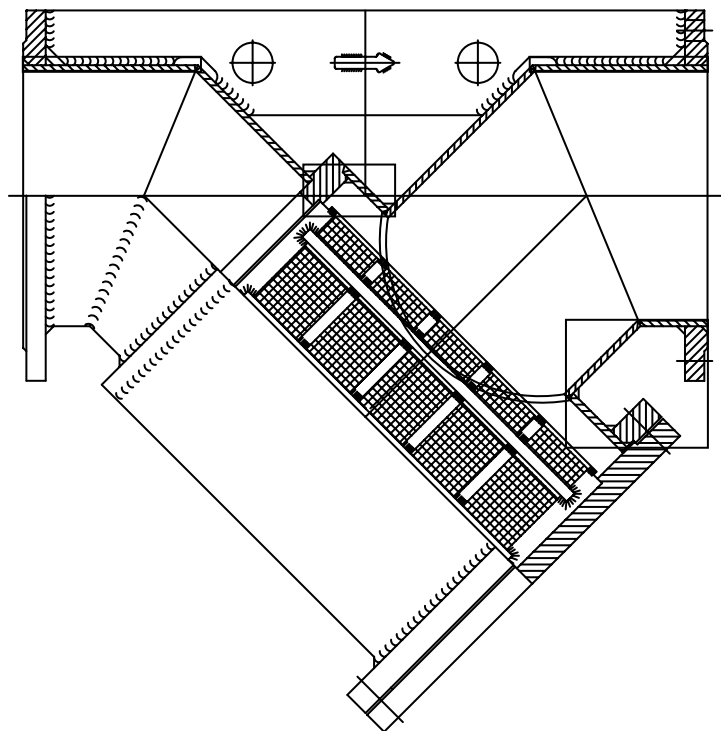


## MATERIALS

The basic model is made of carbon steel for Welded constructions S235JRG2 and with a cartridge-mesh made of material 1.4571 or 1.4401. If used with aggressive fluids, the product is made of special stainless materials, and in accordance with the standard PED 97/23/EC.

## TESTING

Testing is conducted in the manufacturer's test station using hydro test-water or air (6 bar), depending on the requirements for the use of the strainer, and in accordance with the standard EN 12266-1 Part 1 and Part 2. Hermeticity classes can range from class A to D, where A is the class of zero leakage rate (100% airtight), and other classes have allowable leakage depending on the requirements for use and the product's nominal size (DN).



## MATERIAL STANDARD

Position	Name	Material	Material No.
01	Housing	S235JRG2	1.0038
02	Cover	S235JRG2	1.0038
03	Mesh	Stainless steel	1.4541
04	Gasket	Graphite	-
05	Screw without head	Steel for screws	1.7218
06	Nut	Steel for screws	1.1191

## STANDARDS USED

Compliance with standards	Face-to-face dimension: FTF 1	Standard connecting flange: Flanges PN 16	Structure	Testing	Test report: 3.1
-	EN 558 - 1	EN 1092 - 2	EN 19	EN 12266 - 1	EN 10204

## TESTING

	Nominal diameter	Nominal pressure	Maximum allowable operating pressure at operating temperature			Water pressure when testing housing	Flange connection SRPS M.B6.163
	DN	PN	120°C	150°C	230°C		
6.4258	15 - 300	16	16	14,4	11,8		
6.4266	200 - 600	16	16	14,4	11,8	25	
6.4267	200 - 600	25	25	22,5	18,5	34,5	
6.4268	200 - 600	40	40	36	29,6	60	

## DIMENSIONS

6.4266								PN 16
DN	D	b	k	d	n	L	H	h
200	340	24	295	22	12	850	630	3
250	405	26	355	26	12	940	700	3
300	460	28	410	26	12	850	630	4
350	520	30	470	26	16	940	700	4
400	580	32	525	30	16	1030	780	4
450	640	34	585	30	20	1120	840	4
500	715	34	650	33	20	1210	900	4
600	840	36	770	36	20	1300	960	4

6.4267								PN 25
200	360	30	310	26	12	600	430	3
250	425	32	370	30	12	730	560	3
300	485	34	430	30	16	850	630	4
350	555	38	490	33	16	940	700	4
400	620	40	550	36	16	1030	780	4
450	670	42	600	36	20	1120	840	4
500	730	44	660	36	20	1210	900	4
600	845	46	770	39	20	1300	960	5

6.4268								PN 40
200	375	34	320	30	12	600	430	3
250	450	38	385	33	12	730	560	3
300	515	42	450	33	16	850	630	4
350	580	46	510	36	16	940	700	4
400	660	50	585	39	16	1030	780	4
450	685	50	610	39	20	1120	840	4
500	755	52	670	42	20	1210	900	4
600	890	60	795	48	20	1300	960	5

## SPECIAL FEATURES

Code	Description
24	With an opening for cleaning and emptying at the housing bottom
30	With an air release plug on the cover
40	With special face-to-face dimensions



# FLAP VALVES



**6.4381**  
**6.4382**  
**6.4383**



**6**  
**10**  
**16**



**50 - 1200**  
**50 - 1200**  
**50 - 1200**



**70°C**

## SCOPE OF APPLICATION

Flap valves are used in pipelines to prevent the backflow of undesirable elements into the pipeline. Flap valves are always installed at the outlet end of the pipeline. In the basic version, the embedded materials are suitable for the flow of water and for other non-aggressive fluids.

## PRODUCT DESIGN

Products are manufactured according to the current EN standards for this type of products, and they can also be manufactured according to DIN, ANSI or GOST standard.

In the basic version, the product is made from NBR rubber.

Connection is a flange according to EN 1092-1 or it has welding ends.

Face-to-face dimensions are in accordance with EN 558-1 or with a face-to-face dimension upon a special request.

## APPLICATION

Flap valves are used in thermal power and hydroelectric power plants in water treatment, as well as in utilities buildings.

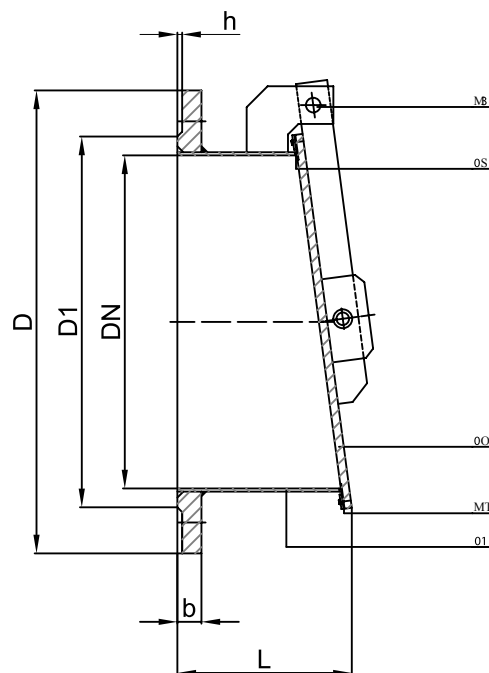
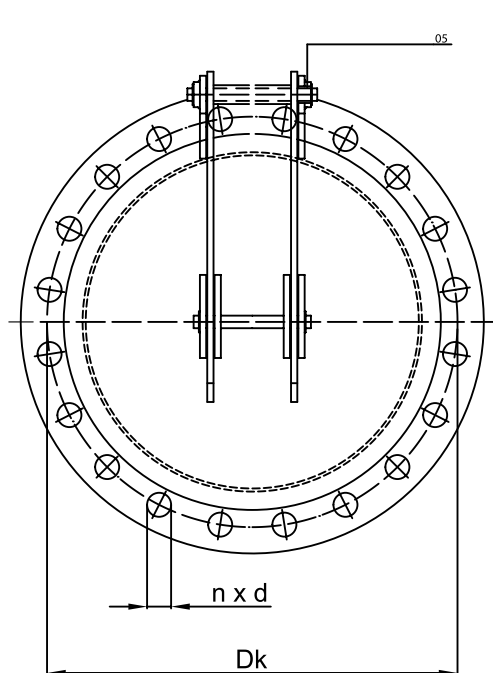
## PRESSURES AND TEMPERATURES

Steel valves in the standard version are made of carbon steel groups 1E1 and 3E0, and they are used for temperatures from -10 °C to +300/400 °C.

The application and use of the valves, where the standard EN 12516-1 specifies pressure and temperature dependence, depends on the embedded materials.

## Welded construction





## MATERIALS

The materials are carbon, alloy or stainless steel in a Welded construction made of fabricated steel and steel bars in accordance with standard PED 97/23/EC.

## MATERIAL STANDARD

Position	Name	Material	Material No.
01	Housing	S235JRG2	1.0038
02	Disc	S235JRG2	1.0038
03	Axle	X20Cr13	1.4021
05	Bearing	Bronze	CC 483 K
06	Housing seat	13Cr - Mo hard wear weld	1.4115
07	Disc seat	NBR	-

## TESTING

Testing is conducted in the manufacturer's test station using hydro test-water or air (6 bar), depending on the requirements for the use of the flap valve, and in accordance with the standard EN 12266-1 Part 1 and Part 2. Hermeticity classes can range from class A to D, where A is the class of zero leakage rate (100% airtight), and other classes have allowable leakage depending on the requirements for use and the product's nominal size (DN).

## STANDARDS USED

Compliance with standards	Connection: Flange PN 6	Structure	Testing	Test report: 3.1
EN 14341	EN 1092 - 1	EN 19	EN 12266 - 1,2	EN 10204

## DIMENSIONS AND WEIGHTS

6.4381							PN 6
DN	D	k	b	L	d	n	G [kg]
300	440	395	22	168	22	12	33,0
350	490	445	22	182	22	12	40,0
400	540	495	22	190	22	16	46,5
450	595	550	22	200	22	16	54,7
500	645	600	24	214	22	20	65,4
600	755	705	24	235	26	20	98,4
700	860	810	24	254	26	24	113,3
800	975	920	24	282	30	24	144,7
900	1075	1020	26	303	30	24	199,8
1000	1175	1120	26	321	30	28	232,8
1100	1305	1240	26	335	30	32	306,2
1200	1405	1340	26	358	33	32	347,6

6.4382							PN 10
DN	D	k	b	L	d	n	G [kg]
300	445	400	28	168	22	12	33,6
350	505	460	30	182	22	16	41,7
400	565	515	32	190	26	16	50,3
450	615	565	32	200	26	20	58,0
500	670	620	34	214	26	20	70,3
600	780	725	36	235	30	20	104,1
700	895	840	40	254	30	24	122,4
800	1015	950	40	282	33	24	156,5
900	1115	1050	42	303	33	28	213,8
1000	1230	1160	42	321	36	28	254,0
1100	1310	1270	46	335	36	32	322,2
1200	1455	1380	48	358	39	32	372,3

6.4383							PN 16
DN	D	k	b	L	d	n	G [kg]
300	460	410	28	170	26	12	42,2
350	520	470	30	188	26	16	60,2
400	580	525	32	196	30	16	75,3
450	640	585	32	206	30	20	92,4
500	715	650	34	220	33	20	118,4
600	840	770	36	240	36	20	163,8
700	910	840	40	258	36	24	181,0
800	1025	950	40	286	39	24	224,8
900	1125	1050	42	308	39	28	278,8
1000	1255	1170	42	325	42	28	350,2
1100	1355	1270	46	330	42	32	439,7
1200	1485	1390	48	360	48	32	546,0



# THREE FLANGES

Welded construction



**6.2041**  
**6.2042**  
**6.2043**  
**6.2044**  
**6.2045**



**6**  
**10**  
**16**  
**25**  
**40**



**300 - 2000**  
**300 - 2000**  
**300 - 2000**  
**300 - 2000**  
**300 - 1200**



**70°C**

## SCOPE OF APPLICATION

Face-to-face - deface-to-face pieces are used in pipelines for easy installation and, if necessary, to facilitate the deface-to-face of built-in pipe shutters. In the basic version, the embedded materials are suitable for the flow of water, steam, gas, oil and petroleum products, as well as for other non-aggressive fluids, whereas for aggressive fluids, face-to-face and deface-to-face pieces are produced of special materials.

## PRODUCT DESIGN

Products are manufactured according to the current EN standards for this type of products, and they can also be manufactured according to DIN, ANSI or GOST standard. The structure of MDK pieces enables easier installation and subsequent deface-to-face of pipe shutters in the pipeline.

Connection is a flange according to EN 1092-1.

Face-to-face dimensions are in accordance with EN 558-1 or with a face-to-face dimension upon a special request.

Face-to-face - deface-to-face pieces with three flanges are used for smaller displacements, the users call this type of face-to-face - deface-to-face pieces "MDK piece Type A".

## APPLICATION

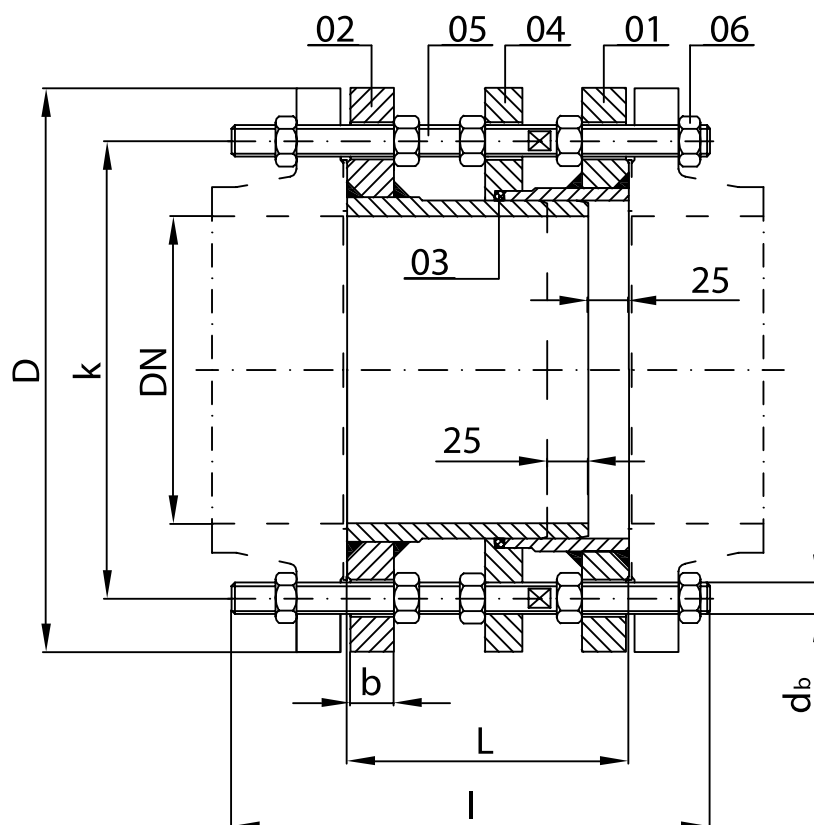
Face-to-face - deface-to-face pieces are used in thermal power, hydroelectric power, petrochemical and refinery plants in water treatment, as well as in utilities buildings.

## PRESSURES AND TEMPERATURES

Steel valves in the standard version are made of carbon steel groups 1E1 and 3E0, and they are used for temperatures from -10 °C to +300/400 °C.

The application and use of the valves, where the standard EN 12516-1 specifies pressure and temperature dependence, depends on the embedded materials.





## MATERIALS

The materials are carbon, alloy or stainless steel in a Welded construction made of fabricated steel and steel bars in accordance with standard PED 97/23/EC.

## MATERIAL STANDARD

Position	Name	Material	Material No.
01	Tightener	Carbon steel	1.0038
02	Slider	Carbon steel	1.0038
03	Sealing ring	NBR	-
04	Holder	Carbon steel	1.0038
05	Screw without head	Steel for screws	5,6
06	Nut	Carbon steel	5

## TESTING

Testing is conducted in the manufacturer's test station using hydro test-water or air (6 bar), depending on the requirements for the use of the gate valve, and in accordance with the standard EN 12266-1 Part 1 and Part 2. Hermeticity classes can range from class A to D, where A is the class of zero leakage rate (100% airtight), and other classes have allowable leakage depending on the requirements for use and the product's nominal size (DN).

## STANDARDS USED

Compliance with standards	Face-to-face dimension	Connection: Flange PN 10	Structure	Testing	Test report: 3.1
-	Factory standard	EN 1092-1	EN 19	EN 12266-1	EN 10204

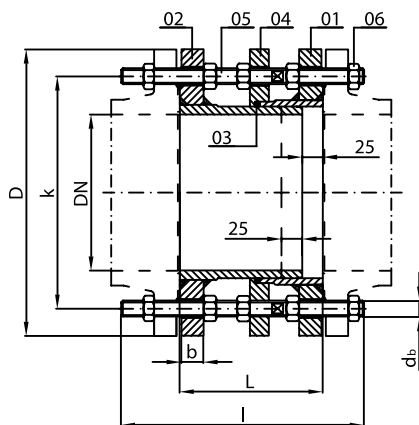
## DIMENSIONS AND WEIGHTS

6.2041									PN 6
DN	L	D	b	k	d	n	d <sub>8</sub>	l	G [kg]
300	230	440	22	395	22	12	M20	360	73,5
350	230	490	22	445	22	12	M20	360	105
400	250	540	22	495	22	16	M20	370	111
450	260	595	22	550	22	16	M20	390	120
500	260	645	24	600	22	20	M20	400	141
600	260	755	24	705	26	20	M24	420	183
700	290	860	24	810	26	24	M24	420	220
800	290	975	24	920	30	24	M27	470	321
900	290	1075	26	1020	30	24	M27	470	343
1000	290	1175	26	1120	30	28	M27	490	375
1100	300	1305	28	1240	30	32	M27	490	486
1200	320	1405	28	1340	33	32	M30	530	608
1300	340	1520	32	1450	36	32	M33	570	750
1400	360	1630	32	1560	36	36	M33	590	850
1500	380	1730	34	1660	36	36	M33	620	960
1600	380	1830	34	1760	36	40	M33	620	1030
1800	400	2045	36	1970	39	44	M36	660	1310
2000	400	2265	38	2180	42	48	M39	660	1670

6.2042									PN 10
300	220	445	26	400	22	12	M20	360	72
350	230	505	28	460	22	16	M20	360	95
400	230	565	26	515	26	16	M24	370	125
450	250	615	28	565	26	20	M24	390	140
500	260	670	28	620	26	20	M24	390	165
600	260	780	28	725	30	20	M27	410	205
700	260	895	30	840	30	24	M27	410	260
800	290	1015	32	950	33	24	M30	460	355
900	290	1115	34	1050	33	28	M30	460	410
1000	290	1230	34	1160	36	28	M33	480	490
1200	320	1455	38	1380	39	32	M36	520	750
1300	340	1575	40	1490	42	32	M39	600	960
1400	360	1675	42	1590	42	36	M39	630	1090
1500	380	1785	44	1700	42	36	M39	680	1180
1600	380	1915	46	1820	48	40	M45	680	1290
1800	400	2115	50	2020	48	44	M45	720	1490
2000	400	2325	54	2230	48	48	M45	720	2000

6.2043									PN 16
300	250	460	28	400	26	12	M24	410	92
350	260	520	30	460	26	16	M24	410	130
400	270	580	32	515	30	16	M27	430	165
450	270	640	34	565	30	20	M27	430	190
500	280	715	34	620	33	20	M30	460	240
600	300	840	36	725	36	20	M33	480	330
700	300	910	36	840	36	24	M33	480	370
800	320	1025	38	950	39	24	M36	520	486
900	320	1125	40	1050	39	28	M36	520	550
1000	340	1255	42	1170	42	28	M39	560	720
1200	360	1485	48	1390	48	32	M45	600	1120
1400	*	1685	52	1590	48	36	M45	*	*
1600	*	1930	58	1820	56	40	M52	*	*
1800	*	2130	62	2020	56	44	M52	*	*
2000	*	2345	66	2230	62	48	M56	*	*

\* Information on the inquiry.



6.2044

PN 25

DN	L	D	b	k	d	n	d <sub>b</sub>	l	G* [kg]
300	250	485	34	430	30	16	M27	410	119
350	270	555	38	490	33	16	M30	430	182
400	280	620	40	550	36	16	M33	430	197
450	280	670	42	600	36	20	M33	470	247
500	300	730	44	660	36	20	M33	490	285
600	320	845	46	770	39	20	M36	510	346
700	340	960	46	875	42	24	M39	680	600
800	360	1085	50	990	48	24	M45	770	950
900	380	1185	54	1090	48	28	M45	780	1120
1000	400	1320	58	1210	56	28	M52	900	1570
1200	450	1530	69	1420	56	32	M52	*	*
1400	*	1755	74	1640	62	36	M56	*	*
1600	*	1975	81	1860	62	40	M56	*	*
1800	*	2195	88	2070	70	44	M64	*	*
2000	*	2425	95	2300	70	48	M64	*	*

6.2045

PN 40

300	280	515	42	450	33	16	M30	460	195
350	290	580	46	510	36	16	M33	480	255
400	340	660	50	585	39	16	M36	540	365
450	340	685	50	610	39	20	M36	540	435
500	380	755	52	670	42	20	M39	590	505
600	390	890	60	795	48	20	M45	620	765
700	420	995	64	900	48	24	M45	650	915
800	450	1140	72	1030	56	24	M52	710	1325
900	480	1250	76	1140	56	28	M52	750	1610
1000	500	1360	80	1250	56	28	M52	780	1810
1200	560	1575	88	1460	62	32	M56	870	2400

\* Information on the inquiry.



# THREE FLANGES

Welded construction



**6.2061**  
**6.2062**  
**6.2063**  
**6.2064**



**6**  
**10**  
**16**  
**25**



**300 - 2000**  
**300 - 2000**  
**300 - 2000**  
**300 - 2000**



**70°C**

## SCOPE OF APPLICATION

Longitudinal compensators are used in pipelines for the acceptance - compensation of axial displacements that occur in the pipeline due to dilatations. In the basic version, the embedded materials are suitable for the flow of water, steam, gas, oil and petroleum products, as well as for other non-aggressive fluids, whereas for aggressive fluids, compensators are produced of special materials.

## PRODUCT DESIGN

Products are manufactured according to the current EN standards for this type of products, and they can also be manufactured according to DIN, ANSI or GOST standard. Longitudinal compensators are designed with an elastic sealing. These compensators are designed for small displacements.

Connection is a flange according to EN 1092-1. Face-to-face dimensions are in accordance with EN 558-1 or with a face-to-face dimension upon a special request.

## APPLICATION

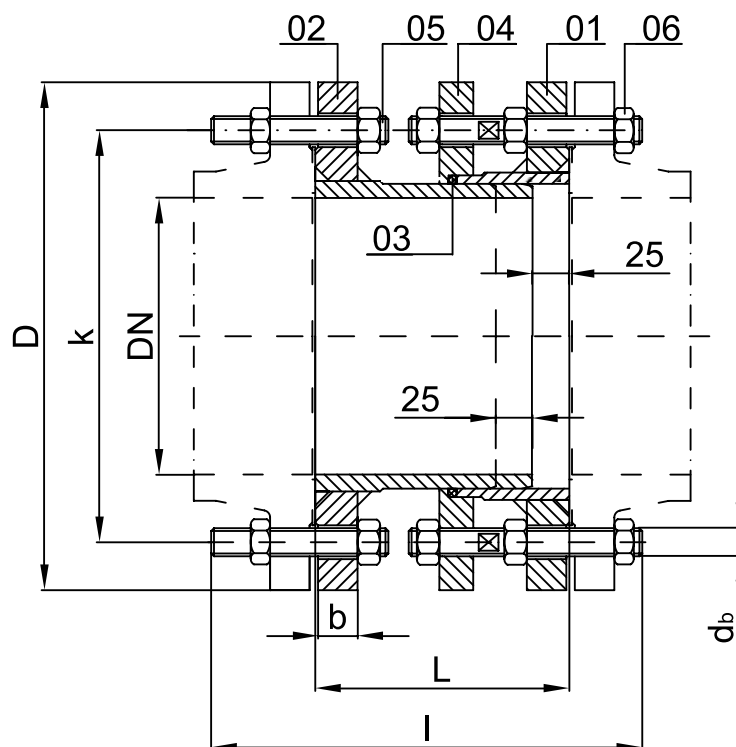
Longitudinal compensators are used in thermal power, hydroelectric power, petrochemical and refinery plants in water treatment, as well as in utilities buildings.

## PRESSURES AND TEMPERATURES

Steel valves in the standard version are made of carbon steel groups 1E1 and 3E0, and they are used for temperatures from -10 °C to +300/400 °C.

The application and use of the valves, where the standard EN 12516-1 specifies pressure and temperature dependence, depends on the embedded materials.





## MATERIALS

The materials are carbon, alloy or stainless steel in a Welded construction made of fabricated steel and steel bars in accordance with standard PED 97/23/EC.

## MATERIAL STANDARD

Position	Name	Material	Material No.
01	Tightener	Carbon steel	1.0038
02	Slider	Carbon steel	1.0038
03	Sealing ring	NBR	-
04	Holder	Carbon steel	1.0038
05	Screw without head	Steel for screws	5,6
06	Nut	Carbon steel	5

## TESTING

Testing is conducted in the manufacturer's test station using hydro test-water or air (6 bar), depending on the requirements for the use of the gate valve, and in accordance

with the standard EN 12266-1 Part 1 and Part 2. Hermeticity classes can range from class A to D, where A is the class of zero leakage rate (100% airtight), and other

classes have allowable leakage depending on the requirements for use and the product's nominal size (DN).

## STANDARDS USED

Compliance with standards	Face-to-face dimension: FTF	Connection: Flange PN 6 - 25	Structure	Testing	Test report: 3.1
-	Factory standard	EN 1092 - 1	EN 19	EN 12266 - 1	EN 10204

# THREE FLANGES

Welded construction



**6.2066**  
**6.2067**  
**6.2068**  
**6.2069**



**6**  
**10**  
**16**  
**25**



**300 - 2000**  
**300 - 2000**  
**300 - 2000**  
**300 - 2000**



**70°C**

## SCOPE OF APPLICATION

Longitudinal compensators are used in pipelines for the acceptance - compensation of axial displacements that occur in the pipeline due to dilatations. In the basic version, the embedded materials are suitable for the flow of water, steam, gas, oil and petroleum products, as well as for other non-aggressive fluids, whereas for aggressive fluids, compensators are produced of special materials.

## PRODUCT DESIGN

Products are manufactured according to the current EN standards for this type of products, and they can also be manufactured according to DIN, ANSI or GOST standard. Longitudinal compensators are designed with an elastic sealing. These compensators are designed for large displacements.

Connection is a flange according to EN 1092-1. Face-to-face dimensions are in accordance with EN 558-1 or with an face-to-face dimension upon a special request.

## APPLICATION

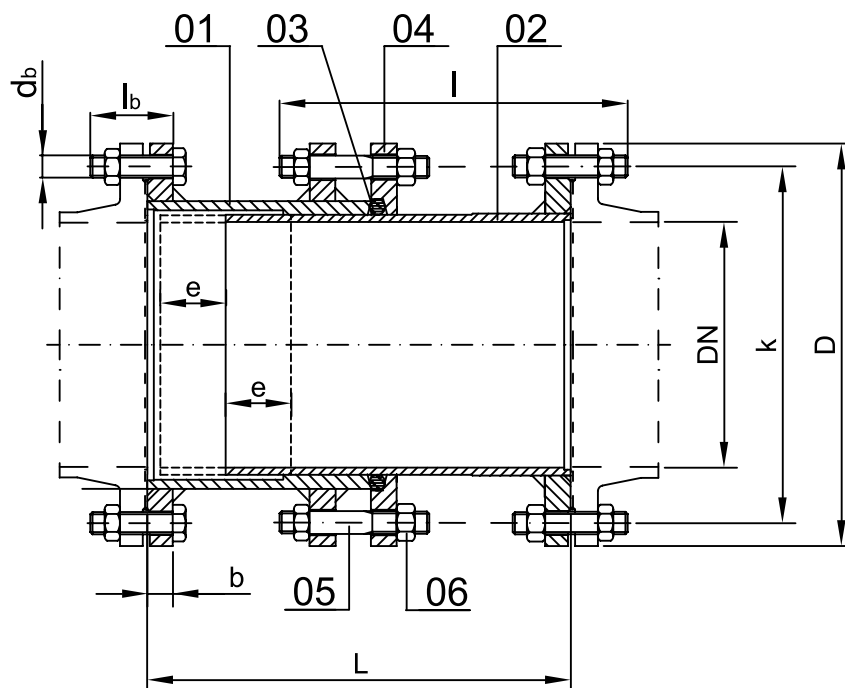
Longitudinal compensators are used in thermal power, hydroelectric power, petrochemical and refinery plants in water treatment, as well as in utilities buildings.

## PRESSURES AND TEMPERATURES

Steel valves in the standard version are made of carbon steel groups 1E1 and 3E0, and they are used for temperatures from -10 °C to +300/400 °C.

The application and use of the valves, where the standard EN 12516-1 specifies pressure and temperature dependence, depends on the embedded materials.





## MATERIALS

The materials are carbon, alloy or stainless steel in a Welded construction made of fabricated steel and steel bars in accordance with standard PED 97/23/EC.

## MATERIAL STANDARD

Position	Name	Material	Material No.
01	Tightener	Carbon steel	1.0038
02	Slider	Carbon steel	1.0038
03	Sealing ring	NBR	-
04	Holder	Carbon steel	1.0038
05	Screw without head	Steel for screws	5,6
06	Nut	Carbon steel	5

## TESTING

Testing is conducted in the manufacturer's test station using hydro test-water or air (6 bar), depending on the requirements for the use of the gate valve, and in accordance

with the standard EN 12266-1 Part 1 and Part 2. Hermeticity classes can range from class A to D, where A is the class of zero leakage rate (100% airtight), and other

classes have allowable leakage depending on the requirements for use and the product's nominal size (DN).

## STANDARDS USED

Compliance with standards	Face-to-face dimension: FTF 26	Connection: Flange PN 6 – 25	Structure	Testing	Test report: 3.1
-	Factory standard	EN 1092 - 1	EN 19	EN 12266 - 1	EN 10204

# FOUR FLANGES

Welded construction



**6.2071**  
**6.2072**  
**6.2073**  
**6.2074**



**6**  
**10**  
**16**  
**25**



**300 - 2000**  
**300 - 2000**  
**300 - 2000**  
**300 - 2000**



**70°C**

## SCOPE OF APPLICATION

Longitudinal compensators are used in pipelines for the acceptance - compensation of axial displacements that occur in the pipeline due to dilatations. In the basic version, the embedded materials are suitable for the flow of water, steam, gas, oil and petroleum products, as well as for other non-aggressive fluids, whereas for aggressive fluids, compensators are produced of special materials.

## PRODUCT DESIGN

Products are manufactured according to the current EN standards for this type of products, and they can also be manufactured according to DIN, ANSI or GOST standard. Longitudinal compensators are designed with an elastic sealing. These compensators are designed for large displacements.

Connection is a flange according to EN 1092-1. Face-to-face dimensions are in accordance with EN 558-1 or with an face-to-face dimension upon a special request.

## APPLICATION

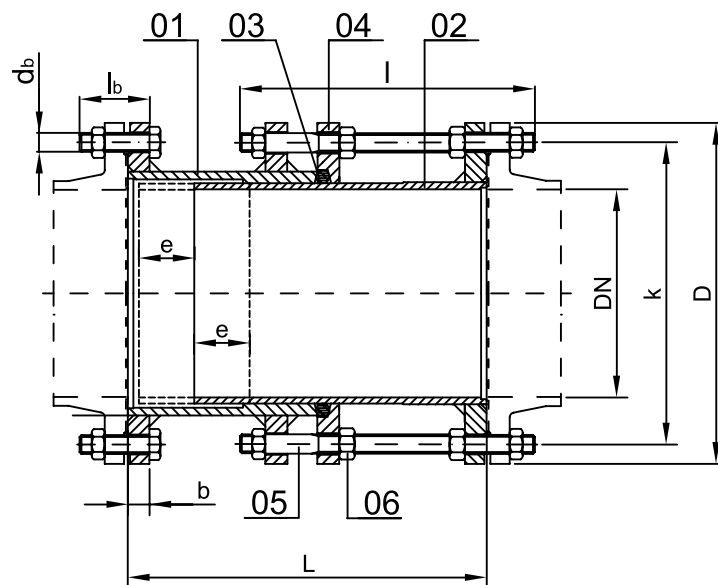
Longitudinal compensators are used in thermal power, hydroelectric power, petrochemical and refinery plants in water treatment, as well as in utilities buildings.

## PRESSURES AND TEMPERATURES

Steel valves in the standard version are made of carbon steel groups 1E1 and 3E0, and they are used for temperatures from -10 °C to +300/400 °C.

The application and use of the valves, where the standard EN 12516-1 specifies pressure and temperature dependence, depends on the embedded materials.





## MATERIALS

The materials are carbon, alloy or stainless steel in a Welded construction made of fabricated steel and steel bars in accordance with standard PED 97/23/EC.

## MATERIAL STANDARD

Position	Name	Material	Material No.
01	Tightener	Carbon steel	1.0038
02	Slider	Carbon steel	1.0038
03	Sealing ring	NBR	-
04	Holder	Carbon steel	1.0038
05	Screw without head	Steel for screws	5,6
06	Nut	Carbon steel	5

## TESTING

Testing is conducted in the manufacturer's test station using hydro test-water or air (6 bar), depending on the requirements for the use of the gate valve, and in accordance

with the standard EN 12266-1 Part 1 and Part 2. Hermeticity classes can range from class A to D, where A is the class of zero leakage rate (100% airtight), and other

classes have allowable leakage depending on the requirements for use and the product's nominal size (DN).

## STANDARDS USED

Compliance with standards	Face-to-face dimension: FTF	Connection: Flange PN 6 - 25	Structure	Testing	Test report: 3.1
-	Factory standard	EN 1092 - 1	EN 19	EN 12266 - 1	EN 10204

## DIMENSIONS AND WEIGHTS

6.2071								PN 6
DN	L	D	b	k	d	n	l <sub>v</sub>	G
300	370	440	26	395	23	12	290	90
350	370	490	26	445	23	12	290	110
400	400	540	26	495	23	16	310	120
450	400	595	26	550	23	16	310	135
500	410	645	28	600	23	20	320	175
600	430	755	29	705	27	20	340	210
700	430	860	29	810	27	24	340	300
800	450	975	29	920	30	24	360	335
900	500	1075	31	1020	30	24	400	365
1000	520	1175	31	1120	30	28	420	460
1100	520	1275	33	1220	30	28	420	550
1200	550	1375	33	1320	30	32	450	700

6.2072								PN 10
300	370	445	30	400	23	12	290	96
350	370	505	30	460	23	16	290	128
400	400	565	30	515	27	16	310	145
450	400	615	30	565	27	20	310	170
500	410	670	32	620	27	20	320	200
600	430	780	33	725	30	20	340	260
700	430	895	35	840	30	24	340	330
800	450	1015	37	950	33	24	360	390
900	500	1115	39	1050	33	28	400	450
1000	520	1230	39	1160	36	28	420	600
1100	520	1340	41	1270	36	32	420	780
1200	550	1455	43	1380	39	32	450	840

6.2073								PN 16
300	370	460	32	410	27	12	290	110
350	370	520	34	470	27	16	290	160
400	400	580	36	525	30	16	310	185
450	400	640	38	585	30	20	310	220
500	410	715	38	650	33	20	320	274
600	430	840	41	770	36	20	340	340
700	430	910	41	840	36	24	340	400
800	450	1025	43	950	39	24	360	534
900	500	1125	45	1050	39	28	400	610
1000	520	1255	47	1170	42	28	420	714
1100	520	1355	49	1270	42	32	420	900
1200	550	1485	53	1390	48	32	450	1030

6.2074								PN 25
300	370	485	38	430	26	16	290	144
350	370	555	42	490	27	16	290	210
400	400	620	44	550	30	16	310	230
450	400	670	46	600	30	20	310	290
500	410	730	48	660	30	20	320	330
600	430	845	51	770	33	20	340	400
700	*	*	*	*	*	*	*	*
800	*	*	*	*	*	*	*	*
900	*	*	*	*	*	*	*	*
1000	*	*	*	*	*	*	*	*
1100	*	*	*	*	*	*	*	*
1200	*	*	*	*	*	*	*	*

\* Information on the inquiry.





# OIL SAFETY VALVE

Welded construction



6.4020



150 lb



150



70°C

## SCOPE OF APPLICATION

Oil safety valve is used as a safety device, on the tanks for petroleum products and other liquids. The structure of the product is such that it automatically performs its function - when the pressure increases in the tank, it discharges air/gases from the tank, thus reducing the pressure.

In the basic version, the embedded materials from Al alloys and steel are suitable for this type of product. The product structure is such that the materials used cannot cause a spark.

## PRODUCT DESIGN

Products are manufactured according to the current ANSI standards for this type of products, and they can also be manufactured according to DIN, EN or GOST standard. The structure of the product is such that it can be applied as a safety device on tanks and other equipment in the petroleum industry.

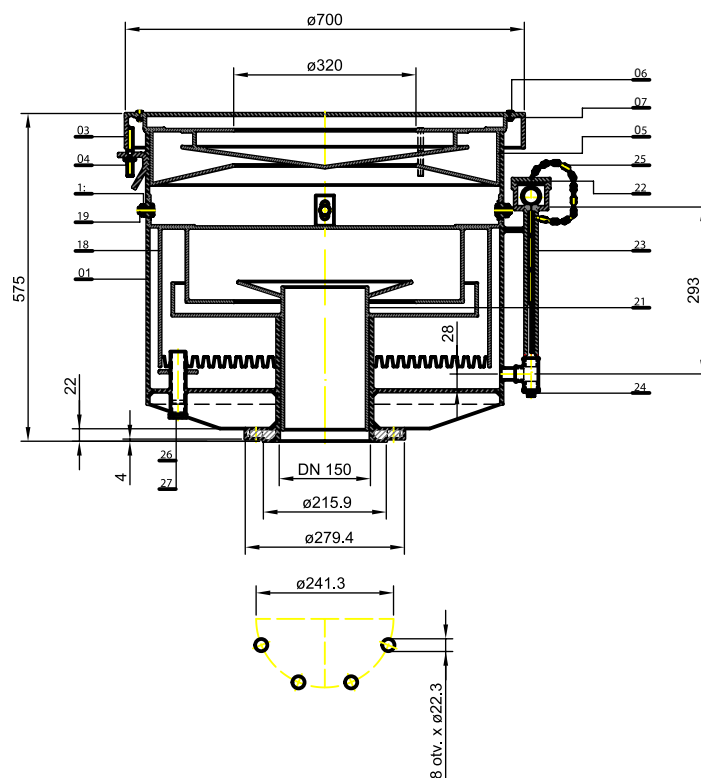
Connection is a flange according to ANSI or EN 1092-1 standard.

Face-to-face dimensions are in accordance with ANSI or EN 558-1 standard, or with a face-to-face dimension upon a special request.

## APPLICATION

Oil valve is used in petrochemical and refinery plants.





## MATERIALS

The materials are Al sheets and Al alloys, carbon, alloy or stainless steel in a welded construction made of Knife material and material bars in accordance with standard PED 97/23/EC.

## TESTING

Testing is conducted in the manufacturer's test station using hydro test-water or air (6 bar), depending on the requirements for the use of the gate valve, and in accordance with the standard EN 12266-1 Part 1 and Part 2. Hermeticity classes can range from class A to D, where A is the class of zero leakage rate (100% airtight), and other classes have allowable leakage depending on the requirements for use and the product's nominal size (DN).

## MATERIAL STANDARD

Position	Name	Material
16	Sealing ring	Cu99.75
15	Sealing screw	S235JRG2
14	Chain for taps	-
13	Plug with a brim	Malleable cast cast iron
12	Level controller	S235JRG2
11	Gauge cover	S235JRG2
10	Insert 1	AlMn1
09	Hexagon nut	Steel for screws
08	Hexagon head screw	Steel for screws
07	Insert 2	AlMn1
06	Hexagon nut	Steel for screws
05	Hexagon head screw	Steel for screws
04	Cover insert	AlMn1
03	Hexagon nut	Steel for screws
02	Cover	S235JRG2
01	Housing	S235JRG2

## STANDARDS USED

Connection: Flange PN 25	Structure	Testing	Test report: 3.1
ANSI B16.5	EN 19	EN 12266 - 1	EN 10204

## SPECIAL FEATURES

Code	Description
1	With additional parts for installation or manipulation
2	Product or its parts made of special materials
3	Product constructed or made upon the customer's special request

# FLAME ARRESTERS

Welded construction



6.4219



150 lb



80 - 200



70°C

## SCOPE OF APPLICATION

Flame arresters are used in petroleum industry pipelines to prevent the passage of flame through a pipe. In the basic version, the embedded materials are suitable for the flow of air and gases.

Flame arresters are installed on air release pipelines in the petroleum industry (on tanks for storage of oil and petroleum products and other plants).

## PRODUCT DESIGN

Products are manufactured according to the current ANSI standards for this type of products, and they can also be manufactured according to DIN, EN or GOST standard.

The product is basically designed for low pressures, and upon request, it can be produced for higher pressures ("detonations"). Connection is a flange according to ANSI or EN 1092 standard.

## APPLICATION

Flame arresters are used in petrochemical and refinery plants.



MATERIALS

The materials are Al sheets, carbon, alloy or stainless steel in a Welded construction made of fabricated steel and steel bars in accordance with standard PED 97/23/EC.

TESTING

Testing is conducted in the manufacturer’s test station using hydro test-water or air (6 bar), depending on the requirements for the use of the gate valve, and in accordance with the standard EN 12266-1 Part 1 and Part 2. Hermeticity classes can range from class A to D, where A is the class of zero leakage rate (100% airtight), and other classes have allowable leakage depending on the requirements for use and the product’s nominal size (DN).

MATERIAL STANDARD

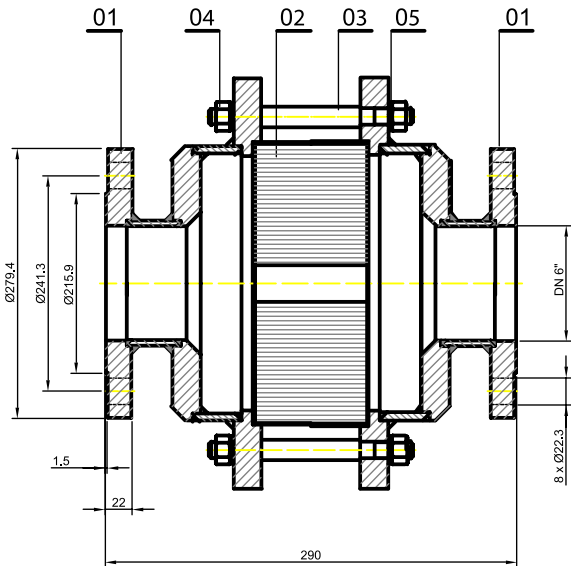
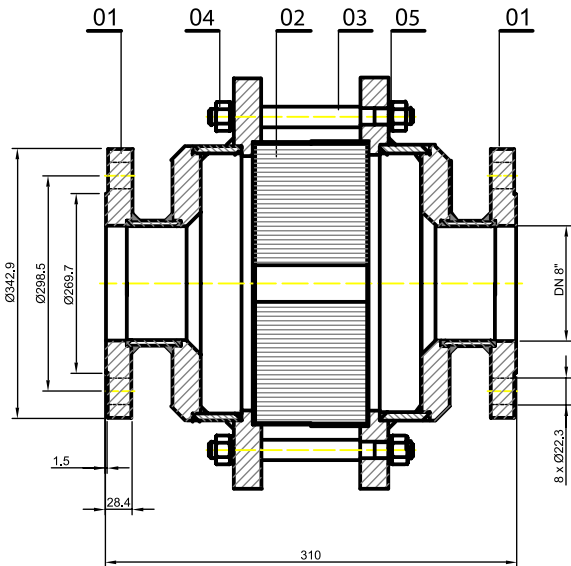
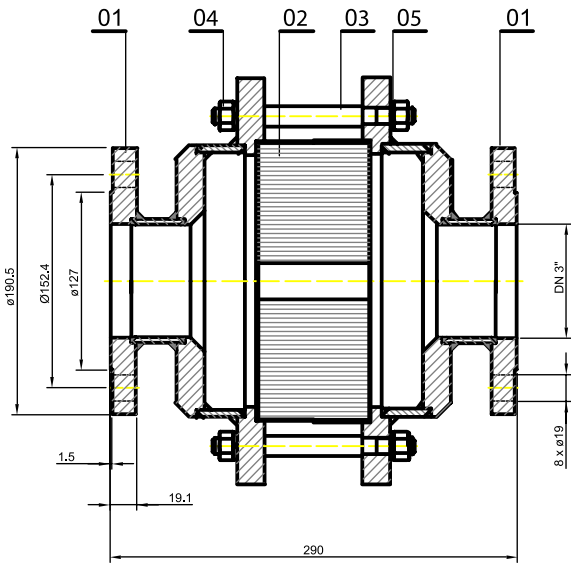
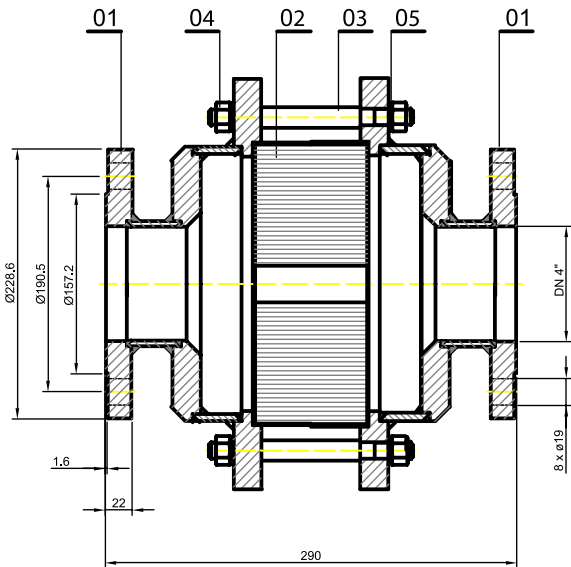
Position	Name	Material
05	Spring washer	Steel for screws
04	Hexagon nut	Steel for screws
03	Pole	C35E
02	Mesh (muffler)	S235JRG2 / AlMn1
01	Transition flange	S235JRG2

STANDARDS USED

Connection: Flange PN 150 lb	Structure	Testing	Test report: 3.1
ANSI B16,5	EN 19	EN 12266 - 1	EN 10204

SPECIAL FEATURES

Code	Description
1	Product or its parts made of special materials
2	Product constructed or made upon the customer's special request



# AIR RELEASE VALVES FOR TANKS

Welded construction



6.4220



150 lb



100 - 200



70°C

### SCOPE OF APPLICATION

Air release valve is used as a safety device, on the tanks for petroleum products and other liquids, for automatic equalization of pressure in the tanks when they are unloaded, loaded, and when there is pressure change due to the change in temperature. The structure of the product is such that it automatically performs its function – when the pressure increases in the tank, it discharges air/gases from the tank, thus reducing the pressure, and in case of underpressure in the tank, it opens the flow of air entering and thus reduces the underpressure. In the basic version, the embedded materials are suitable for the flow of air and gases.

Flame arresters are installed on air release pipelines in the petroleum industry (on tanks for storage of oil and petroleum products and other plants). Usually installed with the flame arrester.

### PRODUCT DESIGN

Products are manufactured according to the current ANSI standards for this type of products, and they can also be manufactured according to DIN, EN or GOST standard. The product design and choice of materials prevent the occurrence of sparking in the product.

Connection is a flange according to ANSI or EN 1092-1 standard.

Face-to-face dimensions are in accordance with ANSI standard, or with a face-to-face dimension upon a special request.

### APPLICATION

Air release valve is used in petrochemical and refinery plants.



## MATERIALS

The materials are Al sheets, carbon, alloy or stainless steel in a Welded construction made of fabricated steel and steel bars in accordance with standard PED 97/23/EC.

## TESTING

Testing is conducted in the manufacturer's test station using hydro test-water or air (6 bar), depending on the requirements for the use of the gate valve, and in accordance with the standard EN 12266-1 Part 1 and Part 2. Hermeticity classes can range from class A to D, where A is the class of zero leakage rate (100% airtight), and other classes have allowable leakage depending on the requirements for use and the product's nominal size (DN).

## MATERIAL STANDARD

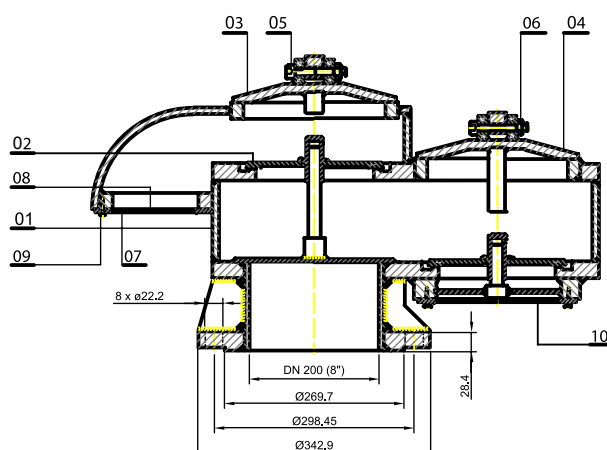
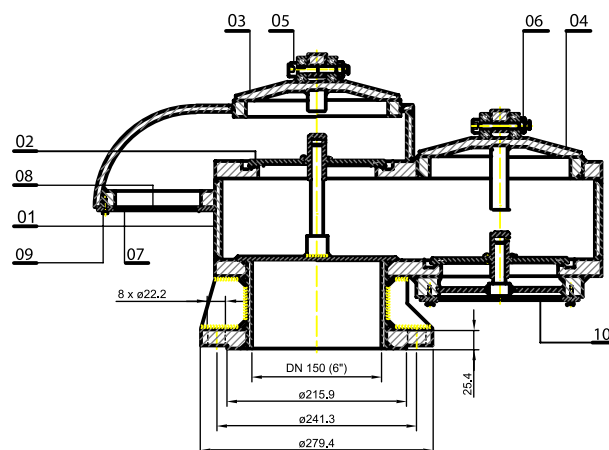
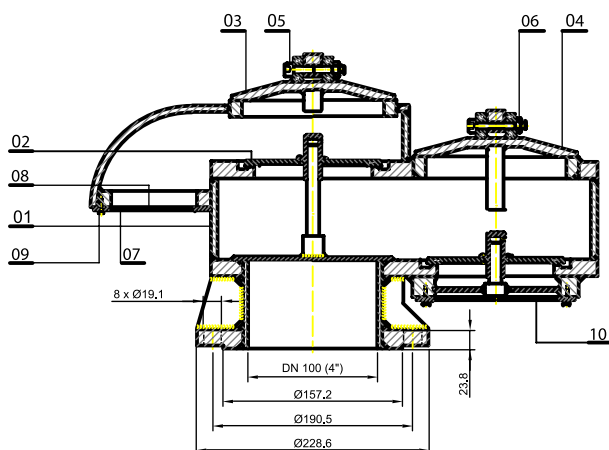
Position	Name	Material
10	Mesh 1	Wire braid - X20Cr13
09	Cylinder head screw	Steel for screws
08	Mesh 2	Wire braid - X20Cr13
07	Mesh tightener 2	S235JRG2
06	Hexagon nut	Steel for screws
05	Cylinder head screw	Steel for screws
04	Cover 2	S235JRG2
03	Cover 1	S235JRG2
02	Wedge	AlMn1 / X20Cr13
01	Housing	S235JRG2

## STANDARDS USED

Connection: Flange PN 150 lb	Structure	Testing	Test report: 3.1
ANSI B16,5	EN 19	EN 12266 - 1	EN 10204

## SPECIAL FEATURES

Code	Description
1	With additional parts for installation or manipulation
2	Product or its parts made of special materials
3	Product constructed or made upon the customer's special request







# OVERHAUL OF VALVES, PUMPS AND PUMPING PLANTS



Together with the production of new valves RASCO - TAMP also offers the reparation and overhaul of faulty valves.

We accept the reparation of other manufacturers valves with nominal pressure up to PN 63 and dimensions up to DN 2200. To enable reparation, an essential requirement is that the main parts of the valve (housing, cover) are not broken or seriously deformed.

We can produce and replace all other parts, if necessary.





Before starting the reparation, we perform a detailed defect inspection of parts and planned operations, and compose the appropriate written documentation on the basis of which we create an offer.

In order to verify that the operations were carried out properly, each valve is tested on the manufacturer's test bench according to EN 10266 standard Part 1 and Part 2.



Based on the test, we issue the certificate of quality EN 10204 3.1.

The data on installed parts are entered in the certificate, together with the appendix on the embedded materials.



The company is specialized in the repair of pumps and pumping sets in drainage pumping stations for water treatment for irrigation or drainage, together with the overhaul of the complete installation with built-in shutters.

So far we have performed a complete overhaul of many drainage pumping stations throughout Europe.







Timely repairs can extend the life of the existing installations and delay the need for more extensive investments.

RASCO - TAMP has the means and know-how required to perform a high-quality repair of valves that will allow a long-term safe and reliable operation of the installation.

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RASCO - TAMP reserves the right to modify the characteristics and technical specifications of the products listed in this catalogue without prior notice. All the data is for informational purposes and cannot be used for any other purpose.





**RASCO - TAMP d.o.o.**

Eugena Savojskog 6,  
24400 Senta, Serbia



+381 24 415 54 72



+381 24 811 881



[info@rasco-tamp.rs](mailto:info@rasco-tamp.rs)



[www.tamp.rs](http://www.tamp.rs)