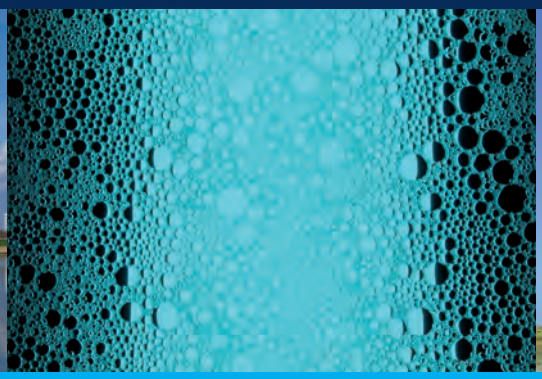

BUTTERFLY VALVES

ARMATURY® Group

ARMATURY® Group

COMPANY PROFILE

The company ARMATURY Group a.s. is a leading Czech manufacturer and distributor of industrial valves, fittings and control systems for valves. The annual production is of more than 100 000 valves and 500 000 metallurgical stock items.

The company was established January 1, 2000. The tradition of our dynamically developing company is closely linked with the more than fifty-years' history of valve production in the Hlučín Region.

Our products have been supplied to local and foreign customers for the following industries:

- power engineering, nuclear power
- chemical and petrochemical
- gas supply
- metallurgical industry
- water supply

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Flow characteristics 36

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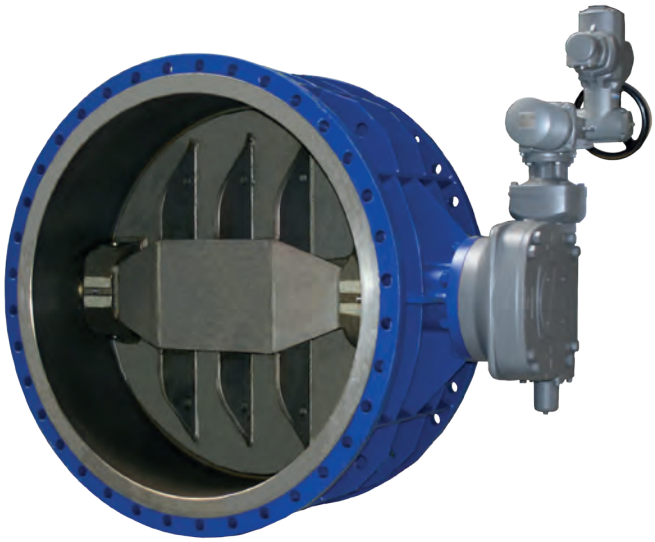
Certification 42

Type number composition 43

Application

Single-eccentric butterfly valves are industrial valves, which are designed to fully open or close a passage of the working medium flowing through a pipeline. They can also be used for flow-control purposes. However, a 100% tightness of the valve cannot be guaranteed in a long-term use for control purposes.



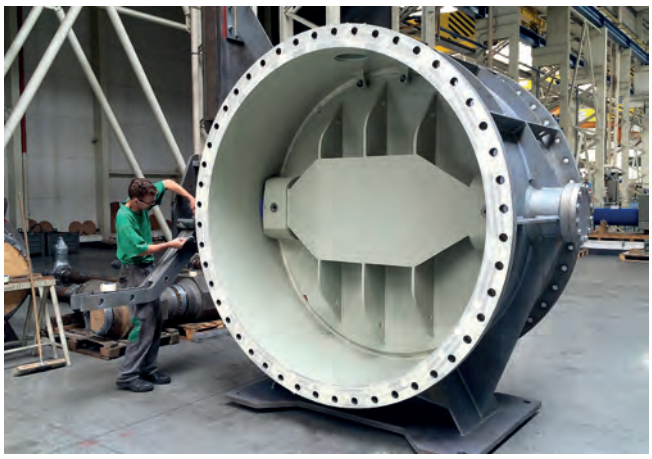
Working medium

- waste and service water
- drinking water
- hot water
- steam
- non-aggressive liquids and gases (natural gas, CO-gas, petroleum products, etc.)

Butterfly valve is possible to deliver with surface protection which is done by coverage with plastic material (rilsan, halar). This surface protection together with the use of stainless steel material is widening the usage of butterfly valves for chemically aggressive or abrasive media and sea water.

Maximum working temperature

Maximum working temperature of the butterfly valve depends on the packing material used.



Technical description

Single eccentricity (Fig. A) - the operating shaft axis is eccentric to the packing axis
- easy replacement of gasket
- gasket is not interrupted on the circumference by shaft

Disc is clamped on the operating shaft and pivot, which are pivoted in self-lubricated friction bearings (Fig. B).
Shaft is sealed by O-ring (Fig. B).
The pivot is sealed by flat gasket (Fig. C).
The sealing bears on the conical area of the seat, and is together with the disc pushed by the media pressure onto the conical seat, and by this is an absolute tightness reached (Fig. C). To see the tightness grade in the opposite direction please contact manufacturer.

Fig. A

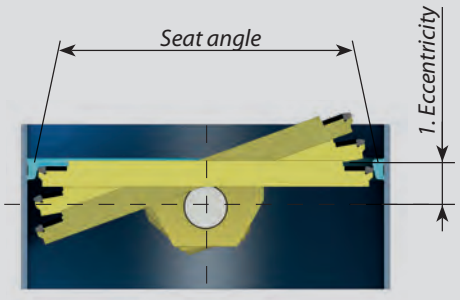


Fig. B

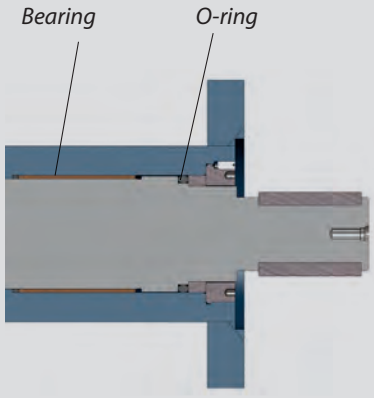
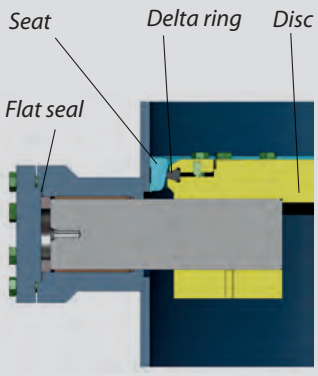


Fig. C



Operation

- manual gear-box
- electric actuator
- pneumatic or hydraulic actuator
- lever with a counterweight for closing the valve
- hydraulic cylinder for opening the valve

Testing

The valves are tested according to EN 12 266-1/ISO 5208.

Connection to piping

- **flanged ends** acc. to EN 1092-1, DIN 2501,
  face to face dimensions acc. to EN 558-1, Series 14
- **wafer Type** acc. to EN 1092-1, DIN 2501,
  face to face dimensions acc. to EN 558-1, Series 16
- **welded ends** acc. to EN 12 627, eventually acc.
  to the customer´s requirement
  face to face dimension acc. to EN 12 982, Series 14

Other face to face and connecting dimensions are acc. to the customer´s requierement, e.g. ANSI, GOST.

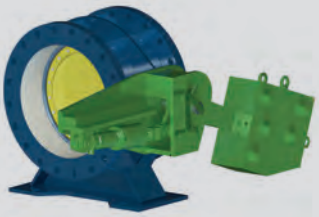
Installation

The butterfly valves can be mounted into horizontal, vertical or inclined pipeline so that the arrow stamped on the valve body corresponds with the direction of the tightness (arrow points from higher pressure to lower when the disc is closed), and the rotating axe of the disc is in a horizontal position. The bolt Type at the pivot area is also very important. When there is a butterfly valve with electric actuator it is important to abide the actuator's manufacturer.

Flanged ends with manual gear-box

Flanged ends with pneumatic actuator

Welded ends with electric actuator



Flanged ends with hydraulic cylinder and lever with counterweight

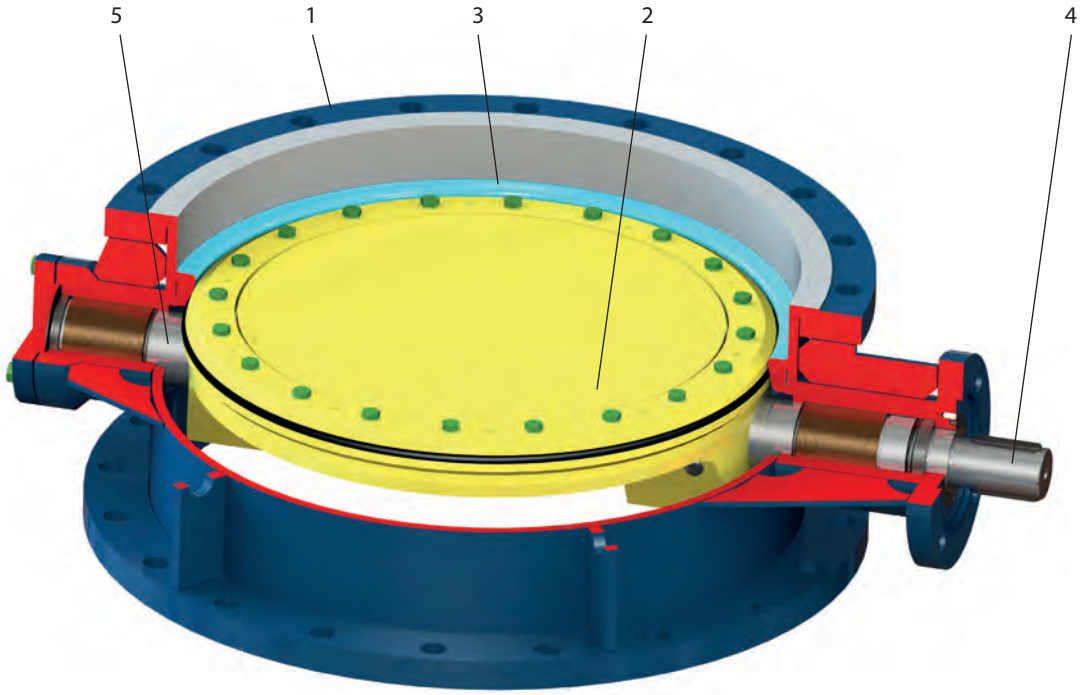
Production range

DN	Flanged ends					Wafer type					Welded ends				
	PN					PN					PN				
	2,5	6	10	16	25	2,5	6	10	16	25	2,5	6	10	16	25
150		•	•	•	•		•	•	•	•		•	•	•	•
200		•	•	•	•		•	•	•	•		•	•	•	•
250		•	•	•	•		•	•	•	•		•	•	•	•
300		•	•	•	•		•	•	•	•		•	•	•	•
350		•	•	•	•		•	•	•	•		•	•	•	•
400		•	•	•	•		•	•	•	•		•	•	•	•
500		•	•	•	•		•	•	•	•		•	•	•	•
600		•	•	•	•		•	•	•	•		•	•	•	•
700		•	•	•	•		•	•	•	•		•	•	•	•
800		•	•	•	•		•	•	•	•		•	•	•	•
1000		•	•	•	•		•	•	•	•		•	•	•	•
1200	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
1400	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
1600	•	•	•	•		•	•	•	•		•	•	•	•	
2000	•	•	•			•	•	•			•	•	•		
2200	•	•													
2400	•	•													

Other dimensions (up to DN 3500) can be offered upon request.

DN 150-2400 • PN 2,5-25 • Tmax 180 °C

Connection: EN 1092-1 FLANGED ENDS
EN 12 627 WELDED ENDS
EN 1092-1 WAFER TYPE



Material

Position	Component	Standard acc. to EN	EN		ASTM		
		Carbon steel		Stainless steel	Carbon steel		Stainless steel
		-29 °C - +180 °C*	-40 °C - +180 °C*	-40 °C - +180 °C*	-29 °C - +180 °C*	-40 °C - +180 °C*	-40 °C - +180 °C*
1	Body	1.0577,1.0425	1.0566	1.4541	A105	A350 LF2	A182 F316
2	Disc	1.0577,1.0425	1.0566	1.4541	A105	A350 LF2	A182 F316
3	Seat	1.4541, 1.4301	1.4541, 1.4301	1.4541	A182 F304	A182 F304	A182 F316
4	Shaft	1.4021 + QT700	1.4021 + QT700	1.4541	A182 F6	A182 F6	A182 F316
5	Pivot	1.4021 + QT700	1.4021 + QT700	1.4541	A182 F6	A182 F6	A182 F316

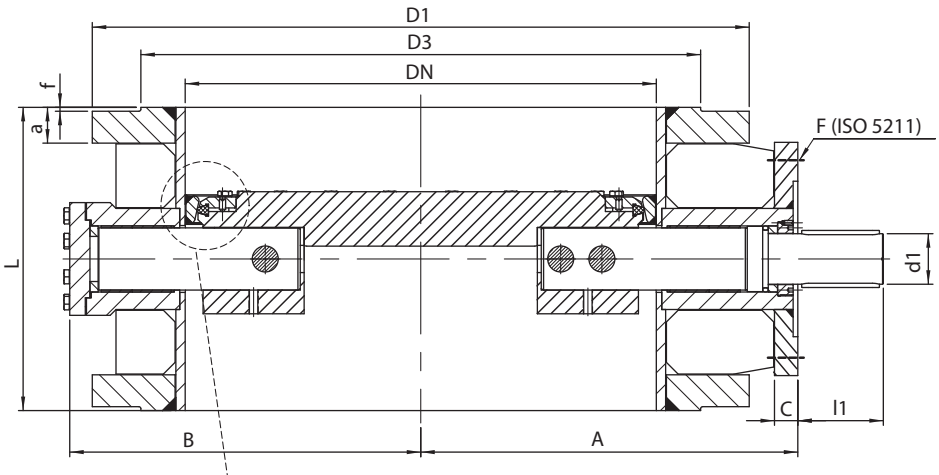
* The thermal use of the valve depends on the pressure-temperature characteristic of the material - see further information in this catalog.

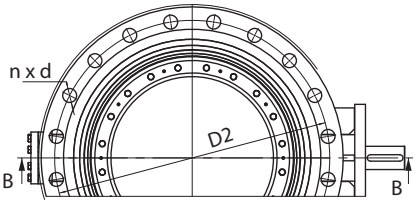
Recommended seal resistance

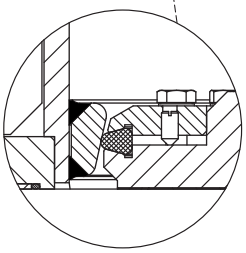
Elastomer	Identification	Working medium	Working temperature
Nitrile-butadien rubber	NBR	Water, air, engine and gear oils, petrol, mineral oils, heating gases, non-aggressive gases	from -20 °C to +80 °C
Ethylene-propylene rubber	EPDM	Drinking water, hot water, steam, diluted acids and alkalis, air; unsuitable for oils and fats	from -40 °C to +130 °C
Fluorine rubber	FPM	Mineral oils, petroleum products, coke and blast furnace gas, the highest chemical resistance of all elastomers (rubber); unsuitable for hot steam and water	from -20 °C to +140 °C
	VITON GF	Hot water and steam	from -20 °C to +180 °C

DN 150-2400 • PN 2,5-25 • Tmax 180 °C

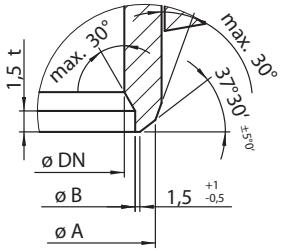
Connection: EN 1092-1 FLANGED ENDS
EN 12 627 WELDED ENDS







Welded ends



ø A - acc. to EN 12 627
ø B - inner pipe diameter (upon customer´s request)
t - pipe thickness (upon customer´s request)

PN 2,5

DN	A	B	C	L*	F	d1	l1	Flanged ends							
								D1	D2	D3	a	f	d	n	kg
1200	810	780	30	630	25	65	110	1375	1320	1280	40	2	30	32	1100
1400	910	890	30	710	25	65	110	1575	1520	1480	44	2	30	36	1300
1600	1110	1080	30	790	30	100	130	1790	1730	1690	48	2	30	40	2400
2000	1325	1290	35	950	35	140	165	2190	2130	2090	54	2	30	48	4670
2200	1650	1450	40	1030	40	150	200	2405	2340	2295	58	2	33	52	9000
2400	1770	1600	40	1110	40	160	200	2605	2540	2495	62	2	33	56	11900

PN 6

DN	A	B	C	L*	F	d1	l1	Flanged ends							
								D1	D2	D3	a	f	d	n	kg
150	150	142	15	210	10	25	40	265	225	202	20	2	18	8	27
200	185	175	15	230	10	25	40	320	280	258	22	2	18	8	37
250	240	210	20	250	12	30	40	375	335	312	24	2	18	12	54
300	255	245	20	270	12	30	50	440	395	365	24	2	22	12	72
350	290	260	20	290	12	35	50	490	445	415	26	2	22	12	110
400	320	295	20	310	12	35	50	540	495	465	28	2	22	16	155
500	380	365	25	350	14	40	65	645	600	570	30	2	22	20	230
600	480	450	25	390	16	50	70	755	705	670	32	2	26	20	300
700	500	470	25	430	16	50	70	860	810	775	32	2	26	24	470
800	575	530	25	470	16	50	80	975	920	880	34	2	30	24	650
1000	690	660	30	550	25	80	110	1175	1120	1080	36	2	30	28	1040
1200	810	780	30	630	30	80	110	1405	1340	1295	40	2	33	32	1240
1400	920	890	30	710	35	100	110	1630	1560	1510	44	2	36	36	2200
1600	1110	1080	35	790	35	140	145	1830	1760	1710	48	2	36	40	2800
2000	1330	1290	35	950	40	140	165	2265	2180	2125	54	2	42	48	4750
2200	1700	1450	40	1030	40	160	200	2475	2390	2335	60	2	42	52	9700
2400	1810	1600	40	1110	48	178	240	2685	2600	2545	70	2	42	56	12500

* face to face dimensions for welded ends are in compliance with flange connections (can be different upon customer's request)
Pipe dimensions øD x t (øD – outside pipe diameter; t – the pipe thickness) for welding are given by customer.

DN 150-2400 • PN 2,5-25 • Tmax 180 °C

Connection: EN 1092-1 FLANGED ENDS
EN 12 627 WELDED ENDS

PN 10

DN	A	B	C	L*	F	d1	l1	Flanged ends							
								D1	D2	D3	a	f	d	n	kg
150	150	142	15	210	10	25	40	285	240	212	24	2	22	8	30
200	185	175	15	230	10	25	40	340	295	268	24	2	22	8	45
250	240	210	20	250	12	30	40	395	350	320	26	2	22	12	60
300	255	245	20	270	12	30	50	445	400	370	26	2	22	12	80
350	290	265	20	290	12	35	50	505	460	430	28	2	22	16	100
400	320	295	20	310	12	35	50	565	515	482	32	2	26	16	140
500	380	365	25	350	14	40	65	670	620	585	38	2	26	20	235
600	430	410	25	390	16	50	80	780	725	685	42	2	30	20	365
700	535	485	25	430	16	65	80	895	840	800	42	2	30	24	505
800	595	575	25	470	25	70	90	1015	950	905	44	2	33	24	700
1000	700	680	30	550	30	80	110	1230	1160	1110	44	2	36	28	1090
1200	790	760	30	630	30	100	130	1455	1380	1330	46	2	39	32	1280
1400	1040	980	40	710	40	140	145	1675	1590	1535	48	2	42	36	2500
1600	1380	1080	40	790	40	140	165	1915	1820	1760	58	2	48	40	3600
2000	1580	1350	40	950	40	160	200	2325	2230	2170	64	2	48	48	4900

PN 16

DN	A	B	C	L*	F	d1	l1	Flanged ends							
								D1	D2	D3	a	f	d	n	kg
150	150	142	15	210	10	25	40	285	240	212	24	2	22	8	30
200	185	175	15	230	10	25	40	340	295	268	26	2	22	12	42
250	240	210	20	250	12	30	50	405	355	320	29	2	26	12	65
300	255	245	20	270	12	35	50	460	410	378	32	2	26	12	90
350	290	265	20	290	12	40	50	520	470	438	35	2	26	16	120
400	330	310	25	310	14	40	60	580	525	490	38	2	30	16	165
500	395	370	25	350	16	50	80	715	650	610	46	2	33	20	245
600	480	445	30	390	25	65	90	840	770	725	52	2	36	20	425
700	520	490	30	430	25	70	110	910	840	795	52	2	36	24	530
800	595	570	30	470	25	85	110	1025	950	900	54	2	39	24	650
1000	710	700	30	550	30	100	130	1255	1170	1115	54	2	42	28	1205
1200	830	805	35	630	35	100	160	1485	1390	1330	58	2	48	32	1580
1400	1040	980	40	710	40	140	200	1685	1590	1530	58	2	48	36	3100
1600	1380	1080	40	790	40	160	200	1930	1820	1750	64	2	56	40	3920

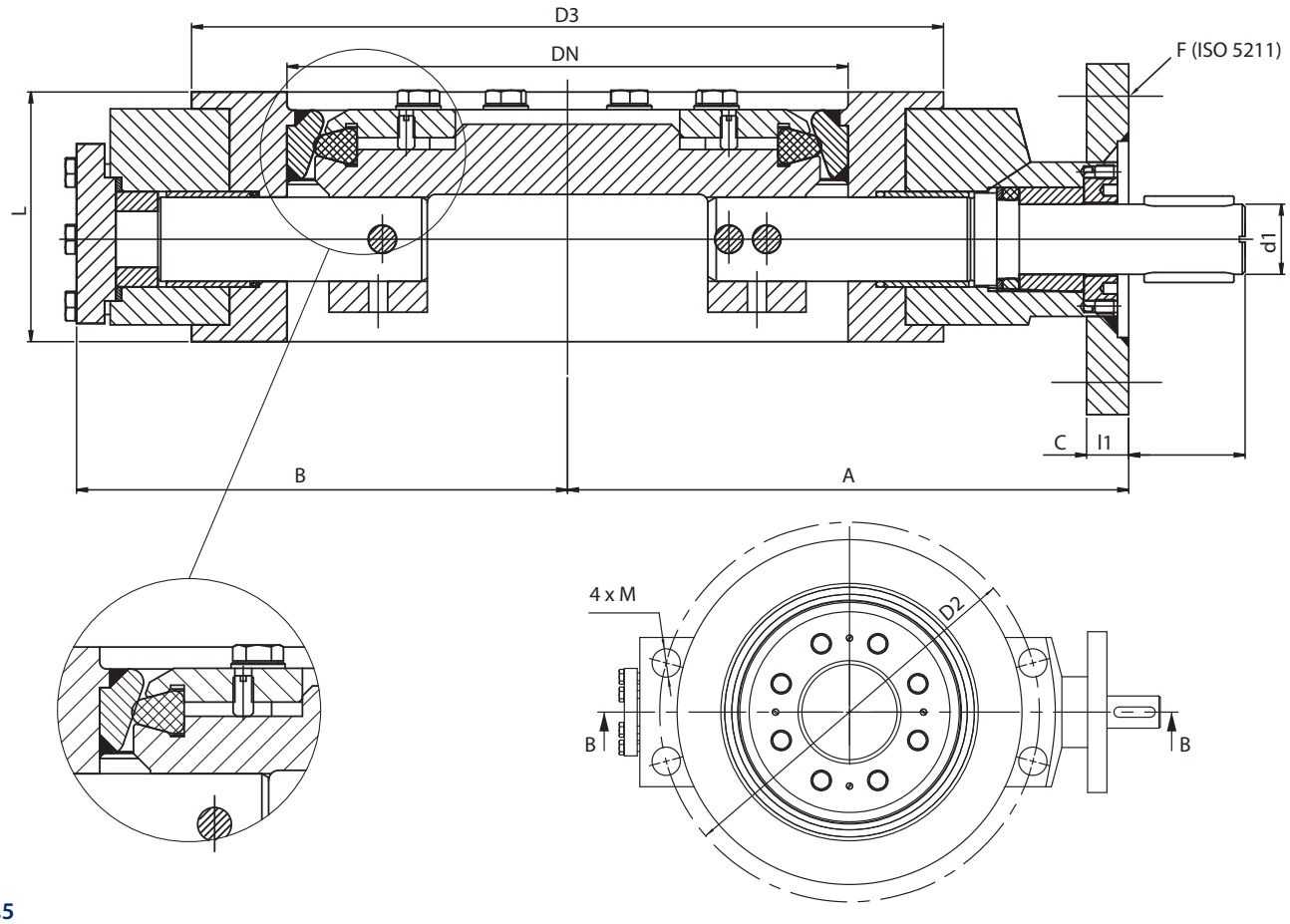
PN 25

DN	A	B	C	L*	F	d1	l1	Flanged ends							
								D1	D2	D3	a	f	d	n	kg
150	150	142	15	210	10	25	50	300	250	218	30	2	26	8	34
200	210	185	20	230	12	25	50	360	310	278	32	2	26	12	55
250	230	220	20	250	12	30	50	425	370	335	35	2	30	12	71
300	270	250	20	270	14	35	50	485	430	395	38	2	30	16	109
350	320	295	25	290	14	40	60	555	490	450	42	2	33	16	155
400	350	330	25	310	16	50	80	620	550	505	46	2	36	16	208
500	425	395	30	350	25	55	110	730	660	615	56	2	36	20	285
600	485	455	30	390	25	65	110	845	770	720	68	2	39	20	525
700	530	505	30	430	25	85	110	960	875	820	68	2	42	24	640
800	610	580	30	470	30	100	130	1085	990	930	70	2	48	24	860
1000	840	790	35	550	35	120	160	1320	1210	1140	70	2	56	28	1500
1200	915	875	40	630	40	140	200	1530	1420	1350	70	2	56	32	2300
1400	1040	980	40	710	40	160	200	1755	1640	1560	76	2	62	36	3600

* face to face dimensions for welded ends are in compliance with flange connections (can be different upon customer's request) Pipe dimensions øD x t (øD – outside pipe diameter; t – the pipe thickness) for welding are given by customer.

DN 150-2000 • PN 2,5-25 • Tmax 180 °C

Connection: EN 1092-1 WAFER TYPE



PN 2,5

DN	A	B	C	L	F	D2	D3	d1	M	l1	kg
1200	810	780	30	350	25	1320	1280	65	M27	110	900
1400	920	890	30	390	25	1520	1480	65	M27	110	1050
1600	1110	1080	35	440	30	1730	1690	100	M27	130	2000
2000	1330	1290	35	540	35	2130	2090	140	M27	165	4200

PN 6

DN	A	B	C	L	F	D2	D3	d1	M	l1	kg
150	169	144	15	76	10	225	202	25	-	40	16
200	195	170	15	89	10	280	258	25	-	40	27
250	240	200	20	114	12	335	312	30	M16	40	52
300	270	235	20	114	12	395	365	30	M20	50	65
350	330	265	20	127	12	445	415	35	M20	50	89
400	370	310	20	140	12	495	465	35	M20	50	110
500	375	355	25	152	14	600	570	40	M20	65	195
600	430	410	25	178	16	705	670	50	M24	70	280
700	480	460	25	229	16	810	775	50	M24	70	390
800	575	530	25	241	16	920	880	50	M27	80	550
1000	690	555	30	300	25	1120	1080	80	M27	110	820
1200	810	780	30	350	30	1340	1295	80	M30	110	1240
1400	930	900	30	390	35	1560	1510	100	M33	110	2000
1600	1110	1080	35	440	35	1760	1710	140	M33	145	2710
2000	1330	1290	50	540	40	2180	2125	140	M39	165	5130

Depth of the thread (“M“) in the body is corresponds to the thread dimension.

DN 150-2000 • PN 2,5-25 • Tmax 180 °C

Connection: EN 1092-1 WAFER TYPE

PN 10

DN	A	B	C	L	F	D2	D3	d1	M	l1	kg
150	169	144	15	76	10	240	212	25	-	40	17
200	200	175	15	89	10	295	268	25	-	40	48
250	240	210	20	114	12	350	320	30	M20	40	54
300	270	235	20	114	12	400	370	30	M20	50	68
350	330	265	20	127	12	460	430	35	M20	50	92
400	370	310	20	140	12	515	482	35	M24	50	115
500	375	355	25	152	14	620	585	40	M24	65	200
600	430	410	25	178	16	725	685	50	M27	80	290
700	530	485	25	229	16	840	800	65	M27	80	415
800	595	575	25	241	25	950	905	70	M30	90	640
1000	700	680	30	300	30	1160	1110	80	M33	110	835
1200	790	760	30	350	30	1380	1330	100	M36	130	1260
1400	1070	980	40	390	40	1590	1535	140	M39	145	2300
1600	1400	1080	40	440	40	1820	1760	140	M45	165	2720
2000	1430	1350	40	540	40	2230	2170	160	M45	200	4310

PN 16

DN	A	B	C	L	F	D2	D3	d1	M	l1	kg
150	169	144	15	76	10	240	212	25	-	40	17
200	200	175	15	89	10	295	268	25	M20	40	51
250	240	210	20	114	12	355	320	30	M24	50	57
300	270	245	20	114	12	410	378	35	M24	50	72
350	300	275	20	127	12	470	438	40	M24	50	95
400	370	310	25	140	14	525	490	40	M27	60	120
500	420	370	25	152	16	650	610	50	M30	80	215
600	480	450	30	178	25	770	725	65	M33	90	310
700	515	485	30	229	25	840	795	70	M33	110	435
800	600	565	30	241	25	950	900	85	M36	110	600
1000	715	695	30	300	30	1170	1115	100	M39	130	1100
1200	830	805	30	350	35	1390	1330	100	M45	160	1300
1400	1070	980	40	390	40	1590	1535	140	M45	200	2800
1600	1400	1080	40	440	40	1820	1760	160	M52	200	4400

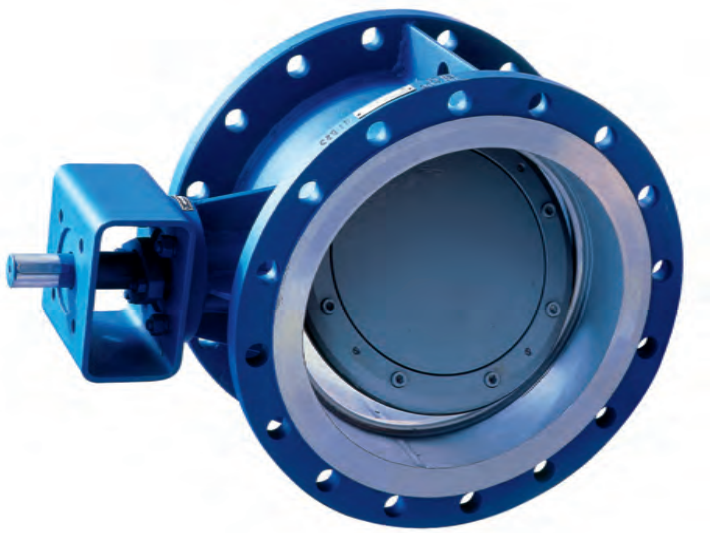
PN 25

DN	A	B	C	L	F	D2	D3	d1	M	l1	kg
150	169	144	15	76	10	250	218	25	-	50	19
200	215	185	20	89	12	310	278	25	M24	50	56
250	260	220	20	114	12	370	335	30	M27	50	62
300	280	250	20	114	14	430	395	35	M27	50	80
350	325	295	25	127	14	490	450	40	M30	60	110
400	380	325	25	140	16	550	505	50	M33	80	170
500	420	380	30	152	25	660	615	55	M33	110	260
600	500	460	30	178	25	770	720	65	M36	110	380
700	540	505	30	229	25	875	820	85	M39	110	500
800	645	610	30	241	30	990	930	100	M45	130	770
1000	870	800	35	300	35	1210	1140	120	M52	160	1390
1200	940	880	40	350	40	1420	1350	140	M52	200	1480
1400	1070	980	40	390	40	1640	1560	160	M56	200	3100

Depth of the thread (“M“) in the body is corresponds to the thread dimension.

Application

Double-eccentric butterfly valves are industrial valves, which are designed to fully open or close the passage of the working medium flowing through a pipeline. They can also be used for flow-control purposes. However, a 100% tightness of the valve cannot be guaranteed in a long-term use for control purposes.



Working medium

- waste and service water
- drinking water
- hot water
- steam
- non-aggressive liquids and gases (natural gas, CO-gas, petroleum products, etc.)

Butterfly valve is possible to deliver with surface protection which is done by coverage with plastic material (rilsan, halar). This surface protection together with the use of stainless steel material is widening the usage of butterfly valves for chemically aggressive or abrasive media and sea water.

Maximum working temperature

A maximum working temperature of the butterfly valve depends on the packing material used.

Technical description

Double eccentricity (Fig. A)
1. the operating shaft axis is eccentric to the packing axis of the disc
2. the operating shaft axis is eccentric to the flow axe

Disc is clamped on the operating shaft and pivot, which are pivoted in self-lubricated friction bearings (Fig. B).
The shaft is sealed by gland packing (Fig. B).
The pivot is sealed by flat gasket.
The gasket bears on the conical area of the stainless steel seat, and is together with the disc pushed by the media pressure onto the conical seat, and by this is an absolute tightness reached (Fig. C). The tightness is restricted when the media flow is from the opposite side. To see the tightness grade is upon request.
For DN 80-125 is the major packing ring attached in the body by the thrust ring. In the „closed" position, the disc is pushed against the seat by its conical area due to the pressure caused by the working medium, which ensures a total tightness in that direction (Fig. D). For all the valve variants, however, the valve tightness is limited in the opposite flow direction. For the leakage class in opposite direction please contact manufacturer.

Fig. A

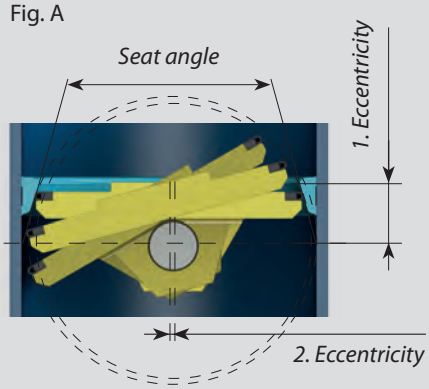


Fig. B

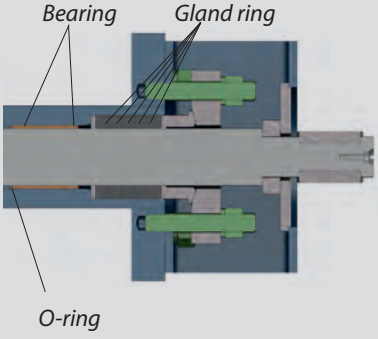


Fig. C

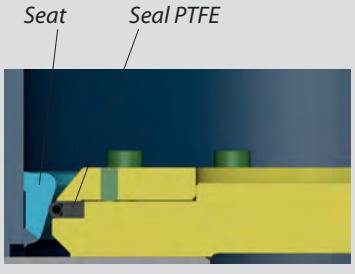
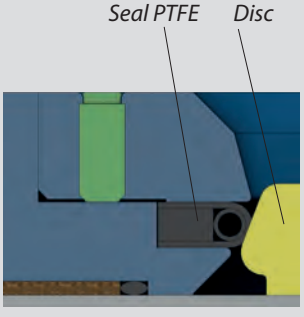


Fig. D



Operation

- manual gear-box
- electric actuator
- pneumatic or hydraulic actuator
- remote control from stand
- lever with a counterweight for closing the valve
- hydraulic cylinder for opening the valve

Testing

The valves are tested according to EN 12 266-1/ISO 5208.

Connection to piping

- **flanged ends** acc. to EN 1092-1,
  face to face dimensions acc. to EN 558-1, Series 14
- **wafer type** acc. to EN 1092-1,
  face to face dimensions acc. to EN 558-1, Series 16
- **welded ends** acc. to EN 12 627, eventually acc. to the customer´s requirement,
  face to face dimension acc. to EN 12 982, Series 14

Other face to face and connecting dimensions are acc. to the customer´s requierement, e.g. ANSI, GOST.

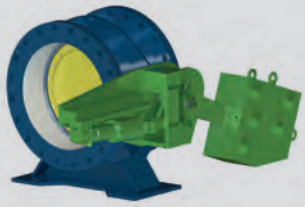
Installation

The butterfly valves can be mounted into horizontal, vertical or inclined pipeline so that the arrow stamped on the valve body corresponds with the direction of the tightness (arrow points from higher pressure to lower when the disc is closed), and the rotating axe of the disc is in a horizontal position. The bolt type at the pivot area is also very important. When there is a butterfly valve with electric actuator it is important to abide the actuator's manufacturer.

Flanged ends with manual gear-box

Flanged ends with pneumatic actuator

Welded ends with electric actuator



Flanged ends with hydraulic cylinder and lever with counterweight

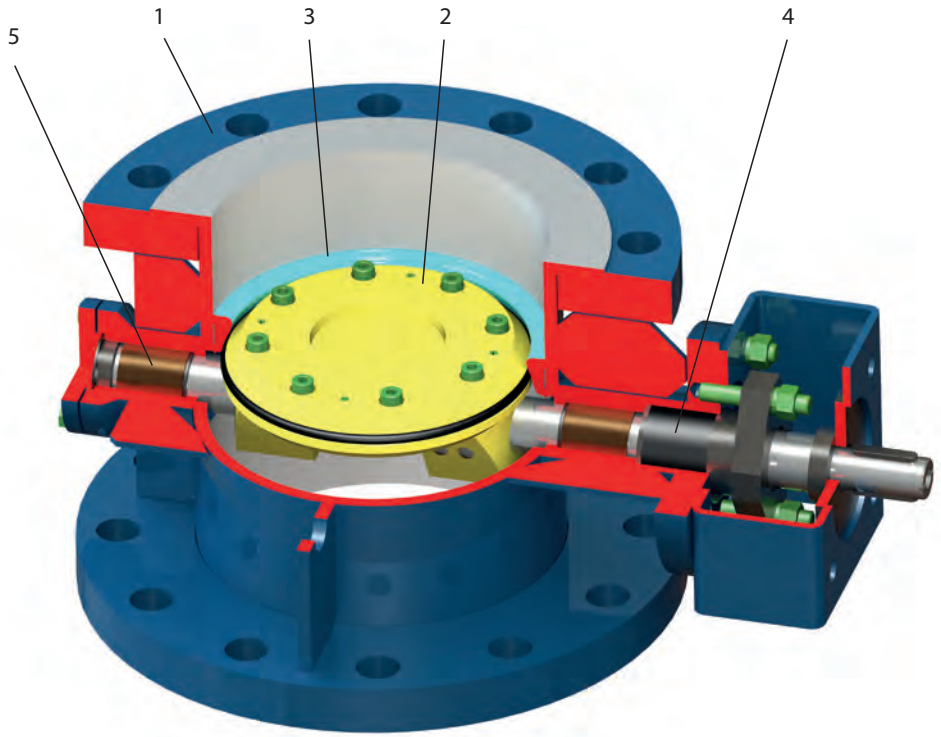
Production range

DN	Flanged ends						Welded ends						Wafer type					
	PN						PN						PN					
	2,5	6	10	16	25	40	2,5	6	10	16	25	40	2,5	6	10	16	25	40
80														•	•	•	•	•
100														•	•	•	•	•
125														•	•	•	•	•
150		•	•	•	•	•		•	•	•	•	•		•	•	•	•	•
200		•	•	•	•	•		•	•	•	•	•		•	•	•	•	•
250		•	•	•	•	•		•	•	•	•	•		•	•	•	•	•
300		•	•	•	•	•		•	•	•	•	•		•	•	•	•	•
350		•	•	•	•	•		•	•	•	•	•		•	•	•	•	•
400		•	•	•	•	•		•	•	•	•	•		•	•	•	•	•
500		•	•	•	•	•		•	•	•	•	•		•	•	•	•	•
600		•	•	•	•	•		•	•	•	•	•		•	•	•	•	•
700		•	•	•	•	•		•	•	•	•	•		•	•	•	•	•
800		•	•	•	•	•		•	•	•	•	•		•	•	•	•	•
1000		•	•	•	•			•	•	•	•			•	•	•	•	
1200	•	•	•	•	•		•	•	•	•	•		•	•	•	•	•	
1400	•	•	•	•	•		•	•	•	•	•		•	•	•	•	•	
1600	•	•	•	•			•	•	•	•			•	•	•	•		
2000	•	•	•				•	•	•				•	•	•			

Rubber sealed butterfly valves with double-eccentricity type L32.7 are produced in the same production range as type L32.6.

DN 150-2000 • PN 2,5-40 •Tmax +250 °C
Design: PTFE seal

Connection: EN 1092-1 FLANGED ENDS
EN 12 627 WELDED ENDS
EN 1092-1 WAFER TYPE



Material

Position	Component	Standard acc. to EN	EN		ASTM		
		Carbon steel		Stainless steel	Carbon steel		Stainless steel
		-29 °C - +250 °C*	-46 °C - +250 °C*	-50 °C - +250 °C*	-29 °C - +250 °C*	-46 °C - +250 °C*	-50 °C - +250 °C*
1	Body	1.0577,1.0425	1.0566	1.4541	A105	A350 LF2	A182 F316
2	Disc	1.0577,1.0425	1.0566	1.4541	A105	A350 LF2	A182 F316
3	Seat	1.4541, 1.4301	1.4541	1.4541	A182 F304	A182 F304	A182 F316
4	Shaft	1.4021 + QT700	1.4021 + QT700	1.4541	A182 F6A	A182 F6A	A182 F316
5	Pivot	1.4021 + QT700	1.4021 + QT700	1.4541	A182 F6A	A182 F6A	A182 F316

* The thermal use of the valve depends on the pressure-temperature characteristic of the material - see further information in this catalog.

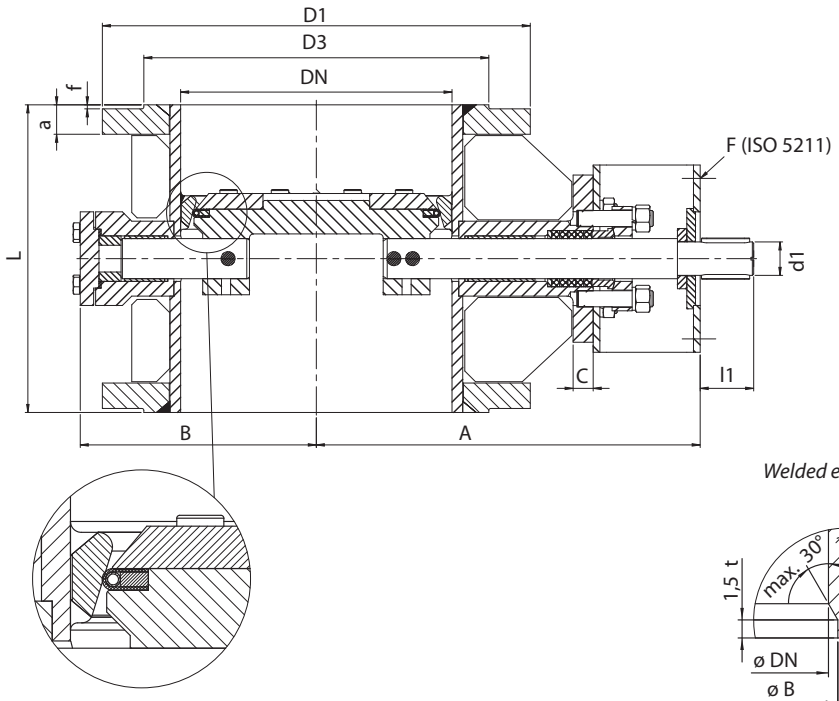
Recommended seal resistance

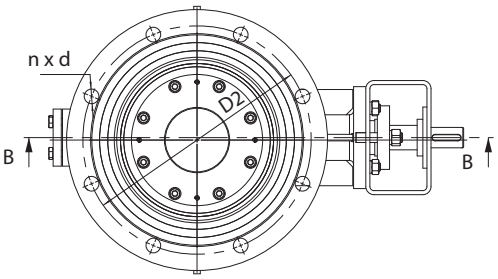
Elastomer	Identification	Identification	Working temperature
Teflon	PTFE	Wastewater and service water, seawater, hot water and steam, non-aggressive liquids and gases	from -50 °C to +250 °C
Nitrile-butadien rubber *	NBR	Water, air, engine and gear oils, petrol, mineral oils, heating gases, non-aggressive gases	from -20 °C to +80 °C
Ethylene-propylene rubber *	EPDM	Drinking water, hot water, steam, diluted acids and alkalis, air; unsuitable for oils and fats	from -40 °C to +130 °C
Fluorine rubber *	FPM	Mineral oils, petroleum products, coke and blast furnace gas, the highest chemical resistance of all elastomers (rubber); unsuitable for hot steam and water	from -20 °C to +140 °C
	VITON GF	Hot water and steam	from -20 °C to +180 °C

* Butterfly valves with rubber seal for double eccentricity type L32.7 are manufactured in the same production range as L32.6 and dimension tables are identical with type L32.6.

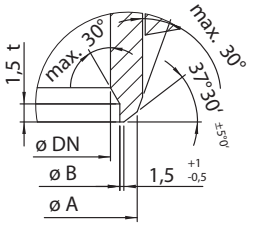
DN 150-2000 • PN 2,5-40 •Tmax +250 °C
Design: PTFE seal

Connection: EN 1092-1 FLANGED ENDS
EN 12 627 WELDED ENDS





Welded ends



ø A - acc. to EN 12 627
ø B - inner pipe diameter
(upon customer´s request)
t - pipe thickness (upon customer´s request)

PN 2,5

DN	A	B	C	L*	F	d1	l1	Flanged ends							
								D1	D2	D3	a	f	d	n	kg
1200	1180	800	30	630	25	65	110	1375	1320	1280	40	2	30	32	1250
1400	1150	890	30	710	30	80	125	1575	1520	1480	44	2	30	36	1640
1600	1270	1100	30	790	35	100	165	1790	1730	1690	48	2	30	40	2840
2000	1500	1300	35	950	40	140	200	2190	2130	2090	54	2	30	48	4680

PN 6

DN	A	B	C	L*	F	d1	l1	Flanged ends							
								D1	D2	D3	a	f	d	n	kg
150	253	146	15	210	10	25	40	265	225	202	20	2	18	8	39
200	290	180	15	230	10	25	40	320	280	258	22	2	18	8	45
250	320	210	20	250	12	30	50	375	335	312	24	2	18	12	54
300	335	230	20	270	12	30	50	440	395	365	24	2	22	12	82
350	360	260	20	290	12	35	50	490	445	415	26	2	22	12	118
400	400	295	20	310	12	35	50	540	495	465	28	2	22	16	164
500	510	360	25	350	14	40	60	645	600	570	30	2	22	20	240
600	560	415	25	390	16	50	80	755	705	670	30	2	26	20	370
700	600	460	25	430	16	50	80	860	810	775	32	2	26	24	520
800	770	530	25	470	25	60	95	975	920	880	34	2	30	24	710
1000	830	660	30	550	30	80	110	1175	1120	1080	36	2	30	28	1090
1200	1030	800	30	630	30	80	123	1405	1340	1295	40	2	33	32	1310
1400	1150	890	30	710	35	100	165	1630	1560	1510	44	2	36	36	1700
1600	1300	1100	35	790	40	140	200	1830	1760	1710	48	2	36	40	3100
2000	1500	1300	35	950	48	160	250	2265	2180	2125	54	2	42	48	4800

* face to face dimensions for welded ends are in compliance with flange connections (can be different upon customer's request)

Pipe dimensions øD x t (øD – outside pipe diameter; t – the pipe thickness) for welding are given by customer.

DN 150-2000 • PN 2,5-40 •Tmax +250 °C
Design: PTFE seal

Connection: EN 1092-1 FLANGED ENDS
EN 12 627 WELDED ENDS

PN 10

DN	A	B	C	L*	F	d1	l1	Flanged ends							
								D1	D2	D3	a	f	d	n	kg
150	253	146	15	210	10	25	40	285	240	212	24	2	22	8	40
200	290	180	15	230	10	25	40	340	295	268	24	2	22	8	45
250	320	210	20	250	12	30	50	395	350	320	26	2	22	12	60
300	335	230	20	270	12	30	50	445	400	370	26	2	22	12	80
350	360	260	20	290	12	35	50	505	460	430	28	2	22	16	100
400	400	295	20	310	14	40	60	565	515	482	32	2	26	16	140
500	510	360	25	350	16	50	80	670	620	585	38	2	26	20	235
600	560	415	25	390	25	60	95	780	725	685	42	2	30	20	365
700	620	485	25	430	25	65	110	895	840	800	42	2	30	24	505
800	700	550	25	470	25	70	110	1015	950	905	44	2	33	24	700
1000	850	680	30	550	30	80	125	1230	1160	1110	44	2	36	28	1090
1200	940	760	30	630	35	100	165	1455	1380	1330	46	2	39	32	1280
1400	1280	980	40	710	40	140	200	1675	1590	1535	48	2	42	36	2790
1600	1620	1080	40	790	48	160	200	1915	1820	1760	58	2	48	40	3690
2000	1820	1350	40	950	60	178	310	2325	2230	2170	64	2	48	48	3990

PN 16

DN	A	B	C	L*	F	d1	l1	Flanged ends							
								D1	D2	D3	a	f	d	n	kg
150	253	146	15	210	10	25	40	285	240	212	24	2	22	8	46
200	265	175	15	230	10	25	40	340	295	268	26	2	22	12	46
250	315	205	20	250	12	30	50	405	355	320	29	2	26	12	62
300	350	245	20	270	12	35	50	460	410	378	32	2	26	12	95
350	380	275	20	290	14	40	60	520	470	438	35	2	26	16	127
400	455	310	25	310	16	50	80	580	525	490	38	2	30	16	174
500	520	375	25	350	16	50	80	715	650	610	46	2	33	20	255
600	620	435	30	390	25	60	95	840	770	725	52	2	36	20	392
700	670	490	30	430	30	70	110	910	840	795	52	2	36	24	550
800	750	565	30	470	30	80	125	1025	950	900	54	2	39	24	745
1000	865	700	30	550	35	100	165	1255	1170	1115	54	2	42	28	1260
1200	1000	810	35	630	40	120	180	1485	1390	1330	58	2	48	32	1700
1400	1280	980	40	710	48	160	200	1685	1590	1530	58	2	48	36	2890
1600	1620	1080	40	790	60	178	310	1930	1820	1750	64	2	56	40	3275

PN 25

DN	A	B	C	L*	F	d1	l1	Flanged ends							
								D1	D2	D3	a	f	d	n	kg
150	253	146	15	210	10	25	40	300	250	218	30	2	26	8	53
200	290	185	20	230	12	30	50	360	310	278	32	2	26	12	55
250	325	225	20	250	14	35	50	425	370	335	35	2	30	12	71
300	350	250	20	270	14	40	60	485	430	395	38	2	30	16	109
350	440	295	25	290	16	50	80	555	490	450	42	2	33	16	155
400	475	330	25	310	16	50	80	620	550	505	46	2	36	16	208
500	535	395	30	350	25	60	95	730	660	615	56	2	36	20	298
600	660	460	30	390	30	70	110	845	770	720	68	2	39	20	525
700	690	505	30	430	30	80	125	960	875	820	68	2	42	24	640
800	805	580	30	470	35	100	130	1085	990	930	70	2	48	24	860
1000	1000	800	35	550	40	120	180	1320	1210	1140	70	2	56	28	1500
1200	1150	910	40	630	48	140	200	1550	1420	1350	70	2	56	32	2290
1400	1280	980	40	710	60	178	310	1755	1640	1560	76	2	62	36	3690

* face to face dimensions for welded ends are in compliance with flange connections (can be different upon customer's request)

Pipe dimensions øD x t (øD – outside pipe diameter; t – the pipe thickness) for welding are given by customer.

DN 150-2000 • PN 2,5-40 •Tmax +250 °C
Design: PTFE seal

Connection: EN 1092-1 FLANGED ENDS
EN 12 627 WELDED ENDS

PN 40

DN	A	B	C	L*	F	d1	l1	Flanged ends							
								D1	D2	D3	a	f	d	n	kg
150	200	150	20	210	12	27	45	300	250	218	28	2	26	8	87
200	230	205	25	230	12	35	50	375	320	285	34	2	30	12	102
250	270	255	25	250	14	40	60	450	385	345	38	2	33	12	133
300	305	280	25	270	16	50	80	515	450	410	42	2	33	16	205
350	355	315	25	290	16	50	80	580	510	465	46	2	36	16	275
400	380	340	30	310	25	60	95	660	585	535	50	2	39	16	400
500	450	425	30	350	30	70	110	755	670	615	57	2	42	20	530
600	535	510	35	390	35	85	130	890	795	735	72	2	48	20	940
700	580	550	35	430	35	100	165	995	900	840	76	2	48	24	1150
800	715	670	35	470	40	120	180	1140	1030	960	79	2	56	24	1550

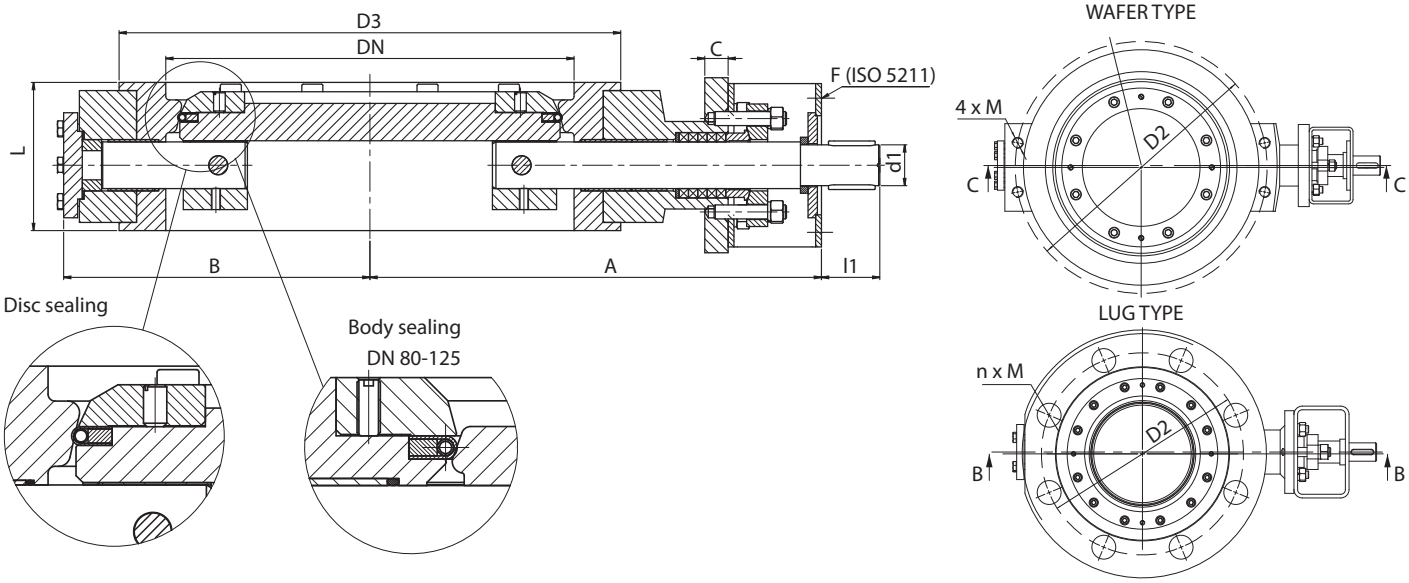
* face to face dimensions for welded ends are in compliance with flange connections (can be different upon customer's request)

Pipe dimensions øD x t (øD – outside pipe diameter; t – the pipe thickness) for welding are given by customer.

Butterfly valve L32.7 DN 3500 - install in the hydropower plant in Rendalen in Norway.

DN 80-2000 • PN 2,5-40 •Tmax +250 °C
Design: PTFE seal

Connection: EN 1092-1 WAFER TYPE



PN 2,5

DN	A	B	C	L	F	D2	D3	d1	n	M	l1	kg
1200	1210	800	30	350	25	1320	1280	65	32	M27	110	1050
1400	1180	890	30	390	30	1520	1480	65	36	M27	110	1400
1600	1300	1100	35	440	35	1730	1690	100	40	M27	145	2500
2000	1530	1300	35	540	40	2130	2090	140	48	M27	165	4200

PN 6

DN	A	B	C	L	F	D2	D3	d1	n	M	l1	kg
80	190	105	-	64	07	160	138	16	4	M16	30	16
100	200	115	-	64	07	180	158	16	4	M16	30	18
125	235	140	-	70	07	210	188	20	8	M16	30	22
150	253	146	15	76	10	225	202	25	8	-	40	53
200	290	200	15	89	10	280	258	25	8	-	40	60
250	320	210	20	114	12	335	312	30	12	M16	50	64
300	335	230	20	114	12	395	365	30	12	M20	50	70
350	360	260	20	127	12	445	415	35	12	M20	50	89
400	400	295	20	140	12	495	465	35	16	M20	50	110
500	495	355	25	152	14	600	570	40	20	M20	60	195
600	550	410	25	178	16	705	670	50	20	M24	80	280
700	600	460	25	229	16	810	775	50	24	M24	80	390
800	770	530	25	241	25	920	880	60	24	M27	95	550
1000	830	660	30	300	30	1120	1080	80	28	M27	110	820
1200	920	750	30	350	30	1340	1295	80	32	M30	125	1240
1400	1180	890	30	390	35	1560	1510	100	36	M33	165	2600
1600	1300	1100	35	440	40	1760	1710	140	40	M33	200	2800
2000	1530	1300	50	540	48	2180	2125	160	48	M39	250	4350

* these apply only for lug type connection

Depth of the thread ("M") in the body is corresponds to the thread dimension.

DN 80-2000 • PN 2,5-40 •Tmax +250 °C
Design: PTFE seal

Connection: EN 1092-1 WAFER TYPE

PN 10

DN	A	B	C	L	F	D2	D3	d1	n	M	l1	kg
80	190	105	-	64	07	160	138	16	8	M16	30	16
100	200	115	-	64	07	180	158	16	8	M16	30	18
125	235	140	-	70	07	210	188	16	8	M16	30	22
150	253	146	15	76	10	240	212	25	8	-	40	50
200	290	200	15	89	10	295	268	25	8	-	40	60
250	320	210	20	114	12	350	320	30	12	M20	50	64
300	335	230	20	114	12	400	370	30	12	M20	50	68
350	360	260	20	127	12	460	430	35	16	M20	50	92
400	400	295	20	140	14	515	482	40	16	M24	60	115
500	495	355	25	152	16	620	585	50	20	M24	80	200
600	550	410	25	178	25	725	685	60	20	M27	95	290
700	620	485	25	229	25	840	800	65	24	M27	110	415
800	700	550	25	241	25	950	905	70	24	M30	110	640
1000	850	680	30	300	30	1160	1110	80	28	M33	125	835
1200	940	760	30	350	35	1380	1330	100	32	M36	165	1260
1400	1300	980	40	390	40	1590	1535	140	36	M39	200	2600
1600	1670	1080	40	440	48	1820	1760	160	40	M45	200	2800
2000	1850	1350	40	540	60	2230	2170	178	48	M45	310	4400

PN 16

DN	A	B	C	L	F	D2	D3	d1	n	M	l1	kg
80	190	105	-	64	07	160	138	16	8	M16	30	16
100	200	115	-	64	07	180	158	16	8	M16	30	18
125	235	140	-	70	07	210	188	20	8	M16	30	22
150	253	150	15	76	10	240	212	25	8	-	40	50
200	280	190	15	89	10	295	268	25	12	M20	40	60
250	320	225	20	114	12	355	320	30	12	M24	50	64
300	335	260	20	114	12	410	378	35	16	M24	50	72
350	360	295	20	127	14	470	438	40	16	M24	60	95
400	455	320	25	140	16	525	490	50	20	M27	80	120
500	495	390	25	152	16	650	610	50	20	M30	80	215
600	615	460	30	178	25	770	725	60	24	M33	95	310
700	640	505	30	229	30	840	795	70	24	M33	110	435
800	750	580	30	241	30	950	900	80	28	M36	125	600
1000	860	800	30	300	35	1170	1115	100	32	M39	165	1100
1200	980	890	35	350	40	1390	1330	120	36	M45	180	1325
1400	1300	980	40	390	48	1590	1530	160	40	M45	200	2900
1600	1700	1080	40	440	60	1820	1750	178	48	M52	310	3275

* these apply only for lug type connection

Depth of the thread (“M“) in the body is corresponds to the thread dimension.

DN 80-2000 • PN 2,5-40 •Tmax +250 °C
Design: PTFE seal

Connection: **EN 1092-1 WAFER TYPE**

PN 25

DN	A	B	C	L	F	D2	D3	d1	n	M	l1	kg
80	195	110	-	64	07	160	138	16	8	M16	30	17
100	210	120	-	64	07	190	162	20	8	M20	30	19
125	240	145	-	70	10	220	188	25	8	M24	40	25
150	253	150	15	76	10	250	218	25	8	-	50	55
200	290	190	20	89	12	310	278	30	12	M24	50	60
250	325	225	20	114	14	370	335	35	12	M27	50	65
300	370	260	20	114	14	430	395	40	16	M27	60	85
350	445	295	25	127	16	490	450	50	16	M30	80	115
400	510	330	25	140	16	550	505	50	16	M33	80	170
500	565	395	30	152	25	660	615	60	20	M33	95	260
600	630	460	30	178	30	770	720	70	20	M36	110	380
700	690	505	30	229	30	875	820	80	24	M39	125	610
800	805	580	30	241	35	990	930	100	24	M45	130	770
1000	980	800	35	300	40	1210	1140	120	28	M52	180	1390
1200	1170	910	40	350	48	1420	1350	140	32	M52	200	1500
1400	1300	980	40	390	60	1640	1560	178	36	M56	310	3100

PN 40

DN	A	B	C	L	F	D2	D3	d1	n	M	l1	kg
80	195	110	-	64	07	160	138	20	8	M16	30	17
100	210	120	-	64	07	190	162	20	8	M20	30	19
125	240	145	-	70	10	220	188	25	8	M24	40	25
150	250	150	20	76	12	250	218	27	8	-	45	58
200	250	205	25	89	12	320	285	35	12	M27	50	66
250	290	255	25	114	14	385	345	40	12	M30	60	74
300	320	280	25	114	16	450	410	50	16	M30	80	97
350	380	315	25	127	16	510	465	50	16	M33	80	130
400	410	340	30	140	25	585	535	60	16	M36	95	190
500	470	425	30	152	30	670	615	70	20	M39	110	280
600	550	510	35	178	35	795	735	85	20	M45	130	430
700	600	550	35	229	35	900	840	100	24	M45	165	690
800	720	670	35	241	40	1030	960	120	24	M52	180	860

* these apply only for lug type connection

Depth of the thread (“M“) in the body is corresponds to the thread dimension.

Application

Triple-eccentric butterfly valves are industrial valves, which designed to fully open or close the passage of the working medium flowing through a pipeline. They can also be used for flow-control purposes. However, the tightness of the valve cannot be guaranteed in a long-term use for control purposes.

Working medium

- waste and service water
- drinking water
- hot water
- steam
- non-aggressive liquids and gases (natural gas, co-gas, petroleum products, etc.).

Maximum working temperature

A maximum working temperature of the butterfly valve is +500 °C, by agreement up to +550 °C and depends on the body material used.

Technical description

Triple eccentricity - Fig. A

1. the operating shaft axe is eccentric to the packing axis
2. the operating shaft axe is eccentric to the axis of the flow
3. the axe of the seat cone is eccentric to the axis of the flow

Triple eccentricity assures, that the packing stays out of sealing surface of the body except for the closed position, which results in long life-time of the packing (sealing) and lots of cycles. The triple eccentricity design immediately divides the disc from the sealing surface and when closing the valve the disc touches sealing surface just before closure. By this is the closing and opening torque lower and the opening and closing of the valve is done by very little friction. This makes the valves life-time longer. Butterfly valve is both-side tight. The arrow stamped on the valve body corresponds with the direction of the long-term tightness.

Stems of the butterfly valves manufactured according to TA-Luft standard or in compliance with Fugitive Emission are tightened through the Quick set seal from Garlock company.

The butterfly valves are produced of wrought or cast material.

Seal material is metal x metal or metal x graphite seal ring.

Operation

- manual gear-box
- electric actuator
- pneumatic or hydraulic actuator
- remote control from stand

Testing

The valves are tested according to

- EN 12 266-1
- EN 12 266-2
- EN 13 3060-2

Connection to piping

- **wafer type** acc. to EN 1092-1, face to face dimensions acc. to EN 558-1, Series 16, 20, 25
- **flanged ends** acc. to EN 1092-1, face to face dimensions acc. to EN 558-1, Series 13, 14, 16
- **welded ends** acc. to ČSN 13 1075, EN 12 627, face to face dimensions acc. to EN 558-1, Series 14

Other face to face and connecting dimensions are acc. to the customer´s requierement, e.g. GOST, ANSI.

Installation

The butterfly valves can be mounted into horizontal, vertical or inclined pipeline so that the arrow stamped on the valve body corresponds with the direction of the tightness (arrow points from higher pressure to lower when the disc is closed), and the rotating axe of the disc is in a horizontal position. The bolt type at the pivot area is also very important. When there is a butterfly valve with electric actuator it is important to abide the actuator's manufacturer.

Fig. A

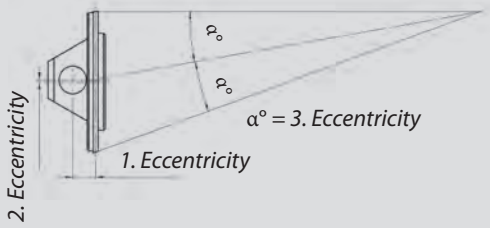


Fig. B

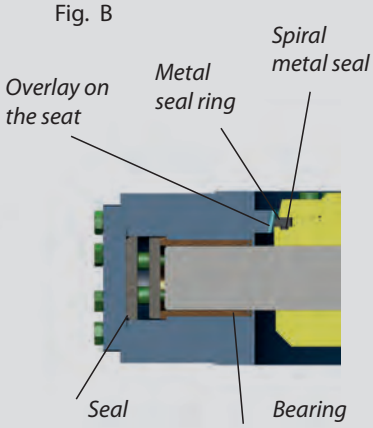
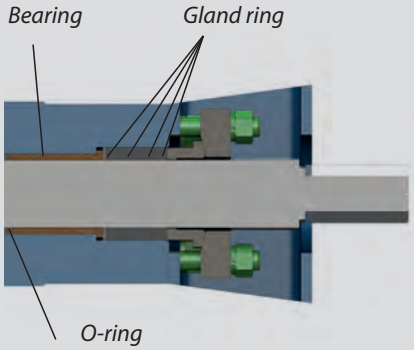
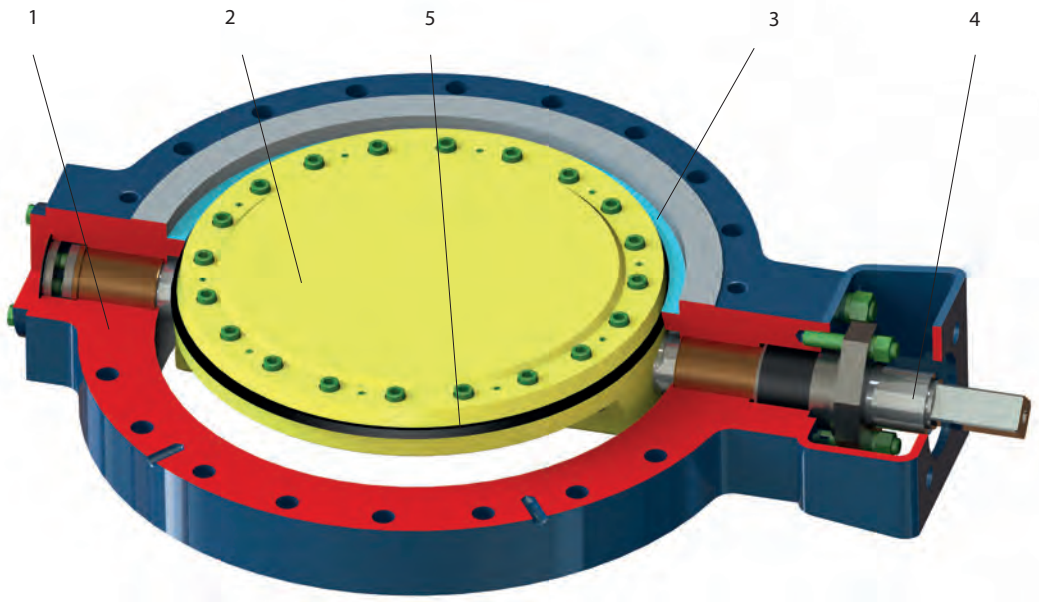


Fig. C



DN 150-1000 • PN 6-63 • Tmax +500 °C
Design: wrought

Connection: EN 1092-1 FLANGED ENDS
EN 12 627 WELDED ENDS
EN 1092-1 WAFER TYPE



Material

Position	Component	EN				ASTM			
		Carbon + alloy steel			Stainless steel	Carbon + alloy steel			Stainless steel
		+400 °C*	-46 °C to +400 °C*	+500 °C*	+500 °C*	+400 °C*	-46 °C to +400 °C*	+500 °C*	+500 °C*
1	Body	1.0577, 1.0425	1.0566	1.7335	1.4541	A105	A350 LF2	A182 F12	A182 F316
2	Disc	1.0577, 1.0425	1.0566	1.7335	1.4541	A105	A350 LF2	A182 F12	A182 F316
3	Seat	13%Cr, stellite	stellite	stellite	stellite	13%Cr, stellite	stellite	stellite	stellite
4	Shaft	1.4021+QT700	1.4021+QT700	1.4923	1.4541	A182 F6A	A182 F6A	A479 XM19	A182 F316

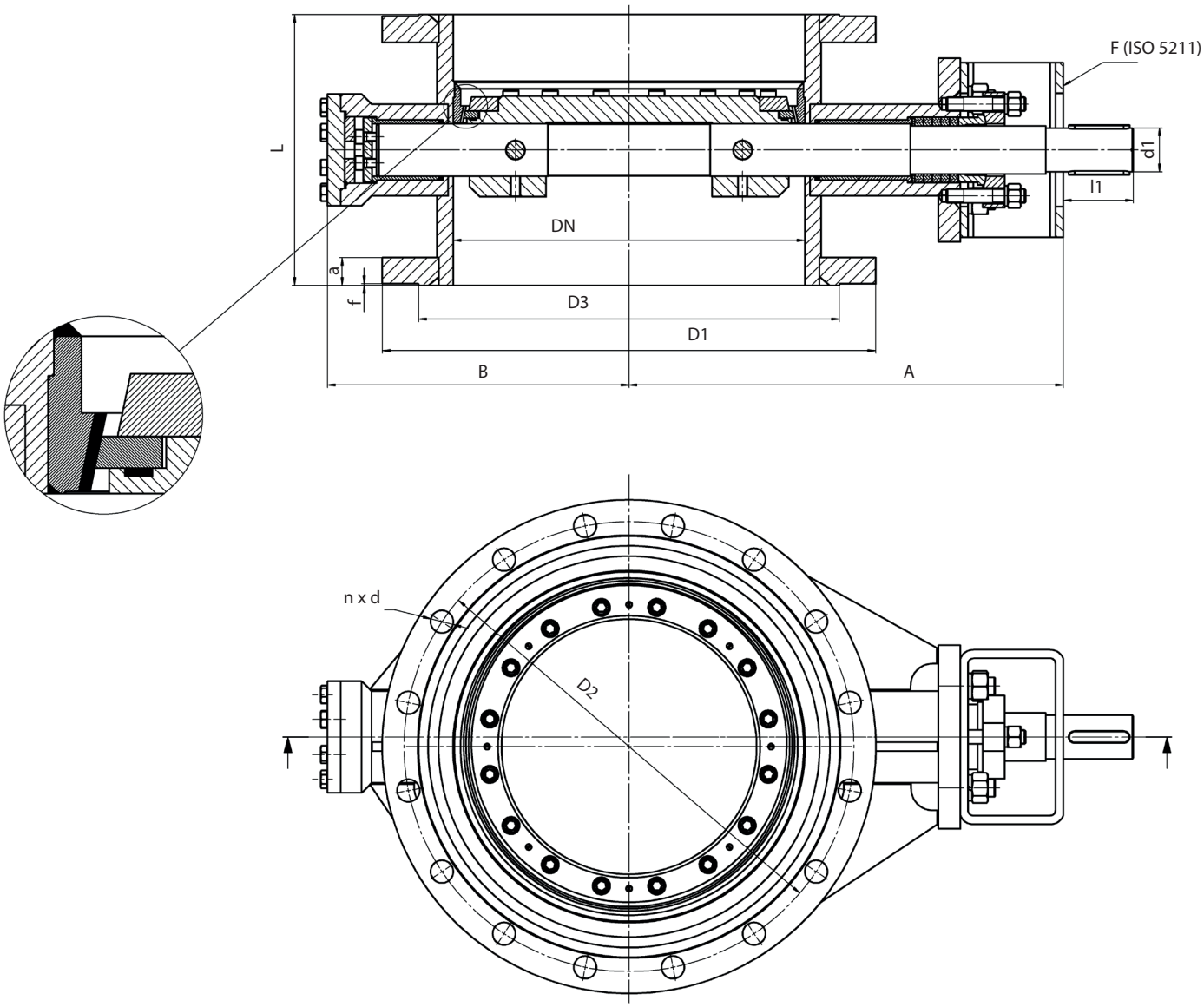
* The thermal use of the valve depends on the pressure-temperature characteristic of the material - see further information in this catalog. Design for temperature higher than 500 °C is possible after agreement with the manufacturer.

Production range

DN	Flanged ends					Wafer type						Welded ends					
	PN					PN						PN					
	6	10	16	25	40	6	10	16	25	40	63	6	10	16	25	40	63
150	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
200	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
250	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
300	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
350	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
400	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
450	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
500	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
600	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
700	•	•	•	•	•	•	•	•	•	•		•	•	•	•	•	
800	•	•	•	•	•	•	•	•	•	•		•	•	•	•	•	
900	•	•	•		•	•	•	•	•	•		•	•	•	•		
1000	•	•	•		•	•	•	•	•	•		•	•	•	•		

DN 150-1000 • PN 6-40 • Tmax 500 °C
Design: wrought

Connection: EN 1092-1 FLANGED ENDS



PN 6

DN	A*	B	L	F	D1	D2	D3	d1	a	f	d	n	l1	kg
150	275	170	210	10	265	225	202	30	20	2	18	8	40	39
200	315	205	230	10	320	280	258	30	22	2	18	8	40	47
250	345	240	250	12	375	335	312	30	24	2	18	12	40	57
300	395	265	270	12	440	395	365	30	24	2	22	12	50	95
350	475	320	290	14	490	445	415	40	26	2	22	12	60	150
400	500	350	310	14	540	495	465	40	28	2	22	16	60	184
500	545	405	350	14	645	600	570	45	30	2	22	20	70	255
600	695	475	390	16	755	705	670	55	32	2	26	20	80	395
700	715	565	430	25	860	810	775	60	32	2	26	24	80	570
800	815	630	470	25	975	920	880	70	34	2	30	24	100	810
1000	970	765	500	30	1175	1120	1080	90	36	2	30	28	120	1190

* The value applies to temperatures up to +400 ° C.

DN 150-1000 • PN 6-40 • Tmax 500 °C
Design: wrought

Connection: EN 1092-1 FLANGED ENDS

PN 10

DN	A*	B	L	F	D1	D2	D3	d1	a	f	d	n	l1	kg
150	275	170	210	10	285	240	212	30	24	2	22	8	40	42
200	315	205	230	10	340	295	268	30	24	2	22	8	40	53
250	345	240	250	12	395	350	320	30	26	2	22	12	50	67
300	395	265	270	12	445	400	370	35	26	2	22	12	50	102
350	475	320	290	14	505	460	430	40	30	2	22	16	60	158
400	500	350	310	16	565	515	482	50	32	2	26	16	70	205
500	555	415	350	16	670	620	585	55	38	2	26	20	80	285
600	695	475	390	25	780	725	685	60	42	2	30	20	80	435
700	715	565	430	30	895	840	800	70	42	2	30	24	100	620
800	815	630	470	30	1015	950	905	80	44	2	33	24	110	880
1000	970	765	500	35	1230	1160	1110	100	44	2	36	28	130	1270

PN 16

DN	A*	B	L	F	D1	D2	D3	d1	a	f	d	n	l1	kg
150	275	170	210	10	285	240	212	30	24	2	22	8	40	42
200	315	205	230	10	340	295	268	30	26	2	22	12	50	54
250	345	240	250	12	405	355	320	35	29	2	26	12	50	71
300	395	265	270	14	460	410	378	40	32	2	26	12	60	105
350	475	320	290	16	520	470	438	45	35	2	26	16	70	171
400	500	350	310	16	580	525	490	55	38	2	30	16	80	235
500	555	415	350	25	715	650	610	70	46	2	33	20	100	335
600	695	475	390	30	840	770	725	80	52	2	36	20	110	455
700	715	565	430	30	910	840	795	90	52	2	36	24	120	645
800	825	640	470	35	1025	950	900	100	54	2	39	24	130	935
1000	980	775	500	40	1255	1170	1115	120	54	2	42	28	180	1345

PN 25

DN	A*	B	L	F	D1	D2	D3	d1	a	f	d	n	l1	kg
150	285	175	210	10	300	250	218	30	30	2	26	8	50	45
200	315	205	230	12	360	310	278	35	32	2	26	12	50	62
250	345	240	250	14	425	370	335	40	35	2	30	12	60	80
300	395	265	270	16	485	430	395	45	38	2	30	16	70	118
350	475	320	290	16	555	490	450	55	42	2	33	16	80	185
400	500	350	310	25	620	550	505	60	48	2	36	16	80	245
500	555	415	350	25	730	660	615	70	58	2	36	20	100	355
600	695	475	390	30	845	770	720	80	68	2	39	20	110	465
700	715	565	430	35	960	875	820	90	68	2	42	24	120	670
800	825	640	470	35	1085	990	930	110	70	2	48	24	170	975
1000	990	785	500	48	1320	1210	1140	140	70	2	56	28	200	1445

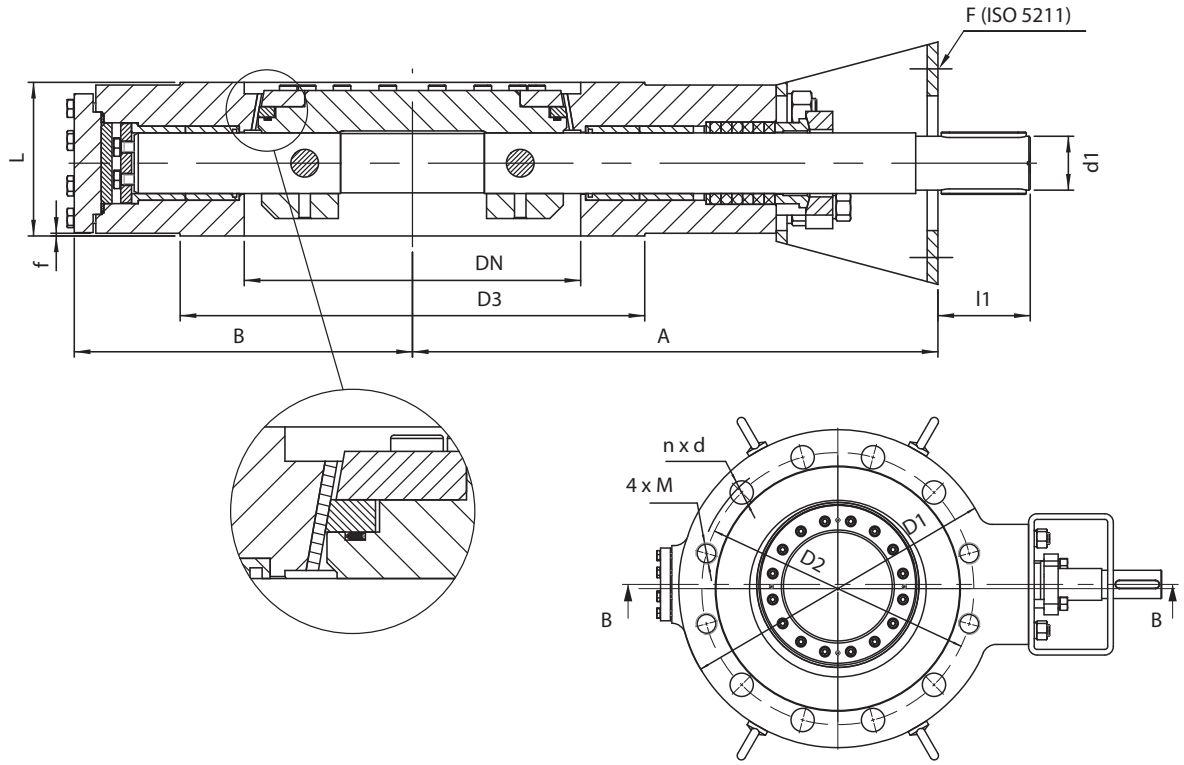
PN 40

DN	A*	B	L	F	D1	D2	D3	d1	a	f	d	n	l1	kg
150	285	175	210	12	300	250	218	30	30	2	26	8	50	75
200	315	205	230	14	375	320	285	40	36	2	30	12	60	80
250	390	255	250	14	450	385	345	40	42	2	33	12	70	145
300	420	290	270	16	515	450	410	50	42	2	33	16	70	225
350	500	320	290	25	580	510	465	60	46	2	36	16	80	255
400	525	350	310	25	660	585	535	70	50	2	39	16	100	410
500	605	425	350	30	755	670	615	80	57	2	42	20	110	540
600	745	525	390	35	890	795	735	110	72	2	48	20	170	940
700	810	615	430	40	995	900	840	110	76	2	48	24	170	1150
800	930	690	470	40	1140	1030	960	140	79	2	56	24	200	1550

* The value applies to temperatures up to +400 ° C.

DN 150-1000 • PN 6-63 • Tmax +500 °C
Design: wrought

Connection: EN 1092-1 WAFER TYPE



PN 6

DN	A*	B	L	F	D1	D2	D3	d1	n x d	M	l1	kg
150	285	175	76	10	265	225	202	30	4 x 18	M16	40	35
200	310	200	89	10	320	280	258	30	4 x 18	M16	40	63
250	345	235	114	12	375	335	312	30	8 x 18	M16	40	85
300	395	265	114	12	440	395	365	30	8 x 22	M20	50	140
350	425	300	127	14	490	445	415	40	8 x 22	M20	60	164
400	485	330	140	14	540	495	465	40	12 x 22	M20	60	205
500	510	385	152	14	645	600	570	45	16 x 22	M20	70	370
600	680	470	178	16	755	705	670	55	16 x 26	M24	80	460
700	710	555	229	25	860	810	775	60	20 x 26	M24	80	595
800	810	620	241	25	975	920	880	70	20 x 30	M27	100	910
1000	970	760	300	30	1175	1120	1080	90	24 x 30	M27	120	1300

PN 10

DN	A*	B	L	F	D1	D2	D3	d1	n x d	M	l1	kg
150	285	175	76	10	285	240	212	30	4 x 22	M20	40	37
200	310	200	89	10	340	295	268	30	4 x 22	M20	40	65
250	345	235	114	12	395	350	320	30	8 x 22	M20	50	87
300	395	265	114	12	445	400	370	35	8 x 22	M20	50	142
350	425	300	127	14	505	460	430	40	12 x 22	M20	60	170
400	485	330	140	16	565	515	482	50	12 x 26	M24	70	210
500	555	415	152	16	670	620	585	55	16 x 26	M24	80	375
600	680	470	178	25	780	725	685	60	16 x 30	M27	80	505
700	710	555	229	30	895	840	800	70	20 x 30	M24	100	610
800	810	620	241	30	1015	950	905	80	20 x 33	M30	110	925
1000	970	760	300	35	1230	1160	1110	100	24 x 36	M33	130	1320

* The value applies to temperatures up to +400 ° C.

DN 150-1000 • PN 6-63 • Tmax +500 °C
Design: wrought

Connection: EN 1092-1 WAFER TYPE

PN 16

DN	A*	B	L	F	D1	D2	D3	d1	n x d	M	l1	kg
150	285	175	76	10	285	240	212	30	4 x 22	M20	40	39
200	310	200	89	10	340	295	268	30	8 x 22	M20	50	67
250	345	235	114	12	405	355	320	35	8 x 26	M24	50	105
300	395	265	114	14	460	410	378	40	8 x 26	M24	60	145
350	425	300	127	16	520	470	438	45	12 x 26	M24	70	179
400	485	330	140	16	580	525	490	55	12 x 30	M27	80	220
500	555	415	152	25	715	650	610	70	16 x 33	M30	100	380
600	680	470	178	30	840	770	725	80	16 x 36	M33	110	550
700	710	555	229	30	910	840	795	90	20 x 36	M33	120	680
800	820	630	241	35	1025	950	900	100	20 x 39	M36	130	960
1000	980	770	300	40	1255	1170	1115	120	24 x 42	M39	180	1370

PN 25

DN	A*	B	L	F	D1	D2	D3	d1	n x d	M	l1	kg
150	285	175	76	10	300	250	218	30	4 x 26	M24	50	45
200	310	200	89	12	360	310	278	35	8 x 26	M24	50	68
250	345	235	114	14	425	370	335	40	8 x 30	M27	60	105
300	395	265	114	16	485	430	395	45	12 x 30	M27	70	135
350	425	300	127	16	555	490	450	55	12 x 33	M30	80	185
400	485	355	140	25	620	550	505	60	12 x 36	M33	80	250
500	555	415	152	25	730	660	615	70	16 x 36	M33	100	390
600	680	470	178	30	845	770	720	80	16 x 39	M36	110	575
700	715	565	229	35	960	875	820	90	20 x 42	M39	120	690
800	825	640	241	35	1085	990	930	110	20 x 48	M45	170	1060
1000	990	785	300	48	1320	1210	1140	140	24 x 56	M52	200	1440

PN 40

DN	A*	B	L	F	D1	D2	D3	d1	n x d	M	l1	kg
150	285	175	76	12	300	250	218	30	4 x 26	M24	50	45
200	310	200	89	14	375	320	285	40	8 x 30	M27	60	71
250	390	255	114	14	450	385	345	40	8 x 33	M30	70	125
300	415	290	114	16	515	450	410	50	12 x 33	M30	70	155
350	470	320	127	25	580	510	465	60	12 x 36	M33	80	188
400	485	355	140	25	660	585	535	70	12 x 39	M36	100	300
500	570	425	152	30	755	670	615	80	16 x 42	M39	110	425
600	755	550	178	35	890	795	735	110	16 x 48	M45	170	610
700	820	625	229	40	995	900	840	110	20 x 48	M45	170	755
800	930	690	241	40	1140	1030	960	140	20 x 56	M52	200	1180
1000	1070	820	300	48	1360	1250	1180	180	24 x 56	M52	240	1540

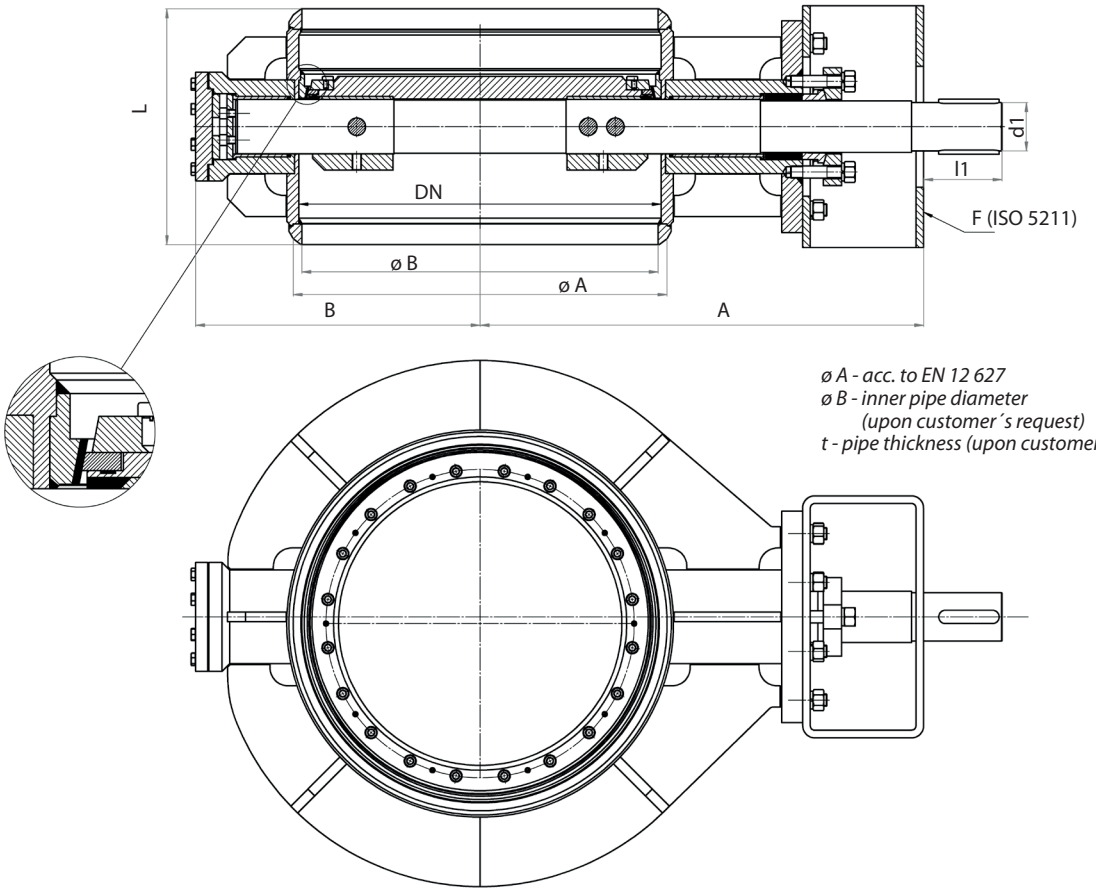
PN 63

DN	A*	B	L	F	D1	D2	D3	d1	n x d	M	l1	kg
150	320	210	140	14	345	280	218	35	4 x 33	M30	60	79
200	360	250	152	16	415	345	285	45	8 x 36	M33	70	115
250	435	255	165	25	470	400	345	55	8 x 36	M33	80	210
300	460	340	178	25	530	460	410	60	12 x 36	M33	80	245
350	530	360	190	30	600	525	465	80	12 x 39	M36	110	310
400	565	390	216	35	670	585	535	90	12 x 42	M39	120	450
500	640	470	229	35	800	705	615	100	16 x 48	M45	130	630
600	775	550	267	40	930	820	735	110	16 x 56	M52	170	860

* The value applies to temperatures up to +400 ° C.

DN 150-1000 • PN 6-63 • Tmax 500 °C
Design: wrought

Connection: EN 12 627 WELDED ENDS



ø A - acc. to EN 12 627
ø B - inner pipe diameter
(upon customer´s request)
t - pipe thickness (upon customer´s request)

PN 6

DN	A*	B	L	F	d1	l1	kg
150	275	170	210	10	30	40	31
200	315	205	230	10	30	40	38
250	345	240	250	12	30	40	44
300	395	265	270	12	30	50	77
350	475	320	290	14	40	60	128
400	500	350	310	14	40	60	158
500	545	405	350	14	45	70	221
600	695	475	390	16	55	80	347
700	715	565	430	25	60	80	515
800	815	630	470	25	70	100	763
1000	970	765	500	30	90	120	1095

PN 10

DN	A*	B	L	F	d1	l1	kg
150	275	170	210	10	30	40	31
200	315	205	230	10	30	40	40
250	345	240	250	12	30	50	49
300	395	265	270	12	35	50	82
350	475	320	290	14	40	60	132
400	500	350	310	16	50	70	170
500	555	415	350	16	55	80	235
600	695	475	390	25	60	80	363
700	715	565	430	30	70	100	536
800	815	630	470	30	80	110	765
1000	970	765	500	35	100	130	1117

* The value applies to temperatures up to +400 ° C.

DN 150-1000 • PN 6-63 • Tmax 500 °C
Design: wrought

Connection: EN 12 627 WELDED ENDS

PN 16

DN	A*	B	L	F	d1	l1	kg
150	275	170	210	10	30	40	31
200	315	205	230	10	30	50	40
250	345	240	250	12	35	50	49
300	395	265	270	14	40	60	78
350	475	320	290	16	45	70	137
400	500	350	310	16	55	80	190
500	555	415	350	25	70	100	256
600	695	475	390	30	80	110	339
700	715	565	430	30	90	120	519
800	825	640	470	35	100	130	775
1000	980	775	500	40	120	180	1130

PN 25

DN	A*	B	L	F	d1	l1	kg
150	285	170	210	10	30	50	32
200	315	205	230	12	35	50	41
250	345	240	250	14	40	60	50
300	395	265	270	16	45	70	81
350	475	320	290	16	55	80	130
400	500	350	310	25	60	80	168
500	555	415	350	25	70	100	244
600	695	475	390	30	80	110	310
700	715	565	430	35	90	120	645
800	825	640	470	35	110	170	705
1000	990	785	500	48	140	200	1080

PN 40

DN	A*	B	L	F	d1	l1	kg
150	285	175	210	12	30	50	59
200	315	205	230	14	40	60	75
250	390	255	250	14	40	70	102
300	420	290	270	16	50	70	185
350	500	320	290	25	60	80	195
400	525	350	310	25	70	100	265
500	605	425	350	30	80	110	320
600	745	525	390	35	110	170	405
700	810	615	430	40	110	170	610
800	930	690	470	40	140	200	860

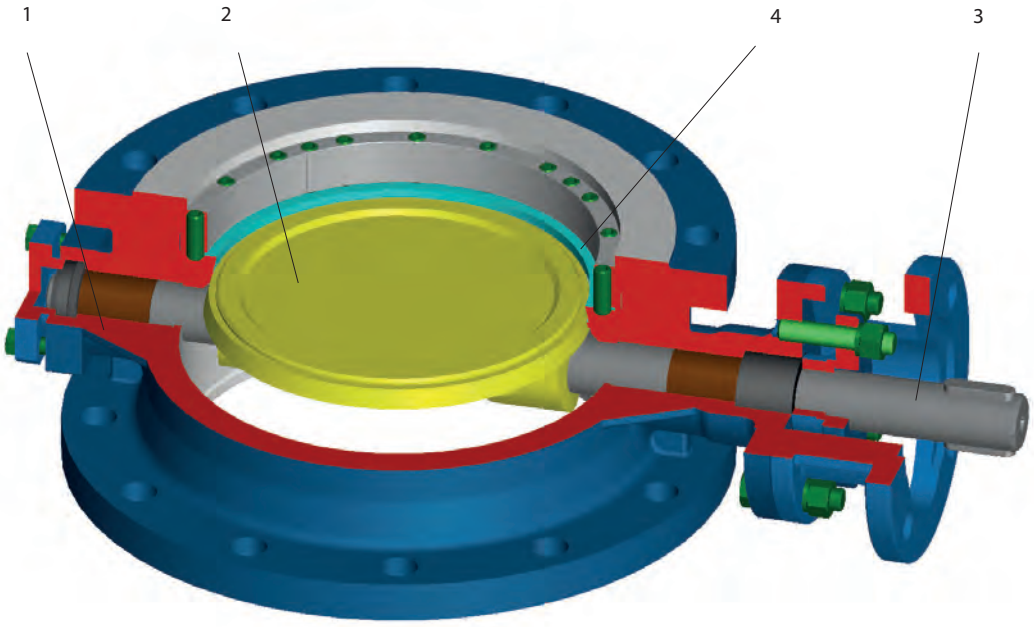
PN 63

DN	A*	B	L	F	d1	l1	kg
150	275	168	267	14	35	60	35
200	360	250	292	16	45	70	98
250	435	305	330	25	55	80	135
300	470	340	356	25	60	80	245
350	535	365	381	30	80	110	280
400	565	390	406	35	90	120	355
500	640	460	457	35	100	130	415
600	765	545	508	40	110	170	530

* The value applies to temperatures up to +400 ° C.

DN 80-1400 • PN 6-100 • Tmax 550 °C
Design: cast

Connection: EN 1092-1 FLANGED ENDS
EN 12 627 WELDED ENDS
EN 1092-1 WAFER TYPE



Material

Position	Component	ASTM				
		+400 °C*	-46 °C to +300 °C*	+550 °C*	+500 °C*	+550 °C*
1	Body	A216 W CB	A352 LCB	A217 WC6	A351 CF8	A351 CF8M
2	Disc	A216 WCB	A352 LCB	A217 WC6	A351 CF8	A351 CF8M
		Cr13 stellite6	Cr13 stellite6	stellite6	stellite6	stellite6
3	Seat	A276 420 Cr13	A276 420 Cr13	6370 (AMS) 24CrMo4	A276 302 18Cr-8Ni	A705 630 17Cr-4Ni-4Cu
4	Shaft	A240 301 + graphite 17Cr-7Ni + graphite	A240 301 + graphite 17Cr-7Ni + graphite	A240 301 + graphite 17Cr-7Ni + graphite	A240 304 + graphite 18Cr-8Ni + graphite	A240 316 + graphite 16Cr-12Ni-2Mo + graphite

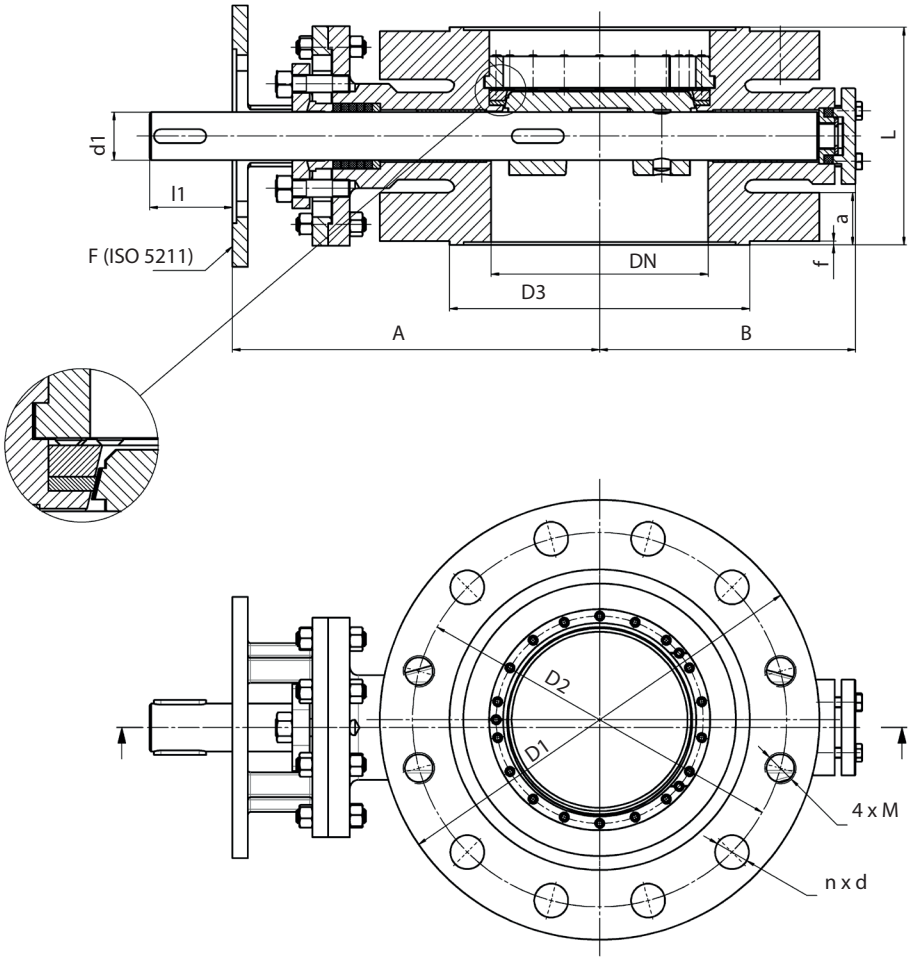
* The thermal use of the valve depends on the pressure-temperature characteristic of the material - see further information in this catalog.

Production range

DN	Flanged ends							Wafer type				Welded ends				
	PN							PN				PN				
	6	10	16	25	40	63	100	10	16	25	40	16	25	40	63	100
80	•	•	•	•	•	•		•	•	•	•	•	•	•	•	
100	•	•	•	•	•	•		•	•	•	•	•	•	•	•	
125	•	•	•	•	•	•		•	•	•	•	•	•	•	•	
150	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
200	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
250	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
300	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
350	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
400	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
450	•	•	•	•	•			•	•	•	•	•	•	•	•	•
500	•	•	•	•	•			•	•	•	•	•	•	•	•	•
600	•	•	•	•	•			•	•	•	•	•	•	•	•	•
700	•	•	•	•	•			•	•	•		•	•			
800	•	•	•	•	•			•	•	•		•	•			
900	•	•	•	•				•	•	•		•	•			
1000	•	•	•	•				•	•			•	•			
1200	•															
1400	•															

DN 80-1400 • PN 6-100 • Tmax 550 °C
Design: cast

Connection: EN 1092-1 FLANGED ENDS



PN 6

DN	A	B	L	D1	D2	D3	a	f	d1	l1	F	n x d	M	kg
80	180	-	114	190	150	128	16	3	22	33	10	4 x 18	-	28,5
100	195	-	127	210	170	148	16	3	22	33	10	4 x 18	-	36,5
125	207	-	140	240	200	178	18	3	22	33	10	8 x 18	-	44,5
150	264	155	140	265	225	202	18	3	24	36	12	8 x 18	-	50
200	287	200	152	320	280	258	20	3	24	36	12	8 x 18	-	55
250	330	231	165	375	335	312	22	3	28	42	12	12 x 18	-	69
300	350	250	178	440	395	365	22	4	32	48	14	12 x 22	-	95
350	385	285	190	490	445	415	22	4	36	54	14	12 x 22	-	118
400	423	319	216	540	495	465	22	4	40	60	16	16 x 22	-	172
450	464	354	222	595	550	520	22	4	44	66	25	16 x 22	-	209
500	510	404	229	645	600	570	24	4	50	70	25	20 x 22	-	264
600	585	473	267	755	705	670	30	5	60	80	25	20 x 26	-	382
700	640	520	292	860	810	775	30	5	70	80	30	24 x 26	-	507
800	730	600	318	975	920	880	30	5	80	110	30	24 x 30	-	550
900	790	628	330	1075	1020	980	34	5	90	110	30	24 x 30	-	650
1000	875	705	300	1175	1120	1080	38	5	100	130	30	24 x 30	M27	1119
1200	996	830	350	1405	1340	1295	42	5	120	180	40	28 x 33	M30	1290
1400	1107	985	390	1630	1560	1510	56	5	140	190	40	32 x 36	M33	1610

DN 80-1400 • PN 6-100 • Tmax 550 °C
Design: cast

Connection: EN 1092-1 FLANGED ENDS

PN 10

DN	A	B	L	D1	D2	D3	a	f	d1	l1	F	n x d	M	kg
80	180	-	114	200	160	138	20	3	22	33	10	8 x 18	-	29
100	195	-	127	220	180	158	20	3	22	33	10	8 x 18	-	37
125	207	-	140	250	210	188	22	3	22	33	10	8 x 18	-	45
150	264	-	140	285	240	212	22	3	24	36	12	8 x 22	-	51
200	287	-	152	340	295	268	24	3	24	36	12	8 x 22	-	70
250	330	-	165	395	350	320	26	3	28	42	12	12 x 22	-	76
300	350	250	178	445	400	370	26	4	32	48	14	12 x 22	-	99
350	385	285	190	505	460	430	26	4	36	54	14	16 x 22	-	126
400	423	312	216	565	515	482	26	4	40	60	16	16 x 26	-	186
450	464	354	222	615	565	532	28	4	44	66	25	20 x 26	-	226
500	510	404	229	670	620	585	28	4	50	70	25	20 x 26	-	281
600	581	473	267	780	725	685	30	5	60	80	25	20 x 30	-	420
700	640	520	292	895	840	800	35	5	70	80	30	24 x 30	-	560
800	730	600	318	1015	950	905	38	5	80	110	30	24 x 33	-	750
900	790	628	330	1115	1050	1005	38	5	90	110	30	28 x 33	-	1135
1000	870	705	410	1230	1160	1110	44	5	100	130	30	24 x 36	M33	1269

PN 16

DN	A	B	L	D1	D2	D3	a	f	d1	l1	F	n x d	M	kg
80	180	-	114	200	160	138	20	3	22	33	10	8 x 18	-	30
100	195	-	127	220	180	158	20	3	22	33	10	8 x 18	-	38
125	207	-	140	250	210	188	22	3	22	33	10	8 x 18	-	46
150	264	-	140	285	240	212	22	3	24	36	12	8 x 22	-	52
200	296	200	152	340	295	268	24	3	32	48	12	12 x 22	-	71
250	330	231	165	405	355	320	26	3	36	51	14	12 x 26	-	78
300	373	269	178	460	410	378	28	4	40	60	16	12 x 26	-	107
350	410	298	190	520	470	438	30	4	44	66	16	16 x 26	-	140
400	465	331	216	580	525	490	32	4	55	67	25	16 x 30	-	205
450	496	369	222	640	585	550	34	4	60	77	25	16 x 30	M27	254
500	533	404	229	715	650	610	36	4	70	84	25	16 x 33	M30	333
600	613	473	267	840	770	725	40	5	80	104	30	16 x 36	M33	486
700	683	538	292	910	840	795	40	5	90	104	30	20 x 36	M33	597
800	747	615	318	1025	950	900	41	5	100	127	30	20 x 39	M36	784
900	838	700	330	1125	1050	1000	48	5	120	164	40	24 x 39	M36	1179
1000	897	730	410	1255	1170	1115	59	5	120	180	40	24 x 42	M39	1174

PN 25

DN	A	B	L	D1	D2	D3	a		d1	l1	F	n x d	M	kg
80	180	-	114	200	160	138	24	3	22	33	10	8 x 18	-	31
100	195	-	127	235	190	162	24	3	22	33	10	8 x 22	-	40
125	207	-	140	270	220	188	26	3	22	33	10	8 x 26	-	50
150	264	-	140	300	250	218	28	3	24	36	12	8 x 26	-	55
200	296	200	152	360	310	278	30	3	32	48	12	8 x 26	M24	70
250	330	231	165	425	370	335	32	3	36	55	14	8 x 30	M27	95
300	373	269	178	485	430	395	34	4	40	60	16	12 x 30	M27	128
350	410	298	190	555	490	450	38	4	44	66	16	12 x 33	M30	175
400	465	331	216	620	550	505	40	4	55	70	25	12 x 36	M33	251
450	496	369	222	670	600	555	46	4	60	80	25	16 x 36	M33	312
500	530	404	229	730	660	615	48	4	70	80	25	16 x 36	M33	387
600	610	473	267	845	770	720	48	5	80	110	30	16 x 39	M36	536
700	680	538	292	960	875	820	50	5	90	110	30	20 x 42	M39	706
800	744	615	318	1085	990	930	53	5	100	130	30	20 x 48	M45	943
900	802	700	330	1185	1090	1030	57	5	120	170	40	24 x 48	M45	1371
1000	940	750	410	1320	1210	1140	63	5	120	190	40	24 x 56	M52	2333

DN 80-1400 • PN 6-100 • Tmax 550 °C
Design: cast

Connection: EN 1092-1 FLANGED ENDS

PN 40

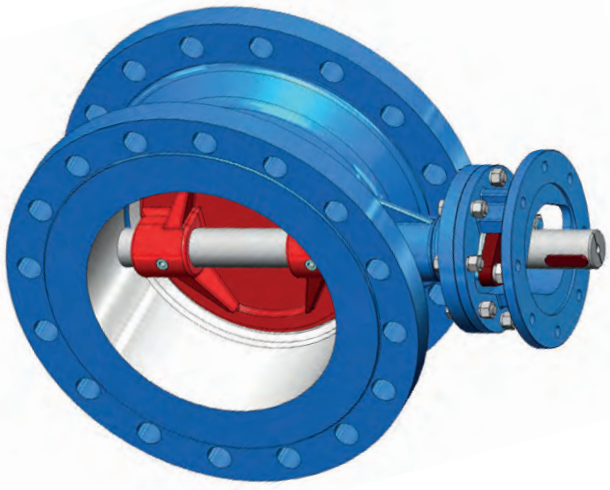
DN	A	B	L	D1	D2	D3	a	f	d1	l1	F	n x d	M	kg
80	180	-	180	200	160	138	24	3	22	33	10	8 x 18	-	35,5
100	195	-	190	235	190	162	24	3	22	33	10	8 x 22	-	47,5
125	256	-	200	270	220	188	26	3	28	46	12	8 x 26	-	52
150	270	-	210	300	250	218	28	3	32	48	12	8 x 26	-	60
200	310	219	230	375	320	285	34	3	36	55	14	12 x 30	-	100
250	362	261	250	450	385	345	38	3	40	57	16	12 x 33	-	150
300	424	289	270	515	450	410	42	4	44	66	16	16 x 33	-	200
350	460	320	290	580	510	465	46	4	55	70	25	16 x 36	-	290
400	502	357	310	660	585	535	50	4	60	80	25	16 x 39	-	400
450	570	385	330	685	610	560	57	4	70	137	30	16 x 39	M36	450
500	578	431	350	755	670	615	57	4	80	110	30	16 x 42	M39	550
600	660	492	390	890	795	735	72	5	90	110	30	16 x 48	M45	845
700	752	570	430	995	900	840	76	5	100	130	40	20 x 48	M45	1310
800	870	685	470	1140	1030	960	80	5	120	180	40	20 x 56	M52	1450

PN 63

DN	A	B	L	D1	D2	D3	a	f	d1	l1	F	n x d	M	kg
80	180	-	180	215	170	138	28	3	22	33	10	8 x 22	-	35,5
100	195	-	190	250	200	162	30	3	22	33	10	8 x 26	-	47,5
125	256	-	200	295	240	188	34	3	28	46	12	8 x 30	-	52
150	320	185	210	345	280	218	36	3	40	60	16	8 x 33	-	60
200	359	216	230	415	345	285	42	3	40	60	16	8 x 36	M33	100
250	407	290	250	470	400	345	46	3	50	70	25	8 x 36	M33	150
300	450	338	270	530	460	410	52	4	60	80	25	12 x 36	M33	200
350	480	360	290	600	525	465	56	4	70	80	25	12 x 39	M36	290
400	545	391	310	670	585	535	60	4	80	110	30	12 x 42	M39	400

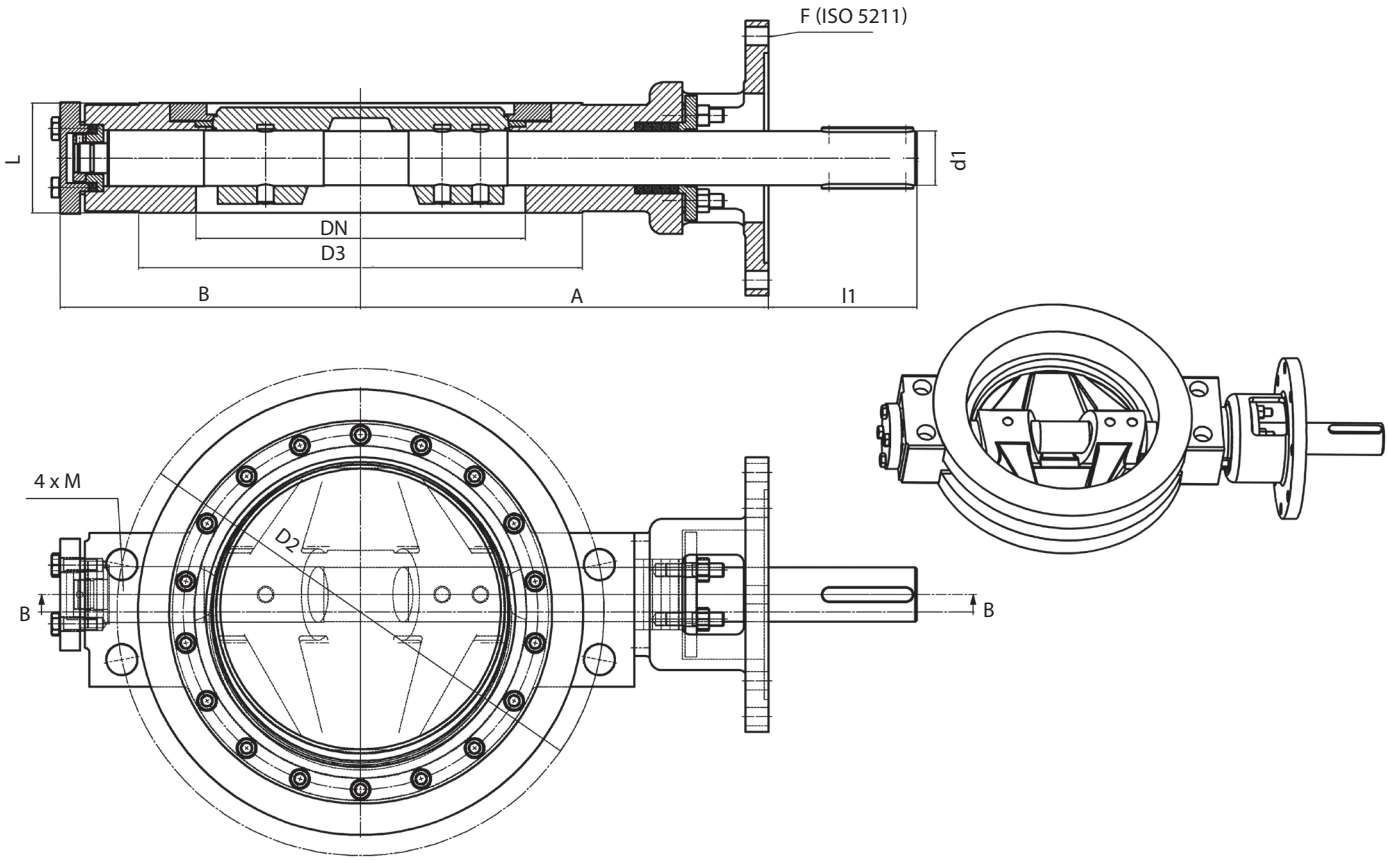
PN 100

DN	A	B	L	D1	D2	D3	a	f	d1	l1	F	n x d	M	kg
150	320	185	210	355	290	218	44	3	40	60	16	8 x 33	M30	85
200	377	227	230	430	360	285	52	3	50	70	25	8 x 36	M33	130
250	422	294	250	505	430	345	60	3	55	95	25	8 x 39	M36	205
300	517	338	270	585	500	410	68	4	70	105	30	12 x 42	M39	215
350	520	358	290	655	560	465	74	4	80	110	30	12 x 48	M45	380
400	585	420	310	715	620	535	78	4	90	130	30	12 x 48	M45	500



DN 80-1000 • PN 10-40 • Tmax 550 °C
Design: cast

Connection: EN 1092-1 WAFER TYPE



PN 10

DN	A	B	L	D2	D3	d1	l1	F	M	kg
80	195	98	49	160	138	22	33	10	-	13,5
100	210	112	56	180	158	22	33	10	-	15,5
125	230	125	64	210	188	22	33	10	-	22,5
150	280	155	70	240	212	24	36	12	-	25
200	315	200	71	295	268	24	36	12	M20	28
250	355	231	76	350	320	28	42	12	M20	39
300	385	250	83	400	370	32	48	14	M20	58
350	420	285	92	460	430	36	54	14	M20	80
400	435	312	102	515	482	40	60	16	M24	123
450	490	354	114	565	532	44	66	25	M24	161
500	560	404	127	620	585	50	70	25	M24	201
600	655	473	154	725	685	60	80	25	M27	313
700	665	520	165	840	800	70	80	30	M27	412
800	760	600	190	950	905	80	110	30	M30	567
900	800	628	203	1050	1005	90	110	30	M30	950
1000	870	705	216	1160	1110	100	130	30	M33	1002

DN 80-1000 • PN 10-40 • Tmax 550 °C
Design: cast

Connection: EN 1092-1 WAFER TYPE

PN 16

DN	A	B	L	D2	D3	d1	l1	F	M	kg
80	195	98	49	160	138	22	33	10	-	13,5
100	210	112	56	180	158	22	33	10	-	15,5
125	230	125	64	210	188	22	33	10	-	22,5
150	290	155	70	240	212	24	36	12	-	25
200	330	200	71	295	268	32	48	12	M20	30
250	355	231	76	355	320	36	55	14	M24	41
300	385	269	83	410	378	40	60	16	M24	60
350	420	298	92	470	438	44	66	16	M24	83
400	495	331	102	525	490	55	70	25	M27	128
450	520	369	114	585	550	60	80	25	M27	177
500	555	404	127	650	610	70	80	25	M30	239
600	640	473	154	770	725	80	110	30	M33	374
700	690	538	165	840	795	90	110	30	M33	432
800	760	615	190	950	900	100	130	30	M36	587
900	840	700	203	1050	1000	120	170	40	M36	980
1000	920	730	216	1170	1115	120	180	40	M39	1022

PN 25

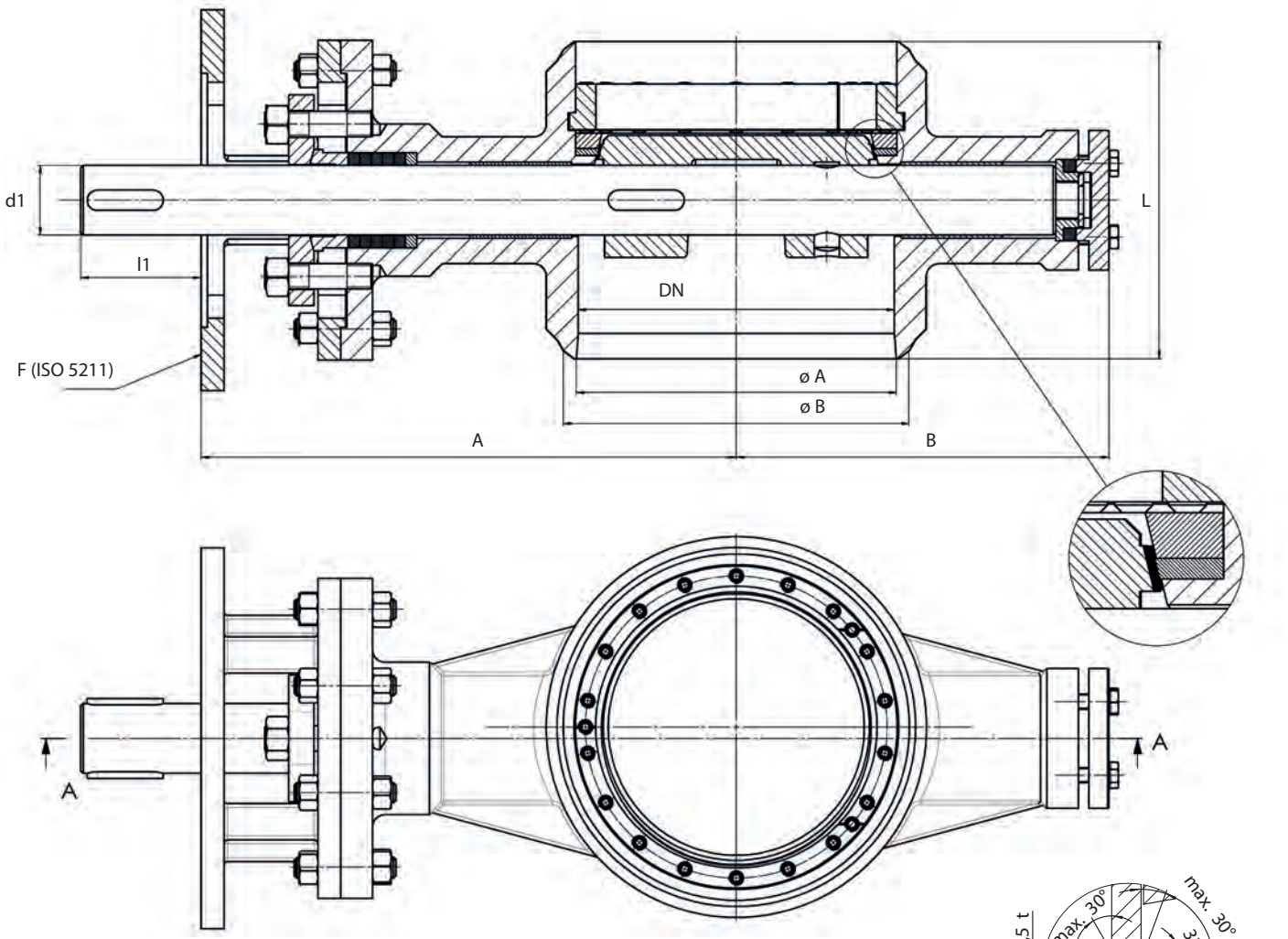
DN	A	B	L	D2	D3	d1	l1	F	M	kg
80	195	98	49	-	138	22	33	10	-	15,5
100	210	112	56	-	162	22	33	10	-	17,5
125	230	125	64	-	188	22	33	10	-	26,5
150	290	155	70	-	218	24	36	12	-	27
200	330	200	71	310	278	32	48	12	M24	32
250	355	231	76	370	335	36	55	14	M27	45
300	385	269	83	430	395	40	60	16	M27	69
350	420	298	92	490	450	44	66	16	M30	94
400	495	331	102	550	505	55	70	25	M33	145
450	520	369	114	600	555	60	80	25	M33	207
500	555	404	127	660	615	70	80	25	M33	270
600	640	473	154	770	720	80	110	30	M36	405
700	700	538	165	875	820	90	110	30	M39	483
800	760	615	190	990	930	100	130	30	M45	656
900	840	700	203	1090	1030	120	170	40	M45	1020

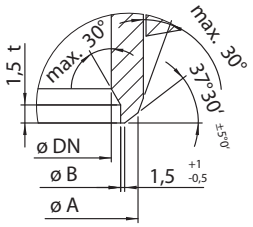
PN 40

DN	A	B	L	D2	D3	d1	l1	F	M	kg
80	195	98	49	-	138	22	33	10	-	20,5
100	210	112	56	-	162	22	33	10	-	30,5
125	270	125	70	220	188	28	46	12	-	35
150	290	165	76	250	218	32	48	12	-	40
200	340	222	89	320	285	36	55	14	M27	60
250	390	261	114	385	345	40	60	16	M30	80
300	460	289	114	450	410	44	66	16	M30	110
350	490	320	127	510	465	55	70	25	M33	150
400	530	357	140	585	535	60	80	25	M36	200
450	560	385	152	610	560	70	135	30	M36	230
500	615	431	152	670	615	80	110	30	M39	334
600	690	492	178	795	735	90	110	30	M45	585

DN 80-1000 • PN 16-100 • Tmax 550 °C
Design: cast

Connection: EN 12 627 WELDED ENDS





Welded ends

ø A - acc. to EN 12 627
ø B - inner pipe diameter
(upon customer´s request)
t - pipe thickness (upon customer´s request)

PN 16

DN	A	B	L	d1	l1	F	kg
80	195	98	180	22	33	10	25,5
100	210	112	190	22	33	10	32,5
125	230	125	200	22	33	10	39,5
150	290	155	210	24	36	12	45
200	330	200	230	32	48	12	50
250	355	231	250	36	55	14	70
300	385	269	270	40	60	16	96
350	420	298	290	44	66	16	123
400	495	331	310	55	70	25	178
450	520	369	330	60	80	25	222
500	555	404	350	70	80	25	293
600	640	473	390	80	110	30	423
700	690	538	430	90	110	30	523
800	760	615	470	100	130	30	691
900	840	700	510	120	170	40	1020
1000	920	730	550	120	180	40	1650

DN 80-1000 • PN 16-100 • Tmax 550 °C
Design: cast

Connection: EN 12 627 WELDED ENDS

PN 25

DN	A	B	L	d1	l1	F	kg
80	195	98	180	22	33	10	25,5
100	210	112	190	22	33	10	32,5
125	230	125	200	22	33	10	39,5
150	290	155	210	24	36	12	45
200	330	200	230	32	48	12	50
250	355	231	250	36	55	14	70
300	385	269	270	40	60	16	96
350	420	298	290	44	66	16	123
400	495	331	310	55	70	25	178
450	520	369	330	60	80	25	222
500	555	404	350	70	80	25	293
600	640	473	390	80	110	30	423
700	690	538	430	90	110	30	523
800	760	615	470	100	130	30	691
900	840	700	510	120	170	40	1020
1000	920	730	550	140	180	40	1650
1200	1170	942	630	160	240	48	2050

PN 40

DN	A	B	L	d1	l1	F	kg
80	195	98	180	22	33	10	25,5
100	210	112	190	22	33	10	32,5
125	270	125	200	28	46	12	45
150	290	165	210	32	48	12	60
200	340	219	230	36	55	14	70
250	390	155	250	40	60	16	80
300	460	289	270	44	66	16	95
350	490	320	290	55	70	25	155
400	530	357	310	60	80	25	257
450	560	385	330	70	135	30	230
500	615	431	350	80	110	30	319
600	690	492	390	90	110	30	548

PN 63

DN	A	B	L	d1	l1	F	kg
80	195	90	180	22	33	10	21
100	210	112	190	22	33	10	25
125	270	124	200	28	46	12	35
150	350	185	210	40	60	16	58
200	390	216	230	44	66	16	75
250	440	290	250	50	70	25	103
300	500	338	270	60	80	25	172
350	510	360	290	70	80	25	231
400	575	391	310	80	110	30	299
450	610	431	330	90	135	30	380
500	625	481	350	90	110	30	546
600	670	582	390	120	180	40	763

PN 100

DN	A	B	L	d1	l1	F	kg
150	340	185	210	40	60	16	58
200	410	227	230	50	70	25	92
250	455	294	250	60	95	25	122
300	500	338	270	70	105	30	191
350	550	358	290	90	110	30	273
400	620	420	310	90	130	30	403
450	680	453	330	90	135	30	508
500	710	485	350	120	180	40	685
600	785	575	390	120	180	40	945

FLOW CHARACTERISTICS

Kv Coefficient
A „Kv 100 %“ value represents a flow rate (in m^3/h) of density water of 1000 kg/m^3 at a pressure drop p of 0,01 MPa for the valve in the „OPEN“ position.

L32.6, L32.7

DN	NPS	Kvs [m^3/h]	ξ [-]	Cv [gall/min]	Kvs [m^3/h]	ξ [-]	Cv [gall/min]
		PN 2,5			PN 6-16		
80	3"	-	-	-	149	2,90	173
100	4"	-	-	-	250	2,50	290
125	5"	-	-	-	430	2,10	500
150	6"	-	-	-	1 170	0,58	1 360
200	8"	-	-	-	2 320	0,47	2 690
250	10"	-	-	-	3 920	0,40	4 550
300	12"	-	-	-	6 130	0,34	7 110
350	14"	-	-	-	8 880	0,30	10 300
400	16"	-	-	-	11 800	0,29	13 690
500	20"	-	-	-	19 500	0,26	22 620
600	24"	-	-	-	28 600	0,25	33 180
700	28"	-	-	-	39 700	0,24	46 050
800	32"	-	-	-	54 100	0,22	62 760
1000	40"	-	-	-	84 600	0,22	98 140
1200	48"	127 800	0,20	148 200	121 800	0,22	141 300
1400	56"	183 300	0,18	212 600	169 700	0,21	196 900
1600	64"	239 500	0,18	277 800	227 200	0,20	263 600
2000	80"	374 100	0,18	434 000	354 900	0,20	411 700

L32.6, L32.7

DN	NPS	Kvs [m^3/h]	ξ [-]	Cv [gall/min]	Kvs [m^3/h]	ξ [-]	Cv [gall/min]
		PN 25			PN 40		
80	3"	149	2,90	173	149	2,90	173
100	4"	250	2,50	290	250	2,50	290
125	5"	430	2,10	500	430	2,10	500
150	6"	1 160	0,59	1 350	650	1,90	-
200	8"	2 140	0,55	2 480	1 310	1,50	-
250	10"	3 620	0,47	4 200	2 190	1,30	-
300	12"	5 510	0,42	6 390	3 430	1,10	-
350	14"	8 220	0,35	9 540	4 900	1,00	-
400	16"	10 900	0,34	12 640	6 700	0,92	-
500	20"	18 100	0,30	21 000	11 300	0,78	-
600	24"	27 000	0,28	31 320	17 300	0,69	-
700	28"	37 400	0,27	43 380	24 900	0,62	-
800	32"	48 900	0,27	56 720	34 200	0,56	-
1000	40"	82 700	0,23	95 900	-	-	-
1200	48"	119 200	0,23	138 300	-	-	-
1400	56"	162 200	0,23	-	-	-	-

Flow coefficient - Kvs, Loss coefficient - ζ, Coefficients - Cv

L32.8 - Design: wrought

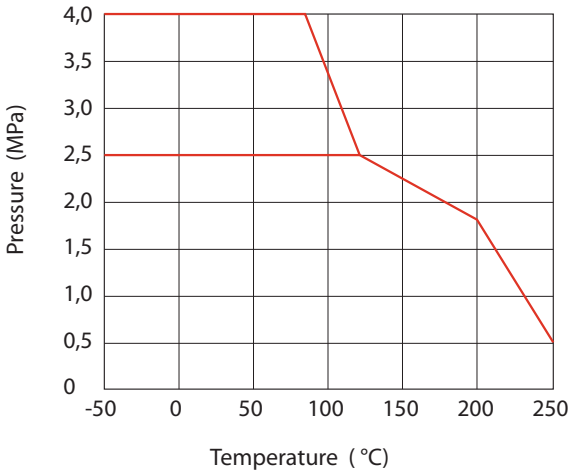
DN	Kvs [m³/h]	ξ [-]	Kvs [m³/h]	ξ [-]	Kvs [m³/h]	ξ [-]
	PN 6, 10, 16		PN 25, 40		PN 63	
150	650	1,87	460	3,79	-	-
200	1 250	1,65	820	3,71	690	5,36
250	2 150	1,31	1 430	3,00	1 190	4,33
300	3 500	1,04	2 300	2,40	1 950	3,47
350	5 000	0,95	3 200	2,32	2 650	3,35
400	6 650	0,91	4 300	2,18	3 580	3,15
500	11 750	0,98	7 350	1,82	6 100	2,63
600	17 200	0,71	11 000	1,68	9 150	2,43
700	25 500	0,69	16 000	1,48	-	-
800	33 600	0,58	22 500	1,27	-	-
1000	56 700	0,55	-	-	-	-

L32.8 - Design: cast

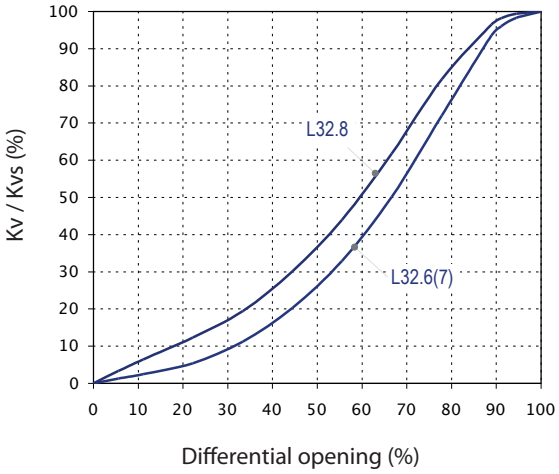
DN	Kvs [m³/h]	ξ [-]	Kvs [m³/h]	ξ [-]	Kvs [m³/h]	ξ [-]	Kvs [m³/h]	ξ [-]
	PN 6-25		PN 40		PN 63		PN 100	
80	128	3,90	128	3,90	128	3,90	-	-
100	214	3,43	214	3,43	214	3,43	-	-
125	342	3,27	274	5,11	274	5,11	-	-
150	650	1,88	457	3,80	342	6,78	342	6,78
200	1 232	1,65	821	3,72	684	5,36	586	7,31
250	2 139	1,34	1 429	3,00	1 190	4,33	969	6,52
300	3 490	1,04	2 297	2,41	1 914	3,47	1 558	5,23
350	4 962	0,96	3 182	2,32	2 652	3,35	2 188	4,91
400	6 630	0,91	4 286	2,19	3 571	3,15	2 947	4,62
450	8 580	0,87	5 868	1,87	4 890	2,69	4 192	3,66
500	10 984	0,81	7 322	1,83	6 102	2,63	5 329	3,45
600	16 886	0,71	10 984	1,68	9 153	2,43	7 913	3,25
700	23 319	0,69	15 920	1,49	-	-	-	-
800	33 225	0,58	22 241	1,30	-	-	-	-
900	42 429	0,57	-	-	-	-	-	-
1000	53 293	0,55	-	-	-	-	-	-
1200	82 977	0,47	-	-	-	-	-	-
1400	118 050	0,43	-	-	-	-	-	-

Flow coefficient - Kvs, Loss coefficient - ζ, Coefficients - Cv

Maximum working pressure/temperature diagram for L32.7 (PTFE)



Relative flow characteristics (DN 300 PN 25)



Application
The throttling butterfly valves are valves to regulation medium flow rate, which can flow by both ways. The throttling butterfly valves aren't closing valves.

Working medium
- air
- water
- non-aggressive liquids
- gases

Maximum working temperature
A working temperature is from - 50 °C up to + 500 °C and depends on the body and gland packing material.

Technical description
The disc is pivoted by operating shaft in the body. The angle displacement of the disc is 0-90°. Disc position is shown by indicator line on the shaft, on the lever eventually on the electric actuator. There is always a gap between disc and body in closed position for type L35.18. In case of butterfly valve design with sealing collar (type L35.38) then the gap is limited to shaft area merely.

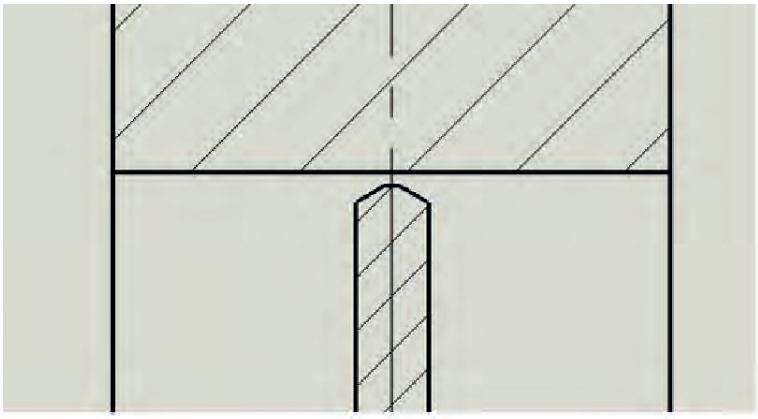
Operation
- lever
- manual gear-box
- electric actuator
- bare shaft
- pneumatic or hydraulic actuator

Testing
The valves are tested according to PED 97/23/EC and EN 12 266-1 as standard or ISO 5208.

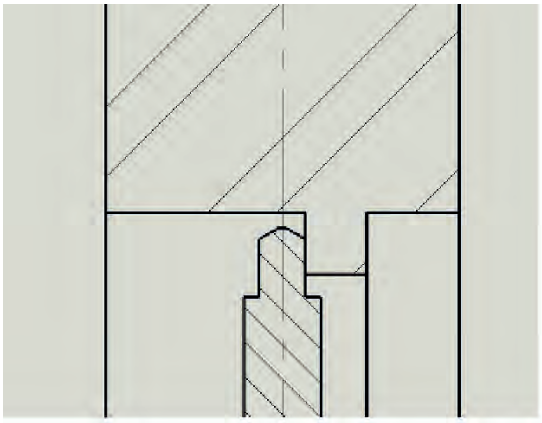
Connection to piping
- **wafer type** acc. to EN 1092-1
- **flanged ends** acc. to EN 1092-1

Other ways of connection are acc. to the customer´s requierement. The face to face and connecting dimensions are noted in table of dimensions, e.g. GOST, ANSI.

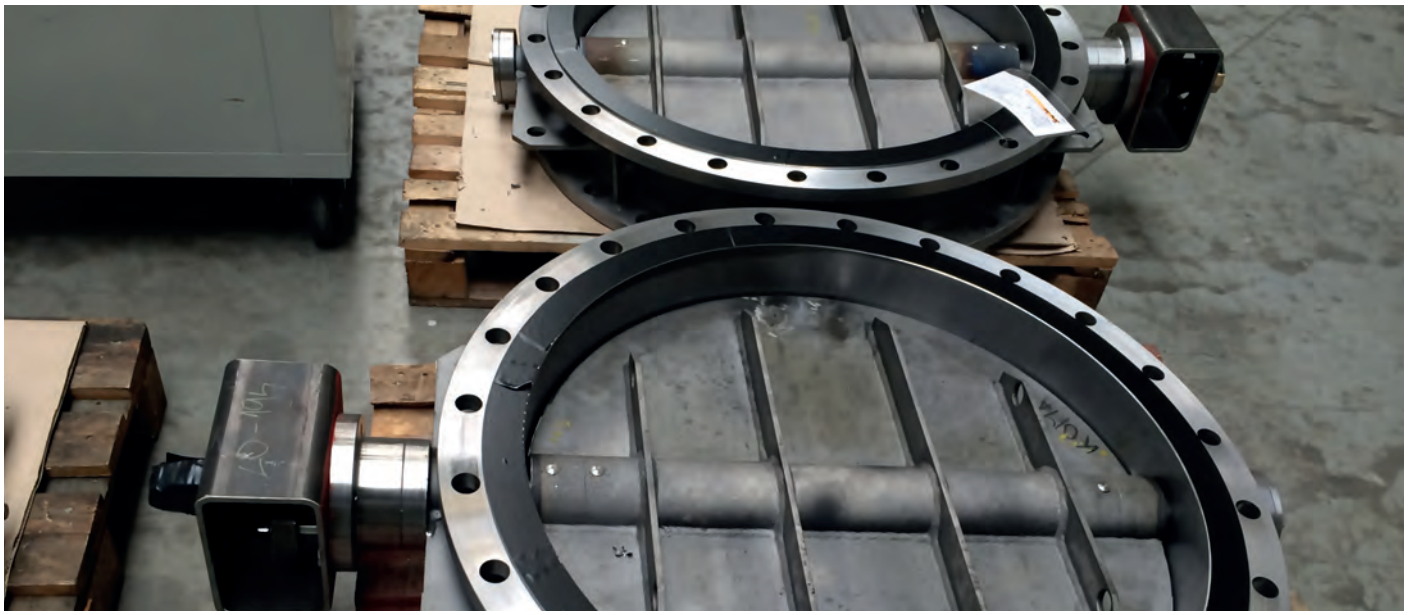
Installation
The throttling butterfly valves can be mounted into horizontal, vertical or inclined pipeline with the horizontal rotating axe of the disc. When there is a butterfly valve with actuator it is important to abide the actuator's manufacturer.



Design type L35.18



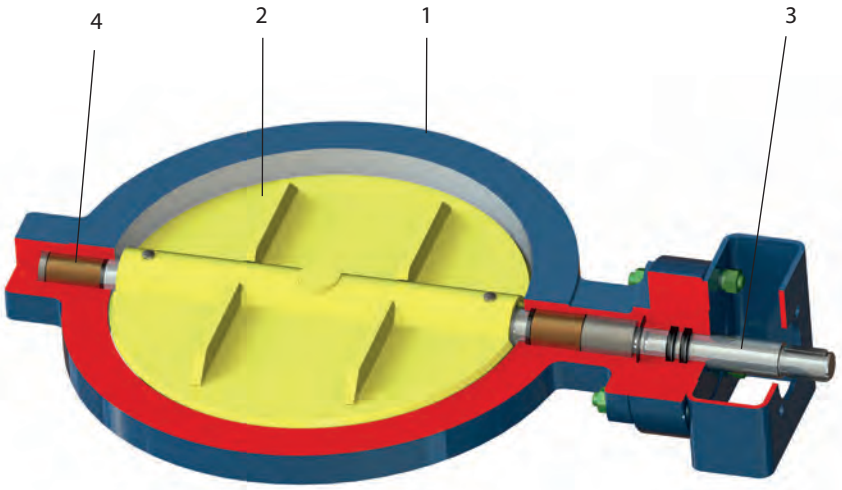
Design type L35.38



DN 50-2400 • PN 1-16 • Tmax +500 °C
L35.18 • DN 50-2400 • PN 1-16
L35.38 • DN 200-2400 • PN 2,5-16

Connection: EN 1092-1 FLANGED ENDS
EN 1092-1 WAFER TYPE

More detailed information will be provided on request.



Material

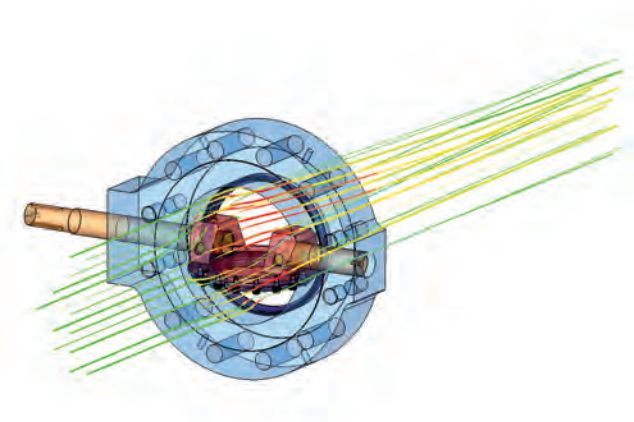
Position	Component	EN				
		Carbon forged steel			Stainless steel	Alloy forged steel
		to +150 °C*	to +425 °C*	from -40 °C to +400 °C*	to +500 °C*	to +500 °C*
1	Body	1.0577	1.0425	1.0566	1.4541	1.7335
2	Disc					
3	Shaft, pivot	1.4021-QT700			1.4541	1.4923
4	Bearing bush	GGG40; KU; 42 3046	GGG40; KU; 42 3046; Ni-Rezist		Ni-Rezist	Ni-Rezist

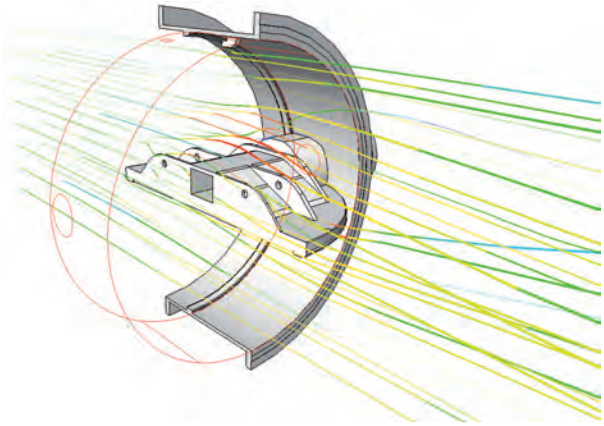
* The thermal use of the valve depends on the pressure-temperature characteristic of the material - see further information in this catalog.

Production range

DN	Wafer type					Flanged ends				
	PN					PN				
	1*	2,5	6	10	16	1*	2,5	6	10	16
50	•	•								
100	•	•								
150	•	•	•	•	•	•	•	•	•	•
200	•	•	•	•	•	•	•	•	•	•
250	•	•	•	•	•	•	•	•	•	•
300	•	•	•	•	•	•	•	•	•	•
350	•	•	•	•	•	•	•	•	•	•
400	•	•	•	•	•	•	•	•	•	•
450	•	•	•	•	•	•	•	•	•	•
500	•	•	•	•	•	•	•	•	•	•
600	•	•	•	•	•	•	•	•	•	•
700	•	•	•	•	•	•	•	•	•	•
800	•	•	•	•	•	•	•	•	•	•
900	•	•	•	•	•	•	•	•	•	•
1000	•	•	•	•	•	•	•	•	•	•
1200	•	•	•	•	•	•	•	•	•	•
1400	•	•	•	•		•	•	•	•	
1600	•	•	•	•		•	•	•	•	
2000	•	•	•			•	•	•		
2200	•	•	•			•	•	•		
2400	•	•	•			•	•	•		

CFD ANALYSIS

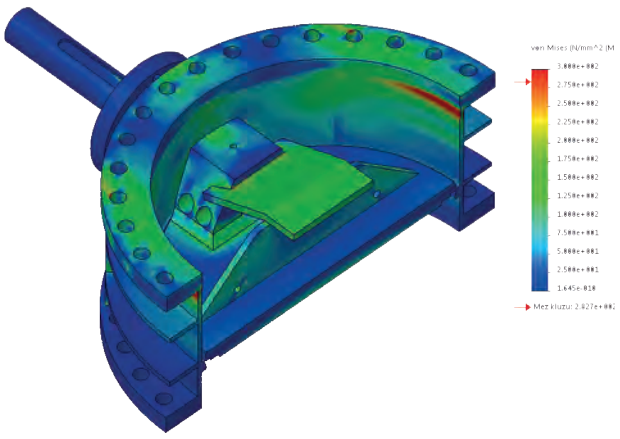




Kvs and Loss coefficient analysis

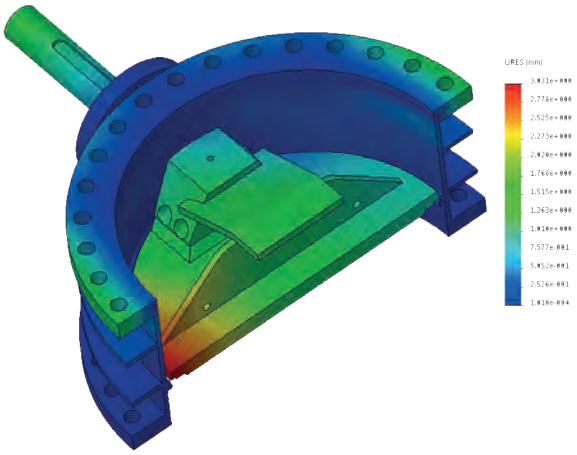
FEM ANALYSIS

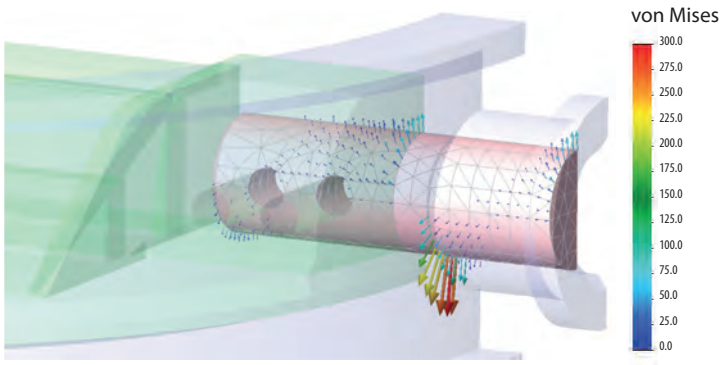
- stress



Equivalent tense

- displacement





Contact pressure in the bearing and disc hub

PRESSURE-TEMPERATURE RATING

Design: wrought

Body material	Maximum Allowable Pressure PS (MPa)								
Temperature	PN	100 °C	150 °C	250 °C	300 °C	350 °C	400 °C	450 °C	500 °C
1.0577	6	0,59	0,54	-	-	-	-	-	-
	10	0,99	0,91	-	-	-	-	-	-
	16	1,58	1,45	-	-	-	-	-	-
	25	2,47	2,27	-	-	-	-	-	-
	40	3,96	3,64	-	-	-	-	-	-
	63	6,24	5,74	-	-	-	-	-	-
Temperature	PN	100 °C	200 °C	250 °C	300 °C	350 °C	400 °C	425 °C	450 °C
1.0425	6	0,55	0,50	0,45	0,41	0,38	0,35	0,27	-
	10	0,92	0,83	0,76	0,69	0,64	0,59	0,45	-
	16	1,48	1,33	1,21	1,10	1,02	0,95	0,73	-
	25	2,32	2,08	1,90	1,72	1,60	1,48	1,15	-
	40	3,71	3,33	3,04	2,76	2,57	2,38	1,84	-
	63	5,85	5,25	4,80	4,35	4,05	3,75	2,91	-
Temperature	PN	100 °C	200 °C	250 °C	300 °C	350 °C	400 °C	450 °C	500 °C
1.0566	6	0,60	0,60	0,60	0,58	0,54	0,47	-	-
	10	1,00	1,00	1,00	0,98	0,90	0,79	-	-
	16	1,60	1,60	1,60	1,56	1,44	1,27	-	-
	25	2,50	2,50	2,50	2,45	2,26	1,98	-	-
	40	4,00	4,00	4,00	3,92	3,61	3,18	-	-
	63	6,30	6,30	6,30	6,18	5,70	5,01	-	-
1,4541	6	0,59	0,53	0,50	0,47	0,46	0,44	0,43	0,42
	10	0,99	0,88	0,84	0,79	0,76	0,74	0,72	0,70
	16	1,58	1,42	1,34	1,27	1,22	1,18	1,16	1,13
	25	2,48	2,21	2,10	1,98	1,91	1,85	1,81	1,77
	40	3,96	3,54	3,37	3,18	3,06	2,97	2,90	2,83
	63	6,24	5,58	5,31	5,01	4,83	4,68	-	-
1,7335	6	0,60	0,60	0,60	0,60	0,57	0,54	0,50	0,39
	10	1,00	1,00	1,00	1,00	0,95	0,90	0,84	0,65
	16	1,60	1,60	1,60	1,60	1,52	1,44	1,34	1,04
	25	2,50	2,50	2,50	2,50	2,38	2,25	2,10	1,63
	40	4,00	4,00	4,00	4,00	3,80	3,60	3,37	2,60

Design: cast

Body material	Maximum Allowable Pressure PS (MPa)													
Temperature	PN	20 °C	100 °C	150 °C	200 °C	250 °C	300 °C	325 °C	350 °C	400 °C	425 °C	450 °C	500 °C	550 °C
A216 WCB	6	0,5	0,5	0,5	0,5	0,4	0,3	-	0,3	0,2	0,1	-	-	-
	10	0,9	0,9	0,9	0,9	0,8	0,7	-	0,6	0,4	0,1	-	-	-
	16	1,6	1,4	1,3	1,1	1	0,9	-	0,7	0,5	0,5	-	-	-
	25	2,5	2,3	2,1	1,9	1,7	1,5	-	1,3	1,1	1	-	-	-
	40	4,1	3,7	3,6	3,4	3,2	2,9	-	2,7	2,6	2,1	-	-	-
	63	6,5	5,9	5,7	5,6	5,3	4,9	-	4,7	4,4	3,7	-	-	-
	100	9,6	8,5	8,3	8,2	7,8	7,3	-	7	6,5	5,4	-	-	-
A217 WC6	16	1,6	1,4	-	1,1	-	0,9	-	0,7	0,5	-	0,3	0,2	0,1
	25	2,5	2,3	-	1,9	-	1,6	-	1,4	1,2	-	1	0,6	0,3
	40	4,1	4	-	3,7	-	3,2	-	3	2,7	-	2,4	1,7	0,9
	63	6,5	6,5	-	6,1	-	5,4	-	5,1	4,7	-	4,1	3,2	1,5
	100	9,6	9,6	-	8,9	-	8	-	7,5	6,9	-	6,2	4,7	2,3
A352 LCB	16	1,6	1,4	1,3	1,1	1	0,8	0,7	-	-	-	-	-	-
	25	2,5	2,2	2	1,7	1,5	1,3	1,2	-	-	-	-	-	-
	40	3,7	3,3	3,3	3,2	3	2,9	2,8	-	-	-	-	-	-
	63	6,2	5,7	5,5	5,3	5,1	4,8	4,7	-	-	-	-	-	-
	100	9,2	8,3	8,1	7,8	7,5	7,1	6,9	-	-	-	-	-	-
A351 CF8	6	0,5	0,5	-	0,3	-	-	-	-	-	-	-	-	-
	10	0,9	0,9	-	0,9	-	0,7	-	0,6	0,5	-	0,4	0,2	0,1
	16	1,5	1,4	-	1,1	-	0,9	-	0,7	0,5	-	0,4	0,2	0,1
	25	2,4	2,1	-	1,7	-	1,4	-	1,2	1	-	0,8	0,6	0,4
	40	4	3,3	-	2,8	-	2,4	-	2,3	2,1	-	2	1,8	1,5
	63	6,3	4,2	-	3,5	-	3,1	-	3	2,9	-	2,8	2,6	2,2
	100	9,3	7,6	-	6,4	-	5,7	-	5,5	5,3	-	5	4,9	4
A351 CF8M	16	1,5	1,3	-	1,1	-	0,9	-	0,7	0,5	-	0,4	0,2	0,1
	25	2,4	2	-	1,7	-	1,4	-	1,2	1	-	0,8	0,6	0,4
	40	3,9	3,4	-	2,8	-	2,5	-	2,3	2,2	-	2	1,8	1,6
	63	6,3	4,3	-	3,6	-	3,2	-	3,1	3	-	2,9	2,8	2,4
	100	9,3	7,9	-	6,6	-	5,9	-	5,7	5,5	-	5,4	5	4,5

CERTIFICATION

Product Certificate for L32

Product Certificate for L35

Safety Integrity Level for L32

Certificate of Conformity to Technical Regulation „ Safety of machines and equipment“

FIRE SAFE Certificate acc. to ISO 10497 and API Standard 607

Certificate of Conformity (Ukraine)

QMS Certificate in welding acc. to EN ISO 3834-2

QMS Certificate acc. to EN ISO 9001:2015

EMS Certificate acc. to EN ISO 14001:2015

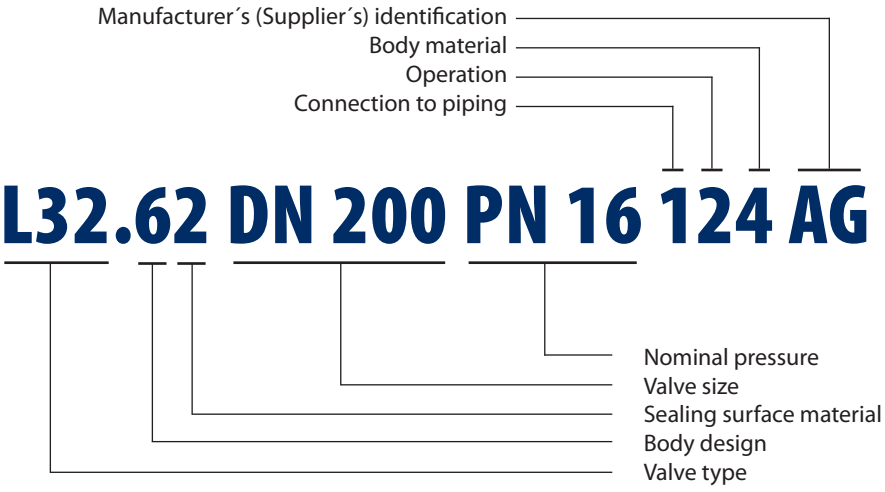
Management System Certificate acc. to BS OHSAS 18001:2007

ASME BPVC III - N Certificate

ASME BPVC III - NPT Certificate

TYPE NUMBER COMPOSITION

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



Valve type
- L32 – butterfly valve
- L35 – throttling butterfly valve

Body design - L32
- 6 – fabricated or forged body, single eccentricity
- 7 – fabricated, cast or forged body, double eccentricity
- 8 – fabricated, cast or forged body, triple eccentricity

Body design - L35
- 1 – fabricated or forged body, centric control check valve
- 3 – fabricated or forged body, centric control check valve with collar

Sealing surface material
- 1 – metal x NBR
- 2 – metal x EPDM
- 3 – metal x VITON
- 4 – metal x VITON GF
- 5 – metal x PTFE
- 6 – metal x other type of hard sealing
- 7 – metal x lamellar seal ring
- 8 – metal x metal

Connection to piping
- 1 – flanged ends
- 2 – welded ends
- 7 – wafer type

Operation
- 1 – lever
- 2 – gear-box
- 3 – electric actuator
- 4 – pneumatic, hydraulic, el.-hydraulic actuator and their combination
- 5 – bare shaft
- 8 – extension
- 9 – lever with counterweight and hydraulic cylinder

Body material
- 0 – stainless steel
- 2 – alloy cast steel
- 3 – alloy forged steel
- 4 – carbon forged steel
- 5 – carbon cast steel
- 7 – heavy non-ferrous metals

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

For an order and delivery of the goods are obligatory the data mentioned in respective specifications of manufacturer.

Czech Republic
ARMATURY Group a.s.
Production plant and Headquarters
Nádražní 129, 747 22 Dolní Benešov
tel.: +420/553 680 111
fax: +420/553 680 333
email: dolni.benesov@agroup.cz

Slovakia
ARMATÚRY GROUP, s.r.o.
Registered office
Jánošíkova 264, 010 01 Žilina
tel.: +421/41/707 77 77
fax: +421/41/707 77 70
email: zilina@agroup.cz

Production plants
Kráľová nad Váhom č. 785
925 91 Kráľová nad Váhom
tel.: +421/31/770 00 67
fax: +421/31/770 00 69
email: sala@agroup.cz

Južná trieda č. 74, 040 01 Košice
tel.: +421/55/677 18 77
fax: +421/55/677 18 78
email: kosice@agroup.cz

Austria
Armatury Group GmbH
ARMATURY Group a.s. official representative
Attemsgasse 45/1/7, A-1220 Wien
mob.: +43(0)/664/88 51 33 33
tel.: +43(0)/1/20 21 985
fax: +43(0)/1/20 21 985
email: david.styblo@armatury.at

Germany
Armatury Group GmbH
ARMATURY Group a.s. official representative
Technologie Centrum Bissendorf Gewerbepark 18,
49143 Bissendorf
mob.: +43(0)/664/88 51 33 33
tel.: +49(0)/5402/70/2532
fax: +49(0)/5402/70/2531
email: david.styblo@armatury.at

Russia
AO „ARMATURY Group a.s."
ARMATURY Group a.s. official representative
3rd street Tverskaya-Yamskaya, house 31/35,
125047 Moscow
tel./fax: +7/495 956 3335
email: moscow@agroup.cz

China
ARMATURY GROUP Co., Ltd
Subsidiary company
Xinjing road 18
Zhangjiagang Economic & Technological Development Zone
Jiangsu, China
mob. (China): +86/137 7326 6078
mob. (CZ): +420/606 713 721
email: radomir.lukes@agroup.cz

United Arab Emirates
ARMATURY Group a.s. DMCC
ARMATURY Group a.s. official representative
No. 301, HDS Tower (cluster F), Jumeira Lake Towers
Dubai, United Arab Emirates
mob.: +971/564 167 600
tel.: +971/043 999 167
email: sivaram.jayaraman@agroup.cz

Other business representatives abroad:
Poland, Norway, Turkey, Estonia, Romania, Egypt, Iraq,
Pakistan, India, Sudan, Algeria, Thailand, Sweden
and other countries.

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