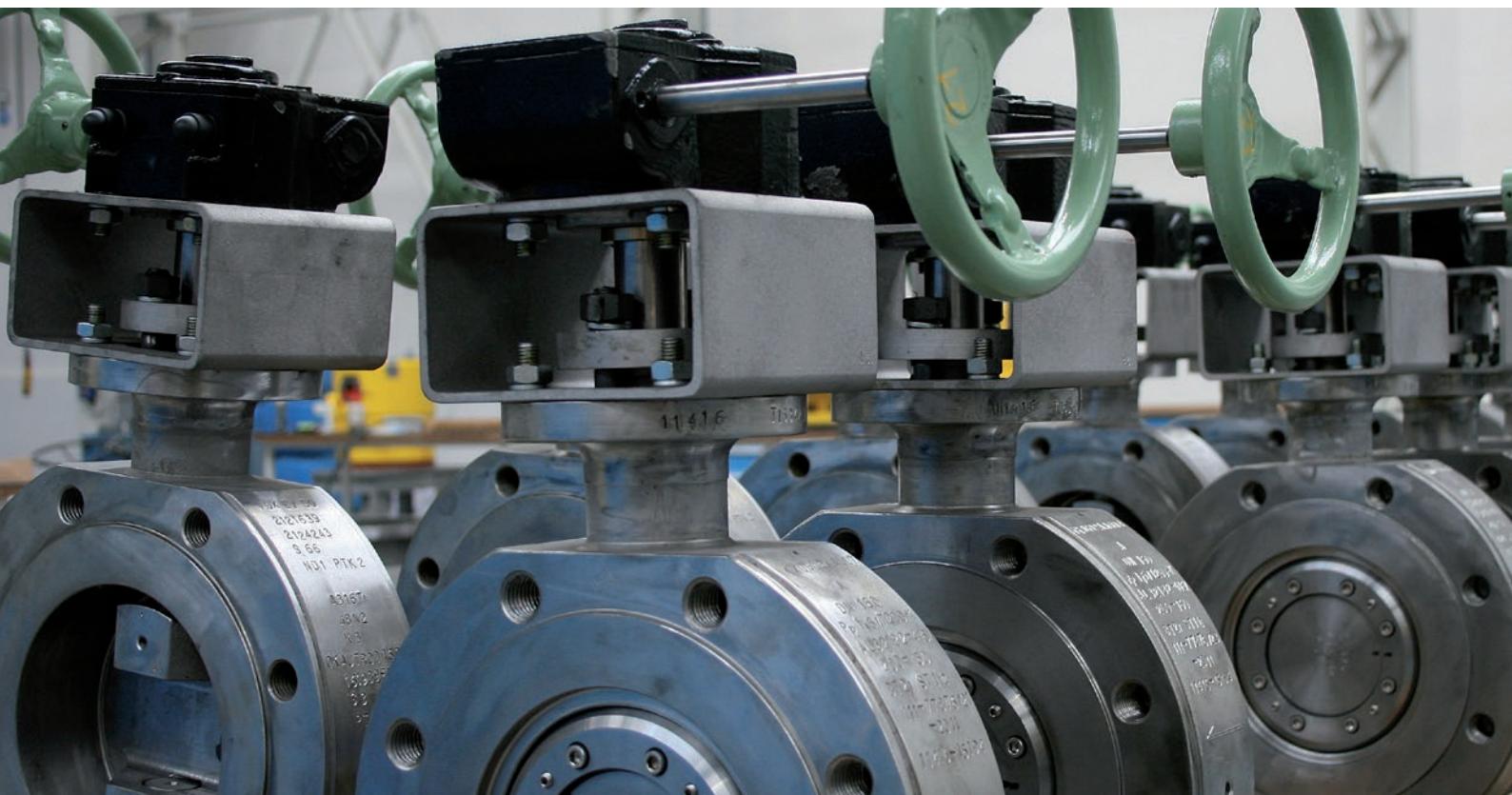




## BUTTERFLY VALVES



## 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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## 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

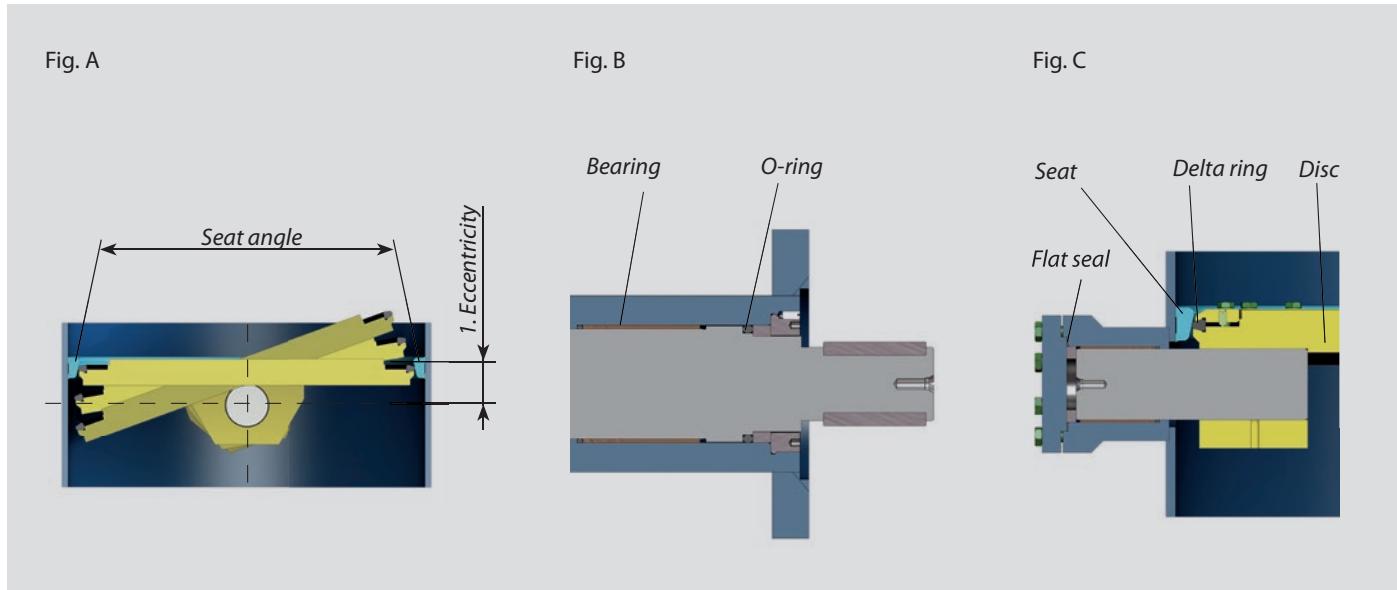
- easy replacement of gasket
- gasket is not interrupted on the circumference by shaft

**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.





### 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

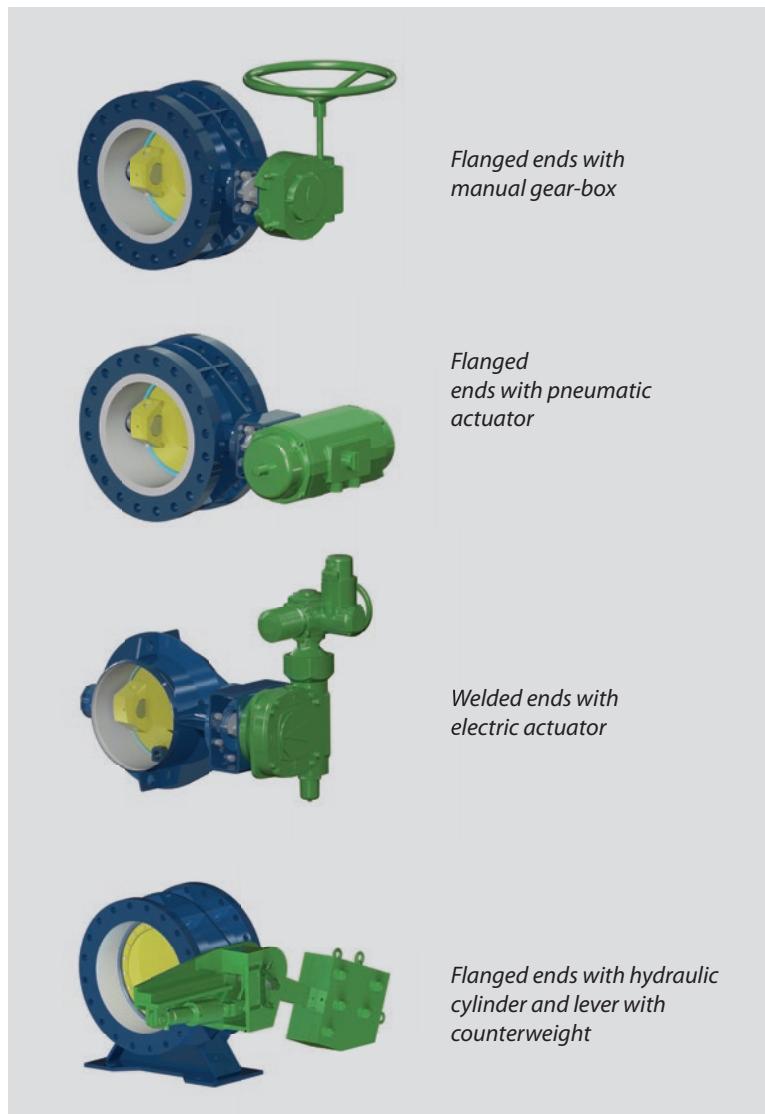
The valves are tested according to EN 12 266-1/ISO 5208.

### 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 requirement, 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.



### 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	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

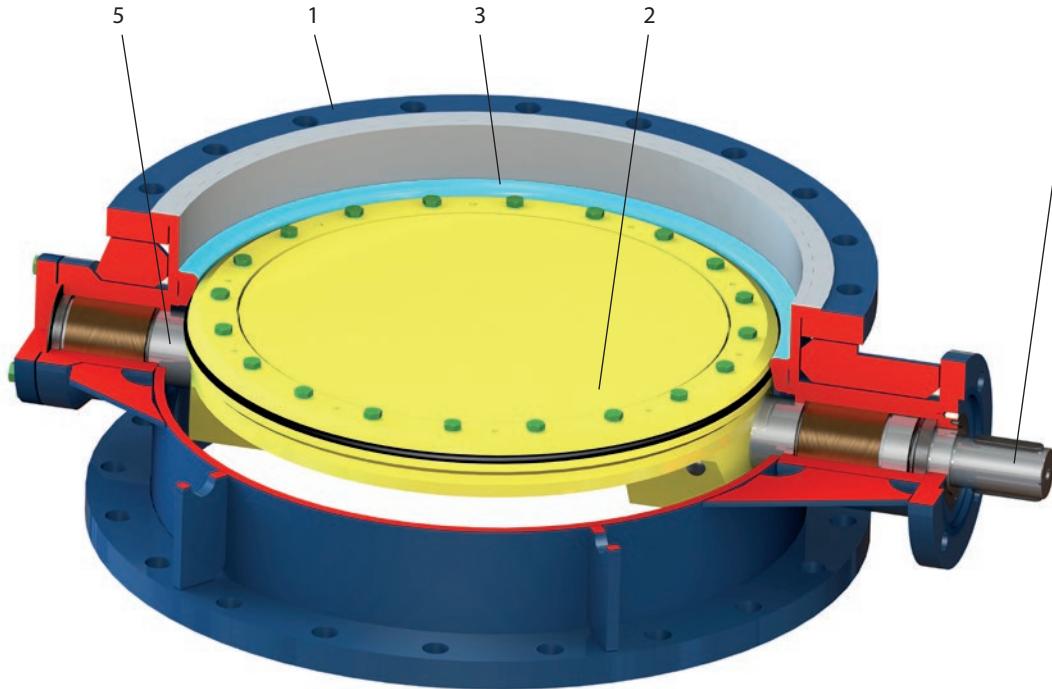
Other dimensions (up to DN 3500) can be offered upon request.



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		Material variants acc. to EN		Material variants acc. to ASTM		
		Carbon steel		Stainless steel		Carbon steel		Stainless steel
		-29°C - +200°C*	-46°C - +200°C*	-50°C - +200°C*	-29°C - +200°C*	-46°C - +200°C*	-50°C - +200°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, 1.4301	A182 F304	A182 F304	A182 F316	
4	Shaft	1.4021	1.4021	1.4541, 1.4571	A182 F6	A182 F6	A182 F316	
5	Pivot	1.4021	1.4021	1.4541, 1.4571	A182 F6	A182 F6	A182 F316	

\*Temperature application depends on the seal of valve and pressure-temperature material characteristics.

Elastomer	Identification	Working medium	Working temperature
Nitrile-butadien rubber	NBR	Water, air, mineral oils, petroleum, petrol, animal and vegetable oils, non-aggressive gases	from -20 °C to +80 °C
Ethylene-propylene rubber	EPDM	Steam, hot water, ozone; not suitable for oil and grease	from -40 °C to +130 °C
Fluorine rubber	FPM	The highest chemical resistance of all elastomers; oil products, stack and coke-oven gases etc.; not suitable for steam and hot water	from -20°C to +180°C
	VITON GF	Steam, hot water, acids, aromatic liquids (unleaded)	

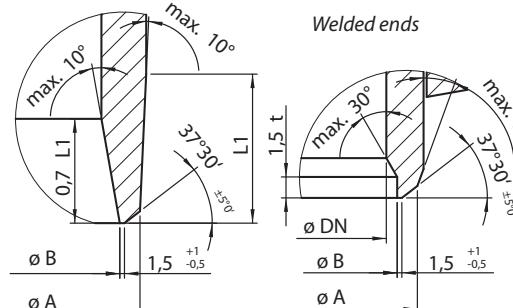
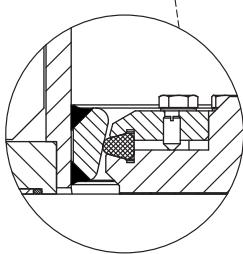
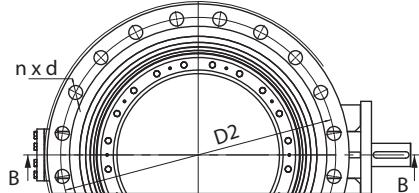
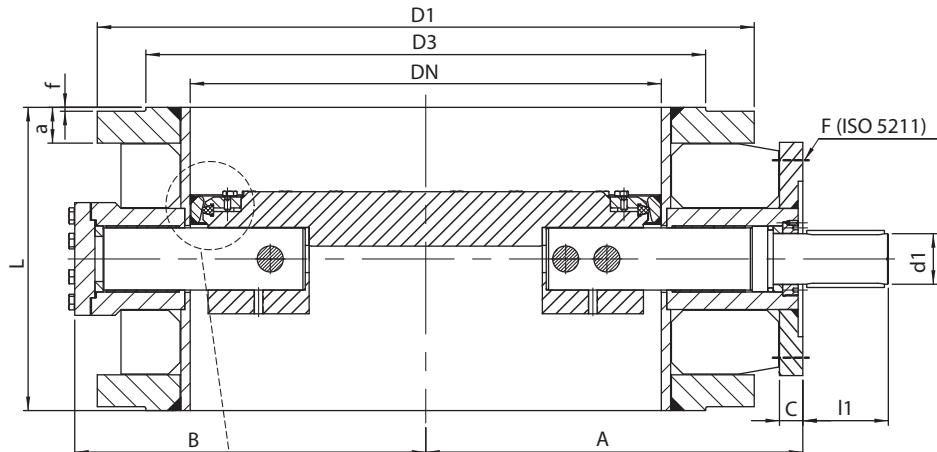
# SINGLE-ECCENTRIC BUTTERFLY VALVES

TYPE L32.6



DN 150-2400 • PN 2,5-25 • Tmax 180°C

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



$\phi A$  - acc. to EN 12 627  
 $\phi B$  - inner pipe diameter (upon customer's request)  
 $t$  - pipe thickness (upon customer's request)  
 $L_1 = 48$ , for  $t \leq 16$   
 $L_1 = 3t$ , for  $t \leq 50$

## PN 2,5

DN	A	B	C	L*	F	d1	I1	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	145	1790	1730	1690	48	2	30	40	2400
2000	1325	1290	35	950	30	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	220	2605	2540	2495	62	2	33	56	11900

## PN 6

DN	A	B	C	L*	F	d1	I1	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	70	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	90	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	25	80	110	1405	1340	1295	40	2	33	32	1240
1400	920	890	30	710	25	100	110	1630	1560	1510	44	2	36	36	2200
1600	1110	1080	35	790	30	140	145	1830	1760	1710	48	2	36	40	2800
2000	1330	1290	35	950	35	140	165	2265	2180	2125	54	2	42	48	4750
2200	1700	1450	40	1030	40	160	220	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  $\phi D \times t$  ( $\phi D$  – outside pipe diameter;  $t$  – the pipe thickness) for welding are given by customer.



# SINGLE-ECCENTRIC BUTTERFLY VALVES

**TYPE L32.6**

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	70	670	620	585	38	2	26	20	235
600	430	410	25	390	16	50	85	780	725	685	42	2	30	20	365
700	535	485	25	430	16	65	90	895	840	800	42	2	30	24	505
800	595	575	25	470	16	70	90	1015	950	905	44	2	33	24	700
1000	700	680	30	550	25	80	110	1230	1160	1110	44	2	36	28	1090
1200	790	760	30	630	25	100	140	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	240	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	70	580	525	490	38	2	30	16	165
500	395	370	25	350	16	50	90	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	130	1025	950	900	54	2	39	24	650
1000	710	700	30	550	25	100	140	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	220	1685	1590	1530	58	2	48	36	3100
1600	1380	1080	40	790	40	160	240	1930	1820	1750	64	2	56	40	3920

## PN 25

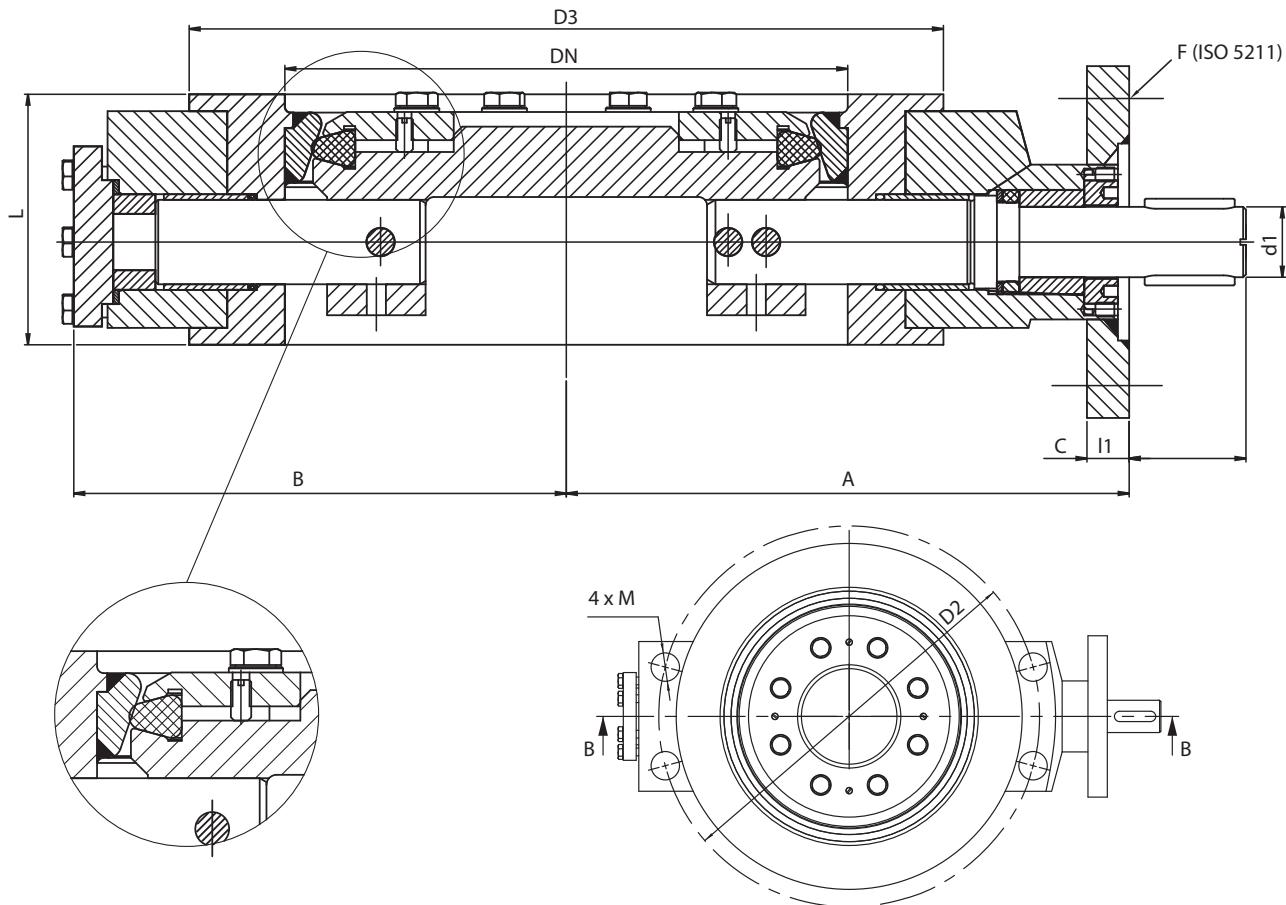
DN	A	B	C	L*	F	d1	l1	Flanged ends							
								D1	D2	D3	a	f	d	n	kg
150	150	142	15	210	10	25	50	300	250	218	30	2	26	8	34
200	210	185	20	230	12	25	50	360	310	278	32	2	26	12	55
250	230	220	20	250	12	30	60	425	370	335	35	2	30	12	71
300	270	250	20	270	12	35	75	485	430	395	38	2	30	16	109
350	320	295	25	290	14	40	80	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	25	100	140	1085	990	930	70	2	48	24	860
1000	840	790	35	550	30	120	160	1320	1210	1140	70	2	56	28	1500
1200	915	875	40	630	40	140	220	1530	1420	1350	70	2	56	32	2300
1400	1040	980	40	710	40	160	240	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	I1	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	145	2000
2000	1330	1290	35	540	30	2130	2090	140	M27	165	4200

## PN 6

DN	A	B	C	L	F	D2	D3	d1	M	I1	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	70	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	85	550
1000	690	555	30	300	25	1120	1080	80	M27	110	820
1200	810	780	30	350	25	1340	1295	80	M30	110	1240
1400	930	900	30	390	25	1560	1510	100	M33	110	2000
1600	1110	1080	35	440	30	1760	1710	140	M33	145	2710
2000	1330	1290	50	540	35	2180	2125	140	M39	165	5130

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



# SINGLE-ECCENTRIC BUTTERFLY VALVES

**TYPE L32.6**

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	I1	kg
150	169	144	15	76	10	240	212	25	-	40	17
200	200	175	15	89	10	295	268	25	-	40	30
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	132
500	395	365	25	152	14	620	585	40	M24	70	185
600	480	450	25	178	16	725	685	50	M27	85	290
700	530	485	25	229	16	840	800	65	M27	90	420
800	595	575	25	241	16	950	905	70	M30	90	590
1000	715	700	30	300	25	1160	1110	80	M33	110	1080
1200	820	800	30	350	25	1380	1330	100	M36 x 3	140	1260
1400	1015	955	40	390	40	1590	1535	140	M39 x 3	140	2450
1600	1270	1080	40	440	40	1820	1760	140	M45 x 3	165	3100
2000	1430	1350	40	540	40	2230	2170	160	M45 x 3	240	4310

## PN 16

DN	A	B	C	L	F	D2	D3	d1	M	I1	kg
150	169	144	15	76	10	240	212	25	-	40	17
200	200	175	15	89	10	295	268	25	M20	40	32
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	70	120
500	420	370	25	152	16	650	610	50	M30	90	215
600	480	450	30	178	25	770	725	65	M33	90	352
700	515	485	30	229	25	840	795	70	M33	110	435
800	600	565	30	241	25	950	900	85	M36 x 3	130	600
1000	715	695	30	300	25	1170	1115	100	M39 x 3	140	1100
1200	830	805	30	350	35	1390	1330	100	M45 x 3	160	1300
1400	1070	980	40	390	40	1590	1535	140	M45 x 3	220	2800
1600	1400	1080	40	440	40	1820	1760	160	M52 x 3	240	3400

## PN 25

DN	A	B	C	L	F	D2	D3	d1	M	I1	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	60	62
300	280	250	20	114	12	430	395	35	M27	70	80
350	325	295	25	127	14	490	450	40	M30	80	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 x 3	110	380
700	540	505	30	229	25	875	820	85	M39 x 3	110	500
800	645	610	30	241	25	990	930	100	M45 x 3	140	770
1000	870	800	35	300	30	1210	1140	120	M52 x 3	160	1390
1200	940	880	40	350	40	1420	1350	140	M52 x 3	220	1480
1400	1070	980	40	390	40	1640	1560	160	M56 x 3	240	3100

Depth of the thread ("M") in the body 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.

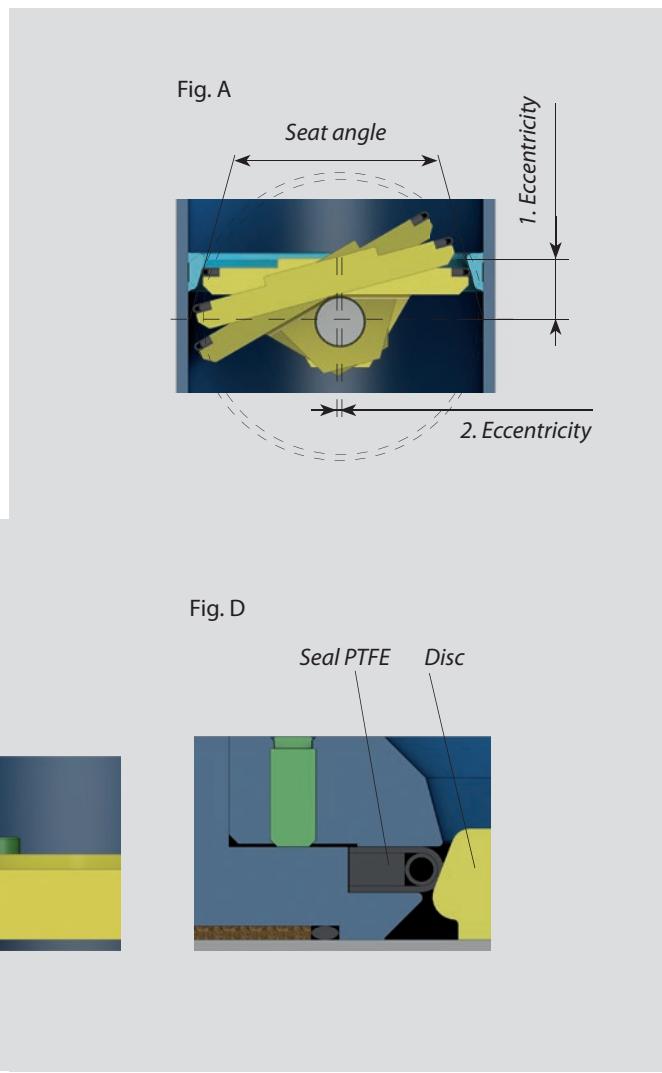
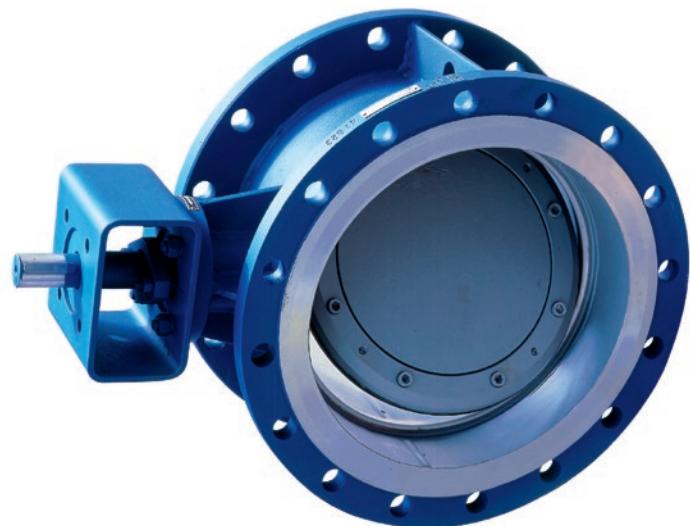


Fig. B

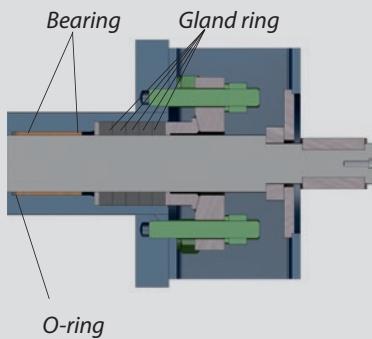


Fig. C

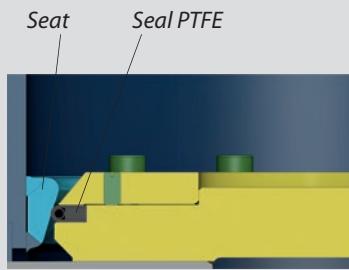
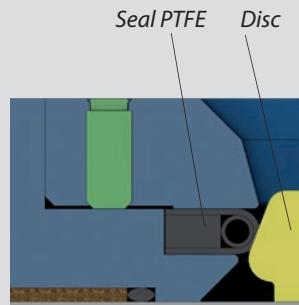


Fig. D





### 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

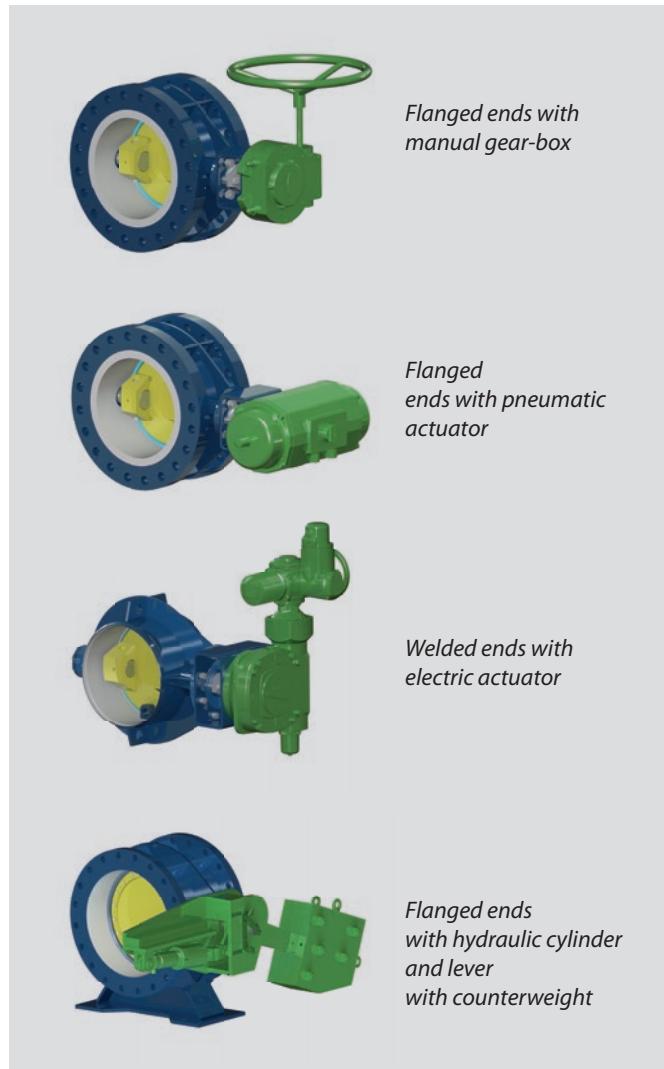
The valves are tested according to EN 12 266-1/ISO 5208.

### 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 requirement, 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.



### Production range

DN	Flanged ends						Welded ends						Wafer type						Wafer type design metal x metal				
	PN						PN						PN						PN				
	2,5	6	10	16	25	40	2,5	6	10	16	25	40	2,5	6	10	16	25	40	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

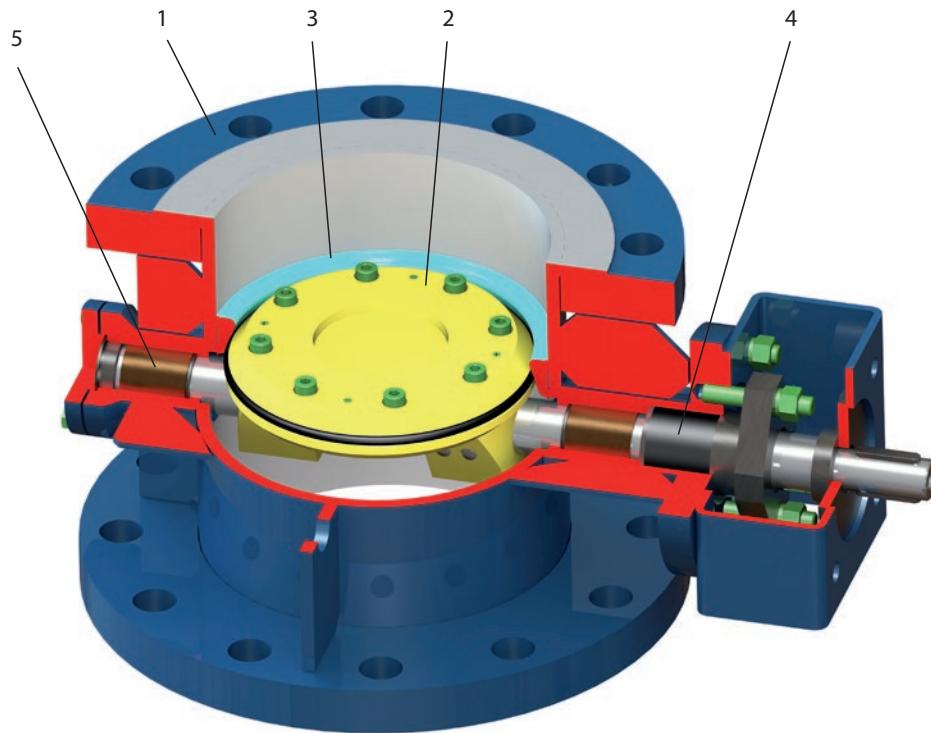
Design: PTFE seal

DN 150-1200 • PN 2,5-40 • Tmax +350 °C

Design: metal x metal seal

Connection: ⚡ EN 1092-1 FLANGED ENDS

⚡ EN 12 627 WELDED ENDS

**Material**

Position	Component	Standard acc. to EN		Material variants acc. to EN		Material variants acc. to ASTM		
		Carbon steel		Stainless steel	Carbon steel		Stainless steel	
		-29°C - +250°C*	-46°C - +25,0°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, 1.4301	1.4541, 1.4301	A182 F304	A182 F304	A182 F316	
4	Shaft	1.4021	1.4021	1.4541,1.4571	A182 F6	A182 F6	A182 F316	
5	Pivot	1.4021	1.4021	1.4541,1.4571	A182 F6	A182 F6	A182 F316	

\*Temperature application depends on the seal of valve and pressure-temperature material characteristic.

Seal	Identification	Working temperature
Soft seal	PTFE + 15% C, graphite with stainless steel ring and spring NBR nitrile-butadien rubber EPDM ethylene-propylene rubber FPM fluorine rubber VITON GF	from -50 °C to +250 °C from -20 °C to + 80 °C from -40 °C to +130 °C from -20 °C to +180 °C from -20°C to +180°C
Metal x metal seal	Metal (undivided or lamellar)	from -40 °C to +350 °C



# DOUBLE-ECCENTRIC BUTTERFLY VALVES

TYPE L32.7

DN 150-2000 • PN 2,5-40 • Tmax +250 °C

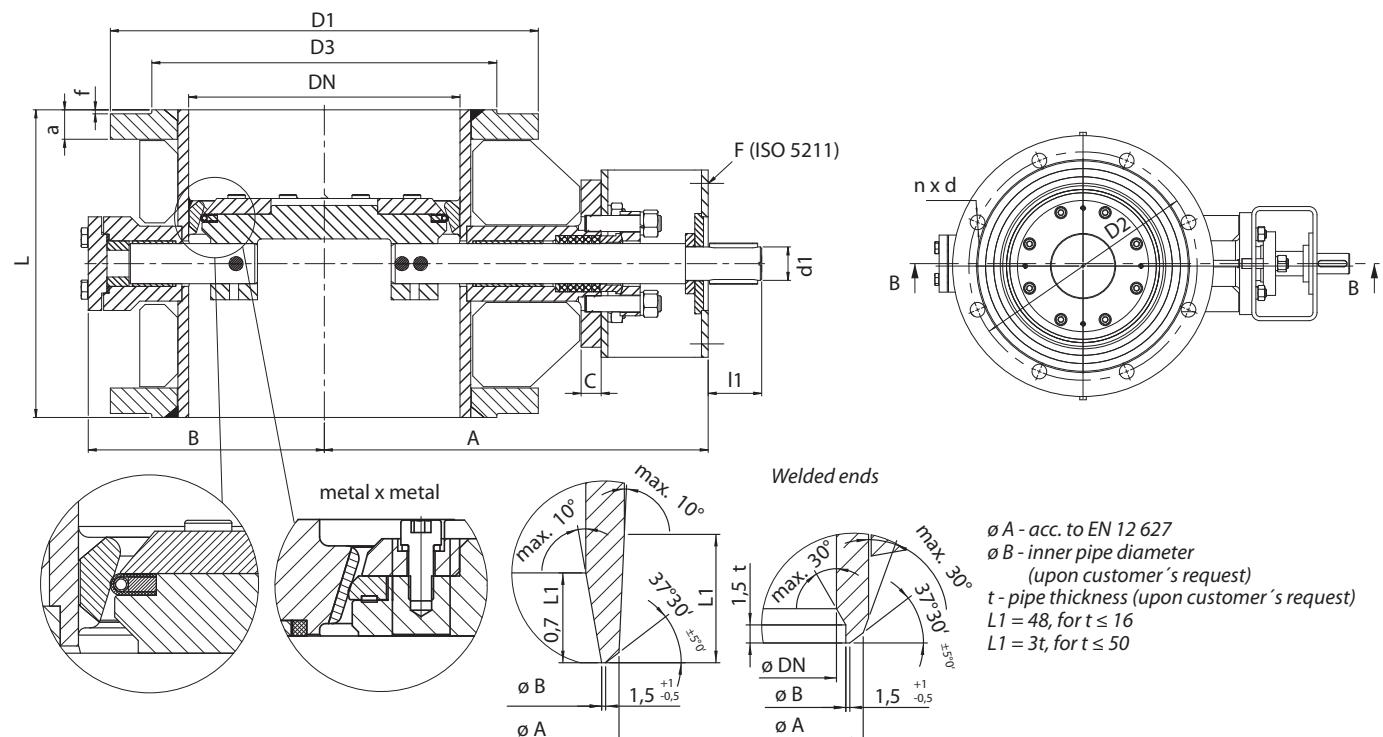
Design: PTFE seal

DN 150-1200 • PN 2,5-40 • Tmax +350 °C

Design: metal x metal seal

Connection: EN 1092-1 FLANGED ENDS

EN 12 627 WELDED ENDS



PN 2,5

DN	A	B	C	L*	F	d1	I1	Flanged ends							
								D1	D2	D3	a	f	d	n	kg
1200	1180	800	30	630	25	75	110	1375	1320	1280	40	2	30	32	1250
1400	1150	890	30	710	25	80	110	1575	1520	1480	44	2	30	36	1640
1600	1270	1100	30	790	30	100	145	1790	1730	1690	48	2	30	40	2840
2000	1500	1300	35	950	30	140	165	2190	2130	2090	54	2	30	48	4680

PN 6

DN	A	B	C	L*	F	d1	I1	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	40	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	70	645	600	570	30	2	22	20	240
600	560	415	25	390	16	50	70	755	705	670	32	2	26	20	370
700	600	460	25	430	16	50	70	860	810	775	32	2	26	24	520
800	770	530	25	470	16	50	90	975	920	880	34	2	30	24	710
1000	830	660	30	550	25	80	110	1175	1120	1080	36	2	30	28	1090
1200	1030	800	30	630	25	80	110	1405	1340	1295	40	2	33	32	1310
1400	1150	890	30	710	30	100	110	1630	1560	1510	44	2	36	36	1700
1600	1300	1100	35	790	40	140	145	1830	1760	1710	48	2	36	40	3300
2000	1500	1300	35	950	40	160	165	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  $\varnothing D \times t$  ( $\varnothing D$  – 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

DN 150-1200 • PN 2,5-40 • Tmax +350 °C

Design: metal x metal 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	40	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	12	35	50	565	515	482	32	2	26	16	140
500	510	360	25	350	14	40	70	670	620	585	38	2	26	20	235
600	560	415	25	390	16	50	85	780	725	685	42	2	30	20	365
700	620	485	25	430	16	65	90	895	840	800	42	2	30	24	505
800	700	550	25	470	16	70	90	1015	950	905	44	2	33	24	700
1000	850	680	30	550	25	80	110	1230	1160	1110	44	2	36	28	1090
1200	940	760	30	630	25	100	140	1455	1380	1330	46	2	39	32	1280
1400	1280	980	40	710	40	140	145	1675	1590	1535	48	2	42	36	2790
1600	1620	1080	40	790	40	140	165	1915	1820	1760	58	2	48	40	3690
2000	1820	1350	40	950	40	160	240	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	12	40	50	520	470	438	35	2	26	16	127
400	455	310	25	310	14	40	70	580	525	490	38	2	30	16	174
500	520	375	25	350	16	50	90	715	650	610	46	2	33	20	255
600	620	435	30	390	25	65	90	840	770	725	52	2	36	20	392
700	670	490	30	430	25	70	110	910	840	795	52	2	36	24	550
800	750	565	30	470	25	85	130	1025	950	900	54	2	39	24	745
1000	865	700	30	550	25	100	140	1255	1170	1115	54	2	42	28	1260
1200	1000	810	35	630	35	120	160	1485	1390	1330	58	2	48	32	1700
1400	1280	980	40	710	40	140	220	1685	1590	1530	58	2	48	36	2890
1600	1620	1080	40	790	40	160	240	1930	1820	1750	64	2	56	40	4030

## 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	50	300	250	218	30	2	26	8	53
200	290	185	20	230	12	25	50	360	310	278	32	2	26	12	55
250	325	225	20	250	12	30	60	425	370	335	35	2	30	12	71
300	350	250	20	270	12	35	75	485	430	395	38	2	30	16	109
350	440	295	25	290	14	40	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	55	110	730	660	615	56	2	36	20	298
600	660	460	30	390	25	70	110	845	770	720	68	2	39	20	525
700	690	505	30	430	25	85	130	960	875	820	68	2	42	24	640
800	805	580	30	470	30	100	140	1085	990	930	70	2	48	24	860
1000	1000	800	35	550	35	120	160	1320	1210	1140	70	2	56	28	1500
1200	1150	910	40	630	40	140	220	1530	1420	1350	70	2	56	32	2290
1400	1280	980	40	710	40	160	240	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.



# DOUBLE-ECCENTRIC BUTTERFLY VALVES

TYPE L32.7

DN 150-2000 • PN 2,5-40 • Tmax +250 °C

Design: PTFE seal

DN 150-1200 • PN 2,5-40 • Tmax +350 °C

Design: metal x metal 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	14	35	60	375	320	285	34	2	30	12	102
250	270	255	25	250	14	40	70	450	385	345	38	2	33	12	133
300	305	280	25	270	14	45	100	515	450	410	42	2	33	16	205
350	355	315	25	290	16	55	110	580	510	465	46	2	36	16	275
400	380	340	30	310	25	60	110	660	585	535	50	2	39	16	400
500	450	425	30	350	25	70	120	755	670	615	57	2	42	20	530
600	535	510	35	390	30	85	140	890	795	735	72	2	48	20	940
700	580	550	35	430	30	100	140	995	900	840	76	2	48	24	1150
800	715	670	35	470	35	120	160	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.



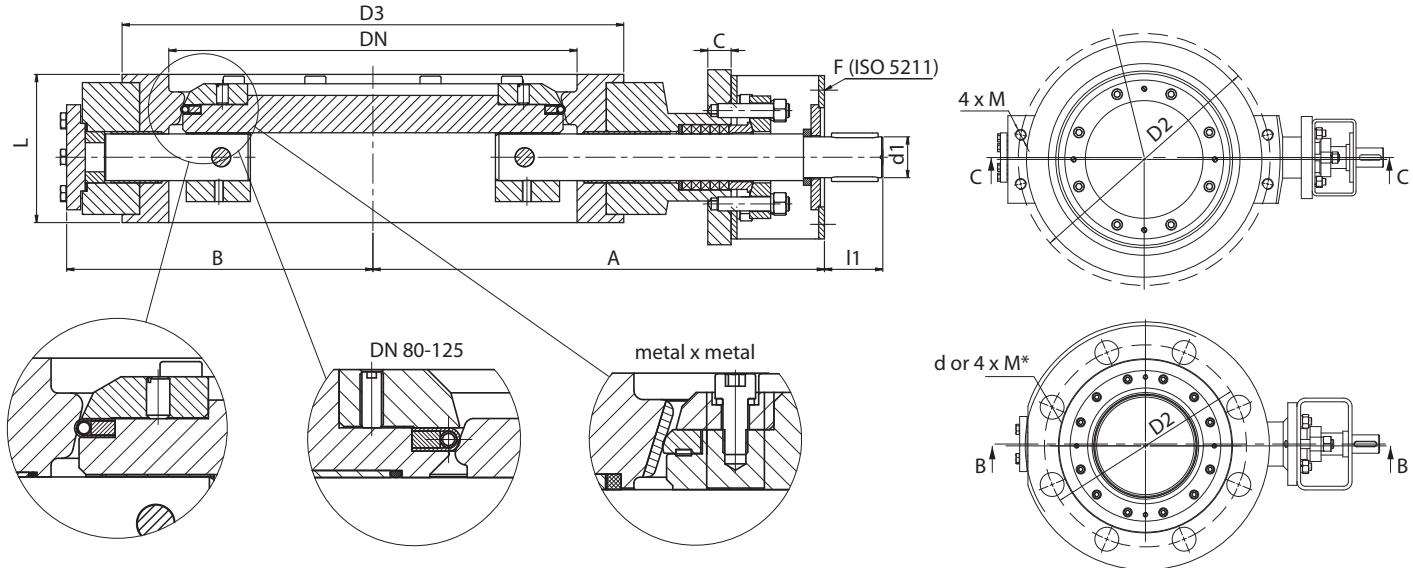
DN 80-2000 • PN 2,5-40 • Tmax +250 °C

Design: PTFE seal

DN 150-1200 • PN 2,5-40 • Tmax +350 °C

Design: metal x metal seal

Connection: EN 1092-1 WAFER TYPE



## PN 2,5

DN	A	B	C	L	F	D2	D3	d1	M	I1	kg
1200	1210	800	30	350	25	1320	1280	65	M27	110	1050
1400	1180	890	30	390	25	1520	1480	65	M27	110	1400
1600	1300	1100	35	440	30	1730	1690	100	M27	145	2500
2000	1530	1300	35	540	30	2130	2090	140	M27	165	4200

## PN 6

DN	A	B	C	L	F	D2	D3	d1	d	M	I1	kg
80	190	105	-	64	07	150	128	16	4x18	M16*	30	14
100	200	115	-	64	07	170	148	16	4x18	M16*	30	16
125	235	140	-	70	07	200	178	20	8x18	M16*	30	20
150	253	146	15	76	10	225	202	25	-	-	40	53
200	290	200	15	89	10	280	258	25	-	-	40	60
250	320	210	20	114	12	335	312	30	-	M16	40	64
300	335	230	20	114	12	395	365	30	-	M20	50	70
350	360	260	20	127	12	445	415	35	-	M20	50	89
400	400	295	20	140	12	495	465	35	-	M20	50	110
500	495	355	25	152	14	600	570	40	-	M20	70	195
600	550	410	25	178	16	705	670	50	-	M24	70	280
700	600	460	25	229	16	810	775	50	-	M24	70	390
800	770	530	25	241	16	920	880	50	-	M27	90	550
1000	830	660	30	300	25	1120	1080	80	-	M27	110	820
1200	920	750	30	350	25	1340	1295	80	-	M30	110	1240
1400	1180	890	30	390	30	1560	1510	100	-	M33	110	2600
1600	1300	1100	35	440	40	1760	1710	140	-	M33	145	3200
2000	1530	1300	50	540	40	2180	2125	160	-	M39x3	165	4350

\* these apply only for lug type connection

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



# DOUBLE-ECCENTRIC BUTTERFLY VALVES

TYPE L32.7

DN 80-2000 • PN 2,5-40 • Tmax +250 °C

Connection: EN 1092-1 WAFER TYPE

Design: PTFE seal

DN 150-1200 • PN 2,5-40 • Tmax +350 °C

Design: metal x metal seal

## PN 10

DN	A	B	C	L	F	D2	D3	d1	d	M	I1	kg
80	190	105	-	64	07	160	138	16	8 x 18	M16*	30	16
100	200	115	-	64	07	180	158	16	8 x 18	M16*	30	18
125	235	140	-	70	07	210	188	16	8 x 18	M16*	30	22
150	253	146	15	76	10	240	212	25	-	-	40	50
200	290	200	15	89	10	295	268	25	-	-	40	60
250	320	210	20	114	12	350	320	30	-	M20	40	64
300	335	230	20	114	12	400	370	30	-	M20	50	68
350	360	260	20	127	12	460	430	35	-	M20	50	92
400	400	295	20	140	12	515	482	35	-	M24	50	115
500	495	355	25	152	14	620	585	40	-	M24	70	200
600	550	410	25	178	16	725	685	50	-	M27	85	290
700	620	485	25	229	16	840	800	65	-	M27	90	415
800	700	550	25	241	16	950	905	70	-	M30	90	640
1000	850	680	30	300	25	1160	1110	80	-	M33	110	835
1200	940	760	30	350	25	1380	1330	100	-	M36 x 3	140	1260
1400	1300	980	40	390	40	1590	1535	140	-	M39 x 3	145	2600
1600	1670	1080	40	440	40	1820	1760	140	-	M45 x 3	165	3200
2000	1850	1350	40	540	40	2230	2170	160	-	M45 x 3	240	4400

## PN 16

DN	A	B	C	L	F	D2	D3	d1	d	M	I1	kg
80	190	105	-	64	07	160	138	16	8 x 18	M16*	30	16
100	200	115	-	64	07	180	158	16	8 x 18	M16*	30	18
125	235	140	-	70	07	210	188	16	8 x 18	M16*	30	22
150	253	150	15	76	10	240	212	25	-	-	40	50
200	280	190	15	89	10	295	268	25	-	M20	40	60
250	320	225	20	114	12	355	320	30	-	M24	50	64
300	335	260	20	114	12	410	378	35	-	M24	50	72
350	360	295	20	127	12	470	438	40	-	M24	50	95
400	455	320	25	140	14	525	490	40	-	M27	70	120
500	495	390	25	152	16	650	610	50	-	M30	90	215
600	615	460	30	178	25	770	725	65	-	M33	90	310
700	640	505	30	229	25	840	795	70	-	M33	110	435
800	750	580	30	241	25	950	900	85	-	M36 x 3	130	600
1000	860	800	30	300	25	1170	1115	100	-	M39 x 3	140	1100
1200	980	890	35	350	35	1390	1330	120	-	M45 x 3	160	1325
1400	1300	980	40	390	40	1590	1530	140	-	M45 x 3	220	2900
1600	1700	1080	40	440	40	1820	1750	160	-	M52 x 3	240	3500

\* these apply only for lug type connection

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



DN 80-2000 • PN 2,5-40 • Tmax +250 °C

Design: PTFE seal

DN 150-1200 • PN 2,5-40 • Tmax +350 °C

Design: metal x metal seal

Connection: EN 1092-1 WAFER TYPE

## PN 25

DN	A	B	C	L	F	D2	D3	d1	d	M	I1	kg
80	195	110	-	64	07	160	138	16	8 x 16	M16*	30	17
100	210	120	-	64	07	190	162	20	8 x 22	M20*	30	19
125	240	145	-	70	10	220	188	25	8 x 26	M24*	35	25
150	253	150	15	76	10	250	218	25	-	-	50	55
200	290	190	20	89	12	310	278	25	-	M24	50	60
250	325	225	20	114	12	370	335	30	-	M27	60	65
300	370	260	20	114	12	430	395	35	-	M27	75	85
350	445	295	25	127	14	490	450	40	-	M30	80	115
400	510	330	25	140	16	550	505	50	-	M33	80	170
500	565	395	30	152	25	660	615	55	-	M33	110	260
600	630	460	30	178	25	770	720	70	-	M36 x 3	110	380
700	690	505	30	229	25	875	820	85	-	M39 x 3	130	610
800	805	580	30	241	30	990	930	100	-	M45 x 3	140	770
1000	980	800	35	300	35	1210	1140	120	-	M52 x 3	160	1390
1200	1170	910	40	350	40	1420	1350	140	-	M52 x 3	220	1500
1400	1300	980	40	390	40	1640	1560	160	-	M56 x 3	240	3100

## PN 40

DN	A	B	C	L	F	D2	D3	d1	d	M	I1	kg
80	195	110	-	64	07	160	138	20	8 x 18	M16*	30	17
100	210	120	-	64	07	190	162	20	8 x 22	M20*	30	19
125	240	145	-	70	10	220	188	25	8 x 26	M24*	35	25
150	250	150	20	76	12	250	218	27	-	-	45	58
200	250	205	25	89	14	320	285	35	-	M27	60	66
250	290	255	25	114	14	385	345	40	-	M30	70	74
300	414	261	25	114	14	450	410	45	-	M30	100	97
350	380	315	25	127	16	510	465	55	-	M33	110	130
400	410	340	30	140	25	585	535	60	-	M36 x 3	110	190
500	470	425	30	152	25	670	615	70	-	M39 x 3	120	280
600	550	510	35	178	30	795	735	85	-	M45 x 3	140	430
700	600	550	35	229	30	900	840	100	-	M45 x 3	140	690
800	720	670	35	241	35	1030	960	120	-	M52 x 3	160	860

\* these apply only for lug type connection



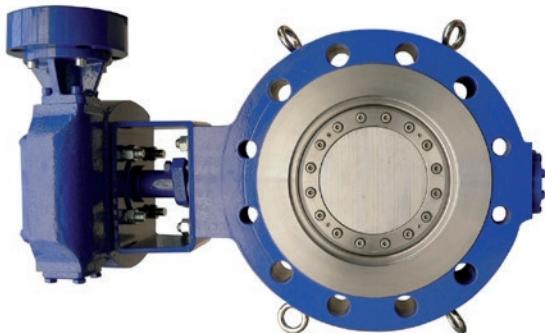


## Application

Triple-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, 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 +400 °C, by agreement up to +550 °C and depends on the body material used.

## Technical description

### Triple eccentricity - Fig. A

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

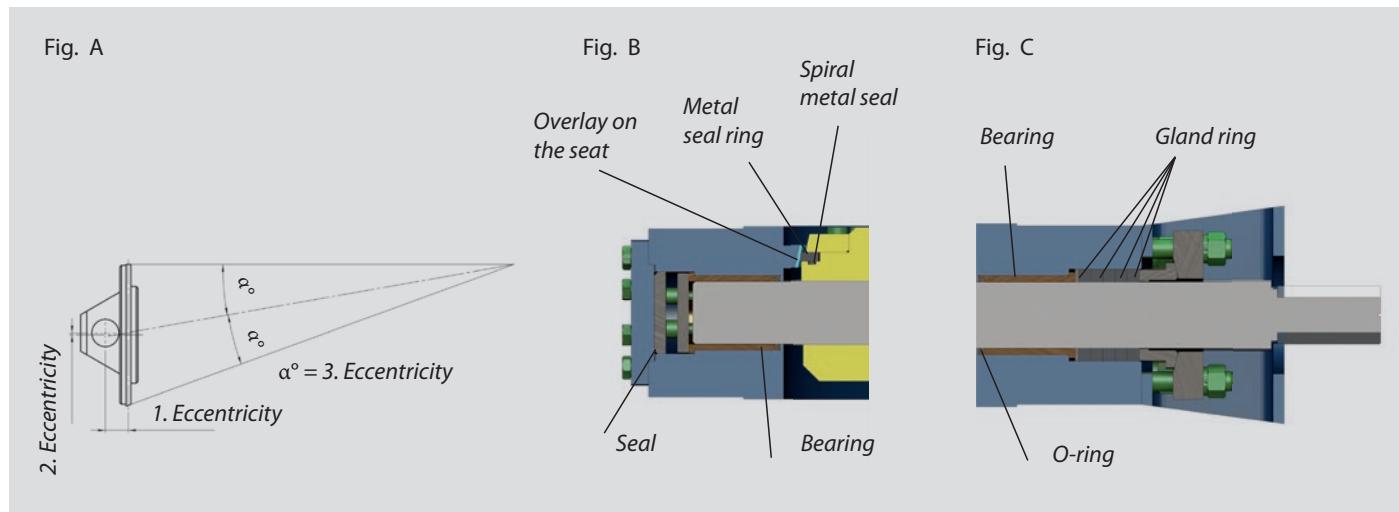
- EN 12 266-1
- EN 12 266-2
- EN 13 3060-2

## 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 requirement, 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 axis 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.



# TRIPLE-ECCENTRIC BUTTERFLY VALVES



TYPE L32.8

DN 150-1000 • PN 16-40 • Tmax +400 °C

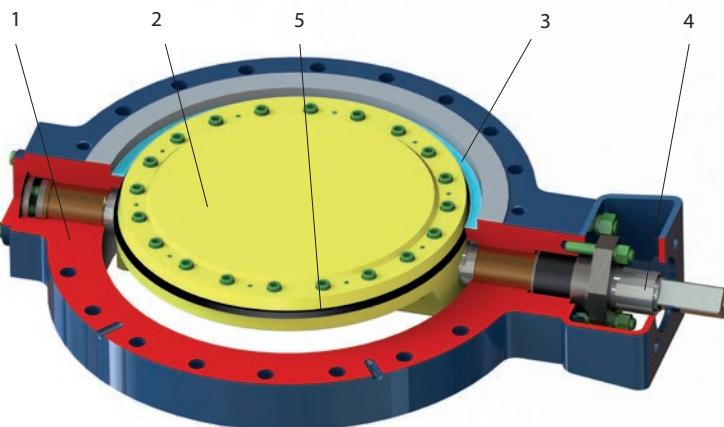
Design: wrought

DN 80-1000 • PN 6-100 • Tmax 550 °C

Design: cast

Connection: EN 1092-1 WAFER TYPE (for wrought design)

EN 1092-1 FLANGED ENDS (for cast design)



## Wrought design

Position	Component	Standard acc. to EN		Material variants acc. to EN		Material variants acc. to ASTM		
		Carbon + alloy steel		Stainless steel		Carbon + alloy steel		Stainless steel
		+400°C*	+500°C*	+500°C*	+400°C*	+500°C*	+500°C*	+500°C*
1	Body	1.0425	1.7335	1.4541	A105	A182 F12	A182 F316	A182 F316
2	Disc	1.0425	1.7335	1.4541	A105	A182 F12	A182 F316	A182 F316
3	Seat	17%Cr, stellite	stellite	stellite	17%Cr, stellite	stellite	stellite	stellite
4	Shaft	steell 13%Cr	A479 XM19,1.4923	1.4541,1.4571	A182 F6	A479 XM19	A182 F316	A182 F316

\* Temperature application depends on the seal of valve and pressure-temperature material characteristics.

Design for temperature higher than 500 °C is possible after agreement with the manufacturer.

## Cast design

Position	Component	Standard		Material variants acc. to ASTM				
		+400°C*	-46°C to 300°C	+550°C	+500°C*	+550°C		
1	Body	A216 WCB	A352 LCB	A217 WC6	A351 CF8	A351 CF8M		
2	Disc	A216 WCB	A352 LCB	A217 WC6	A351 CF8	A351 CF8M		
4	Shaft	A276 420 Cr13	A276 420 Cr13	6370 (AMS) 24CrMo4	A276 302 18Cr-8Ni	A276 302 18Cr-8Ni	A705 630 17Cr-4Ni-4Cu	A705 630 17Cr-4Ni-4Cu
5	Seal		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	A240 316+graphite 16Cr-12Ni-2Mo+graphite

\* Temperature application depends on the seal of valve and pressure-temperature material characteristics.

## Production range

DN	Wrought design			Cast design																
	Wafer type			Flanged ends						Wafer type				Welded ends						
	PN			PN						PN				PN						
	16	25	40	6	10	16	25	40	63	100	6	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	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•



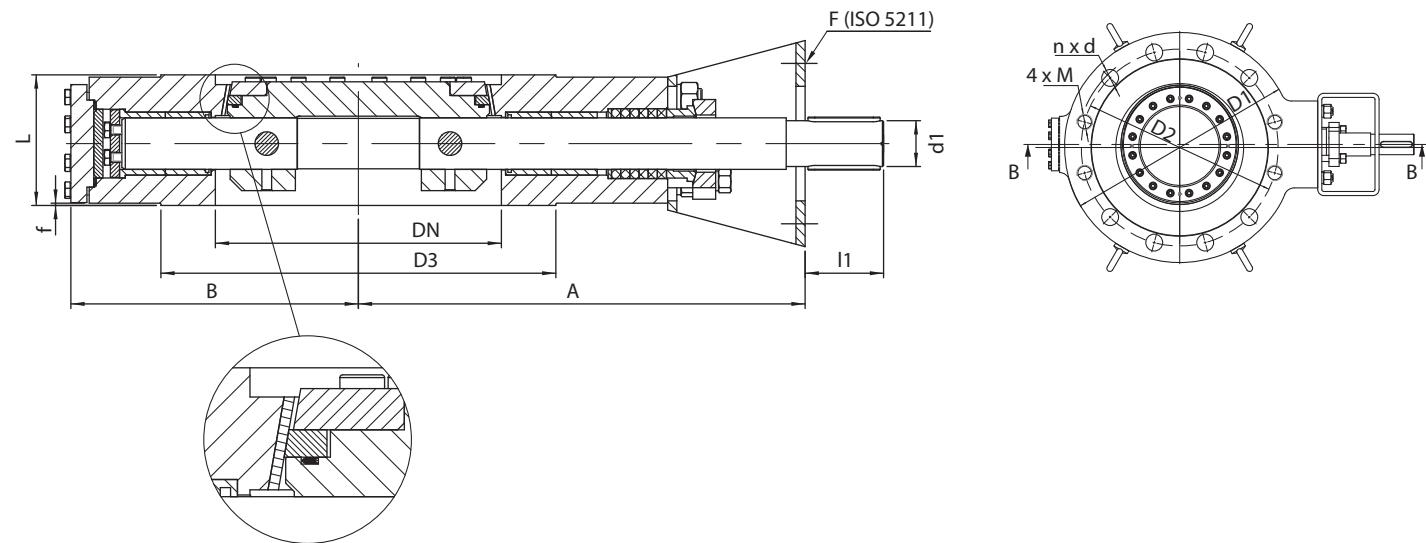
# TRIPLE-ECCENTRIC BUTTERFLY VALVES

TYPE L32.8

DN 150-1000 • PN 16-40 • Tmax +400 °C

Design: wrought

Connection: EN 1092-1 WAFER TYPE



PN 16

DN	A	B	L	F	D1	D2	D3	d1	f	M	n x d	I1	kg
150	281	173	76	10	285	240	212	30	2	M20	4 x 22	50	45
200	290	190	89	12	340	295	268	30	2	M20	8 x 22	40	76
250	330	210	114	14	405	355	320	35	2	M24	8 x 26	60	95
300	345	240	114	14	460	410	378	35	2	M24	8 x 26	70	122
350	370	270	127	14	520	470	438	40	2	M24	12 x 26	80	170
400	465	330	140	16	580	525	490	50	2	M27	12 x 30	80	215
500	505	385	152	16	715	650	610	55	2	M30	16 x 33	110	369
600	625	450	178	25	840	770	725	80	2	M33	16 x 36	130	440

PN 25

DN	A	B	L	F	D1	D2	D3	d1	f	M	n x d	I1	kg
150	281	173	76	12	300	250	218	30	2	M24	4 x 26	50	45
200	310	205	89	12	360	310	278	30	2	M24	8 x 26	50	64
250	345	245	114	14	425	370	335	35	2	M27	8 x 30	60	103
300	395	265	114	14	485	430	395	40	2	M27	12 x 30	70	131
350	425	300	127	16	555	490	450	50	2	M30	12 x 33	80	184
400	460	335	140	16	620	550	505	50	2	M33	12 x 36	90	246
500	555	415	152	25	730	660	615	60	2	M33	16 x 36	100	387
600	650	480	178	25	845	770	720	80	2	M36	16 x 39	130	460

PN 40

DN	A	B	L	F	D1	D2	D3	d1	f	M	n x d	I1	kg
150	281	173	76	14	300	250	218	30	2	M24	4 x 26	50	45
200	350	210	89	14	375	320	285	35	2	M27	8 x 30	60	67
250	390	250	114	14	450	385	345	40	2	M30	8 x 33	70	122
300	420	290	114	16	515	450	410	50	2	M30	12 x 33	80	220
350	530	350	127	25	580	510	465	60	2	M33	12 x 36	110	270
400	570	390	140	25	660	585	535	60	2	M36	12 x 39	110	295
500	640	470	152	30	755	670	615	80	2	M39	16 x 42	130	423
600	790	550	178	30	890	795	735	90	2	M45	16 x 48	160	530

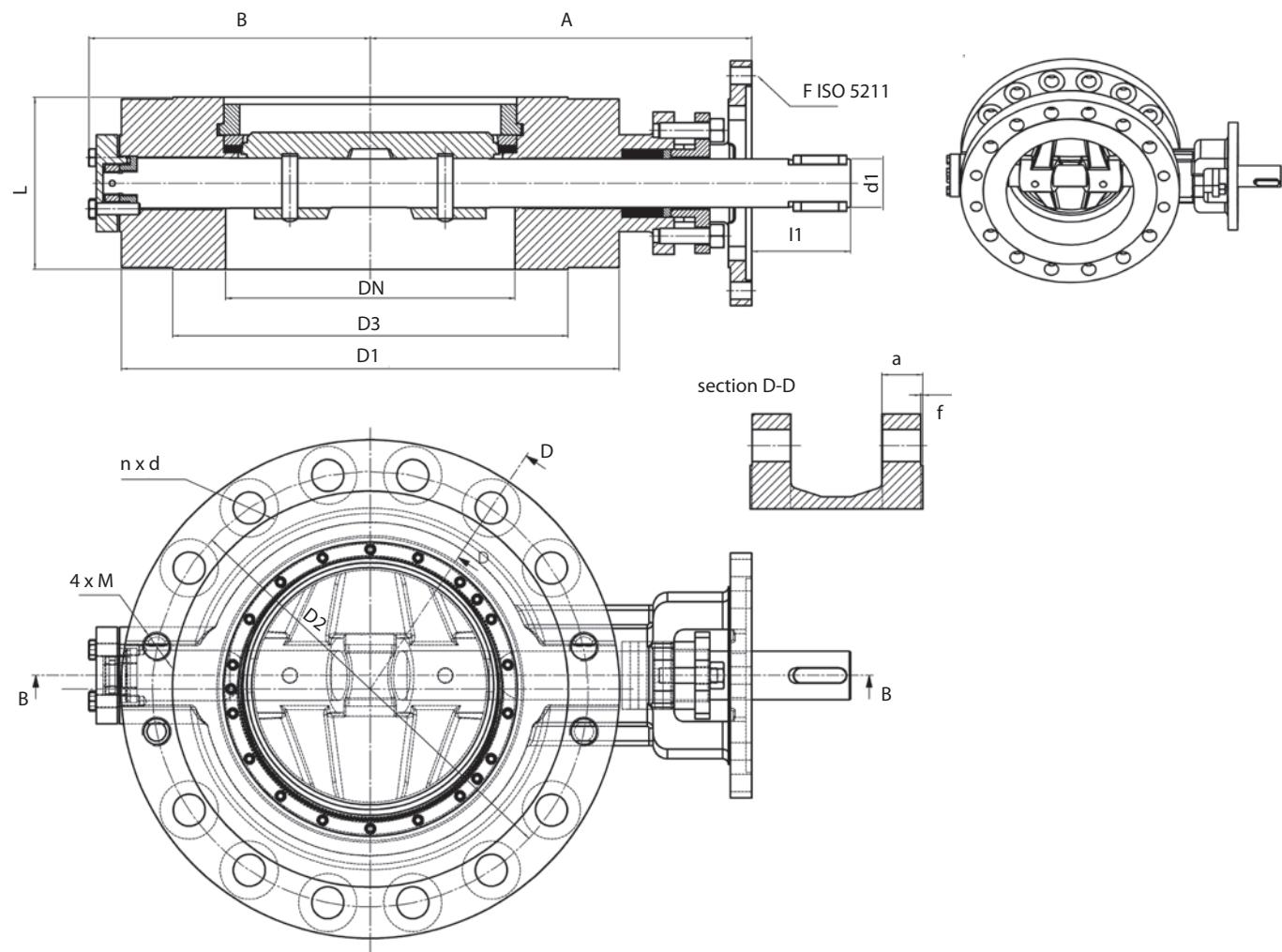
\* DN 700-1000 on request



DN 80-1000 • 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	I1	F	n x d	M	kg
80	180	-	114	190	150	128	16	3	22	33	F10	4x18	-	28,5
100	195	-	127	210	170	148	16	3	22	33	F10	4x18	-	36,5
125	207	-	140	240	200	178	18	3	22	33	F10	8x18	-	44,5
150	264	-	140	265	225	202	18	3	24	36	F12	8x18	-	50
200	287	-	152	320	280	258	20	3	24	36	F12	8x18	-	55
250	330	-	165	375	335	312	22	3	28	42	F12	12x18	-	69
300	350	250	178	440	395	365	22	4	32	48	F14	12x22	-	95
350	385	285	190	490	445	415	22	4	36	54	F16	12x22	-	118
400	423	312	216	540	495	465	22	4	40	60	F16	16x22	-	172
450	464	354	222	595	550	520	22	4	44	66	F16	16x22	-	209
500	510	404	229	645	600	570	24	4	50	70	F25	20x22	-	264
600	581	470	267	755	705	670	30	5	60	80	F25	20x26	-	382
700	640	520	292	860	810	775	30	5	70	80	F25	24x26	-	507
800	730	600	318	975	920	880	30	5	80	110	F30	24x30	-	550
900	790	628	330	1075	1020	980	34	5	90	110	F30	24x30	-	650
1000	850	705	300	1175	1120	1080	38	5	100	130	F30	24x30	M27	1119



# TRIPLE-ECCENTRIC BUTTERFLY VALVES

TYPE L32.8

DN 80-1000 • 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	I1	F	nxd	M	kg
80	180	-	114	200	160	138	20	3	22	33	F10	8x18	-	29
100	195	-	127	220	180	158	20	3	22	33	F10	8x18	-	37
125	207	-	140	250	210	188	22	3	22	33	F10	8x18	-	45
150	264	-	140	285	240	212	22	3	24	36	F12	8x22	-	51
200	287	-	152	340	295	268	24	3	24	36	F12	8x22	-	70
250	330	-	165	395	350	320	26	3	28	42	F12	12x22	-	76
300	350	250	178	445	400	370	26	4	32	48	F14	12x22	-	99
350	385	285	190	505	460	430	26	4	36	54	F16	16x22	-	126
400	423	312	216	565	515	482	26	4	40	60	F16	16x26	-	186
450	464	354	222	615	565	532	28	4	44	66	F16	20x26	-	226
500	510	404	229	670	620	585	28	4	50	70	F25	20x26	-	281
600	581	470	267	780	725	685	34	5	60	80	F25	20x30	-	420
700	640	520	292	895	840	800	34	5	70	80	F25	24x30	-	560
800	730	600	318	1015	950	905	36	5	80	110	F30	24x33	-	750
900	790	628	330	1115	1050	1005	38	5	90	110	F30	28x33	-	1135
1000	850	705	300	1230	1160	1110	38	5	100	130	F30	24x36	M33	1269

## PN 16

DN	A	B	L	D1	D2	D3	a	f	d1	I1	F	nxd	M	kg
80	180	-	114	200	160	138	20	3	22	33	F10	8x18	-	30
100	195	-	127	220	180	158	20	3	22	33	F10	8x18	-	38
125	207	-	140	250	210	188	22	3	22	33	F10	8x18	-	46
150	264	-	140	285	240	212	22	3	24	36	F12	8x22	-	52
200	296	200	152	340	295	268	24	3	32	48	F12	12x22	-	71
250	330	231	165	405	355	320	26	3	36	54	F14	12x26	-	78
300	373	261	178	460	410	378	28	4	40	60	F16	12x26	-	107
350	410	298	190	520	470	438	30	4	44	66	F16	16x26	-	140
400	465	331	216	580	525	490	32	4	55	70	F25	16x30	-	205
450	496	369	222	640	585	550	40	4	60	80	F25	16x30	M27	254
500	530	404	229	715	650	610	44	4	70	80	F25	16x33	M30	333
600	610	473	267	840	770	725	54	5	80	110	F30	16x36	M33	486
700	680	538	292	910	840	795	42	5	90	110	F30	20x36	M33	597
800	744	615	318	1025	950	900	42	5	100	130	F30	20x39	M36	784
900	835	700	330	1125	1050	1000	44	5	120	170	F40	24x39	M36	1179
1000	897	730	300	1255	1170	1115	46	5	120	180	F40	24x42	M39	1174

## PN 25

DN	A	B	L	D1	D2	D3	a	f	d1	I1	F	nxd	M	kg
80	180	-	114	200	160	138	24	3	22	33	F10	8x18	-	31
100	195	-	127	235	190	162	24	3	22	33	F10	8x22	-	40
125	207	-	140	270	220	188	26	3	22	33	F10	8x26	-	50
150	264	-	140	300	250	218	28	3	24	36	F12	8x26	-	55
200	296	200	152	360	310	278	30	3	32	48	F12	8x26	M24	70
250	330	231	165	425	370	335	32	3	36	54	F14	8x30	M27	95
300	373	261	178	485	430	395	34	4	40	60	F16	12x30	M27	128
350	410	298	190	555	490	450	38	4	44	66	F16	12x33	M30	175
400	465	331	216	620	550	505	40	4	55	70	F25	12x36	M33	251
450	496	369	222	670	600	555	46	4	60	80	F25	16x36	M33	312
500	530	404	229	730	660	615	48	4	70	80	F25	16x36	M33	387
600	610	473	267	845	770	720	58	5	80	110	F30	16x39	M36	536
700	680	538	292	960	875	820	50	5	90	110	F30	20x42	M39	706
800	744	615	318	1085	990	930	54	5	100	130	F30	20x48	M45	943
900	835	700	330	1185	1090	1030	58	5	120	170	F40	24x48	M45	1371
1000	897	730	410	1320	1210	1140	62	5	140	190	F40	24x56	M52	2333

# TRIPLE-ECCENTRIC BUTTERFLY VALVES

TYPE L32.8

DN 80-1000 • PN 6-100 • Tmax 550 °C

Design: cast

Connection: ⚡ EN 1092-1 FLANGED ENDS



## PN 40

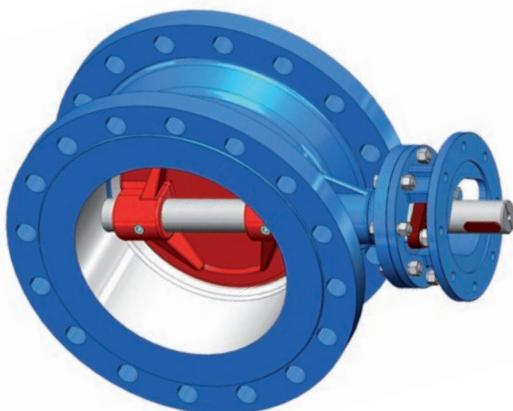
DN	A	B	L	D1	D2	D3	a	f	d1	I1	F	n x d	M	kg
80	180	-	180	200	160	138	24	3	22	33	F10	8 x 18	-	35,5
100	195	-	190	235	190	162	24	3	22	33	F10	8 x 22	-	47,5
125	256	-	200	270	220	188	26	3	28	46	F12	8 x 26	-	52
150	270	-	210	300	250	218	28	3	32	48	F12	8 x 26	-	60
200	310	219	230	375	320	285	34	3	36	54	F14	12 x 30	-	100
250	362	261	250	450	385	345	38	3	40	57	F16	12 x 33	-	150
300	424	289	270	515	450	410	42	4	44	66	F25	16 x 33	-	200
350	460	320	290	580	510	465	46	4	55	70	F25	16 x 36	-	290
400	502	357	310	660	585	535	50	4	60	80	F25	16 x 39	-	400
450	540	385	330	685	610	560	57	4	70	90	F30	16 x 39	M36	450
500	578	431	350	755	670	615	57	4	80	110	F30	16 x 42	M39	550
600	660	492	390	890	795	735	72	5	90	110	F30	16 x 48	M45	845
700	752	568	430	995	900	840	64	5	100	130	F40	20 x 48	M45	1310
800	870	645	470	1140	1030	960	72	5	120	180	F40	20 x 56	M52	1450

## PN 63

DN	A	B	L	D1	D2	D3	a	f	d1	I1	F	n x d	M	kg
80	215	-	180	215	170	138	28	3	22	33	F10	8 x 22	-	35,5
100	230	-	190	250	200	162	30	3	22	33	F10	8 x 26	-	47,5
125	291	-	200	295	240	188	34	3	28	46	F12	8 x 30	-	52
150	384	185	210	345	280	218	36	3	40	60	F16	8 x 33	-	60
200	440	239	230	415	345	285	42	3	40	60	F16	8 x 36	M33	100
250	474	290	250	470	400	345	46	3	50	70	F25	8 x 36	M33	150
300	487	294	270	530	460	410	52	4	60	80	F25	12 x 36	M33	200
350	541	360	290	600	525	465	56	4	70	80	F25	12 x 39	M36	290
400	630	391	310	670	585	535	60	4	80	110	F30	12 x 42	M39	400

## PN 100

DN	A	B	L	D1	D2	D3	a	f	d1	I1	F	n x d	M	kg
80	180	-	180	230	180	138	36	3	-	-	-	4 x 26	M24	40
100	195	-	190	265	210	162	40	3	32	48	F12	4 x 30	M27	50
125	256	-	200	315	250	188	40	3	36	54	F14	4 x 33	M30	60
150	320	185	210	355	290	218	44	3	40	60	F16	8 x 33	M30	85
200	359	227	230	430	360	285	52	3	44	66	F25	8 x 36	M33	130
250	407	294	250	505	430	345	60	3	55	95	F25	8 x 39	M36	205
300	450	338	270	585	500	410	68	4	70	105	F30	12 x 42	M39	215
350	480	358	290	655	560	465	74	4	80	110	F30	12 x 48	M45	380
400	545	400	310	715	620	535	82	4	90	130	F30	12 x 48	M45	500



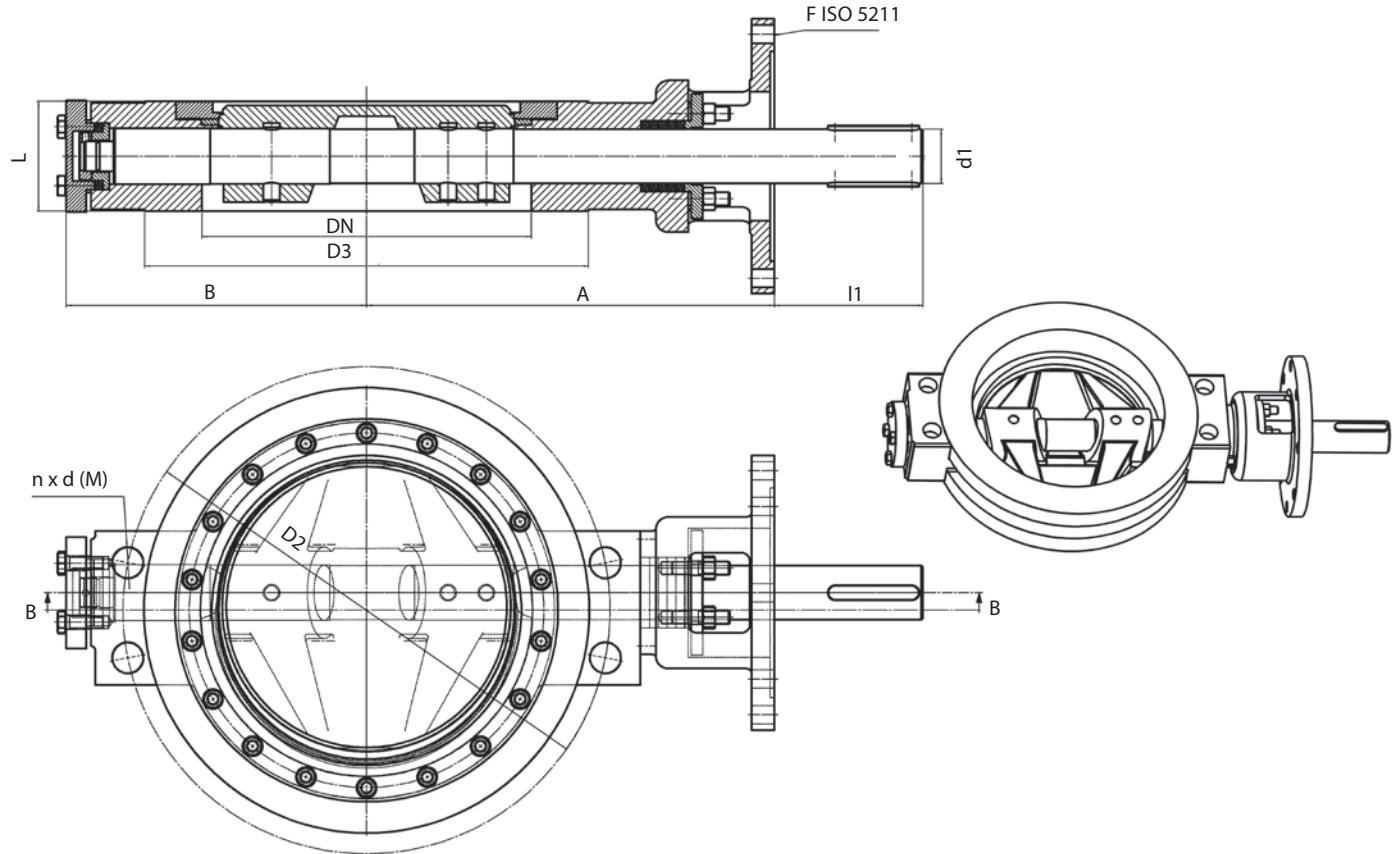


# TRIPLE-ECCENTRIC BUTTERFLY VALVES

TYPE L32.8

DN 80-1000 • PN 6-40 • Tmax 550 °C  
Design: cast

Connection: ⚡ EN 1092-1 WAFER TYPE



## PN 6

DN	A	B	L	D2	D3	d1	I1	F	M	kg
80	180	98	49	-	128	22	33	F10	-	7,5
100	195	112	56	-	148	22	33	F10	-	10,5
125	207	125	64	-	178	22	33	F10	-	19,5
150	264	155	70	-	202	24	36	F12	-	22
200	296	200	71	280	258	24	36	F12	M16	27
250	330	231	76	335	312	28	42	F12	M16	37
300	373	261	83	395	365	32	48	F14	M20	56
350	410	298	92	445	415	36	54	F16	M20	77
400	465	331	102	495	465	40	60	F16	M20	120
450	496	369	114	550	520	44	66	F16	M20	158
500	530	404	127	600	570	50	70	F25	M20	205
600	610	473	154	705	670	60	80	F25	M24	310
700	680	538	165	810	775	70	80	F25	M24	407
800	744	615	190	920	880	80	110	F30	M27	563
900	835	628	203	1020	980	90	110	F30	M27	900
1000	875	705	216	1120	1080	100	130	F30	M27	998



DN 80-1000 • PN 6-40 • Tmax 550 °C

Design: cast

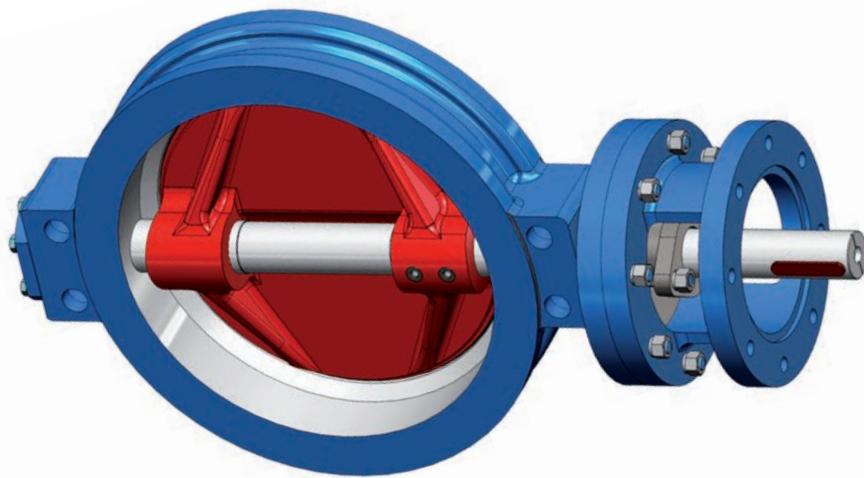
Connection: EN 1092-1 WAFER TYPE

## PN 10

DN	A	B	L	D2	D3	d1	I1	F	M	kg
80	180	98	49	-	138	22	33	F10	-	13,5
100	195	112	56	-	158	22	33	F10	-	15,5
125	207	125	64	-	188	22	33	F10	-	22,5
150	264	155	70	-	212	24	36	F12	-	25
200	296	200	71	295	268	24	36	F12	M20	28
250	330	231	76	350	320	28	42	F12	M20	39
300	373	261	83	400	370	32	48	F14	M20	58
350	410	298	92	460	430	36	54	F16	M20	80
400	465	331	102	515	482	40	60	F16	M24	123
450	496	369	114	565	532	44	66	F16	M24	161
500	530	404	127	620	585	50	70	F25	M24	201
600	610	473	154	725	685	60	80	F25	M27	313
700	680	538	165	840	800	70	80	F25	M27	412
800	744	615	190	950	905	80	110	F30	M30	567
900	835	700	203	1050	1005	90	110	F30	M30	950
1000	875	705	216	1160	1110	100	130	F30	M33	1002

## PN 16

DN	A	B	L	D2	D3	d1	I1	F	M	kg
80	180	98	49	-	138	22	33	F10	-	13,5
100	195	112	56	-	158	22	33	F10	-	15,5
125	207	125	64	-	188	22	33	F10	-	22,5
150	264	155	70	-	212	24	36	F12	-	25
200	296	200	71	295	268	32	48	F12	M20	30
250	330	231	76	355	320	36	54	F14	M24	41
300	373	261	83	410	378	40	60	F16	M24	60
350	410	298	92	470	438	44	66	F16	M24	83
400	465	331	102	525	490	55	70	F25	M27	128
450	496	369	114	585	550	60	80	F25	M27	177
500	530	404	127	650	610	70	80	F25	M30	239
600	610	473	154	770	725	80	110	F30	M33	374
700	680	538	165	840	795	90	110	F30	M33	432
800	744	615	190	950	900	100	130	F30	M36	587
900	835	700	203	1050	1000	120	170	F40	M36	980
1000	897	730	216	1170	1115	120	180	F40	M39	1022





# TRIPLE-ECCENTRIC BUTTERFLY VALVES

**TYPE L32.8**

DN 80-1000 • PN 6-40 • Tmax 550 °C

Design: cast

Connection: EN 1092-1 WAFER TYPE

## PN 25

DN	A	B	L	D2	D3	d1	I1	F	M	kg
80	180	98	49	-	138	22	33	F10	-	15,5
100	195	112	56	-	162	22	33	F10	-	17,5
125	207	125	64	-	188	22	33	F10	-	26,5
150	264	155	70	-	218	24	36	F12	-	27
200	296	200	71	310	278	32	48	F12	M24	32
250	330	231	76	370	335	36	54	F14	M27	45
300	373	261	83	430	395	40	60	F16	M27	69
350	410	298	92	490	450	44	66	F16	M30	94
400	465	331	102	550	505	55	70	F25	M33	145
450	496	369	114	600	548	60	80	F25	M33	207
500	530	404	127	660	615	70	80	F25	M33	270
600	610	473	154	770	720	80	110	F30	M36	405
700	680	538	165	875	820	90	110	F30	M39	483
800	744	615	190	990	930	100	130	F30	M45	656
900	835	700	203	1090	1030	120	170	F40	M45	1020

## PN 40

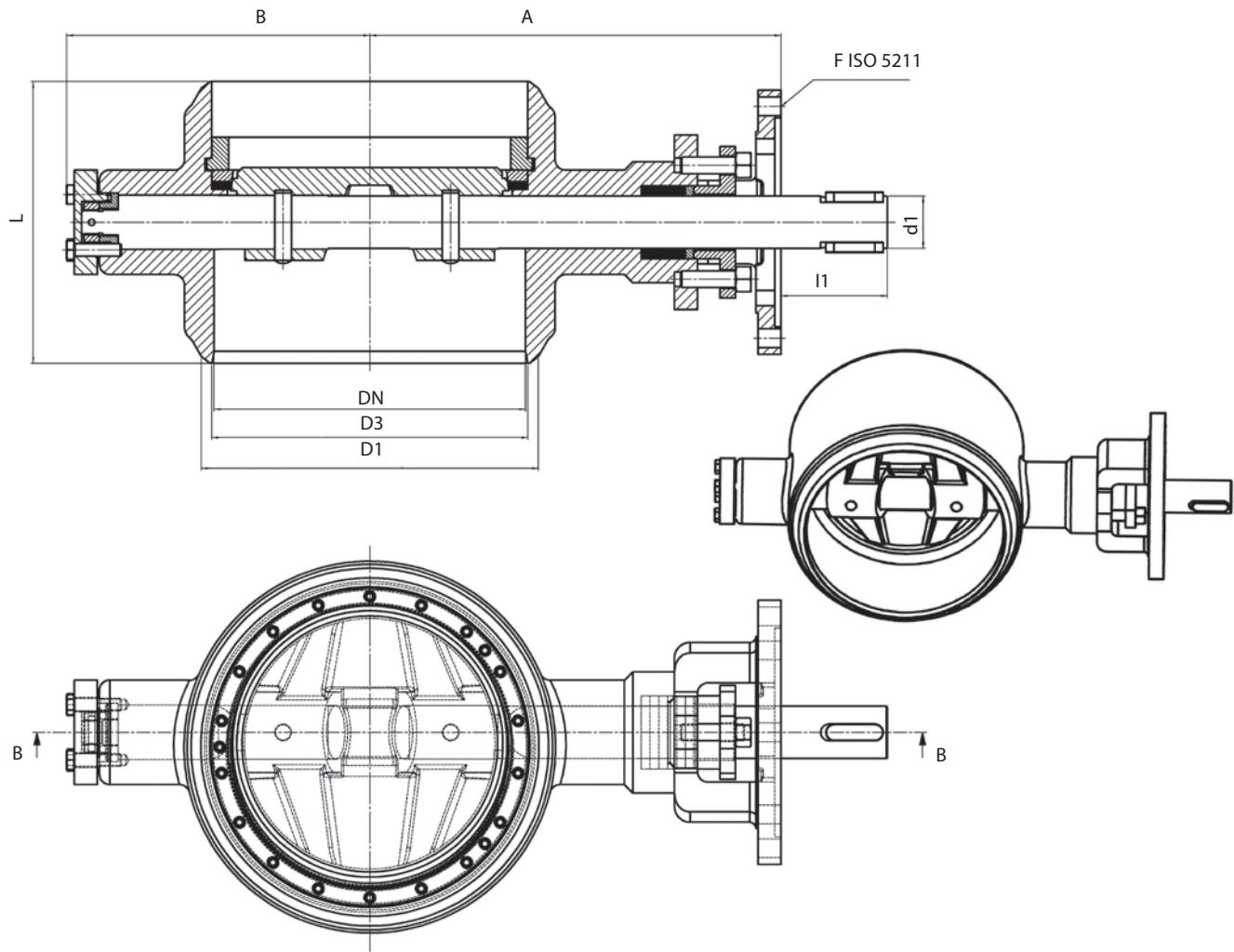
DN	A	B	L	D2	D3	d1	I1	F	M	kg
80	180	98	49	-	138	22	33	F10	-	20,5
100	195	112	56	-	162	22	33	F10	-	30,5
125	256	125	70	-	188	28	46	F12	-	35
150	270	165	76	-	218	32	48	F12	-	40
200	310	219	89	320	285	36	54	F14	M27	60
250	362	261	114	385	345	40	57	F16	M30	80
300	424	289	114	450	410	44	66	F25	M30	110
350	460	320	127	510	465	55	70	F25	M33	150
400	502	357	140	585	535	60	80	F25	M36	200
450	540	385	152	610	560	70	90	F30	M36	230
500	578	431	152	670	615	80	110	F30	M39	334
600	660	492	178	795	735	90	110	F30	M45	585





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

Connection: ⚡ EN 12 627 WELDED ENDS



#### PN 16

DN	A	B	L	D1	D3	d1	l1	F	kg
80	180	98	180	92	85	22	33	F10	25,5
100	195	112	190	114	105	22	33	F10	32,5
125	207	125	200	138	130	22	33	F10	39,5
150	264	155	210	159	152	24	36	F12	45
200	296	200	230	219	207	32	48	F12	50
250	330	231	250	274	258	36	54	F14	70
300	373	261	270	325	313	40	60	F16	96
350	410	298	290	377	365	44	66	F16	123
400	465	331	310	426	414	55	70	F25	178
450	496	369	330	478	466	60	80	F25	222
500	530	404	350	529	517	70	80	F25	293
600	610	473	390	630	614	80	110	F30	423
700	680	538	430	720	702	90	110	F30	523
800	744	615	470	820	802	100	130	F30	691
900	835	628	510	920	902	120	170	F40	1020
1000	897	730	550	1020	1000	120	180	F40	1650



# TRIPLE-ECCENTRIC BUTTERFLY VALVES

TYPE L32.8

DN 80-1000 • PN 16-100 • Tmax 550 °C

Design: cast

Connection: EN 12 627 WELDED ENDS

## PN 25

DN	A	B	L	D1	D3	d1	I1	F	kg
80	180	98	180	92	85	22	33	F10	25,5
100	195	112	190	114	105	22	33	F10	32,5
125	207	125	200	138	130	22	33	F10	39,5
150	264	155	210	159	152	24	36	F12	45
200	296	200	230	219	207	32	48	F12	50
250	330	231	250	274	258	36	54	F14	70
300	373	261	270	325	313	40	60	F16	96
350	410	298	290	377	365	44	66	F16	123
400	465	331	310	426	414	55	70	F25	178
450	496	369	330	478	466	60	80	F25	222
500	530	404	350	529	517	70	80	F25	293
600	610	473	390	630	614	80	110	F30	423
700	680	538	430	720	702	90	110	F30	523
800	744	615	470	820	802	100	130	F30	691
900	835	628	510	920	902	120	170	F40	1020
1000	897	730	550	1020	1000	140	190	F40	1650

## PN 40

DN	A	B	L	D1	D3	d1	I1	F	kg
80	180	98	180	92	85	22	33	F10	25,5
100	195	112	190	114	105	22	33	F10	32,5
125	256	125	200	138	130	28	46	F12	45
150	270	165	210	159	152	32	48	F12	60
200	310	219	230	219	207	36	54	F14	70
250	362	261	250	274	258	40	57	F16	80
300	424	289	270	325	313	44	66	F25	95
350	460	320	290	377	365	55	70	F25	155
400	502	357	310	426	414	60	80	F25	257
450	540	385	330	480	466	70	90	F30	230
500	578	431	350	529	517	80	110	F30	319
600	660	492	390	630	614	90	110	F30	548

## PN 63

DN	A	B	L	D1	D3	d1	I1	F	kg
80	215	90	180	92	85	22	33	F10	21
100	230	112	190	114	105	22	33	F10	25
125	291	124	200	138	130	28	46	F12	35
150	384	185	210	159	152	40	60	F16	58
200	399	216	230	219	207	40	60	F16	75
250	474	290	250	274	258	50	70	F25	103
300	537	338	270	325	313	60	80	F25	172
350	541	360	290	377	365	70	80	F25	231
400	630	391	310	426	414	80	110	F30	299
450	664	431	330	480	466	-	-	-	380
500	678	481	350	529	517	-	-	-	546
600	757	582	390	630	614	-	-	-	763

## PN 100

DN	A	B	L	D1	D3	d1	I1	F	kg
80	215	90	180	92	85	-	-	-	21
100	230	112	190	114	105	32	48	F12	25
125	291	124	200	138	130	36	54	F14	35
150	370	185	210	159	152	40	60	F16	58
200	443	227	230	219	207	44	66	F25	92
250	488	294	250	274	258	55	95	F25	122
300	537	338	270	325	313	70	105	F30	191
350	606	358	290	377	365	80	110	F30	273
400	671	420	310	426	414	90	130	F30	403
450	734	453	330	480	466	-	-	-	508
500	796	485	350	529	517	-	-	-	685
600	875	575	390	630	614	-	-	-	945

## FLOW CHARACTERISTICS

### Kv Coefficient

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

### L32.6, L32.7

DN	NPS	PN	Kvs [m <sup>3</sup> /h]	$\zeta$	Cv [gall/min]
80	3"	6-40	149	2,9	173
100	4"		250	2,5	290
125	5"		430	2,1	500
1200	48"	2,5	127800	0,20	148200
1400	56"		183300	0,18	212600
1600	64"		239500	0,18	277800
2000	80"		374100	0,18	434000

### L32.8

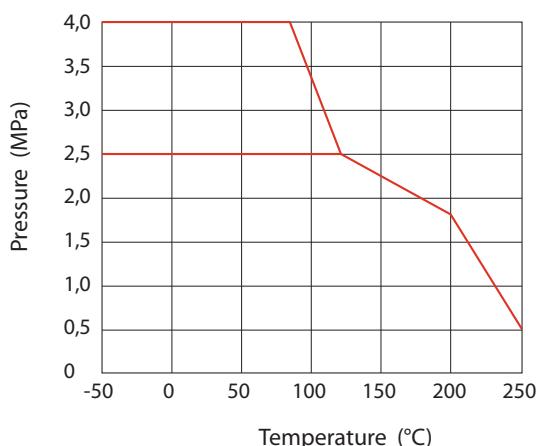
DN	Kvs [m <sup>3</sup> /h]	$\xi$ [-]	Kvs [m <sup>3</sup> /h]	$\xi$ [-]
	PN ≤ 16	PN 25, 40	PN 25, 40	$\xi$ [-]
80	130	3,89	90	7,70
100	215	3,47	160	6,24
125	340	3,26	280	4,90
150	650	1,87	460	3,79
200	1250	1,65	820	3,71
250	2150	1,31	1430	3,00
300	3500	1,04	2300	2,40
350	5000	0,95	3200	2,32
400	6650	0,91	4300	2,18
450	8600	0,87	5900	1,86
500	11750	0,81	7350	1,82
600	17200	0,71	11000	1,68
700	25500	0,69	16000	1,48
800	33600	0,58	22500	1,27
900	43300	0,57	-	-
1000	56700	0,55	-	-

### L32.6, L32.7

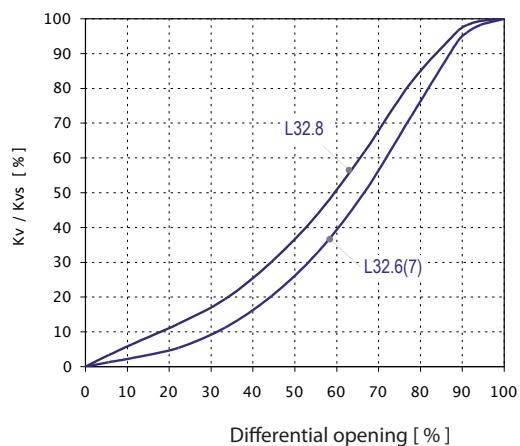
DN	NPS	Kvs [m <sup>3</sup> /h]			$\zeta$			Cv [gall/min]	
		PN 6-16	PN 25	PN 40	PN 6-16	PN 25	PN 40	PN 6	PN 25
150	6"	1170	1160	650	0,58	0,59	1,90	1360	1350
200	8"	2320	2140	1310	0,47	0,55	1,50	2690	2480
250	10"	3920	3620	2190	0,40	0,47	1,30	4550	4200
300	12"	6130	5510	3430	0,34	0,42	1,10	7110	6390
350	14"	8880	8220	4900	0,30	0,35	1,00	10300	9540
400	16"	11800	10900	6700	0,29	0,34	0,92	13690	12640
500	20"	19500	18100	11300	0,26	0,30	0,78	22620	21000
600	24"	28600	27000	17300	0,25	0,28	0,69	33180	31320
700	28"	39700	37400	24900	0,24	0,27	0,62	46050	43380
800	32"	54100	48900	34200	0,22	0,27	0,56	62760	56720
1000	40"	84600	82700	-	0,22	0,23	-	98140	95900
1200	48"	121800	119200	-	0,22	0,23	-	141300	138300
1400	56"	169700	162200	-	0,21	0,23	-	196900	-
1600	64"	227200	-	-	0,20	-	-	263600	-
2000	80"	354900	-	-	0,20	-	-	411700	-

Flow coefficient - Kvs, Loss coefficient -  $\zeta$ , Coefficients - Cv

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



### Relative flow characteristics (DN 300 PN 25)





## PRESSURE-TEMPERATURE RATING

Design: wrought

Body material	Maximum Allowable Pressure PS (MPa)								
Temperature	PN	100 °C	200 °C	250 °C	300 °C	350 °C	400 °C	450 °C	500 °C
1.0425	6	0,56	0,50	0,45	0,41	0,39	0,35	-	-
	10	0,93	0,83	0,76	0,69	0,64	0,59	-	-
	16	1,49	1,33	1,21	1,10	1,03	0,95	-	-
	25	2,32	2,08	1,90	1,73	1,61	1,48	-	-
	40	3,71	3,33	3,04	2,76	2,57	2,38	-	-
1.4541	6	0,59	0,53	0,50	0,49	0,46	0,44	0,43	0,42
	10	0,99	0,89	0,84	0,80	0,77	0,74	0,72	0,70
	16	1,58	1,42	1,34	1,27	1,23	1,18	1,16	1,13
	25	2,48	2,21	2,10	1,99	1,92	1,85	1,81	1,77
	40	3,96	3,54	3,37	3,18	3,06	2,97	2,90	2,83
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



## 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 - 40 °C up to + 350 °C and depends on the body and gland packing material.

**Maximum allowable differential overpressure** is in accordance with maximum allowable pressure in the valve.

## 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 (butterfly valve is not closing valve). In case of butterfly valve design with sealing collar then the gap is limited to shaft area merely.

## Operation

- lever
- manual gear-box
- electric actuator
- bare shaft

## Testing

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

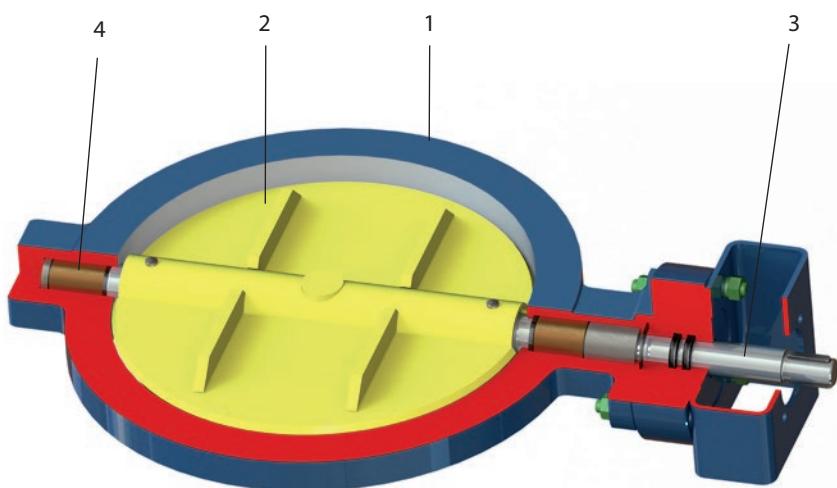
## Connection to piping

- wafer type acc. to EN 1092-1

Other ways of connection are acc. to the customer's requirement. 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 electric actuator it is important to abide the actuator's manufacturer.



## Material

Position	Component	Material acc. to EN
1	Body	1.0425+N
2	Disc	1.0425+N
3	Shaft	1.4021-QT700
4	Pivot	1.4021-QT700

Maximum allowable pressure in the valve adheres to Pressure-Temperature chart of body material - 1.0425+N.

PN	Maximum allowable working pressure (bar)						
	- 10 to +50 °C	100 °C	150 °C	200 °C	250 °C	300 °C	350 °C
2,5	2,5	2,3	2,2	2,0	1,9	1,7	1,6
6	6,0	5,5	5,2	5,0	4,5	4,1	3,8
10	10,0	9,2	8,8	8,3	7,6	6,9	6,4

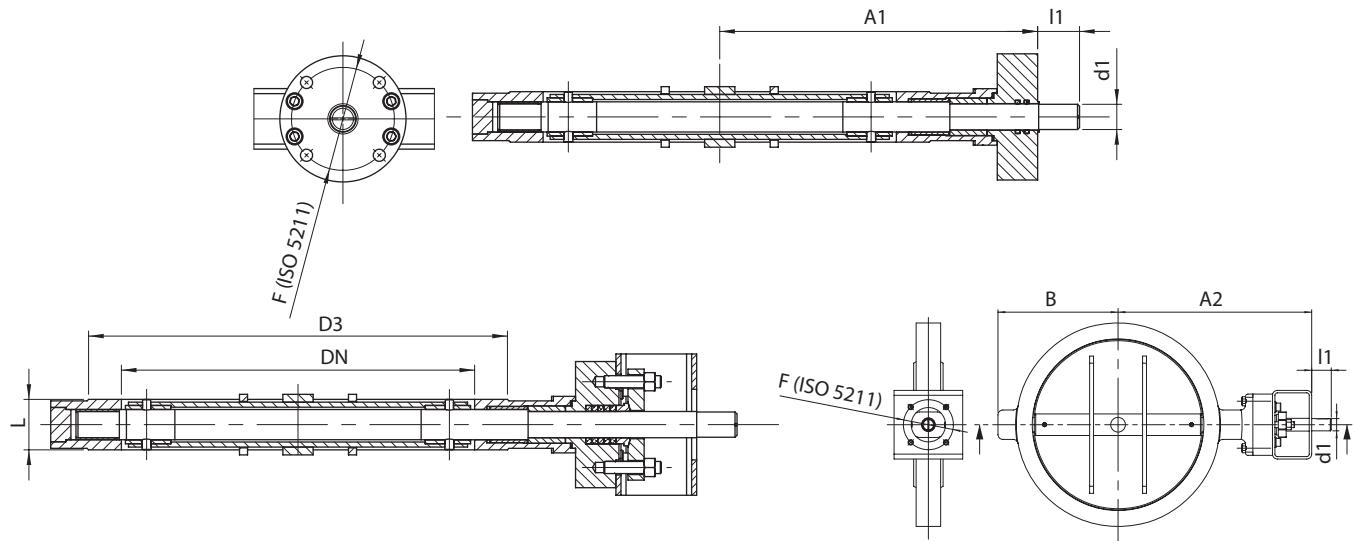


# THROTTLING BUTTERFLY VALVES

TYPE L35.1, TYPE L35.3

DN 50-1200 • PN 2,5-10 • Tmax +350°C

Connection: EN 1092-1 WAFER TYPE



PN 2,5

DN	A1	A2	B	L	D3	F	d1	I1	kg
50	112	192	70	46	90	F05	16	23	6
65	120	200	78	46	110	F05	16	23	6
80	128	208	85	46	128	F05	16	23	12
100	166	246	94	46	148	F05	16	23	13
125	178	258	108	46	178	F05	16	23	16
150	193	273	119	46	202	F05	16	23	18
200	230	310	170	46	258	F05	16	30	45
250	258	338	198	46	312	F07	20	30	52
300	310	390	231	50	365	F10	25	40	65
350	335	415	256	50	415	F10	25	40	89
400	367	487	308	70	465	F12	35	50	110
500	410	490	331	70	570	F12	35	50	195
600	445	525	390	90	670	F14	50	70	260
700	580	720	485	165*	775	F16	60	80	415
800	700	840	573	190*	880	F16	70	85	640
1000	760	960	700	216*	1080	F25	80	100	835
1200	910	1110	830	254*	1280	F30	90	100	1570

\* face to face dimensions acc. to EN 558-1, Series 20

PN 10

DN	A1	A2	B	L	D3	F	d1	I1	kg
50	112	192	70	46	102	F05	16	23	6
65	120	200	78	46	122	F05	16	23	8
80	128	208	85	46	138	F05	16	23	16
100	166	246	94	46	158	F05	16	23	18
125	178	258	108	46	188	F05	16	23	22
150	193	273	119	46	212	F05	16	23	50
200	230	310	170	60	268	F10	25	35	60
250	258	338	198	60	320	F10	25	35	64
300	310	390	231	70	370	F12	35	50	68
350	335	415	256	70	430	F12	35	50	92
400	367	487	308	90	482	F16	50	70	115
500	410	490	331	90	585	F16	50	70	200
600	445	525	390	100	685	F16	65	85	290
700	580	780	485	165*	800	F25	80	100	415
800	700	800	573	190*	905	F25	90	120	640
1000	760	1010	700	216*	1110	F35	100	135	835
1200	910	1110	830	254*	1330	F35	120	140	1570

\* face to face dimensions acc. to EN 558-1, Series 20



## 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
- non-aggressive gases

## Maximum working temperature

A maximum working temperature is up to +350 °C.

**Maximum allowable differential overpressure** is in accordance with maximum allowable pressure in the valve 0,1 MPa.

## 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 (butterfly valve is not closing valve).

## Operation

- manual gear-box
- electric actuator
- bare shaft

## Testing

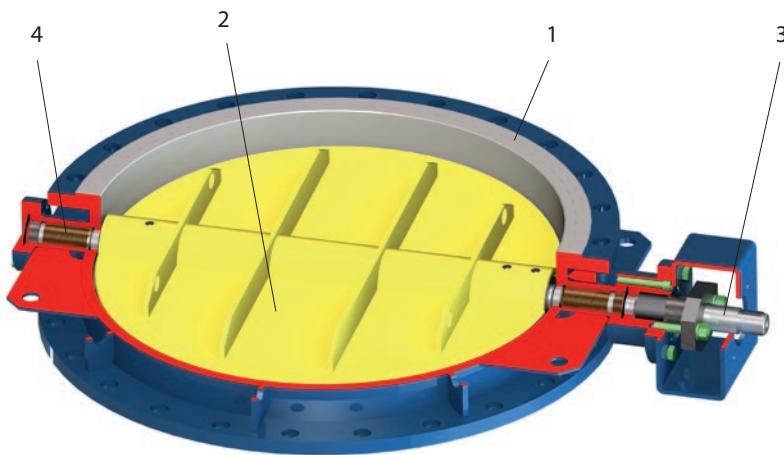
The valves are tested according to PED 97/23/EC and EN 12 266-1 as standard or ISO 5208.

## Connection to piping

- flanged ends acc. to EN 1092-1, dimension for PN 2,5  
Other ways of connection are acc. to the customer's requirement. 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 electric actuator it is important to abide the actuator's manufacturer.



## Material

Position	Component	Material acc. to EN
1	Body	1.0425+N
2	Disc	1.0425+N
3	Shaft	1.4021-QT700
4	Pivot	1.4021-QT700

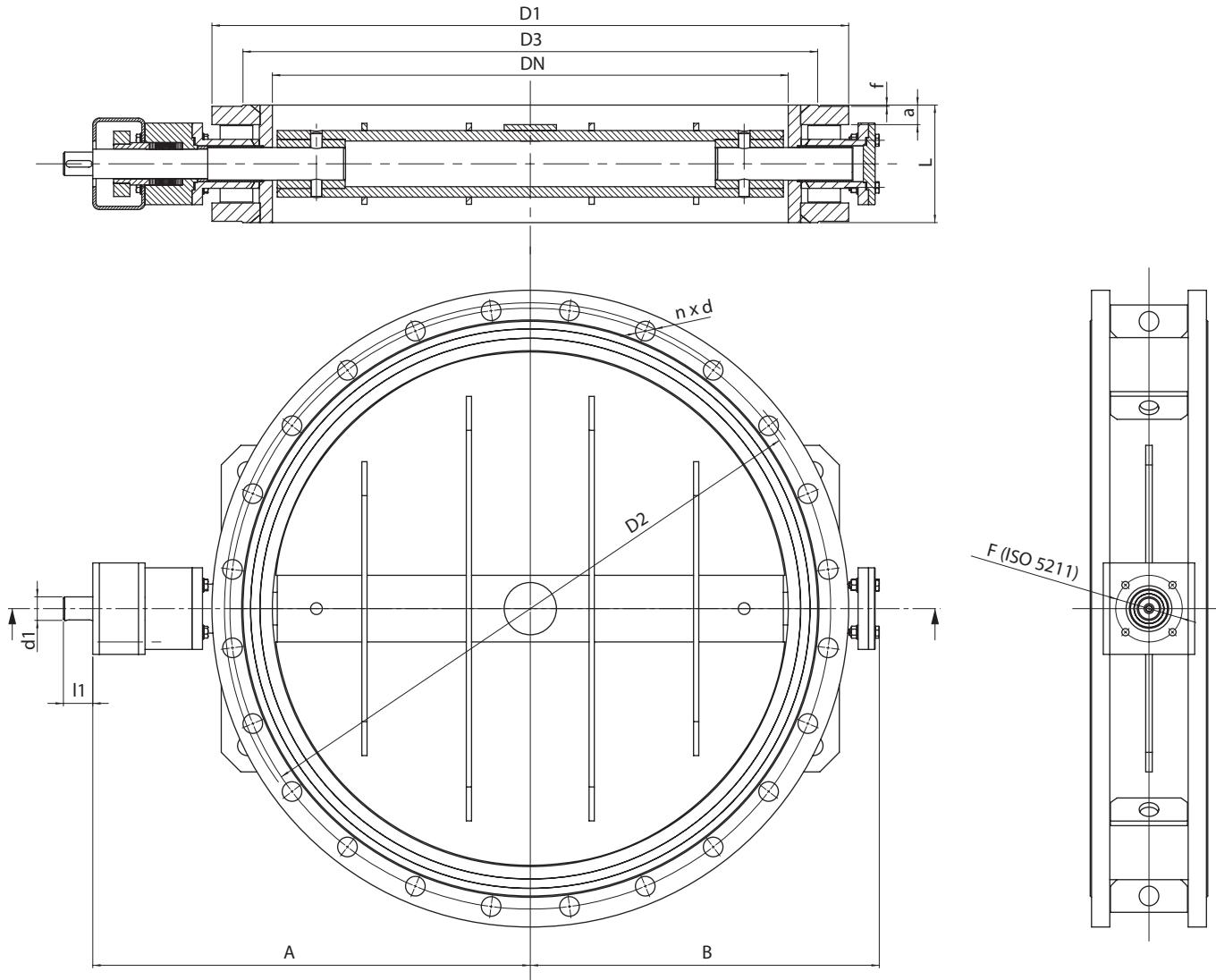
Maximum allowable pressure in the valve adheres to Pressure-Temperature chart of body material - 1.0425+N.

PN	Maximum allowable working pressure (bar)						
	Temperature - 10 to +50 °C	100 °C	150 °C	200 °C	250 °C	300 °C	350 °C
1	1,0	0,92	0,88	0,83	0,76	0,69	0,64



DN 700-2400 • PN 1 • Tmax +350°C

Connection: Ⓢ EN 1092-1 FLANGED ENDS



## PN 1

DN	A	B	L	F	D1	D2	D3	d	n	a	f	l1	d1	kg
700	610	475	180	F10	860	810	775	26	24	30	2	45	36	205
800	670	535	180	F12	975	920	880	30	24	30	2	45	36	277
1000	770	635	180	F12	1175	1120	1080	30	28	30	2	45	36	360
1200	960	735	200	F14	1375	1320	1280	30	32	30	2	80	50	490
1400	1090	835	220	F16	1575	1520	1480	30	36	35	2	80	50	620
1600	1200	940	240	F16	1790	1730	1690	30	40	40	2	90	60	790
1800	1400	1050	260	F25	1990	1930	1890	30	44	40	2	100	80	920
2000	1500	1150	280	F25	2190	2130	2090	30	48	40	2	100	80	1120
2400	1700	1350	300	F30	2605	2540	2495	33	56	45	2	120	100	1380

Connecting dimensions are acc. to EN 1092-1 for PN 2,5.



### 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 -40 °C up to +400 °C and depends on the body and gland packing material.

### Technical description

The eccentric 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, eventually on the electric actuator. There is always a gap between disc and body in closed position (butterfly valve is not closing valve) - see Fig. A.

### Operation

- electric actuator
- bare shaft

### 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
- welded ends acc. EN 12 627

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

### 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 electric actuator it is important to abide the actuator's manufacturer.

### Production range

DN 200-2000 • PN 2,5-25 • Tmax +400°C

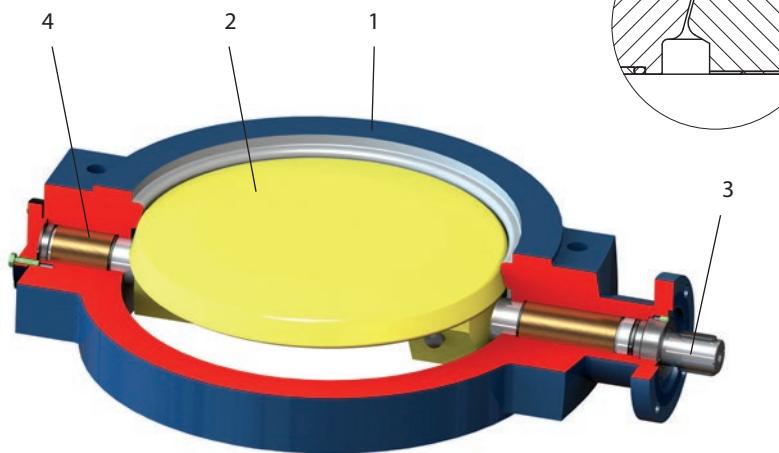


Fig. A

### Material

Position	Component	Material acc. to EN
1	Body	1.0425+N
2	Disc	1.0425+N
3	Shaft	1.4021-QT700
4	Pivot	1.4021-QT700

PN	Maximum allowable working pressure (bar)							
	Temperature -10 to +50 °C	100 °C	150 °C	200 °C	250 °C	300 °C	350 °C	400 °C
2,5	2,5	2,2	2,0	1,9	1,8	1,6	1,5	1,4
6	6,0	5,6	5,2	4,7	4,3	3,9	3,6	3,5
10	10,0	9,3	8,7	7,8	7,1	6,4	6,0	5,8
16	16,0	14,9	13,9	12,4	11,4	10,3	9,6	9,2
25	25,0	23,3	21,7	19,4	17,8	16,1	15,0	14,4

Table of dimensions are identical with type L32.6 – see page 7-10.



# BUTTERFLY VALVES

## CERTIFICATION



Product Certificate for L32



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



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 acc. to EN ISO  
9001:2008



EMS Certificate acc. to  
EN ISO 14001:2004



Management System Certificate  
acc. to BS OHSAS 18001:2007



ASME N Certificate



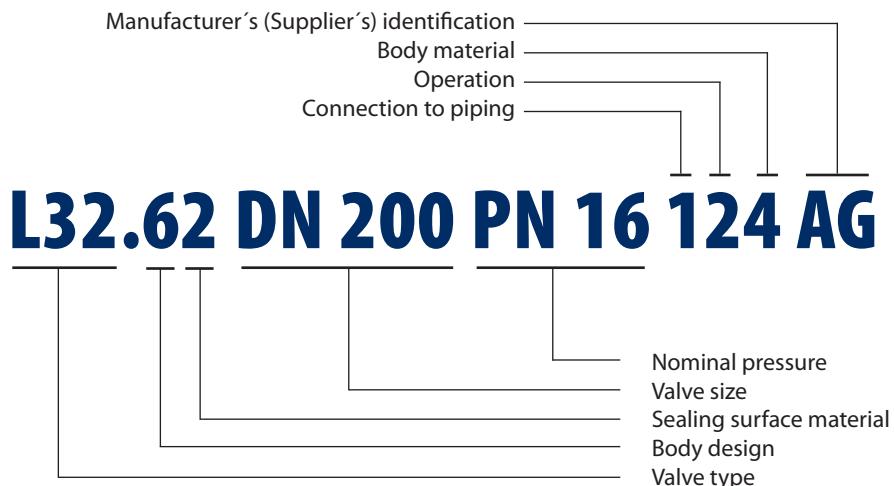
ASME NPT Certificate

## 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
- 6 – fabricated or forged body, single eccentricity

### 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 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.

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