

Butterfly Valve

## APORIS-DEB02

### Type Series Booklet



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Type Series Booklet APORIS-DEB02

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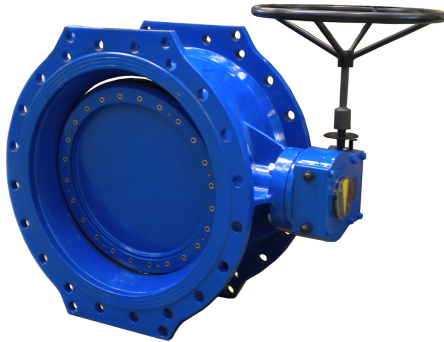
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## Butterfly Valves

### Double-offset Butterfly Valves

# APORIS-DEB02



#### Main applications

- General irrigation systems
- Cooling circuits
- Water treatment
- Water supply systems

#### Fluids handled

- Service water
- River water, lake water and groundwater
- Cooling water
- Drinking water

#### Operating data

Operating properties

Characteristic	Value
Nominal pressure	PN 10/16/25/40
Nominal size	DN 100 - 2200
Max. permissible pressure [bar]	40
Max. permissible temperature [°C]	≤ +80

Selection as per pressure/temperature ratings (⇒ Page 5)

#### Valve body materials

Overview of available materials

Material	Material number	Temperature limit
EN-GJS-400-15	5.3106	≤ 80 °C

#### Design details

#### Design

- Double-flanged body with short face-to-face length to EN 558/14
- Flanged ends to DIN EN 1092-2:  
PN 10 ≤ DN 2200  
PN 16 ≤ DN 1800  
PN 25 ≤ DN 1000  
PN 40 ≤ DN 1000
- Design to EN 593
- Tested to EN 12266-1
- Marked in accordance with DIN EN 19 (ISO 5209)
- Perfectly tight shut-off in either direction of flow (no leakage visible to the naked eye)
- Valve certified for drinking water applications to WRAS (elastomer and coating)
- Manual actuator (gearbox):  
PN 10 ≤ DN 1100  
PN 16 ≤ DN 800  
PN 25 ≤ DN 700  
PN 40 ≤ DN 600  
Larger nominal sizes standard-equipped with gearbox for mounting an electric actuator.

#### Variants

- Flanges drilled to ASME B16.5 Class 150
- Limit switches
- Pneumatic actuators
- Electric actuators

#### Product benefits

- Body with flanged ends, suitable for downstream dismantling and dead-end service
- Long-term reliable shut-off and sealing to atmosphere

#### Product information

#### Product information as per Regulation No. 1907/2006 (REACH)

For information as per chemicals Regulation (EC) No. 1907/2006 (REACH), see <http://www.ksb.com/reach>.

#### Related documents

Information/documents

Document	Reference number
Operating manual	8118.8

**Purchase order specifications**

Please specify the following information in all enquiries or purchase orders:

- |                                                                                                                                                |                                                                                                                                                                                                                       |
|------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ol style="list-style-type: none"> <li>1. Type</li> <li>2. Nominal pressure</li> <li>3. Nominal size</li> <li>4. Operating pressure</li> </ol> | <ol style="list-style-type: none"> <li>5. Differential pressure</li> <li>6. Operating temperature</li> <li>7. Fluid handled</li> <li>8. Pipe connection</li> <li>9. Variants</li> <li>10. Reference number</li> </ol> |
|------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**Pressure/temperature ratings**

Permissible operating pressures [bar]

PN	DN	[°C]
		80
10	100-2200	10,0
16	100-1800	16,0
25	100-1000	25,0
40	100-1000	40

Materials

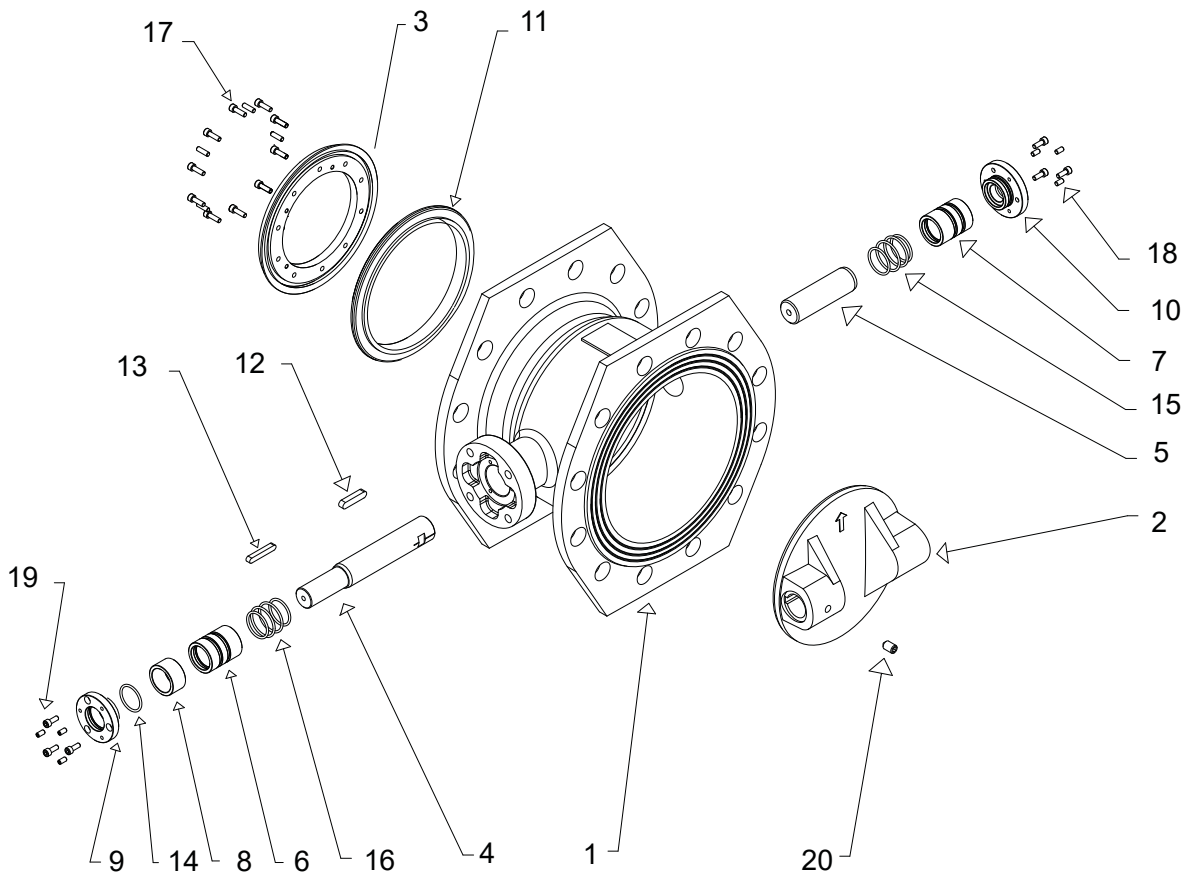


Fig. 1: Exploded view

Overview of available materials

Part No.	Description	Material	Material number	Note
1	Body	EN-GJS-400-15	EN-JS1030	Epoxy-coated
2	Valve disc	EN-GJS-400-15	EN-JS1030	Epoxy-coated
3	Retaining ring	AISI 304		
4	Shaft	AISI 304		
5	Shaft	AISI 304		
6	Bearing	Polyoxymethylene		
7	Bearing	Polyoxymethylene		
8	Middle bearing	Polyoxymethylene		
9	Bonnet	EN-GJS-400-15	EN-JS1030	Epoxy-coated
10	Bonnet	EN-GJS-400-15	EN-JS1030	Epoxy-coated
11	Joint ring	EPDM		
1-A	Body seat	AISI 309L		
12	Key	Ck 45		
13	Key	Ck 45		
14	Ring	Ck 60		
15	O-ring	EPDM		
16	O-ring	EPDM		
17	Screws, bolts and nuts	A2		
18	Screws, bolts and nuts	A2		
19	Screws, bolts and nuts	A2		
20	Screws, bolts and nuts	A2		

Dimensions and weights

Dimensions and weights PN 10, DN 100 - 1100

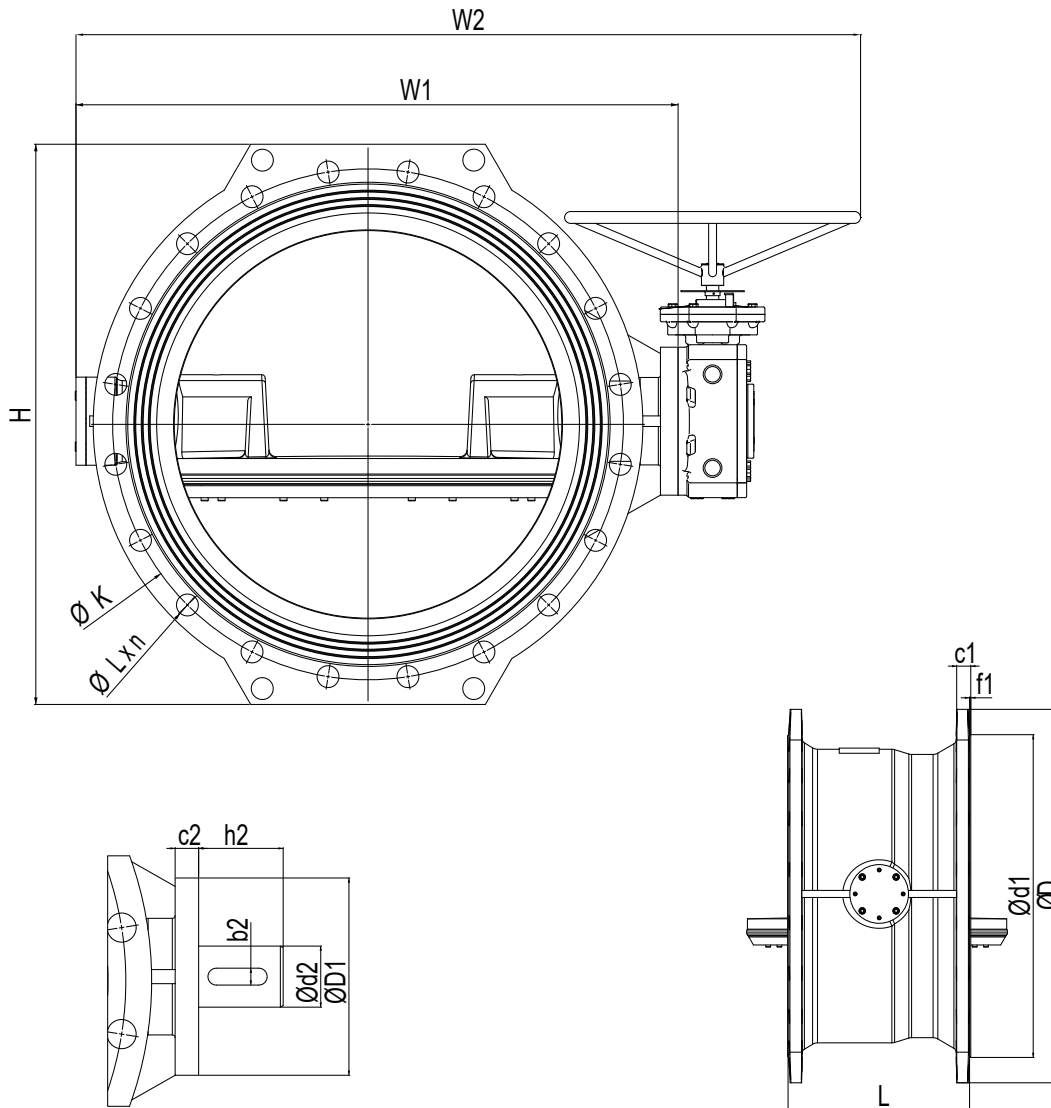


Fig. 2: Sectional drawing PN 10 DN 100 - 1100

Dimensions and weights

PN	DN	b2	C1	D	Ød1	Ød2	f1	H	h2	K	L	Øl x n	W1	W2	Top flange <sup>1)</sup>	[kg]
		[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	
10	100	5	19,0	220	156	14	3	225	57	180	190	19 x 8	240	410	F10	14,7
	125	6	19,0	250	184	18	3	260	57	210	200	19 x 8	265	435	F10	19,1
	150	6	19,0	285	211	18	3	290	57	240	210	23 x 8	296	466	F10	23,4
	200	6	20,0	340	266	28	4	350	57	295	230	23 x 8	346	516	F10	36,8
	250	8	22,0	400	319	28	4	400	57	350	250	23 x 12	418	588	F10	52,4
	300	8	24,5	455	370	34	4	450	68	400	270	23 x 12	515,5	685,5	F14/F10	78,8
	350	10	24,5	505	429	43	4	510	64,5	460	290	23 x 16	552,5	772,5	F14	99,1
	400	12	24,5	565	480	45	4	570	75	515	310	28 x 16	592,5	837,5	F16	130,0
	450	14	25,5	615	530	50	4	625	75	565	330	28 x 20	670	940	F16	170,0
	500	14	26,5	670	582	55	4	674	75	620	350	28 x 20	714	984	F16	207,0
	600	16	30,0	780	682	65	5	795	80	725	390	31 x 20	855	1175	F16	294,0
700	18	32,5	895	794	75	5	930	115	840	430	31 x 24	1101	1471	F25	432,0	

8118.1/03-EN

<sup>1</sup> ISO 5211

PN	DN	b2	C1	D	Ød1	Ød2	f1	H	h2	K	L	Øl x n	W1	W2	Top flange <sup>1)</sup>	[kg]
		[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	
10	800	20	35,0	1015	901	80	5	1040	115	950	470	34 x 24	1193	1563	F25	607,0
	900	22	37,5	1115	1001	90	5	1140	142	1050	510	34 x 28	1218	1588	F25	867,0
	1000	25	40,0	1230	1112	105	5	1264	142	1160	550	37 x 28	1404	1774	F30	1012,0
	1100	28	42,5	1340	1218	120	5	1360	130	1270	590	37 x 32	1518	1888	F30	1323,0

**Mating dimensions as per standard**

Face-to-face lengths: EN 558-1/14

Flanges: DIN EN 1092



Dimensions and weights PN 10, DN 1200 - 2200

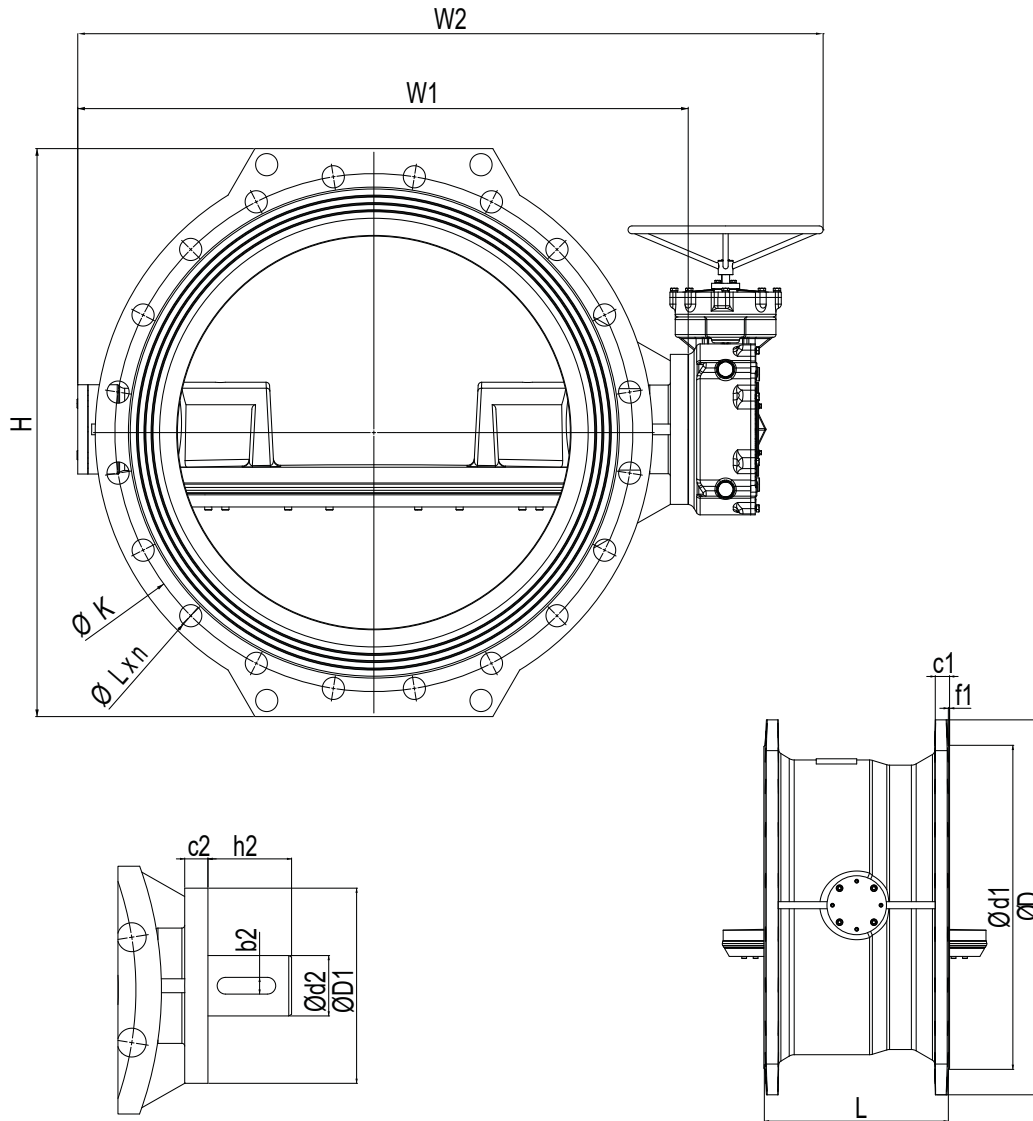


Fig. 3: Sectional drawing PN 10 DN 1200 - 2200

Dimensions and weights

PN	DN	b2	C1	D	Ød1	Ød2	f1	H	h2	K	L	Øl x n	W1	W2	Top flange <sup>2)</sup>	[kg]
		[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	
10	1200	32	45	1455	1328	120	5	1465	160	1380	630	41 x 32	1604	1851	F30	1630
	1300	32	46	1585	1440	130	5	1575	190	1490	670	41 x 32	1733	1992	F40	1996
	1400	40	46	1675	1530	160	5	1705	190	1590	710	44 x 36	1798	2132	F40	2557
	1500	40	47,5	1785	1640	160	5	1795	224	1700	750	44 x 36	2025	2417	F40	2615
	1600	40	49	1915	1750	160	5	1940	238	1820	790	50 x 40	2202	2595	F48	3460
	1800	45	52	2115	1950	180	5	2125	234	2020	870	50 x 44	2365	2758	F48	4165
	2000	50	55	2325	2150	205	5	2335	265	2230	950	50 x 48	2571	2998	F48	4915
	2200	56	65	2550	2370	240	5	2560	265	2440	1030	56 x 52	2760	3187	F48	8242

Mating dimensions as per standard

Face-to-face lengths: EN 558-1/14

Flanges: DIN EN 1092

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<sup>2)</sup> ISO 5211

Dimensions and weights PN 16, DN 100 - 800

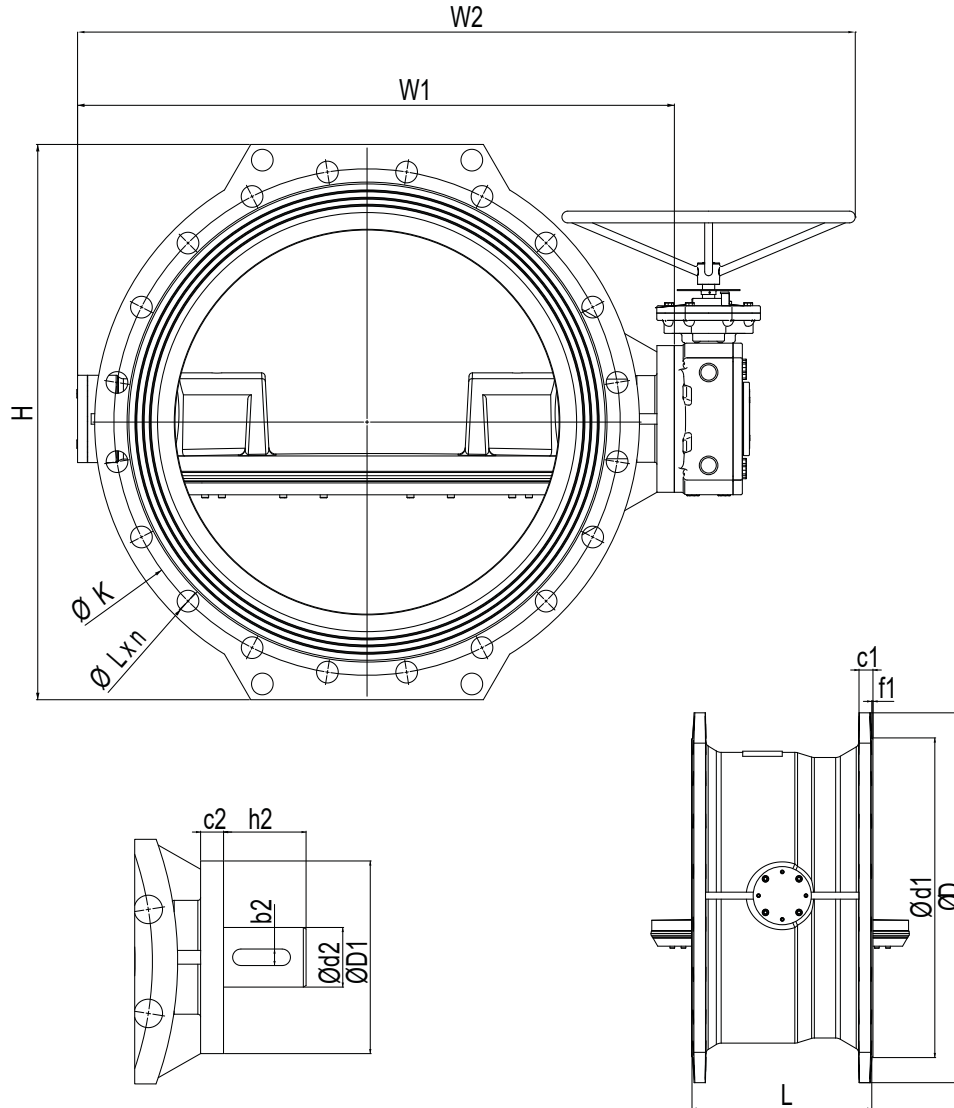


Fig. 4: Sectional drawing PN 16 DN 100 - 800

Dimensions and weights

PN	DN	b2	C1	D	Ød1	Ød2	f1	H	h2	K	L	Øl x n	W1	W2	Top flange <sup>3)</sup>	[kg]
		[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	
16	100	5	19,0	220	156	14	3	225	57	180	190	19 x 8	240	410	F10	14,7
	125	6	19,0	250	184	18	3	260	57	210	200	19 x 8	265	435	F10	19,1
	150	6	19,0	285	211	18	3	290	57	240	210	23 x 8	296	466	F10	23,4
	200	8	20,0	340	266	28	4	350	57	295	230	23 x 12	346	516	F10	36,2
	250	8	22,0	405	319	30	4	400	61,5	355	250	28 x 12	418	588	F10	53,0
	300	10	24,5	460	370	34	4	450	64,5	410	270	28 x 12	515,5	735,5	F14/F10	82,0
	350	12	26,5	520	429	43	4	510	64,5	470	290	28 x 16	552,5	797,5	F14	105,0
	400	14	28,0	580	480	45	4	570	75	525	310	31 x 16	592,5	862,5	F16	141,0
	450	14	30,0	640	548	50	4	625	75	585	330	31 x 20	670	990	F16	195,0
	500	16	31,5	715	609	55	4	718	80	650	350	34 x 20	714	1067,5	F16	243,0
	600	18	36,0	840	720	65	5	795	80	770	390	37 x 20	855	1225	F16	353,0
	700	20	39,5	910	794	75	5	930	119	840	430	37 x 24	1101	1471	F25	537,0
800	22	43,0	1025	901	80	5	1055	119	950	470	41 x 24	1128	1498	F25	725,0	

<sup>3</sup> ISO 5211

**Mating dimensions as per standard**

Face-to-face lengths: EN 558-1/14  
Flanges: DIN EN 1092

Dimensions and weights PN 16, DN 900 - 1800

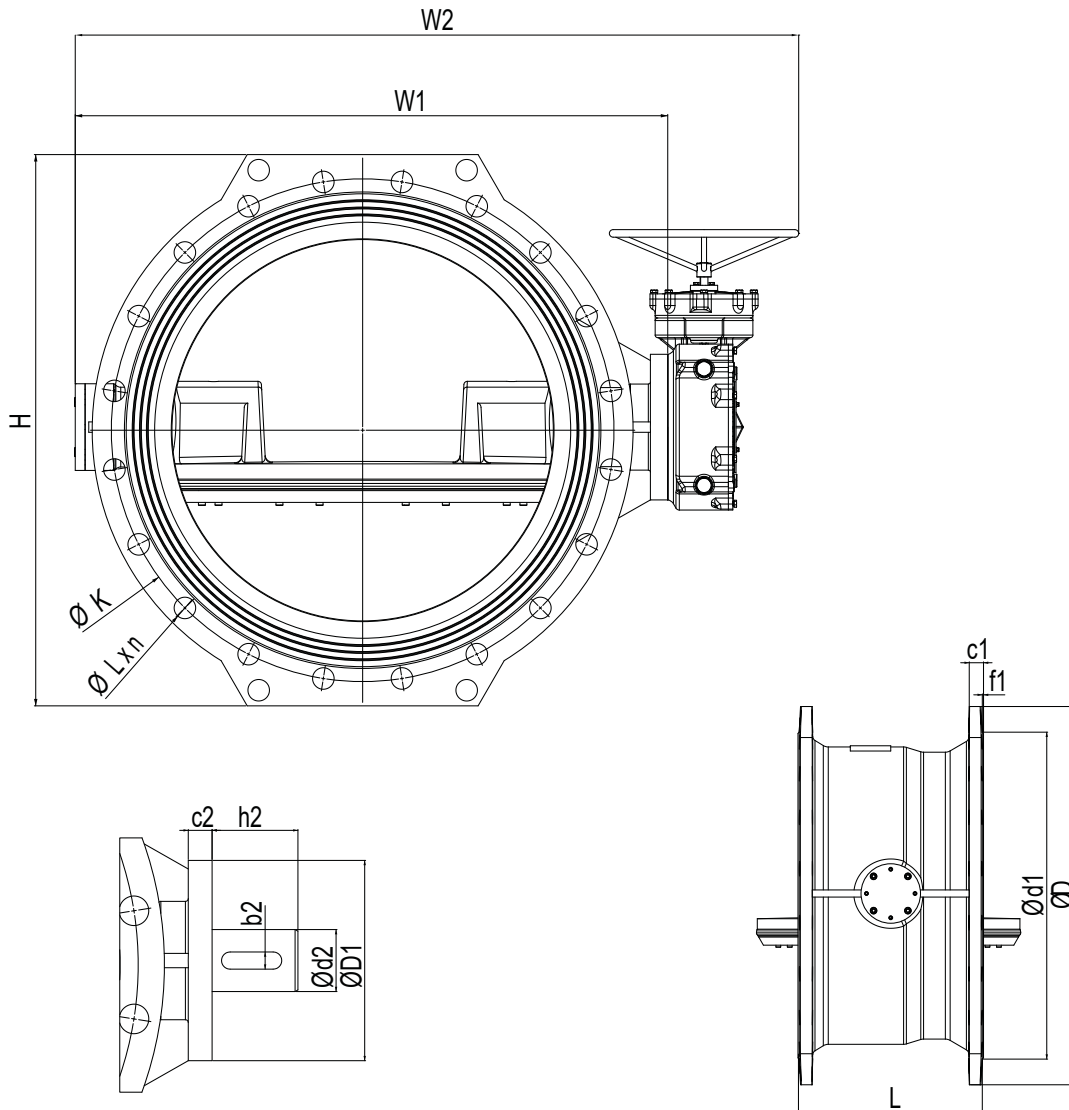


Fig. 5: Sectional drawing PN 16 DN 900 - 1800

Dimensions and weights

PN	DN	b2 [mm]	C1 [mm]	D [mm]	Ød1 [mm]	Ød2 [mm]	f1 [mm]	H [mm]	h2 [mm]	K [mm]	L [mm]	Øl x n [mm]	W1 [mm]	W2 [mm]	Top flange <sup>4)</sup> [mm]	[kg]
16	900	22	46,5	1125	1001	90	5	1160	142	1050	510	41 x 28	1283,5	1723,5	F25	1015
	1000	25	50	1255	1112	105	5	1289	142	1170	550	44 x 28	1450	1890	F30	1395
	1100	28	53,5	1355	1218	120	5	1360	130	1270	590	44 x 32	1515	1955	F30	1404
	1200	32	57	1485	1328	120	5	1495	160	1390	630	50 x 32	1603	2143	F40	1784
	1300	32	57	1585	1430	130	5	1585	190	1490	670	50 x 32	1733	2273	F40	2130
	1400	40	60	1685	1530	160	5	1700	190	1590	710	50 x 36	1798	2338	0F	2715
	1500	40	62,5	1820	1640	160	5	1830	224	1710	750	57 x 36	2025	2565	F40	3240
	1600	40	65	1930	1750	160	5	1940	238	1820	790	57 x 40	2202	2742	F48	3921
1800	45	70	2130	1950	180	5	2140	234	2020	870	57 x 44	2334	2878	F48	5354	

Mating dimensions as per standard

Face-to-face lengths: EN 558-1/14

Flanges: DIN EN 1092

<sup>4</sup> ISO 5211

Dimensions and weights PN 25, DN 100 - 700

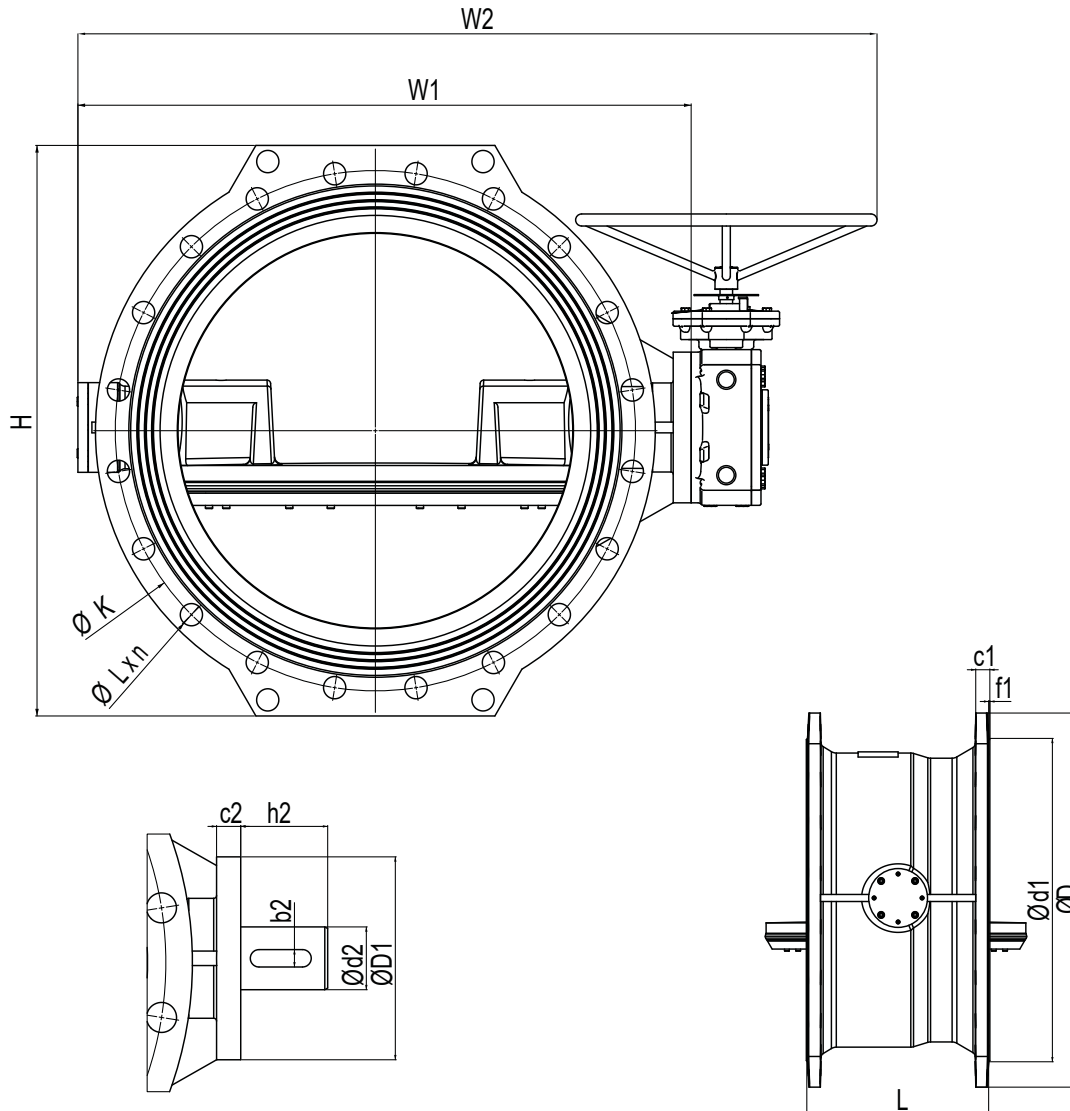


Fig. 6: Sectional drawing PN 25 DN 100 - 700

Dimensions and weights

PN	DN	b2	C1	D	Ød1	Ød2	f1	H	h2	K	L	Øl x n	W1	W2	Top flange <sup>5)</sup>	[kg]
		[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	
25	100	5	19,0	235	156	14	3	225	57	190	190	23 x 8	240	410	F10	15,7
	125	6	19,0	270	184	18	3	2620	57	220	200	28 x 8	265	435	F10	20,0
	150	6	20,0	300	211	18	3	290	57	250	210	28 x 8	296	466	F10	25,5
	200	8	22,0	360	274	28	4	350	57	310	230	28 x 12	356	576	F10	39,3
	250	8	24,5	425	330	30	4	400	75	370	250	31 x 12	418	663	F10	60,0
	300	12	27,5	485	389	40	4	512	85	430	270	31 x 16	512,5	782,5	F14	101,0
	350	14	30,0	555	448	50	4	575	105	490	290	34 x 16	580	900	F16	158,0
	400	14	32,0	620	503	50	4	630	105	550	310	37 x 16	650	970	F16	185,0
	450	16	34,5	670	548	55	4	674	105	600	330	37 x 20	685	1055	F16	223,0
	500	18	36,5	730	609	60	4	735	109	660	350	37 x 20	883	1253	F25/F16	297,0
	600	22	42,0	845	720	80	5	861	130	770	390	41 x 20	884	1254	F25	421,0
700	25	46,5	960	820	90	5	970	130	875	430	44 x 24	1008	1378	F25	639,0	

8118.1/03-EN

<sup>5)</sup> ISO 5211

**Mating dimensions as per standard**

Face-to-face lengths: EN 558-1/14  
Flanges: DIN EN 1092

**Dimensions and weights PN 25, DN 800 - 1000**

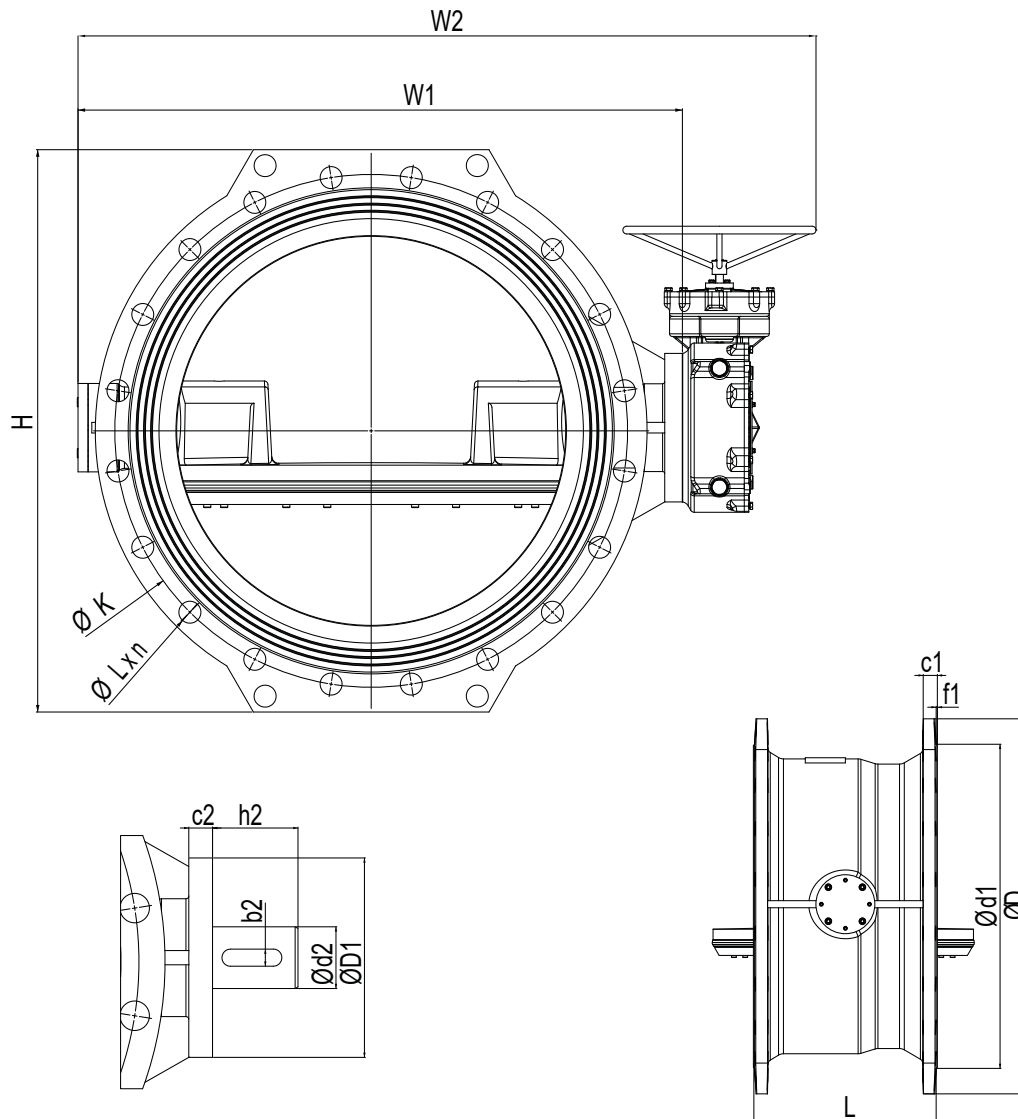


Fig. 7: Sectional drawing PN 25 DN 700 - 1000

**Dimensions and weights**

PN	DN	b2	C1	D	Ød1	Ød2	f1	H	h2	K	L	Øl x n	W1	W2	Top flange <sup>6)</sup>	[kg]
		[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	
25	800	28	51	1085	928	96	5	1105	160	990	470	50 x 24	1143	1583	F30	936,0
	900	32	55,5	1185	1028	130	5	1205	170	1090	510	50 x 28	1327	1767	F30	1334,0
	1000	36	60	1320	1140	150	5	1352	220	1210	550	57 x 28	1499	2323	F40	1871,0

**Mating dimensions as per standard**

Face-to-face lengths: EN 558-1/14  
Flanges: DIN EN 1092

<sup>6)</sup> ISO 5211

Dimensions and weights PN 40, DN 100 - 600

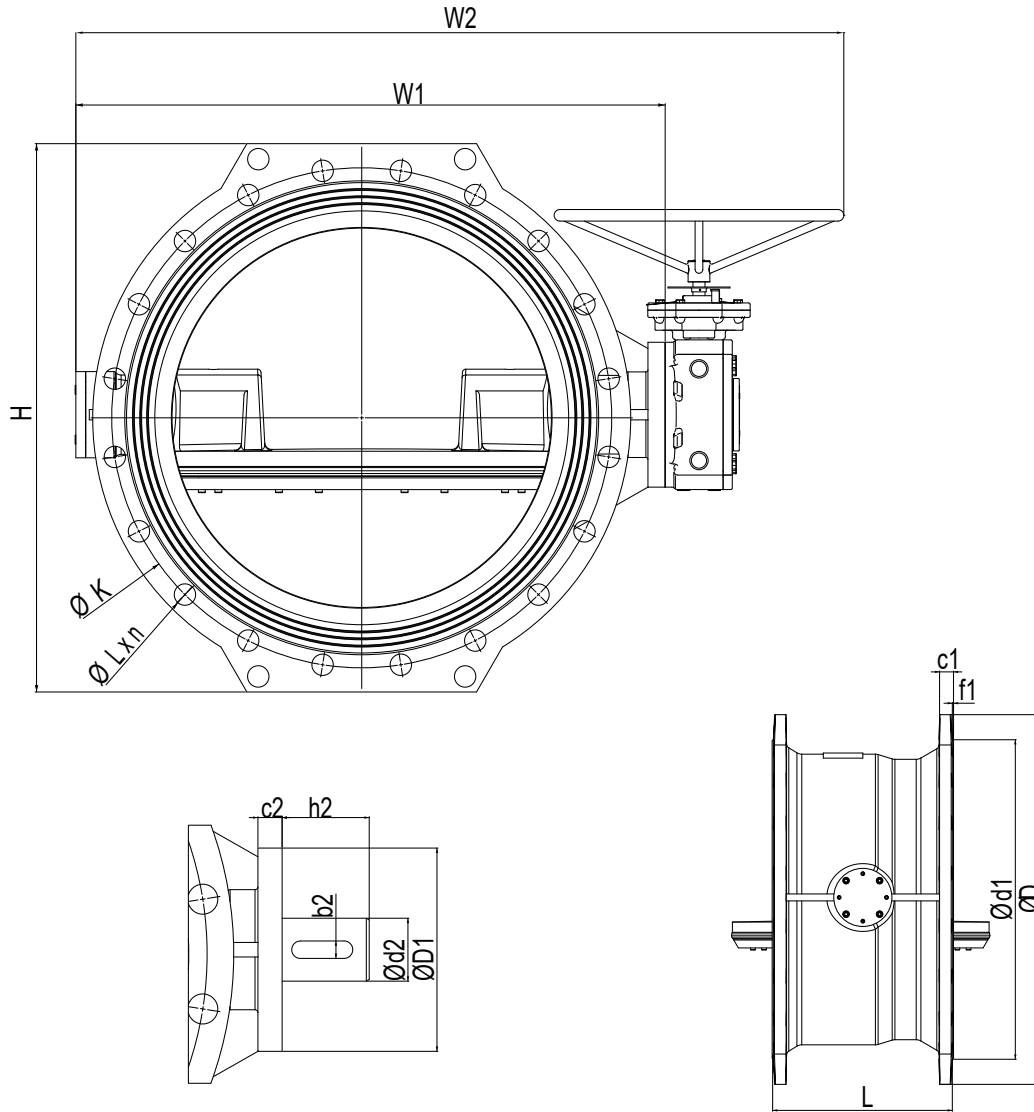


Fig. 8: Sectional drawing PN 40 DN 100 - 600

Dimensions and weights

PN	DN	b2	C1	D	Ød1	Ød2	f1	H	h2	K	L	Øl x n	W1	W2	Top flange <sup>7)</sup>	[kg]
		[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	
40	100	5	19,0	235	156	14	3	225	57	190	190	23 x 8	240	410	F10	15,7
	125	6	23,5	270	184	18	3	260	57	220	200	28 x 8	265	435	F10	23,0
	150	6	26,0	300	211	18	3	295	57	250	210	28 x 8	305	475	F10	31,5
	200	8	30,0	375	284	28	4	385	61	320	230	31 x 12	377,5	597,5	F10	54,0
	250	8	34,5	450	345	30	4	460	85	385	250	34 x 12	470	740	F14	104,0
	300	12	39,5	515	409	40	4	512	105	450	270	34 x 16	521,5	832,5	F14	132,0
	350	14	44,0	580	465	50	4	580	105	510	290	37 x 16	657	1027	F16	193,0
	400	14	48,0	660	535	50	4	670	105	585	310	41 x 16	710	1080	F16	263,0
	450	16	49,0	685	560	55	4	741	125	610	330	41 x 20	735,4	1105,4	F16	267,0
	500	18	52,0	755	615	60	4	761	125	670	350	44 x 20	774	1144	F25/F16	371,0
600	22	58,0	890	735	80	5	912	140	795	390	50 x 20	945	1315	F30	544,0	

8118.1/03-EN

<sup>7)</sup> ISO 5211

**Mating dimensions as per standard**

Face-to-face lengths: EN 558-1/14  
Flanges: DIN EN 1092

**Dimensions and weights PN 40, DN 700 - 1000**

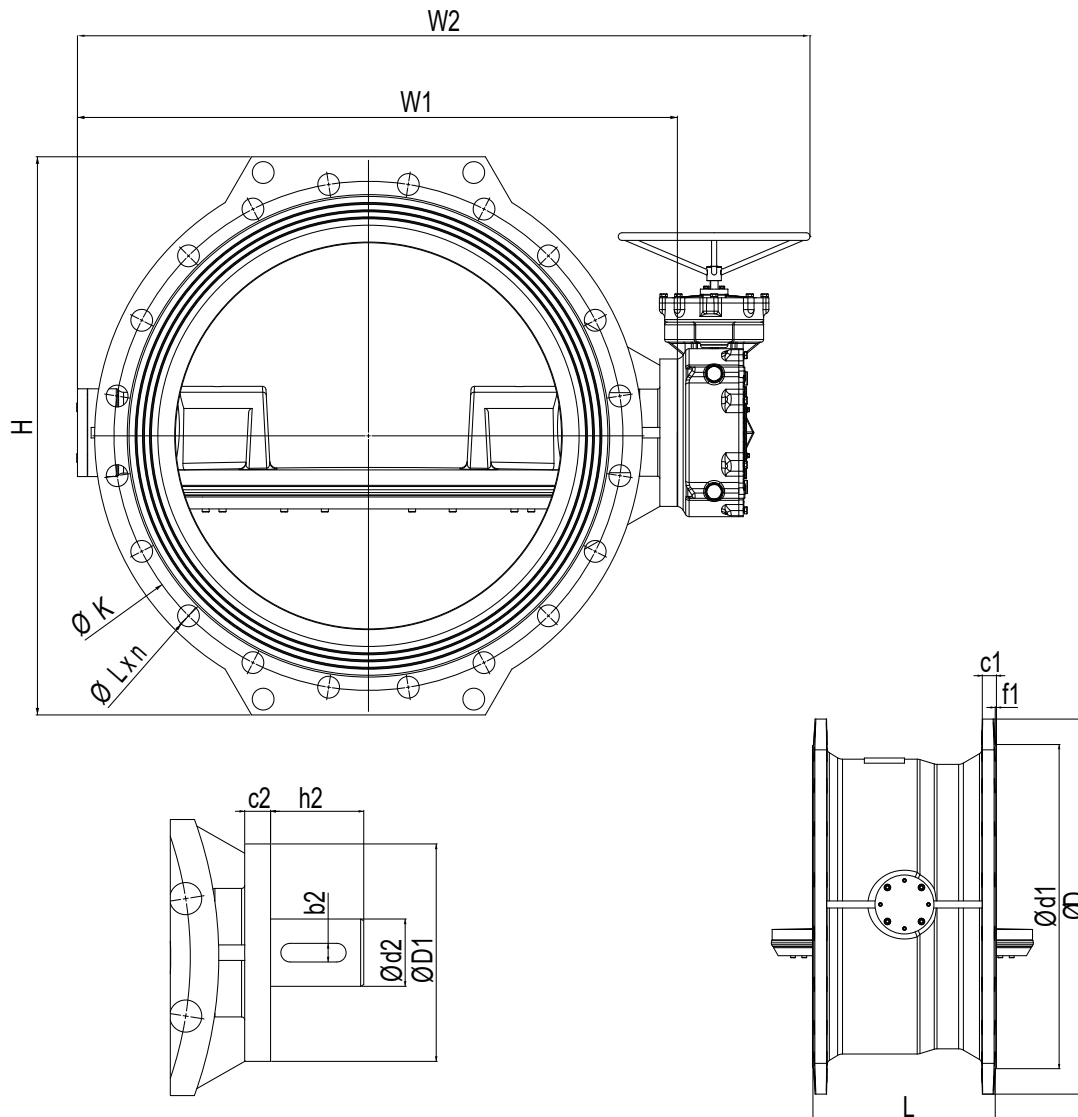


Fig. 9: Sectional drawing PN 40 DN 700 - 1000

Dimensions and weights

PN	DN	b2	C1	D	Ød1	Ød2	f1	H	h2	K	L	Øl x n	W1	W2	Top flange <sup>8)</sup>	[kg]
		[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	
40	700	28	64	995	840	108	5	1001	160	900	430	48 x 24	1009	1449	F30	767,0
	800	32	65	1140	960	112	5	1160	215	1030	470	57 x 24	1220	1710	F30/F40	1157,0
	900	40	70	1250	1070	160	5	1270	220	1140	510	57 x 28	1400	1940	F40	1757,0
	1000	45	75	1360	1180	175	5	1360	220	1250	550	57 x 28	1576	2116	F40	2265,0

**Mating dimensions as per standard**

Face-to-face lengths: EN 558-1/14  
Flanges: DIN EN 1092

<sup>8</sup> ISO 5211







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