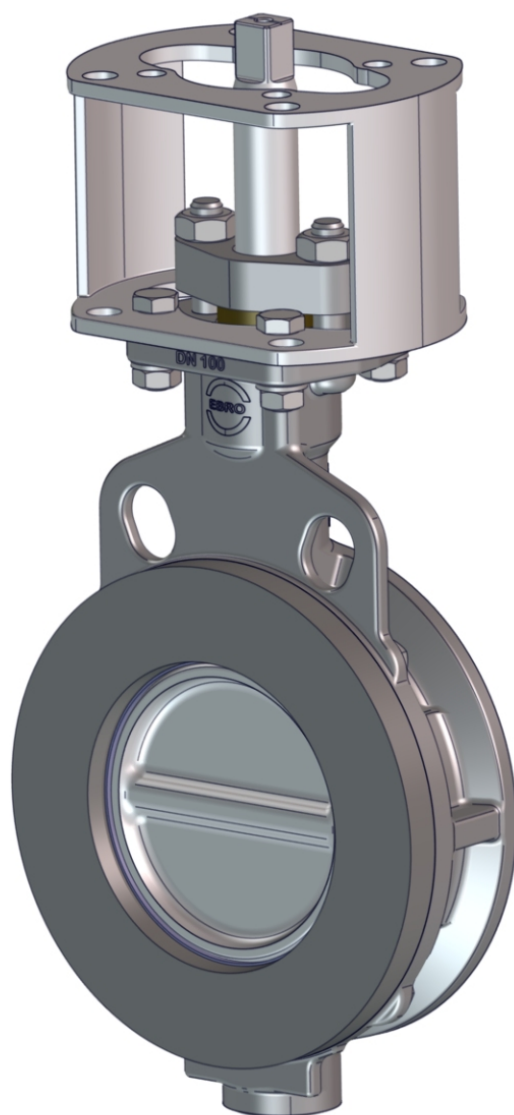


Technical data sheet

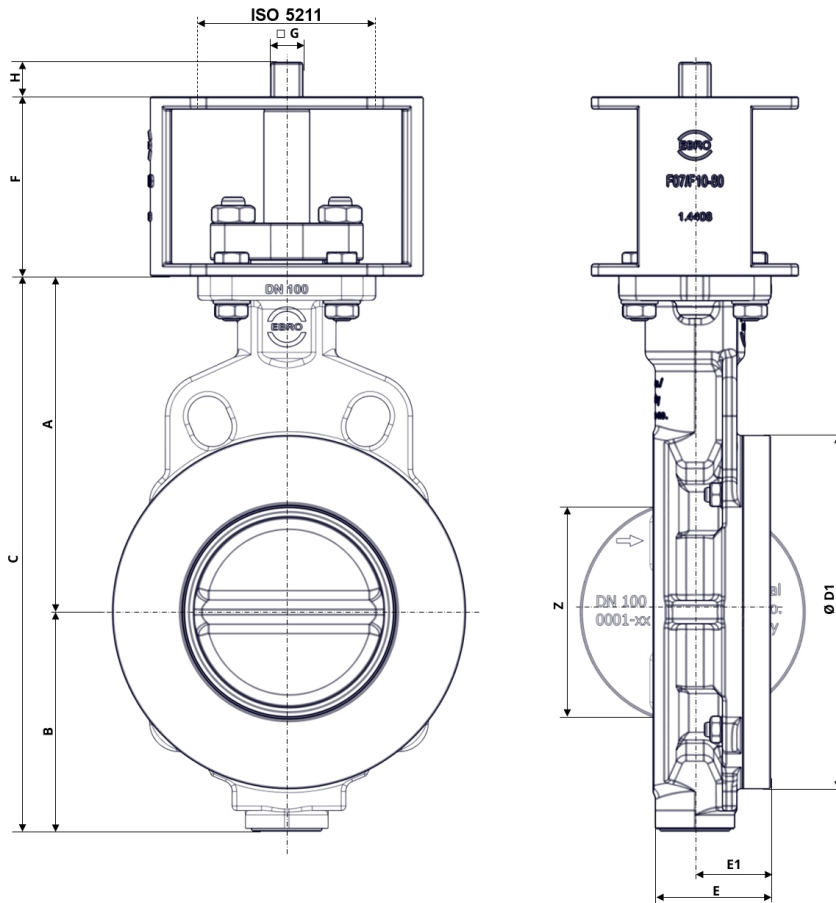
**Wafer-type butterfly valve HP111-HF
with bare shaft**



WAFER-TYPE BUTTERFLY VALVE HP111-HF
METAL-SEATED BUTTERFLY VALVE
 TECHNICAL DATA SHEET



Dimension sheet

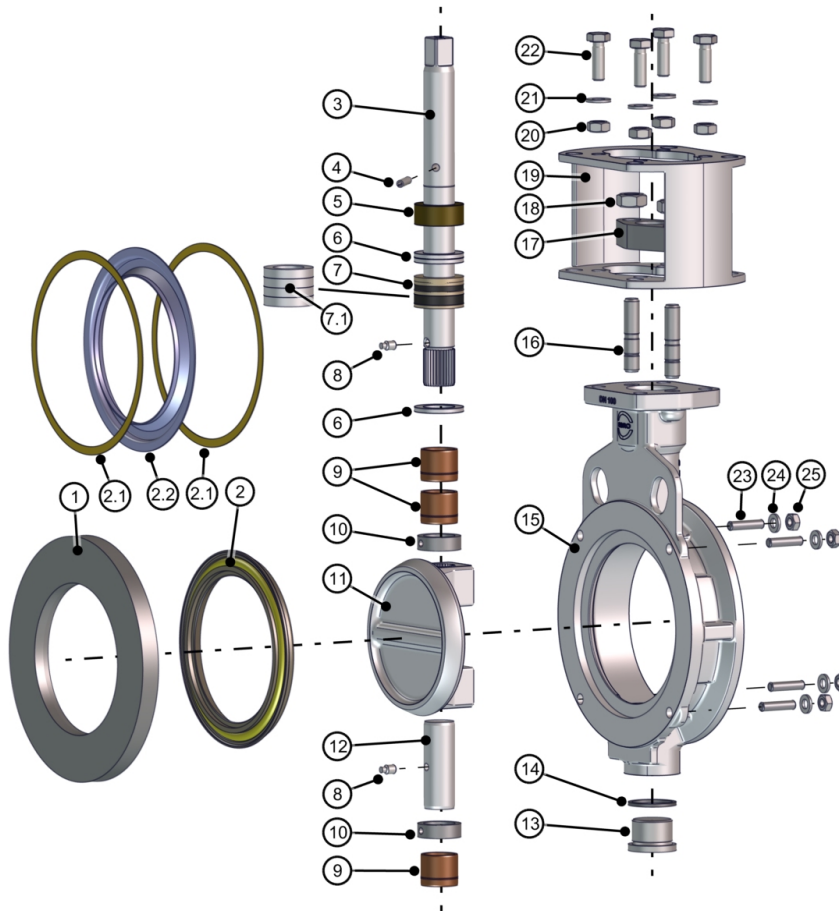


DN	NPS	Main dimensions [mm]											Weight [kg]
		A	B	C	ØD1	E	E1	F	ISO 5211	□G	H	Z	
50	2	120	71	191	106	44	30	80	F05	11	11.5	51	4.5
65	2½	128	75	203	121	46	30	80	F05	11	11.5	49	5.5
80	3	137	135	217	134	46	32	80	F05	11	11.5	78	6.6
100	4	151	101	252	158	52	33	80	F05	14	15.5	102	9
125	5	167	116	283	186	56	35	80	F07	14	15.5	123	12.7
150	6	179	128	307	212	55.5	35	80	F07	14	15.5	151	14
200	8	214	155	369	268	60	39	80	F10	17	18	196	23
250	10	242	195	437	322	68	41	80	F10	22	23	242	35
300	12	280	227	507	370	78	47	80	F12	22	23	288	47
350	14	305	251	556	430	78	48	80	F14	27	28	333	62
400	16	345	289	634	482	102	58	80	F16	36	36	380	95

WAFER-TYPE BUTTERFLY VALVE HP111-HF
METAL-SEATED BUTTERFLY VALVE
 TECHNICAL DATA SHEET



Material specifications & bill of materials



Item	Naming	Piece	Material group ¹	Material no.
1	Clamping ring	1	Stainless steel	1.4408
2	PTFE seat ring	1	R-PTFE	
2.1	Metal seat ring	2	Graphite	
2.2	seal	1	Inconel 625	
3	Actuator shaft	1	Stainless steel	1.4418+QT900 1.4542 P1070
4	Tensioning pin	1	Stainless steel	1.4310
5	Compression ring	1	Stainless steel	1.4305
6	Support disc	2	Stainless steel	1.4571
7	Shaft seal (PTFE seat ring)	1	PTFE	
7.1	Shaft seal (metal seat ring)	1	Graphite	
8	Threaded pin	2	Stainless steel	A4-70
9	Bearing bush	3	Stainless steel	1.4571
10	Bearing ring	2	Stainless steel	1.4571
11	Valve disc (PTFE seat ring)	1	Stainless steel	1.4408
11.1	Valve disc (metal seat ring)	1	Stainless steel	1.4408 (electroless nickel)

WAFER-TYPE BUTTERFLY VALVE HP111-HF
METAL-SEATED BUTTERFLY VALVE
 TECHNICAL DATA SHEET



Item	Naming	Piece	Material group ¹	Material no.
12	Lower shaft	1	Stainless steel	1.4418+QT900
13	Screw plug	1	Stainless steel	1.4408
14	Seal (PTFE seat ring)	1	PTFE	
14.1	Seal (metal seat ring)		Graphite	
15	Valve body	1	Cast steel	1.0619
			Stainless steel	1.4408
16	Stud screw	1	Stainless steel	A4-70
17	Packing flange	1	Stainless steel	1.4408
18	Hexagon nut	2	Stainless steel	A4
19	Bracket	1	Stainless steel	1.4408
			Steel	1.0038 KTL
20	Hexagon nut	4	Stainless steel	A4
21	Disc	4	Stainless steel	A4
22	Hexagon head screw	4	Stainless steel	A4-70
23	Threaded pin	4 ²	Stainless steel	A4-70
24	Disc	4 ²	Stainless steel	A4
25	Hexagon nut	4 ²	Stainless steel	A4

¹ Other materials upon request.

² The Piece number may vary based on valve size.

Temperature limits for HP valves

Material	TS min. [°C]	TS max. [°C]
R-PTFE	-10	230
Inconel	-10	550
R-PTFE / Inconel (Firesafe)	-10	230

Torques

NOTICE



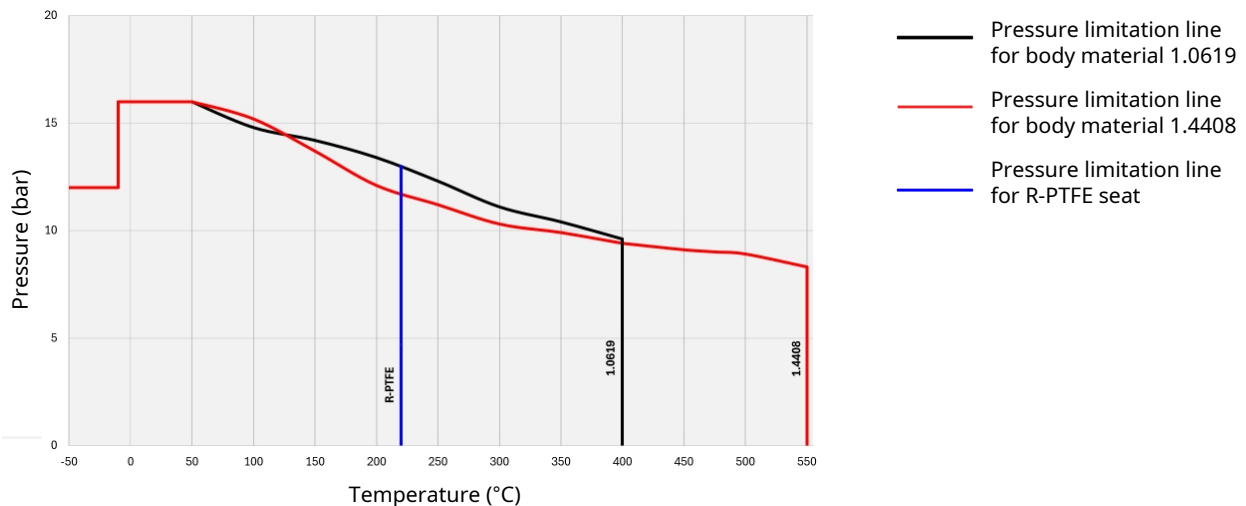
The values listed in the table are breakaway torques determined for liquid/ lubricating media from the position of the valve disc. They should be considered reference values since the actual torques depend on various factors such as operating pressure, medium, operating conditions, etc. The safety factor for the design of the actuator is also necessary. Valve discs in special configurations can be provided.

DN	NPS	Torque (Md) / pressure rating [Nm]			
		10 [bar]		16 [bar]	
		R-PTFE	Inconel	R-PTFE	Inconel
65	3	28	55	30	65

Additions for other media

- Measured at water 20 °C. The torques depends on the medium and temperature!

Pressure-temperature chart



K_v values

NOTICE



The K_v value [m³/h] indicates the water flow rate at a temperature of 5 °C to 30 °C and a Δp of 1 bar.
 The allowable flow velocity V_{max} is 4.5 m/s for liquids and 70 m/s for gases.
 At an opening angle of 30° to 70°, the valve disc is in the optimum control range. The curve is flat between 20° and 30° and between 70° and 90°, so that changing the opening angle has little effect on the flow control. Avoid cavitation.

		K _v value at opening angle α°							
DN	NPS	20°	30°	40°	50°	60°	70°	80°	90°
50	2	7	17	28	40	46	46	44	38
65	2½	7	14	23	32	38	45	52	54
80	3	18	41	66	94	120	150	170	170
100	4	33	72	115	170	230	290	350	350
125	5	60	120	200	310	420	540	660	650
150	6	82	160	260	400	600	810	1080	1080
200	8	78	180	350	610	940	1370	1810	1810
250	10	260	480	750	1110	1520	1890	2380	2600
300	12	450	750	1150	1690	2310	3030	3580	4000
350	14	410	680	1100	1790	2680	3950	4830	5500
400	16	650	990	1600	2480	3680	4840	6000	7200
Information in m ³ /h.									

Technical features

Designation	Description
Nominal sizes	DN 50 - DN 400
Temperature range	-10 °C to 550 °C
Maximal allowable operating pressure	16 bar
Use with vacuum	up to 1 mbar (absolute)

Standards

Designation	Description
Marking	DIN EN 19:2024-03
Top flange	DIN EN ISO 5211:2024-10
Face-to-face	DIN EN 558:2022-09 Series 20
Flange connection	DIN EN 1092-1:2018-12 PN 10/16
	ASME B16.5:2020 Class 150

Tightness

Designation	Description
Examination	DIN EN 12266-1:2012-06 Leakage rate A (for R-PTFE seat ring) up to max. 16 bar
	DIN EN 12266-1:2012-06 Leakage rate B (for Inconel seat ring) up to max. 16 bar

Certificates and approvals

Designation	Description
Fire safety	DIN EN ISO 10497:2024-04, API STD 607:2022-10
Blow-out protection	DIN EN 593:2018-01, API STD 609:2021-04
Explosion protection	ATEX (Directive 2014/34/EU)
Notice Further certificates and approvals available upon request.	