

# PTFE-LINED BUTTERFLY VALVE T 211-A



Fully PTFE-lined wafer type valve for corrosive and aggressive media. The patented shaft seal design ensures reliability even with high-corrosive applications.

## TECHNICAL DATA

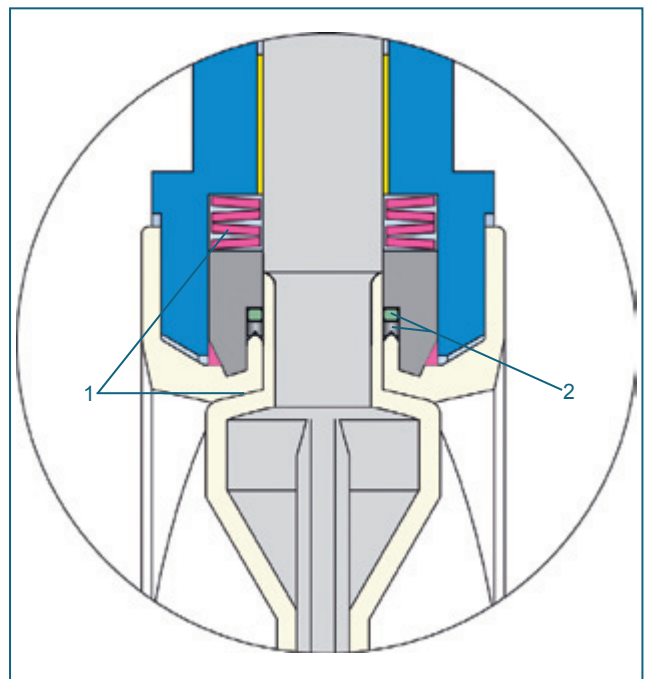
Nominal diameter:	DN(40) 50 - DN 300
Face-to-face:	EN 558 Series 20 (DIN 3202 T3 K1) ISO 5752 Series 20 API 609 Table 1 BS 5155 Tab. 6, Series 4 NF E 29-305.1
Flange accommodation:	EN 1092 PN 10/16 ANSI B 16.5, Class 150 MSS SP44 Class 150 AWWA C 207 AS 2129 Table D and E BS 10 Table D and E JIS B 2211-5 K JIS B 2212-10 K
Flange Surface Design:	EN 1092, Design A-B, ANSI B 16.5 RF,FF
Top flange:	EN ISO 5211 NF E 29-402
Marking:	DIN EN 19
Tightness check:	EN 12266 (Leakage rate A)
Temperature range:	-40°C to +200°C (depending on operation pressure)
Operating pressure:	max. 10 bar, (16 bar for special version)
Differential pressure:	max. $\Delta p$ 10 bar, (16 bar for special version)
Vacuum:	up to 1 mbar absolute (with silicon elastomer inserts) from -10°C bis +160°C

## FEATURES

- PTFE-lined butterfly valve for chemically toxic and highly corrosive media
- Environmental protection via EBRO-Safety seal
- Splitted body design
- Isolation height according to plant prescription
- Can be installed in any desired position
- Maintenance-free
- Can be disassembled, material-specific recycling possible
- Material conform to FDA
- Optional: Special design RWTÜV certified to TA-Air/ VDI 2440

## GENERAL APPLICATIONS

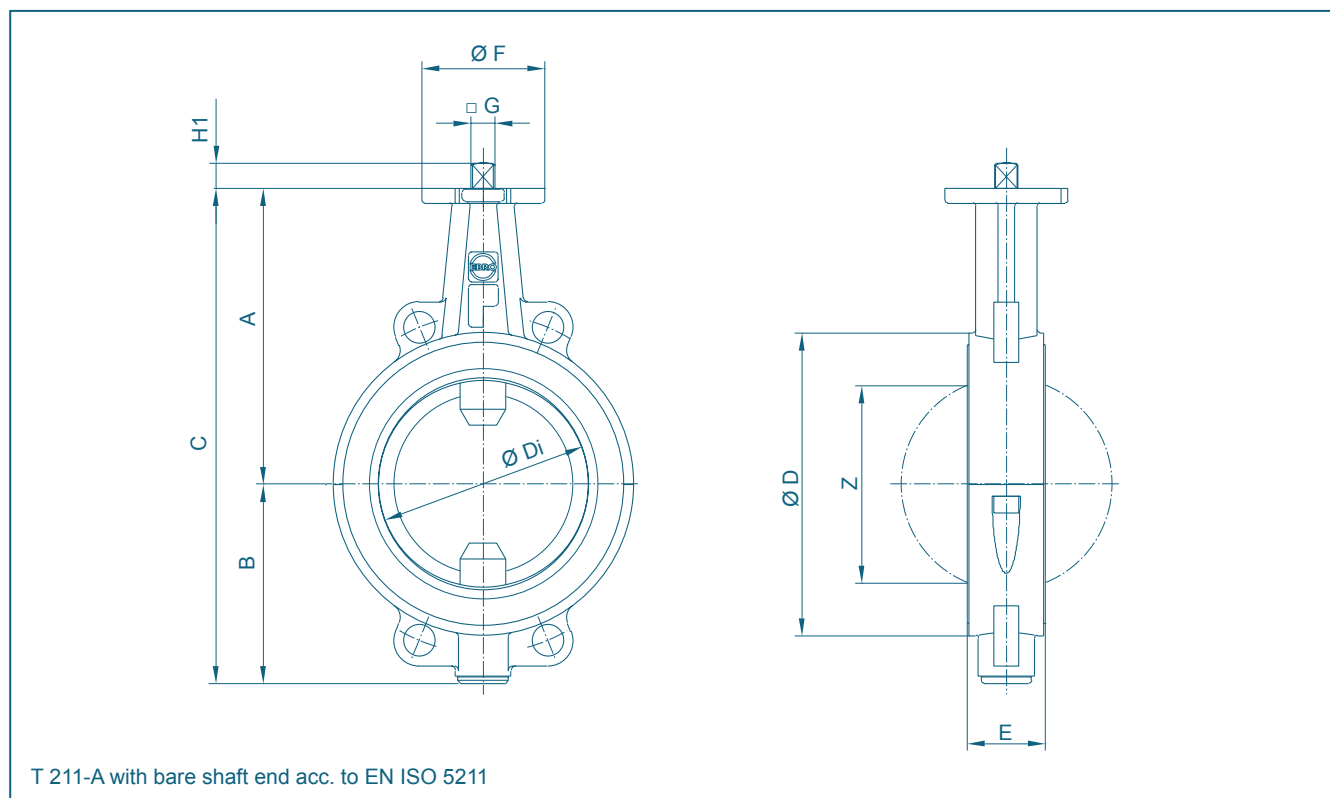
- Chemically highly corrosive and toxic media
- Purification plants
- Pharmaceutical industry
- Adhesives, paper industry, fuel transport
- Paint manufacture and processing
- Food industry
- Transport of hazardous materials (EN 14432)
- Wet chloric gas
- Processing of ore
- Fuel - transport + storage



Safety seal at both shaft ends:

1. Primary sealing by means of a Belleville spring washer, transmitting prestress on the spherical segment area.
2. Secondary sealing of the shaft by means of PTFE-Chevron and o-ring.

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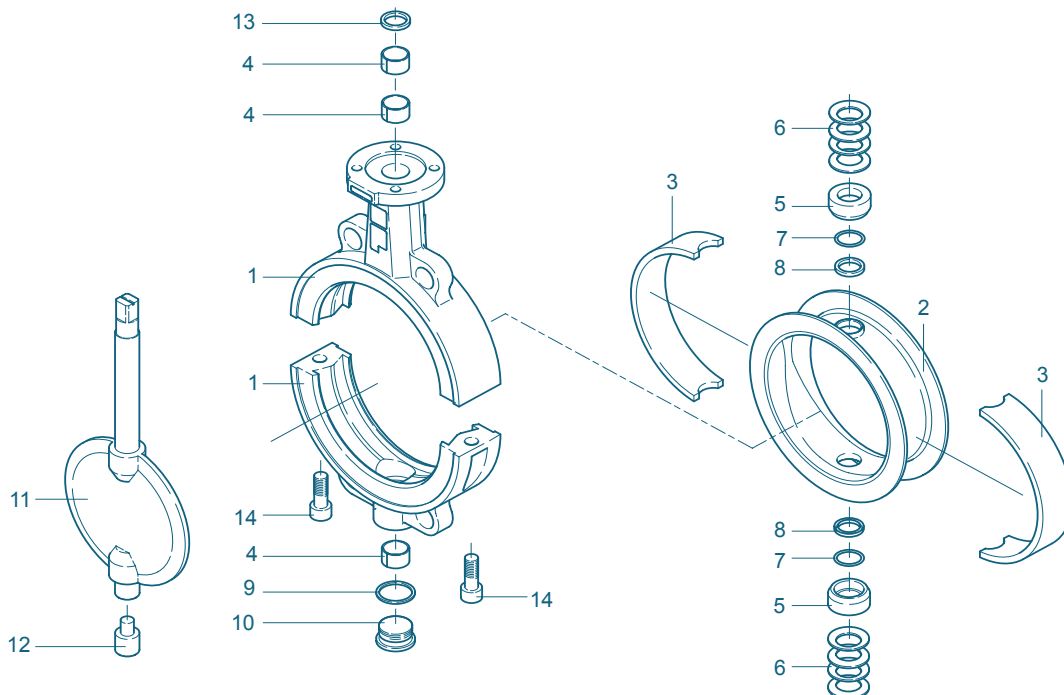
DN [mm]	Size [in]	Dimensions [mm]											Weight [kg]
		A	B	C	D	Di	E	F	Flange	G	H1	Z	
40*/50	2	135	80	215	112	60,8	46	54	F04	11	12	41	2,8
65	2½	150	82	232	120	60,8	46	54	F04	11	12	41	3,4
80	3	157	108	265	138	79,5	46	65	F05	14	16	66	4,5
100	4	180	118	298	160	99,0	52	65	F05	14	16	85	5,9
125	5	195	130	325	190	124,5	56	90	F07	17	19	112	8,1
150	6	210	142	352	215	150,5	56	90	F07	17	19	141	9,5
200	8	240	169	409	269	195,5	60	90	F07	17	19	187	15
250	10	275	217	492	324	247,5	68	125	F10	22	24	239	24
300	12	300	240	540	374	292,5	78	125	F10	22	24	283	34

\*DN 50 drilled DN 40

Subject to change without notice

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## MATERIAL SPECIFICATION AND PARTS LIST



PTFE-lined butterfly valve DN 80 - DN 200

Pt.	Description	Material	Material-No.	ASTM	Pt.	Description	Material	Material-No.	ASTM
<b>1</b>	<b>Body</b>				<b>8**</b>	<b>Chevron seal</b>			
	Nodular Cast Iron	GGG-40.3	EN-JS 1025	A 395		PTFE	Polytetrafluorethylene	PTFE	PTFE
	Stainless Steel	G-X6CrNiMo18-10	1.4408	CF8M	<b>9</b>	<b>Seal</b>			
		X2CrNiMo17-12-2	1.4404	316 L		Stainless Steel	X5CrNi18-10	1.4301	304
<b>2**</b>	<b>Seat</b>				<b>10</b>	<b>Plug screw DIN 908</b>			
	PTFE	Polytetrafluorethylene	PTFE	PTFE *		Stainless Steel	G-X6CrNiMo18-10	1.4408	CF8M
<b>3**</b>	<b>Elastomer insert</b>				<b>11***</b>	<b>Disc/Shaft</b>	one-piece		
	Silicon	Silicon rubber	MVQ	VMQ		St. Steel/ St. Steel	G-X2CoNiMoN26-7-4	1.4469	Duplex
<b>4</b>	<b>DU-bearing</b>					St. Steel/ PTFE	G-X2CoNiMoN26-7-4	1.4469/	Duplex
	PTFE coated						Polytetrafluorethylene	PTFE	PTFE *
<b>5**</b>	<b>Trust collar</b>				<b>12</b>	<b>Lower shaft stub</b>			
	Stainless Steel	X5CrNiMo17-12-2	1.4401	316		Stainless Steel	X39CrMo17-1	1.4122	
<b>6</b>	<b>Bellev. spr. washer</b>				<b>13</b>	<b>Wiper ring</b>			
	Stainless Steel	X12CrNi177	1.4568	631		PTFE	Polytetrafluorethylene	PTFE	PTFE
<b>7**</b>	<b>O-ring</b>				<b>14</b>	<b>Screw</b>			
	FPM	Fluorocarbon caoutchouc	FPM	FKM		Stainless Steel	A4-70	1.4401	B8M
Above-mentioned materials of the basic version, other materials upon request									

\* optional: electrically conductive

\*\* recommended spare parts

\*\*\* recommended for coated discs

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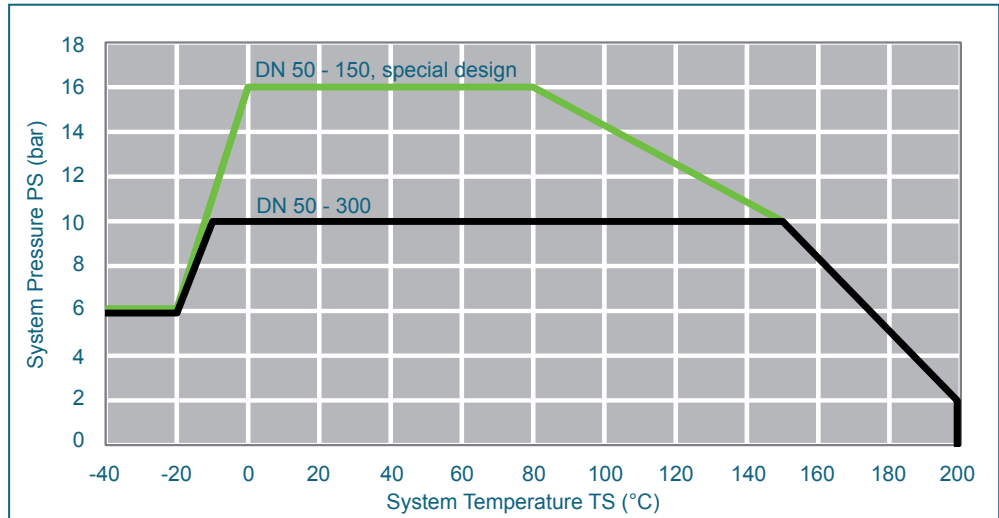
## TORQUE

- The torque values specified (Md) are based on dry media and are measured with air at a temperature of 20 °C
- The values specified are based on the initial breakaway torque (disc disengages from seat, torque then drops)
- Dynamic torque specification available upon request

Regarding the dimensioning of actuators, please contact our engineers.

<b>DN [mm]</b>	40/50	65	80	100	125	150	200	250	300
<b>Size [in]</b>	2	2½	3	4	5	6	8	10	12
<b>MD [Nm]</b>	40	40	70	95	130	170	230	350	480

## PRESSURE/TEMPERATURE DIAGRAM



Pressure-Temperature-Diagram for valves with Silicone elastomer inserts

Service limitation with EPDM elastomer inserts from -10°C up to +120°C

Service limitation with Fluor carbon inserts (FPM) from -10°C up to +180°C

Vacuum service to 1mbar absolute, from -10°C up to +160°C. Valve installation between flanges

## K<sub>V</sub>-VALUES

- The K<sub>V</sub>-value [m<sup>3</sup> per hour] is the flow of water at a temperature of 5°C to 30°C (41°F to 86°F) at Δp of 1 bar

- The K<sub>V</sub>-values specified are based on tests carried out by the Delfter Hydraulics Laboratories, the Netherlands

- Permissible velocity of flow  
V<sub>max</sub> 4,5 m/s for liquids,  
V<sub>max</sub> 70 m/s for gases

- The throttle function is linear at an angle 30° to 70°

- Avoid cavitation

For further values, please contact our engineers.

DN [mm]	Size [in]	Opening angle α°							
		20°	30°	40°	50°	60°	70°	80°	90°
<b>1) K<sub>V</sub>-values metal disc</b>									
40/50	2	1	8	24	50	70	100	140	210
65	2½	1	8	24	50	70	100	140	210
80	3	1,2	15	44	95	124	180	300	520
100	4	8	25	60	170	210	280	540	980
125	5	15	52	125	250	350	520	840	1400
150	6	35	95	190	350	460	850	1300	2300
200	8	69	253	457	729	1110	1783	2570	3020
250	10	120	380	690	1200	1680	2650	4500	6600
300	12	165	504	937	1512	2275	3795	6810	12800
<b>2) K<sub>V</sub>-values PTFE-disc</b>									
40/50	2	1,5	12	28	52	70	96	110	150
65	2½	1,5	12	28	52	70	96	110	150
80	3	2,5	20	48	88	118	160	200	250
100	4	12	32	68	170	210	260	500	780
125	5	18	60	135	260	380	480	790	1250
150	6	45	105	205	370	490	720	1250	2200
200	8	88	297	520	695	1130	1700	2500	2700
250	10	148	430	695	1250	1800	2520	4350	5400
300	12	263	557	960	1560	2450	4300	6700	9400

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