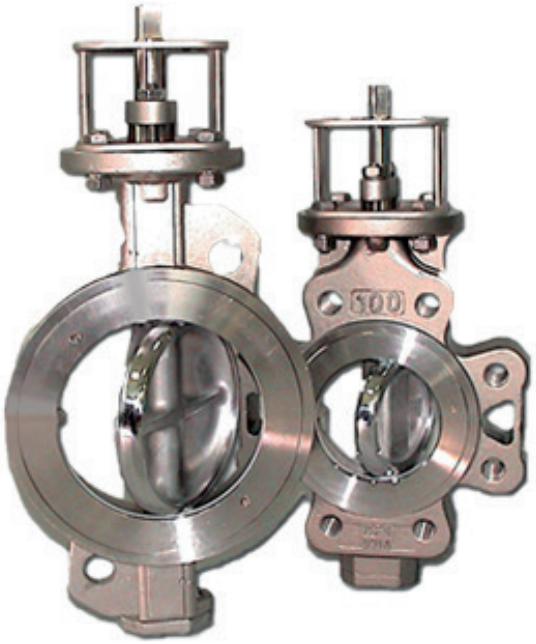
BUTTERFLY VALVE 17/18/19
General features

GENERAL FEATURES:

Type: Wafer - double offset
Face-to-face: API609, ISO 5752
Mounting flange: ISO5211
Max. working pressure: 25 bar (depending on execution)
Valves with stem in F304/F316 are limited to max. 10 bar working pressure
Please use stem in 630 for higher working pressures
TA-Luft on request
Temperature range:
- 17 series: -100°C ~ 260°C (depending on seat material, see page 8)
- 18 series (Fire safe): -29°C ~ 250°C (depending on seat material, see page 8)
- 19 series: -29°C ~ 500°C (metal seated for high temperatures)





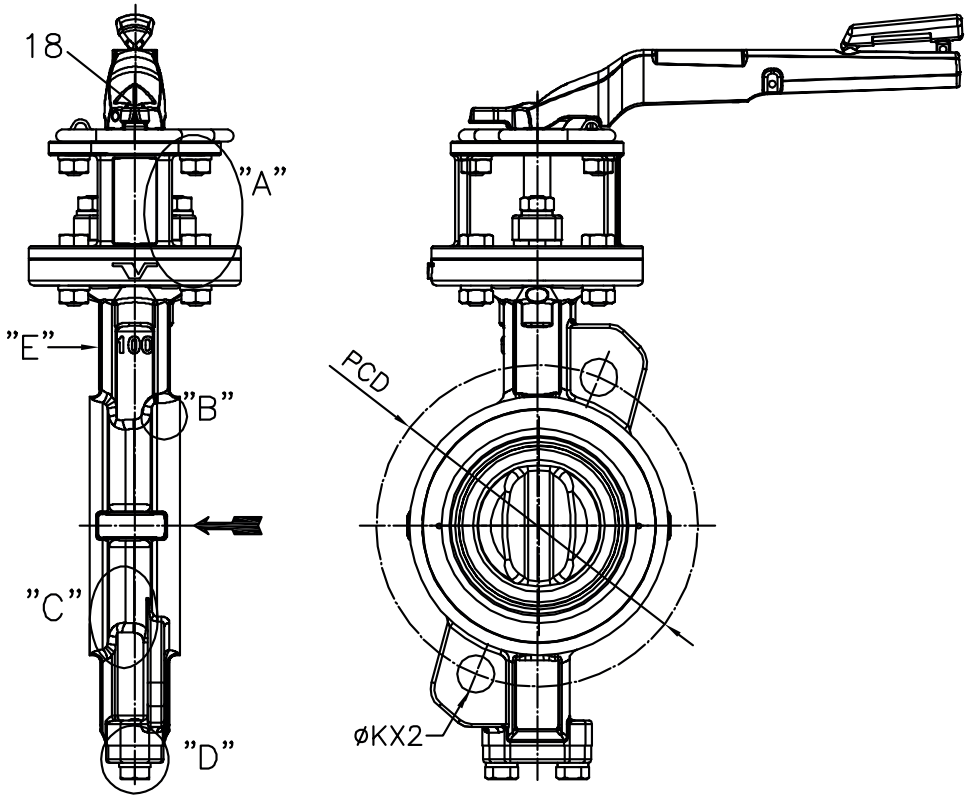
Fire safe tested

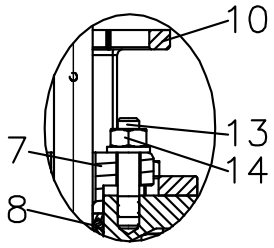
TÜV
TA Luft

ATEX

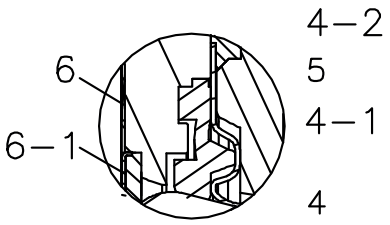
DESIGN STANDARDS	
Buterfly valve	ISO 5752, API 609
Compliance	ISO 5208, API 598, MSS SP-61, MSS Sp-68, ASME B16.34
Actuator mounting flange	ISO 5211
TESTS AND CERTIFICATES	
PED/CE	2014/68/EU Module H
ATEX	2014/34/EU Group II Category 2 GD
Fire Safe	ISO 10497:2010
Test	API 598
SIL3	IEC 61508-1
Emissions test	TA-LUFT, ISO 15848-1, ANSI/ISA-SP-93

Subject to changes

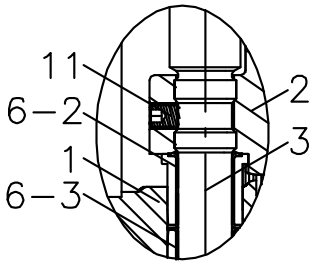




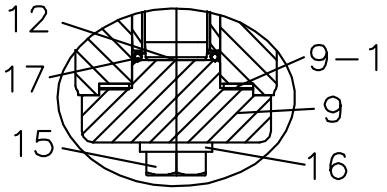
DETAIL "A"



DETAIL "B"



DETAIL "C"



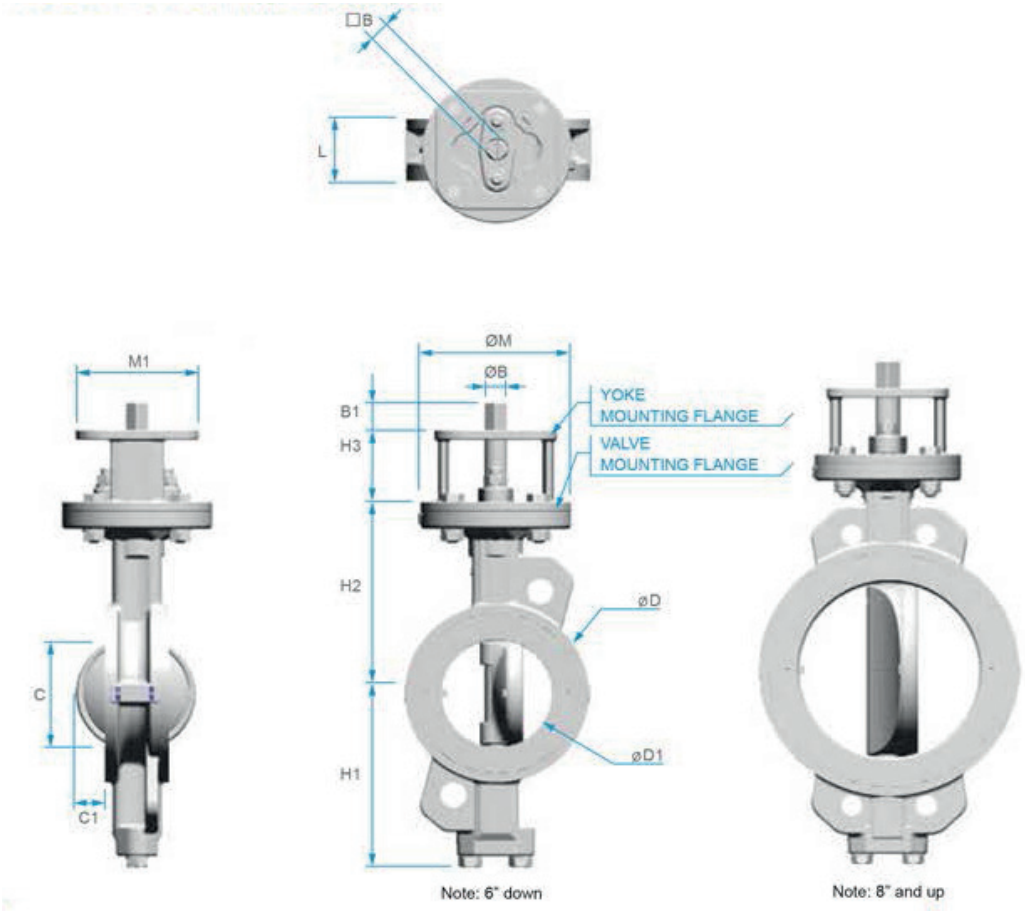
DETAIL "D"

Subject to changes

N°	Description	Material
1	Body	A216 Gr. WCB
		A351 Gr. CF8
		A351 Gr. CF8M
		A351 Gr. CF3M
2	Disc	A351 Gr. CF8
		A351 Gr. CF8M
		A351 Gr. CF3M
3	Stem	A182 Gr. F304
		A182 Gr. F316
		A564 Gr. 630
		A479 Gr. XM-19
4	Soft seat	See page 5
4-1	Metal seat	See page 5 (only for type 8/9)
4-2	Gasket	Graphite (only for type 8/9)
5	Retainer	A351 Gr. CF8
		A351 Gr. CF8M
		A351 Gr. CF3M
6	Bushing	RTFE + stainless steel 316
6-1	Bushing	PTFE (RTFE + stainless steel 316 for type 8/9)
6-2	Bushing	RTFE + stainless steel 316
6-3	Bushing	RTFE + stainless steel 316
7	Gland	A351 Gr. CF8M
		A351 Gr. CF3M (only for body in CF3M from 16”)
8	Gland packing	PTFE (type 7 with seat in PTFE, PTFE + glassfiber or TFM)
		RPTFE (type 7 with seat in PTFE + graphite)
		Graphite (type 8/9)
9	Bottom cover	A351 Gr. CF8 (only for body in CF8 from 16”)
		A351 Gr. CF8M
		A351 Gr. CF3M (only for body in CF3M from 16”)
9-1	Bottom cover gasket	PTFE (for type 7)
		Graphite (for type 8/9)
10	Yoke	A536 Gr. 65-45-12
		A351 Gr. CF8
11	Stop stud	A193 Gr. B8M
12	Lock plate	RTFE + stainless steel 316
13	Stud	A193 Gr. B8
14	Nut	A194 Gr. 8
15	Bolt	A193 Gr. B7 (body in steel)
		A193 Gr. B8 (body in stainless steel)
16	Spring washer	A36 (body in steel)
		A182 Gr. F304 (body in stainless steel)
17	Spring	A182 Gr. F316
18	Lever	A536 Gr. 65-45-12
		A351 Gr. CF8 (optional)

Subject to changes

BUTTERFLY VALVE 17/18/19
Dimensions



DIMENSIONS: (mm)

DN	L	H1	H2	H3	ØD	ØD1	C	C1	Valve		Yoke		ØB	□B	B1	Kg
									ISO5211	ØM	ISO5211	M1				
50	43	99	118	60	92	37,0	49,5	2	F07	90	F07/F05	70	14	11	18	3,9
65	46	110	125	60	108	63,0	62,3	15	F07	90	F07/F05	70	14	11	18	4,5
80	47	128	140	70	126	78,0	65,9	22	F10	125	F10/F07	102	18	14	23	7,0
100	53	150	157	70	153	95,0	93,0	25	F10	125	F10/F07	102	18	14	23	9,0
125	57	163	170	70	184	118,0	120,0	36	F10	125	F10/F07	102	22	17	23	12,0
150	56	176	185	70	212	143,0	149,0	50	F10	125	F10/F07	102	22	17	23	13,5
200	62	206	220	80	268	187,6	196,0	70	F12	150	F12/F10	125	25	19	28	22,0
250	68	238	260	80	326	235,5	243,0	90	F12	150	F12/F10	125	28	22	28	32,0
300	78	269	290	100	375	282,0	289,0	106	F14	175	F14/F12	160	35	27	37	48,0
350	78/92	306	326	100	416	322,0	329,0	125	F14	175	F14/F12	160	36	27	37	66,0
400	102	342	370	120	476	371,0	377,0	140	F16	210	F16/F14	195	48	36	47	107,0
450	114	370	395	120	534	418,0	423,0	157	F16	210	F16/F14	195	48	36	47	130,0
500	127	399	430	120	588	466,0	471,0	177	F16	210	F16/F14	195	60	46	56	163,0
600	154	455	490	150	692	570,0	572,0	210	F25	300	F16	300	60	46	56	278,0
600	154	455	490	150	692	570,0	572,0	210	F25	300	F25	300	60	46	56	278,0

Subject to changes

BUTTERFLY VALVE 17/18/19
How to order

Type	Seat type	Body	Disc	Stem	Seat	Pressure	Operation	DN values
1	8	I	I	I	TFS	25	H	150

Type	
1	Wafer

Seat type	
7	With soft seat
8	With soft seat + metal seated
9	Metal seated

Body	
A	Steel A216 Gr. WCB
I1	Stainless steel A351 Gr. CF8
I	Stainless steel A351 Gr. CF8M
I3	Stainless steel A351 Gr. CF3M

Disc	
I1	Stainless steel A351 Gr. CF8
I	Stainless steel A351 Gr. CF8M
I3	Stainless steel A351 Gr. CF3M

Stem	
I1	A182 Gr. F304 (max. 10 bar)
I	A182 Gr. F316 (max. 10 bar)
I2	A479 Gr. XM-19
I3	A564 Gr. 630

Seat	
T	PTFE (for seat type 7) ~ -29°C tot 200°C
GF	PTFE + 15% glassfiber (for type 7) ~ -29°C tot 220°C
CF	PTFE + 15% graphite (for type 7) ~ -29°C tot 250°C
TFM	TFM (for type 7) ~ -100°C tot 260°C
TFS	PTFE + metal seat in Inconel 718 up to DN600, stainless steel 316L from DN 650 (for type 8) ~ -29°C tot 200°C
GFFS	PTFE + 15% glassfiber + metal seat in Inconel 718 up to DN600, stainless steel 316L from DN 650 (for type 8) ~ -29°C tot 220°C
CFFS	PTFE + 15% graphite + metal seat in Inconel 718 up to DN600, stainless steel 316L from DN 650 (for type 8) ~ -29°C tot 250°C
M1	Metal seated Inconel 718 up to and including DN600, stainless steel 316L for larger diameters (for type 9)

Pressure class	
10	PN10
16	PN16
25	PN25
20	Class 150

Operation	
-	Free stem
H	Lever (up to DN150)
HSS	Lever in stainless steel (up to DN150)
R	Gearbox
RSS	Gearbox in stainless steel 304

TA-Luft	
TA LUFT	TA-Luft certified

DN values	
050 - 600	DN50 - DN600 (2" - 24")

Subject to changes

BUTTERFLY VALVE 17/18/19
Torques (Nm)

DN	Differential pressure (bar) series 17					
	0	5	10	15	20	25
50	13	15	17	20	22	25
65	19	22	29	35	41	51
80	26	29	37	44	51	59
100	35	41	51	61	77	85
125	51	64	76	89	105	127
150	62	83	103	118	147	176
200	89	114	147	166	204	242
250	150	211	261	309	394	489
300	196	294	374	539	625	828
350	382	539	784	980	1176	1323
400	573	686	980	1176	1372	1568
450	783	963	1225	1470	1666	1911
500	1000	1411	1764	2058	2470	2822
600	1225	1680	2205	2660	3045	3325

DN	Differential pressure (bar) series 18					
	0	5	10	15	20	25
50	29	32	39	43	49	59
65	37	46	61	69	83	97
80	50	61	76	92	107	127
100	76	88	103	118	140	162
125	118	137	170	194	223	242
150	147	196	225	265	294	333
200	176	235	294	353	421	480
250	255	323	421	480	568	647
300	333	470	549	686	862	1009
350	461	725	833	990	1196	1421
400	657	960	1264	1509	1686	1882
450	843	1058	1362	1705	2087	2646
500	1076	1382	1803	2166	2920	3410
600	1274	1617	2225	2783	3783	4704

DN	Differential pressure (bar) series 19					
	0	5	10	15	20	25
50	39	49	59	65	75	82
65	46	56	78	102	127	147
80	56	71	88	118	140	167
100	78	102	122	157	178	216
125	108	140	154	182	211	246
150	137	169	199	232	265	319
200	206	255	294	333	372	434
250	265	333	402	470	578	686
300	372	461	559	735	931	1176
350	539	676	843	1019	1245	1421
400	764	990	1225	1490	1764	2058
450	902	1107	1441	1803	2205	2871
500	1294	1411	1882	2352	2940	3410
600	1529	1764	2176	2940	4077	6076

Torques including 30% safety margin

Subject to changes

BUTTERFLY VALVE 17/18/19
PT values

WCB (pressure bar):

Temperature (°C)	PN10	PN16	PN25	PN40
50	10.0	16.0	25.0	40.0
100	9.7	15.5	24.3	38.8
150	9.4	15.0	23.5	37.6
200	9.1	13.8	22.8	36.5
250	8.7	12.1	21.8	34.9
300	8.3	10.2	20.7	33.2
325	8.1	9.3	20.2	32.3
350	7.8	8.4	19.6	31.3
375	7.4	7.4	18.9	30.3
400	6.5	6.5	18.1	28.9
425	5.5	5.5	15.0	24.0
450	4.6	4.6	12.0	19.2
475	3.6	3.7	9.1	14.5
480	2.4	2.8	6.1	9.8
525	1.2	1.4	3.1	4.9

Temperature (°C)	ANSI 150
50	19.2
100	17.7
150	15.8
200	13.8
250	12.1
300	10.2
350	8.4
375	7.4
400	6.5
425	5.5

CF8 (pressure bar):

Temperature (°C)	PN10	PN16	PN25	PN40
50	10.0	15.9	24.9	39.8
100	8.5	13.6	21.3	34.0
150	7.7	12.3	19.3	30.8
200	7.2	11.5	18.0	28.7
250	6.8	10.8	16.9	27.1
300	6.4	10.2	16.1	25.8
325	6.3	9.3	15.7	25.2
350	6.2	8.4	15.4	24.7
375	6.0	7.4	15.1	24.2
400	5.9	6.5	14.8	23.7
425	5.5	5.5	14.6	23.3
450	4.6	4.6	14.3	22.8
475	3.7	3.7	14.0	22.4
480	2.8	2.8	13.8	22.1
525	1.4	1.4	12.7	20.4
550	1.4	1.4	12.3	19.6
575	1.4	1.4	10.9	17.4
600	1.4	1.4	8.8	14.1

Temperature (°C)	ANSI 150
50	18.3
100	15.7
150	14.2
200	13.2
250	12.1
300	10.2
350	8.4
375	7.4
400	6.5
425	5.5
450	4.6
475	3.7
500	2.8
538	1.4
550	1.4

Subject to changes

CF8M (pressure bar):

Temperature (°C)	PN10	PN16	PN25	PN40
50	10.0	15.9	24.9	39.8
100	8.5	13.6	21.3	34.0
150	7.7	12.3	19.3	30.8
200	7.2	11.5	18.0	28.7
250	6.8	10.8	16.9	27.1
300	6.4	10.2	16.1	25.8
325	6.3	9.3	15.7	25.2
350	6.2	8.4	15.4	24.7
375	6.0	7.4	15.1	24.2
400	5.9	6.5	14.8	23.7
425	5.5	5.5	14.6	23.3
450	4.6	4.6	14.3	22.8
475	3.7	3.7	14.0	22.4
480	2.8	2.8	13.8	22.1
525	1.4	1.4	12.7	20.4
550	1.4	1.4	12.3	19.6
575	1.4	1.4	10.9	17.4
600	1.4	1.4	8.8	14.1

Temperature (°C)	ANSI 150
50	18.4
100	16.2
150	14.8
200	13.7
250	12.1
300	10.2
350	8.4
375	7.4
400	6.5
425	5.5
450	4.6
475	3.7
500	2.8
538	1.4
550	1.4
575	1.4
600	1.4

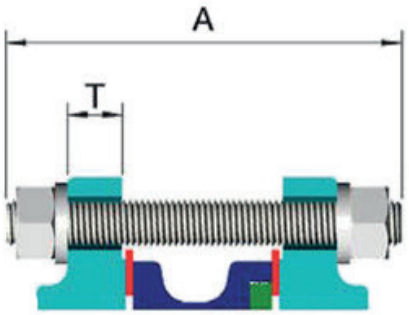
Subject to changes

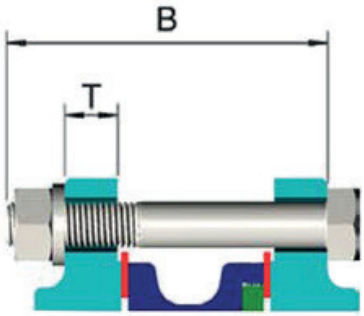
BUTTERFLY VALVE 17/18/19
Kv values

DN	Opening percentage									
	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
50	3,4	11,2	22,4	33,5	61,9	108,4	131,6	175,4	200,4	131,6
65	6,0	19,8	38,7	56,8	104,9	184,0	221,9	296,7	338,0	222,7
80	8,6	29,2	58,5	86,9	159,1	278,6	336,3	449,8	512,6	337,1
100	9,5	35,3	61,9	94,6	184,0	322,5	357,8	465,3	494,5	527,2
125	14,6	45,6	91,2	135,0	249,4	435,2	525,5	701,8	800,7	823,9
150	20,6	66,2	130,7	194,4	358,6	626,1	756,8	1011,4	1152,4	1185,9
200	36,1	117,8	233,1	345,7	469,6	657,9	854,0	1120,6	1247,0	1505,0
250	107,5	262,3	423,1	239,9	476,4	660,5	846,2	1771,6	2098,4	2293,6
300	146,2	356,9	575,3	829,9	1118,0	1509,3	2630,7	2970,4	3310,1	3754,8
350	190,9	435,2	684,6	1001,9	1388,0	1927,3	2684,9	3637,8	4609,6	5129,0
400	147,9	461,8	775,7	1138,6	1637,4	2137,1	3184,6	4639,7	5922,8	6675,3
450	337,1	813,6	1253,9	1754,4	2421,8	3369,5	4657,8	6072,5	7340,1	8044,4
500	441,2	1029,4	1577,2	2199,9	3014,3	4251,0	6181,7	7823,4	9469,5	10168,6
600	726,7	1600,5	2366,7	3363,5	4730,9	6591,0	9322,4	12404,6	15778,4	17081,3

Subject to changes

BUTTERFLY VALVE 17/18/19
Bolting





DN	Ø	PN10				PN16				PN25				ANSI 150			
		Bolt	A	B	T	Bolt	A	B	T	Bolt	A	B	T	Bolt	A	B	T
50	2	M16	135	120	20	M16	130	120	20	M16	130	125	22	5/8”	135	125	20
65	2 1/2	M16	135	120	20	M16	135	120	20	M16	140	125	22	5/8”	140	125	22
80	3	M16	135	120	20	M16	135	120	20	M16	145	130	24	5/8”	145	130	24
100	5	M16	145	130	22	M16	145	130	22	M20	160	140	24	5/8”	150	135	24
125	5	M16	150	135	22	M16	150	135	22	M24	180	155	26	3/4”	165	145	24
150	6	M20	165	140	24	M20	165	140	24	M24	180	155	28	3/4”	165	145	25
200	8	M20	165	145	24	M20	165	145	24	M24	190	165	30	3/4”	175	155	28
250	10	M20	180	160	26	M24	190	165	26	M27	210	180	32	7/8”	190	170	30
300	12	M20	190	170	26	M24	205	180	28	M27	220	195	34	7/8”	205	180	32
350	14	M20	190	170	26	M24	210	185	30	M30	235	205	38	1”	220	195	35
400	16	M24	225	200	26	M27	240	215	32	M33	270	240	40	1”	245	220	37
450	18	M24	240	215	28	M27	270	240	40	M33	300	265	48	1 1/8”	270	240	40
500	20	M24	255	230	28	M30	300	270	44	M33	310	280	48	1 1/8”	290	260	43
600	24	M27	300	270	34	M33	355	320	54	M36	370	330	58	1 1/4”	340	305	48

Subject to changes