

Butterfly Valve Type AK09 / AK10



description:

Butterfly valve to control a liquid or gaseous media in a pipeline system.

features:

- suitable for aggressive media such as chlorine gas, hydrofluoric acid and sulfuric acid
- Disc made of stainless steel or with PFA coating
- long neck for isolation
- Mounting flange according to ISO 5211 for actuator.
- Certified CE PED 2014/68/EU
- Shaft preferably in horizontal position

connection:

DN25 – DN600
Larger nominal sizes on request

temperature:

-20°C up to 200°C – depending on design

pressure:

Up to 10,0 bar – depending on design

design:

body:

Two-piece butterfly valve
Ductile iron 5.3103 with epoxy housing coating 120µm
Body colour blue (RAL 5005)

disc:

PFA coated / Stainless steel
up to DN200 stainless steel 1.4469
from DN250 stainless steel 1.4404

stem:

up to DN200 1.4469
from DN250 1.4462

actuation element:

up to DN300 Lever made of stainless steel
from DN350 worm gear

sleeve

PTFE sleeve

flange AK09:

EN 1092-1 PN10/16 (up to DN300); EN 1092-1 PN10 (from DN350);
ASME B16.5, Class 150 (all sizes)

flange AK10:

EN 1092-1 PN10/16 (up to DN150); EN 1092-1 PN10 (from DN200);
ASME B16.5, Class 150 (all sizes)

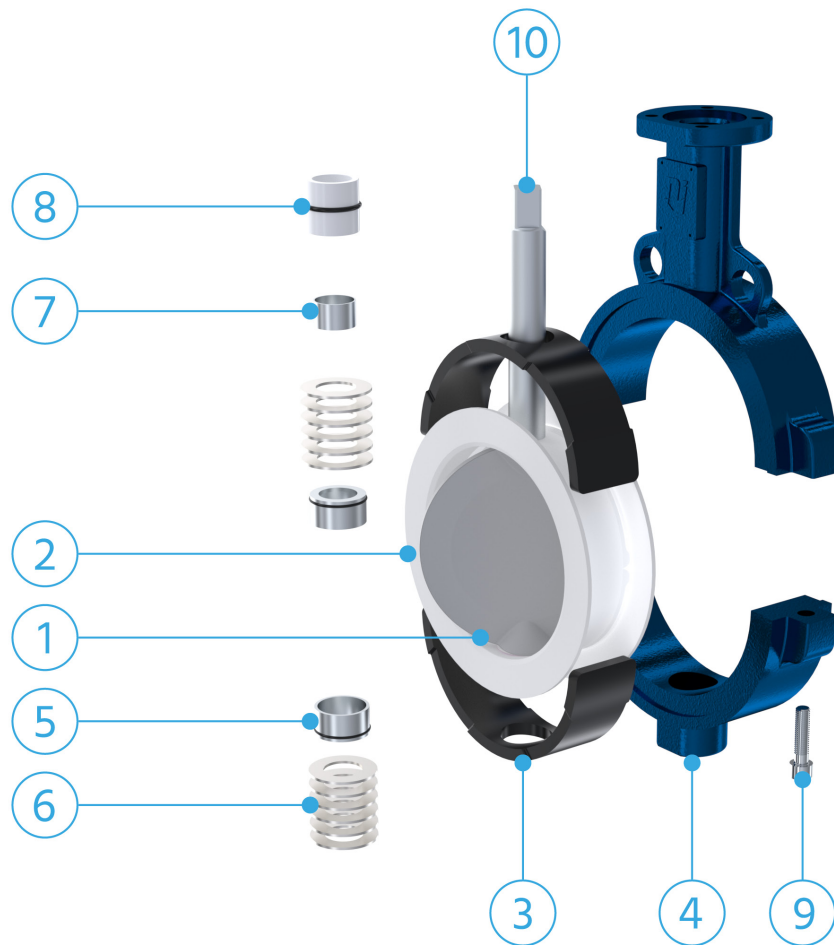
max. differential pressure:

up to DN450 10 bar, from DN500 6 bar

Standards:

- Top flange according to ISO 5211
- PED 2014/68/EU: CE Category III Module H
- Pressure test according to EN 12266-1
- Face-to-Face length according to EN 558, Series 20
- ATEX 2014/34/EU
- TA-Luft, ISO 15848-1

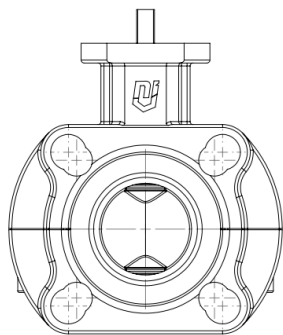
Components:



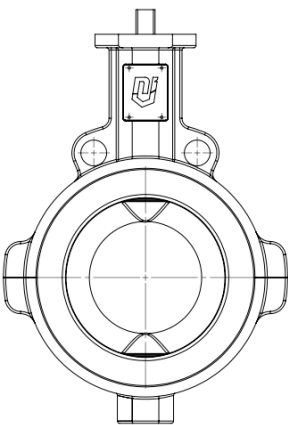
Pos.	description	materials	temperature*
1	Disc	PFA up to DN200 (core 1.4469)	
		PFA from DN250 (core S355J2)	
		stainless steel 1.4469/1.4404	
2	seat ring	PTFE	
3	insert	silicone	-20°C up to +200°C
		EPDM	-20°C up to +120°C
		FKM	-10°C up to +200°C
4	body	ductile iron 5.3103	
5	pressure piece	1.4301 with FKM O-Ring	
6	belleville washers	carbon steel	
7	shaft bushing	PTFE, stainless steel	
8	top bushing	POM with FKM O-Ring	
9	body bolts	12.9; A4	
10	stem	up to DN200 1.4469	
		from DN250 1.4462	

*Lower temperatures up to -60°C on request

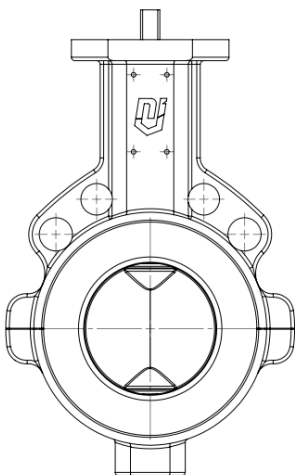
type AK09 butterfly valve wafer type:



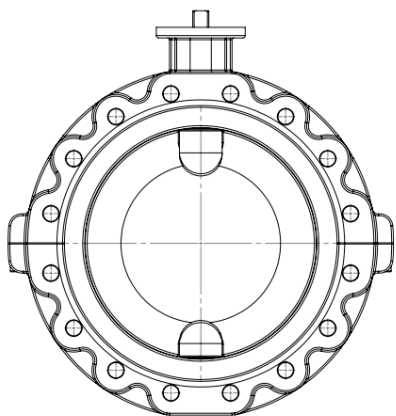
DN25 up to DN40



DN50 up to DN100

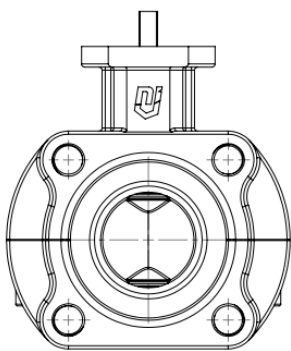


DN125 up to DN300

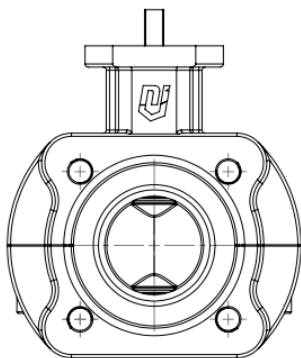


DN350 up to DN600

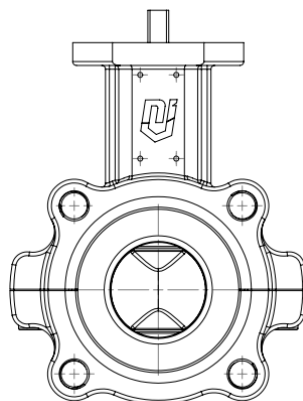
type AK02 butterfly valve lug type:



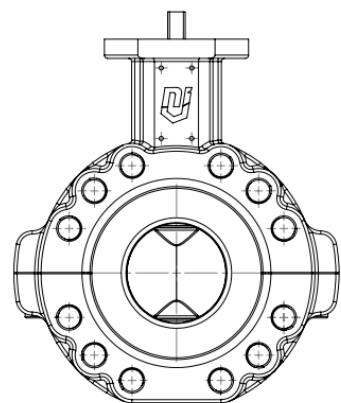
DN25 up to DN40
PN10-16



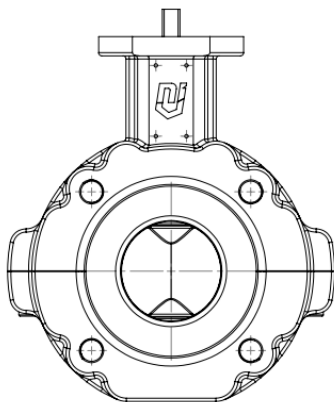
DN25 up to DN40
ANSI 150



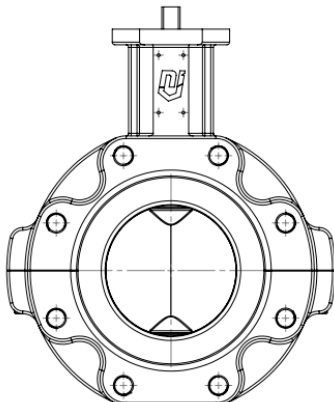
DN50
PN10-16 and ANSI 150



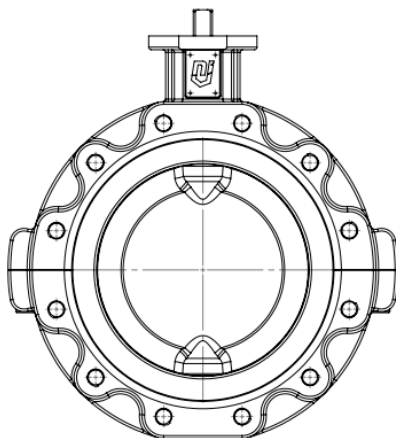
DN65
PN10-16



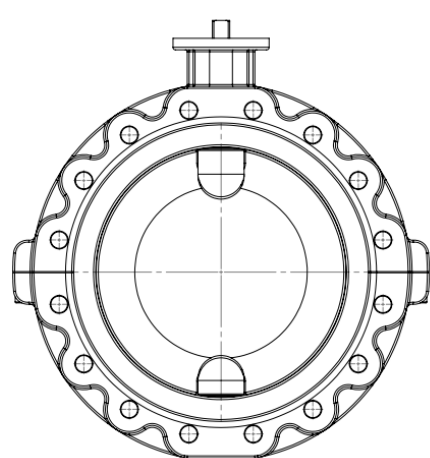
DN65 up to DN80
ANSI 150



DN100 up to DN200 – ANSI 150
DN80 up to DN150 – PN10-16



DN250 up to DN300 – ANSI 150
DN200 up to DN300 – PN10

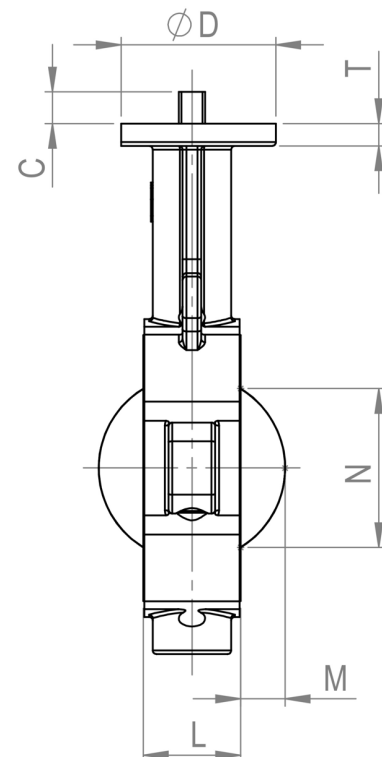
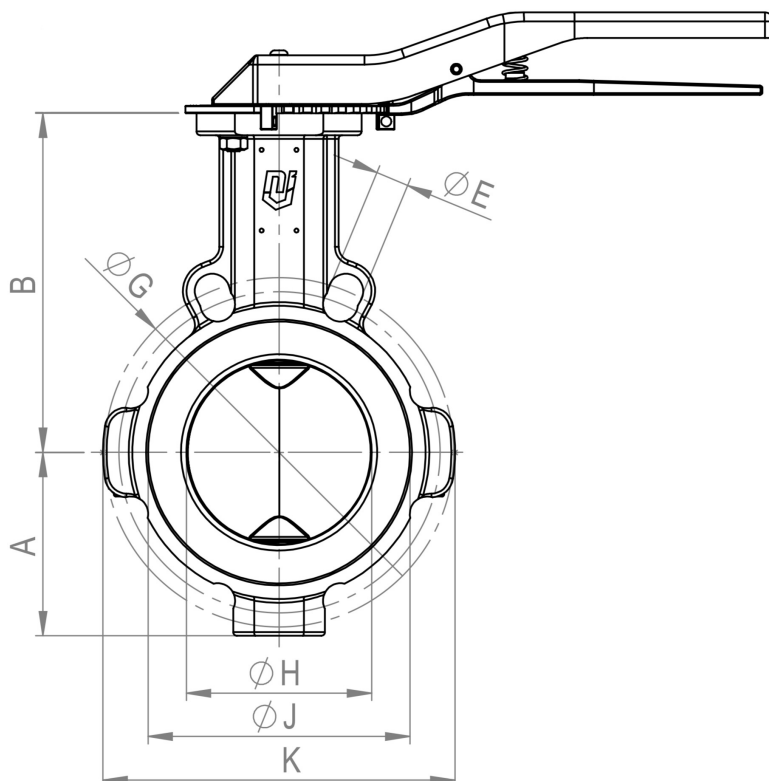


DN350 up to DN600
PN10-16 and ANSI 150

Dimensions:

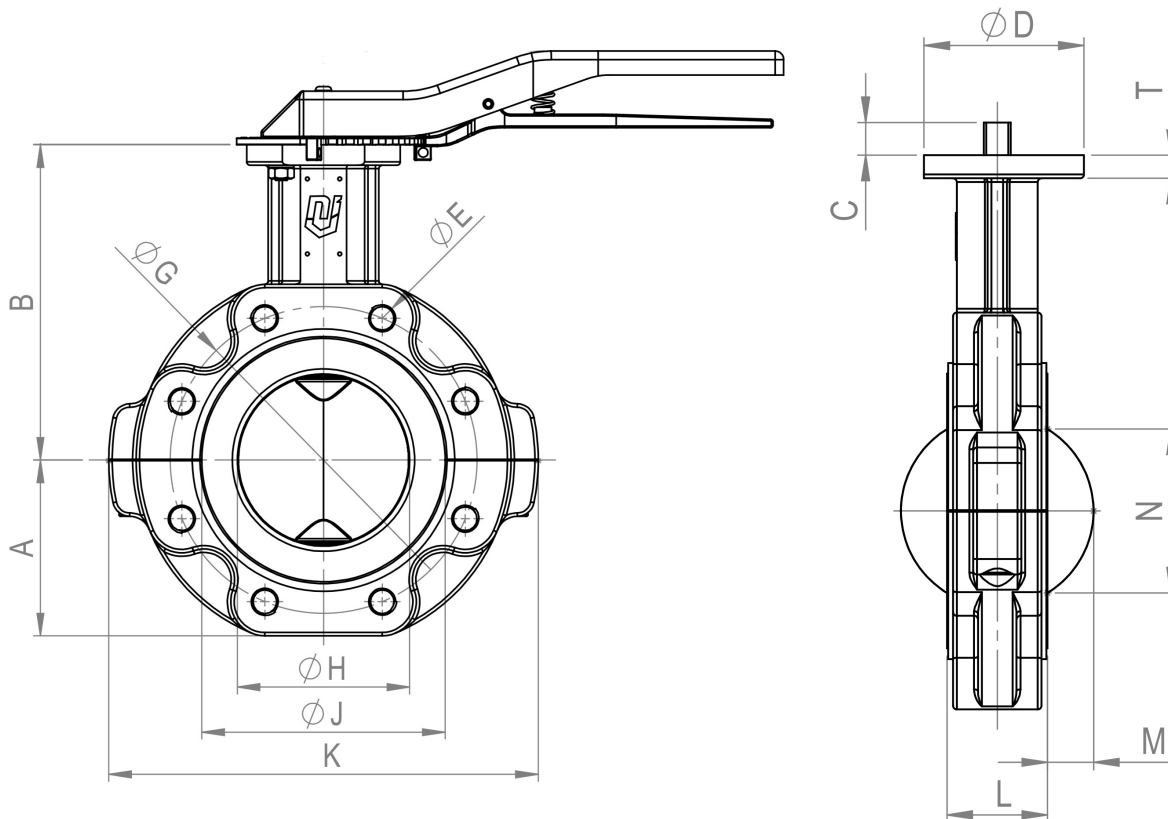
Wafer type:

DN	DN	A	B	C	ØD	T	ØE _{DIN}	ØE _{ANSI}	ØG _{DIN}	ØG _{ANSI}	ØH	ØJ	K	L	M	N	kg
25	1"	53	94	17	65	10	4x14	4x16	85	79,4	37	60	138	41	3	22	2,6
40	1½"	53	94	17	65	10	4x18	4x16	110	98,4	46,4	76	138	33	7	34	2,4
50	2"	60	130	17	90	12	4x18	4x19	125	120,7	50	85	124	43	6	31	3,0
65	2½"	70	146	17	90	12	4x18 8x18	4x19	145	139,7	62	106	148	46	11	47	3,9
80	3"	84	165	17	90	12	8x18	4x19	160	152,4	75	122	165	46	17	63	4,6
100	4"	100	185	17	90	12	8x18	8x19	180	190,5	100	143	192	52	27	90	6,4
125	5"	110	202	17	90	12	8x18	8x22	210	215,9	125	166	223	56	38	118	8,3
150	6"	130	217	22	90	12	8x22	8x22	240	241,3	141	193	253	56	47	137	10,5
200	8"	158	245	26	125	16	8x22	8x22	295	298,4	195	251	312	60	71	190	17,0
250	10"	194	270	30	125	16	12x22	12x26	350	362	244	301	374	68	92	240	27,0
300	12"	225	308	30	125	16	12x22	12x26	400	431,8	295	349	424	78	112	290	42,0
350	14"	255	330	28	150	16	16x22	12x29	460	476,3	335,6	414	586	92	125	328	89,0
400	16"	290	365	28	150	18	16x26	16x29	515	539,8	389,9	460	650	102	146	378	115,0
450	18"	314	400	37	175	20	20x26	16x32	565	577,9	437,9	515	700	114	164	424	152,0
500	20"	342	435	37	175	20	20x26	20x32	620	635	491,4	570	745	127	184	477	177,0
600	24"	401	510	47	210	20	20x30	20x35	725	749,3	579,9	672	870	154	215	561	284,0



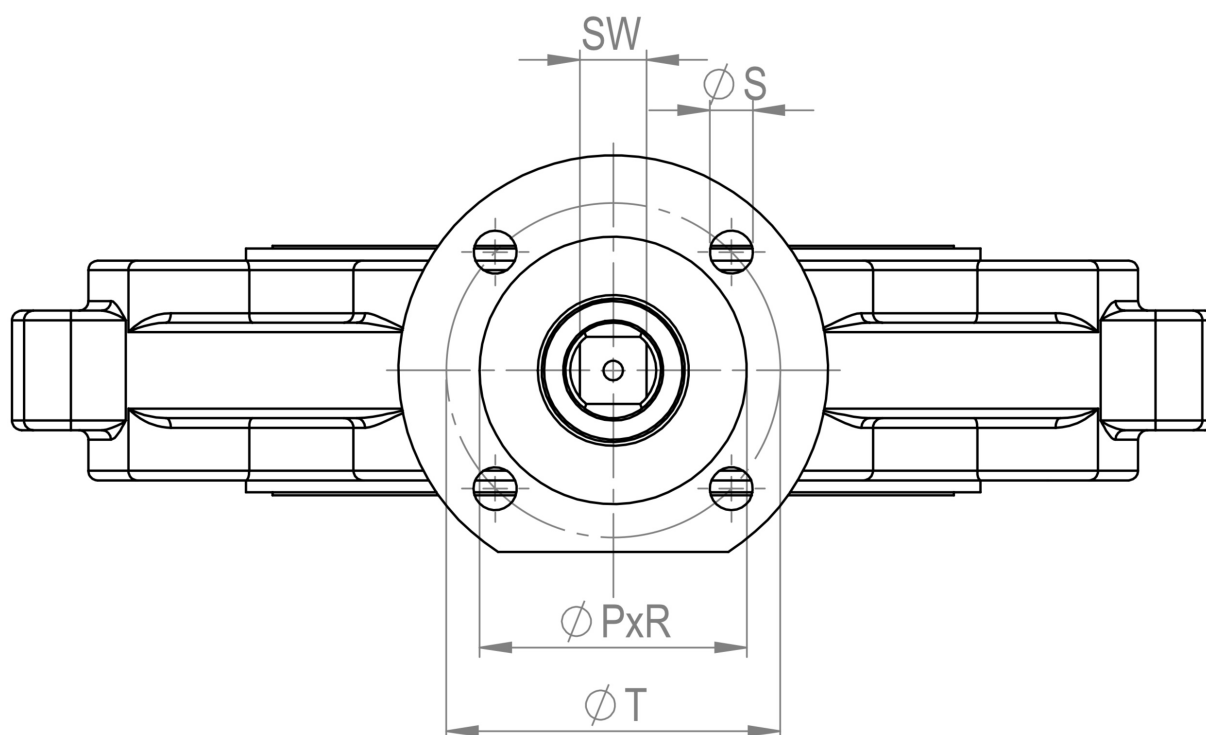
Lug type:

DN	DN	A _L	B	C	ØD	T	ØE _{DIN}	ØE _{ANSI}	ØG _{DIN}	ØG _{ANSI}	ØH	ØJ	K _L	L	M	N	kg
25	1"	53	94	17	65	10	4xM12	4x1/2"	85	79,4	37	60	138	41	3	22	2,6
40	1½"	53	94	17	65	10	4xM16	4x1/2"	110	98,4	46,4	76	138	33	7	34	2,5
50	2"	60	130	17	90	12	4xM16	4x5/8"	125	120,7	50	85	156	43	6	31	4,0
65	2½"	81	146	17	90	12	4xM16 8xM16	4x5/8"	145	139,7	62	106	203	46	11	47	6,6
80	3"	88	165	17	90	12	8xM16	4x5/8"	160	152,4	75	122	218	46	17	63	7,5
100	4"	103	185	17	90	12	8xM16	4x5/8"	180	190,5	100,1	143	252	52	27	90	10,2
125	5"	117	202	17	90	12	8xM16	8x3/4"	210	215,9	124,8	166	286	56	38	118	13,6
150	6"	128	217	22	90	12	8xM20	8x3/4"	240	241,3	141,5	193	310	56	47	137	15,6
200	8"	160	245	26	125	16	8xM20	8x3/4"	295	298,4	195,2	251	376	60	71	190	25,4
250	10"	194	270	30	125	16	12xM20	12x7/8"	350	362	244,3	301	450	68	92	240	39,0
300	12"	228	308	30	125	16	12xM20	12x7/8"	400	431,8	295,3	349	520	78	112	290	62,0
350	14"	255	330	28	150	16	16xM20	12x1"	460	476,3	335,6	414	586	92	125	328	90,0
400	16"	290	365	28	150	18	16xM24	16x1"	515	539,8	389,9	460	650	102	146	378	118,0
450	18"	314	400	37	175	20	20xM24	16x1 1/8"	165	577,9	437,9	515	700	114	164	424	157,0
500	20"	342	435	37	175	20	20xM24	20x1 1/8"	620	635	491,4	570	745	127	184	477	182,0
600	24"	401	510	47	210	20	20xM27	20x1 1/4"	725	749,3	579,9	672	870	154	215	561	290,0



Top flange:

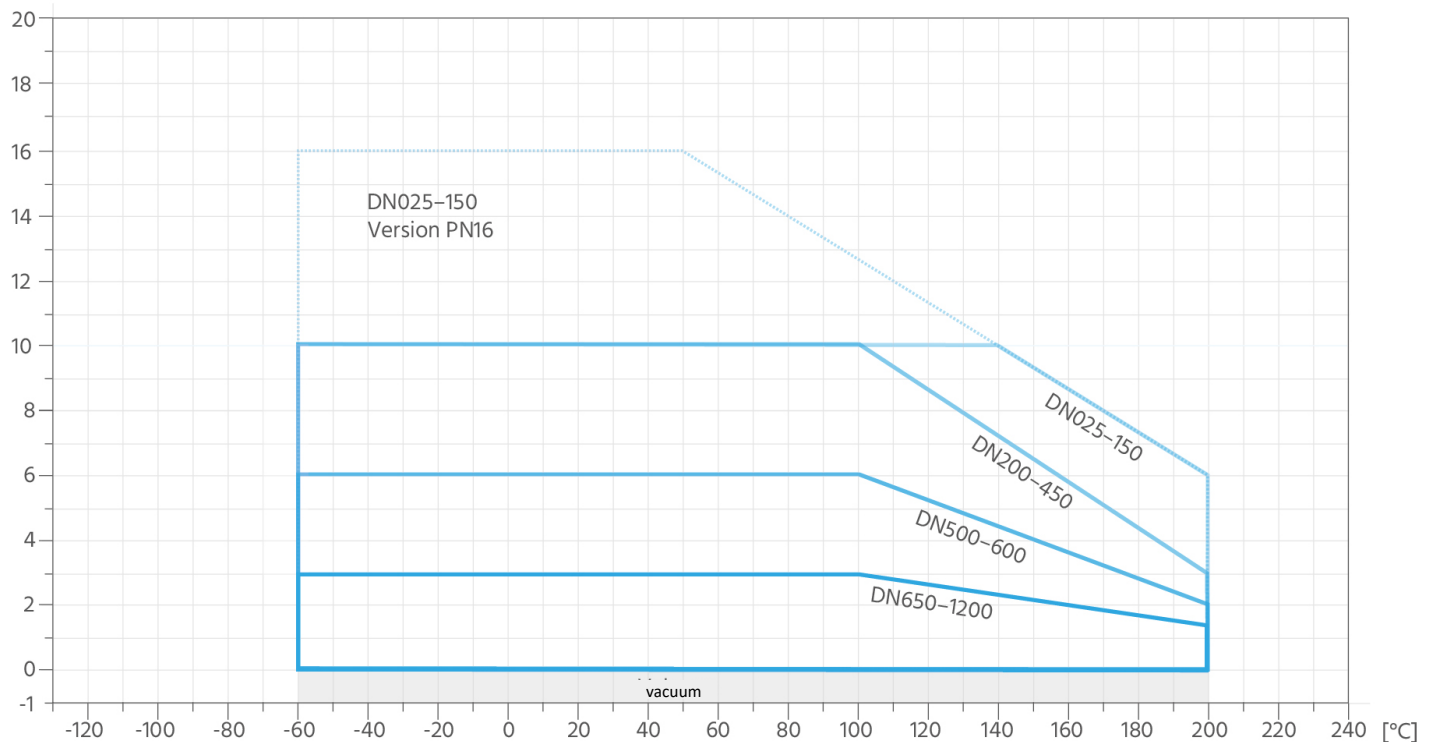
DN (mm)	DN (inch)	SW	ISO	ØT	ØS	ØPxR
25	1"	9	F05	50	4x7	36x3,5
40	1½"	9	F05	50	4x7	36x3,5
50	2"	11	F07	70	4x9	56x3,5
65	2½"	11	F07	70	4x9	56x3,5
80	3"	11	F07	70	4x9	56x3,5
100	4"	14	F07	70	4x9	56x3,5
125	5"	14	F07	70	4x9	56x3,5
150	6"	17	F07	70	4x9	56x3,5
200	8"	19	F10	102	4x11	71x3,5
250	10"	22	F10	102	4x11	71x3,5
300	12"	22	F10	102	4x11	71x3,5
350	14"	27	F12	125	4x13	87x3,5
400	16"	27	F12	125	4x13	87x3,5
450	18"	36	F14	140	4x17	102x4,5
500	20"	36	F14	140	4x17	102x4,5
600	24"	46	F16	165	4x21	132x5,5



Kv-Values (m³/h)

DN mm	Opening angle							
	20°	30°	40°	50°	60°	70°	80°	90°
25	0.001	1.0	3.0	6.0	10	16	21	28
40	1.4	5.1	11	22	38	56	75	102
50	2.1	6.7	14	28	46	69	92	124
65	4.4	14	27	49	80	118	158	211
80	8.1	22	41	75	123	179	240	318
100	17	48	91	160	259	375	502	660
125	28	74	145	244	392	563	754	985
150	39	97	194	316	503	717	958	1244
200	85	202	415	658	1036	1463	1956	2523
250	119	274	527	949	1484	2038	2727	3514
300	181	404	771	1329	2179	3083	4124	5315
350	277	602	1139	2034	3335	4718	6312	8134
400	393	856	1650	2893	4628	6711	8979	11571
450	528	1148	2173	3414	5742	8535	12043	15519
500	647	1434	2418	3980	6490	10268	14983	19308
600	843	1861	3473	5706	9427	14140	19349	24807

[barg] Pressure temperature diagram:



DN	25	32	40	50	65	80	100	125	150	200	250	300	350	400	450	500	600
pressure:	10 bar															6 bar	

Torques:

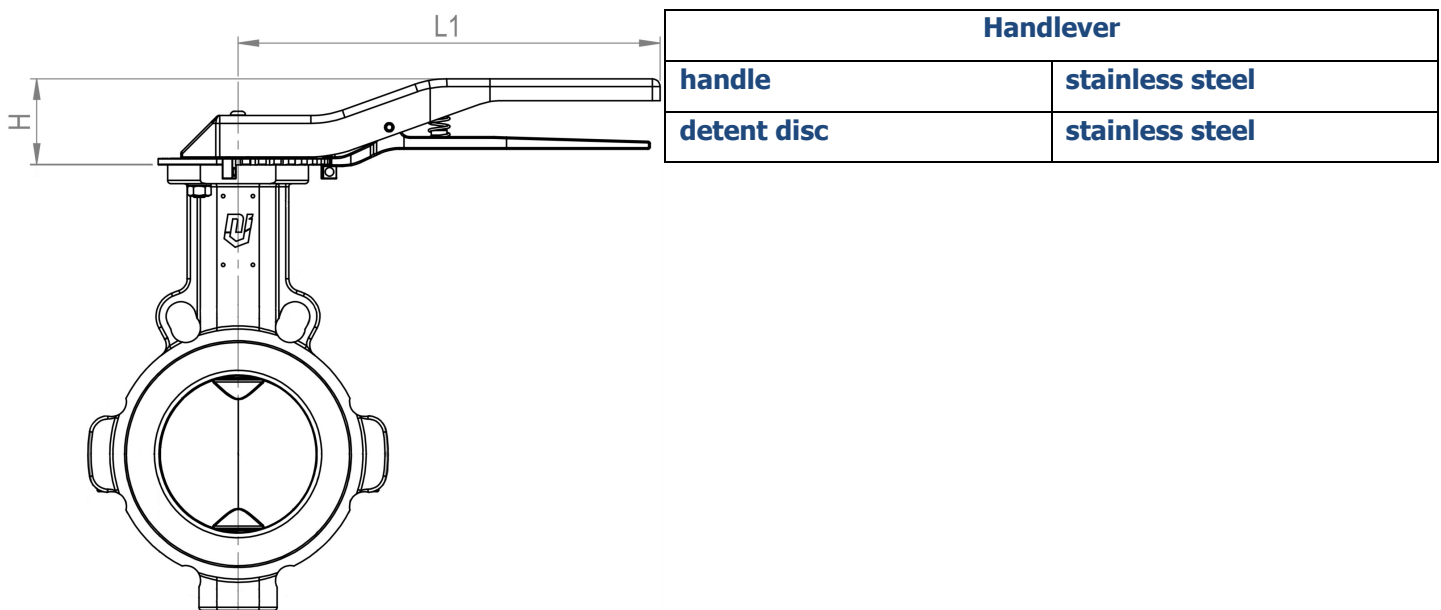
DN	25	40	50	65	80	100	125	150	200	250	300	350	400	450	500	600
Nm ¹⁾	22	22	26	36	46	60	80	110	167	278	333	450	500	600	650	890
Nm ²⁾	48	48	89	89	89	183	183	327	456	664	664	1227	1227	2909	2909	6069

¹⁾ breakaway torque

²⁾ Max. allowable torque for stem connection (Nm)

Breakaway torques calculated with 10% safety factor. These values have to be multiplied by 1,2 ($\Delta p \leq 0,5 \times PS$) or 1,4 ($\Delta p > 0,5 \times PS$) for dry and unlubricated service.

Actuation:



DN	25	40	50	65	80	100	125	150	200	250	300
L1	232,5	232,5	272,5	272,5	272,5	272,5	272,5	272,5	350	350	350
H	46	46	55	55	55	55	55	55	55	55	55
kg	1	1	1,5	1,5	1,5	1,5	1,5	1,5	2,7	2,7	2,7

Article number:

AK09:

type	pressure	disc	insert	actuation	dimension
AK09 – wafer	0 – PN10-16 3 – ANSI 150	1 – stainless steel** 2 – PFA	0 – silicone 1 – EPDM 2 – FKM	0 – lever 1 – worm gear 6 – free shaft	05 – DN25 07 – DN40 08 – DN50 09 – DN65 10 – DN80 11 – DN100 12 – DN125 13 – DN150 14 – DN200 15 – DN250 16 – DN300

type	pressure	disc	insert	actuation	dimension
AK09 – wafer	0 – PN10 1 – PN16* 3 – ANSI 150	1 – stainless steel** 2 – PFA	0 – silicone 1 – EPDM 2 – FKM	1 – worm gear 6 – free shaft	17 – DN350 18 – DN400 19 – DN450 20 – DN500 21 – DN600

AK10:

type	pressure	disc	insert	actuation	dimension
AK10 – lug	0 – PN10-16 3 – ANSI 150	1 – stainless steel** 2 – PFA	0 – silicone 1 – EPDM 2 – FKM	0 – lever 1 – worm gear 6 – free shaft	05 – DN25 07 – DN40 08 – DN50 09 – DN65 10 – DN80 11 – DN100 12 – DN125 13 – DN150

type	pressure	disc	insert	actuation	dimension
AK10 – lug	0 – PN10 1 – PN16* 3 – ANSI 150	1 – stainless steel** 2 – PFA	0 – silicone 1 – EPDM 2 – FKM	0 – lever*** 1 – worm gear 6 – free shaft	14 – DN200 15 – DN250 16 – DN300 17 – DN350 18 – DN400 19 – DN450 20 – DN500 21 – DN600

Beispiel Nr. AK09022016

AK09	0	2	2	0	16
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Artikel Nr. AK09022016
 Butterfly valve wafer type
 Pressure norm: PN10
 disc: PFA
 insert: FKM
 actuation: lever
 dimension: DN300

* on request

** up to DN200 stainless steel 1.4469; from DN250 stainless steel 1.4404

***up to dimension DN300

Image similar, subject change without notice.