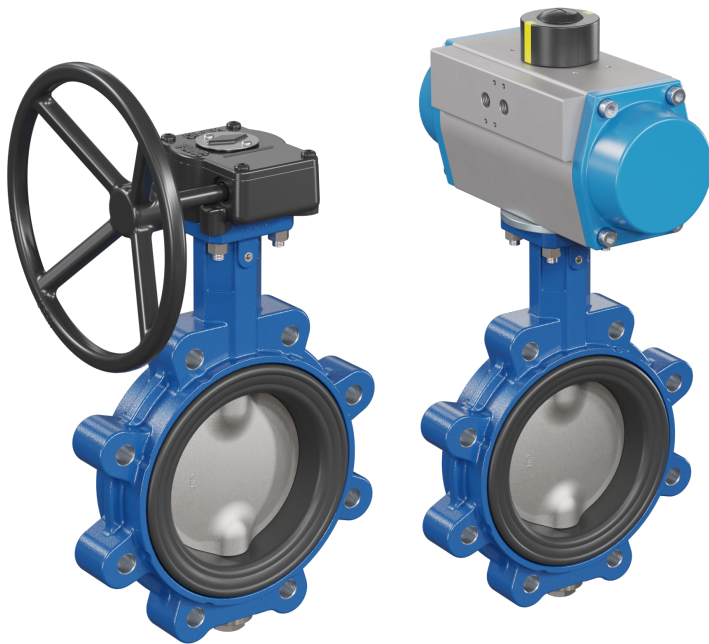


Butterfly Valve Type AK01 / AK02



description:

Butterfly valve to control a liquid or gaseous media in a pipeline system. The stainless-steel disc can be opened or closed by an electric, pneumatic single- or pneumatic double actuator.

features:

- suitable for neutral and not neutral **gaseous & liquid media**
- Easy maintenance due to demountable design
- Industry design
- Soft sealing
- Central disc bearing, double sided sealing
- Position of installation can be chosen freely, from DN300 shaft preferably in horizontal position

connection:

DN32, DN40, DN50, DN65, DN80, DN100, DN125, DN150, DN200, DN250, DN300, DN350, DN400

temperature:

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

pressure:

Up to 16,0 bar – depending on design

Type AK01 Wafer type:

Type AK02 Lug type:

design:

body:

disc:

stem:

nominal pressure:

sealing leakage test:

Length:

actuation arrangement:

temperature:

seat:

DVGW Registration:

max. differential pressure:

Butterfly Valve Wafer type or Lug type

EN-JS1030 (GGG40) high quality epoxy-painting 80µm

Body colour blue (RAL 5005)

Stainless steel 1.4408 (CF8M)

Splitted stem 1.4021(AISI 420)

PN16 – depending on type

DIN EN 12266-1 Leakage rate A

EN 558, row 20/13; SO 5752, row 20/13; API 609, table 2

DN32-DN100 Lever made of alu with grey sleeve (NBR DVGW-G yellow)

DN125-DN200 Lever made of steel (NBR DVGW-G yellow sleeve)

Recommended from DN125: Worm gear

DN32-DN200: Electric rotary AN01: 24-240V AC/DC (-20°C to +70°C)

DN32-DN400: Pneumatic actuator AN02: single and double acting (-20°C to +80°C)
Please check temperature limits of the actuators; at higher temperatures, a bridge must be used - please contact our sales department.

EPDM DVGW WRAS ACS W270 drinking water -20°C up to +90°C*

NBR-black DVGW Gas -10°C up to +60°C

FKM/FPM -5°C up to +200°C

EPDM HT FDA -5°C up to +130°C

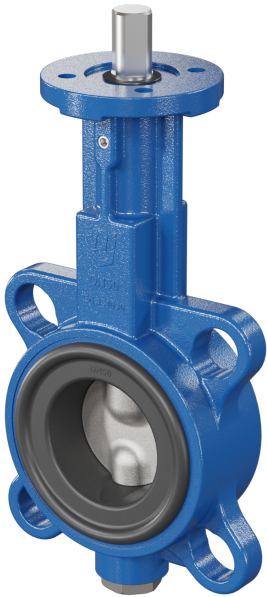
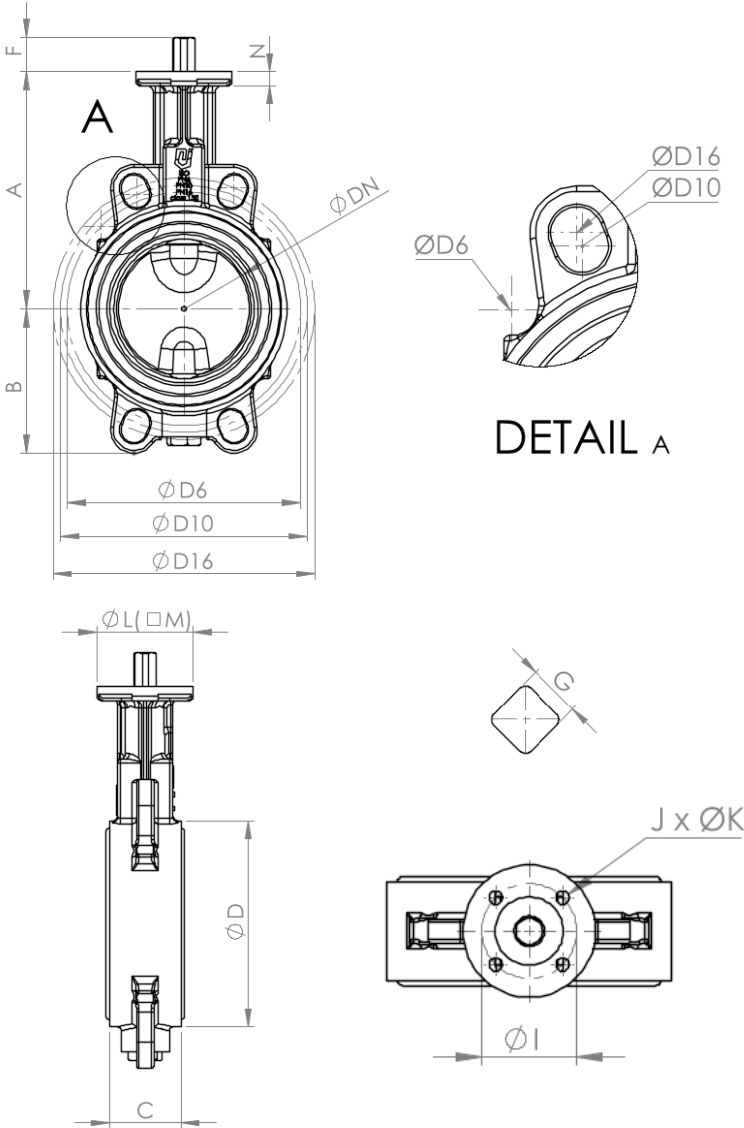
EPDM drinking water Reg.Nr. DW-6201CR0174 nach DIN EN 1074-1/-2

NBR-back for gas Reg.Nr. NG-4313CN0141 nach DIN EN 13774

16 bar

*The temperature range from -20°C to 40°C applies for DVGW approval

type AK01 butterfly valve wafer type:

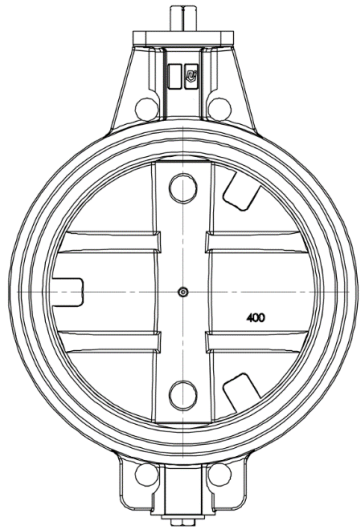
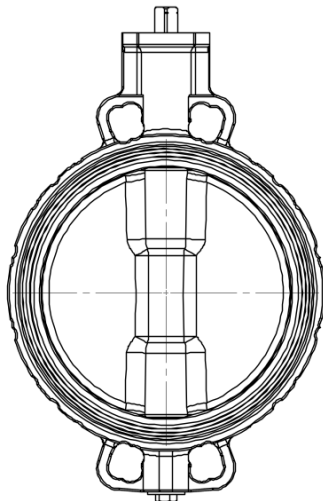
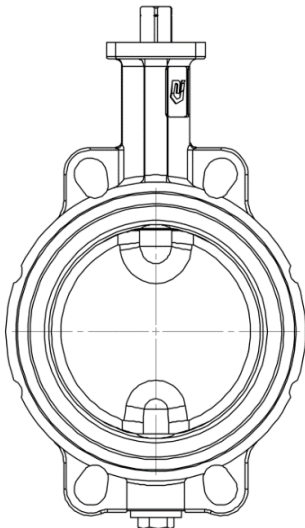
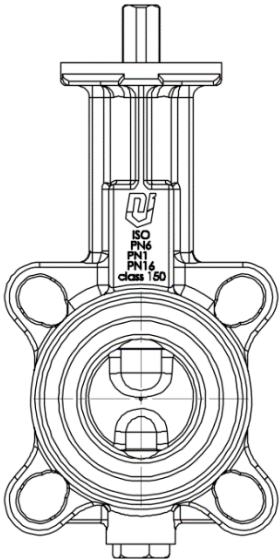


DN32-65

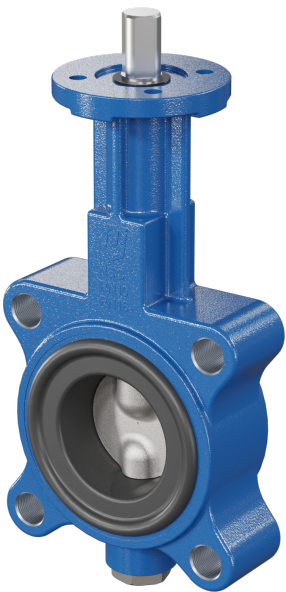
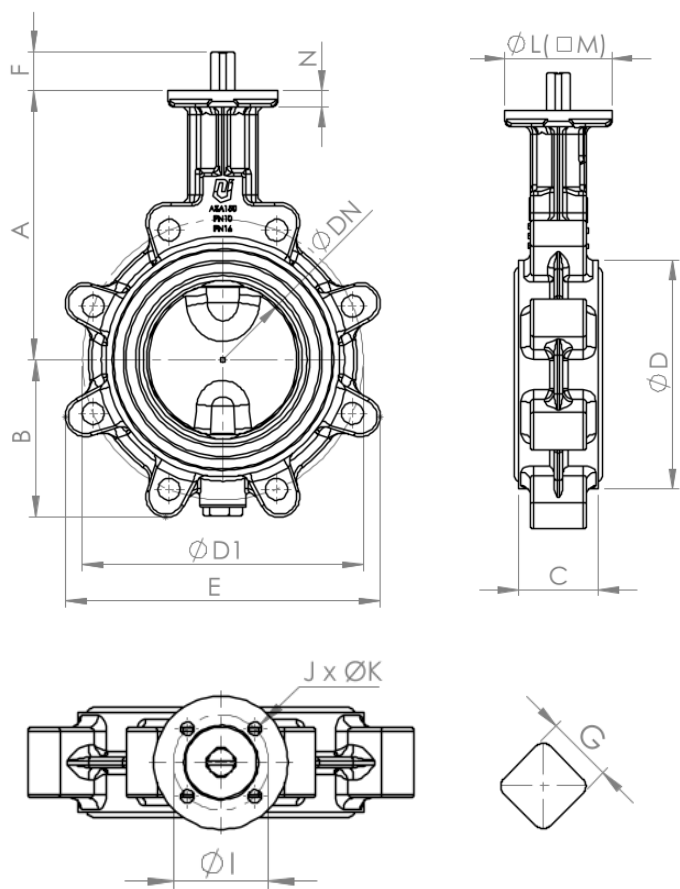
DN80-150

DN200-300

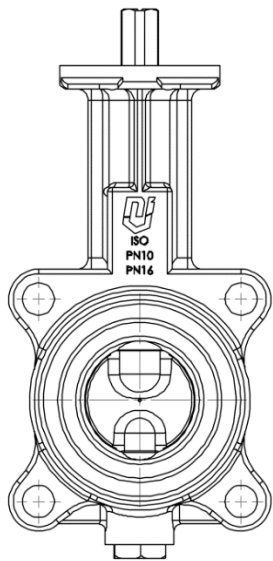
DN350-400



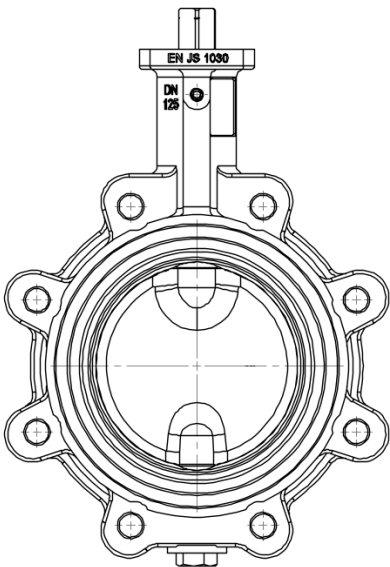
type AK02 butterfly valve lug type:



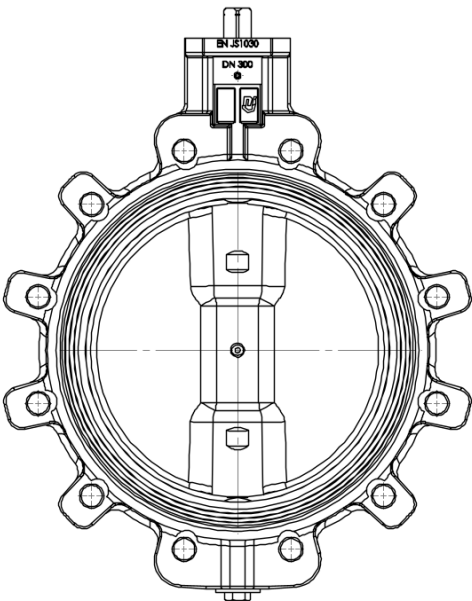
DN32-65



DN80-200



DN250-400



dimensions TYP AK01 / AK02:

		DN	32	40	50	65	80	100	125	150	200	250	300	350	400
Valve dimensions		A	136	136	146	154	163	173	193	205	234	270	310	325	365
		B	54	54	64	72	89	105	119	130	166	202	237	271	314
		C	33	33	43	46	46	52	56	56	60	68	78	78	102
		ØD	78	78	96	113	128	150	184	212	268	320	378	435	488
	AK01	DPN6	90	100	110	130	150	170	200	225	280	335	395	445*	495*
		DPN10	100	110	125	145	160	180	210	240	295	350	400	460	515
		DPN16	100	110	125	145	160	180	210	240	295	355	410	470	525
		DANSI	88,9	98,4	121	139,7	152,4	190	215,9	241	298,4	361,9	431,8	476,2*	539,8*
	AK02	DPN6	90*	100*	110*	130*	150*	170*	200*	225*	280*	335*	395*	445*	495*
		DPN10	100	110	125	145	160	180	210	240	295	350	400	460	515
		DPN16	100	110	125	145	160	180	210	240	295*	355*	410*	470*	525*
		DANSI	88,9*	98,4*	121*	139,7*	152,4*	190*	215,9*	241*	298,4*	361,9*	431,8*	476,2*	539,8*
	E		110	110	115	129	174	204	234	255	319	396	465	509	590
Endshaft-dimensions	F		25	25	25	25	25	25	25	25	25	30	30	36	36
	G		14	14	14	14	14	14	17	17	17	22	22	27	27
flange-dimensions	I		50/70	50/70	50	50	50	50	70	70	70	102	102	125	140
	J		4	4	4	4	4	4	4	4	4	4	4	4	4
	K		7	7	7	7	7	7	9	9	9	11	11	14	18
	L		--	--	70	70	70	70	--	--	--	--	--	--	--
	M		70	70	--	--	--	--	70	70	70	105	105	130	140
	N		8	8	8	8	8	8	12	12	14	17	17	17	21
weight	AK01	wafer	1,9	1,9	2,7	3,2	3,7	4,7	6,7	8,4	13,3	22,0	29,3	46,4	69,8
	AK02	lug	2,3	2,3	3,0	3,7	4,8	6,1	9,2	10,2	15,3	28,4	41,2	62,0	96,3
ISO Flange			F05/07	F05/07	F05	F05	F05	F05	F07	F07	F07	F10	F10	F12	F14
Max. pressure			PN16	PN16	PN16	PN16	PN16	PN16	PN16	PN16	PN16	PN16	PN16	PN16	PN16

*: light blue „on request“

**: Type AK01 (wafer) has a connection for flanges acc. to PN6-PN10-PN16 and ANSI150 for dimensions DN32 up to DN300. Bigger sizes have a connection acc. to PN10-PN16.

***: Type AK02 (lug-type) has a connection for flanges acc. to PN10-PN16 for dimensions DN32 up to DN150. Bigger sizes have a connection acc. to PN10.

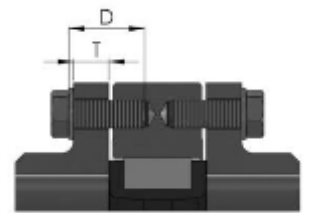
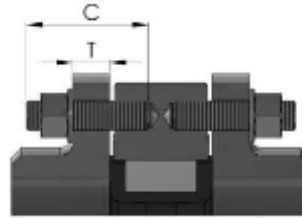
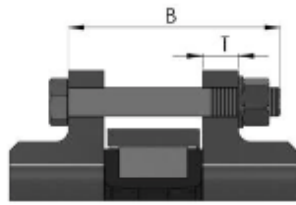
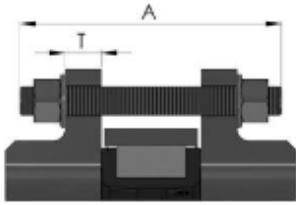
weight AK01:

DN	32	40	50	65	80	100	125	150	200	250	300	350 PN10	350 PN16	400 PN10	400 PN16
vlave	1,9	1,9	2,7	3,2	3,7	4,7	6,7	8,4	13,3	22,0	29,3	46,4	46,4	69,8	69,8
lever	1,24	1,24	1,24	1,24	1,24	1,24	1,26	1,4	1,4	--	--	--	--	--	--
gear	1,2	1,2	1,2	1,2	1,2	1,2	2,2	2,2	2,2	4,2	4,2	4,5	6,5	11,0	12,0

weight AK02:

DN	32	40	50	65	80	100	125	150	200	250	300	350 PN10	350 PN16	400 PN10	400 PN16
vlave	2,3	2,3	3,0	3,7	4,8	6,1	9,2	10,2	15,3	28,4	41,2	62,0	62,0	96,3	96,3
lever	1,24	1,24	1,24	1,24	1,24	1,24	1,26	1,4	1,4	--	--	--	--	--	--
gear	1,2	1,2	1,2	1,2	1,2	1,2	2,2	2,2	2,2	4,2	4,2	4,5	6,5	11,0	12,0

quantity screws butterfly valve:



AK01 wafer

AK02 lug

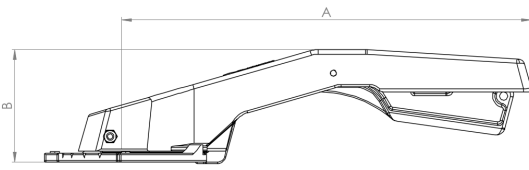
PN6	DN		32	40	50	65	80	100	125	150	200	250	300	350	400
	ØK		90	100	110	130	150	170	200	225	280	335	395	445	495
	thread G		M12	M12	M12	M12	M16	M16	M16	M16	M16	M16	M20	M20	M20
	AK01	quantity (A, B)	4	4	4	4	4	4	8	8	8	12	12	12	16
		length A	100	100	110	110	120	130	140	140	150	160	170	170	200
		length B	80	80	90	100	100	110	120	120	130	140	150	150	180
	AK02	quantity (C, D)	8	8	8	8	8	8	16	16	16	24	24	24	32
		length C	50	50	55	55	60	60	65	65	70	75	80	80	90
		length D	30	30	35	35	40	40	45	45	50	55	55	55	65
	T		14	14	14	14	16	16	18	18	20	22	22	22	22

PN10	DN		32	40	50	65	80	100	125	150	200	250	300	350	400
	ØK		100	110	125	145	160	180	210	240	295	350	400	460	515
	thread G		M16	M16	M16	M16	M16	M16	M16	M20	M20	M20	M20	M20	M24
	AK01	quantity (A, B)	4	4	4	4	8	8	8	8	8	12	12	16	16
		length A	115	115	125	130	130	140	150	150	160	170	180	190	220
		length B	95	95	105	110	110	120	120	130	140	150	160	160	190
	AK02	quantity (C, D)	8	8	8	8	16	16	16	16	16	24	24	32	32
		length C	55	55	60	60	60	65	70	75	80	85	85	85	100
		length D	35	35	40	40	40	45	50	50	55	60	60	65	75
	T		18	18	18	18	20	20	22	22	24	26	26	26	26

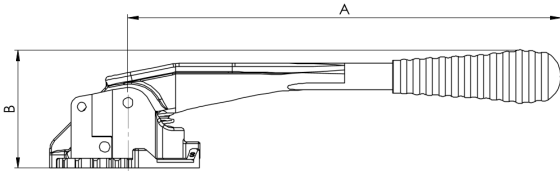
PN16	DN		32	40	50	65	80	100	125	150	200	250	300	350	400
	ØK		100	110	125	145	160	180	210	240	295	355	410	470	525
	thread G		M16	M16	M16	M16	M16	M16	M16	M20	M20	M24	M24	M24	M27
	AK01	quantity (A, B)	4	4	4	4	8	8	8	8	12	12	12	16	16
		length A	110	110	120	130	130	140	150	150	160	180	200	200	230
		length B	90	90	100	110	110	120	120	130	140	150	170	170	200
	AK02	quantity (C, D)	8	8	8	8	16	16	16	16	24	24	24	32	32
		length C	55	55	60	60	60	65	70	75	80	90	95	100	110
		length D	35	35	40	40	40	45	50	50	55	60	65	70	80
	T		18	18	18	18	20	20	22	22	24	26	28	30	32

ANSI	DN		32	40	50	65	80	100	125	150	200	250	300	350	400
	ØK		88,9	98,4	121	139,7	152,4	190	215,9	241	298,4	361,9	431,8	476,2	539,8
	thread		1/2" – 13 UNC	1/2" – 13 UNC	5/8" – 11 UNC	5/8" – 11 UNC	5/8" – 11 UNC	5/8" – 11 UNC	3/4" – 10 UNC	3/4" – 10 UNC	3/4" – 10 UNC	7/8" – 9 UNC	7/8" – 9 UNC	1" – 8 UNC	1" – 8 UNC
	AK01	quantity (A, B)	4	4	4	4	4	8	8	8	8	12	12	12	16
		length A	100	100	130	140	140	150	160	160	175	190	210	220	240
		length B	90	90	110	115	120	125	130	140	150	165	180	190	210
	AK02	quantity (C, D)	8	8	8	8	8	16	16	16	16	24	24	24	32
		length C	45	45	60	65	65	70	75	75	80	90	95	110	120
		length D	30	30	40	45	45	50	50	50	55	65	70	75	90
	T		16	18	20	22	24	24	24	25	28	30	32	35	37

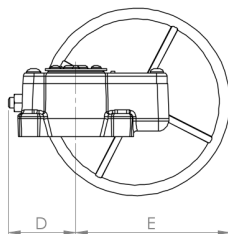
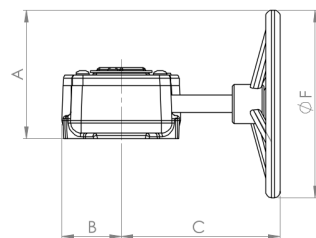
Actuations lever and worm gear:



Lever DN32 up to DN100 aluminium



Lever DN125 up to DN200 steel



	DN	32	40	50	65	80	100	125	150	200	250	300	350 PN10	350 PN16	400 PN10	400 PN16
Lever	Lever type	HB01	HB01	HB01	HB01	HB01	HB01	HB02	HB02	HB02						
	A Lever	200	200	200	200	200	200	362	362	362	--	--	--	--	--	--
	B Lever	76	76	76	76	76	76	75	75	75	--	--	--	--	--	--
	weight Lever	0,35	0,35	0,35	0,35	0,35	0,35	1,40	1,40	1,40	--	--	--	--	--	--
Worm-gear	A gear	70	70	70	70	70	70	127,5	127,5	127,5	134	134	183	238	292	341
	B gear	35	35	35	35	35	35	46	46	46	57	57	57	67	78	78
	C	91	91	91	91	91	91	139	139	139	156	156	210	255	350	350
	D	38	38	38	38	38	38	59	59	59	60	60	95	131	169	219
	E	84	84	84	84	84	84	141	141	141	155	155	205	267	331	381
	F	100	100	100	100	100	100	200	200	200	200	200	300	400	500	600
	weight gear	1,2	1,2	1,2	1,2	1,2	1,2	2,2	2,2	2,2	4,2	4,2	4,5	6,5	11,0	12,0
	stem	14x14	14x14	14x14	14x14	14x14	14x14	17x17	17x17	17x17	22x22	22x22	27x27	27x27	27x27	27x27

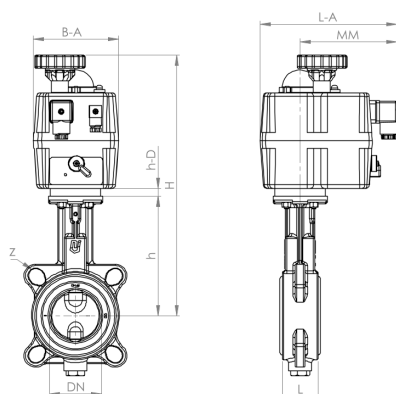
actuation: electric actuator AN01

type: AN01, S-series
voltage: 24 – 240V AC/DC
body: Corrosion-resistant plastic housing polyamide (PA6) red/grey
time: 10sek. – 58sek., depending on actuator
protection clas: IP67
duty: 75% (related to 10min)
temperature: -20 bis +70°C general
features: electronic torque limitation, automatic voltage detection, limit switches, integrated control room heating, manual override
options: DPS digital positioning system 4-20mA und 0-10V
 BSR AkkuPack NC / NO
 Permanent phase NC / NO

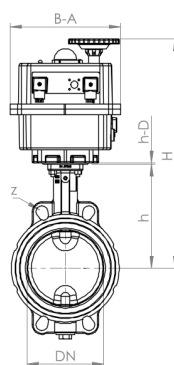


dimensions:

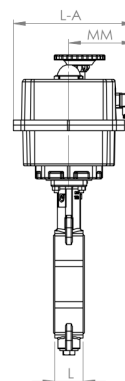
DN32-DN65



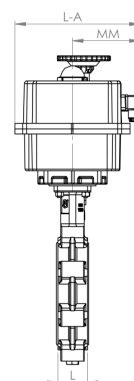
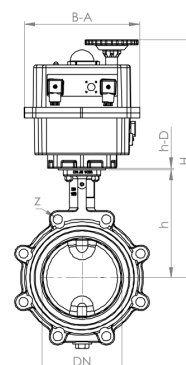
AK01



DN80-DN100

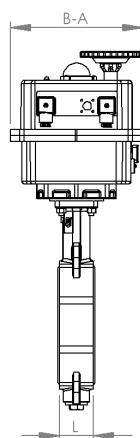
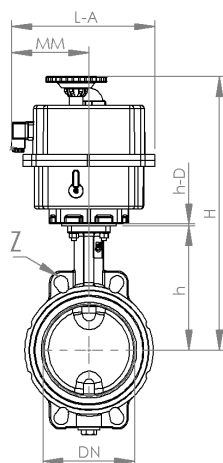


AK02

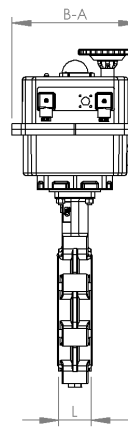
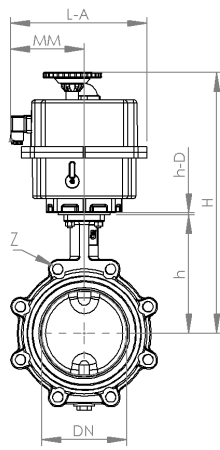


DN125-DN200

AK01



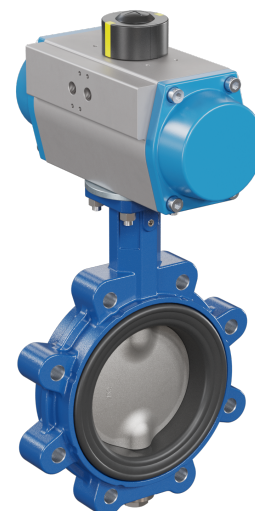
AK02



DN	PN		L	Z (amount)		h	h-D	H	B-A	MM	L-A	actuator	time	weight (kg)	
	AK01	AK02	(mm)	AK01	AK02	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		(s)	AK01	AK02
32	16	16	33	4	4	136	10	317	110	125	176	S20	10	3,7	4,1
40	16	16	33	4	4	136	10	317	110	125	176	S20	10	3,7	4,1
50	16	16	43	4	4	146	10	327	110	125	176	S20	10	4,5	4,8
65	16	16	46	4	4	154	10	335	110	125	176	S35	10	5,1	5,6
80	16	16	46	4	8	163	10	369	110	125	176	S55	13	6,1	7,2
100	16	16	52	4	8	173	10	379	110	125	176	S85	29	7,0	9,1
125	16	16	56	4	8	193	3	440	218	127	236	S140	34	11,9	14,4
150	16	16	56	4	8	205	3	452	218	127	236	S140	34	13,6	15,4
200	16	10	60	4	8	234	3	481	218	127	236	S300	58	18,5	20,5

actuation: pneumatic actuator AN02

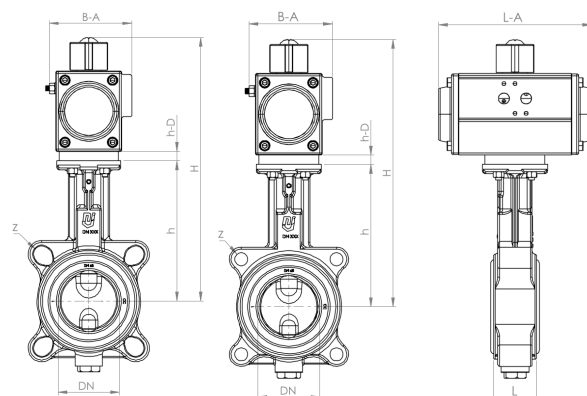
type:	AN02,
function:	AN0200 – doubleacting / AN0201 - singleacting
body:	hard-coated aluminium alloy
design:	actuator in pipe direction
control pressure:	generally 2-8 bar / dimensioning of the actuator for air 6 bar
control medium:	control pressure at lubricating media
seal:	filtered air with regard to residual oil content, dust and water, at least according to DIN ISO 8573-1: 2010 [7:-:4]
temperature:	NBR
SIL rating:	generally -20 up to +80°C
options:	SIL3 according to IEC 61508 Part 1-2 and 4-7:2010
	Namurvalve 3/2-ways for singleacting actuators 12V, 24V, 230V
	Namurvalve 5/2-ways for doubleacting actuators 12V, 24V, 230V
	position indicator mechanic or inductiv
	rotated actuator (transverse to the pipeline)
	manual block form regulator
	silencer
	port connections for hose
	position controller



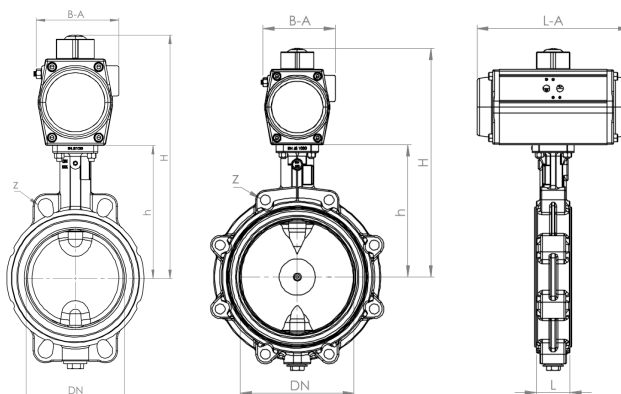
Doubleacting:

DN	PN	L (mm)	Z (amount)		h (mm)	h-D (mm)	H (mm)	B-A (mm)	L-A (mm)	actuator	weight (kg)	
			AK01	AK02							AK01	AK02
32	16	33	4	4	136	10	271	95	165	GD-063	4,0	4,4
40	16	33	4	4	136	10	271	95	165	GD-063	4,0	4,4
50	16	43	4	4	146	10	281	95	165	GD-063	4,8	5,1
65	16	46	4	4	154	10	289	95	165	GD-063	5,3	5,8
80	16	46	4	8	163	10	310	106	182	GD-075	6,4	7,5
100	16	52	4	8	173	6	322	115	208	GD-083	8,1	9,5
125	16	56	4	8	193	6	350	119	262	GD-092	12,1	14,6
150	16	56	4	8	205	-	375	132	270	GD-105	15,6	16,4
200	10	60	4	8	234	-	404	132	270	GD-105	19,9	21,9
250	10	68	4	12	270	6	465	150	301	GD-125	32,5	38,9
300	10	78	4	12	310	-	482	159	395	GD-140	45,4	57,3
350	10	78	4	16	325	70	662	205	528	GD-190	80,8	96,4
400	10	102	4	16	365	70	762	270	608	GD-240	128,8	155,3

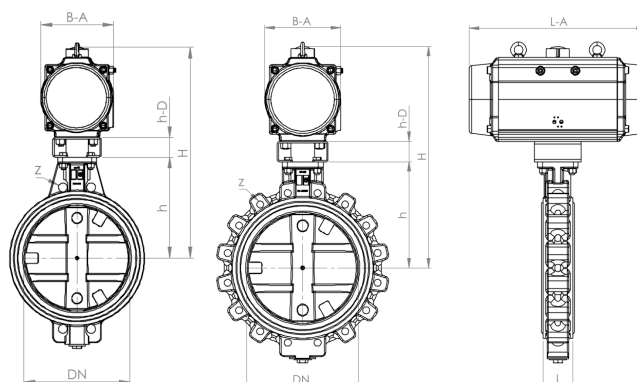
DN32 – DN65



DN80 – DN300



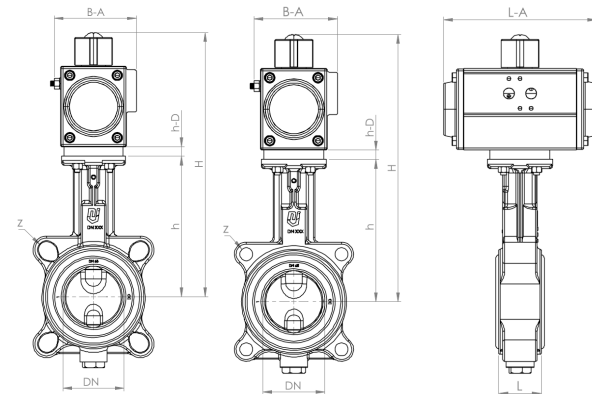
DN350 – DN400



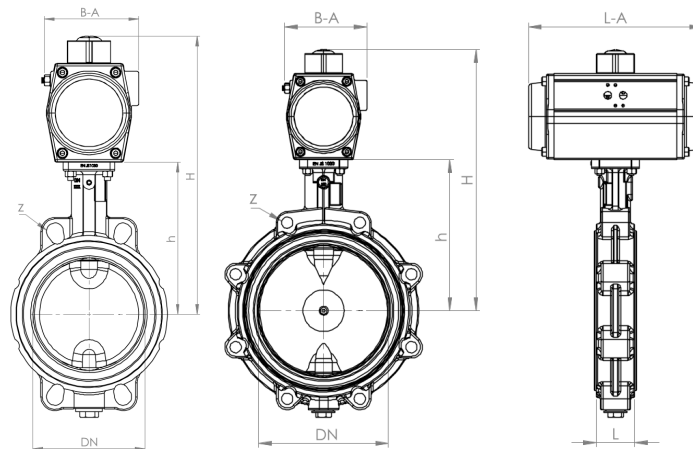
singleacting:

DN	PN	L	Z (amount)		h	h-D	H	B-A	L-A	actuator	weight (kg)	
			AK01	AK02							AK01	AK02
32	16	33	4	4	136	10	271	95	165	GS-063	4,2	4,6
40	16	33	4	4	136	10	271	95	165	GS-063	4,2	4,6
50	16	43	4	4	146	10	281	95	165	GS-063	5,0	5,3
65	16	46	4	4	154	6	303	115	208	GS-083	7,0	7,5
80	16	46	4	8	163	6	320	119	262	GS-092	9,9	11,0
100	16	52	4	8	173	10	375	150	301	GS-125	16,2	17,6
125	16	56	4	8	193	15	417	159	395	GS-140	23,3	25,8
150	16	56	4	8	205	15	429	159	395	GS-140	26,0	26,8
200	10	60	4	8	234	15	458	159	395	GS-140	30,3	32,3
250	10	68	4	12	270	-	504	180	454	GS-160	50,9	57,3
300	10	78	4	12	310	70	647	205	528	GS-190	70,7	82,6
350	10	78	4	16	325	70	722	270	608	GS-240	118,4	134,0
400	10	102	4	16	365	70	821	406	769	GS-300	221,0	247,5

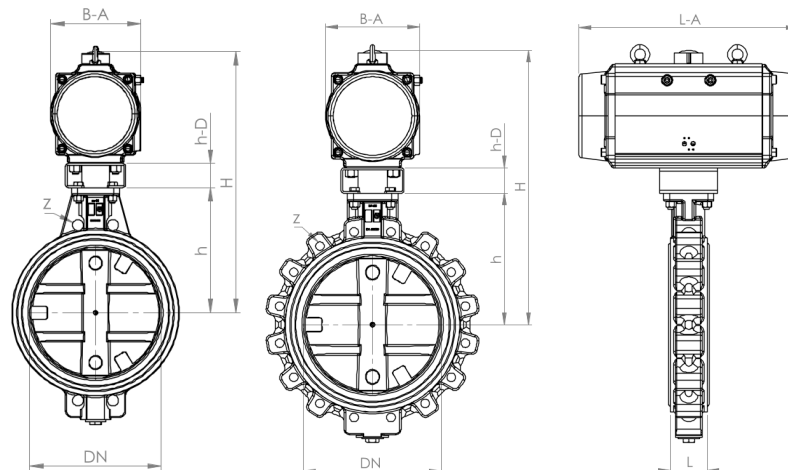
DN32 – DN65



DN80 – DN250



DN300 – DN400

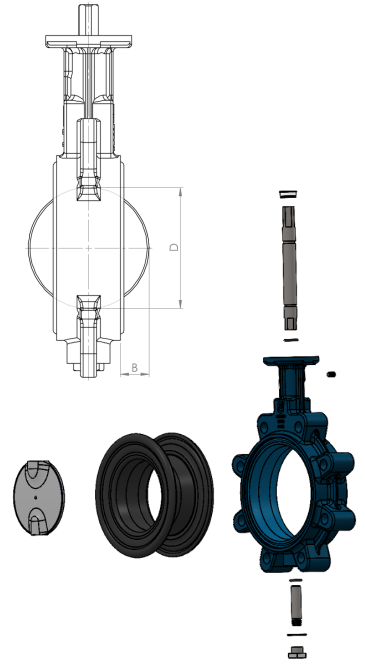


disc projection to length:

DN	32	40	50	65	80	100	125	150	200	250	300	350	400
B	--	5	5	11	18	25	36	48	71	91	112	132	147
D	--	26	29	49	68	88	115	142	194	243	292	333	383

part-list and material:

Pos.	description	AK01 / AK02
1	body	Ductile iron 0.7040 (GGG40) epoxy coated
2	disc	Stainless steel 1.4408 (CF8M)
3	seat	EPDM, NBR, FPM, other on request
4	stem	Stainless steel 1.4021 (AISI 420)
5	pivot	Stainless steel 1.4021 (AISI 420)
6	bushing	Delrin (bis DN300), brass (ab DN350)
9	seal	Klingsil -4400
10	plug	Stainless steel A2
11	stem O-Ring	EPDM, NBR, optionally Viton
12	pivot O-Ring	EPDM, NBR, optionally Viton
13	Retaining bolt	Stainless steel A2



Torque values for liquid media*

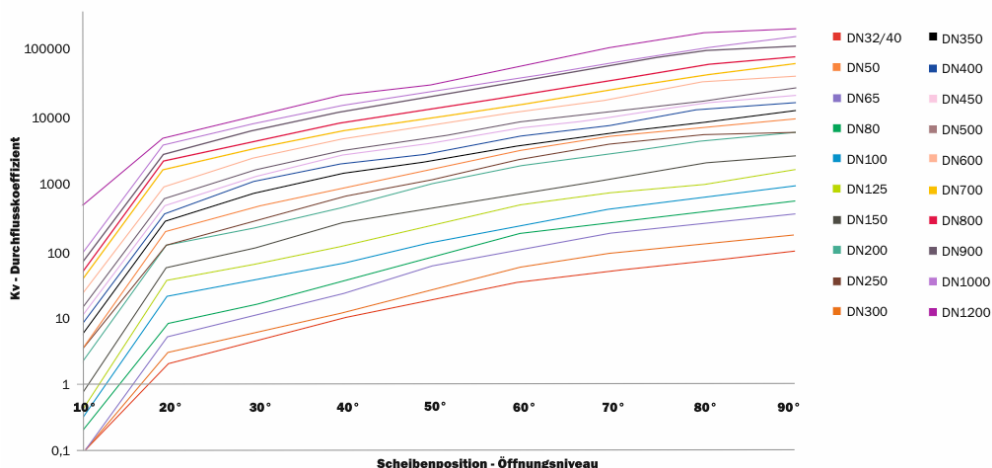
dimension	DN32	DN40	DN50	DN65	DN80	DN100	DN125	DN150	DN200	DN250	DN300	DN350	DN400
Torque value Nm (pmax 6bar)	8	8	11	15	20	38	55	70	100	160	235	480	750
Torque value Nm (pmax 10bar)	9	9	12	17	25	46	70	80	125	200	290	530	1200
Torque value Nm (pmax 16bar)	10	10	12	20	30	55	85	100	150	290	380	580	1650

* Values for valves with EPDM collars and stainless steel discs. A safety factor of at least 1.2 is recommended. For NBR & FPM seats, gaseous media or media with abrasive particles, a safety factor of at least 1.4 should be considered.

Flow values (m³/h):

dimensions	DN32	DN40	DN50	DN65	DN80	DN100	DN125	DN150	DN200	DN250	DN300	DN350	DN400
10°	0,1	0,1	0,1	0,1	0,2	0,3	0,4	0,7	2	3	3	5	7
20°	2	2	3	5	8	20	35	54	120	129	188	265	345
30°	4	4	6	10	15	35	60	105	210	274	424	685	1000
40°	9	9	11	21	33	60	110	248	410	590	820	1327	1825
50°	17	17	23	53	76	122	223	400	915	1037	1500	1990	2550
60°	30	30	50	90	160	220	430	640	1630	2000	2710	3214	4383
70°	45	45	81	160	238	362	626	987	2331	3210	4180	4690	6090
80°	61	61	110	210	340	520	797	1630	3446	4164	5433	6292	9779
90°	84,4	84,4	147	290	450	730	1260	1990	4396	4500	6800	8900	11500

flow chart:



Options (on request):

- Dimensions DN450 bis DN600
- Double flange design for dimensions DN50 – DN2200
- Additional body materials like carbon steel, stainless steel, aluminium, aluminium bronze, etc.
- Additional disc materials like brass, aluminium bronze, Hastelloy, titanium, etc.
- Body- and disc coating
- Additional seat materials for different applications
- Stem extensions
- Glued or vulcanized seat for vacuum applications
- ATEX design
- Position indicator
- Worm gear controlled by chain
- Automation of valves with electric or pneumatic actuators, please have a look at our [datasheet](#) or use our

Article number:

AK01:

type	pressure	seal	actuation	dimension
AK01 – wafer	1 – PN6-PN10-PN16-ANSI150	0 – EPDM DVGW water 1 – NBR DVGW gas 2 – FPM 6 – EPDM HT FDA	00 – lever** 01 – worm gear 02 – electric actuator 24 - 240V AC/DC*** 04 – pneumatic actuator double acting 05 – pneumatic actuator single acting Normally closed 06 – free shaft 07 – pneumatic actuator single acting normally open	06 – DN32 07 – DN40 08 – DN50 09 – DN65 10 – DN80 11 – DN100 12 – DN125 13 – DN150 14 – DN200 15 – DN250 16 – DN300
type	pressure	seal	actuation	dimension
AK01 – wafer	1 – PN10-PN16 2 – PN6*	0 – EPDM DVGW water 1 – NBR DVGW gas 2 – FPM 6 – EPDM HT FDA	01 – worm gear 04 – pneumatic actuator double acting 05 – pneumatic actuator single acting normally closed 06 – free shaft 07 – pneumatic actuator single acting normally open	17 – DN350 18 – DN400

AK02:

type	pressure	seal	actuation	dimension
AK02 – lug type	1 – PN10-PN16 2 – PN6*	0 – EPDM DVGW water 1 – NBR DVGW gas 2 – FPM 6 – EPDM HT FDA	00 – lever** 01 – worm gear 02 – electric actuator 24 - 240V AC/DC*** 04 – pneumatic actuator double acting 05 – pneumatic actuator single acting normally closed 06 – free shaft 07 – pneumatic actuator single acting normally open	06 – DN32 07 – DN40 08 – DN50 09 – DN65 10 – DN80 11 – DN100 12 – DN125 13 – DN150

type	pressure	seal	actuation	dimension
AK02 – lug type	0 – PN10 1 – PN16* 2 – PN6*	0 – EPDM DVGW water 1 – NBR DVGW gas 2 – FPM 6 – EPDM HT FDA	00 – lever** 01 – worm gear 02 – electric actuator 24 - 240V AC/DC*** 04 – pneumatic actuator double acting 05 – pneumatic actuator single acting normally closed 06 – free shaft 07 – pneumatic actuator single acting normally open	14 – DN200 15 – DN250 16 – DN300 17 – DN350 18 – DN400

example Nr. AK02010115:

AK02	0	1	01	15
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Article-no. AK02010115

Butterfly valve lug type

Pressure norm: PN10

seal: NBR

actuation: worm gear

dimension: DN250

* connection acc. to PN6 on request, for type AK02 PN16 for dimension from DN200 on request

** only up to DN200 possible

*** Butterfly valves with electric actuator up to DN200, bigger dimension on request

Image similar, subject change without notice.