

Seawater Butterfly Valve TYPE AK15 / AK16



Description:

Wafer-type butterfly valves are used to control the flow of a medium in a piping system.

Product features:

- Suitable for **seawater**
- Easy maintenance thanks to screw connection at the valve body (split shaft)
- Industrial design
- Soft-sealing
- Centric disc bearing, sealing on both sides
- Any installation position; horizontal shaft recommended for DN300 and larger

Connection:

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

Temperature:

-10°C to +90°C

Pressure:

up to 16.0 bar

Type AK15 Centering Type AK16 Threaded

Centering eyes
Threaded eyes

Design:

Butterfly valve with centering eyes or threaded eyes

Housing:

Ductile iron 0.7040 (GGG40)
Epoxy housing coating 320 µm per EN ISO 12944 Class C5
Housing color: Blue (RAL 5005)

Disc:

Aluminum bronze 2.0975 (C95800)

Shaft:

Split shaft 1.4021 (AISI 420)

Nominal pressure:

PN16

Leak test:

DIN EN 12266-1 Leakage rate A

Overall length:

EN 558-1, Basic Series 20 / API 609

Actuator:

DN32–DN100: Aluminum ratchet lever (without C5-coating)
DN32–DN400: Worm gear (without C5-coating)

On request: Worm gear with C5-coating possible

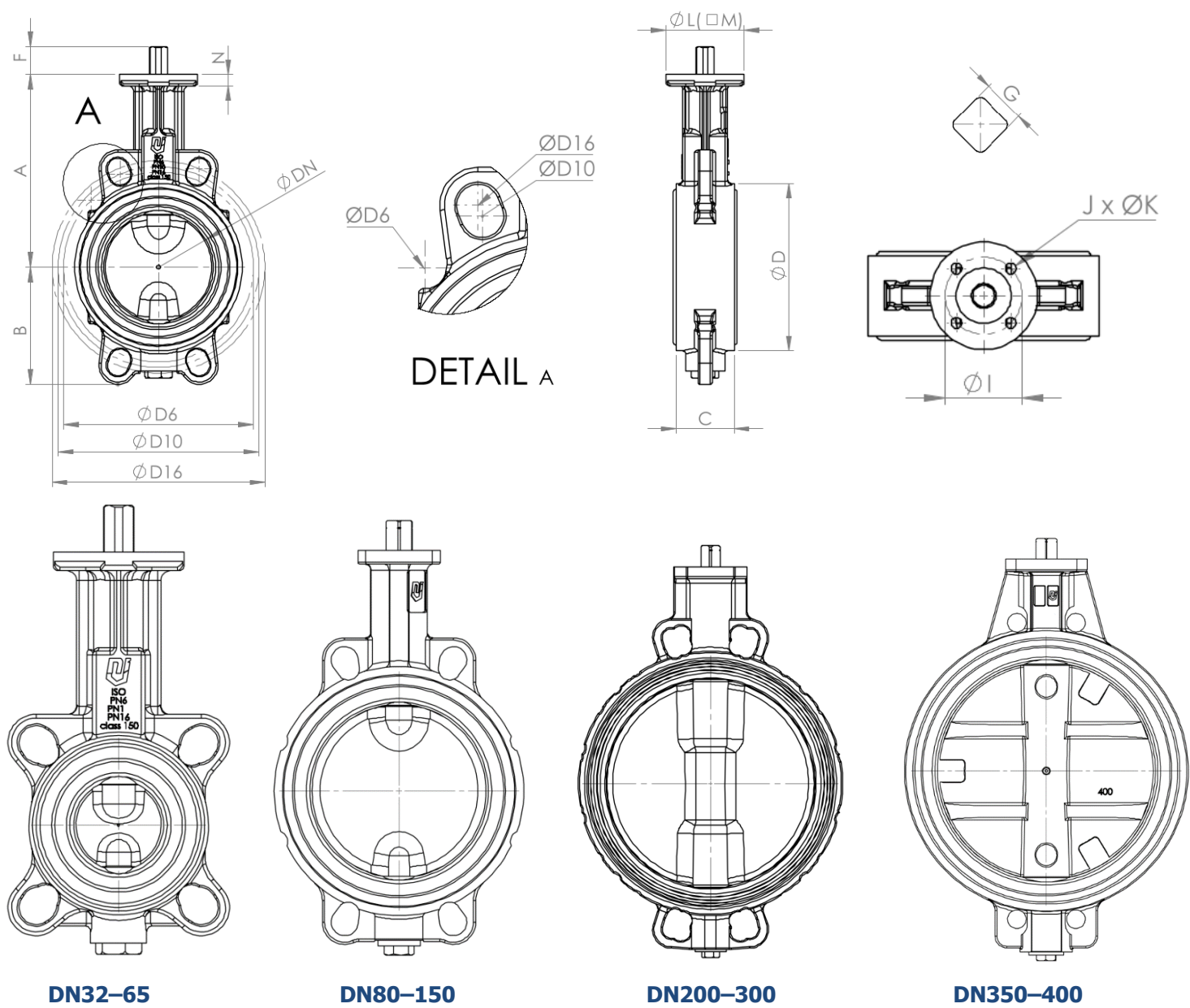
Seal:

NBR -10°C to +90°C

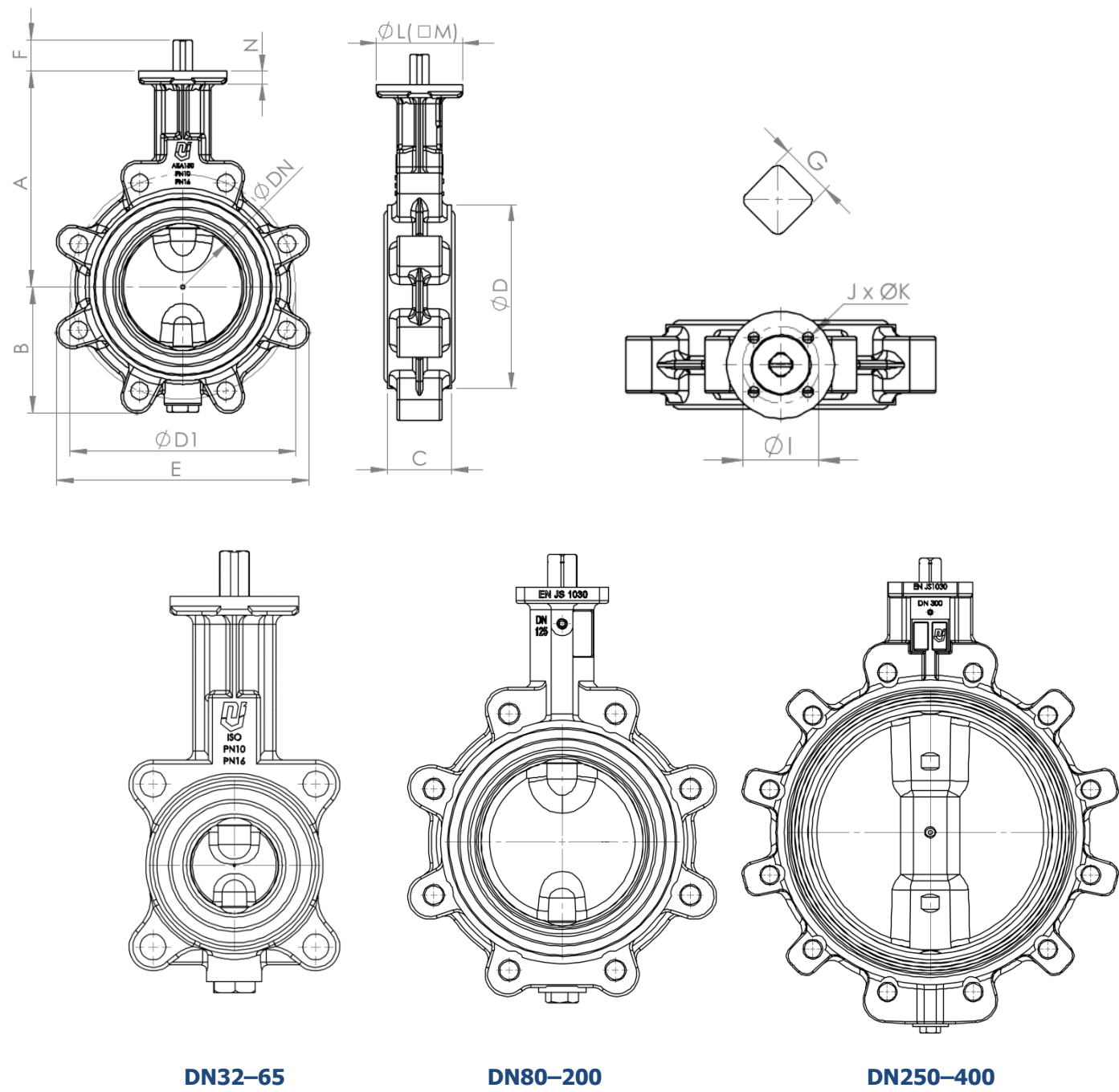
Max. differential

16 bar

Type AK15 butterfly valve with centering eyes:



Type AK16 butterfly valve with threaded eyes:



DN32–65

DN80–200

DN250–400

Dimensions TYPE AK15 / AK16:

		DN	32	40	50	65	80	100	125	150	200	250	300	350	400
Butterfly valve shaft end	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
	AK15**	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*
	AK16***	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
Shaft 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
Weights	AK15	Centering	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
	AK16	Thread	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
Pressure rating			PN16	PN16	PN16	PN16	PN16	PN16	PN16	PN16	PN16	PN16	PN16	PN16	PN16

*: light blue "upon request"

**: Type AK15 (centering eyes) has connections for flanges according to PN6, PN10, PN16, and ANSI150 in nominal diameters DN32 to DN300. Beyond that, the fitting has a connection according to PN10 and PN16.

***: Type AK16 (threaded eyes) has a connection for flanges according to PN10–PN16 in nominal sizes DN32 to DN150. Above that, the fitting has a connection according to PN10.

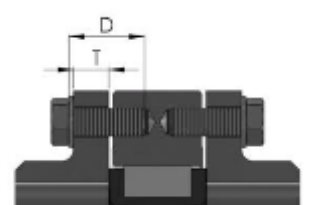
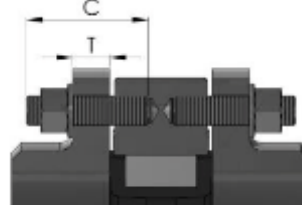
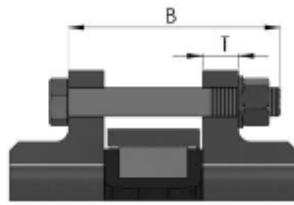
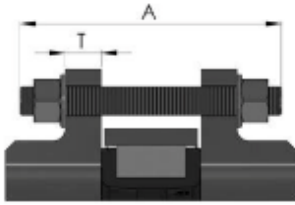
Weights AK15:

DN	32	40	50	65	80	100	125	150	200	250	300	350	400
Flap	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
Lever	0.35	0.35	0.35	0.35	0.35	0.35	1.4	1.4	1.4	--	--	--	--
Transmission	1.2	1.2	1.2	1.2	1.2	1.2	2.2	2.2	2.2	4.2	4.2	6.5	12.0

Weights AK16:

DN	32	40	50	65	80	100	125	150	200	250	300	350	400
Flap	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
Leverage	0.35	0.35	0.35	0.35	0.35	0.35	1.4	1.4	1.4	--	--	--	--
Transmission	1.2	1.2	1.2	1.2	1.2	1.2	2.2	2.2	2.2	4.2	4.2	6.5	12.0

Number of screws for butterfly valve:



AK15 centering eyes

AK16 Threaded eyes

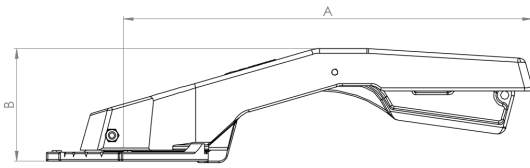
PN6	DN		32	40	50	65	80	100	125	150	200	250	300	350	400
	ØK		90	100	110	130	150	170	200	225	280	335	395	445	495
	Thread G		M12	M12	M12	M12	M16	M16	M16	M16	M16	M16	M20	M20	M20
	AK15	Quantity (A, B)	4	4	4	4	4	4	8	8	8	12	12	12	16
		Length A	100	100	110	110	120	130	140	140	150	160	170	170	200
		Length B	80	80	90	100	100	110	120	120	130	140	150	150	180
	AK16	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
	AK15	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
	AK16	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

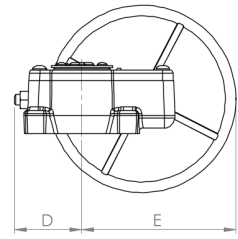
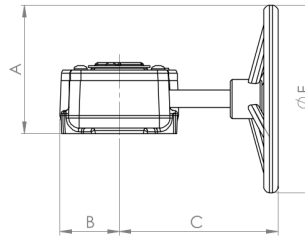
PN16	DN		32	40	50	65	80	100	125	150	200	250	300	350	400
	ØK		100	110	125	145	160	180	210	240	295	355	410	470	525
	Thread G		M16	M16	M16	M16	M16	M16	M16	M20	M20	M24	M24	M24	M27
	AK15	Quantity (A, B)	4	4	4	4	8	8	8	8	12	12	12	16	16
		Length A	110	110	120	130	130	140	150	150	160	180	200	200	230
		Length B	90	90	100	110	110	120	120	130	140	150	170	170	200
	AK16	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
	AK15	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
	AK16	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

Actuators:



Aluminum hand levers DN32–DN100



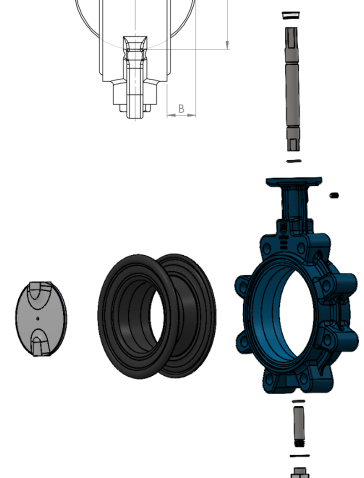
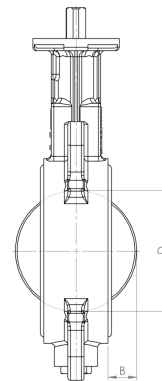
	DN HB	32	40	50	65	80	100	125	150	200	250	300	350 PN10	350 PN16	400 PN10	400 PN16
Lever	Lever Type	HB01	HB01	HB01	HB01	HB01	HB01									
	A Lever	200	200	200	200	200	200	--	--	--	--	--	--	--	--	--
	B Lever	76	76	76	76	76	76	--	--	--	--	--	--	--	--	--
	Weight of lever	0.35	0.35	0.35	0.35	0.35	0.35	--	--	--	--	--	--	--	--	--
Transmission	A Transmi- ssion	70	70	70	70	70	70	127.5	127.5	127.5	134	134	183	238	292	341
	B Transmi	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
	Transmi- ssion ratio	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
	Shaft	14x14	14x14	14x14	14x14	14x14	14x14	17x17	17x17	17x17	22x22	22x22	27x27	27x27	27x27	27x27

Flap overhang relative to overall 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

Parts list and materials:

Item	Description	AK15 / AK16
1	Housing	Ductile iron 0.7040 (GGG40) epoxy-coated
2	Disc	Aluminum bronze 2.0975 (C95800)
3	Seat	NBR (other materials available upon request)
4	Shaft	Stainless steel 1.4021 (AISI 420)
5	Lower shaft	Stainless steel 1.4021 (AISI 420)
6	Bushing	Delrin (up to DN300), brass (from DN350)
9	Seal	Klingsil -4400
10	Plug	Stainless steel A2
11	Shaft O-ring	NBR
12	Bottom O-ring	NBR
13	Mounting screw	Stainless steel A2



Torque values for liquid media*

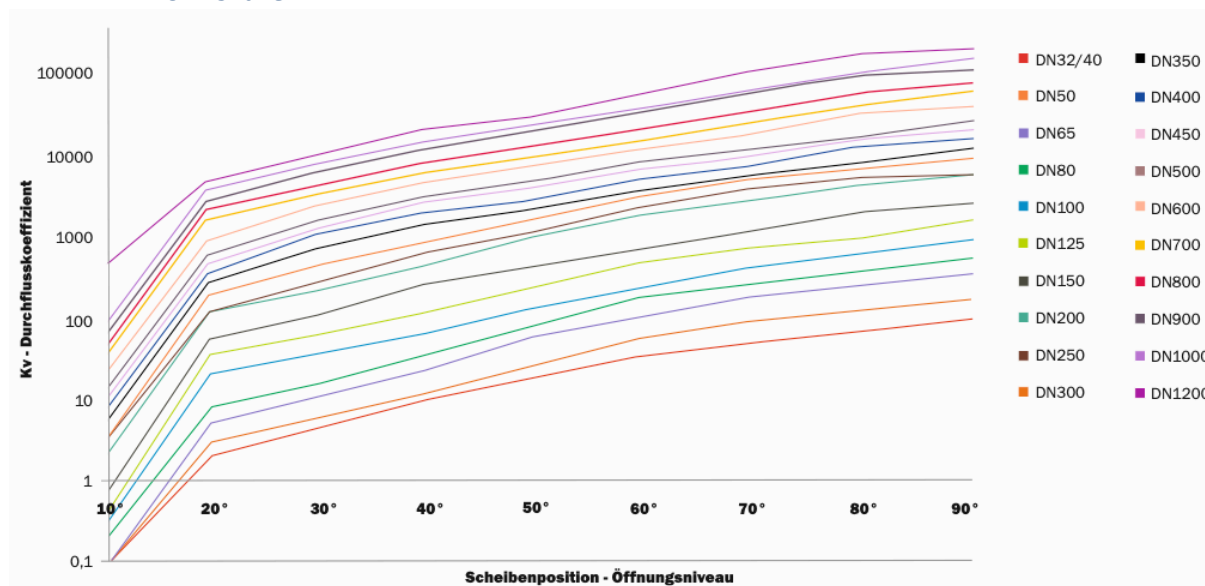
Nominal diameter	DN32	DN40	DN50	DN65	DN80	DN100	DN125	DN150	DN200	DN250	DN300	DN350	DN400
Torque Nm (pmax 6 bar)	8	8	11	15	20	38	55	70	100	160	235	480	750
Torque Nm (pmax 10 bar)	9	9	12	17	25	46	70	80	125	200	290	530	1200
Torque Nm (pmax 16 bar)	10	10	12	20	30	55	85	100	150	290	380	580	1650

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

Flow rates (m³/h):

Nominal diameter	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	2,331	3210	4180	4690	6090
80°	61	61	110	210	340	520	797	1630	3,446	4164	5433	6292	9779
90°	84.4	84.4	147	290	450	730	1,260	1990	4396	4500	6800	8,900	11,500

Flow chart:



Options (upon request):

- Nominal diameters DN450 to DN600
- For AK15: Connection according to PN6
- For AK16: Connection according to PN6 and PN16
- Certificates Lloyd's Register (LR) and American Bureau of Shipping (ABS)

Model number:

AK15:

Model	Nominal pressure	Seal	Actuator	Size
AK15 – Centering eyes	1 – PN6-PN10-PN16-ANSI150	1 – NBR	00 – Detent lever* 01 – Gear 06 – Free shaft end	06 – DN32 07 – DN40 08 – DN50 09 – DN65 10 – DN80 11 – DN100 12 – DN125 13 – DN150 14 – DN200 15 – DN250 16 – DN300
Model	Nominal pressure	Seal	Actuator	Size
AK15 – Centering eyes	1 – PN10–PN16	1 – NBR	01 – Gear 06 – Free shaft end	17 – DN350 18 – DN400

AK16:

Model	Nominal pressure	Seal	Actuator	Size
AK16 – Threaded eyes	1 – PN10–PN16	1 – NBR	00 – Detent lever* 01 – Gear 06 – Free shaft end	06 – DN32 07 – DN40 08 – DN50 09 – DN65 10 – DN80 11 – DN100 12 – DN125 13 – DN150
Model	Nominal pressure	Seal	Actuator	Size
AK16 – Threaded eyes	0 – PN10	1 – NBR	01 – Gear 06 – Free shaft end	14 – DN200 15 – DN250 16 – DN300 17 – DN350 18 – DN400

Example No. AK16110111:

AK16	1	1	01	11
-------------	----------	----------	-----------	-----------

Item No. AK16110111
 Butterfly valve with threaded eyes
 Nominal pressure: PN10-PN16
 Seal: NBR
 Actuation: Gear
 Size: DN100

* Available only up to DN100

Illustration is for reference only; subject to technical and dimensional changes.