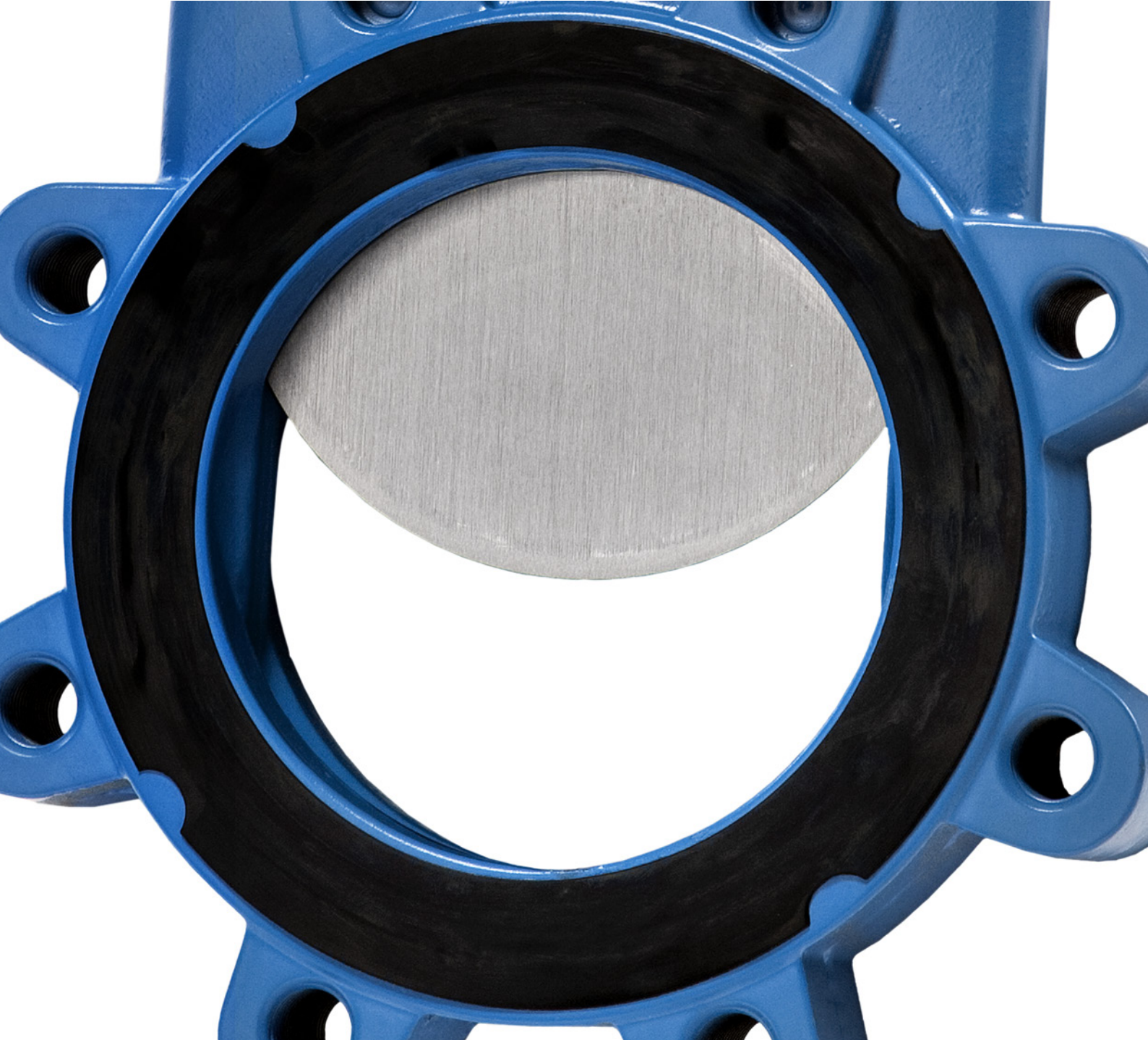


**Knife gate valve WB14**



*Data is only for informational purpose. All specifications are subject to change without notice.*

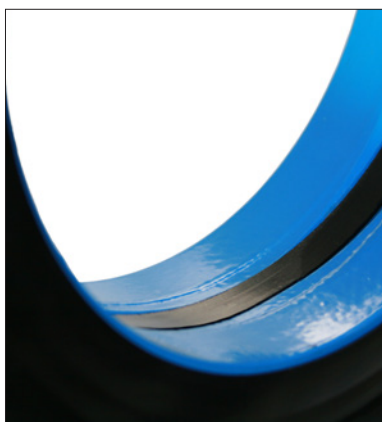
## Knife gate valve WB14

Stafsjö's knife gate valve WB14 is bi-directional and can therefore be installed into a pipe system independent of pressure direction. Fully lugged valve body design and integrated flange gaskets makes it easy to install and also allows end-of-pipe installations. WB14 has a full bore with no cavity which gives excellent flow characteristics, and this makes it suitable for fluids, sludge and liquids with solids in suspensions such as water, sewage and bio mass.

WB14 has a robust coated and fully lugged valve body in nodular iron. It is equipped with a gate in stainless steel, which has a polished edge in order to minimize friction and to lower required operation force. The valve is supplied with a sealing profile in Nitrile or EPDM, which is reinforced with a steel core. The gland box is equipped with Stafsjö's box packing TwinPack™, to secure that no media reaches the surrounding environment. The valve is modular designed and it can easily be supplied with different types of actuators and accessories.

The WB14 valve is designed, manufactured, inspected and tested according to the European Pressure Equipment Directive (PED 97/23/EC) category I and II module A1. The valve is CE marked when it is applicable.

Other WB versions are the semi lugged WB11 and WB available from DN 50 up to DN 1400. For square flange connection we are able to supply WB11k with additional tapped holes for this or WB12 which has a square fully flanged valve body.



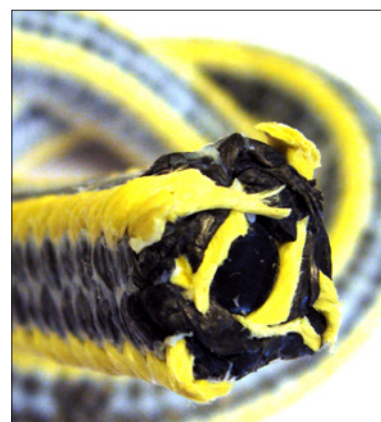
### Excellent flow characteristics

A straight bore with a sealing profile in level with bore, gives minimal pressure losses since the media can pass it practically unnoticed.



### Fully lugged and simple to install

Bi-directional sealing and fully lugged valve body design with integrated flange gaskets, makes it easy to install the valve. End valve installations is also possible thanks to its fully lugged valve body design.



### First-rate sealing capacity

A gland box supplied with three layers of our TwinPack™, which is specially developed and made for Stafsjö's valves, secures that no media reaches the surrounding environment.

## Design data

Sizes	Flange drilling	Face-to-face-dimension	ATEX design	Corrosion protection
DN 50 - DN 600	EN 1092 PN 10 EN 1092 PN 16 ASME/ANSI B 16.5 Class 150 AS 2129 Table D and E	DN 50 - DN 350: EN558-1 series 20 ISO 5752 series 20 DN 50 - DN 600: TAPPI TIS 405-8	ATEX 94/ 9/EC II cat 3 G/D for zone 2 and 22 on request	Non-corrosive resistant materials are coated in colour RAL5015 acc. to Stafsjö's standard, which fulfill the requirements in EN ISO 12944 class C3.

Other sizes on request

Other standards on request.

Leakage rate	Pressure tests
EN 12266-1:2012 rate A: No visually detectable leakage is allowed for duration of the test	Pressure tests are performed with water at 20° C according to EN 12266-1:2012. Pressure shell test: 1,5 times maximum allowable working pressure for open valve. Pressure seat tightness test: 1,1 times maximum allowable differential pressure for closed valve.

Maximum working pressure body at 20°C		Maximum differential pressure at 20°C	
DN	bar	DN	bar
50 - 600	10	50 - 300	10
		350 - 450	6 (10 bar on request)
		500 - 600	4 (10 bar on request)

## Basic equipment

A. Valve Body			
Material	Code	Type	Max. temperature °C
Nodular iron	(L)	EN-JS1050/GGG50	200

B. Gate	
Material	Type
Stainless steel	EN 1.4301/AISI 304/SS 2333
<i>Option:</i>	
Stainless steel	EN 1.4404/AISI 316L/SS 2348
Duplex stainless steel	EN 1.4462/AISI 2205/SS 2377

C. Sealing profile		
Material	Code	Max temperature °C
EPDM	(E)	120
Nitrile	(N)	100

D. Box packing		
Material	Code	Max. temperature °C
TwinPack™	(TY)	260

## Actuators

Manual	Code	Automatic	Code
Hand wheel <sup>1)</sup>	(HW)	Pneumatic cylinder	(EC)
Hand lever <sup>2)3)</sup>	(HL)	Elektric motor	(EM)
Chain wheel <sup>2)</sup>	(CW)	Hydraulic cylinder <sup>2)</sup>	(MH)
Ratchet wrench <sup>2)</sup>	(RW)		
Bevel gear <sup>2)</sup>	(BG)		

<sup>1)</sup> For recommended size, see page 5, column E.

<sup>2)</sup> For recommended size, see separate datasheet.

<sup>3)</sup> Pressures according to design data are not valid for valve equipped with hand lever. Maximum working and differential pressure at 20°C for DN 50 - 200 is 4 bar.

Double-acting pneumatic cylinder type EC			Electric motor (AUMA multi-turn)		
DN valve	EC type	Force at 5 bar (kN)	DN valve	AUMA	Attachment
50 - 125	EC 100	3,5	50 - 150	SA 07.2	F10/A
150	EC 125	5,5	200 - 250	SA 07.6	F10/A
200 - 300	EC 160	9,0	300 - 600	SA 10.2	F10/A
350 - 500	EC 200	14,1			
600	EC 250	22,1			

The table above gives recommended cylinder sizes at normal option with 5 bar air pressure. For other operating conditions, please contact Stafsjö or your local representative for advice.

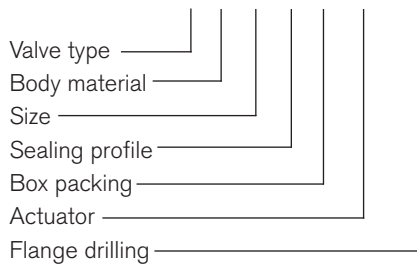
Electric motors are mounted according to standard ISO 5210. The table above gives recommended motor sizes at normal operation. For other operating conditions, please contact Stafsjö or your local representative for advice.

The actuators are described in separate data sheets. For advice and information on other actuators or on ATEX-classified ones, please contact Stafsjö or your local representative.

## Specify the Stafsjö valve

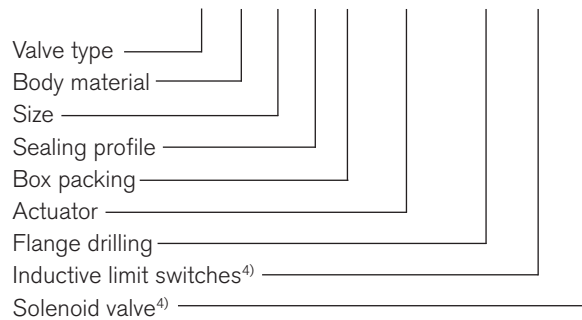
Stafsjö's valves are modular designed and they can easily be customized with gate, sealing profile and box packings according to media and requirements, as well for actuators and accessories. Below are examples of how you can specify your Stafsjö valve. Further information is available on [www.stafsjo.com](http://www.stafsjo.com).

### WB14-L-200-E-TY-HW-PN10



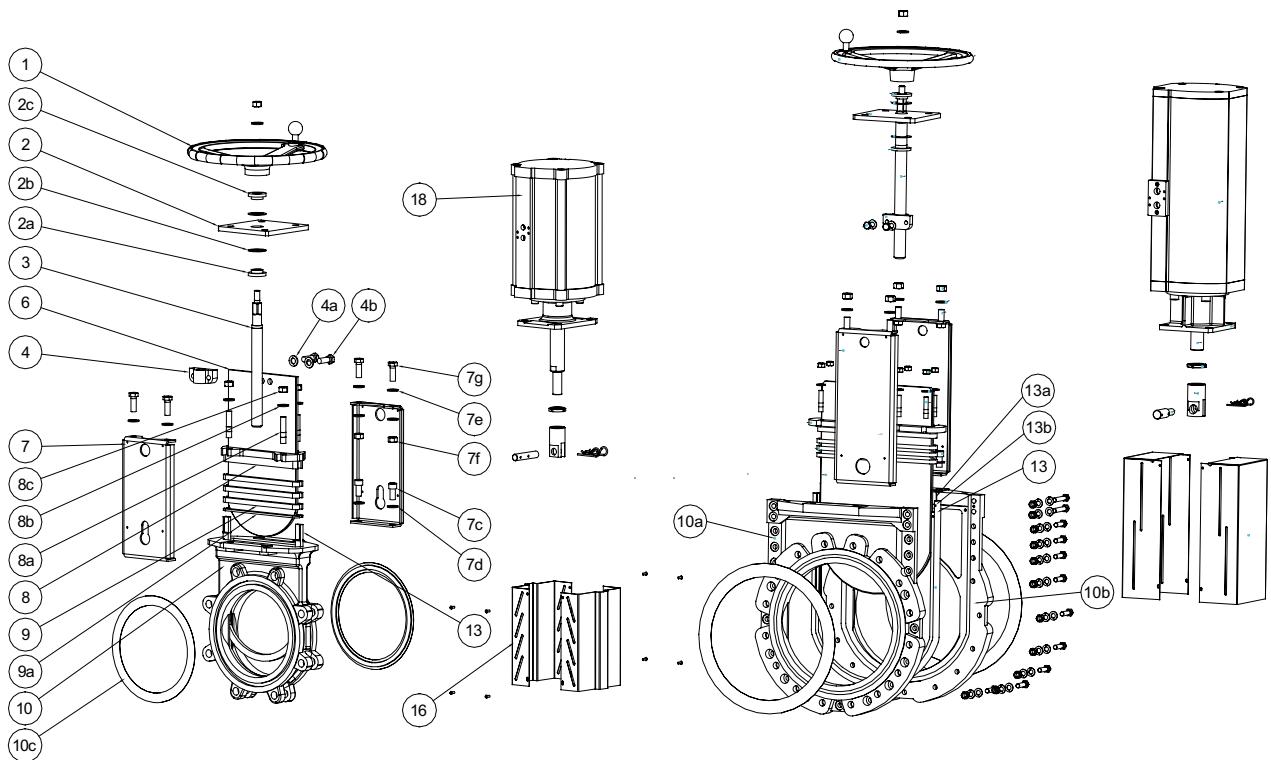
<sup>4)</sup> All electronics must be specified in detail.

### WB14-L-200-N-TY-EC160-PN10-ILS-SV



One piece valve body: DN 50 - DN 300

Two piece valve body: DN 350 - DN 600

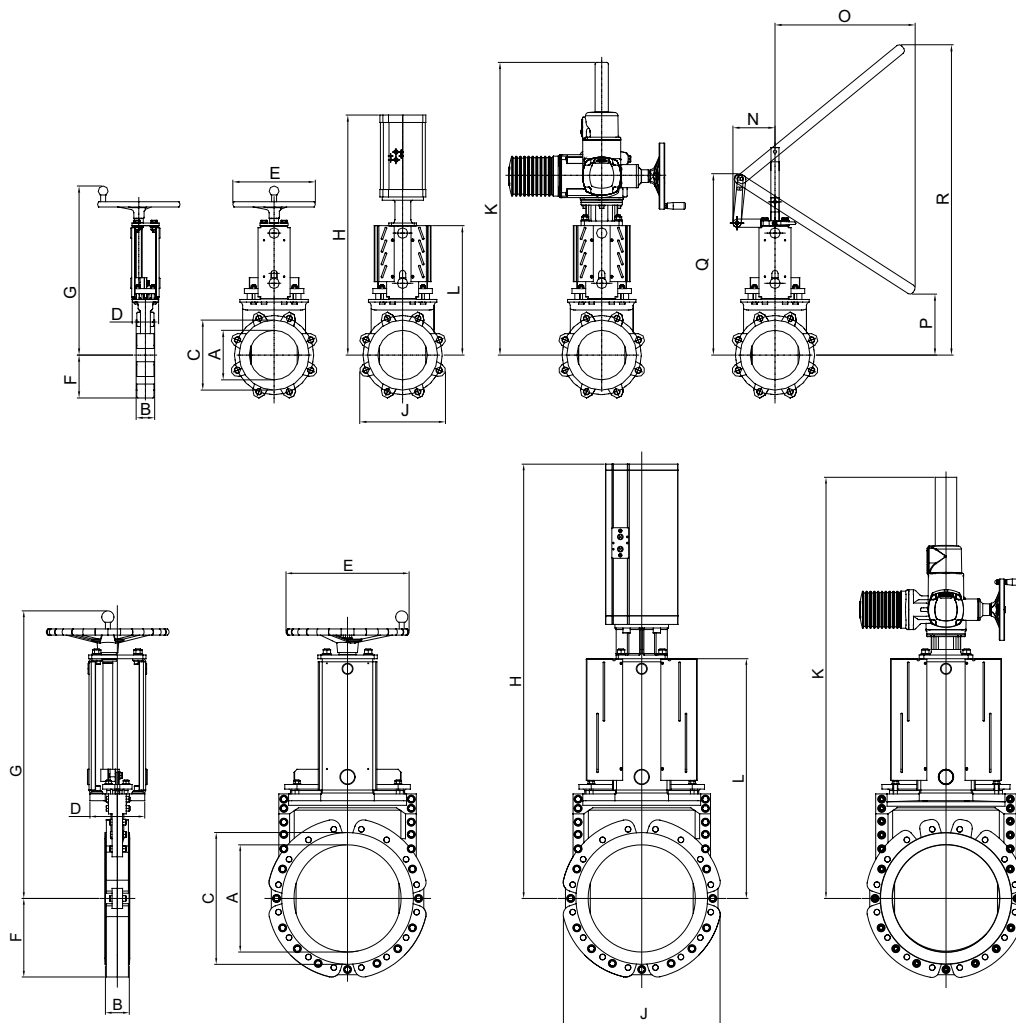


## Part list

Pos.	Part	Material (Name)
1	Hand Wheel	Coated cast iron Ø 200 - Ø 315 (EN-JL1040/GG25) ≥ Ø 400 (EN-JL1030/GG20)
2	Yoke	Coated steel (EN 1.0038/SS 1312)
2a	Bearing	Brass (CuZn39Pb3/SS 5170)
2b	Slide washer	POM
2c	Bearing	Brass (CuZn39Pb3/SS5170)
3	Stem	Stainless steel (EN 1.4016/SS 2320)
4	Stem nut	Brass (CuZn39Pb3/SS 5170)
4a	Washer	Stainless steel (A2)
4b	Bolt	Stainless steel (A2)
6	Gate	See equipment B
7	Beam	Coated steel (EN 1.0038/SS 1312)
7c	Bolt	Stainless steel (A2)
7d	Washer	Stainless steel (A2)
7e	Washer	Stainless steel (A2)
7f	Nut	Stainless steel (A2)

Pos.	Part	Material (Name)
7g	Nut	Stainless steel (A2)
8	Gland	Coated carbon steel (ASTM A216/ WCB) or nodular iron (EN-JS1050/ GGG50)
8a	Pin Bolt	Stainless steel (A2)
8b	Washer	Stainless steel (A2)
8c	Nut	Stainless steel (A2)
9 <sup>5)</sup>	Box packing	See equipment D
9a <sup>5)</sup>	Box bottom scraper	DN 200 - DN 300 UHMWPE
10/a/b	Valve Body	See equipment A
10c <sup>5)</sup>	Flange sealing	Nitrile
13 <sup>5)</sup>	Sealing profile	See equipment C
13a <sup>5)</sup>	Pin long	Stainless steel (EN 1.4301/SS 2333)
13b <sup>5)</sup>	Pin short	Stainless steel (EN 1.4301/SS 2333)
16	Gate Guard, not for HW	Coated steel (EN 1.0038/SS 1312)
18	Pneumatic cylinder	See separate datasheet

<sup>5)</sup> Recommended spare parts



## Main dimensions

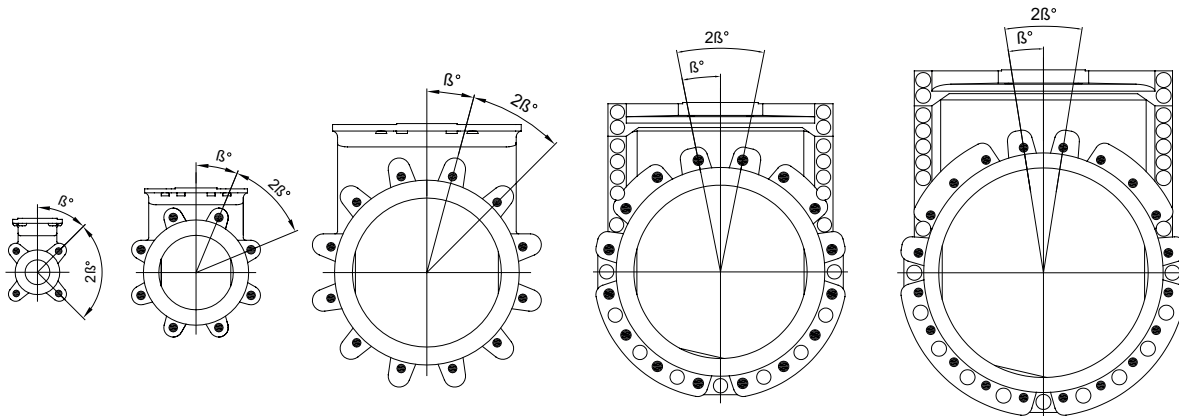
Dimensions (mm)																		
DN	A	B <sup>6)</sup>	B <sup>7)</sup>	C	D	E	F	G	H	J	K	L	N	O	P	Q	R	Weight <sup>8)</sup>
50	50	43	48	90	86	200	59	299	465	117	629	227	149	499	128	381	419	7
65	65	46	46	105	86	200	66	324	490	131	654	252	147	492	153	407	511	8
80	80	46	51	120	86	200	88	346	512	176	677	275	144	479	176	429	598	12
100	100	52	52	144	86	200	101	381	547	206	712	310	146	635	17	472	653	15
125	125	56	56	169	86	250	112	421	685	236	752	350	137	591	57	512	846	18
150	150	56	56	192	86	250	130	464	730	260	794	392	129	554	99	554	1039	22
200	200	60	70	256	151	315	154	561	866	327	818	489	217	633	247	716	1117	37
250	250	69	69	307	151	315	153	657	1050	392	914	579	-	-	-	-	-	55
300	300	78	78	354	151	315	212	753	1146	462	1059	675	-	-	-	-	-	71
350	350	78	78	430	180	400	258	880	1470	517	1228	783	-	-	-	-	-	115
400	400	-	89	482	180	400	288	977	1567	576	1375	880	-	-	-	-	-	155
450	450	-	89	532	250	520	314	1153	1921	628	1736	1134	-	-	-	-	-	230
500	500	-	114	586	250	520	340	1225	1893	680	1706	1106	-	-	-	-	-	270
600	600	-	114	686	250	520	409	1436	2191	818	2018	1317	-	-	-	-	-	400

<sup>6)</sup> Face-to-face dimension according to EN558-1 series 20/ISO 5752 series 20 for valves DN 50 - DN 350 with flange drilling according to EN 1092 PN 10, EN 1092 PN 16, AS 2129 Table D and E.

<sup>7)</sup> Face-to-face dimension according to TAPPI TIS 405-8 for valves DN 50 - DN 600 valves with flange drilling according to ASME/ANSI B 16.5 Class 150 and for valves DN 350 - DN 600 with flange drilling according to EN 1092 PN 10, EN 1092 PN 16, AS 2129 Table D and E.

<sup>8)</sup> Weight in kg for valve equipped with hand wheel.

Main dimensions are only for information. Contact Stafsjö for certified drawings.



DN 50 - DN 65

DN 80 - DN 200

DN 250 - DN 300

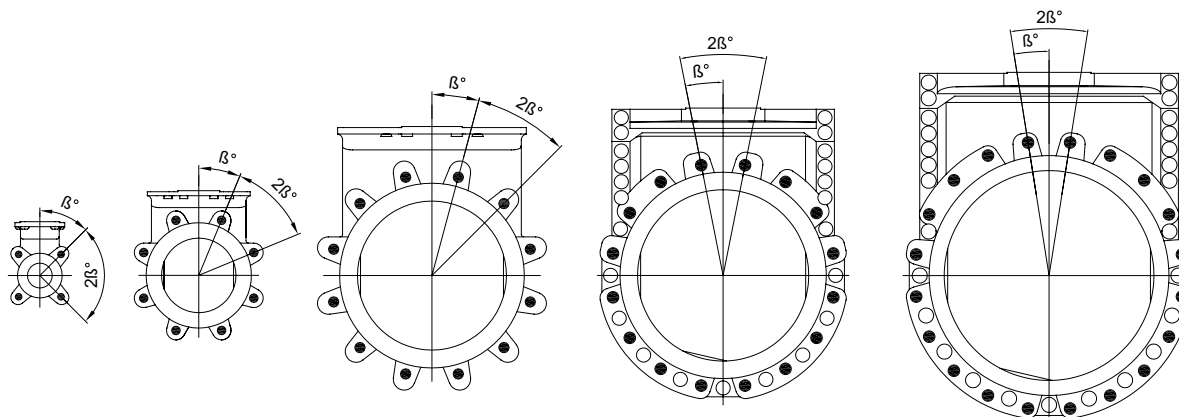
DN 350 - DN 400

DN 450 - DN 600

## Flange drilling according to EN 1092 PN10

### Flange drilling information

DN	50	65	80	100	125	150	200	250	300	350	400	450	500	600
Outside flange diameter (mm)	165	185	200	220	250	285	340	395	445	505	565	615	670	780
Bolt circle diameter (mm)	125	145	160	180	210	240	295	350	400	460	515	565	620	725
Number of throughgoing bolts (○)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Number of tapped hole on each side (●)	4	4	8	8	8	8	8	12	12	16	16	20	20	20
Boltsize	M16	M16	M16	M16	M16	M20	M20	M20	M20	M20	M24	M24	M24	M27
$\beta^\circ$	45	45	22,5	22,5	22,5	22,5	22,5	15	15	11,25	11,25	9	9	9
Screw lengths <sup>9)</sup>	12	12	11	15	15	15	18	20	21	22	27	27	35	32



DN 50 - DN 65

DN 80 - DN 150

DN 200 - DN 300

DN 350 - DN 400

DN 450 - DN 600

## Flange drilling according to EN 1092 PN16

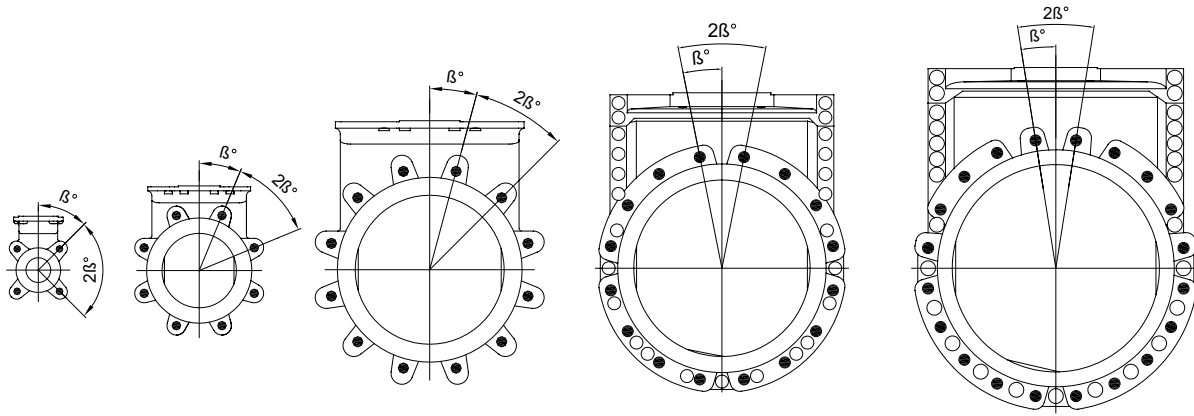
### Flange drilling information

DN	50	65	80	100	125	150	200	250	300	350	400	450	500	600
Outside flange diameter (mm)	165	185	200	220	250	285	340	405	460	520	580	640	715	840
Bolt circle diameter (mm)	125	145	160	180	210	240	295	355	410	470	525	585	650	770
Number of throughgoing bolts (○)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Number of tapped hole on each side (●)	4	4	8	8	8	8	12	12	12	16	16	20	20	20
Boltsize	M16	M16	M16	M16	M16	M20	M20	M24	M24	M24	M27	M27	M30	M33
$\beta^\circ$	45	45	22,5	22,5	22,5	22,5	15	15	15	11,25	11,25	9	9	9
Screw lengths <sup>9)</sup>	12	12	11	15	15	15	18	20	21	22	27	27	35	32

<sup>9)</sup>Add the values with the thickness of the pipe flanges and the washers.

○ Throughgoing holes

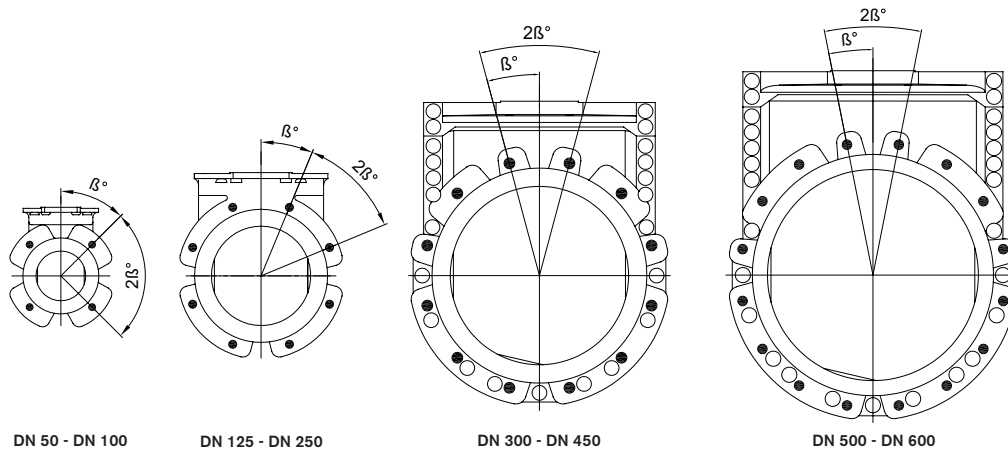
● Tapped holes



DN 50 - DN 80      DN 100 - DN 200      DN 250 - DN 350      DN 400 - DN 450      DN 500 - DN 600

## Flange drilling according to ASME/ANSI B 16.5 Class 150

Flange drilling information															
DN	50	65	80	100	125	150	200	250	300	350	400	450	500	600	
Outside flange diameter (mm)	152,4	177,8	190,5	228,6	254	279,8	342,9	406,8	482,6	533,4	596,9	635	698,5	812,8	
Bolt circle diameter (mm)	120,6	139,7	152,4	190,5	215,9	241,3	298,4	361,9	431,8	476,3	539,8	577,9	635	749,3	
Number of throughgoing bolts (○)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Number of tapped hole on each side (●)	4	4	4	8	8	8	8	12	12	12	16	16	20	20	
Boltsize (UNC)	5/8-11	5/8-11	5/8-11	5/8-11	3/4-10	3/4-10	3/4-10	7/8-9	7/8-9	1"-8	1"-8	1 1/8"-7	1 1/8"-7	1 1/4"-7	
$\beta^\circ$	45	45	45	22,5	22,5	22,5	22,5	15	15	15	11,25	11,25	9	9	
Screw lengths <sup>9)</sup>	15	12	14	15	15	15	23	20	21	22	27	27	35	32	



DN 50 - DN 100      DN 125 - DN 250      DN 300 - DN 450      DN 500 - DN 600

## Flange drilling according to AS 2129 Table D

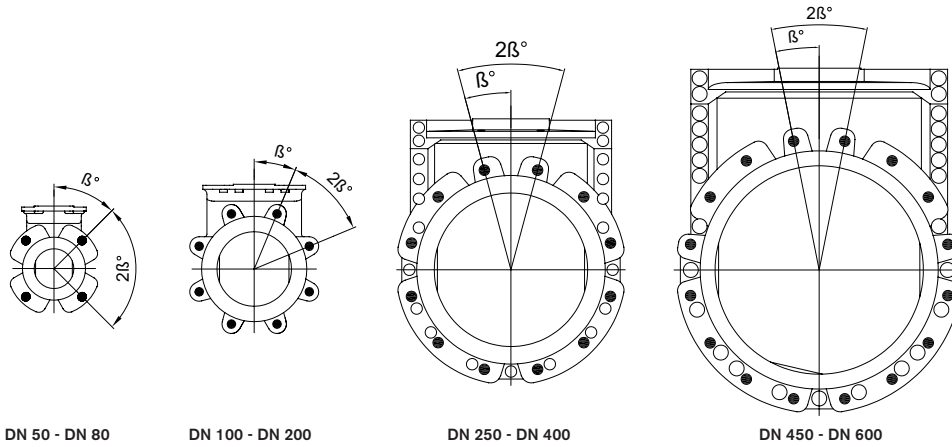
Flange drilling information															
DN	50	65	80	100	125	150	200	250	300	350	400	450	500	600	
Outside flange diameter (mm)	150	165	185	215	255	280	335	405	455	525	580	640	705	825	
Bolt circle diameter (mm)	114	127	146	178	210	235	292	356	406	470	521	584	641	756	
Number of throughgoing bolts (○)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Number of tapped hole on each side (●)	4	4	4	4	8	8	8	8	12	12	12	12	16	16	
Boltsize	M16	M16	M16	M16	M16	M16	M16	M20	M20	M24	M24	M24	M24	M27	
$\beta^\circ$	45	45	45	45	22,5	22,5	22,5	22,5	15	15	15	15	11,25	11,25	
Screw lengths <sup>9)</sup>	12	12	11	15	15	15	18	20	21	22	27	27	35	32	

<sup>9)</sup>Add the values with the thickness of the pipe flanges and the washers

○ Throughgoing holes

● Tapped holes





## Flange drilling according to AS 2129 Table E

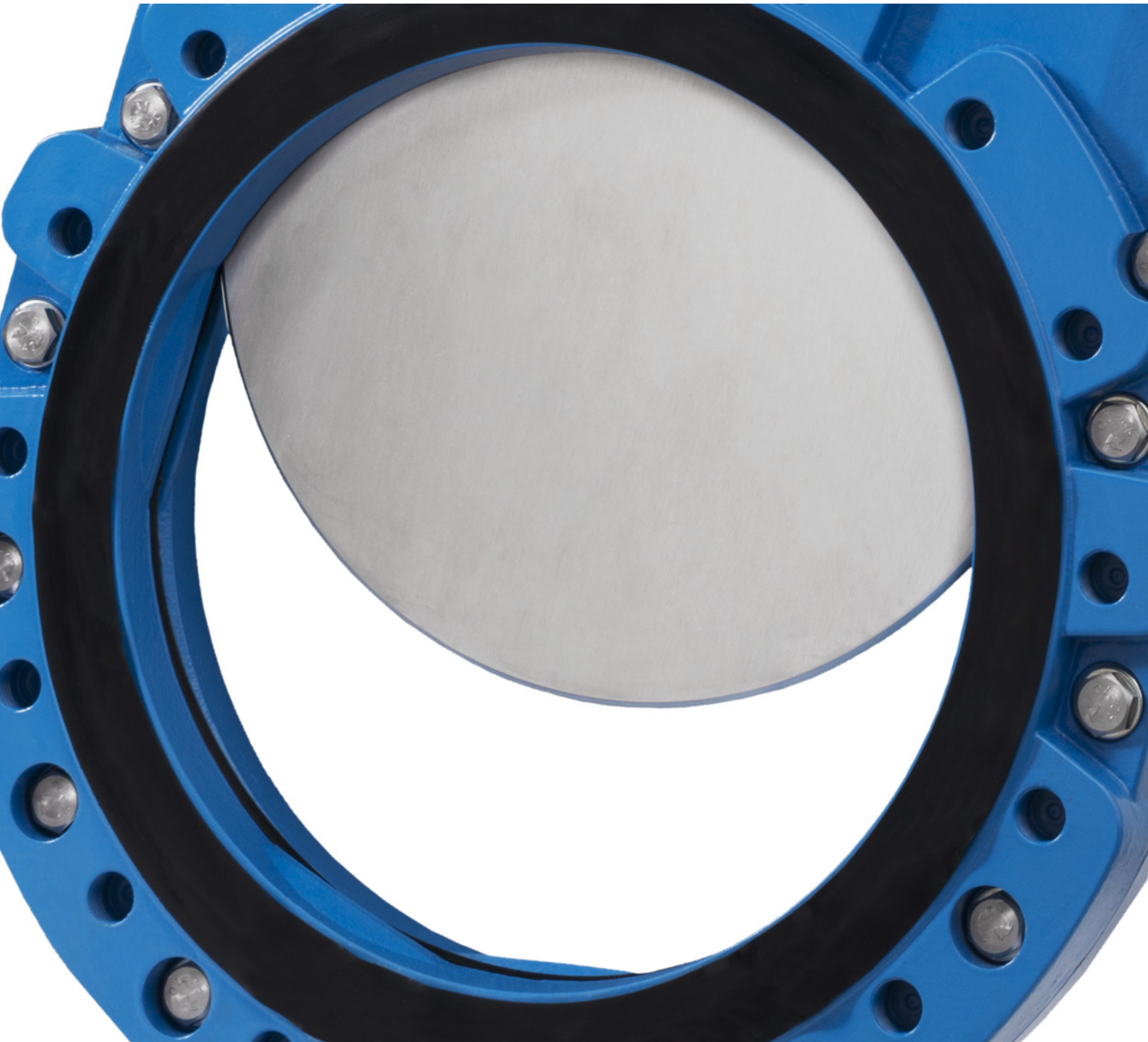
Flange drilling information														
DN	50	65	80	100	125	150	200	250	300	350	400	450	500	600
Outside flange diameter (mm)	150	165	185	215	255	280	335	405	455	525	580	640	705	825
Bolt circle diameter (mm)	114	127	146	178	210	235	292	356	406	470	521	584	641	756
Number of throughgoing bolts (○)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Number of tapped hole on each side (●)	4	4	4	8	8	8	8	12	12	12	12	16	16	16
Boltsize	M16	M16	M16	M16	M16	M20	M20	M20	M24	M24	M24	M24	M24	M30
$\beta^\circ$	45	45	45	22,5	22,5	22,5	22,5	15	15	15	15	11,25	11,25	11,25
Screw lengths <sup>9)</sup>	12	12	11	15	15	15	18	20	21	22	27	27	35	32

<sup>9)</sup>Add the values with the thickness of the pipe flanges and the washers

○ Throughgoing holes

● Tapped holes

Further information is available on [www.stafsjo.com](http://www.stafsjo.com)



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