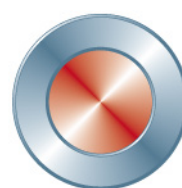
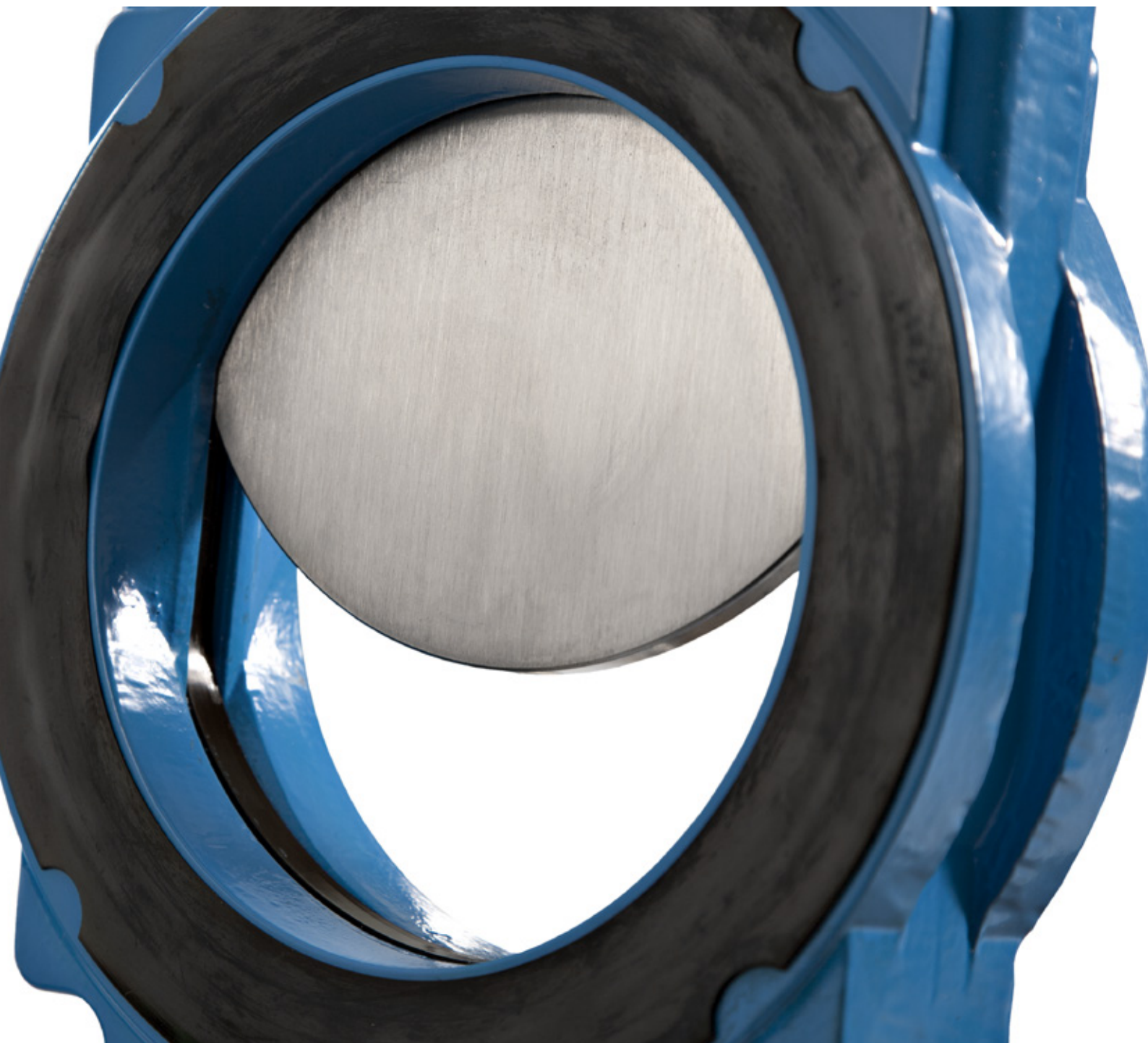


## Knife gate valve WB11



**Stafsjö**  
SINCE 1666

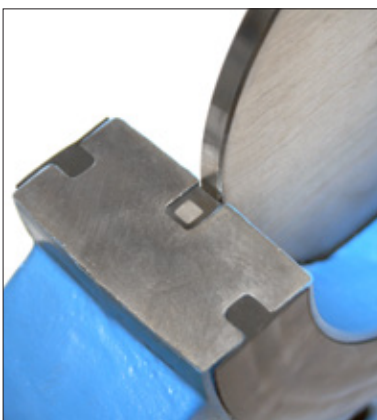
## Knife gate valve WB11

Stafsjö's knife gate valve WB11 is bi-directional tight and can therefore be installed into a pipe system independent of pressure direction. Integrated flange gaskets makes it easy to install. WB11 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.

WB11 has a robust coated 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. A box bottom scraper, which is standard from DN 200, prolongs the box packing braids' service life. The valve is modular designed and it can easily be supplied with different types of actuators and accessories.

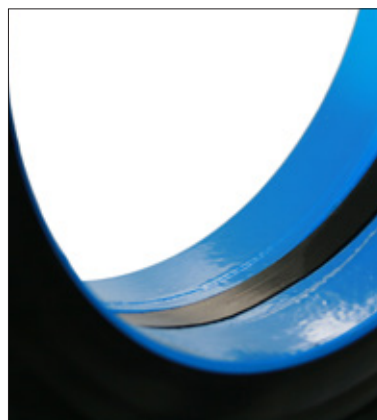
The WB11 valve is designed, manufactured, inspected and tested according to the European Pressure Equipment Directive (PED 97/23/EC) category I and II module A1. The valve is CE marked when it is applicable.

Other WB versions are the semi lugged WB available from DN 350 up to DN 1400 and the fully lugged WB14 available up to DN 600. 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.



### Reliable bi-directional sealing

The gate edge, which is polished in order to minimize friction and to lower operational force, faces the sealing profile and secures that the valve is tight in both pressure directions.



### Excellent flow characteristics

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



### A first-rate sealing

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 300	EN 1092 PN 10 ASME/ANSI B 16.5 Class 150 Addition: WB11k	EN558-1 series 20 ISO 5752 series 20	ATEX 94/ 9/EG 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, ATEX zones and corrosion protection 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
50 - 300	10
DN	bar
50 - 300	10

## Basic equipment

A. Valve Body			
Material	Code	Type	Maximum temperature °C
Nodular iron	(L)	EN-JS1050/GGG50	200
B. Gate			
Material	Type		
Stainless steel	EN 1.4301/AISI 304		
Option:			
Stainless steel	EN 1.4404/AISI 316L		
C. Sealing profile			
Material	Code	Maximum temperature °C	
EPDM	(E)	120	
Nitrile	(N)	100	
D. Box packing			
Material	Code	Maximum 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)	Electric 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			Electric motor (AUMA multi-turn)		
DN valve	EC type	Force at 5 bar(kN)	DN valve	AUMA type	Attachment
<b>50 - 125</b>	<b>EC 100</b>	<b>3,5</b>	<b>50 - 150</b>	<b>SA 07.2</b>	<b>F10/A</b>
<b>150</b>	<b>EC 125</b>	<b>5,5</b>	<b>200 - 250</b>	<b>SA 07.6</b>	<b>F10/A</b>
<b>200 - 300</b>	<b>EC 160</b>	<b>9,0</b>	<b>300</b>	<b>SA 10.2</b>	<b>F10/A</b>

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).

**WB11-L-200-E-TY-HW-PN10-316L**

Valve type \_\_\_\_\_

Body material \_\_\_\_\_

Size \_\_\_\_\_

Sealing profile \_\_\_\_\_

Box packing \_\_\_\_\_

Actuator \_\_\_\_\_

Flange drilling \_\_\_\_\_

Gate material<sup>4)</sup> \_\_\_\_\_

<sup>4)</sup> Alloy specified if it differ from standard.

<sup>5)</sup> All electronics must be specified in detail.

**WB11-L-200-N-TY-EC160-PN10-ILS-SV**

Valve type \_\_\_\_\_

Body material \_\_\_\_\_

Size \_\_\_\_\_

Sealing profile \_\_\_\_\_

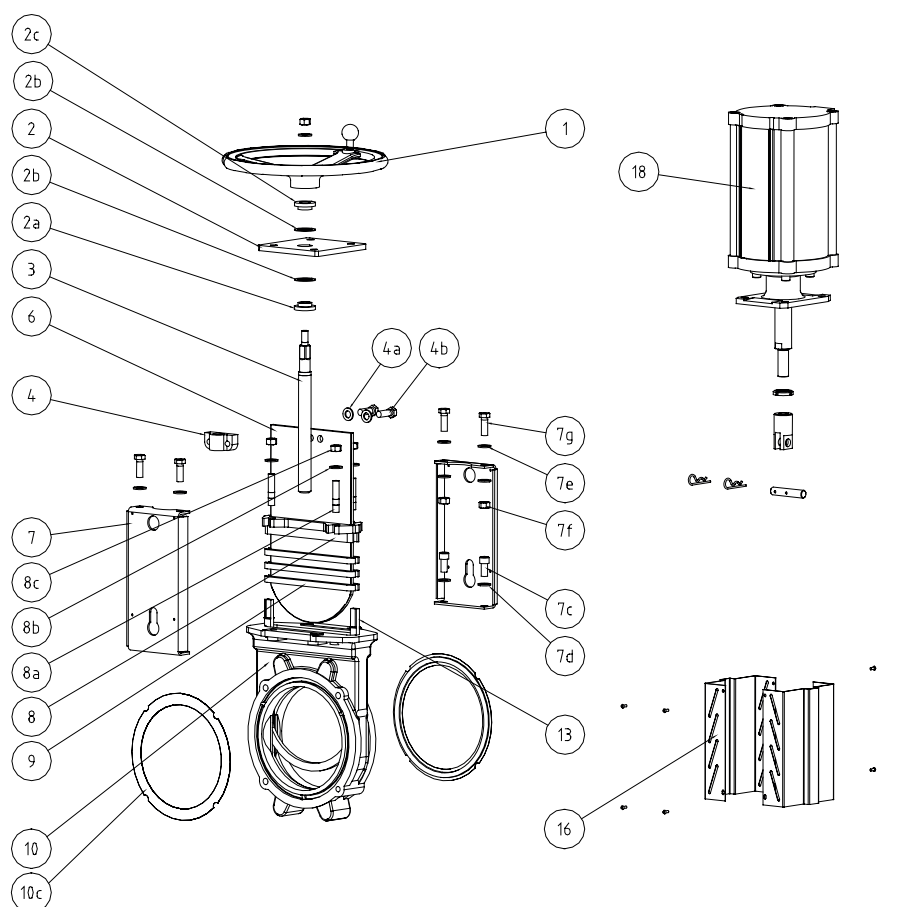
Box packing \_\_\_\_\_

Actuator \_\_\_\_\_

Flange drilling \_\_\_\_\_

Inductive limit switches<sup>5)</sup> \_\_\_\_\_

Solenoid valve<sup>5)</sup> \_\_\_\_\_

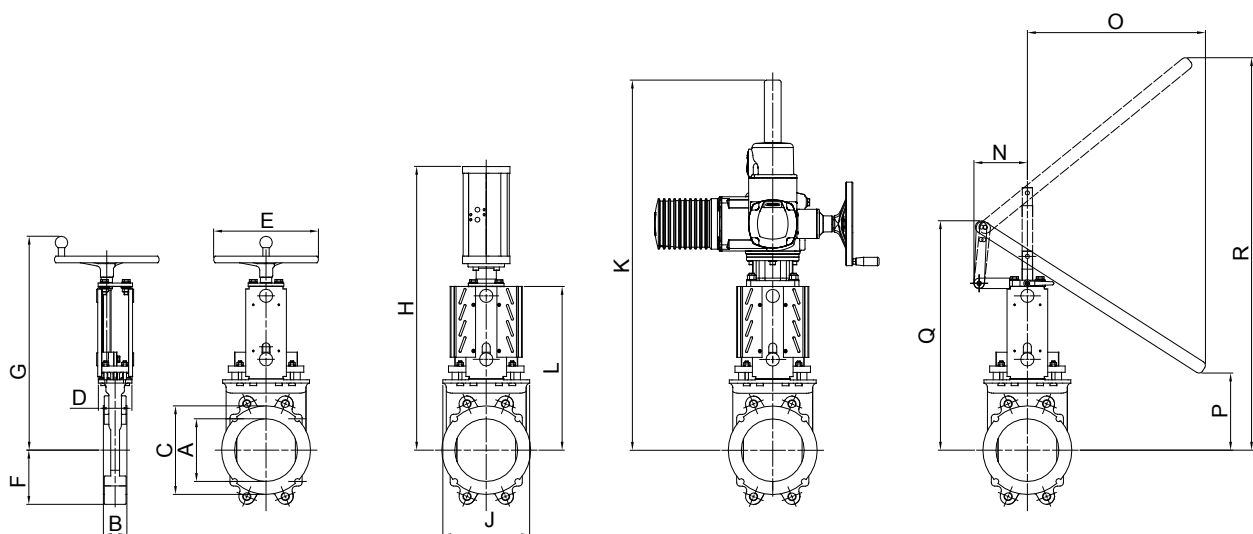


## Part list

Pos	Part	Material (Name)
1	Hand wheel	Coated cast iron Ø 200 - Ø 315 (EN-JL1040/GG25)
2	Yoke	Coated steel (EN 1.0038/)
2a	Bearing	Brass (CuZn39Pb3)
2b	Slide washer	POM
2c	Bearing	Brass (CuZn39Pb3)
3	Stem	Stainless steel (EN 1.4016)
4	Stem nut	Brass (CuZn39Pb3)
4a	Washer	Stainless steel (A2)
4b	Bolt	Stainless steel (A2)
6	Gate	See equipment B
7	Beam	Coated steel (EN 1.0038)
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	Bolt	Stainless steel (A2)
8	Gland	Coated carbon steel (ASTM A216/WCB) or coated nodular iron (EN-JS1050/GGG50)
8a	Pin Bolt	Stainless steel (A2)
8b	Washer	Stainless steel (A2)
8c	Nut	Stainless steel (A2)
9 <sup>6)</sup>	Box packing	See equipment D
9a <sup>6)</sup>	Box bottom scraper	≥ DN 200 UHMWPE
10	Valve Body	See equipment A
10c <sup>6)</sup>	Flange sealing	Nitrile
13 <sup>6)</sup>	Sealing profile	See equipment C
16	Gate Guard not for HW	Coated steel (EN 1.0038)
18	Cylinder	See datasheet

<sup>6)</sup>Recommended spare parts



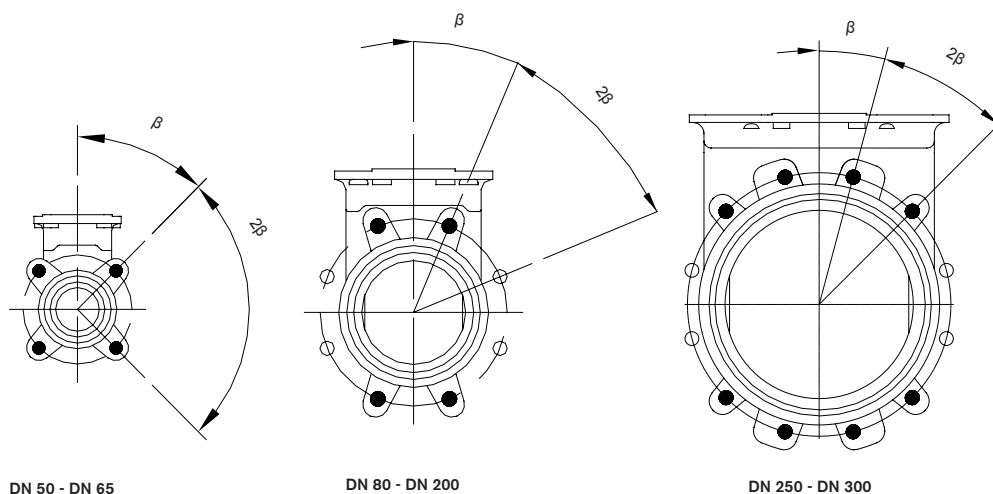
## Main dimensions

Dimensions (mm)																	
DN	A	B	C	D	E	F	G	H	J	K	L	N	O	P	Q	R	Weight <sup>7)</sup>
50	50	43	90	86	200	59	299	465	117	629	227	149	499	128	381	419	6,5
65	65	46	105	86	200	66	324	490	131	654	252	147	492	153	407	511	8,0
80	80	46	120	86	200	89	346	513	130	677	275	144	479	176	429	598	10,0
100	100	52	144	86	200	101	381	548	151	712	310	146	635	17	472	653	12,5
125	125	56	169	86	250	115	421	638	177	752	350	137	591	57	512	846	16,5
150	150	56	192	86	250	130	464	727	201	794	392	129	554	99	554	1039	19,5
200	200	60	256	151	315	155	561	866	265	818	483	217	633	247	716	1117	32,5
250	250	68	307	151	315	193	657	1050	335	914	579	-	-	-	-	-	48,5
300	300	78	354	151	315	228	753	1146	372	1059	675	-	-	-	-	-	66,0

<sup>7)</sup> Weight in kg for valve equipped with hand wheel.

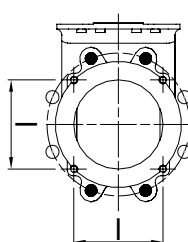
Main dimensions are only for information. Contact Stafsjö for certified drawings.





## Flange drilling according to EN 1092 PN10

Flange drilling information (mm)									
DN	50	65	80	100	125	150	200	250	300
Outside flange diameter	165	185	200	220	250	285	340	395	445
Bolt circle diameter	125	145	160	180	210	240	295	350	400
Number of throughgoing bolts (○)	-	-	4	4	4	4	4	4	4
Number of tapped hole/side (●)	4	4	4	4	4	4	4	8	8
Bolt size	M16	M16	M16	M16	M16	M20	M20	M20	M20
β°	45	45	22,5	22,5	22,5	22,5	22,5	15	15
Screw lengths <sup>8)</sup>	12	12	11	15	15	15	16	20	20



DN 150 - DN 200

## Flange drilling WB11k<sup>9)</sup>

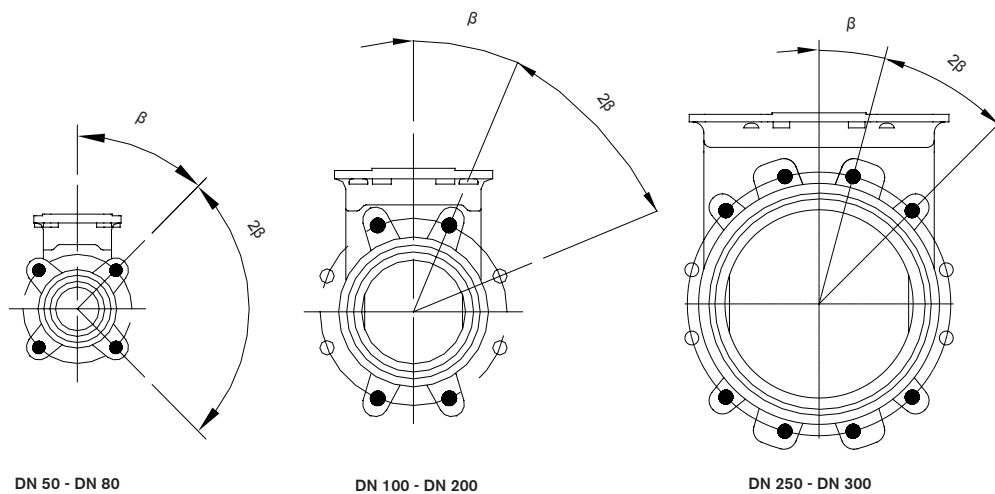
EN 1092 PN10 and additional tapped holes for WB11k (mm)		
DN	150	200
Number of extra tapped holes on each side	4	4
Bolt size	M12	M12
l (mm)	150	180
Screw lengths <sup>8)</sup> (mm)	16	18

○ Throughgoing holes

● Tapped holes

<sup>8)</sup> Add the values with the thickness of the pipe flanges and the washers.

<sup>9)</sup> Pressures according to design data are not valid for valves with the special square WB11k drilling. Maximum working and differential pressure at 20°C for DN 150 - DN 200 is 4 bar.



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

Flange drilling information (mm)									
DN	50	65	80	100	125	150	200	250	300
Outside flange diameter	152,4	177,8	190,5	228,6	254	279,4	342,9	406,4	482,6
Bolt circle diameter (mm)	120,6	139,7	152,4	190,5	215,9	241,3	298,4	361,9	431,8
Number of throughgoing bolts (○)	-	-	-	4	4	4	4	4	4
Number of tapped hole/side (●)	4	4	4	4	4	4	4	8	8
Bolt size (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
β°	45	45	45	22,5	22,5	22,5	22,5	15	15
Screw lengths <sup>8)</sup>	12	12	11	15	15	15	16	20	20

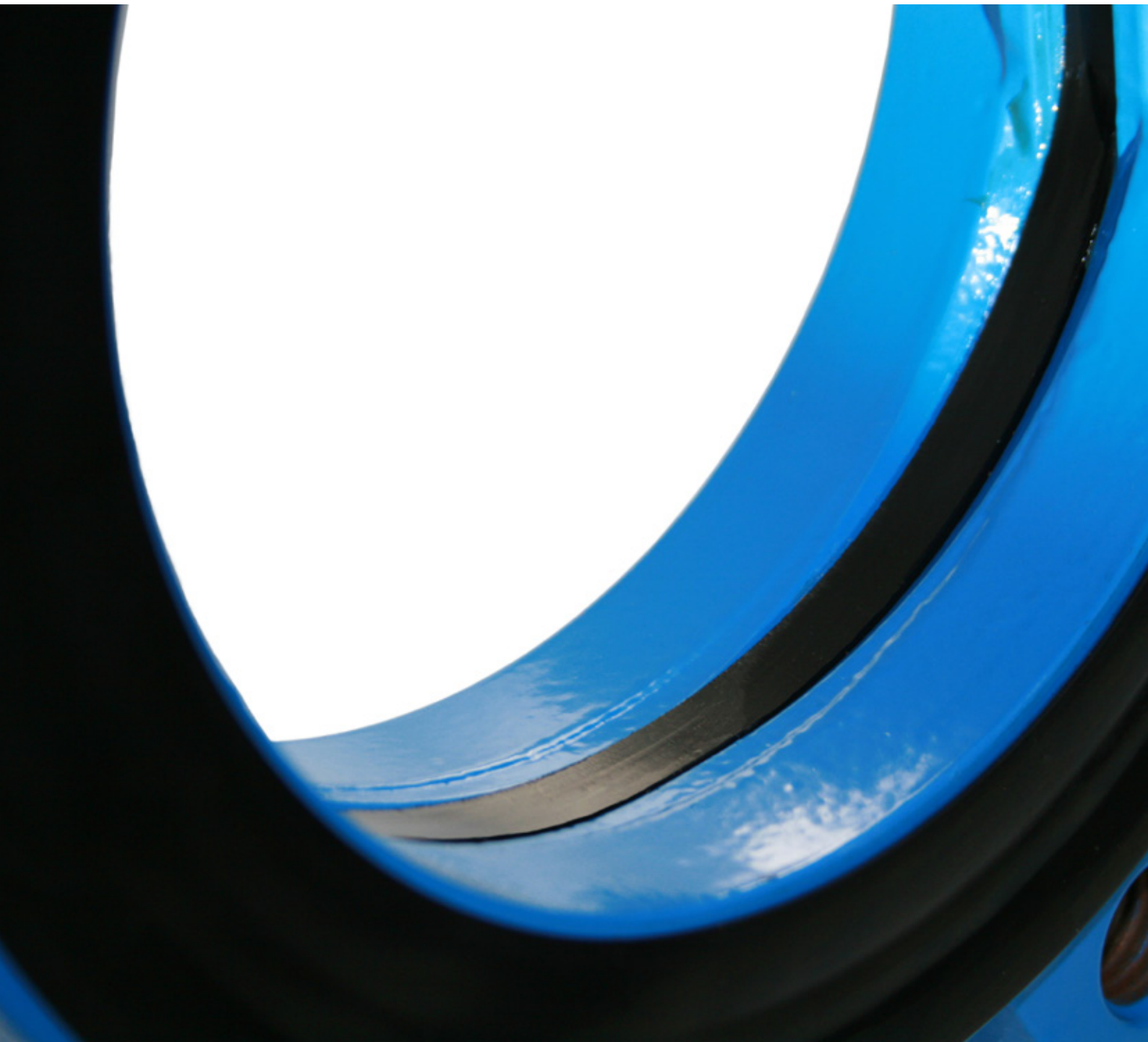
○ Throughgoing holes

● Tapped holes

<sup>8)</sup>Add the values with the thickness of the pipe flanges and the washers.



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



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