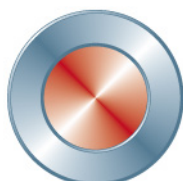
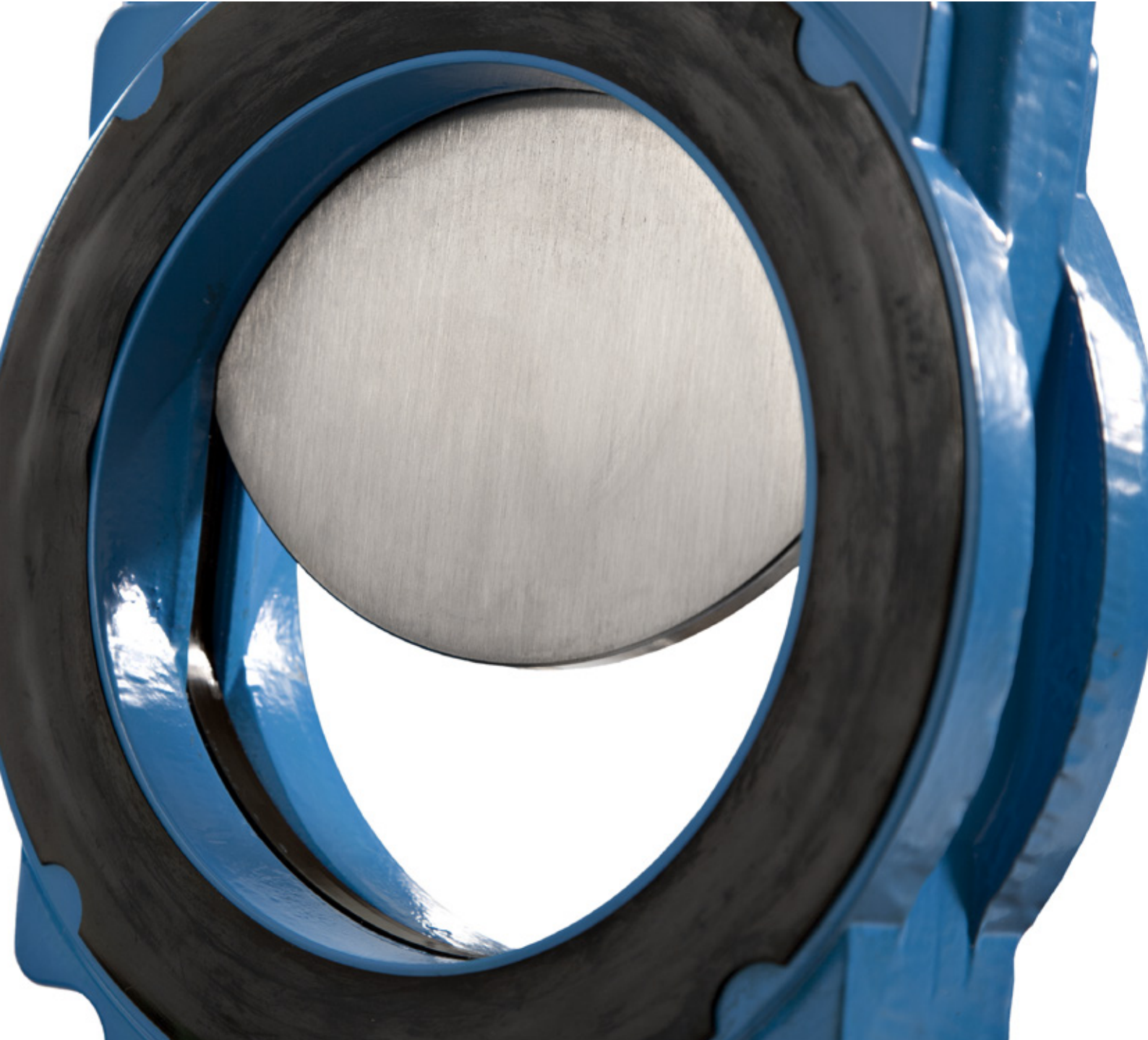


# Knife gate valve WB11



**Stafsjö**  
SINCE 1666

avroora-arm.ru  
+7 (495) 956-62-18

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

## Knife gate valve WB11

Stafsjö's knife gate valve WB11 is bi-directional tight and has a cavity free full bore with superior flow characteristics. Integrated flange gaskets makes it easy to install. The valve is suitable for fluids, sludge and liquids with solids in suspensions such as water, waste water and bio mass.

The 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 steel reinforced sealing profile in Nitrile or EPDM. 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 WB11 valve is designed, manufactured, inspected and tested according to pressure equipment directive 2014/68/EU category I and II module A2. The valve is CE marked when it is applicable.

Other WB versions are the semi lugged WB available from DN 350 up to DN 1600 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.



### Superior flow characteristics

A cavity free full bore with a seat in level with the bore ensure minimal pressure drop and prevent any build up of media during operation.



### Bi-directional zero leakage shut-off

The highly polished gate can easily cut through the media. Casted gate supports in the bore and a steel reinforced resilient perimeter seat provides a tight shut-off in both directions.



### 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<br>ASME/ANSI B 16.5<br>Class 150<br>Addition: WB11k | EN558-1 series 20<br>ISO 5752 series 20 | On request directive<br>2014/34/EU Group II<br>category:<br>3 G/D (zone 2 or 22)<br>2 G/D (zone 1 or 21) | Non-corrosive resistant<br>materials are coated in<br>colour RAL5015 acc. to<br>Stafsjö's standard, which<br>fulfill the requirements in<br>EN ISO 12944 class C3. |

Other sizes, ATEX zones and corrosion protection on request.

| Leakage rate   | Pressure tests   |
|--|--|
| EN 12266-1:2009 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 12266-1:2009.<br>Pressure shell test: 1,5 times maximum allowable working pressure for open valve.<br>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   |

## 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)  |
| <i>Option:</i>  |                       |
| Stainless steel | EN 1.4404 (AISI 316L) |

| C. Seat  |      |                        |
|----------|------|------------------------|
| 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 |
| 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                              | SA 10.2   | F10/A      |

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.

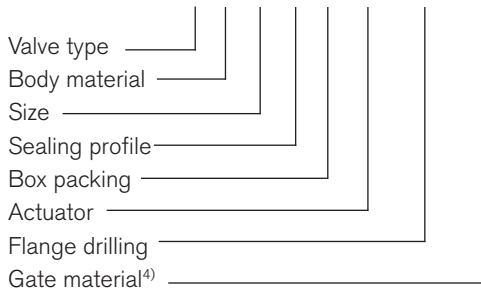
Electric motors are mounted according to standard ISO 5210. The table above gives recommended motor sizes at normal operation. For other operating conditions, please contact Stafsjö or your local representative for advice.

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.

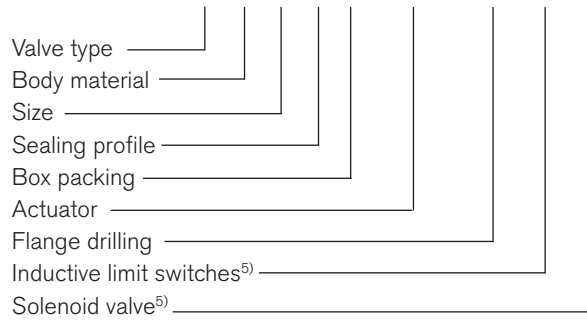
## Specify the Stafsjö valve

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-PN10-1.4404

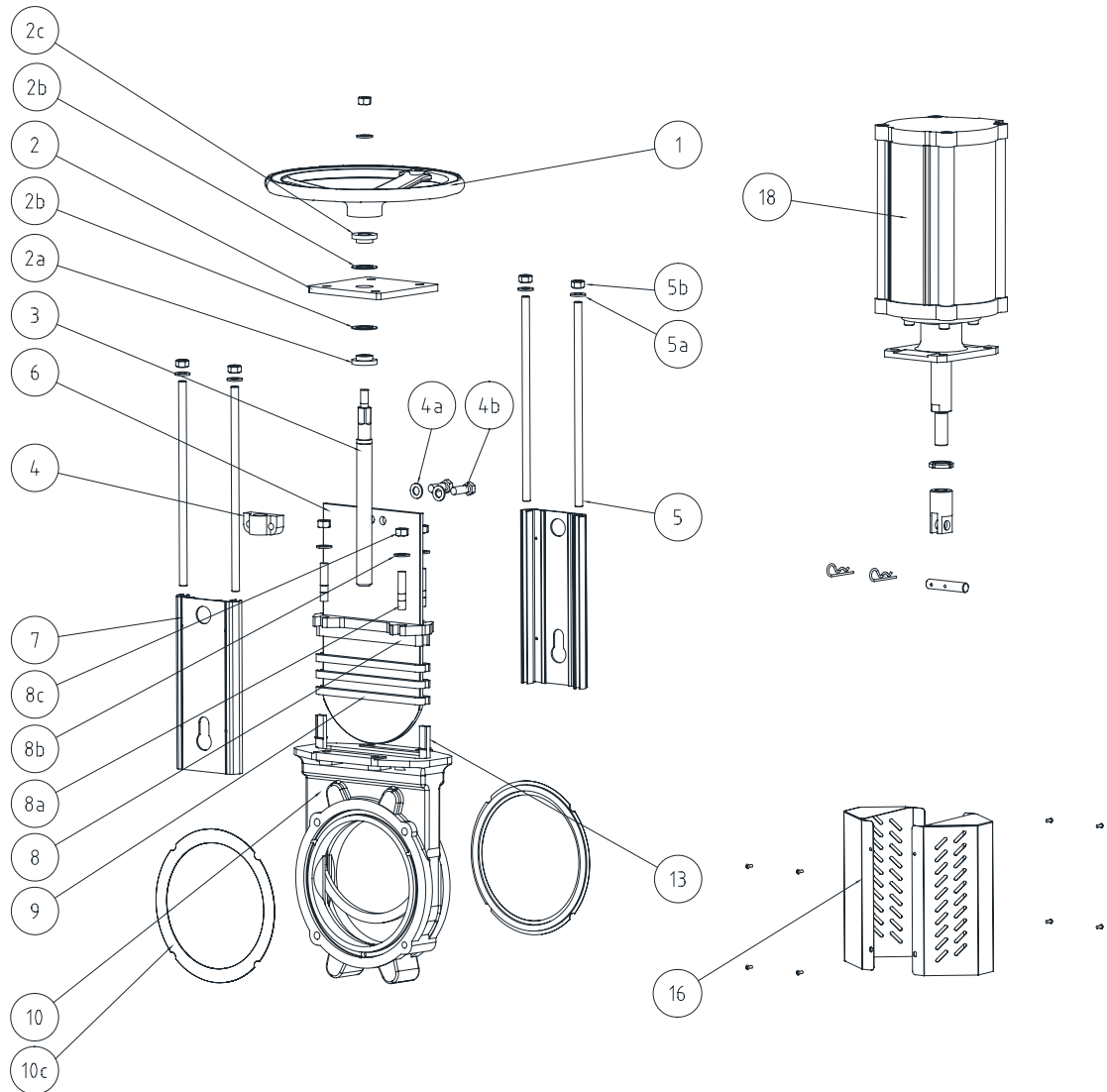


### WB11-L-200-N-TY-EC160-PN10-ILS-SV



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

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

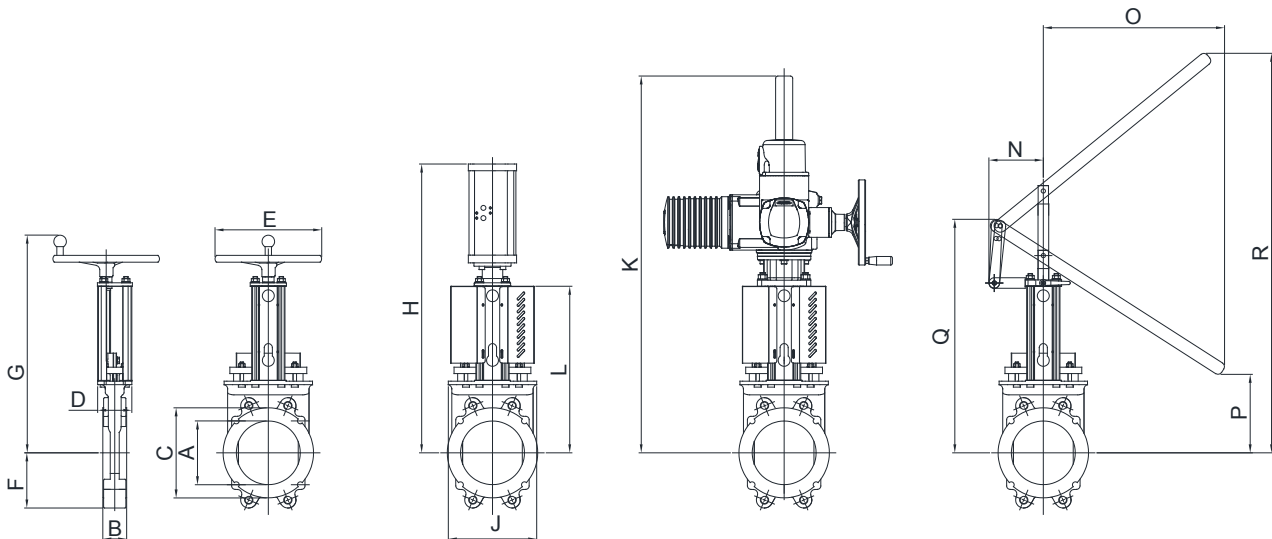


## Part list

| Pos | Part         | Material (Name)                                      |
|-----|--------------|--|
| 1   | Hand wheel   | Coated cast iron<br>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)                                 |
| 5   | Tie rod      | Stainless steel (EN 1.4301)                          |
| 5a  | Washer       | Stainless steel (A2)                                 |
| 5b  | Nut          | Stainless steel (A2)                                 |
| 6   | Gate         | See equipment B                                      |
| 7   | Beam         | Aluminium (EN AW-6063-T6)                            |

| Pos               | Part                     | Material (Name)   |
|-------------------|--------------------------|---|
| 8                 | Gland                    | Coated carbon steel (ASTM A216 (WCB))<br>or coated nodular iron (EN-JS1050 (GGG50)) |
| 8a                | Stud 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<br>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<br>not for HW | Coated steel (EN 1.0038)  |
| 18                | Cylinder                 | See datasheet   |

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



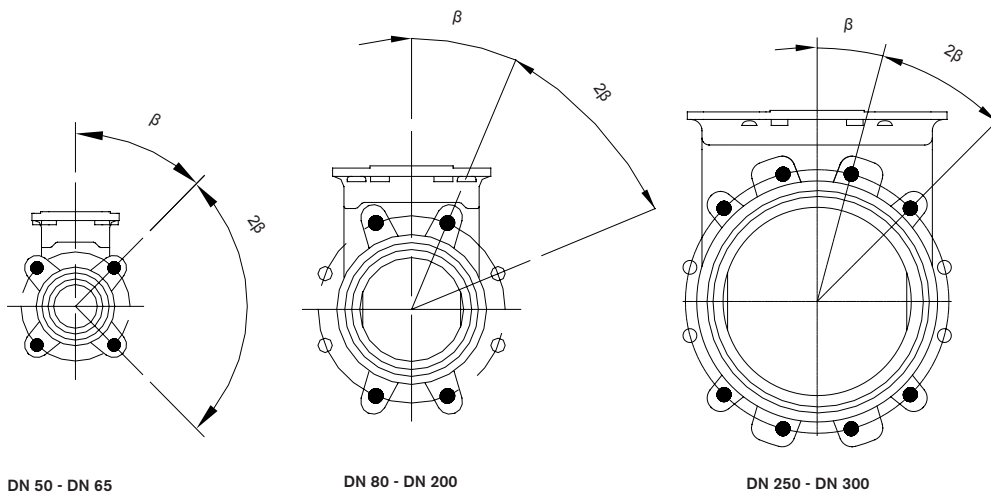
## Main dimensions

| Dimensions (mm) |     |    |     |     |     |     |     |      |     |      |     |     |     |     |     |      |                      |
|-----------------|-----|----|-----|-----|-----|-----|-----|------|-----|------|-----|-----|-----|-----|-----|------|----------------------|
| DN              | A   | B  | C   | D   | E   | F   | G   | H    | J   | K    | L   | N   | O   | P   | Q   | R    | Weight <sup>1)</sup> |
| 50              | 50  | 43 | 90  | 86  | 200 | 59  | 358 | 465  | 117 | 629  | 227 | 149 | 499 | 128 | 381 | 419  | 6,5                  |
| 65              | 65  | 46 | 105 | 86  | 200 | 66  | 382 | 490  | 131 | 654  | 252 | 147 | 492 | 153 | 407 | 511  | 8,0                  |
| 80              | 80  | 46 | 120 | 86  | 200 | 89  | 395 | 513  | 130 | 677  | 275 | 144 | 479 | 176 | 429 | 598  | 10,0                 |
| 100             | 100 | 52 | 144 | 86  | 200 | 101 | 430 | 548  | 151 | 712  | 310 | 146 | 635 | 17  | 472 | 653  | 12,5                 |
| 125             | 125 | 56 | 169 | 86  | 250 | 115 | 470 | 638  | 177 | 752  | 350 | 137 | 591 | 57  | 512 | 846  | 16,5                 |
| 150             | 150 | 56 | 192 | 86  | 250 | 130 | 514 | 727  | 201 | 794  | 392 | 129 | 554 | 99  | 554 | 1039 | 19,5                 |
| 200             | 200 | 60 | 256 | 151 | 315 | 155 | 622 | 866  | 265 | 818  | 483 | 217 | 633 | 247 | 716 | 1117 | 32,5                 |
| 250             | 250 | 68 | 307 | 151 | 315 | 193 | 718 | 1050 | 335 | 914  | 579 | -   | -   | -   | -   | -    | 48,5                 |
| 300             | 300 | 78 | 354 | 151 | 315 | 228 | 822 | 1146 | 372 | 1059 | 675 | -   | -   | -   | -   | -    | 66,0                 |

<sup>1)</sup> Weight in kg for valve equipped with hand wheel.

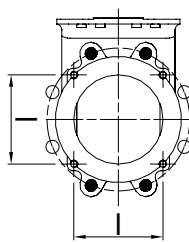
Main dimensions are only for information. Contact Stafsjö for certified drawings.





## 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>

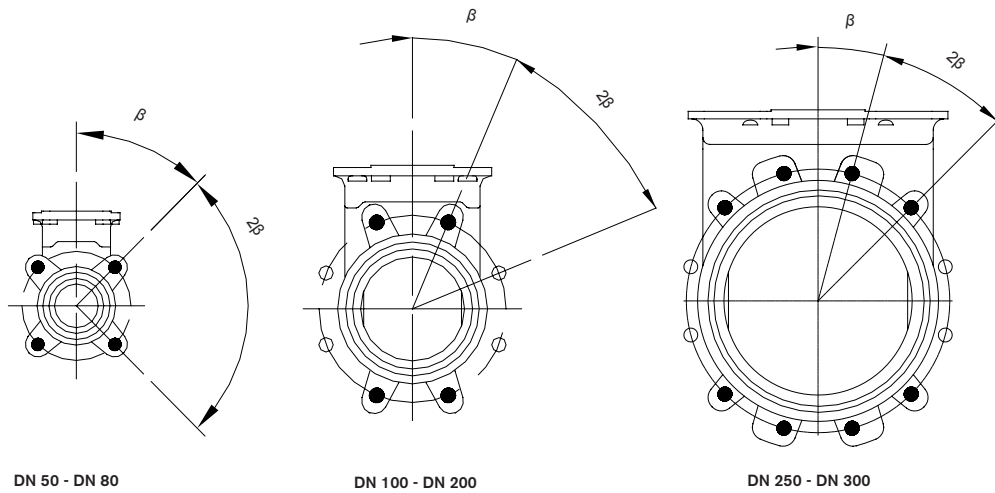
| EN 1092 PN10 and additional tapped holes for WB11k (mm) |     |     |
|---|-----|-----|
| DN  | 150 | 200 |
| Number of extra tapped holes on each side               | 4   | 4   |
| Bolt size   | M12 | M12 |
| l (mm)  | 150 | 180 |
| Screw lengths <sup>8)</sup> (mm)                        | 16  | 18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

○ 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

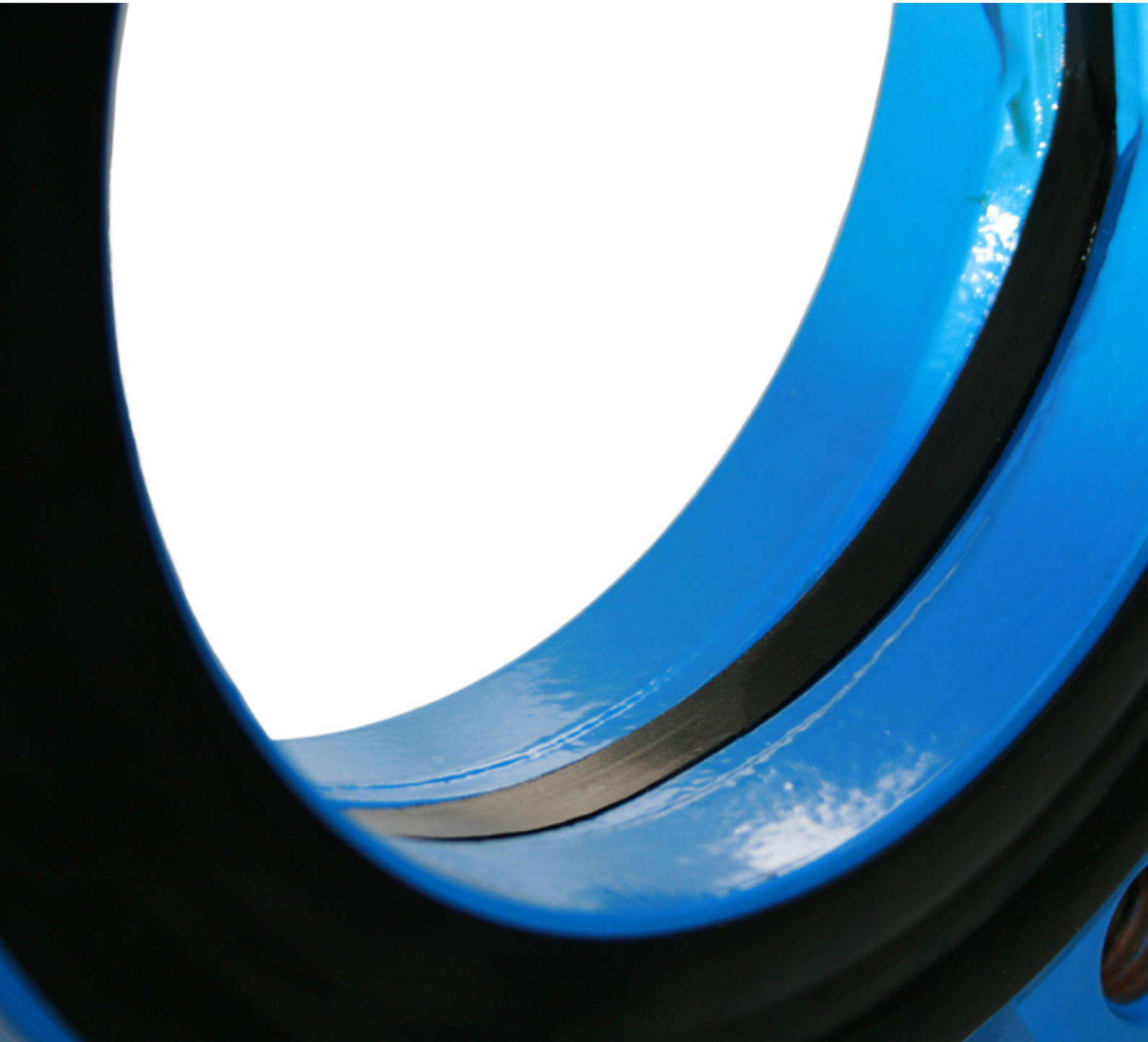
| Flange drilling information (mm) |        |        |        |        |        |        |        |       |       |
|----------------------------------|--------|--------|--------|--------|--------|--------|--------|-------|-------|
| DN                               | 50     | 65     | 80     | 100    | 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 |
| $\beta^\circ$                    | 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

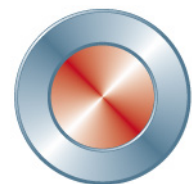
<sup>8)</sup>Add the values with the thickness of the pipe flanges and the washers.





## Globally active. Locally represented.

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**Stafsjö**  
SINCE 1666

**avrora-arm.ru**  
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