

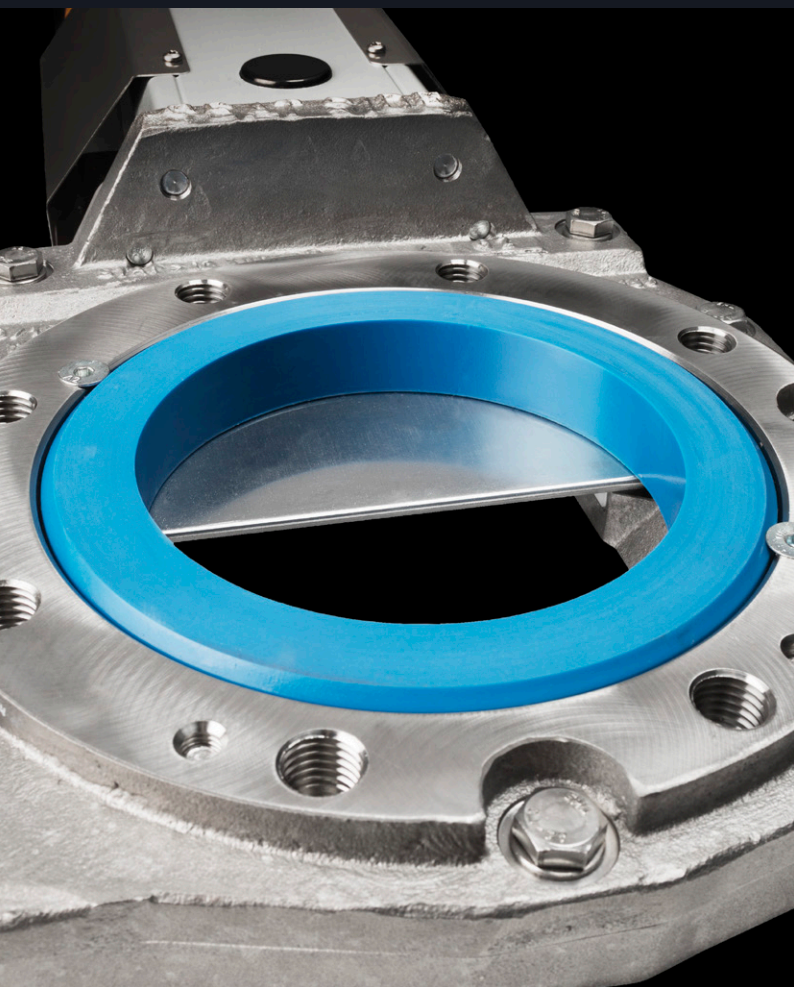
Stafsjö
SINCE 1666

Knife gate valve RKO

The optimal valve solution for junc traps and high density cleaners

Size range:

DN 100 - DN 600 (4" - 24")



About RKO

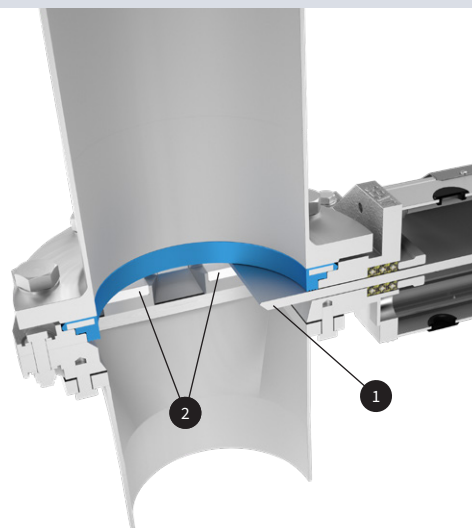
This is the optimal valve solution for junc traps and high density cleaners separating abrasive materials such as sand, stones, staples, glass and other type of rejects from the process media.

The RKO valve is modular designed and it can easily be customized in materials, with actuators and related automation accessories to different process conditions. It has a round inlet with an enlarged square outlet to avoid difficult solids will settle inside. An adaptor cone for the square outlet side can be supplied on request for weld or flange connection. Some sizes can also be supplied with standard flange pattern on the outlet side. As standard RKO is available in a stainless steel and a nodular iron version. The top works is solid to perform during long periods of time in horizontal high cycling applications.



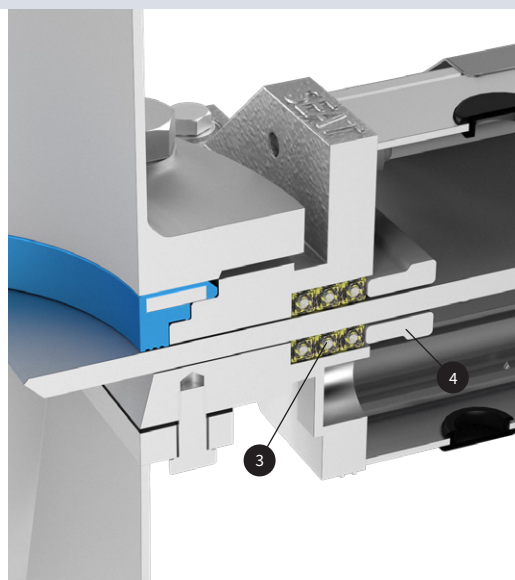
Performance shut-off on heavy coarse reject

The straight bevel edged gate (1) efficiently cut through heavy coarse materials. The gate supports (2) assure gate guidance throughout the full stroke and support the gate in closed position to maintain a 100% liquid tight shut-off. The enlarged square outlet enable full release of difficult solids when cycling to open position.



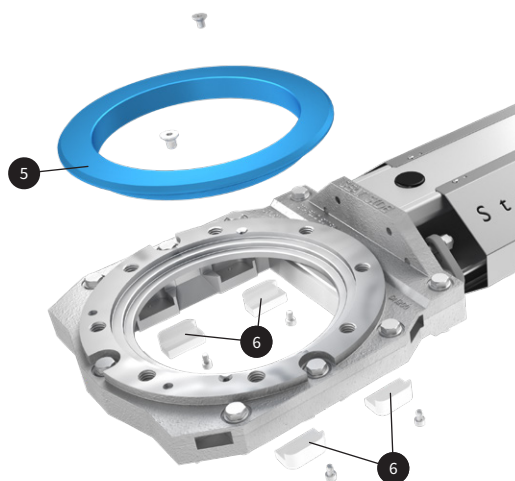
A first rate external sealing

Stafsjö's TwinPack braids (3) perform the main external sealing operation in the system. The gland box is precision machined with tight tolerances to provide optimal room for the TwinPack braids while the gland (4) and position of stud bolts provide a uniform load. For the most challenging duties the gland sealing system can be reinforced with a box bottom scraper or with a double gland.



An easy maintenance extend the service life

The RKO is often installed on severe abrasive applications. Quick and easy maintenance is important. The retainer ring system enable an easy exchange of the seat (5) and guiding pads (6) without dismantling the entire valve. With this solution it is easy to achieve low cost of ownership.



Pressure class

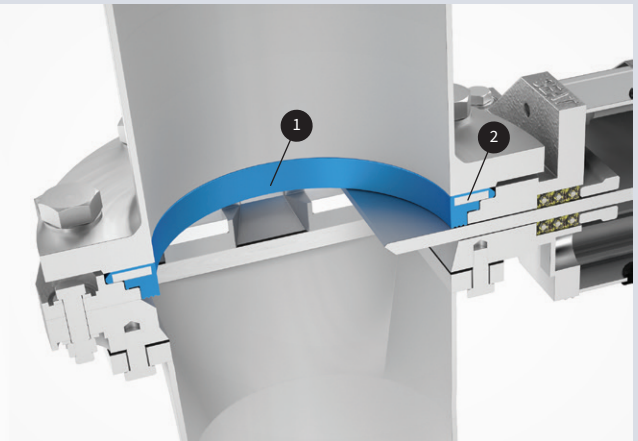
| Max working pressure at 20 °C | | Max differential pressure at 20 °C | |
|-------------------------------|-----|------------------------------------|-----|
| DN | bar | DN | bar |
| 100 - 450 | 10 | 100 - 450 | 6,2 |
| 500 - 600 | 6 | 500 - 600 | 4 |

Configuration

| Standard in stainless steel | Standard in nodular iron |
|--|--|
| Sizes: DN 100 - DN 600 Valve body: Stainless steel EN 1.4408 Gate: Hard chromed duplex stainless steel EN 1.4462 Box packing: TwinPack Top works: Stainless steel tie rods encapsulated in aluminum beams including stainless steel gate guards on automated valves | Sizes: DN 150 - DN 300, DN 400 Valve body: Nodular iron EN 5.3105 Gate: Hard chromed duplex stainless steel EN 1.4462 Box packing: TwinPack Top works: Stainless steel tie rods encapsulated in aluminum beams including stainless steel gate guards on automated valves |
| Options | |
| Valve body¹⁾ Nodular iron EN 5.3105 Stainless steel EN 1.4408 Gate material and surface treatments Hard chromed duplex stainless steel EN 1.4462 Retainer rings Polyurethane Stainless steel EN 1.4408 Duplex stainless steel EN 1.4470 Nodular iron EN 5.3105, EN-JS1050 Seats Polyurethane PTFE with o-ring in NBR, EPDM or FKM/FPM Box packings TwinPack Extra scrapers in UHMW-PE, PTFE or brass Top works Stainless steel tie rods encapsulated in aluminum beams Stainless steel pillars or beams | Actuators Chain wheel Bevel gear Hand wheel with non-rising stem Double-acting pneumatic cylinder Single-acting pneumatic cylinder Electric actuator Hydraulic actuator Flange drillings EN 1092 PN 10 - Square Stafsjö standard EN 1092 PN 10 - EN 1092 PN 10 (optional) ASME/ANSI B16.5 Class 150 - Square Stafsjö standard ASME/ANSI B16.5 Class 150 - ASME/ANSI B16.5 Class 150 (optional) JIS B 2238 10K - Square Stafsjö standard JIS B 2238 10K - JIS B 2238 10K (optional) Accessories See Stafsjö's accessory data sheet for further information. For adapter cone see page 7. |
| Design standards | |
| Design, manufacturing, inspection and test According to pressure equipment directive 2014/68/EU category I and II module A2. The valves are CE marked when it is applicable. Stafsjö's valves are subject for pressure tests before delivery in opened and closed position with water at 20 °C according to EN 12266-1:2003 rate A. No visually detectable leakage is allowed for duration of the test. On request Stafsjö can provide 2.2 test report and 3.1 inspection certificate according to EN 10204. Contact Stafsjö for further information on ATEX approved solutions. | Face-to-face dimensions Stafsjö manufacturing standard. Option in MSS-SP81. Corrosion protection Painted valve parts fulfill in applicable areas corrosion protection against environment according to EN ISO 12944, corrosivity category C3. Other paint systems can be offered on request. Service temperature Information to determine minimum and maximum temperature for the knife gate valve is available on stafsjo.com/support/temperatures/ . |

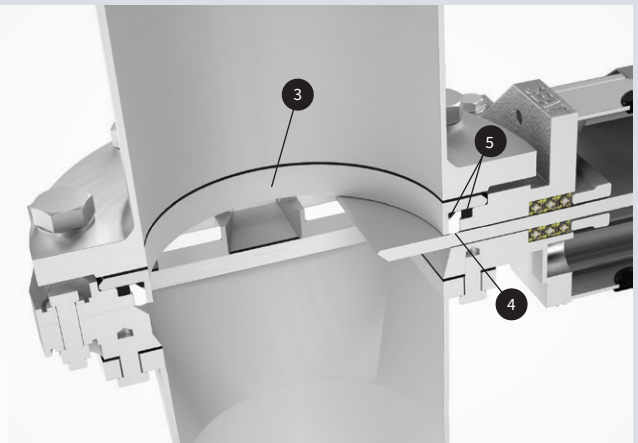
1) The valve body is as standard supplied with purge ports: DN 100 1/8", DN 150 - DN 250 1/4", DN 300 - DN 600 1/2"

Seat sealing options



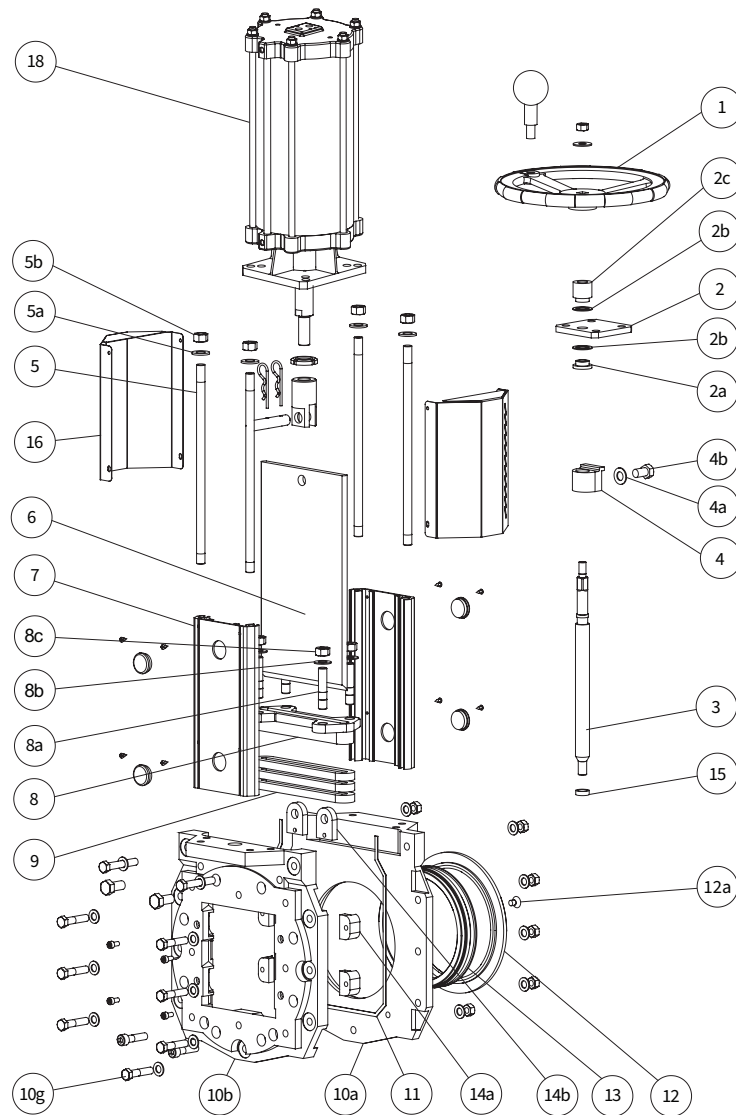
Polyurethane seat

The retainer ring and seat (1) is vulcanized around a stainless steel core (2). This is an extremely abrasive resistance sealing solution and the most widely used on RKO, known for its ability to perform during long periods of time.



Stainless steel retainer ring with PTFE seat

In applications with reject, chemicals and high temperatures, the hard face duplex or stainless steel retainer ring (3) with PTFE seat (4) and back-up o-rings (5) is the optimal high performer for liquid tight shut-off.

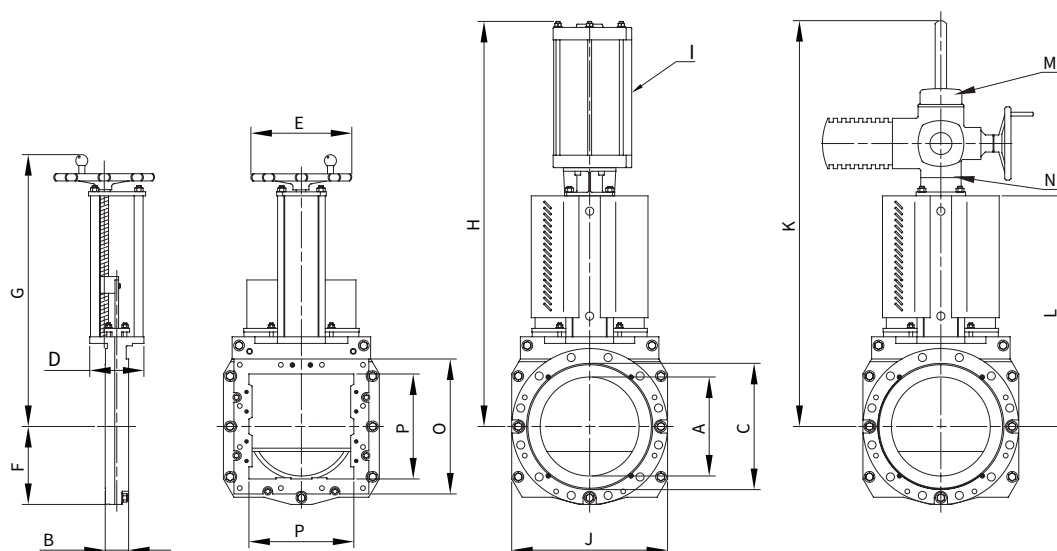


Part list

| Pos. | Part | Material |
|------|--------------|---|
| 1 | Hand wheel | Coated cast iron Ø 200 - Ø 315 EN-JL1040, GG25, ≥ Ø 400 EN-JL1030, GG20 |
| 2 | Yoke | Stainless steel EN 1.4301 |
| 2a | Bearing | Brass |
| 2b | Slide washer | POM |
| 3 | Stem | Stainless steel EN 1.4016, EN 1.4305 |
| 4 | Stem nut | Brass |
| 4a | Washer | Stainless steel A2 |
| 4b | Screw | Stainless steel A2 |
| 5 | Tie rods | Stainless steel A2 |
| 5a | Washer | Stainless steel A2 |
| 5b | Nut | Stainless steel A2 |
| 6 | Gate | Hard chromed duplex stainless steel EN 1.4462 |
| 7 | Beam | Anodized aluminium |
| 8 | Gland | Stainless steel EN 1.4408 |

| Pos. | Part | Material |
|-------------------|---------------------|---|
| 8a | Stud bolt | Stainless steel A2 |
| 8b | Washer | Stainless steel A2 |
| 8c | Nut | Stainless steel A2 |
| 9 ¹⁾ | Box packing | See options on page 4 |
| 10a/b | Valve body | See options on page 4 |
| 10g | Valve body boltings | RKO-E: Stainless steel A2 RKO-L: Zinc plated steel |
| 11 | Body gasket | Grafoil tape, ≥ DN 300: FKM/FPM |
| 12 ¹⁾ | Retainer ring | See options on page 4 |
| 12a | Locking screw | Stainless steel A2 |
| 13 ¹⁾ | Seat | See options on page 4-5 |
| 14a ¹⁾ | Guiding pads | POM-C |
| 14b ¹⁾ | Top guiding pads | ≥ DN 300: POM-C |
| 15 | Bushing | Oil-bronze |
| 16 | Gate guards | Stainless steel EN 1.4301 |
| 18 | Pneumatic cylinder | See separate data sheet |

1) Recommended spare part



Main dimensions (mm)

| DN | A | B | C | D | E | F | G | H | I ¹⁾ | J | K | L | M ²⁾ | N ³⁾ | O | P | kg ⁴⁾ |
|-----|-----|-----|-----|-----|-----|-----|------|------|-----------------|-----|------|------|-----------------|-----------------|-----|-----|------------------|
| 100 | 97 | 52 | 153 | 80 | 200 | 112 | 446 | 616 | SC100 | 224 | 649 | 317 | SA 07.2 | F10/A | 180 | 100 | 18 |
| 150 | 146 | 60 | 204 | 150 | 315 | 148 | 554 | 871 | SC160 | 296 | 749 | 417 | SA 07.6 | F10/A | 230 | 150 | 25 |
| 200 | 194 | 60 | 267 | 150 | 315 | 175 | 647 | 964 | SC160 | 350 | 790 | 510 | SA 07.6 | F10/A | 280 | 200 | 45 |
| 250 | 247 | 69 | 319 | 150 | 315 | 206 | 752 | 1210 | SC200 | 412 | 878 | 598 | SA 07.6 | F10/A | 340 | 250 | 60 |
| 300 | 298 | 78 | 374 | 180 | - | 232 | 867 | 1327 | SC200 | 464 | 1026 | 715 | SA 10.2 | F10/A | 400 | 300 | 80 |
| 350 | 330 | 78 | 419 | 180 | - | 260 | 921 | 1461 | SC200 | 520 | 1080 | 769 | SA 10.2 | F10/A | 450 | 350 | 90 |
| 400 | 380 | 89 | 480 | 206 | - | 287 | 1069 | 1622 | SC250 | 574 | 1177 | 862 | SA 10.2 | F10/A | 500 | 400 | 140 |
| 450 | 428 | 89 | 535 | 208 | - | 315 | 1130 | 1800 | SC250 | 629 | 1450 | 940 | SA 10.2 | F10/A | 555 | 483 | 300 |
| 500 | 500 | 96 | 586 | 320 | - | 355 | - | 2081 | SC250 | 710 | - | 1099 | SA 14.2 | F14/A | 656 | 519 | 330 |
| 600 | 600 | 100 | 685 | 306 | - | 396 | - | 2344 | SC320 | 792 | - | 1226 | SA 14.2 | F14/A | 742 | 614 | 400 |

1) Recommended sizing of double-acting pneumatic cylinder type SC at normal operation with 5 bar air supply pressure. For other operating conditions, contact Stafsjö or your local representative for advice.

2) Recommended sizing of Auma SA electric motors at normal operation. For other operating conditions, contact Stafsjö or your local representative for advice.

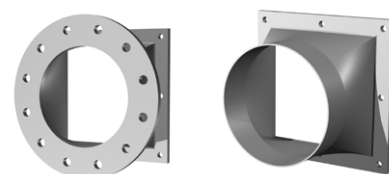
3) Valve and Auma SA interface. The electric motors are mounted as standard with output drive type A (rising stem) according to ISO 5210.

4) Weight in kg for valve equipped with hand wheel, pneumatic actuator on DN 500-DN 600.

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

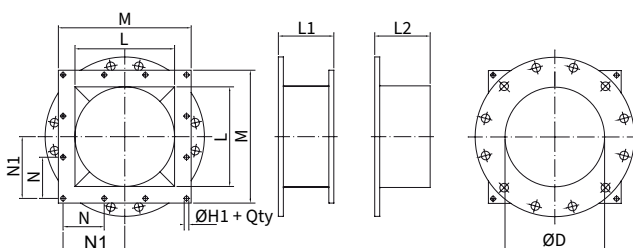
Adapter cone to RKO

RKO can be equipped with an adapter cone on the square outlet side. There are two types of adapters; one for flange connection and one for weld connection. Adapter cone for DN 600 can be supplied on request. Material: Stainless steel EN 1.4436.



Main dimensions (mm)

| DN | L | M | N | N1 | ØH1 | Qty | L1 | L2 |
|-----|-----|-----|-------|-------|-----|-----|-----|-----|
| 100 | 100 | 180 | 70 | 70 | 14 | 8 | 90 | 150 |
| 150 | 150 | 230 | 95 | 95 | 14 | 8 | 140 | 200 |
| 200 | 200 | 280 | 122,5 | 122,5 | 14 | 8 | 140 | 200 |
| 250 | 250 | 340 | 150 | 150 | 14 | 8 | 150 | 210 |
| 300 | 300 | 400 | 124 | 186 | 14 | 12 | 167 | 227 |
| 350 | 350 | 450 | 137 | 205,5 | 18 | 12 | 165 | 225 |
| 400 | 400 | 500 | 154 | 231 | 18 | 12 | 155 | 215 |
| 450 | 483 | 555 | 174 | 261 | 18 | 12 | 155 | 215 |
| 500 | 558 | 658 | 124 | 310 | 18 | 20 | 190 | 325 |



Flange drilling round inlet side according to EN 1092 PN 10

| DN | 100 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 600 |
|--------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Bolt circle diameter (mm) | 180 | 240 | 295 | 350 | 400 | 460 | 515 | 565 | 620 | 725 |
| Number of tapped holes | 8 | 8 | 8 | 12 | 12 | 16 | 16 | 20 | 20 | 20 |
| Bolt size | M16 | M20 | M20 | M20 | M20 | M20 | M24 | M24 | M24 | M27 |
| Bolt length ¹⁾ (mm) | 15 | 15 | 15 | 18 | 22 | 20 | 25 | 25 | 33 | 36 |

Flange drilling square outlet side Stafsjö standard

| DN | 100 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 600 |
|--------------------------------|-----|-----|-------|-----|-----|-----|-----|-----|-----|-----|
| Number of tapped holes | 8 | 8 | 8 | 8 | 12 | 12 | 12 | 12 | 20 | 28 |
| N ²⁾ | 70 | 95 | 122,5 | 150 | 124 | 137 | 154 | 174 | 124 | 100 |
| Bolt size | M12 | M12 | M12 | M12 | M12 | M16 | M16 | M16 | M16 | M16 |
| Bolt length ¹⁾ (mm) | 15 | 15 | 15 | 20 | 23 | 23 | 28 | 24 | 20 | 20 |

Flange drilling square outlet side according to EN 1092 PN 10 (optional)

| DN | 100 | 150 | 200 |
|--------------------------------|-----|-----|-----|
| Bolt circle diameter (mm) | 180 | 240 | 295 |
| Number of tapped holes | 8 | 8 | 8 |
| Bolt size (UNC) | M16 | M20 | M20 |
| Bolt length ¹⁾ (mm) | 15 | 15 | 15 |

Flange drilling round inlet side according to ASME/ANSI B16.5 Class 150

| DN | 100 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 600 |
|--------------------------------|---------|---------|---------|--------|--------|-------|-------|----------|----------|----------|
| Bolt circle diameter (mm) | 190,5 | 241,3 | 298,5 | 362 | 431,8 | 476,3 | 539,8 | 578 | 635 | 749 |
| Number of tapped holes | 8 | 8 | 8 | 12 | 12 | 12 | 16 | 16 | 20 | 20 |
| Bolt size (UNC) | 5/8"-11 | 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 |
| Bolt length ¹⁾ (mm) | 15 | 15 | 15 | 18 | 22 | 20 | 18 | 23 | 33 | 36 |

Flange drilling square outlet side Stafsjö standard

| DN | 100 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 600 |
|--------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Number of tapped holes | 8 | 8 | 8 | 8 | 12 | 12 | 12 | 12 | 20 | 28 |
| N ²⁾ | 70 | 95 | 122,5 | 150 | 124 | 137 | 154 | 174 | 124 | 100 |
| Bolt size (UNC) | 1/2"-13 | 1/2"-13 | 1/2"-13 | 1/2"-13 | 1/2"-13 | 5/8"-11 | 5/8"-11 | 5/8"-11 | 5/8"-11 | 5/8"-11 |
| Bolt length ¹⁾ (mm) | 15 | 15 | 15 | 20 | 23 | 23 | 28 | 24 | 20 | 20 |

Flange drilling square outlet side according to ASME/ANSI B16.5 Class 150 (optional)

| DN | 100 | 150 | 200 |
|--------------------------------|---------|---------|---------|
| Bolt circle diameter (mm) | 190,5 | 241,3 | 298,5 |
| Number of tapped holes | 8 | 8 | 8 |
| Bolt size (UNC) | 5/8"-11 | 3/4"-10 | 3/4"-10 |
| Bolt length ¹⁾ (mm) | 15 | 15 | 15 |

Flange drilling round inlet side according to JIS B 2238 10K

| DN | 100 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 600 |
|--------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Bolt circle diameter (mm) | 175 | 240 | 290 | 355 | 400 | 455 | 510 | 565 | 620 | 730 |
| Number of tapped holes | 8 | 8 | 12 | 12 | 12 | 16 | 16 | 20 | 20 | 24 |
| Bolt size | M16 | M20 | M20 | M22 | M22 | M22 | M24 | M24 | M24 | M30 |
| Bolt length ¹⁾ (mm) | 15 | 15 | 15 | 18 | 22 | 20 | 18 | 23 | 33 | 36 |

Flange drilling square outlet side

| DN | 100 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 600 |
|--------------------------------|-----|-----|-------|-----|-----|-----|-----|-----|-----|-----|
| Number of tapped holes | 8 | 8 | 8 | 8 | 12 | 12 | 12 | 12 | 20 | 28 |
| N ²⁾ | 70 | 95 | 122,5 | 150 | 124 | 137 | 154 | 174 | 124 | 100 |
| Bolt size | M12 | M12 | M12 | M12 | M12 | M16 | M16 | M16 | M16 | M16 |
| Bolt length ¹⁾ (mm) | 15 | 15 | 15 | 20 | 23 | 23 | 28 | 24 | 20 | 20 |

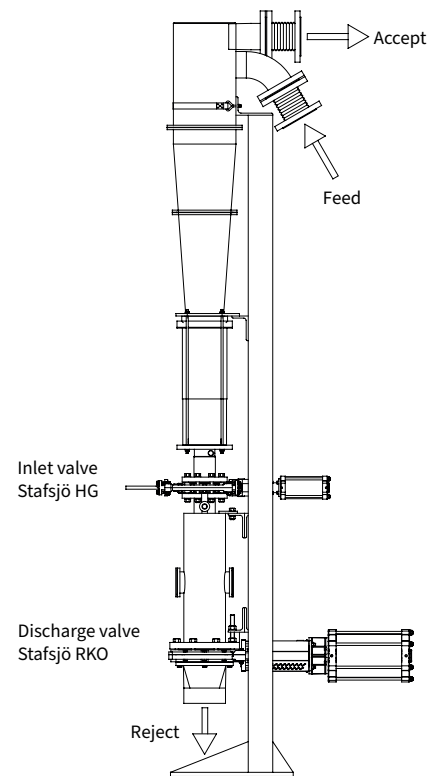
Flange drilling square outlet side according to JIS B 2238 10K (optional)

| DN | 100 | 150 | 200 |
|--------------------------------|-----|-----|-----|
| Bolt circle diameter (mm) | 175 | 240 | 290 |
| Number of tapped holes | 8 | 8 | 12 |
| Bolt size | M16 | M20 | M20 |
| Bolt length ¹⁾ (mm) | 15 | 15 | 15 |

Optimized for high density cleaners

High density cleaners separate sand, stones, staples, glass and other type of reject from the process media. It is often a high cycling application subject to severe wear and vibrations. Choosing the right valve type and configuration is crucial to avoid unexpected process interruptions. Stafsjö's knife gate valve RKO is robust all the way through, originally designed to this type of process conditions. On recycled fibre lines it is often used as both inlet and discharge valve to the reject tank while on virgin fibre lines it is also used in combination with MV and HG as inlet valves.

Contact Stafsjö for further information on valve solutions to your high density cleaner.





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