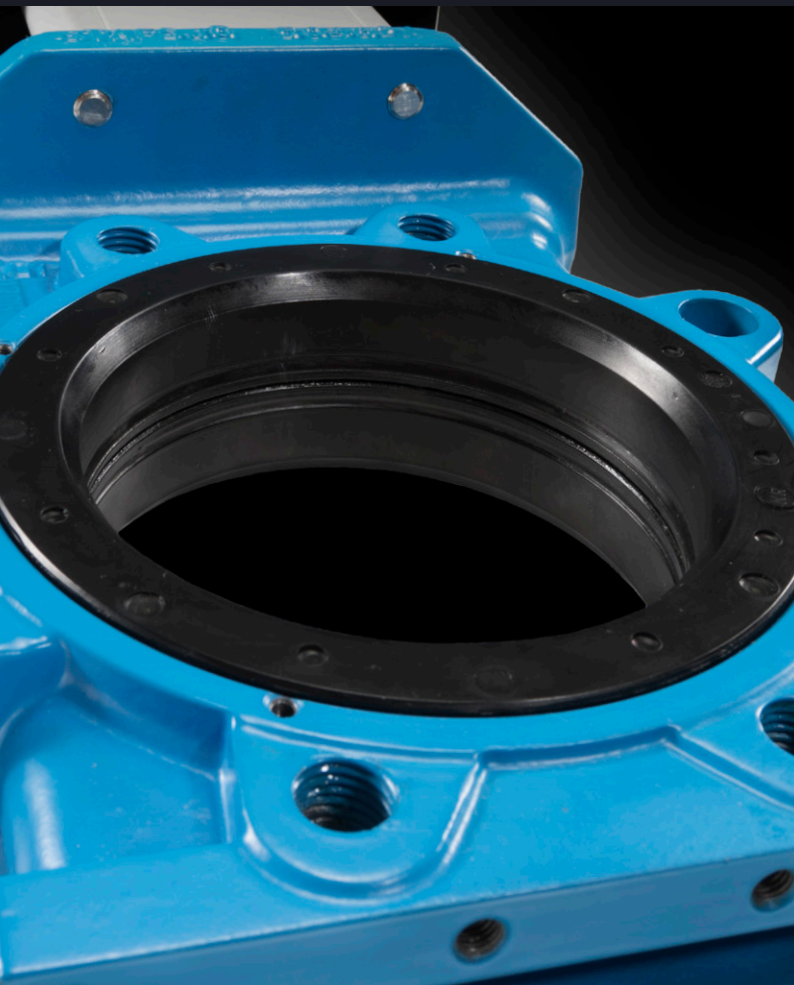


Stafsjö®  
SINCE 1666

# Knife gate valve SLV

Compact push through slurry knife gate valve for abrasive and demanding mineral processing applications

Size range:  
2" - 36" (DN 50 - DN 900)



# About SLV

This is a compact push through slurry knife gate valve with superior flow characteristics, offering reliable and bi-directional shut-off performance in abrasive and demanding mineral processing applications.

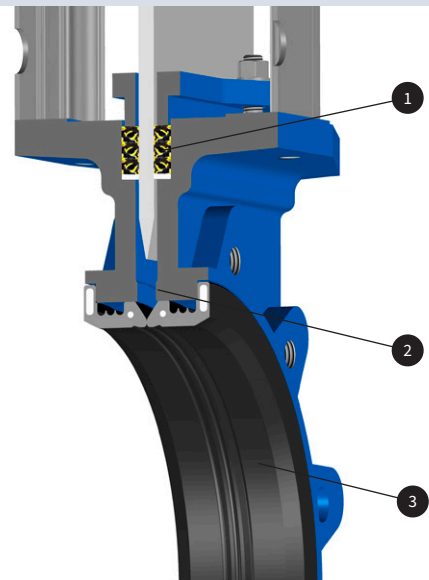
The SLV valve is modular designed and it can easily be customized with actuators and related automation accessories to different process conditions. The valve is also available with mechanical lock out. As standard, the SLV is supplied with a robust and precision machined ductile iron valve body and a strong duplex stainless steel gate, which is special ground for reduction of friction when it cycles through the valve's rubber seats.

In addition to this slurry valve, Stafsjö also offers heavy duty SLF and two high pressure versions, the SLH and SLX, available in pressure class up to 725 psi (50 bar).



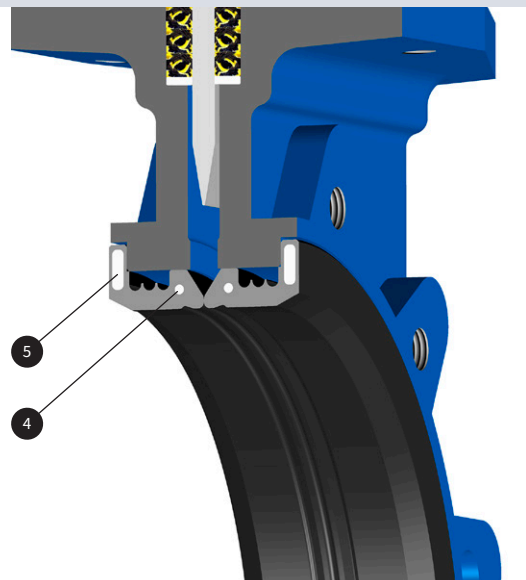
## A precise gate alignment extend the service life

A solid top works, a robust gland box system (1) and precision machined gate supports (2) ensure accurate gate alignment throughout the full stroke, thus reducing stress and wear on the valve seats (3).



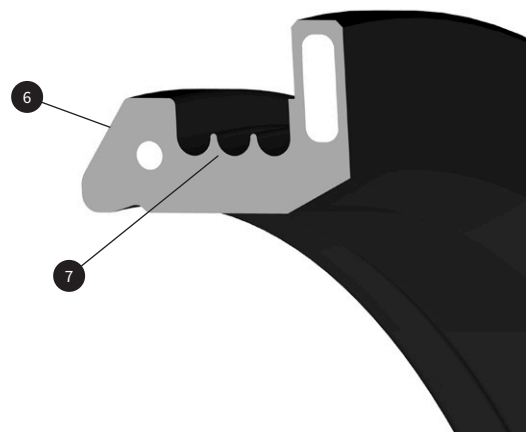
## Reinforcements rings ensure stability and performance

The front reinforcement rings (4) ensure the seats shape, position and strength remain during operation while the flange sealing reinforcements (5) secure a tight and exact position of the seats towards the gate and connecting flanges.



## Expansion areas reduce stress and actuation force

The seat entrance area (6) is designed to give a smooth gate entry and the expansion areas (7) allows the seat to be axially flexible with minimal actuator force.



# Pressure class

| Max working pressure at 68 °F |         | Max differential pressure at 68 °F |         |
|-------------------------------|---------|------------------------------------|---------|
| Size                          | psi/bar | Size                               | psi/bar |
| 2" - 24"                      | 150/10  | 2" - 16"                           | 150/10  |
| 28" - 36"                     | 75/5    | 18" - 24"                          | 90/6    |
|                               |         | 28" - 36"                          | 75/5    |

## Configurations

### Standard

**Size:** 2" - 36"

**Valve body:** Ductile (Nodular) iron EN 5.3105

**Gate:** Duplex stainless steel EN 1.4470, S32205

**Box packing:** TwinPack with UHMW-PE scraper

**Top works:** Stainless steel tie rods encapsulated in aluminum beams up to DN 300 and coated steel beams on larger sizes including stainless steel gate guards on automated valves.

### Options

#### Valve body<sup>1)</sup>

Ductile (Nodular) iron EN 5.3105

#### Gate

Duplex stainless steel EN 1.4462, S32205

#### Seats

EPDM

Natural rubber

#### Box packings

TwinPack with scraper in UHMW-PE

#### Top works

Stainless steel tie rods encapsulated in aluminum beams  
Coated carbon steel beams on 14" and larger  
Stainless steel beams

#### Actuators

Hand wheel with rising stem

Bevel gear

Double-acting pneumatic cylinders

Single-acting pneumatic cylinders

Electric actuators

Hydraulic actuator

#### Flange drillings

EN 1092 PN 10

ASME/ANSI B16.5 and B16.47 Class 150

AS 2129 Table D and E

#### Accessories

See p. 9 and our accessory data sheet for further information.

### Design standards

#### Face-to-face dimensions

Stafsjö manufacturing standard.

#### 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 with water at 68 °F before delivery in opened and closed position for the rated pressure class in bar 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.

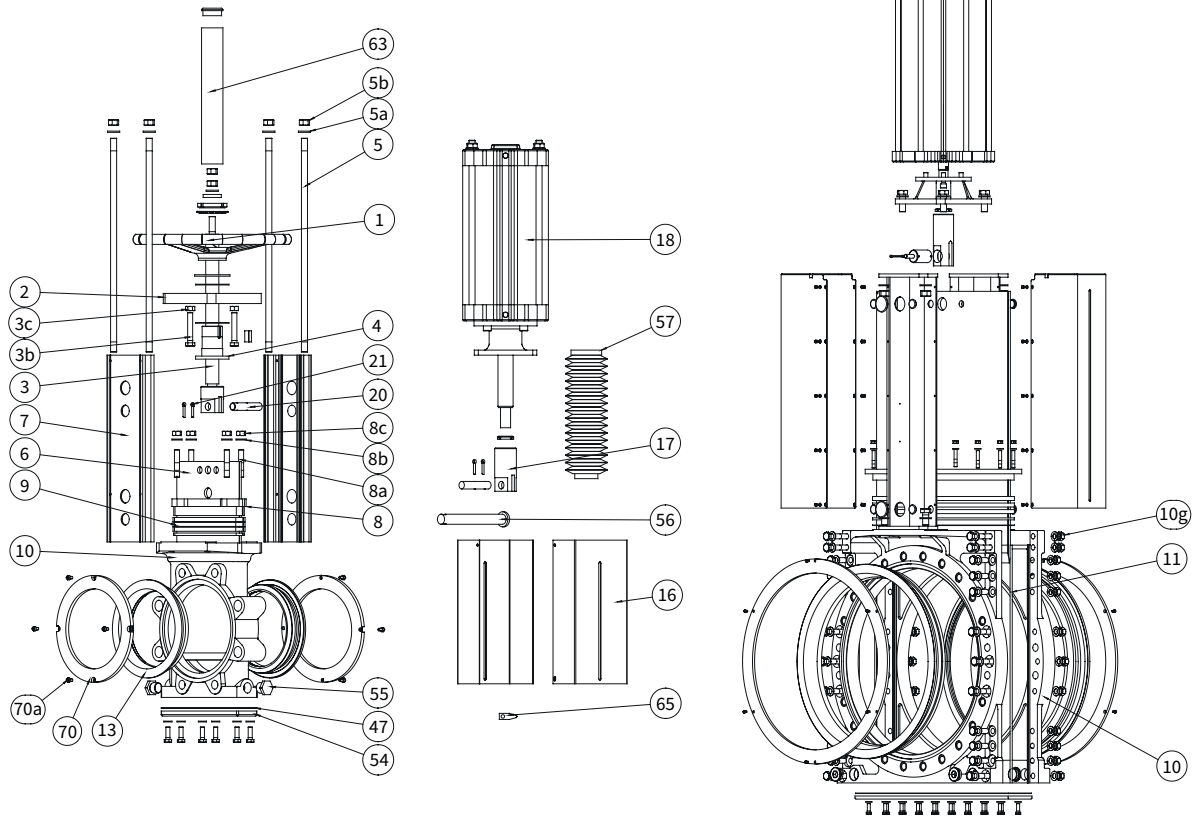
#### Corrosion protection

Painted valve parts fulfill in applicable areas corrosion protection against environment according 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/](https://stafsjo.com/support/temperatures/).

1) The valve body is as standard supplied with purge ports: 2" - 8": 1/2", 10" - 16": 3/4", 18" - 24": 1", 28" - 36": 1 1/2"



## Part list

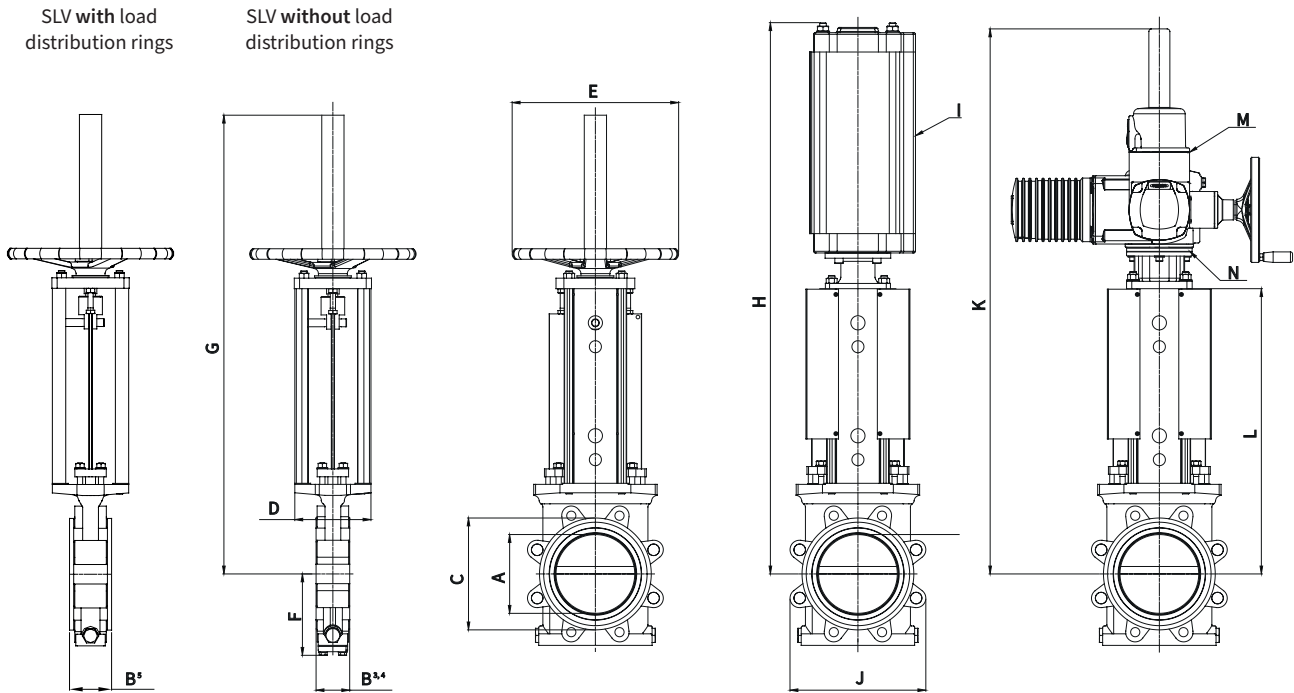
| Pos.             | Part                  | Material  |
|------------------|-----------------------|---|
| 1                | Hand wheel            | Coated cast iron<br>Ø 12" EN-JL1040, GG25<br>≥ Ø 16" EN-JL1030, GG20                |
| 2                | Yoke                  | Coated steel EN 1.0038  |
| 3                | Stem with gate clevis | Stainless steel EN 1.4305<br>≥ 14": Gate clevis in coated<br>carbon steel EN 1.0045 |
| 3b               | Screw                 | Stainless steel A2  |
| 3c               | Washer                | Stainless steel A2  |
| 4                | Stem nut              | Brass   |
| 5                | Tie rod               | ≤ 12": Stainless steel A2   |
| 5a <sup>3)</sup> | Washer                | Stainless steel A2  |
| 5b <sup>3)</sup> | Nut                   | Stainless steel A2  |
| 6                | Gate                  | Duplex stainless steel EN 1.4462  |
| 7                | Beam                  | ≤ 12": Anodized aluminium<br>≥ 14": Coated steel EN 1.0038                          |
| 8                | Gland                 | Coated nodular iron EN 5.3105,<br>WCB EN 1.0619                                     |
| 8a               | Stud bolt             | Stainless steel A2  |
| 8b               | Washer                | Stainless steel A2  |
| 8c               | Nut                   | Stainless steel A2  |
| 9 <sup>2)</sup>  | Box packing           | TwinPack with scraper in UHMW-PE  |
| 10               | Valve body            | Coated nodular iron EN 5.3105   |

| Pos.              | Part                    | Material   |
|-------------------|-------------------------|--|
| 10g               | Valve body boltings     | Zinc plated steel  |
| 11                | Body gasket             | FPM/FKM  |
| 13 <sup>2)</sup>  | Seats                   | Natural rubber or EPDM   |
| 16                | Gate guard              | Stainless steel EN 1.4301  |
| 17                | Gate clevis             | Stainless steel EN 1.4305<br>≥ 14": Coated carbon steel<br>EN 1.0045 |
| 18                | Cylinder                | See data sheet   |
| 20                | Clevis pin              | Stainless steel EN 1.4305  |
| 21                | Split pin               | Stainless steel EN 1.4436  |
| 47 <sup>1)</sup>  | Gasket                  | Dixo 4000  |
| 54 <sup>1)</sup>  | Bottom cover            | Coated steel EN 1.0425. See p. 9.                                    |
| 55                | Plug                    | Zinc plated steel  |
| 56 <sup>1)</sup>  | Locking pin             | Stainless steel EN 1.4301. See p. 9.                                 |
| 57 <sup>1)</sup>  | Bellow                  | Artificial leather. See p. 9.  |
| 62                | Wedge                   | Stainless steel  |
| 63                | Stemtube                | Coated steel EN 1.0038   |
| 65                | Gate indicator          | Nylon 12   |
| 70 <sup>1)</sup>  | Load distribution rings | Stainless steel EN 1.4301. See p. 9.                                 |
| 70a <sup>1)</sup> | Screws                  | Stainless steel A4   |

1) Optional accessories

2) Recommended spare parts

3) ≥ 14" details are replaced by screws, washers and nuts.



## Main dimensions (inch)

| Size | A <sup>1)</sup> | A <sup>2)</sup> | B <sup>3)</sup> | B <sup>4)</sup> | B <sup>5)</sup> | C     | D     | E     | F     | G     | H     | I <sup>6)</sup> | J     | K      | L     | M <sup>7)</sup> | N <sup>8)</sup> | lbs <sup>9)</sup> |
|------|-----------------|-----------------|-----------------|-----------------|-----------------|-------|-------|-------|-------|-------|-------|-----------------|-------|--------|-------|-----------------|-----------------|-------------------|
| 2    | 1.97            | 2.17            | 2.20            | 2.13            | 2.60            | 3.70  | 3.15  | 12.40 | 3.39  | 24.17 | 26.38 | SC4.00          | 4.88  | 29.65  | 14.61 | SA 07.2         | F10/A           | 29                |
| 2.5  | 2.56            | 2.80            | 2.20            | 2.13            | 2.60            | 4.21  | 3.15  | 12.40 | 3.66  | 24.57 | 26.77 | SC4.00          | 5.47  | 30.04  | 15.00 | SA 07.2         | F10/A           | 31                |
| 3    | 3.15            | 3.27            | 2.32            | 2.24            | 2.72            | 4.96  | 3.15  | 12.40 | 3.70  | 28.03 | 32.17 | SC6.30          | 7.09  | 31.54  | 16.50 | SA 07.2         | F10/A           | 40                |
| 4    | 3.94            | 4.21            | 2.32            | 2.24            | 2.87            | 6.22  | 3.15  | 12.40 | 4.06  | 29.45 | 34.53 | SC6.30          | 8.11  | 32.91  | 17.87 | SA 07.6         | F10/A           | 55                |
| 5    | 4.92            | 5.20            | 2.60            | 2.52            | 3.15            | 7.32  | 5.71  | 12.40 | 4.88  | 34.17 | 38.86 | SC6.30          | 9.33  | 38.23  | 20.98 | SA 10.2         | F10/A           | 68                |
| 6    | 5.91            | 6.26            | 2.60            | 2.52            | 3.15            | 8.39  | 5.71  | 12.40 | 5.35  | 34.57 | 39.25 | SC6.30          | 10.20 | 38.62  | 21.38 | SA 10.2         | F10/A           | 77                |
| 8    | 7.87            | 8.15            | 3.07            | 2.99            | 3.62            | 10.59 | 5.71  | 12.40 | 6.65  | 40.59 | 47.01 | SC8.00          | 12.28 | 42.48  | 25.24 | SA 10.2         | F10/A           | 97                |
| 10   | 9.84            | 10.24           | 3.07            | 2.99            | 3.78            | 12.68 | 5.71  | 15.75 | 8.03  | 45.75 | 52.20 | SC8.00          | 15.28 | 49.65  | 28.46 | SA 10.2         | F10/A           | 139               |
| 12   | 11.81           | 12.20           | 3.31            | 3.23            | 4.02            | 14.65 | 6.89  | 20.47 | 9.29  | 55.12 | 63.03 | SC10.00         | 17.99 | 55.47  | 33.90 | SA 10.2         | F10/A           | 216               |
| 14   | 13.78           | 13.78           | 3.31            | 3.23            | 4.02            | 17.09 | 7.87  | 20.47 | 10.47 | 59.45 | 67.95 | SC10.00         | 20.31 | 61.77  | 36.06 | SA 10.2         | F10/A           | 300               |
| 16   | 15.75           | 15.75           | 3.82            | 3.74            | 4.53            | 19.02 | 7.87  | 25.00 | 11.81 | 64.96 | 73.58 | SC12.60         | 22.64 | 66.97  | 39.29 | SA 14.2         | F14/A           | 388               |
| 18   | 17.72           | 17.72           | 3.82            | 3.74            | 4.53            | 20.98 | 11.81 | -     | 12.99 | -     | 81.38 | SC12.60         | 24.69 | 76.46  | 44.45 | SA 14.2         | F14/A           | 474               |
| 20   | 19.69           | 19.84           | 4.84            | 4.76            | 5.55            | 23.19 | 11.81 | -     | 14.33 | -     | *     | PA16.00         | 26.77 | 78.74  | 46.73 | SA 14.2         | F14/A           | 595               |
| 24   | 23.62           | 23.62           | 4.84            | 4.76            | 5.55            | 27.17 | 11.81 | -     | 16.73 | -     | *     | PA16.00         | 32.13 | 90.16  | 54.21 | SA 14.2         | F14/A           | 750               |
| 28   | 25.98           | 27.56           | 6.85            | 6.69            | 7.48            | 31.42 | 12.20 | -     | 18.98 | -     | -     | *               | 36.22 | 100.43 | 60.55 | SA 14.6         | F14/A           | 1102              |
| 32   | 29.53           | 31.50           | 7.64            | 7.48            | 8.27            | 35.63 | 12.20 | -     | 21.42 | -     | -     | *               | 40.94 | 110.91 | 67.09 | SA 14.6         | F14/A           | 1455              |
| 36   | 33.46           | 33.43           | 8.86            | 8.66            | 9.45            | 39.57 | 19.69 | -     | 23.39 | -     | -     | *               | 45.43 | 121.50 | 73.15 | SA 14.6         | F14/A           | 1984              |

1) Bore diameter.

2) Inlet diameter.

3) Minimum required face-to-face for installation without load distribution rings.

4) Installed face-to-face without load distribution rings.

5) Installed face-to-face with load distribution rings (LDR). When the pipe line or connecting flanges are rubber lined or when they do not cover the metal frame around the seats (dimension C), it is recommended to assemble and install the valve with load distribution rings to ensure seat support, long service life and reliable operation.

6) Recommended sizing of double-acting pneumatic cylinder type SC at normal operation with 75 psi (5 bar) air pressure. For other operating conditions, contact Stafsjö or your local representative for advice.

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

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

9) Weight in lbs for valve including hand wheel with rising stem, > 18" prepared for bevel gear or electric actuator.

\* On request.

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

## Flange drilling according to EN 1092 PN 10

| Size                         | 2    | 2.5  | 3    | 4    | 5    | 6    | 8     | 10    | 12    |
|------------------------------|------|------|------|------|------|------|-------|-------|-------|
| Bolt circle diameter (inch)  | 4.92 | 5.71 | 6.30 | 7.09 | 8.27 | 9.45 | 11.61 | 13.78 | 15.75 |
| Number of throughgoing bolts | -    | -    | 4    | 4    | 4    | 4    | 4     | 4     | 4     |
| Number of tapped holes/side  | 4    | 4    | 4    | 4    | 4    | 4    | 4     | 8     | 8     |
| Bolt size                    | M16  | M16  | M16  | M16  | M16  | M20  | M20   | M20   | M20   |
| Depth of tapped holes (inch) | 0.59 | 0.59 | 0.55 | 0.55 | 0.63 | 0.63 | 0.79  | 0.75  | 0.87  |

| Size                         | 14    | 16    | 18    | 20    | 24    | 28    | 32    | 36    |
|------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Bolt circle diameter (inch)  | 18.11 | 20.28 | 22.24 | 24.41 | 28.54 | 33.07 | 37.40 | 41.34 |
| Number of throughgoing bolts | 4     | 4     | 4     | 4     | 4     | 4     | 4     | 4     |
| Number of tapped holes/side  | 12    | 12    | 16    | 16    | 16    | 20    | 20    | 24    |
| Bolt size                    | M20   | M24   | M24   | M24   | M27   | M27   | M30   | M30   |
| Depth of tapped holes (inch) | 0.87  | 0.98  | 0.91  | 1.34  | 1.26  | 1.93  | 2.32  | 2.64  |

## Flange drilling according to ANSI/ASME B16.5 and 16.47 Class 150

| Size                         | 2       | 2.5     | 3       | 4       | 5       | 6       | 8       | 10     | 12     |
|------------------------------|---------|---------|---------|---------|---------|---------|---------|--------|--------|
| Bolt circle diameter (inch)  | 4.75    | 5.50    | 6.00    | 7.50    | 8.50    | 9.50    | 11.75   | 14.25  | 17.00  |
| Number of throughgoing bolts | -       | -       | -       | 4       | 4       | 4       | 4       | 4      | 4      |
| Number of tapped holes/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 |
| Depth of tapped holes (inch) | 0.59    | 0.59    | 0.55    | 0.55    | 0.63    | 0.63    | 0.79    | 0.75   | 0.87   |

| Size                                       | 14    | 16    | 18       | 20       | 24       | 28       | 32       | 36       |
|--|-------|-------|----------|----------|----------|----------|----------|----------|
| Bolt circle diameter (inch)                | 18.75 | 21.25 | 22.75    | 25.00    | 29.50    | 34.00    | 38.50    | 42.75    |
| Number of throughgoing bolts               | 4     | 4     | 4        | 4        | 4        | 4        | 4        | 4        |
| Number of tapped holes/side                | 8     | 12    | 12       | 16       | 16       | 24       | 24       | 28       |
| Bolt size (UNC)                            | 1"-8  | 1"-8  | 1 1/8"-7 | 1 1/8"-7 | 1 1/4"-7 | 1 1/4"-7 | 1 1/4"-6 | 1 1/2"-6 |
| Depth of tapped holes <sup>1)</sup> (inch) | 0.83  | 0.98  | 0.91     | 1.34     | 1.26     | 1.93     | 2.32     | 2.64     |

## Flange drilling according to AS 2129 Table D

| Size                         | 2    | 2.5  | 3    | 4    | 5    | 6    | 8     | 10    | 12    |
|------------------------------|------|------|------|------|------|------|-------|-------|-------|
| Bolt circle diameter (inch)  | 4.49 | 5.00 | 5.75 | 7.01 | 8.27 | 9.25 | 11.50 | 14.02 | 15.98 |
| Number of throughgoing bolts | -    | -    | -    | -    | 4    | 4    | 4     | 4     | 4     |
| Number of tapped holes/side  | 4    | 4    | 4    | 4    | 4    | 4    | 4     | 4     | 8     |
| Bolt size                    | M16  | M16  | M16  | M16  | M16  | M16  | M16   | M20   | M20   |
| Depth of tapped holes (inch) | 0.59 | 0.59 | 0.55 | 0.55 | 0.63 | 0.63 | 0.79  | 0.75  | 0.87  |

| Size                         | 14    | 16    | 18    | 20    | 24    | 28    | 32    | 36    |
|------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Bolt circle diameter (inch)  | 18.50 | 20.51 | 22.99 | 25.24 | 29.76 | 33.27 | 38.74 | 42.99 |
| Number of throughgoing bolts | 4     | 4     | 4     | 4     | 4     | 4     | 4     | 4     |
| Number of tapped holes/side  | 8     | 8     | 8     | 12    | 12    | 16    | 16    | 20    |
| Bolt size                    | M24   | M24   | M24   | M24   | M27   | M27   | M33   | M33   |
| Depth of tapped holes (inch) | 0.83  | 0.98  | 0.91  | 1.34  | 1.26  | 1.93  | 2.32  | 2.64  |

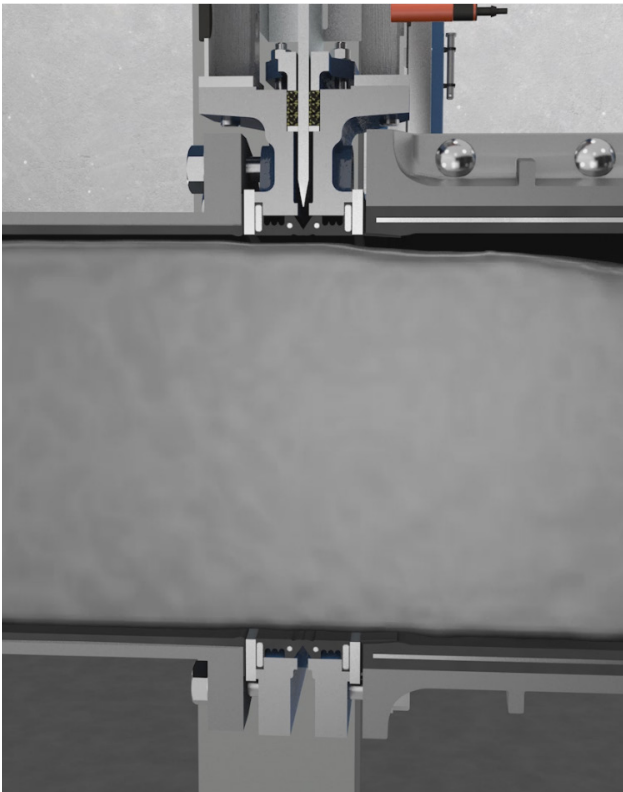


## Flange drilling according to AS 2129 Table E

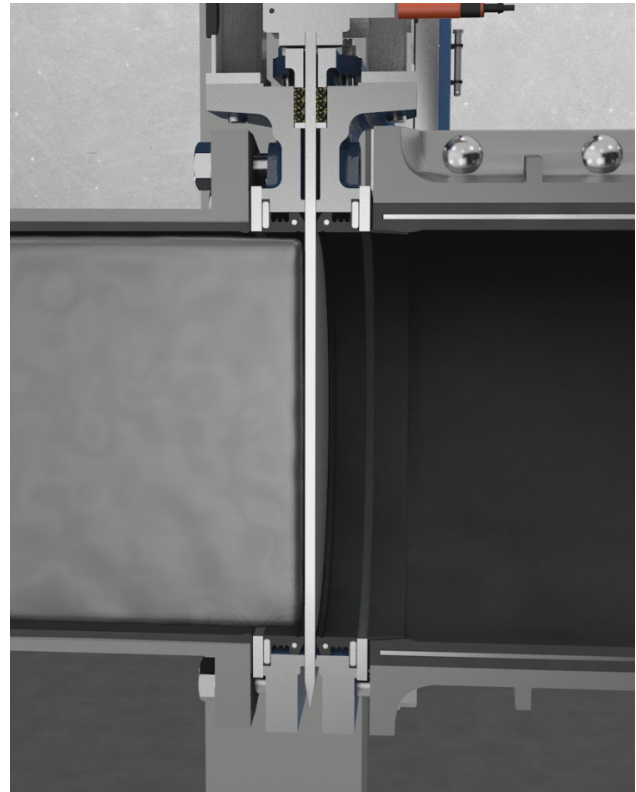
| Size                         | 2    | 2.5  | 3    | 4    | 5    | 6    | 8     | 10    | 12    |
|------------------------------|------|------|------|------|------|------|-------|-------|-------|
| Bolt circle diameter (inch)  | 4.49 | 5.00 | 5.75 | 7.01 | 8.27 | 9.25 | 11.50 | 14.02 | 15.98 |
| Number of throughgoing bolts | -    | -    | -    | 4    | 4    | 4    | 4     | 4     | 4     |
| Number of tapped holes/side  | 4    | 4    | 4    | 4    | 4    | 4    | 4     | 8     | 8     |
| Bolt size                    | M16  | M16  | M16  | M16  | M16  | M20  | M20   | M20   | M24   |
| Depth of tapped holes (inch) | 0.59 | 0.59 | 0.55 | 0.55 | 0.63 | 0.63 | 0.79  | 0.75  | 0.87  |

| Size                         | 14    | 16    | 18    | 20    | 24    | 28    | 32    | 36    |
|------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Bolt circle diameter (inch)  | 18.50 | 20.51 | 22.99 | 25.24 | 29.76 | 33.27 | 38.74 | 42.99 |
| Number of throughgoing bolts | 4     | 4     | 4     | 4     | 4     | 4     | 4     | 4     |
| Number of tapped holes/side  | 8     | 8     | 12    | 12    | 12    | 16    | 16    | 20    |
| Bolt size                    | M24   | M24   | M24   | M24   | M30   | M30   | M33   | M33   |
| Depth of tapped holes (inch) | 0.83  | 0.98  | 0.91  | 1.34  | 1.26  | 1.93  | 2.32  | 2.64  |

## Reliable isolation of abrasive slurry



The full bore SLV forms a rubber lined extension of the pipeline when it is opened position with no area for media build up.



When the valve cycles to the closed position, the two seats are displaced axially forming a tight seal with the gate through the entire stroke for 100 % bubble tight seal in all directions.



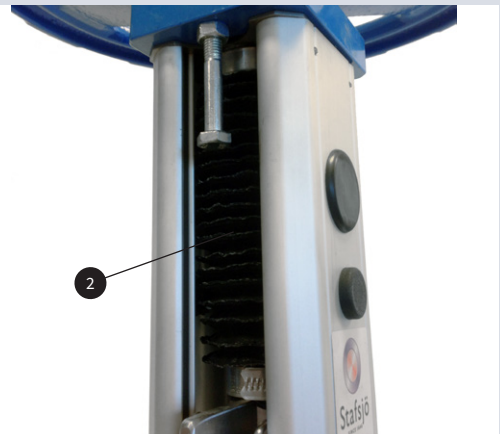
## Lockout pin (1)

For security purposes, slurry valves are always supplied with extra holes in the beams and gate to enable lockout in opened or closed position with a locking pin. The locking pin is supplied in stainless steel EN 1.4301.



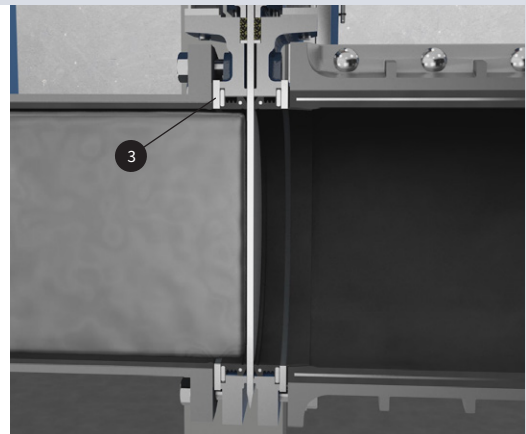
## Stem and piston rod protection (2)

The slurry valves can be supplied with a bellow (SP) to protect the stem or piston rod from dirt and dust.



## Load distribution rings (3)

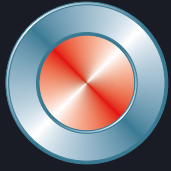
When the pipes and flanges are rubber lined, they do not match up to inlet diameter of the valve or cover the metal frame around the seats, it is recommended to assemble and install the valve with load distribution rings to ensure seat support, long service life and reliable operation. The load distribution rings are supplied as standard in stainless steel EN 1.4301.



## Bottom cover (4)

It is normal for the SLV to discharge media externally when it cycles open/close through the port in bottom of the valve body. This prevents build of solids and enables the SLV to operate through a wide range of slurry concentrations. The discharge can be controlled by adding a bottom cover (4) and using the purge ports of valve body.





**Stafsjö**<sup>®</sup>  
SINCE 1666

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