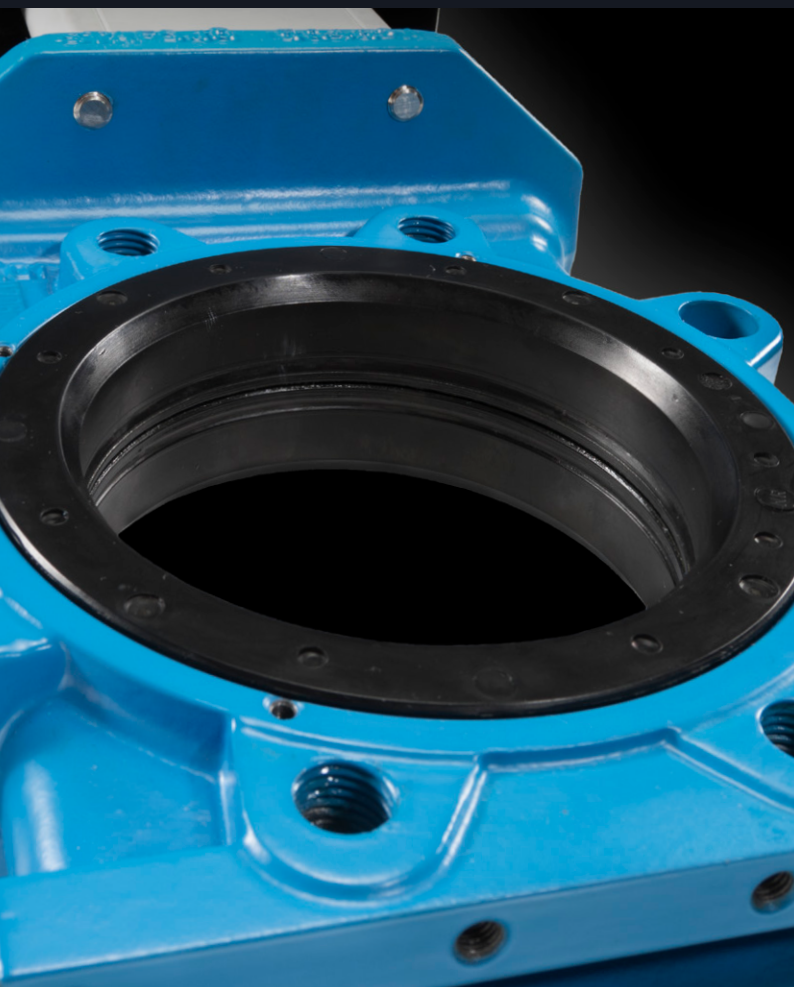


Stafsjö
SINCE 1666

Knife gate valve SLV

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

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



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.

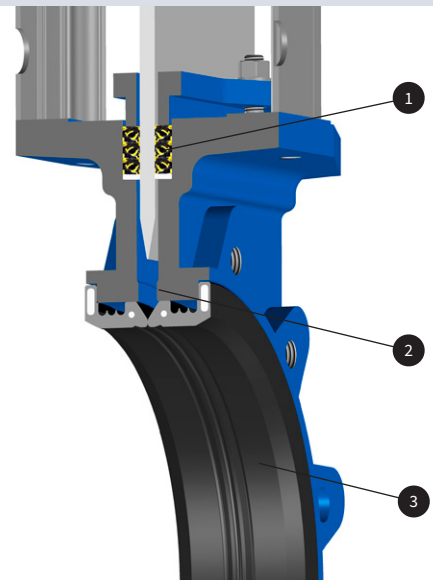
The SLV valve is modular designed and it can easily be customized with actuators and related automation accessories to different process conditions. The valve is also available with mechanical lock out. As standard, the SLV is supplied with a robust and precision machined nodular iron valve body and a strong duplex stainless steel gate, which is also special grinded with purpose of reducing the 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 50 bar.



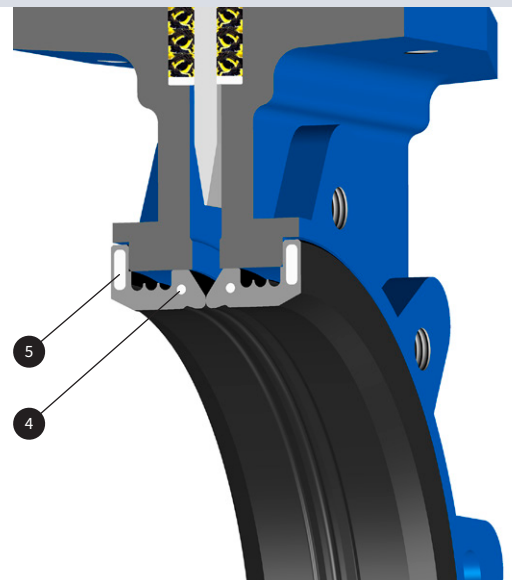
A precise gate alignment extend the service life

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).



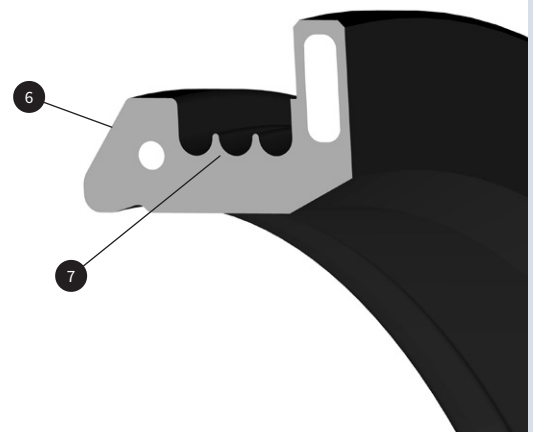
Reinforcements rings ensure stability and performance

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 20 °C		Max differential pressure at 20 °C	
DN	bar	DN	bar
50 - 600	10	50 - 400	10
700 - 900	5	450 - 600	6
		700 - 900	5

Configurations

Standard

Sizes: DN 50 - DN 900

Valve body: 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 body¹⁾

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 $\geq$ DN 350

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 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.

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.

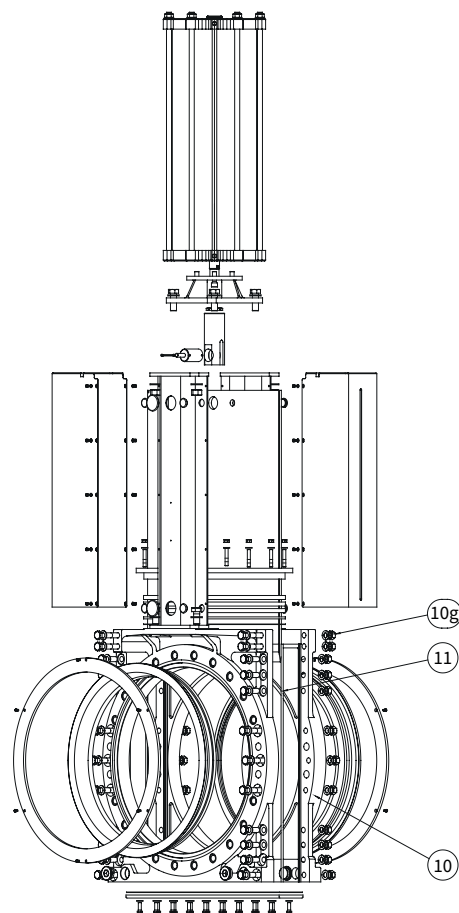
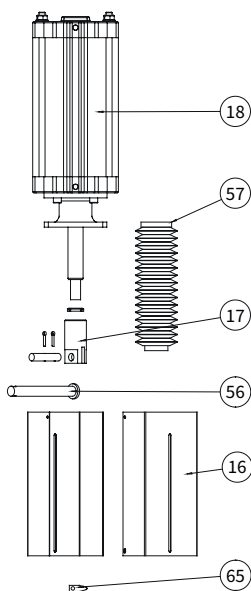
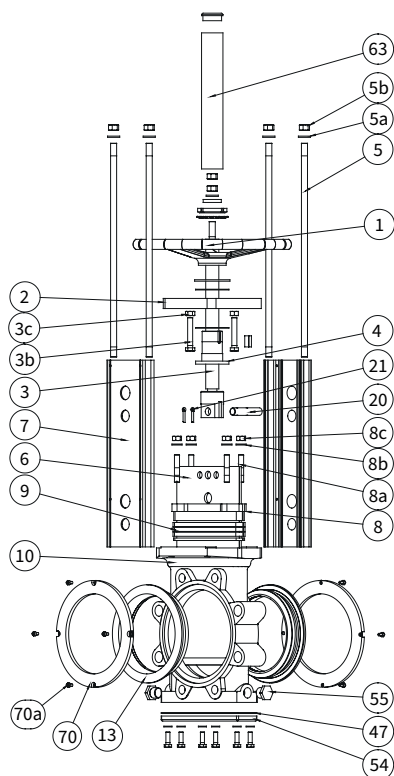
Service temperature

Information to determine minimum and maximum temperature for the knife gate valve is available on stafsjo.com/support/temperatures/.

1) The valve body is as standard supplied with purge ports: DN 50-DN 200: 1/2", DN 250-DN 400: 3/4", DN 450-DN 600: 1", DN 700-DN 900: 1 1/2"

Single piece valve body:
DN 50 - DN 600

Two-piece valve body:
DN 700 - DN 900



Part list

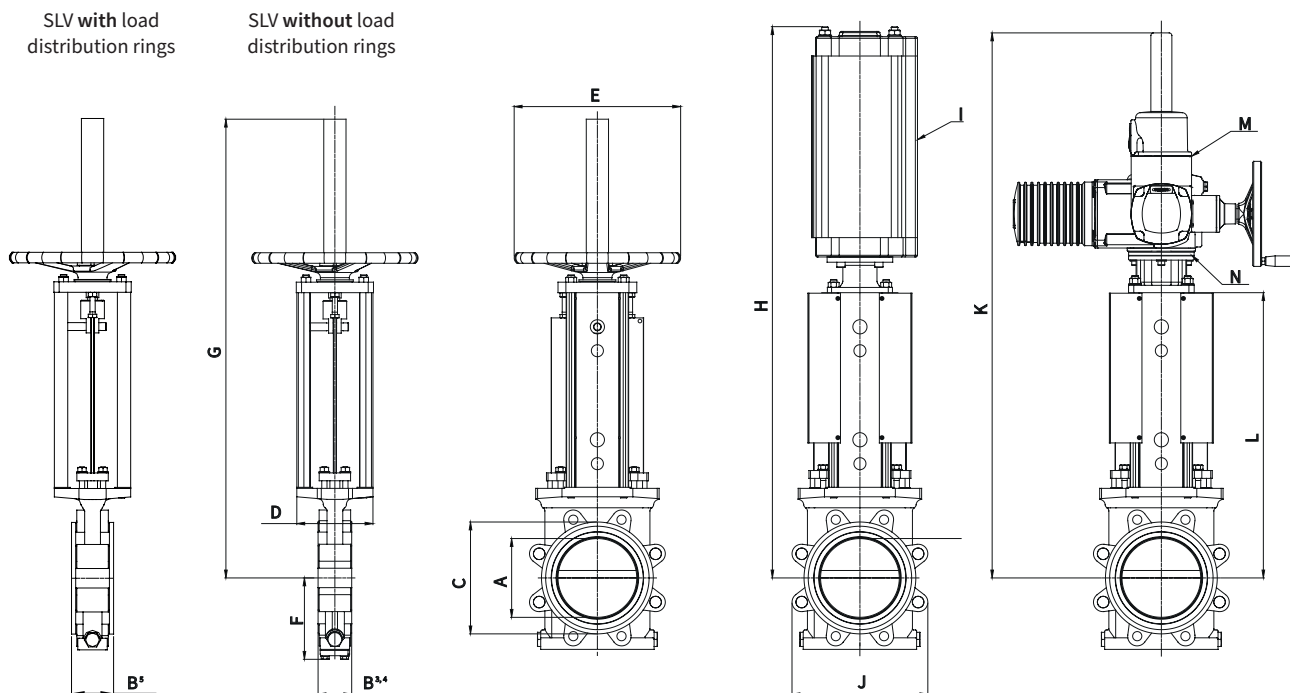
Pos.	Part	Material
1	Hand wheel	Coated cast iron Ø 315 EN-JL1040, GG25 ≥ Ø 400 EN-JL1030, GG20
2	Yoke	Coated steel EN 1.0038
3	Stem with gate clevis	Stainless steel EN 1.4305 ≥ DN 350: Gate clevis in coated carbon steel EN 1.0045
3b	Screw	Stainless steel A2
3c	Washer	Stainless steel A2
4	Stem nut	Brass
5	Tie rod	≤ DN 300: Stainless steel A2
5a ³⁾	Washer	Stainless steel A2
5b ³⁾	Nut	Stainless steel A2
6	Gate	Duplex stainless steel EN 1.4462
7	Beam	≤ DN 300: Anodized aluminium ≥ DN 350: Coated steel EN 1.0038
8	Gland	Coated nodular iron EN 5.3105, WCB EN 1.0619
8a	Stud bolt	Stainless steel A2
8b	Washer	Stainless steel A2
8c	Nut	Stainless steel A2
9 ²⁾	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
12 ²⁾	Seats	Natural rubber or EPDM
16	Gate guard	Stainless steel EN 1.4301
17	Gate clevis	Stainless steel EN 1.4305 ≥ DN 350: Coated carbon steel 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 ¹⁾	Gasket	Dixo 4000
54 ¹⁾	Bottom cover	Coated steel EN 1.0425. See p. 9.
55	Plug	Zinc plated steel
56 ¹⁾	Locking pin	Stainless steel EN 1.4301. See p. 9.
57 ¹⁾	Bellow	Artificial leather. See p. 9.
62	Wedge	Stainless steel
63	Stemtube	Coated steel EN 1.0038
65	Gate indicator	Nylon 12
70 ¹⁾	Load distribution rings	Stainless steel EN 1.4301. See p. 9.
70a ¹⁾	Screws	Stainless steel A4

1) Optional accessories

2) Recommended spare parts

3) ≥ DN 350 details are replaced by screws, washers and nuts.



Main dimensions (mm)

DN	A ¹⁾	A ²⁾	B ³⁾	B ⁴⁾	B ⁵⁾	C	D	E	F	G	H	I ⁶⁾	J	K	L	M ⁷⁾	N ⁸⁾	kg ⁹⁾
50	50	55	56	54	66	94	80	315	86	614	670	SC100	124	753	371	SA 07.2	F10/A	13
65	65	71	56	54	66	107	80	315	93	624	680	SC100	139	763	381	SA 07.2	F10/A	14
80	80	83	59	57	69	126	80	315	94	712	817	SC160	180	801	419	SA 07.2	F10/A	18
100	100	107	59	57	73	158	80	315	103	748	877	SC160	206	836	454	SA 07.6	F10/A	25
125	125	132	66	64	80	186	145	315	124	868	987	SC160	237	971	533	SA 10.2	F10/A	31
150	150	159	66	64	80	213	145	315	136	878	997	SC160	259	981	543	SA 10.2	F10/A	35
200	200	207	78	76	92	269	145	315	169	1031	1194	SC200	312	1079	641	SA 10.2	F10/A	44
250	250	260	78	76	96	322	145	400	204	1162	1326	SC200	388	1261	723	SA 10.2	F10/A	63
300	300	310	84	82	102	372	175	520	236	1400	1601	SC250	457	1409	861	SA 10.2	F10/A	98
350	350	350	84	82	102	434	200	520	266	1510	1726	SC250	516	1569	916	SA 10.2	F10/A	136
400	400	400	97	95	115	483	200	635	300	1650	1869	SC320	575	1701	998	SA 14.2	F14/A	176
450	450	450	97	95	115	533	300	-	330	-	2067	SC320	627	1942	1129	SA 14.2	F14/A	215
500	500	504	123	121	141	589	300	-	364	-	*	PA400	680	2000	1187	SA 14.2	F14/A	270
600	600	600	123	121	141	690	300	-	425	-	*	PA400	816	2290	1377	SA 14.2	F14/A	340
700	660	700	174	170	190	798	310	-	482	-	-	*	920	2551	1538	SA 14.6	F14/A	500
800	750	800	194	190	210	905	310	-	544	-	-	*	1040	2817	1704	SA 14.6	F14/A	660
900	850	900	225	220	240	1005	500	-	594	-	-	*	1154	3086	1858	SA 14.6	F14/A	900

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 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 ISO 5210.

9) Weight in kg for valve including hand wheel with rising stem, > DN 450 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

DN	50	65	80	100	125	150	200	250	300
Bolt circle diameter (mm)	125	145	160	180	210	240	295	350	400
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 (mm)	15	15	14	14	16	16	20	19	22

DN	350	400	450	500	600	700	800	900
Bolt circle diameter (mm)	460	515	565	620	725	840	950	1050
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 (mm)	22	25	23	34	32	49	59	67

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

DN	50	65	80	100	125	150	200	250	300
Bolt circle diameter (mm)	120,7	139,7	152,4	190,5	215,9	241,3	298,5	362	431,8
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 (mm)	15	15	14	14	16	16	20	19	22

DN	350	400	450	500	600	700	800	900
Bolt circle diameter (mm)	476,3	539,8	577,9	635	749,3	863,6	977,9	1085,9
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 ¹⁾ (mm)	21	25	23	34	32	49	59	67

Flange drilling according to AS 2129 Table D

DN	50	65	80	100	125	150	200	250	300
Bolt circle diameter (mm)	114	127	146	178	210	235	292	356	406
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 (mm)	15	15	14	14	16	16	20	19	22

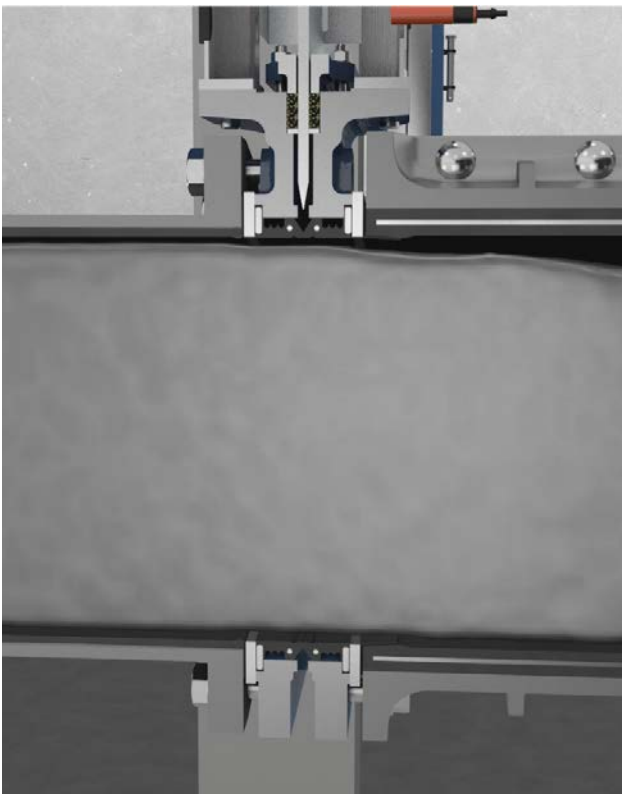
DN	350	400	450	500	600	700	800	900
Bolt circle diameter (mm)	470	521	584	641	756	845	984	1092
Number of throughgoing bolts	4	4	4	4	4	4	4	4
Number of tapped holes/side	8	8	8	12	12	16	16	20
Bolt size	M24	M24	M24	M24	M27	M27	M33	M33
Depth of tapped holes (mm)	21	25	23	34	32	49	59	67

Flange drilling according to AS 2129 Table E

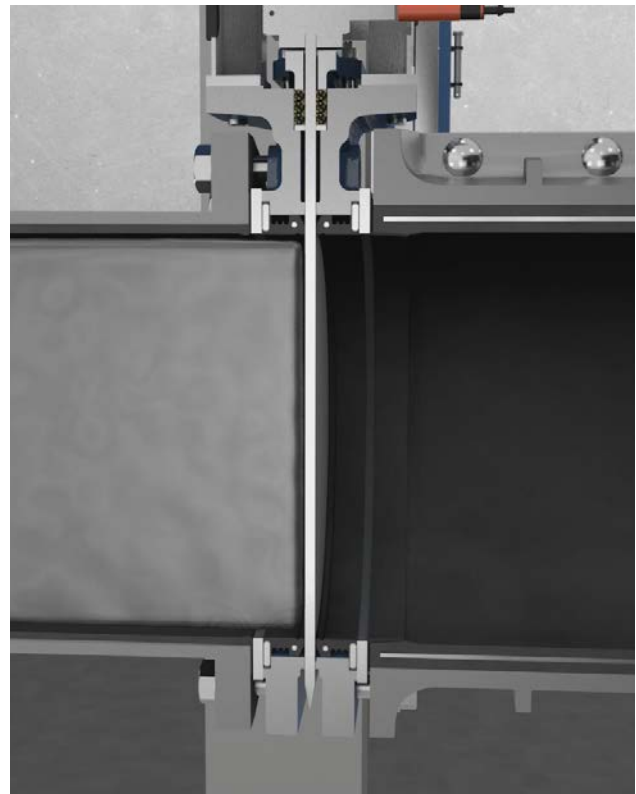
DN	50	65	80	100	125	150	200	250	300
Bolt circle diameter (mm)	114	127	146	178	210	235	292	356	406
Number of throughgoing bolts	-	-	-	4	4	4	4	4	4
Number of tapped holes/side	4	4	4	4	4	4	4	8	8
Bolt size	M16	M16	M16	M16	M16	M20	M20	M20	M24
Depth of tapped holes (mm)	15	15	14	14	16	16	20	19	22

DN	350	400	450	500	600	700	800	900
Bolt circle diameter (mm)	470	521	584	641	756	845	984	1092
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 (mm)	21	25	23	34	32	49	59	67

Reliable isolation of abrasive slurry



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



When the valve cycles to closed position the two seats are displaced axially forming a seal with the gate until it forms a complete closure, 100% tight in any pressure direction.

Lockout pin (1)

For security reason the 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.



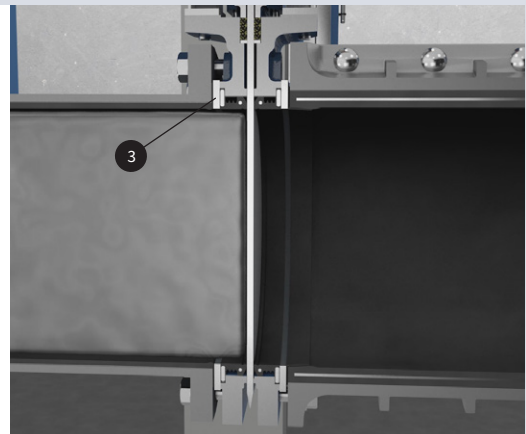
Stem and piston rod protection (2)

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)

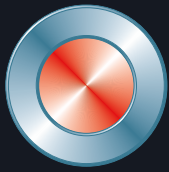
When the pipes and flanges are rubber lined, they do not match up to inlet diameter of the valve or cover the metal frame around the seats, it is recommended to assemble and install the valve with load distribution rings to ensure seat support, long service life and reliable operation. The load distribution 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 prevent build of solids and enable 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.





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