



SLV

Stafsjö's knife gate valve SLV is bi-directional and designed for the most demanding slurry and other abrasive fluids. It is a full bore valve with minimal seat cavity for maximum flow capacity.

SLV's seats give it its unique abilities to perform for extended periods on the most difficult abrasive fluids; they are flexible in an axial way. When the valve is fully opened the seats seal towards each other, protecting internal parts and the gate from the fluid. When the valve closes the two seats are displaced axially forming a seal with the gate until it forms a complete closure of the bore from both directions. The seats also form a sealing face on the valve flanges saving the need for gaskets while reinforcing rings are embedded in them to ensure position, shape and strength for long life.

The SLV valve is a modular design consisting of an epoxy coated one piece valve body in nodular iron. The top works can easily be customized with actuators and accessories according to specific requirements. Seats are available in EPDM, Viton or natural rubber. The valve is as standard equipped with a box bottom scraper, Stafsjö's unique box packing, TwinPack™, and a hardchromed gate in stainless steel for optimal wear resistance. It is always supplied ready to be locked in either opened or closed position with a locking pin. The valve can also be supplied with a bottom cover and then it is recommended to evacuate any residues by flushing through the bottom ports of the valve body.

Stafsjö's knife gate valve SLV 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 therefore CE-marked when applicable.

The SLV valve is available in ATEX-design (ATEX 94/9/EC II cat 3 G/D for zone 2 and 22). Please contact Stafsjö or your local representative for further advice and information.



Design data

Sizes	Flange drilling	Face-to-face dimension	Leakage rate
DN 50-DN 600	ANSI B16.5 Class 150 EN 1092 PN 10 AS 2129 Table D AS 2129 Table E	Stafsjö manufacturing standard	EN 12266-1:2003 Rate A: no visually detectable leakage is allowed for duration of the test MSS SP-81

Other sizes on request

Pressure tests

Pressure tests are performed with water at 20° C according to EN 12266-1:2003.
 Pressure for shell test: 1,5 times maximum allowable working pressure for open valve.
 Pressure for 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	DN	bar
50-600	10	50-400	10
		450-600	6 (10 bar on request)

Basic equipment

A. Valve Body

Material	Type	Maximum temperature °C
Nodular iron (L)	GGG50	200

Standard colour: epoxy, thickness 140-200µm, RAL 5015.

B. Gate

Material standard	Type	Surface treatment
Stainless steel	1.4301/304/SS2333	Hard chromed
Material options:		
Lean duplex stainless steel	1.4162/S32101/LDX 2101	Hard chromed
Stainless steel	1.4401/316/SS2347	Hard chromed
Duplex stainless steel	1.4462/S32205/SS2377	Hard chromed

C. Seats

Material	Maximum temperature °C
EPDM (E)	120
Natural rubber (NR)	80
Viton (V)	180

D. Box packing

Material	pH	Maximum temperature °C
TwinPack™ (TY)	2-13	260

Actuators

Manual		Automatic	
Hand wheel ¹⁾	(HWR)	Pneumatic cylinder	(AC)
Bevel gear ²⁾	(BG)	Electric motor ²⁾	(EM)
		Hydraulic cylinder ²⁾	(MH)

¹⁾ Available with rising and non-rising stem. For recommended size, see page 5 column E

²⁾ For recommended size, see separate data sheet

Recommended size for double acting pneumatic cylinder (AC)

DN valve	Size AC	Maximum Force (kN)
50-65	100	3.5
80-150	160	9.0
200-250	200	14.1
300-350	250	22.1
400-450	320	36.2
500-600	400	56.2

The table above gives recommended cylinder sizes for normal operation with 5 bar air supply pressure. For other operating conditions, please contact Stafsjö or your local representative for advice.

The actuators are described in detail in separate data sheets. For actuators classified according to ATEX, please contact Stafsjö or your local representative.

Accessories

Knife gate valve

Accessories	Model	Design
Mechanical limit switch	Omron D4V	AC12 5A/250 V
Inductive limit switch	ifm electronic IG-2008-ABOA/IG0006	2-wire, 20-250 V AC/DC
	ifm electronic IG-3008-BPKG/IG5401	3-wire, 10-36 V DC PNP
Purge ports	Standard on all valve sizes	DN 100-DN 200: Rp 1/2", DN 250-DN 400: Rp 3/4", 500-600 Rp 1"
Locking pin	For manually and automatic operated valves	See page 4
Bottom cover	Bottom cover with screws and gasket	See page 4

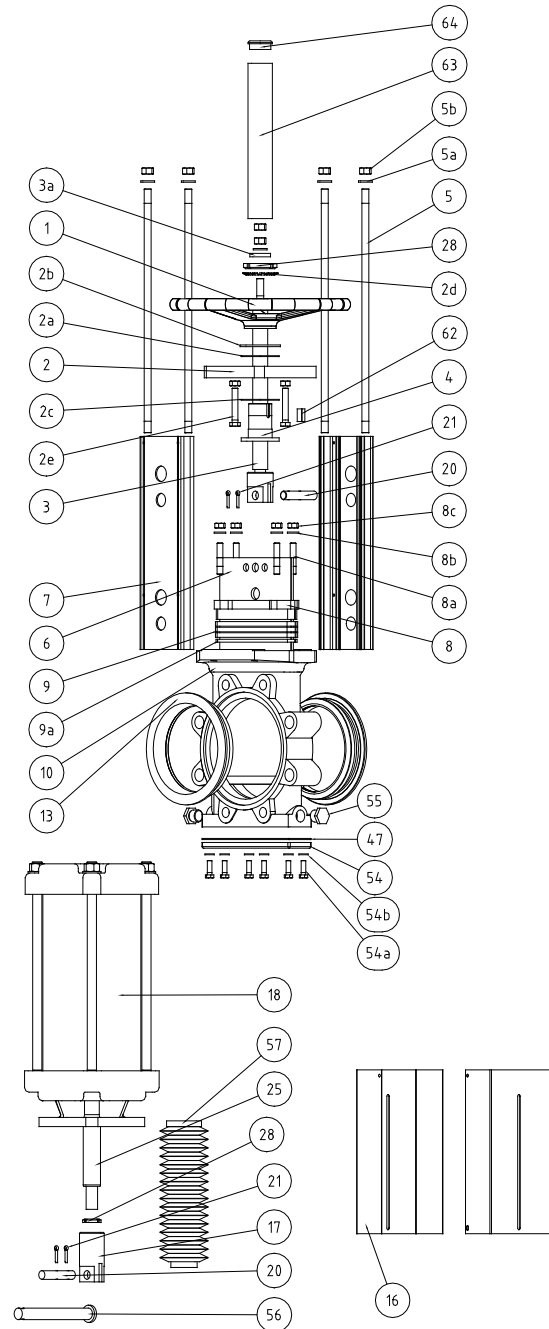
Pneumatic cylinder

Accessories	Model	Design
Solenoid valve	Metal Work mono stable 5/2, series 70	1/4"
	Metal Work mono stable 5/2, series 70	1/2"
Magnetic limit switch	Elobau 102247 & 10224709	2-wire, 20-250 V AC/DC
	Elobau 102290PE & 102290PE09	3-wire, 10-36 V DC PNP
Stem protection	For manually and automatic operated valves	See page 4

The accessories are described in detail in separate data sheets. For accessories classified according to ATEX, please contact Stafsjö or your local representative.

Part list

Pos.	Part	Material (Name)
1	Hand wheel	Epoxy coated Ø 315 Cast iron (GG25) ≥ Ø 400 Cast iron (GG20)
2	Yoke	Steel (1.0038/SS1312), epoxy coated
2a	Bearing	Iglidur XTM
2b	Slide washer	Brass (CW614N/SS5170)
2c	Bearing	Iglidur XTM
2d	Washer	Stainless steel (1.40305/SS2346)
2e	Locking nut	Steel, zinc coated
3	Stem	Stainless steel (1.4305/SS2346)
3a	Stop washer	Stainless steel (1.4301/SS2333)
3b	Screw	Stainless steel (A2)
3c	Washer	Stainless steel (A2)
4	Stem nut	Brass (CW614N/SS5170)
5	Tie rod	≤ DN 300: Stainless steel (1.4301/SS2333)
5a ³⁾	Washer	Stainless steel (A2)
5b ³⁾	Nut	Stainless steel (A2)
6	Gate	See equipment B
7	Beam	≤ DN 300: Aluminium (EN AW-6063-T6) ≥ DN 350: Steel (1.0038/SS1312), epoxy coated
8	Gland	Nodular cast iron (GGG50), epoxy coated
8a	Stud bolt	Stainless steel (A2), zinc coated
8b	Washer	Stainless steel (A2)
8c	Nut	Stainless steel (A2), zinc coated
9 ²⁾	Box packing	See equipment D
9a ²⁾	Box bottom scraper	UHMW-PE
10	Valve body	See equipment A
13	Seat ²⁾	See equipment C
16	Gate guard, not for HW	Stainless steel (1.0038/SS1312)
17	Gate clevis	Stainless steel (1.4305/SS2346)
18	Cylinder	See data sheet
20	Clevis pin	Stainless steel (1.4305/SS2346)
21	Split pin	Stainless steel (1.4436/SS2343)
25	Piston rod	Stainless steel (1.4305/SS2346)
28	Locking nut	Stainless steel (1.4305/SS2346)
47 ¹⁾	Gasket	Dixo 4000
54 ¹⁾	Bottom cover	Nodular iron (GGG50), epoxy coated
54a ¹⁾	Screw	Stainless steel (A2)

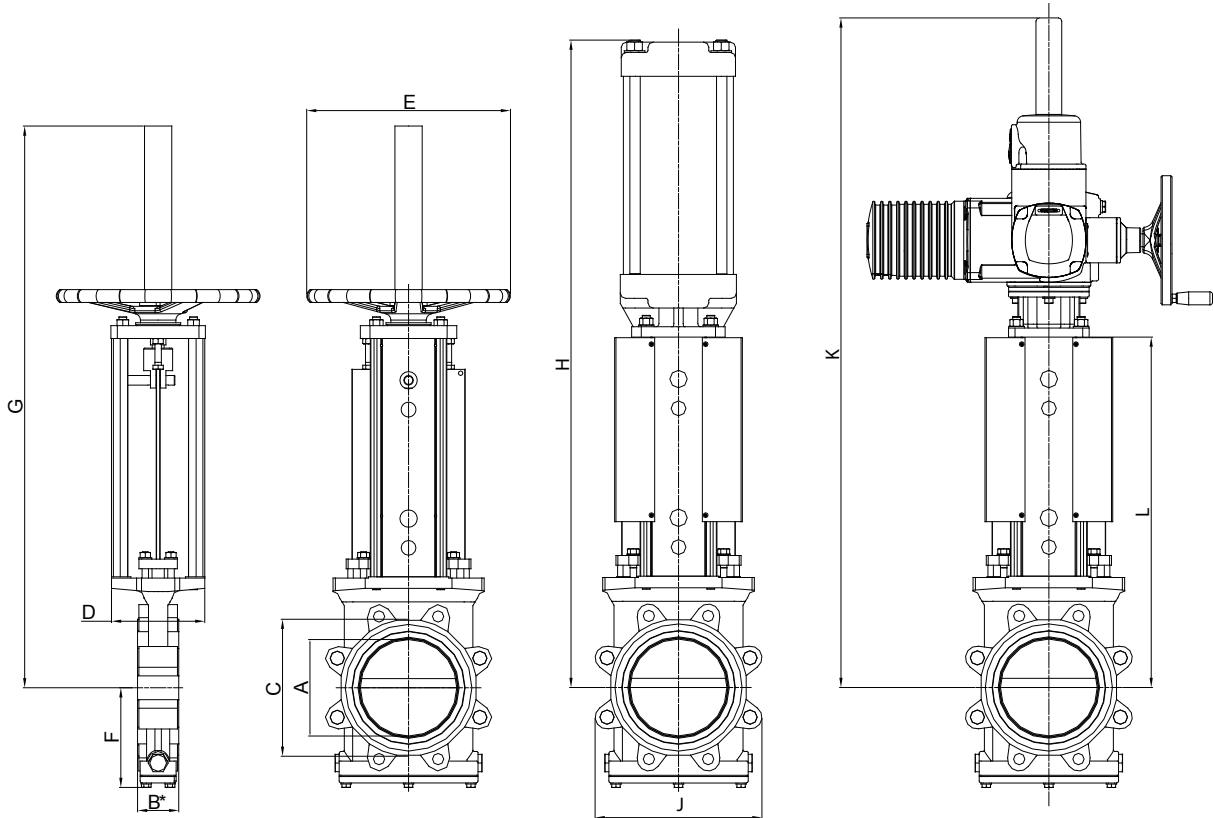


54b ¹⁾	Washer	Stainless steel (A2)
55	Plug	Steel, zinc coated
56 ¹⁾	Locking pin	Stainless steel (1.4301/SS2333) Two is needed for ≥ DN 350.
57 ¹⁾	Stem protection	Rubber
62	Wedge	Stainless steel
63	Stemtube	Stainless steel, 1.0038/SS1312, epoxy coated
64	Plug	Plastic

¹⁾ Optional accessories

²⁾ Recommended spare parts

⁴⁾ ≥ DN 350 details are replaced by screws, washers and nuts.



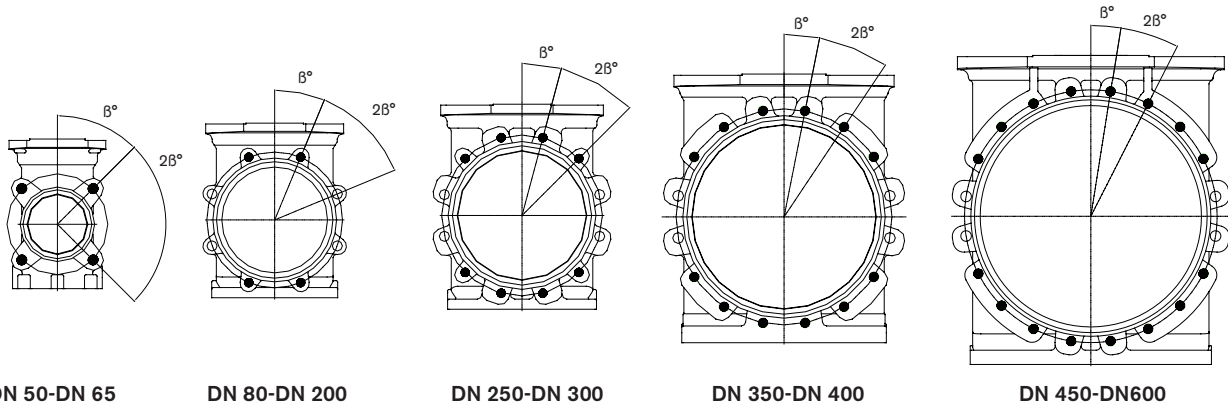
Main dimensions

Dimensions (mm)													
DN	A	B ¹	B ²	C	D	E	F ¹	F ²	G	H	J	K	L
50	50	56	54	94	80	315	103	86	614	639	124	753	371
65	65	56	54	107	80	315	110	93	624	649	139	763	381
80	80	59	57	126	80	315	114	94	712	749	180	801	419
100	100	59	57	158	80	315	123	103	748	809	206	836	454
125	125	66	64	186	145	315	141	124	868	938	237	971	533
150	150	66	64	213	145	315	156	136	878	948	259	981	543
200	200	78	76	269	145	315	189	169	1031	1147	312	1079	641
250	250	78	76	322	145	400	224	204	1162	1279	388	1261	723
300	300	84	82	372	175	520	259	236	1400	1609	457	1409	861
350	350	84	82	432	200	520	289	266	1510	1714	516	1569	916
400	400	97	95	483	200	635	323	300	1650	1908	575	1701	998
450	450	97	95	533	300	-	353	330	-	2114	627	1942	1129
500	500	123	121	589	300	-	388	364	-	2056	680	2000	1187
600	600	123	121	690	300	-	449	425	-	2361	816	2290	1377

B¹ minimum required for installation. B² installed face-to-face.

F¹ Valve equipped with bottom cover, gasket and screws. F² Valve without bottom cover, gasket and screws.

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



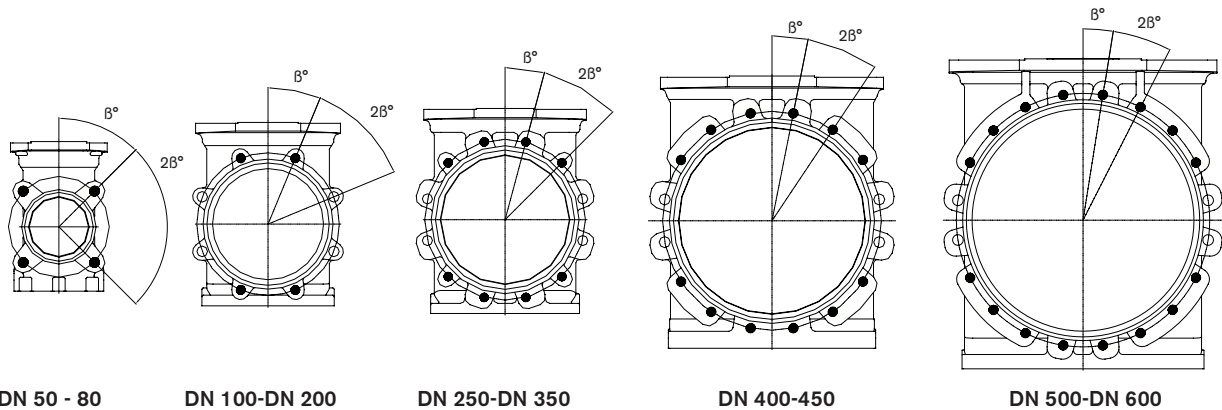
Flange drilling

EN 1092 PN 10 (mm)							
DN	50	65	80	100	125	150	200
Outside flange diameter	165	185	200	220	250	285	340
Bolt circle diameter	125	145	160	180	210	240	295
Number of throughgoing holes (◌)	-	-	4	4	4	4	4
Number of tapped holes on each side (●)	4	4	4	4	4	4	4
Bolt size	M16	M16	M16	M16	M16	M20	M20
Size of throughgoing holes	-	-	Ø18	Ø18	Ø18	Ø22	Ø22
β°	45	45	22,5	22,5	22,5	22,5	22,5
Depth of tapped holes ¹⁾	15	15	14	14	16	16	20
EN 1092 PN 10 (mm)							
DN	250	300	350	400	450	500	600
Outside flange diameter	395	445	505	565	615	670	780
Bolt circle diameter	350	400	460	515	565	620	725
Number of throughgoing holes (◌)	4	4	4	4	4	4	4
Number of tapped holes on each side (●)	8	8	12	12	16	16	16
Bolt size	M20	M20	M20	M24	M24	M24	M27
Size of throughgoing holes	Ø22	Ø22	Ø22	Ø26	Ø26	Ø26	Ø30
β°	15	15	15	11,25	9	9	9
Depth of tapped holes ¹⁾	19	22	22	25	23	34	32

¹⁾ Add the values with the thickness of flanges and washers.

◌ Throughgoing holes

● Tapped holes



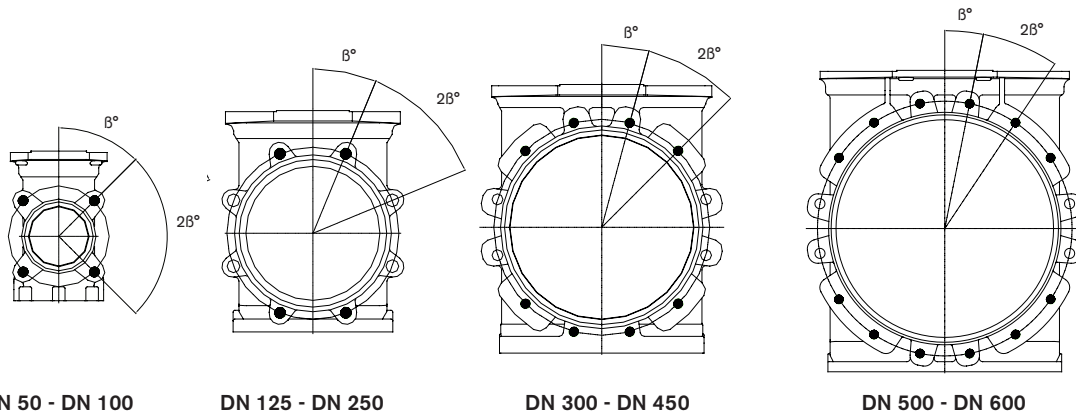
Flange drilling

ANSI B16.5 Class 150 (mm)							
DN	50	65	80	100	125	150	200
Outside flange diameter	152,4	177,8	190,5	228,6	254	297,4	342,9
Bolt circle diameter	120,7	139,7	152,4	190,5	215,9	241,3	298,5
Number of throughgoing holes (○)	-	-	-	4	4	4	4
Number of tapped holes on each side (●)	4	4	4	4	4	4	4
Bolt size (UNC)	5/8"-11	5/8"-11	5/8"-11	5/8"-11	3/4"-10	3/4"-10	3/4"-10
Size of throughgoing holes	-	-	-	Ø18	Ø22	Ø22	Ø22
β°	45	45	45	22,5	22,5	22,5	22,5
Depth of tapped holes ¹⁾	15	15	14	14	16	16	20
ANSI B16.5 Class 150 (mm)							
DN	250	300	350	400	450	500	600
Outside flange diameter	406,4	482,6	533,4	596,9	635	698,5	812,8
Bolt circle diameter	362	431,8	476,3	539,8	577,9	635	749,3
Number of throughgoing holes (○)	4	4	4	4	4	4	4
Number of tapped holes on each side (●)	8	8	8	12	12	16	16
Bolt size (UNC)	7/8"-9	7/8"-9	1"-8	1"-8	1 1/8"-7	1 1/8"-7	1 1/4"-7
Size of throughgoing holes	Ø26	Ø26	Ø30	Ø30	Ø33	Ø33	Ø36
β°	15	15	15	11,25	11,25	9	9
Depth of tapped holes ¹⁾	19	22	21	25	23	34	32

¹⁾ Add the values with the thickness of flanges and washers.

○ Throughgoing holes

● Tapped holes



Flange drilling

AS 2129 Table D (mm)

Size	50	65	80	100	125	150	200
Outside flange diameter	150	165	185	215	255	280	335
Bolt circle diameter	114	127	146	178	210	235	292
Number of throughgoing holes (○)	-	-	-	-	4	4	4
Number of tapped holes on each side (●)	4	4	4	4	4	4	4
Bolt size	M16	M16	M16	M16	M16	M16	M16
Size of throughgoing holes	-	-	-	Ø18	Ø18	Ø18	Ø18
β°	45	45	45	45	22,5	22,5	22,5
Depth of tapped holes ¹⁾	15	15	14	14	16	16	20

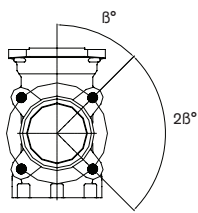
AS 2129 Table D (mm)

Size	250	300	350	400	450	500	600
Outside flange diameter	405	455	525	580	640	705	825
Bolt circle diameter	356	406	470	521	584	641	756
Number of throughgoing holes (○)	4	4	4	4	4	4	4
Number of tapped holes on each side (●)	4	8	8	8	8	12	12
Bolt size	M20	M20	M24	M24	M24	M24	M27
Size of throughgoing holes	Ø22	Ø22	Ø26	Ø26	Ø26	Ø26	Ø30
β°	22,5	15	15	15	15	11,25	11,25
Depth of tapped holes ¹⁾	19	22	21	25	23	34	32

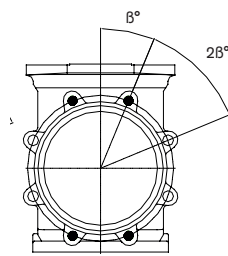
¹⁾ Add the values with the thickness of flanges and washers.

○ Throughgoing holes

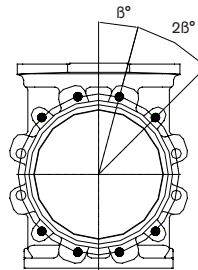
● Tapped holes



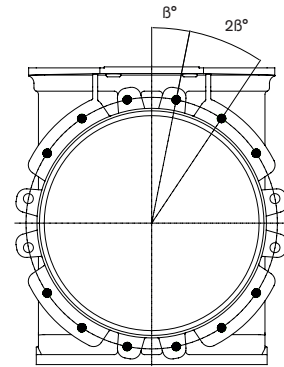
DN 50 - 80



DN 100 - DN 200



DN 250 - DN 400



DN 450 - DN 600

Flange drilling

AS 2129 Table E (mm)

DN	50	65	80	100	125	150	200
Outside flange diameter	150	165	185	215	255	280	335
Bolt circle diameter	114	127	146	178	210	235	292
Number of throughgoing holes (◦)	-	-	-	4	4	4	4
Number of tapped holes on each side (●)	4	4	4	4	4	4	4
Bolt size	M16	M16	M16	M16	M16	M20	M20
Size of throughgoing holes	-	-	-	Ø18	Ø18	Ø22	Ø22
β°	45	45	45	22,5	22,5	22,5	22,5
Depth of tapped holes ¹⁾	15	15	14	14	16	16	20

AS 2129 Table E (mm)

DN	250	300	350	400	450	500	600
Outside flange diameter	405	455	525	580	640	705	825
Bolt circle diameter	356	406	470	521	584	641	756
Number of throughgoing holes (◦)	4	4	4	4	4	4	4
Number of tapped holes on each side (●)	8	8	8	8	12	12	12
Bolt size	M20	M24	M24	M24	M24	M24	M30
Size of throughgoing holes	Ø22	Ø26	Ø26	Ø26	Ø26	Ø26	Ø33
β°	15	15	15	15	11,25	11,25	11,25
Depth of tapped holes ¹⁾	19	22	21	25	23	34	32

¹⁾ Add the values with the thickness of flanges and washers.

◦ Throughgoing holes

● Tapped holes