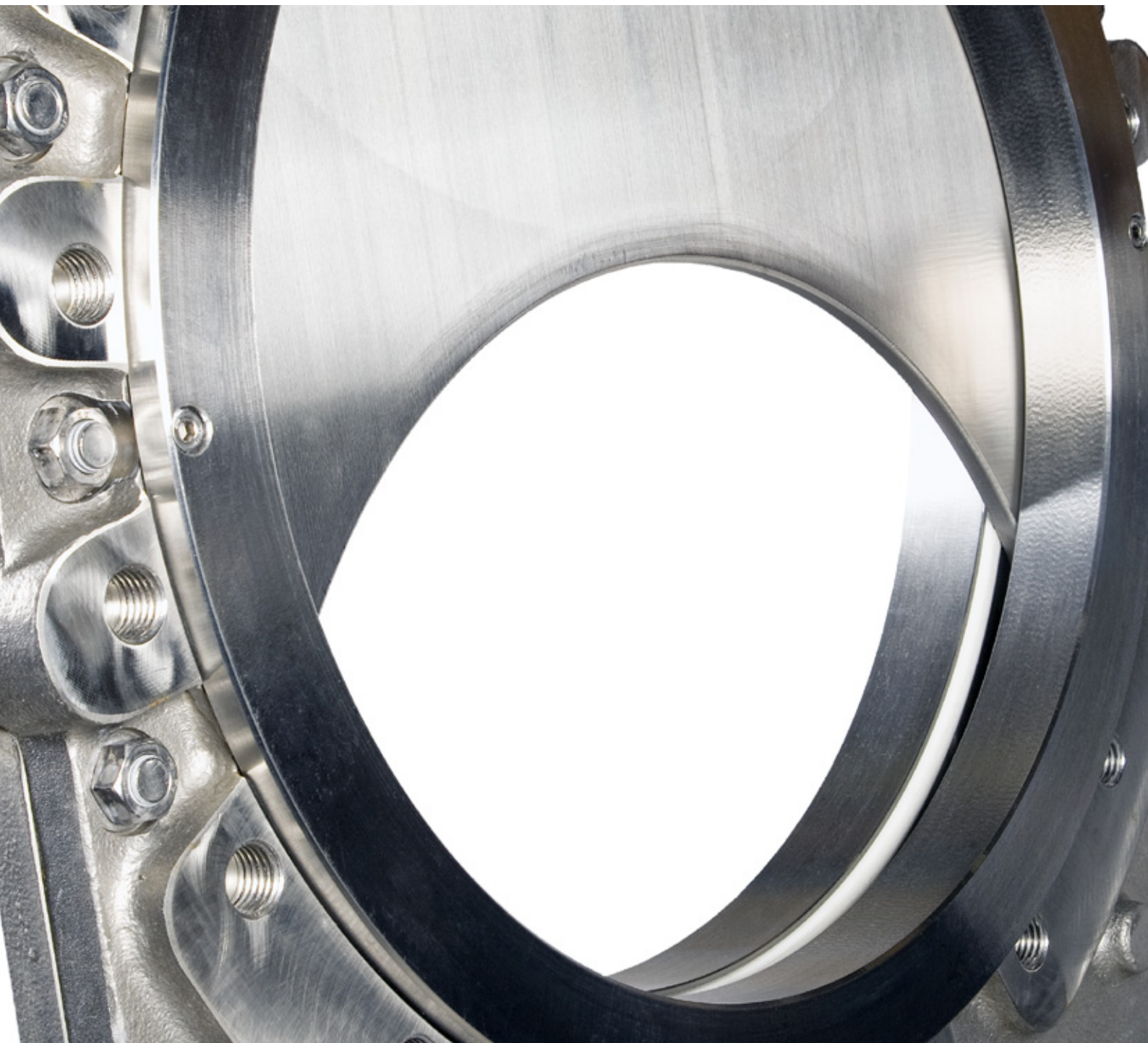


Knife gate valve HL



Knife gate valve HL

Stafsjö's knife gate valve HL has a full bore with excellent flow characteristics. The valve is equipped with a through-going gate for secure bi-directional shut-off of concentrated and static media. This shut-off performance, along with its flow characteristics, makes it suitable for severe operating conditions with media such as pulp (pulp concentration > 5%), liquor, reject, powder and ash.

HL is supplied as standard with a valve body in stainless steel, which has integrated purge ports and guiding strips. To be able to cope with bi-directional pressures, the HL has the retainer ring system on both body halves. The valve is equipped with a gate in stainless steel, but duplex material and hard chromed surface are options to increase the wear resistance. The gland boxes are equipped with Stafsjö's box packing TwinPack™, to secure that no media reaches surrounding environment.

The top work consists of aluminium beams and stainless steel tie rods, which gives good corrosion resistance and a stable operation. The valve is modular designed and can easily be customized to specific processes requirements. There are several actuator types and accessories to choose from in our standard collection.

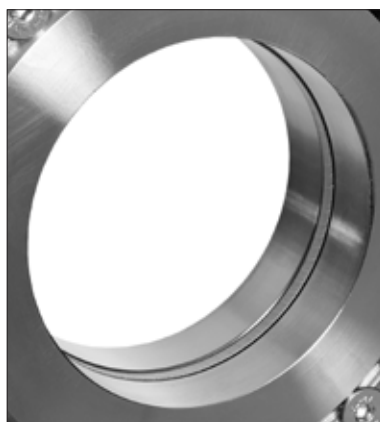
The HL valve is designed, manufactured, inspected and tested according to pressure equipment directive 2014/68/EU category I and II module A2. The valve is CE marked when it is applicable.

The HL valve is one out of five valves in Stafsjö's product range with through-going gates. The HG represent the standard. HP is a high pressure version of HG and the HPT is a high pressure version entirely made in Titanium. Finally the HX is an extreme high pressure version.



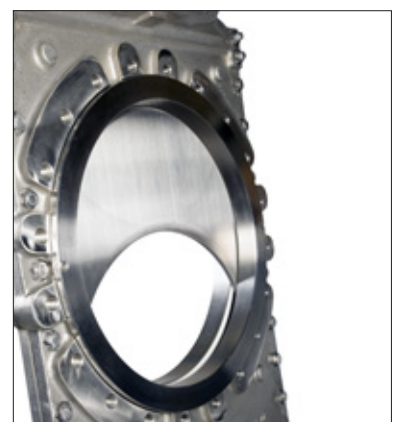
Reliable shut-off and bi-directional sealing

The retainer ring system on both sides of the gate makes it independent of flow direction. The through-going gate assures a reliable shut-off of highly concentrated and static media.



A full bore with excellent flow characteristics

In open position, the HL valve's bore has almost no cavity at all, making the flow characteristics really excellent. In this position the PTFE seats are protected by the retainer rings and the gate.



Solid design to preserve a first rate sealing

The gate is supported all the way from open to close position which, together with a proper dimensioned top works, makes the shut-off reliable and repeatable.

Design data

Sizes	Flange drilling	Face-to-face dimension	ATEX design	Corrosion protection
DN 400 - DN 800	EN 1092 PN 10 EN 1092 PN 16 JIS B 2238 10K ASME/ANSI B16.5 Class 150 ASME/ANSI B16.47 Class 150, series A AS 2129 Table D AS 2129 Table E BS 10 Table D	Stafsjö manufacturing standard	On request directive 2014/34/EU Group II category: 3 G/D (zone 2 or 22) 2 G/D (zone 1 or 21)	Non-corrosive resistant materials are coated in colour RAL5015 acc. to Stafsjö's standard, which fulfill the requirements in EN ISO 12944 class C3.

Other sizes, flange drillings, 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. Pressure shell test: 1,5 times maximum allowable working pressure for open valve. 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
400	6
500 - 800	4

Basic equipment

A. Valve Body			
Material	Code	Type	Maximum temperature °C
Stainless steel	E	EN 1.4408	400
The valve body is as standard supplied with purge ports G1/2"			
B. Gate			
Material	Type	Option	
Stainless steel	EN 1.4404 (AISI 316L)	Hard chromed surface	
Option:			
Duplex stainless steel	EN 1.4462 (S32205)	Hard chromed surface	
C. Retainer rings			
Material	Type		
Stainless steel	EN 1.4408		
D. Seats			
Material	Code	Maximum temperature °C	
PTFE with o-ring Nitrile	P	100	
PTFE with o-ring Viton	PV	180	
E. Box Packings			
Material	Code	Maximum temperature °C	
TwinPack™	TY	260	
WhitePack™	WP	260	

Actuators

Manual	Code	Automatic	Code
Hand wheel ¹⁾	HW	Pneumatic cylinder	EC
Chain wheel ²⁾	CW	Electrical motor	EM
Bevel gear ²⁾	BG	Hydraulic cylinder ²⁾	MH

¹⁾ For recommended size, see page 5 column E

²⁾ For recommended size, see separate data sheet

Double-acting pneumatic cylinder			Electric motor (AUMA multi-turn)		
DN valve	EC type	Force at 5 bar (kN)	DN valve	AUMA type	Attachment
400	EC 200	14.1	400	SA 10.2	F10/A
500 - 600	EC 250	22.1	500 - 600	SA 14.2	F14/A
700 - 800	EC 320	36,2	700 - 800	SA 14.6	F14/A

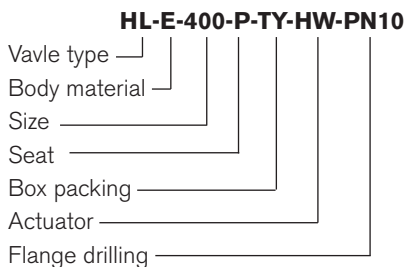
The table above gives recommended cylinder sizes at normal operation with 5 bar air pressure. For other operating conditions, please contact Stafsjö or your local representative for advice.

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.

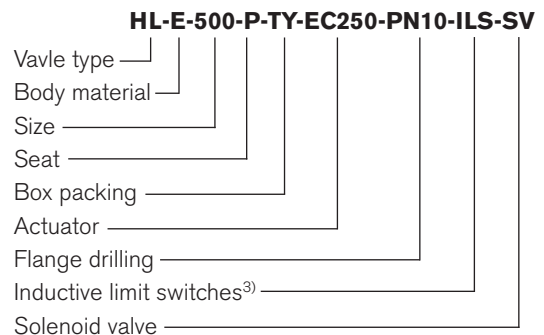
The actuators are described in separate data sheets. For advice and information on other actuators or on ATEX-classified ones, please contact Stafsjö or your local representative.

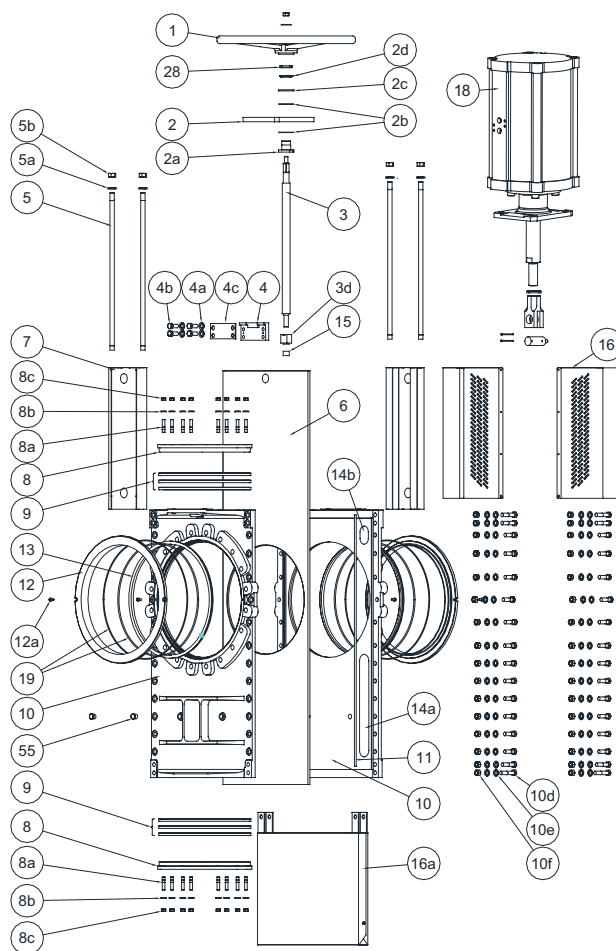
Specify the Stafsjö valve

Stafsjö's valves are modular designed and they can easily be customized with gate, seats 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.



³⁾ All electronics must be specified in detail.



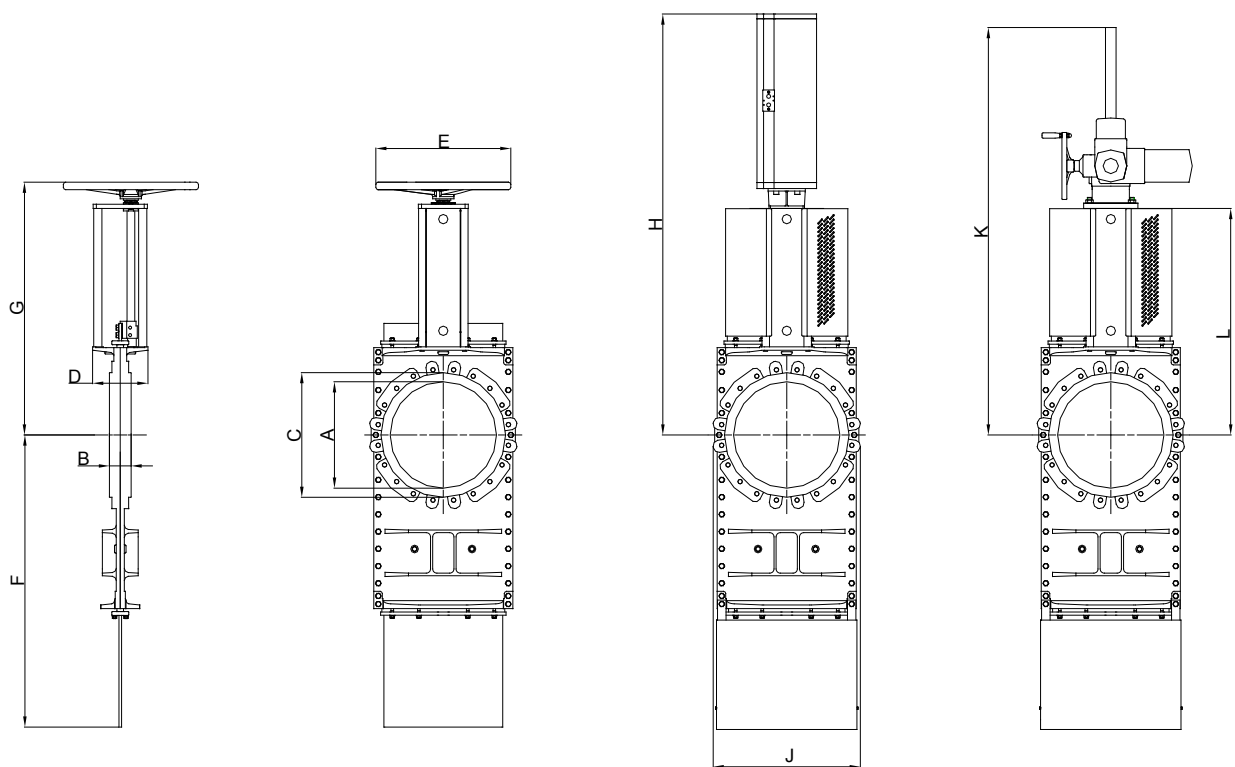


Part list

Pos.	Detail	Material (Name)
1	Hand wheel	Coated cast iron (EN-JL1030 (GG20))
2	Yoke	Stainless steel (EN 1.4301)
2a	Bearing	Brass (CuZn39Pb3)
2b	Slide washer	POM
2c	Bearing	Brass (CuZn39Pb3)
2d	Locking washer	Stainless steel (EN 1.4301)
3	Stem	Stainless steel (EN 1.4305)
3d	Gate stopper	Brass (CuZn39Pb3)
4	Stem nut	Brass (CW603N)
4a	Washer	Stainless steel (A2)
4b	Screw	Stainless steel(A2)
4c	Distance plate	Stainless steel (EN 1.4301)
5	Tie rod	Stainless steel (EN 1.4301)
5a	Washer	Stainless steel (A2)
5b	Nut	Stainless steel (A2)
6	Gate	See basic equipment B
7	Beam	Aluminium (EN AW-6063-T6)
8	Gland	Stainless steel (EN 1.4408)
8a	Stud bolt	Stainless steel (A2), zinc coated

Pos.	Detail	Material (Name)
8b	Washer	Stainless steel (A2)
8c	Nut	Stainless steel (A2), zinc coated
9 ⁴⁾	Box packing	See basic equipment E
10	Valve body	See basic equipment A
10d	Screw	Stainless steel (A2), zinc coated
10e	Washer	Stainless steel (A2)
10f	Nut	Stainless steel (A2), zinc coated
11	Body gasket	PTFE
12	Retainer ring	See basic equipment C
12a	Locking screw	Stainless steel (A4)
13 ⁴⁾	Seat	See basic equipment D
14a	Guide strip	PTFE
14b	Guide strip	PTFE
15	Bushing	Oil bronze
16/a	Gate guard, not for HW	Stainless steel (EN 1.4301)
18	Cylinder	See data sheet
19 ⁴⁾	O-ring	See basic equipment D
55	Plug	Stainless steel (A4)

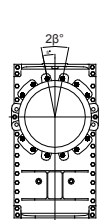
⁴⁾ Recommended spare parts



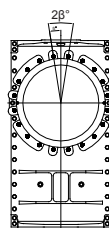
Main dimensions

Dimensions (mm)											
DN	A	B	C	D	E	F	G	H	J	K	L
400	400	84	481	181	520	1107	980	1536	571	1423	876
500	500	101	586	260	635	1373	1188	1834	693	1768	1065
600	600	106	685	260	635	1640	1356	2106	821	2035	1232
700	700	106	796	310	635	1884	1506	2343	916	2290	1382
800	800	128	901	310	635	2159	1701	2643	1041	2585	1582

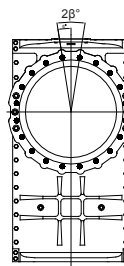
Main dimensions are only for information. Contact Stafsjö for certified drawings.



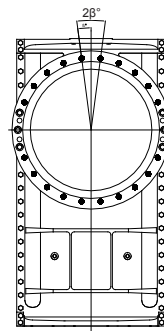
DN 400



DN 500



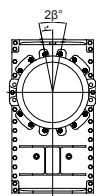
DN 600



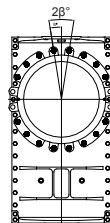
DN 700 - DN 800

Flange drilling according to EN 1092 PN 10

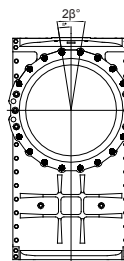
Flange drilling information (mm)					
DN	400	500	600	700	800
Outside flange diameter	565	670	780	895	1015
Bolt circle diameter	515	620	725	840	950
Number of throughgoing bolts (○)	4	-	-	4	4
Number of tapped hole/side (●)	12	20	20	20	20
Bolt size	M24	-	-	M27	M30
Size of throughgoing holes	Ø26	Ø26	Ø30	Ø30	Ø33
β°	11,25	9	9	7,5	7,5
Screw lengths ⁵⁾	24	29	29	31	38



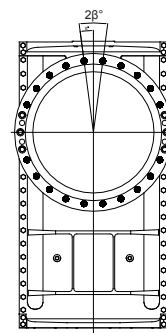
DN 400



DN 500



DN 600



DN 700 - DN 800

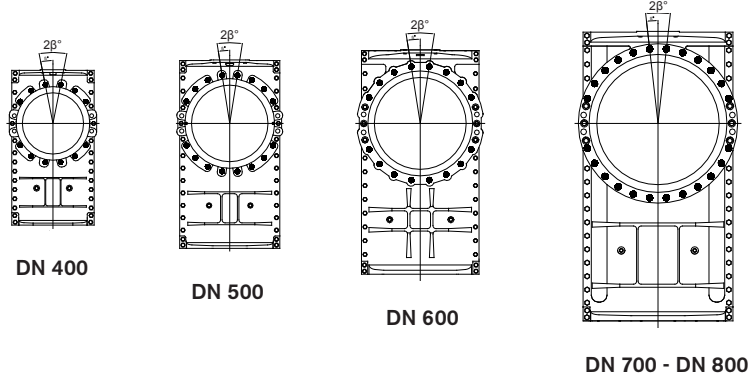
Flange drilling according to EN 1092 PN 16

Flange drilling information (mm)					
DN	400	500	600	700	800
Outside flange diameter	580	715	840	910	1025
Bolt circle diameter	525	650	770	840	950
Number of throughgoing bolts (○)	4	4	4	4	4
Number of tapped hole/side (●)	12	16	16	20	20
Bolt size	M27	M30	M33	M33	M36
Size of throughgoing holes	Ø30	Ø33	Ø36	Ø36	Ø39
β°	11,25	9	9	7,5	7,5
Screw lengths ⁵⁾	24	29	29	31	38

⁵⁾ Add the values with the thickness of flanges, washers and gaskets.

○ Throughgoing holes

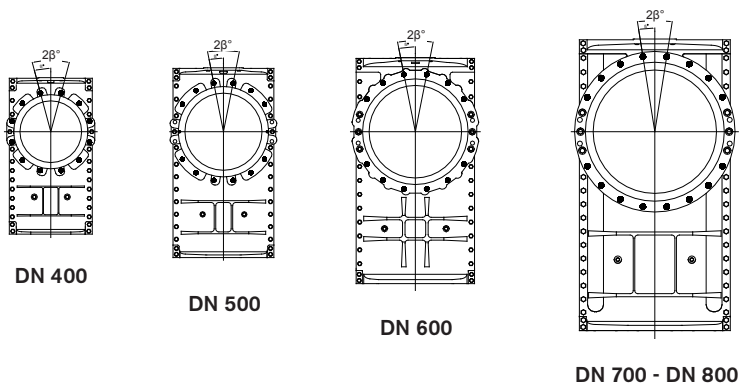
● Tapped holes



Flange drilling according to ASME/ANSI B 16.5 and 16.47 Class 150 series A

Flange drilling information \geq DN 700: ANSI B16.47 Class 150 series A (mm)

DN	400	500	600	700	800
Outside flange diameter	597	699	813	927	1060
Bolt circle diameter	540	635	749	863,6	978
Number of throughgoing bolts (°)	4	4	4	4	4
Number of tapped hole/side (•)	12	16	16	24	24
Bolt size (UNC)	1"	1 1/8"	1 1/4"	1 1/4"	1 1/2"
Size of throughgoing holes	Ø30	Ø33	Ø36	Ø36	Ø42
β°	11,25	9	9	6,43	6,43
Screw lengths ⁵⁾	24	29	29	31	38



Flange drilling according to BS Table D

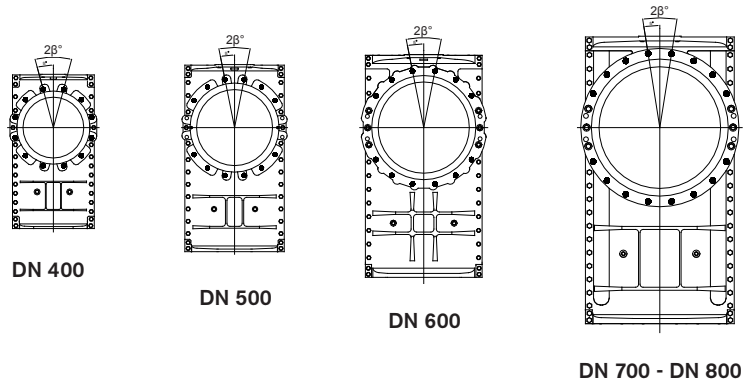
Flange drilling information (mm)

DN	400	500	600	700	800
Outside flange diameter	578	704,9	825,5	910	1060
Bolt circle diameter	520,7	641,4	755,7	845	984,2
Number of throughgoing bolts (°)	-	4	4	4	4
Number of tapped hole/side (•)	12	12	12	16	16
Bolt size (UNC)	7/8"	7/8"	1"	1"	1 1/4"
Size of throughgoing holes	-	Ø26	Ø30	Ø30	Ø36
β°	15	11,25	11,25	9	9
Screw lengths ⁵⁾	24	29	29	31	38

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

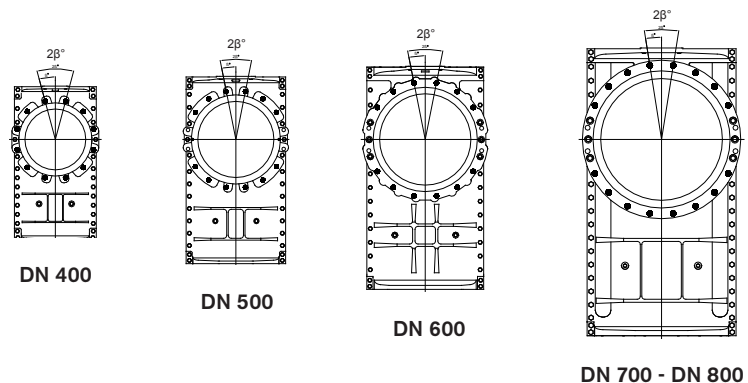
° Throughgoing holes

• Tapped holes



Flange drilling according to AS 2129 Table D

Flange drilling information (mm)					
DN	400	500	600	700	800
Outside flange diameter	580	705	825	910	1060
Bolt circle diameter	521	641	756	845	984
Number of throughgoing bolts (◦)	-	4	4	4	4
Number of tapped hole/side (•)	12	12	12	16	16
Bolt size	M24	M24	M27	M27	M33
Size of throughgoing holes	-	Ø26	Ø30	Ø30	Ø36
β°	15	11,25	11,25	9	9
Screw lengths ⁵⁾	24	29	29	31	38



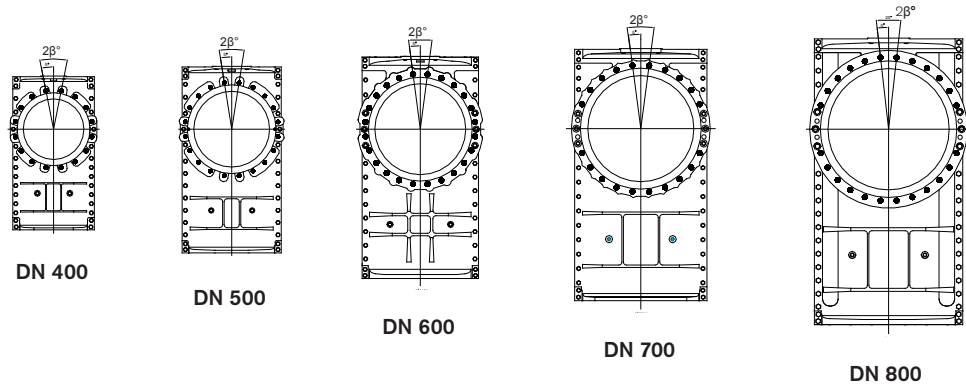
Flange drilling according to AS 2129 Table E

Flange drilling information (mm)					
DN	400	500	600	700	800
Outside flange diameter	580	705	825	910	1060
Bolt circle diameter	521	641	756	845	984
Number of throughgoing bolts (◦)	-	4	4	4	4
Number of tapped hole/side (•)	12	12	12	16	16
Bolt size	M24	M24	M30	M30	M33
Size of throughgoing holes	-	Ø26	Ø33	Ø33	Ø36
β°	15	11,25	11,25	9	9
Screw lengths ⁵⁾	24	29	29	31	38

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

◦ Throughgoing holes

• Tapped holes



Flange drilling according to JIS B 2238 10K

Flange drilling information (mm)					
DN	400	500	600	700	800
Outside flange diameter	560	675	795	905	1020
Bolt circle diameter	510	620	730	840	950
Number of throughgoing bolts (○)	-	-	-	4	4
Number of tapped hole/side (●)	16	20	24	20	24
Bolt size	M24	M24	M30	M30	M30
Size of throughgoing holes	-	-	-	Ø33	Ø33
β°	11,25	9	7,5	7,5	6,429
Screw lengths ⁵⁾	24	29	29	31	38

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

○ Throughgoing holes

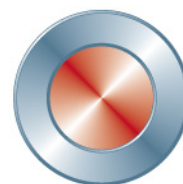
● Tapped holes

Further Information is available on www.stafsjo.com



Globally active. Locally represented.

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