



HG

EN 1092 PN 10 • EN 1092 PN 16 • JIS B 2238 10K • ANSI B16.5
Class 150 • ANSI B16.47 Class 150 • BS 10 Table D

Stafsjö's knife gate valve HG is a bi-directional valve, particularly well suited for severe operating conditions where there is a risk for clogging. A throughgoing gate assures closing of the valve through static media. Common media are pulp (concentration > 5%), caustic liquor, reject and waste.

The HG-valve is designed of a two piece valve body in stainless steel or cast iron. Purge ports are standard on the valve on sizes DN 100 - DN 800. HG is equipped with a gate in stainless steel, built-in guiding pads on larger sizes and removable retainer rings, which simplifies changing of the seats. Stafsjö's unique box packing, TwinPack™, gives a tight sealing and assures high operation reliability.

The valve is modular designed and it can easily be provided with different actuators and accessories.

Stafsjö's knife gate valve HG is designed, manufactured, inspected and tested according to the European Pressure Equipment Directive (PED 97/23/EC) category II module A1. The valve is therefore CE-marked.

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



Design data

Sizes	Flange drilling	Face-to-face dimension	Leakage rate
DN 80 - DN 800	EN 1092 PN 10 EN 1092 PN 16 JIS B 2238 10K ANSI B16.5 Class 150 ANSI B16.47 Class 150 BS 10 Table D	Stafsjö manufacturing standard MSS SP-81 TAPPI TIS 405-8	EN 12266-1:2003 Rate A: no visually detectable leakage is allowed for duration of the test MSS SP-81

Other sizes on request

Rate A is not applicable for valves equipped with metal seat

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
80 - 250	10	80 - 250	10
300 - 800	6	300 - 800	6

Basic equipment

A. Valve Body

Material	Type	Maximum temperature °C
Stainless steel (E)	1.4408	300
Cast iron (A)	GG20	150

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

B. Gate

Material	Type	Surface treatment	Body combination
Stainless steel	SS2347/316		E and A
Stainless steel	SS2377/FAL	Hard chrome	E

C. Retainer rings

Material	Type	Body combination	Seat combination
Stainless steel	SS2343	E	P and PV
Cast iron	GG20	A	P, PV, M and MHT
Zinc coated carbon steel		E and A	U

Standard colour for retainer ring in cast iron: epoxy colour, thickness 140-200µm, RAL 5015.

D. Seats

Material	Maximum temperature °C
PTFE with o-ring nitril (P)	100
PTFE with o-ring viton (PV)	180
Polyurethane (U)	90
Metal with Grafoil (MHT)	300 (E)/150 (A)
Metal with o-ring nitrile/ viton (M)	100/180

E. Box packings

Material	pH	Maximum temperature °C
TwinPack™ (TY)	2-13	260
PTFE (TF)	0-14	280
Garlock 127 (TG)	1-12	650

Actuators

Manual		Automatic	
Hand wheel¹⁾	(HW)	Pneumatic cylinder	(AC)
Chain wheel²⁾	(CW)	Electrical motor	(EM)
Bevel gear²⁾	(BG)	Hydraulic cylinder²⁾	(MH)

¹⁾ For recommended size, see page 5 column E

²⁾ For recommended size, see separate data sheet

Pneumatic cylinder			Electric motor – AUMA multi-turn		
DN valve	Size AC	Maximum Force (kN)	DN valve	AUMA	Attachment
80 - 125	100	3,5	80 - 125	SA 07.1	F10/A
150 - 250	160	9.0	150 - 250	SA 07.5	F10/A
300 - 400	200	14.1	300 - 450	SA 10.1	F10/A
450 - 500	250	22.1	500 - 600	SA 14.1	F14/A
600 - 800	320	36,2	700 - 800	SA 14.5	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 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	Ersce E100-00-11	AC15 6A/230 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	HG DN 80 on order.	
	HG DN 100 - DN 800 are equipped with purge ports Pipe thread G 1/2" acc. to ISO 228/1	
Water flush gland	For HG DN 80 - DN 300	

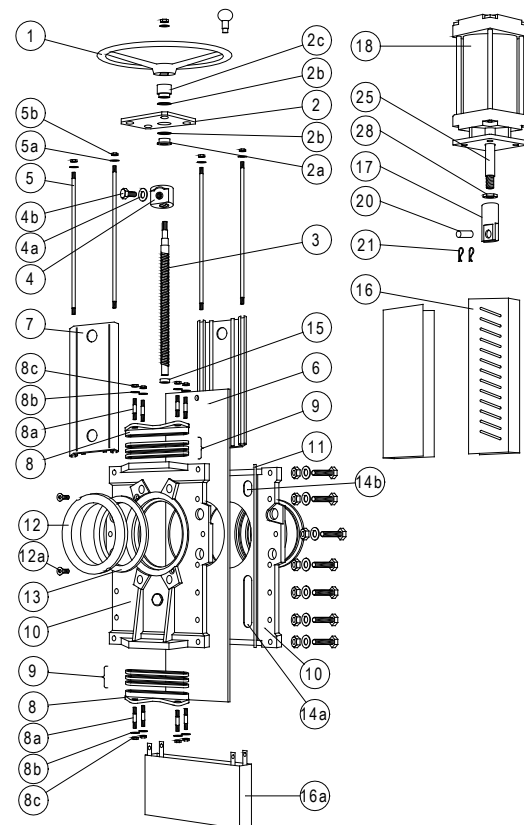
Pneumatic cylinder

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, 10-250 V AC/DC
	Elobau 102290PE & 102290PE09	3-wire, 10-30 V DC

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

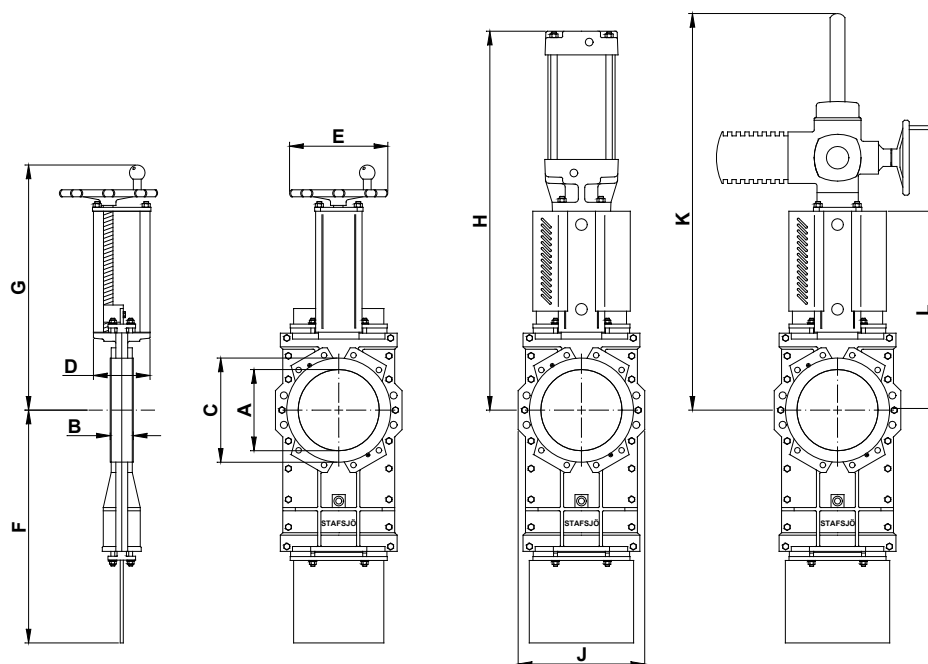
Part list

Pos	Detail	Material (Type)
1	Hand wheel	Epoxy painted Ø 200 - Ø 315 Cast iron GG25 ≥ Ø 400 Cast iron (GG20)
2	Yoke	Stainless steel (SS2333-02)
2a	Bearing	Brass (SS5170-00)
2b	Slide washer	POM
2c	Bearing	Brass (SS5170-00)
3	Stem	Stainless steel (SS2320-02), DN ≥ 300: Stainless steel (SS2383-02)
4	Stem nut	Brass (CW603N) ≥ DN 800: Brass (SS5453)
4a	Washer	Stainless steel (A2)
4b	Screw	Stainless steel (A2)
5	Tie rod	Stainless steel (SS2333-02)
5a	Washer	Stainless steel (A2)
5b	Nut	Stainless steel (A2)
6	Gate	See equipment B
7	Beam	Aluminium (EN AW-6063-T6)
8	Gland	Stainless steel (SS2343)
8a	Stud bolt	Stainless steel (A2) + zinc
8b	Washer	Stainless steel (A2)
8c	Nut	Stainless steel (A2) + zinc
9	Box packing*	See equipment E
10	Valve body	See equipment A
11	Body gasket	Grafoil DN ≥ 200: PTFE
12	Retainer ring	See equipment C
12a	Locking screw	Stainless steel (A2)
13	Seat*	See equipment D
14a	Guide strip	Only DN ≥ 250: PTFE
14b	Guide strip	Only DN ≥ 250: PTFE
15	Bushing	Oil-bronze
16	Gate guard, not for HW	Stainless steel (SS2333-02)



16a	Gate guard, not for HW	Stainless steel (SS2333-02)
17	Gate clevis	Stainless steel (SS2346-02)
18	Cylinder	See data sheet
20	Clevis pin	Stainless steel (SS2346-02)
21	Split pin	Stainless steel (SS2343-02)
25	Piston rod	Stainless steel (SS2383-02)
28	Locking nut	Stainless steel (SS 2346-02)

* Recommended spare parts

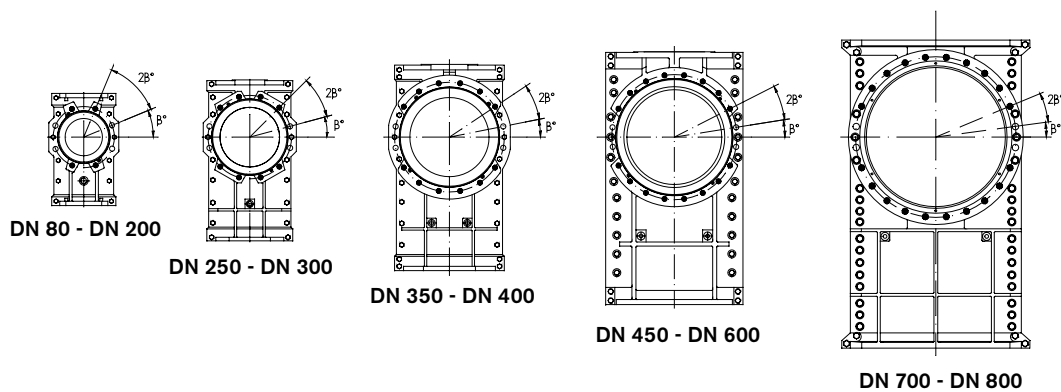


Main dimensions

Dimensions (mm)												
DN	A	B	C	D	E	F	G	H	J	K	L Weight* kg	
80	79	51	125	70	200	285	405	520	180	744	275	17
100	103	51	153	72	200	385	445	583	210	809	315	22
125	128	56	179	80	250	424	485	650	240	874	355	29
150	153	60	205	80	250	455	530	755	260	944	400	34
200	202	60	270	150	315	600	659	925	330	1070	520	75
250	250	69	320	150	315	725	739	1055	390	1200	600	100
300	302	78	375	180	400	865	893	1287	455	1420	720	170
350	332	78	425	175	400	980	948	1370	510	1505	775	200
400	380	89	480	210	520	1070	1033	1672	570	1650	873	290
450	428	89	534	220	520	1210	1124	1813	625	1790	963	410
500	470	114	580	320	635	1412	1299	2048	690	2020	1138	670
600	540	122	679	350	635	1553	1336	2160	800	2135	1175	820
700	665	128	800	320	635	1891	1556	2505	995	2505	1395	1300
800	760	128	900	320	635	2132	1721	2770	1070	2770	1560	1700

* Valve including hand wheel (HW)

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



Flange drilling

EN 1092 PN10

DN	80	100	125	150	200	250	300
Outside flange diameter (mm)	200	220	250	285	340	395	445
Bolt circle diameter (mm)	160	180	210	240	295	350	400
Number of throughgoing bolts (○)	4	4	4	4	4	4	4
Number of tapped hole/side (●)	4	4	4	4	4	8	8
Bolt size	M16	M16	M16	M20	M20	M20	M20
Size of throughgoing holes in flange	Ø18	Ø18	Ø18	Ø22	Ø22	Ø22	Ø22
β°	22,5	22,5	22,5	22,5	22,5	15	15
Screw lengths ¹⁾	13	13	15	15	16	18	20

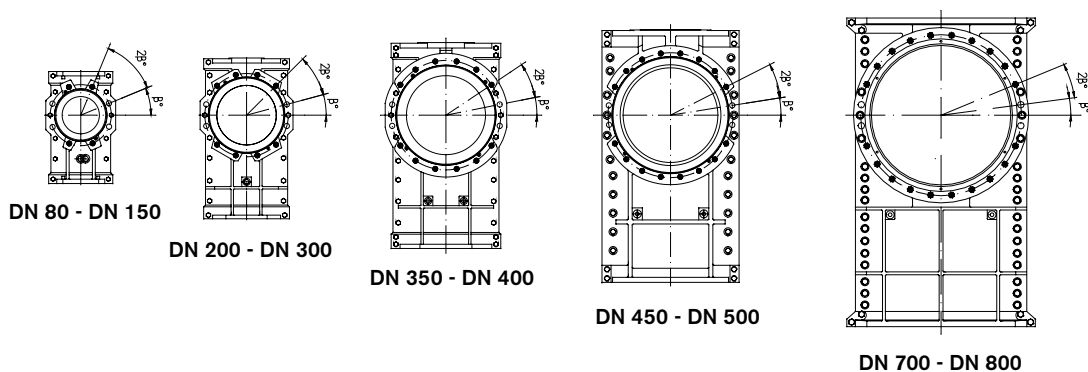
EN 1092 PN10

DN	350	400	450	500	600	700	800
Outside flange diameter (mm)	505	565	615	670	780	895	1015
Bolt circle diameter (mm)	460	515	565	620	725	840	950
Number of throughgoing bolts (○)	4	4	4	4	4	4	4
Number of tapped hole/side (●)	12	12	16	16	16	20	20
Bolt size	M20	M24	M24	M24	M27	M27	M30
Size of throughgoing holes in flange	Ø22	Ø26	Ø26	Ø26	Ø30	Ø30	Ø33
β°	11,25	11,25	9	9	9	7,5	7,5
Screw lengths ¹⁾	20	25	25	27	28	28	31

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

○ Throughgoing holes

● Tapped holes



Flange drilling

EN 1092 PN 16

DN	80	100	125	150	200	250	300
Outside flange diameter (mm)	200	220	250	285	340	405	460
Bolt circle diameter (mm)	160	180	210	240	295	355	410
Number of throughgoing bolts (○)	4	4	4	4	4	4	4
Number of tapped hole/side (●)	4	4	4	4	8	8	8
Bolt size	M16	M16	M16	M20	M20	M24	M24
Size of throughgoing holes in flange	Ø18	Ø18	Ø18	Ø22	Ø22	Ø26	Ø26
β°	22,5	22,5	22,5	22,5	15	15	15
Screw lengths ¹⁾	13	13	15	15	16	18	20

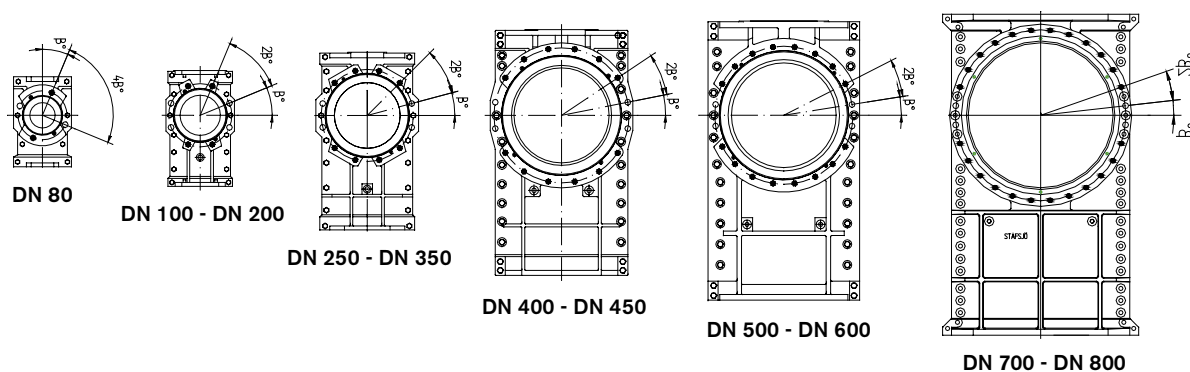
EN 1092 PN 16

DN	350	400	450	500	700	800
Outside flange diameter (mm)	520	580	640	715	910	1025
Bolt circle diameter (mm)	470	525	585	650	840	950
Number of throughgoing bolts (○)	4	4	4	4	4	4
Number of tapped hole/side (●)	12	12	16	16	20	20
Bolt size	M24	M27	M27	M30	M33	M36
Size of throughgoing holes in flange	Ø26	Ø30	Ø30	Ø33	Ø36	Ø39
β°	11,25	11,25	9	9	7,5	7,5
Screw lengths ¹⁾	20	25	25	27	28	31

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

○ Throughgoing holes

● Tapped holes



Flange drilling

DN 80 - DN 600: ANSI B16.5 Class 150. ≥ DN 700: ANSI B16.47 Class 150.

DN	80	100	125	150	200	250	300
Outside flange diameter (mm)	190,5	228,6	254	279,4	342,9	406,4	482,6
Bolt circle diameter (mm)	152,4	190,5	215,9	241,3	298,4	361,9	431,8
Number of throughgoing bolts (○)	2	4	4	4	4	4	4
Number of tapped hole/side (●)	2	4	4	4	4	8	8
Bolt size (UNC)	5/8-11	5/8-11	3/4-10	3/4-10	3/4-10	7/8-9	7/8-9
Size of throughgoing holes in flange	Ø18	Ø18	Ø22	Ø22	Ø22	Ø26	Ø26
β°	22,5	22,5	22,5	22,5	22,5	15	15
Screw lengths ¹⁾	13	13	15	15	16 ²⁾	18	20

DN 80 - DN 600: ANSI B16.5 Class 150. ≥ DN 700: ANSI B16.47 Class 150.

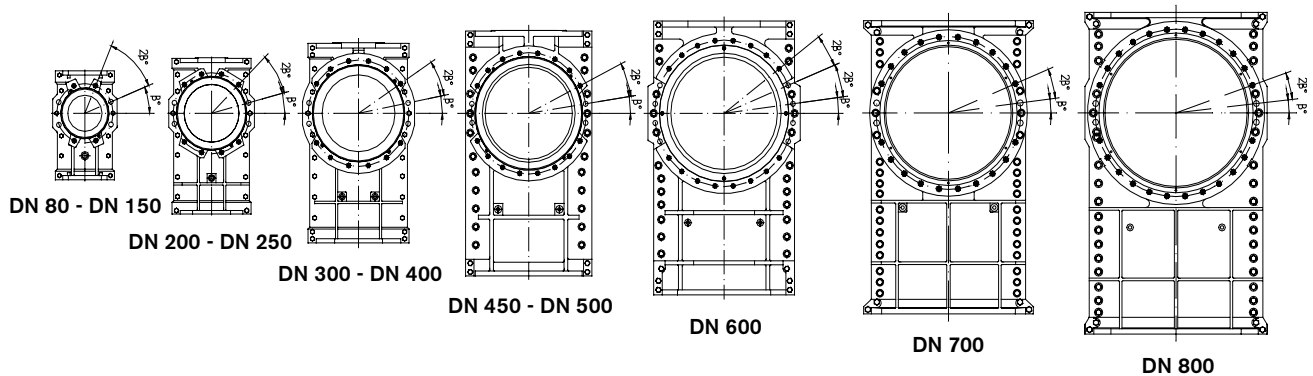
DN	350	400	450	500	600	700	800
Outside flange diameter (mm)	533	597	635	699	813	927,1	1060
Bolt circle diameter (mm)	476,3	539,8	577,9	635	749,3	863,6	977,9
Number of throughgoing bolts (○)	4	4	4	4	4	4	4
Number of tapped hole/side (●)	8	12	12	16	16	24	24
Bolt size (UNC)	1-8	1-8	1 1/8-7	1 1/8-7	1 1/4-7	1 1/4-7	1 1/2-6
Size of throughgoing holes in flange	Ø30	Ø30	Ø33	Ø33	Ø36	Ø36	Ø42
β°	15	11,25	11,25	9	9	6,43	6,43
Screw lengths ¹⁾	20	25	25	27	28	28	31

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

²⁾ The screws on one side has to be 10 mm longer for face-to-face TAPPI.

○ Throughgoing holes

● Tapped holes



Flange drilling

JIS B 2238 10K

DN	80	100	125	150	200	250	300
Outside flange diameter (mm)	180	210	250	280	330	400	445
Bolt circle diameter (mm)	150	175	210	240	290	355	400
Number of throughgoing bolts (○)	4	4	4	4	4	4	4
Number of tapped hole/side (●)	4	4	4	4	8	8	12
Bolt size	M16	M16	M20	M20	M20	M22	M22
Size of throughgoing holes in flange	Ø18	Ø19	Ø22	Ø22	Ø23	Ø26	Ø26
β°	22,5	22,5	22,5	22,5	15	15	15
Screw lengths ¹⁾	13	13	15	15	16	18	20

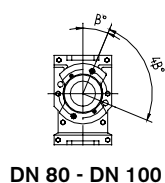
JIS B 2238 10K

DN	350	400	450	500	600	700	800
Outside flange diameter (mm)	490	550	620	675	795	905	1020
Bolt circle diameter (mm)	445	510	565	620	730	840	950
Number of throughgoing bolts (○)	4	4	4	4	8	4	4
Number of tapped hole/side (●)	12	12	16	16	16	20	24
Bolt size	M22	M24	M24	M24	M30	M30	M30
Size of throughgoing holes in flange	Ø26	Ø26	Ø26	Ø27	Ø33	Ø33	Ø33
β°	11,25	11,25	9	9	7,5	7,5	6,43
Screw lengths ¹⁾	20	25	25	27	28	28	31

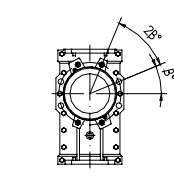
¹⁾ Add the values with the thickness of flanges, washers and gaskets.

○ Throughgoing holes

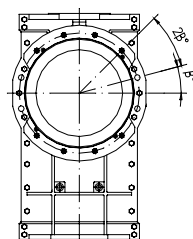
● Tapped holes



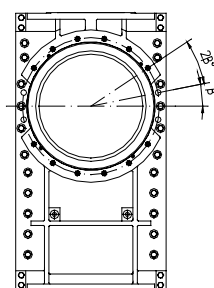
DN 80 - DN 100



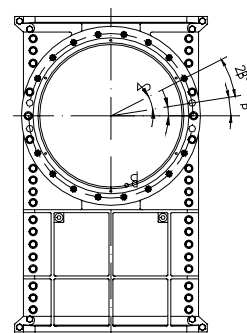
DN 125 - DN 250



DN 300 - DN 450



DN 500 - DN 600



DN 700 - DN 800

Flänsborrning

BS 10 Table D

DN	80	100	125	150	200	250	300
Outside flange diameter (mm)	184	215,9	254	279,4	336,6	406,4	457,2
Bolt circle diameter (mm)	146,1	177,8	209,6	235	292,1	355,6	406,4
Number of throughgoing bolts (○)	2	2	4	4	4	4	4
Number of tapped hole/side (●)	2	2	4	4	4	4	8
Bolt size (UNC)	5/8-11	5/8-11	5/8-11	5/8-11	5/8-11	3/4-10	3/4-10
Size of throughgoing holes in flange	Ø18	Ø18	Ø18	Ø18	Ø18	Ø22	Ø22
β°	22,5	22,5	22,5	22,5	22,5	22,5	15
Screw lengths ¹⁾	13	13	15	15	16	18	20

BS 10 Table D

DN	350	400	450	500	600	700	800
Outside flange diameter (mm)	527,1	577,9	641,4	704,9	825,5	910	1060
Bolt circle diameter (mm)	469,9	520,7	584,2	641,4	755,7	845	984,2
Number of throughgoing bolts (○)	4	4	4	4	4	4	4
Number of tapped hole/side (●)	8	8	8	12	12	16	16
Bolt size (UNC)	7/8-9	7/8-9	7/8-9	7/8-9	1-8	1-8	1 1/4-7
Size of throughgoing holes in flange	Ø26	Ø26	Ø26	Ø26	Ø30	Ø30	Ø36
β°	15	15	15	11,25	11,25	9	9
Screw lengths ¹⁾	20	25	25	27	28	28	31

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

○ Throughgoing holes

● Tapped holes