

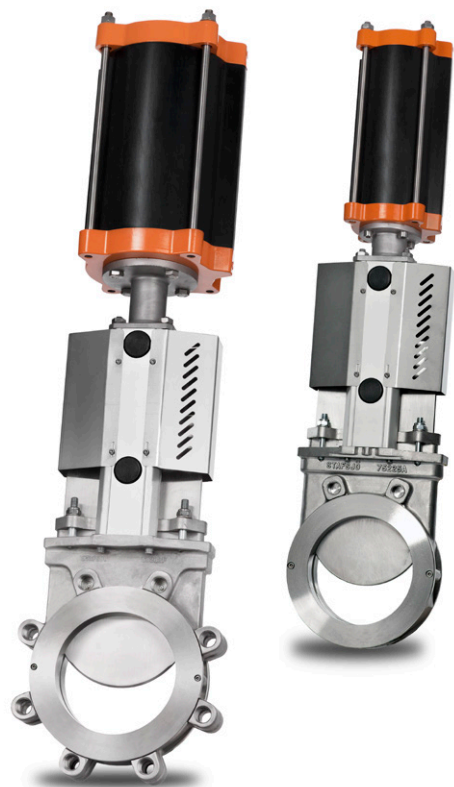
**Stafsjö**  
SINCE 1666

# Knife gate valve XV

Bi-directional chemical resistant knife gate valve in stainless steel

Size range:

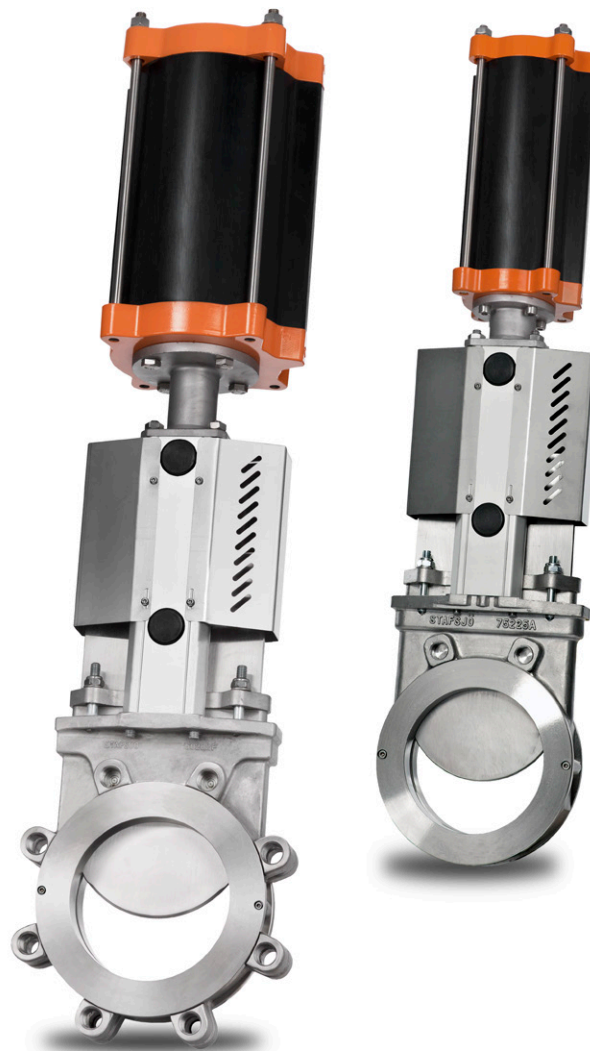
DN 65 - DN 1000 (2.5" - 40")



# About XV

The XV knife gate valve offers excellent flow characteristics and bi-directional zero leakage shut-off. It is a compact chemical resistant valve suitable for fluids such as pulp stock, biomass and sludge.

The XV valve is modular designed and can easily be equipped with manual as well as automatic actuators and related automation accessories. It is as standard supplied with PTFE seats and stainless steel wetted parts. The valve body is available in a fully lugged version up to DN 600 and a semi lugged version all the way up to up to DN 1000. There is also a dead end service version available in sizes DN 80 - DN 200.



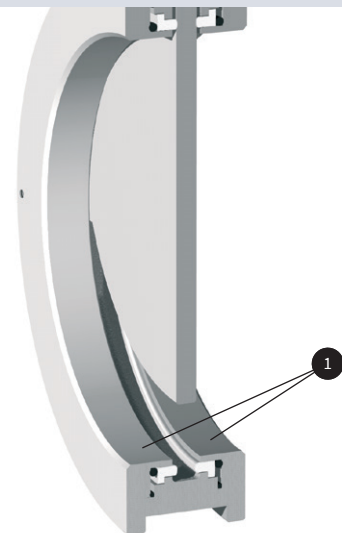
## Full bore with excellent flow characteristics

In open position the XV provide an unobstructed flow path where the media flow straight through.



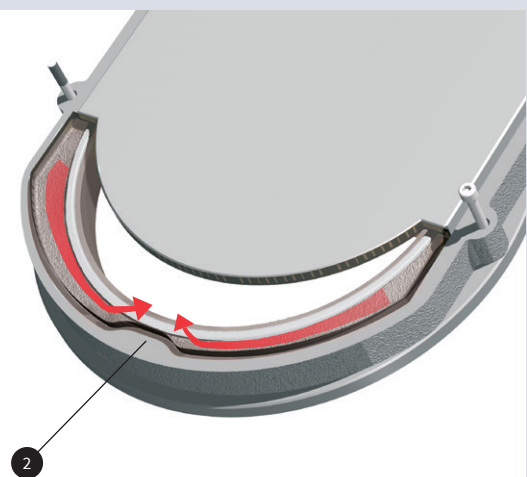
## Bi-directional zero leakage shut-off

The retainer ring system (1) on both side of the gate provide a tight seal independent of pressure direction and increased tolerance against pressure shocks. The retainers are mechanically locked and can easily be removed for seat change making any maintenance work to go quick and easy.



## Self-cleaning function

During closure the gate cuts through the media and the bump (2) in the lower part of the bore raise the speed and force the media out of the valve and into the pipe. The valve clean itself each time it closes.



## Pressure class

Max working pressure at 20 °C		Max differential pressure at 20 °C	
DN	bar	DN	bar
65 - 150	16	65 - 350	10
200 - 600	10	400 - 600	6
700 - 900	6	700 - 1000	4
1000	4		

The XV is also available in a 12,5 bar version in DN 80-DN 200. Contact Stafsjö for further information.

## Configurations

### Standard fully lugged body

**Sizes:** DN 80 - DN 600

**Valve body:** Stainless steel EN 1.4408

**Retainer rings:** Stainless steel EN 1.4408

**Gate:** Stainless steel EN 1.4404, AISI 316L

**Box packing:** TwinPack with UHMW-PE scraper (up to DN 600)

**Top works:** Stainless steel tie rods encapsulated in aluminum beams including stainless steel gate guards on automated valves.

### Standard semi lugged body

**Sizes:** DN 65 - DN 1000

**Valve body:** Stainless steel EN 1.4408

**Retainer rings:** Stainless steel EN 1.4408

**Gate:** Stainless steel EN 1.4404, AISI 316L

**Box packing:** TwinPack with UHMW-PE scraper (up to DN 600)

**Top works:** Stainless steel tie rods encapsulated in aluminum beams including stainless steel gate guards on automated valves.

### Options

#### Valve body

Stainless steel EN 1.4408

#### Retainer rings

Stainless steel EN 1.4408

#### Gate material and surface treatments

Stainless steel EN 1.4404, AISI 316L

Duplex stainless steel EN 1.4462

Hard chromed surface

Extra polished surface (max Ra 0,8)

#### Seats

PTFE with o-ring in NBR or FKM/FPM

#### Box packings

TwinPack with scraper in UHMW-PE

TwinPack with PTFE scraper

#### Actuators

Chain wheel

Bevel gear

Hand wheel with non-rising stem

Double-acting pneumatic cylinders

Single-acting pneumatic cylinders

Electric actuators

Hydraulic actuator

#### Flange drillings

EN 1092 PN 10

ASME/ANSI B16.5 Class 150 and B16.47 Class 150, series A

AS 2129 Table D and E

JIS B 2238 10K on request

#### Accessories

See Stafsjö's accessory data sheet for further information.

### Design standards

#### 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.

Contact Stafsjö for further information on ATEX approved solutions.

#### Face-to-face dimensions

Stafsjö manufacturing standard with option in MSS-SP81.

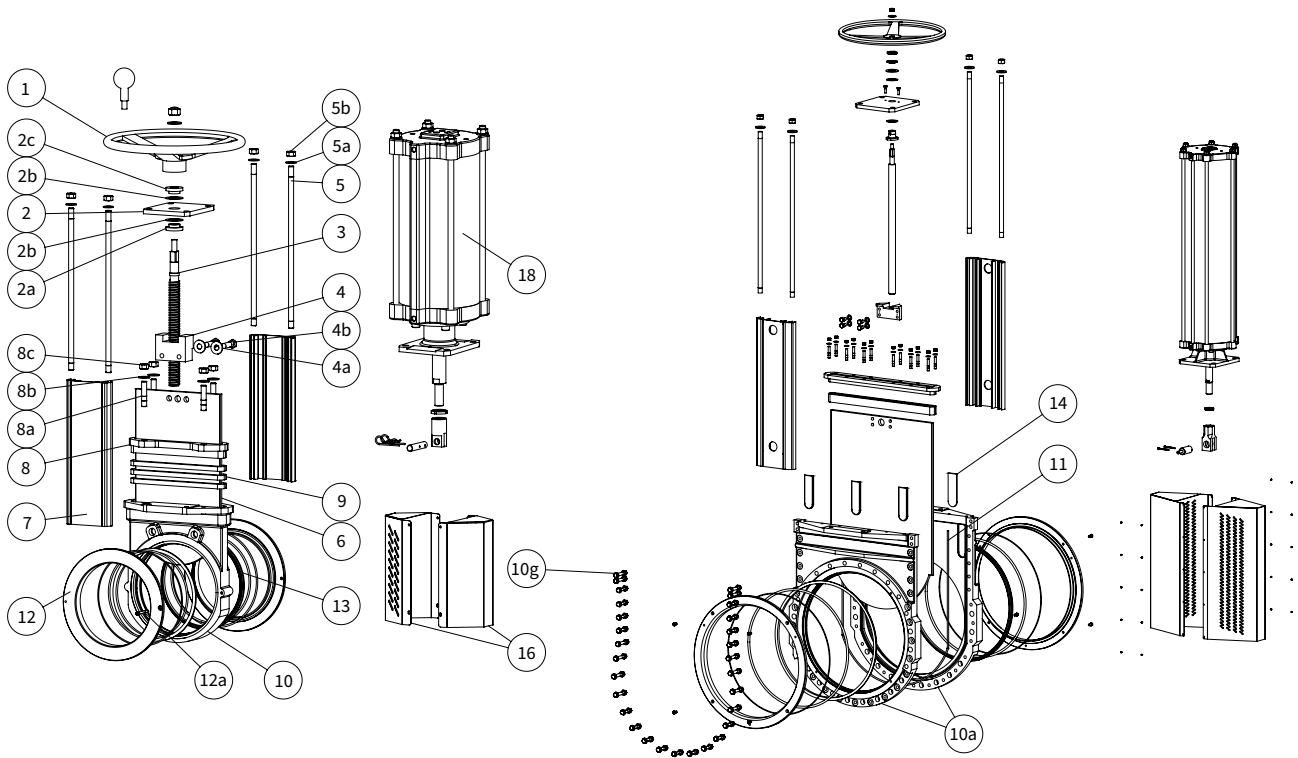
Semi lugged version  $\leq$  DN 300 according to EN 558-1 series 20.

#### 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/).

One piece valve body: DN 65 - DN 600

Two piece valve body: DN 700 - DN 1000

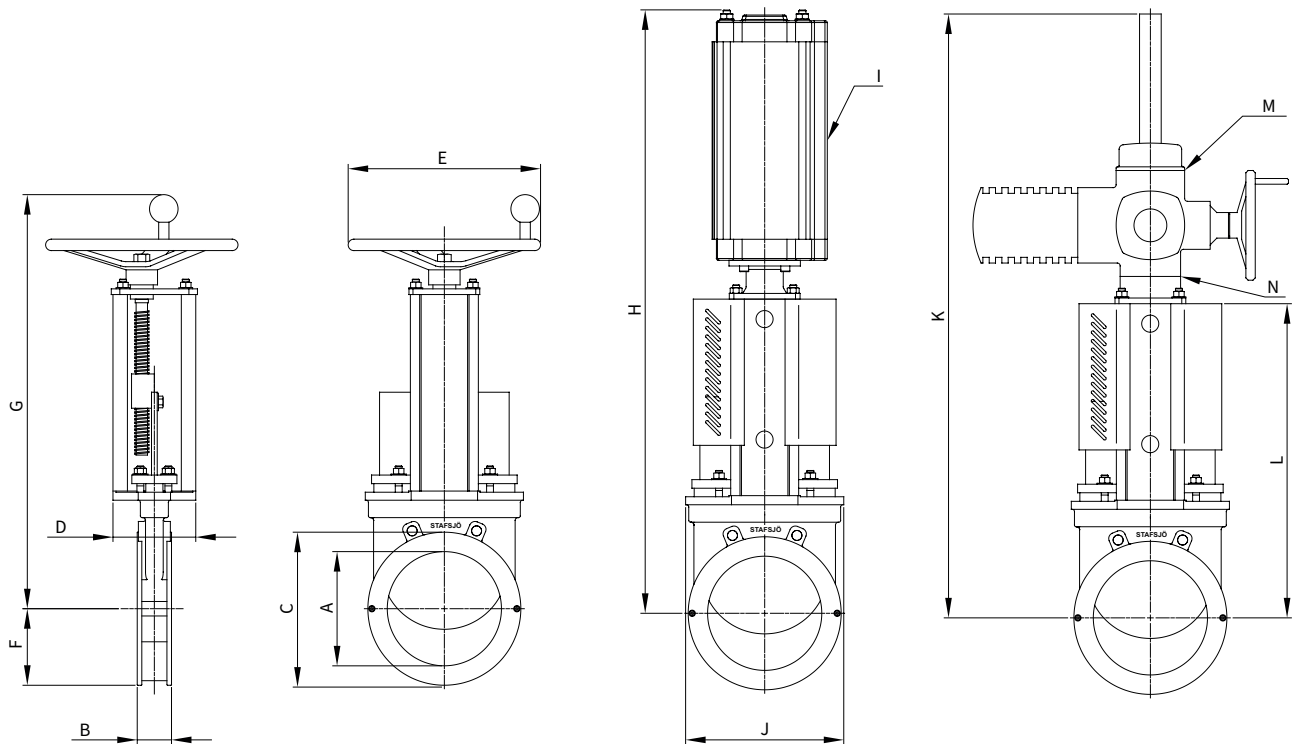


## Part list

Pos.	Part	Material
1	Hand wheel	Coated cast iron Ø 200 - Ø 315 EN-JL1040, GG25 ≥ Ø 400 EN-JL1030, GG20
2	Yoke	Stainless steel EN 1.4301
2a	Bearing	Brass
2b	Slide washer	POM
2c	Bearing	Brass
3	Stem	Stainless steel EN 1.4016
4	Stem nut	Brass
4a	Washer	Stainless steel A2
4b	Screw	Stainless steel A2
5	Tie rod	Stainless steel A2
5a	Washer	Stainless steel A2
5b	Nut	Stainless steel A2
6	Gate	See options on page 4
7	Beam	Anodized aluminum

Pos.	Part	Material
8	Gland	Stainless steel EN 1.4408
8a	Stud bolt	Stainless steel A2
8b	Washer	Stainless steel A2
8c	Nut	Stainless steel A2
9 <sup>1)</sup>	Box packing	See options on page 4
10/a	Valve body	See options on page 4
10g	Valve body boltings	Stainless steel A2
11	Body gasket	≥ DN 700: FPM/FKM
12	Retainer ring	See options on page 4
12a	Locking screw	Stainless steel A2
13 <sup>1)</sup>	Seat	See options on page 4
14	Guiding pads	PTFE
16	Gate guards	Stainless steel EN 1.4301
18	Cylinder	See separate datasheet

1) Recommended spare parts



## Main dimensions semi lugged version (mm)

DN	A	B	C	D	E	F	G	H	I <sup>1)</sup>	J	K	L	M <sup>2)</sup>	N <sup>3)</sup>	kg <sup>4)</sup>
65	65	46	117	80	200	58,5	421	591	SC100	129	637	291	SA07.2	F10/A	*
80	80	46	138	80	200	69	444	613	SC100	140	690	314	SA07.2	F10/A	8
100	100	52	158	80	200	79	482	651	SC100	158	728	352	SA07.2	F10/A	10
125	125	56	188	80	250	94	523	742	SC100	188	769	393	SA07.2	F10/A	13
150	150	56	212	80	250	106	567	786	SC100	212	813	437	SA07.2	F10/A	15
200	200	60	269	145	315	135	691	1000	SC160	277	868	546	SA07.6	F10/A	30
250	250	68	322	145	315	161	785	1199	SC160	331	994	640	SA07.6	F10/A	41
300	300	78	372	145	315	186	879	1293	SC160	382	1149	734	SA10.2	F10/A	57
350	350	78	432	175	400	216	1021	1583	SC200	437	1308	841	SA10.2	F10/A	*
400	400	89	481	175	400	241	1116	1678	SC200	488	1453	936	SA10.2	F10/A	*
450	450	89	531	200	520	278	1255	1921	SC200	556	1591	1057	SA10.2	F10/A	*
500	500	114	586	250	520	302	1342	2014	SC200	603	1770	1152	SA10.2	F10/A	*
600	600	114	686	260	635	343	1546	2346	SC250	735	2076	1356	SA10.2	F10/A	*
700	680	128	800	320	635	450	1650	2679	SC250	902	2382	1527	SA14.2	F14/A	*
800	780	128	901	320	635	500	1866	3020	SC320	1002	2697	1742	SA14.2	F14/A	*
900	880	128	1001	320	-	570	-	3211	SC320	1132	*	1933	*	F14/A	*
1000	980	150	1108	320	-	635	-	3516	SC320	1258	*	2123	*	F14/A	*

1) Recommended sizing of double-acting pneumatic cylinder type SC at normal operation with 5 bar air pressure. For other operating conditions, contact Stafsjö for advice.

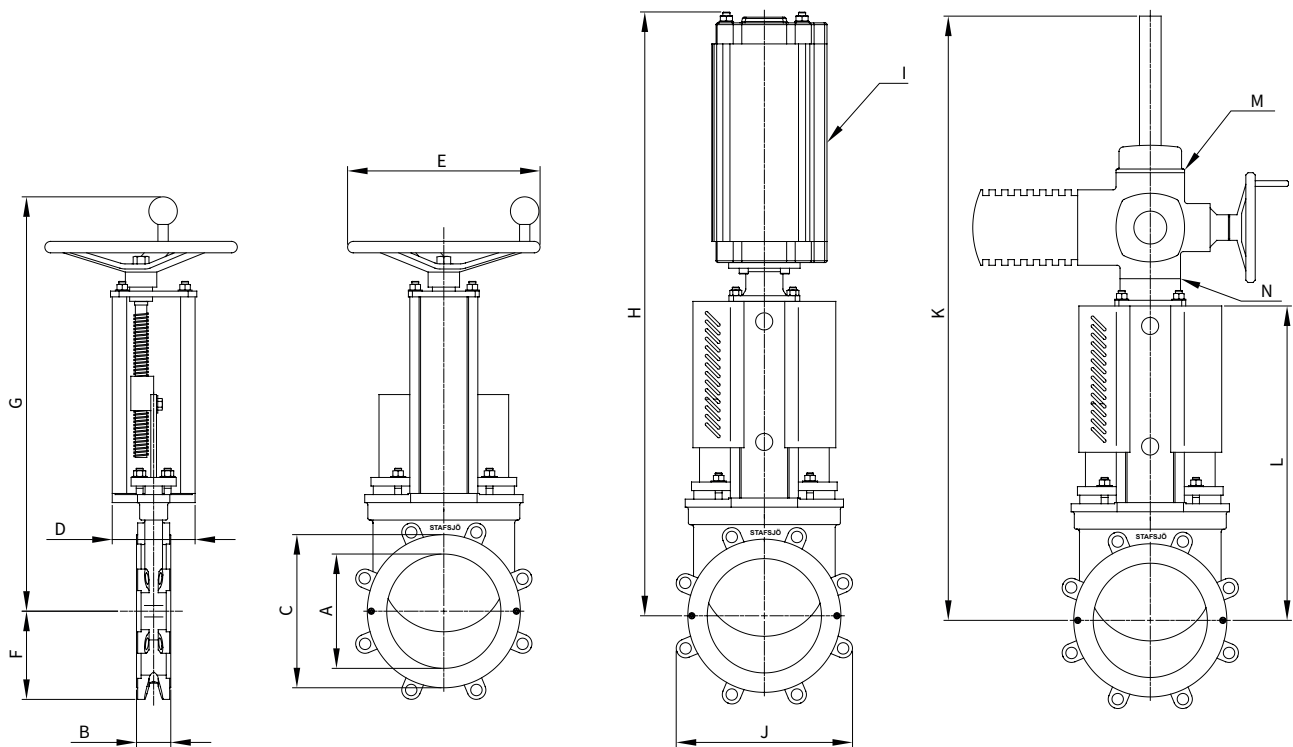
2) Recommended sizing of Auma SA electric motors at normal operation. For other operating conditions, contact Stafsjö or your local representative for advice.

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

4) Weight in kg for valve equipped with hand wheel.

\* On request.

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



## Main dimensions fully lugged version (mm)

DN	A	B	C <sup>2)</sup>	C <sup>3)</sup>	C <sup>4)</sup>	D	E	F	G	H	I <sup>5)</sup>	J	K	L	M <sup>6)</sup>	N <sup>7)</sup>	kg <sup>8)</sup>
80	80	50	123	123	128	80	200	89	444	613	SC100	177	690	314	SA07.2	F10/A	10
100	100	52	154	154	158	80	200	101	482	651	SC100	202	728	352	SA07.2	F10/A	13
125	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
150	150	56	212	209	212	80	250	128	567	786	SC100	255	813	437	SA07.2	F10/A	16
200	200	60 <sup>1)</sup>	268	266	268	145	315	155	691	1000	SC160	309	868	546	SA07.6	F10/A	30
250	250	68	322	322	322	145	315	195	785	1199	SC160	389	994	640	SA07.6	F10/A	48
300	300	78	372	372	372	145	315	229	879	1293	SC160	457	1149	734	SA10.2	F10/A	63
350	350	78	432	432	432	175	400	256	1021	1583	SC200	512	1308	841	SA10.2	F10/A	100
400	400	89	481	481	481	175	400	288	1116	1678	SC200	576	1453	936	SA10.2	F10/A	135
450	450	89	531	531	531	200	520	309	1263	1918	SC200	618	1591	1056	SA10.2	F10/A	170
500	500	114	586	586	586	250	520	340	2014	1939	SC200	681	1770	1152	SA10.2	F10/A	200
600	600	114	686	686	686	260	635	400	2346	2230	SC250	799	2076	1356	SA10.2	F10/A	370

1) Face-to-face (B) is 70 mm for valve with PTFE seats and flange drilling according to ASME/ANSI B16.5 and B16.47 Class 150 series A.

2) Dimensions for valve with flange drilling according to EN 1092 PN10 or AS Table D.

3) Dimension for valve with flange drilling according to AS Table E.

4) Dimensions for valve with flange drilling according to ASME/ANSI B16.5 Class 150 series A.

5) Standard version: Recommended sizing of double-acting pneumatic cylinder type SC at normal operation with 5 bar air pressure. For other operating conditions, contact Stafsjö for advice.

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

7) Valve and Auma SA interface. The electric motors are mounted as standard according to ISO 5210 connection A (rising stem).

8) Weight in kg for valve equipped with hand wheel.

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



## Flange drilling according to EN 1092 PN 10

Semi lugged version

DN	65	80	100	125	150	200	250	300	350
Bolt circle diameter (mm)	145	160	180	210	240	295	350	400	460
Number of throughgoing bolts	2	6	6	6	6	6	6	8	8
Number of tapped holes/side	2	2	2	2	2	2	4	4	8
Boltsize	M16	M16	M16	M16	M20	M20	M20	M20	M20
Bolt lengths <sup>1)</sup> (mm)	10	10	12	14	12	13	15	19	19

DN	400	450	500	600	700	800	900	1000
Bolt circle diameter (mm)	515	565	620	725	840	950	1050	1158
Number of throughgoing bolts	8	6	6	6	12	12	12	10
Number of tapped holes/side	8	14	14	14	12	12	16	18
Boltsize	M24	M24	M24	M27	M27	M30	M30	M33
Bolt lengths <sup>1)</sup> (mm)	21	22	27	27	31	31	31	33

## Flange drilling according to EN 1092 PN 10

Fully lugged version

DN	65	80	100	125	150	200	250	300	350
Bolt circle diameter (mm)	-	160	180	-	240	295	350	400	460
Number of throughgoing bolts	-	-	-	-	-	-	-	-	-
Number of tapped holes/side	-	8	8	-	8	8	12	12	16
Boltsize	-	M16	M16	-	M20	M20	M20	M20	M20
Bolt lengths <sup>1)</sup> (mm)	-	13	14	-	14	15	17	21	21

DN	400	450	500	600	700	800	900	1000
Bolt circle diameter (mm)	515	-	620	725	-	-	-	-
Number of throughgoing bolts	-	-	-	-	-	-	-	-
Number of tapped holes/side	16	-	20	20	-	-	-	-
Boltsize	M24	-	M24	M27	-	-	-	-
Bolt lengths <sup>1)</sup> (mm)	24	-	32	29	-	-	-	-

## Flange drilling according to ASME/ANSI B16.5 and B16.47 Class 150 series A

Fully lugged version ≤ DN 600, semi lugged version ≥ DN 700

DN	65	80	100	125	150	200	250	300	350
Bolt circle diameter (mm)	-	152,4	190,5	-	241,3	298,5	362	431,8	476
Number of throughgoing bolts	-	-	-	-	-	-	-	-	-
Number of tapped holes/side	-	4	8	-	8	8	12	12	12
Boltsize (UNC)	-	5/8-11	5/8-11	-	3/4-10	3/4-10	7/8-9	7/8-9	1-8
Bolt lengths <sup>1)</sup> (mm)	-	13	14	-	14	20	17	21	21

DN	400	450	500	600	700	800	900	1000
Bolt circle diameter (mm)	540	578	635	749	863	978	-	1200,2
Number of throughgoing bolts	-	-	-	-	14	14	-	12
Number of tapped holes/side	16	16	20	20	14	14	-	24
Boltsize (UNC)	1-8	11/8-7	11/8-7	11/4-7	11/4-7	11/2-6	-	1 1/2-6
Bolt lengths <sup>1)</sup> (mm)	24	23	32	29	34	34	-	33

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



## Flange drilling according to AS 2129 Table D

Fully lugged version  $\leq$  DN 600, semi lugged version  $\geq$  DN 700

DN	65	80	100	125	150	200	250	300	350
Bolt circle diameter (mm)	-	146	178	-	235	292	356	406	470
Number of throughgoing bolts	-	-	-	-	-	-	-	-	-
Number of tapped holes/side	-	4	4	-	8	8	8	12	12
Boltsize	-	M16	M16	-	M16	M16	M20	M20	M24
Bolt lengths <sup>1)</sup> (mm)	-	13	14	-	14	15	17	21	21

DN	400	450	500	600	700	800	900	1000
Bolt circle diameter (mm)	521	584	641	756	845	984	-	-
Number of throughgoing bolts	-	-	-	-	10	10	-	-
Number of tapped holes/side	12	12	16	16	10	10	-	-
Boltsize	M24	M24	M24	M27	M30	M33	-	-
Bolt lengths <sup>1)</sup> (mm)	21	23	32	29	34	34	-	-

## Flange drilling according to AS 2129 Table E

Fully lugged version  $\leq$  DN 600, semi lug version  $\geq$  DN 700

DN	65	80	100	125	150	200	250	300	350
Bolt circle diameter (mm)	-	146	178	-	235	292	356	406	470
Number of throughgoing bolts	-	-	-	-	-	-	-	-	-
Number of tapped holes/side	-	4	8	-	8	8	12	12	12
Boltsize	-	M16	M16	-	M20	M20	M20	M24	M24
Bolt lengths <sup>1)</sup> (mm)	-	13	14	-	14	15	17	21	21

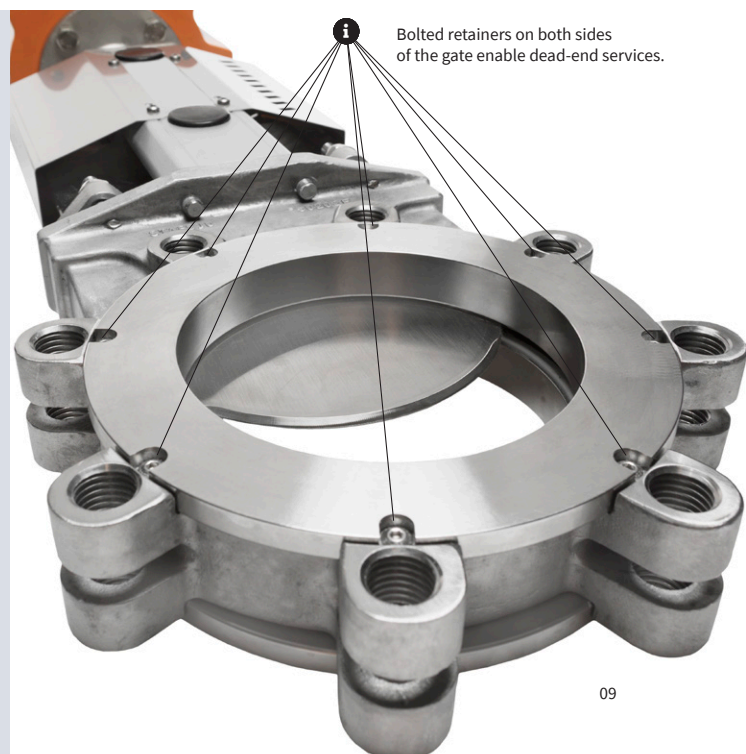
  

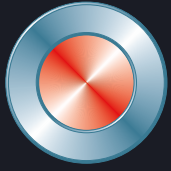
DN	400	450	500	600	700	800	900	1000
Bolt circle diameter (mm)	521	584	641	756	845	984	-	-
Number of throughgoing bolts	-	-	-	-	10	10	-	-
Number of tapped holes/side	12	16	16	16	10	10	-	-
Boltsize	M24	M24	M24	M30	M30	M33	-	-
Bolt lengths <sup>1)</sup> (mm)	24	23	32	29	34	34	-	-

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

### XV for dead-end services

The XV valve can be supplied in a 12,5 bar special execution for dead-end services/end of pipe installations in sizes DN 80 up to DN 200. In this case the XV is supplied with special retainers and valve body with additional boltings to hold the seat in place at full pressure load even if it is only installed against one flange. This can be very useful when maintenance work has to be performed quick and easy on pumps and related process equipment.





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