

# Knife gate valve MP



Data is only for informational purpose. All specifications are subject to change without notice.

## Knife gate valve MP

Stafsjö's knife gate valve MP is a full bore and a bi-directional tight valve with a preferred pressure direction. The valve has a gate with a bevel edge that effectively cuts through different media. This special shut-off technique makes the MP suitable for both fluids and dry media such as pulp, sludge, biomass, powder and different kinds of waste.

MP is supplied with a valve body in stainless steel that has integrated purge ports as standard. Stafsjö's retainer ring system on one side of the gate and special gate supports on the other side makes it tight in both pressure directions. The gate support and seat also has a scraping function when the valve is operated which assures, together with the gland box system with three layers of our Twin-Pack™ and a box bottom scraper, 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. There are several actuator types and accessories to choose from in Stafsjö's standard collection – all easily exchangeable between each other.

The MP valve 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 it is applicable.



### Reliable bi-directional sealing

The bevel edge gate effectively cuts through different media. Seat on one side of the gate and a gate support and casted gate support cams on the other side, gives a reliable bi-directional sealing.



### Low life cycle costs

The MP comes with few parts to maintain and the ones that exist can easily be exchanged to new ones. For example, Stafsjö's retainer ring that hold the seat in place is locked with screws just as the gate support is, making the parts extremely easy to change if needed.



### Modular and solid top works

A solid top works ensures gate alignment during operation. Low operation force is achieved with minimal friction, due to tight tolerances. The modular design makes it easy to supply or change to required actuator and accessory.

## Design data

Sizes	Flange drilling	Face-to-face dimension	ATEX design
DN 400 - DN 600	EN 1092 PN 10	Stafsjö manufacturing standard	ATEX 94/ 9/EC II cat 3 G/D for zone 2 and 22 on request

Other sizes and flange drillings on request

Leakage rate	Pressure tests
<b>EN 12266-1:2012 Rate A:</b> No visually detectable leakage is allowed for duration of the test	Pressure tests are performed with water at 20° C according to EN 12266-1:2012. 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	DN	bar
400	6	400	6
500 - 600	4	500 - 600	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 1/2" purge ports.

### 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
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### C. Retainer ring

Material	Type
Stainless steel	EN 1.4408

### D. Seat

Material	Code	Maximum temperature °C
PTFE with o-ring Nitrile	(P)	100
PTFE with o-ring Viton	(PV)	180

Other seat materials on request.

### E. Box Packing

Material	Code	Maximum temperature °C
TwinPack™	(TY)	260

Other box packing materials on request.

## Actuators

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

<sup>1)</sup> For recommended size, see page 5 column E

<sup>2)</sup> For recommended size, see separate data sheet

Double-acting pneumatic cylinder			Electric motor (AUMA multi-turn)		
DN valve	Size EC	Maximum Force (kN)	DN valve	AUMA	Attachment
400 - 500	200	14,1	400 - 600	SA 10.2	F10/A
600	250	22,1			

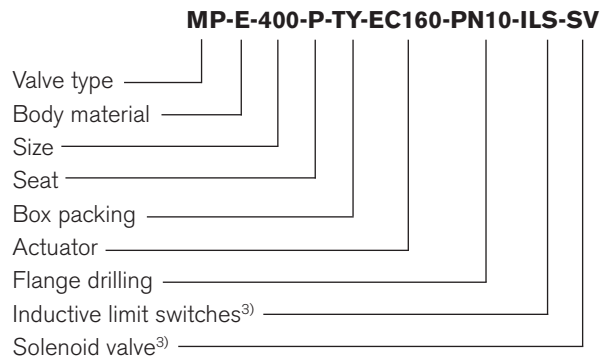
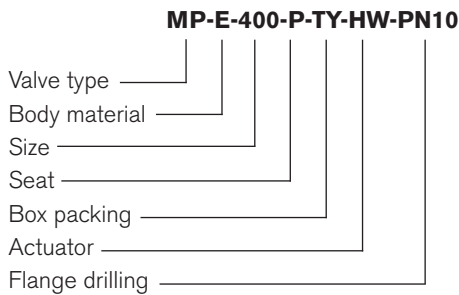
The table above gives recommended cylinder sizes at normal operation with 5 bar air pressure. For other operating conditions, please contact Stafsjö or your local representative for advice.

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.

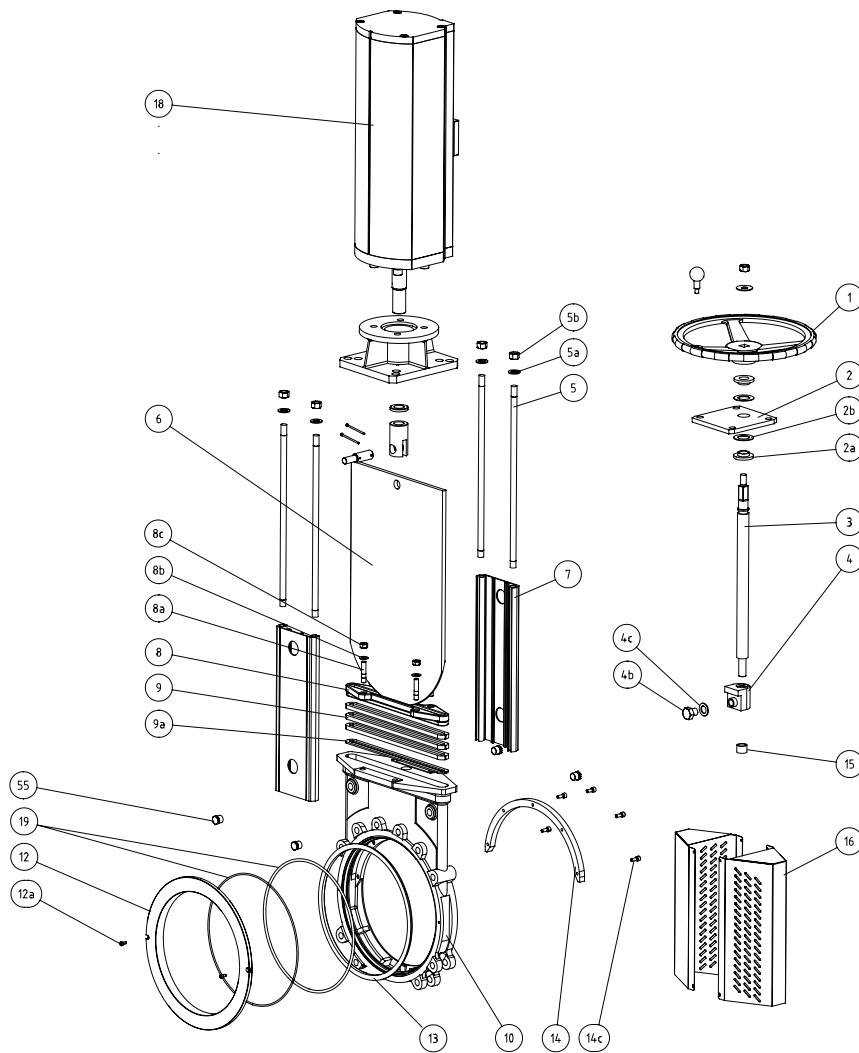
## Specify the Stafsjö valve

Stafsjö's valves are modular designed and they can easily be customized with gate, seat 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](http://www.stafsjo.com).



<sup>3)</sup> All electronics must be specified in detail.

Specify material if it differ from standard.

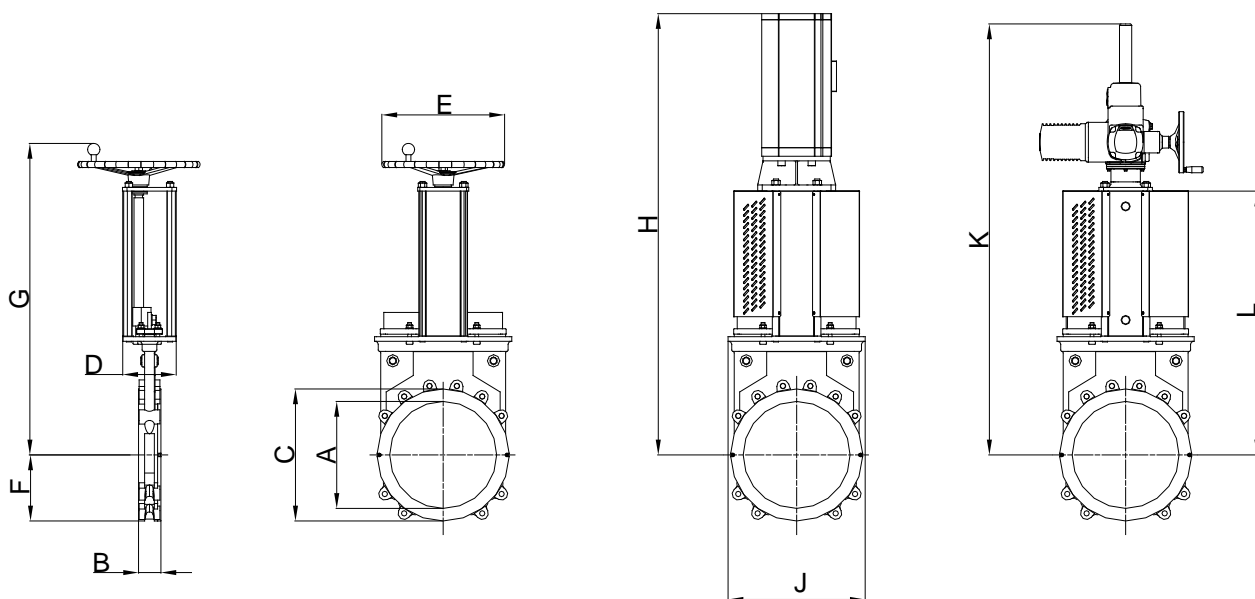


## Part List

Pos.	Part	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)
3	Stem	Stainless steel (EN 1.4305)
4	Stem nut	Brass (CW603N)
4b	Screw	Stainless steel (A2)
4c	Washer	Stainless steel (A2)
4d	Washer	Stainless steel (A2)
5	Tie rod	Stainless steel (EN 1.4301)
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 (EN 1.4408)
8a	Stud bolt	Stainless steel (A2), zinc coated
8b	Washer	Stainless steel (A2)
8c	Nut	Stainless steel (A2), zinc coated
9 <sup>4)</sup>	Box packing	See equipment E
9a <sup>4)</sup>	Box bottom support	UHMW-PE
10	Valve body	See Equipment A
12	Retainer ring	See equipment C
12a	Locking screw	Stainless steel (A2)
13 <sup>4)</sup>	Seat	See equipment D
14 <sup>4)</sup>	Gate support	POM-C (other material on request)
14c	Screw	Stainless steel (A4)
15	Bushing	Oil-bronze
16	Gate guard, not for HW	Stainless steel (EN 1.4301)
17	Gate clevis	Stainless steel (EN 1.4305)
18	Cylinder	See data sheet
19 <sup>4)</sup>	O-ring	See equipment D
55	Plug	Stainless steel (A4)

Pos.	Part	Material (Name)
8b	Washer	Stainless steel (A2)
8c	Nut	Stainless steel (A2), zinc coated
9 <sup>4)</sup>	Box packing	See equipment E
9a <sup>4)</sup>	Box bottom support	UHMW-PE
10	Valve body	See Equipment A
12	Retainer ring	See equipment C
12a	Locking screw	Stainless steel (A2)
13 <sup>4)</sup>	Seat	See equipment D
14 <sup>4)</sup>	Gate support	POM-C (other material on request)
14c	Screw	Stainless steel (A4)
15	Bushing	Oil-bronze
16	Gate guard, not for HW	Stainless steel (EN 1.4301)
17	Gate clevis	Stainless steel (EN 1.4305)
18	Cylinder	See data sheet
19 <sup>4)</sup>	O-ring	See equipment D
55	Plug	Stainless steel (A4)

<sup>4)</sup> Recommended spare parts



## Main dimensions

Dimensions (mm)											
DN	A	B	C	D	E	F	G	H	J	K	L
400	400	83	481	175	400	216	1020	1531	449	1411	864
500	500	101	586	250	520	300	1297	1960	610	1877	1173
600	600	106	685	260	635	359	1518	2272	735	2201	1398

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

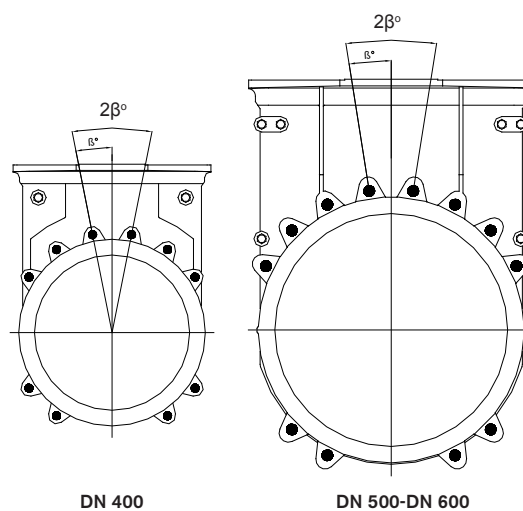
## Flange drilling

EN 1092 PN 10			
DN	400	500	600
Outside flange diameter (mm)	565	670	780
Bolt circle diameter (mm)	515	620	725
Number of throughgoing bolts (°)	6	8	8
Number of tapped holes (•)	10	12	12
Bolt size	M24	M24	M27
$\beta^\circ$	11,25	9	9
Screw lengths <sup>5)</sup>	20	26	27

<sup>5)</sup> Add the values with the thickness of flanges, washers and gaskets.

° Throughgoing holes

• Tapped holes



DN 400

DN 500-DN 600

Further information is available on [www.stafsjo.com](http://www.stafsjo.com)



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