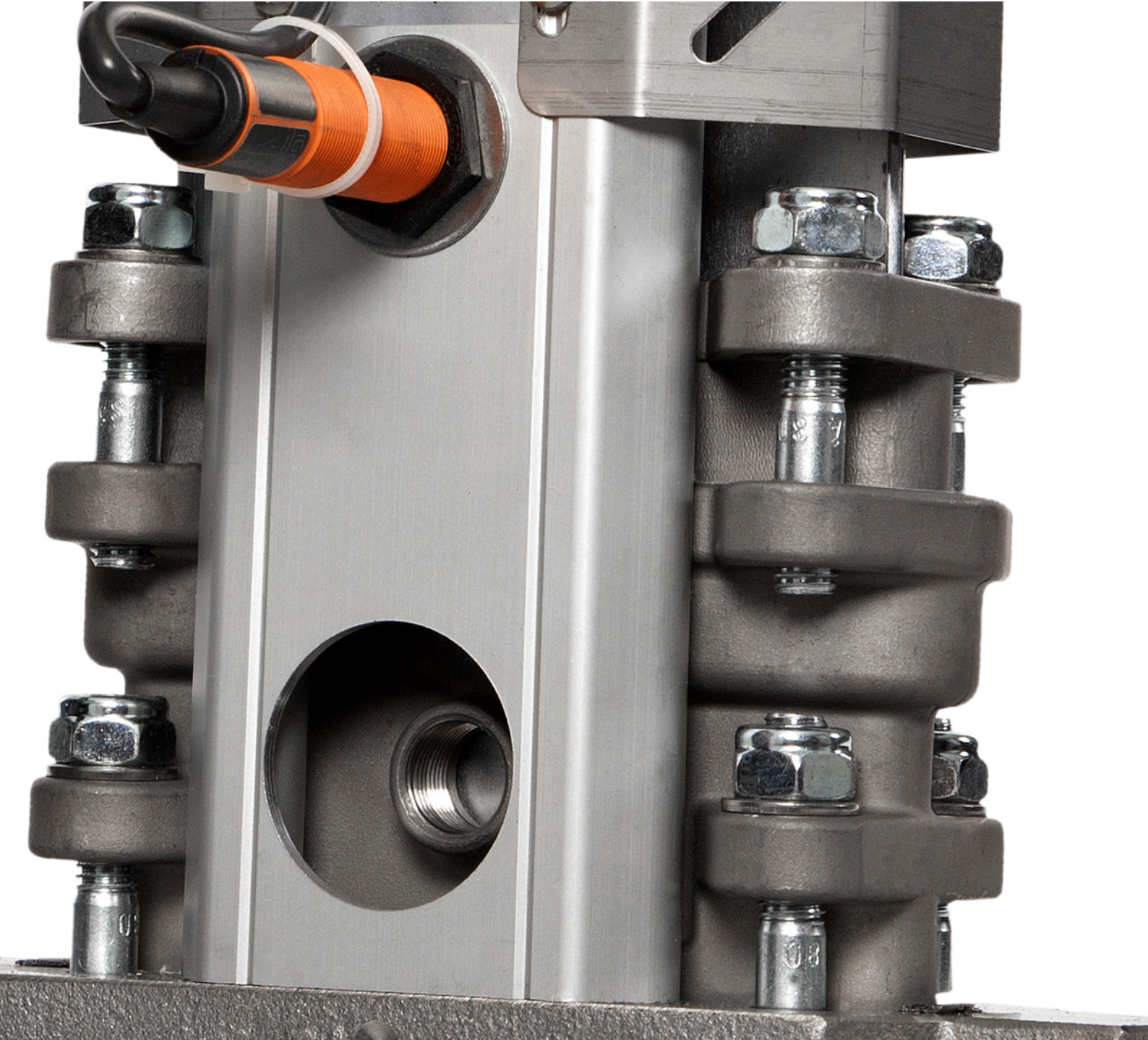


Stafsjö's standard accessories



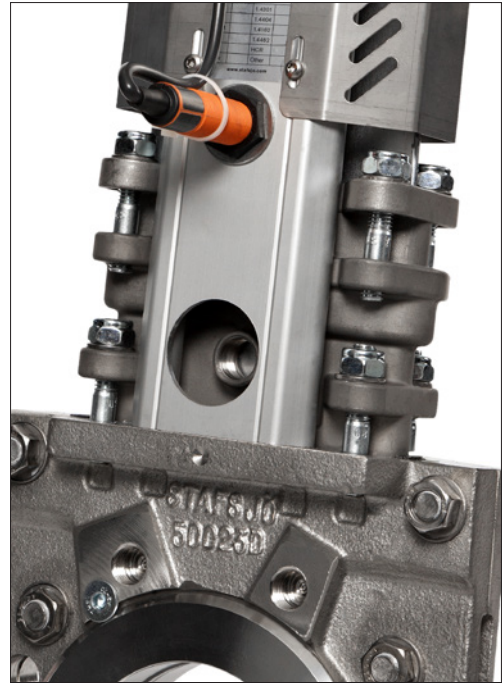
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Double gland

Stafsjö's double gland is developed for knife gate valves that are subject to severe operating conditions. It is often used on valves in junk traps and in difficult biomass applications.

The double gland consist of two glands where the lower one has a chamber with integrated purge ports. The first gland takes care of the main sealing function, while the second secures that no media reaches surrounding environment. Flushing between the gland boxes, or pressurising with air if it is dry media, keeps the gate clean and removes media that might have passed through the first gland box.

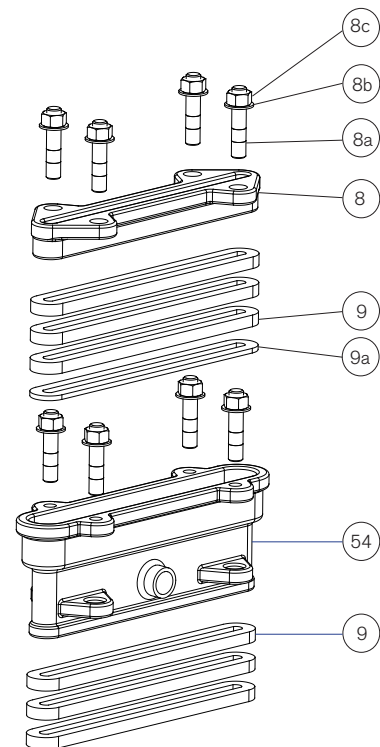


Part list

Pos.	Detail	Material
8	Gland 2	Stainless steel (EN 1.4408/SS 2343)
8a	Stud bolt	Stainless steel (A2), zinc coated
8b	Washer	Stainless steel (A2)
8c	Nut	Stainless steel (A2), zinc coated
9	Box packing	TwinPack™ as standard
9a	Scraper	PE Polyethylene
54	Gland 1 and chamber	Stainless steel (EN 1.4408/SS 2343)

Available sizes and pipe threads on the purge ports

DN	MV	HG	RKO	JTV
80	R 1/4"	R 1/4"	-	-
100	R 3/8"	R 3/8"	R 3/8"	-
150	R 1/2"	R 1/2"	R 1/2"	-
200	R 1/2"	R 1/2"	R 1/2"	-
250	R 1/2"	R 1/2"	R 1/2"	R 1/2"
300	R 1/2"	R 1/2"	R 1/2"	-
350	R 1/2"	R 1/2"	R 1/2"	-
400	R 1/2"	R 1/2"	R 1/2"	-



Deflection cone

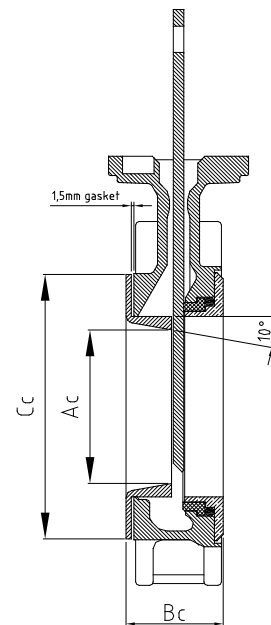
Stafsjö's deflection cone is developed for the MV valve, to direct the flow to the centre of the bore and to protect internal valve parts from abrasion. It shall be installed on the opposite side to the seat side. As standard it is available in stainless steel (EN 1.4408), but it can also be supplied in other materials on request.



Main dimensions

Dimensions (mm)			
DN	Ac	Cc	Bc
50	39	91	48
65	51	107	48
80	63	124	57
100	86	153	57
125	110	179	62
150	135	204	66
200	179	267	67
250	230	319	76
300	280	374	85
350	325	425	85
400	373	479	97
450	423	534	97
500	467	579	122

Main dimensions are only for information. Contact Stafsjö for certified drawings. All specifications are subject to change without notice.



V-port

Stafsjö's knife gate valves MV and HG can be used for control and fixed throttling of a media flow. To achieve a better regulating curve for these kinds of applications, Stafsjö has developed a special V-shaped bore – a V-port.

The V-port replaces the ordinary retainer ring without any changes in the face-to-face dimension. It is a casted or welded construction depending on the valve size. The V-port is supplied in the same material as the ordinary retainer ring and it can be combined with seat rings in metal, EPDM, Nitrile, Viton and PTFE. A knife gate valve equipped with a V-port can preferably be supplied with a positioner to control the flow.



Stem extensions

A stem extension is used on knife gate valves when the actuator must be separated from the knife gate valve. Stafsjö is able to supply robust, steady and proper dimensioned stem extension kits for the valves in two versions; one for shorter extensions (< 1,5 m) and one for longer (> 1,5 m). The valves can also be prepared for T-key maneuvering according to standard DIN 3223 C.

Stem extension short (< 1,5 m)

This stem extension kit consists of few parts. The knife gate valve is supplied as for a hand wheel operated valve with non-rising stem together with two adapters; one for the valve stem (M) and one for the hand wheel (G). It is also possible to supply it for bevel gear and electric actuators with B3 non-rising attachments. Both adapters are supplied in stainless steel (EN 1.4436).

The stem extension must be supported with minimum one support close to the actuator. Stem extension supports are the same as for stem extension long, see picture on next page.

Details in stem extension short

Valve stem adapter (M)



Hand wheel adapter (G)



Holes to connect the adapters to the stem. Screws and nuts are in stainless steel (A4) are included in the stem extension kit.



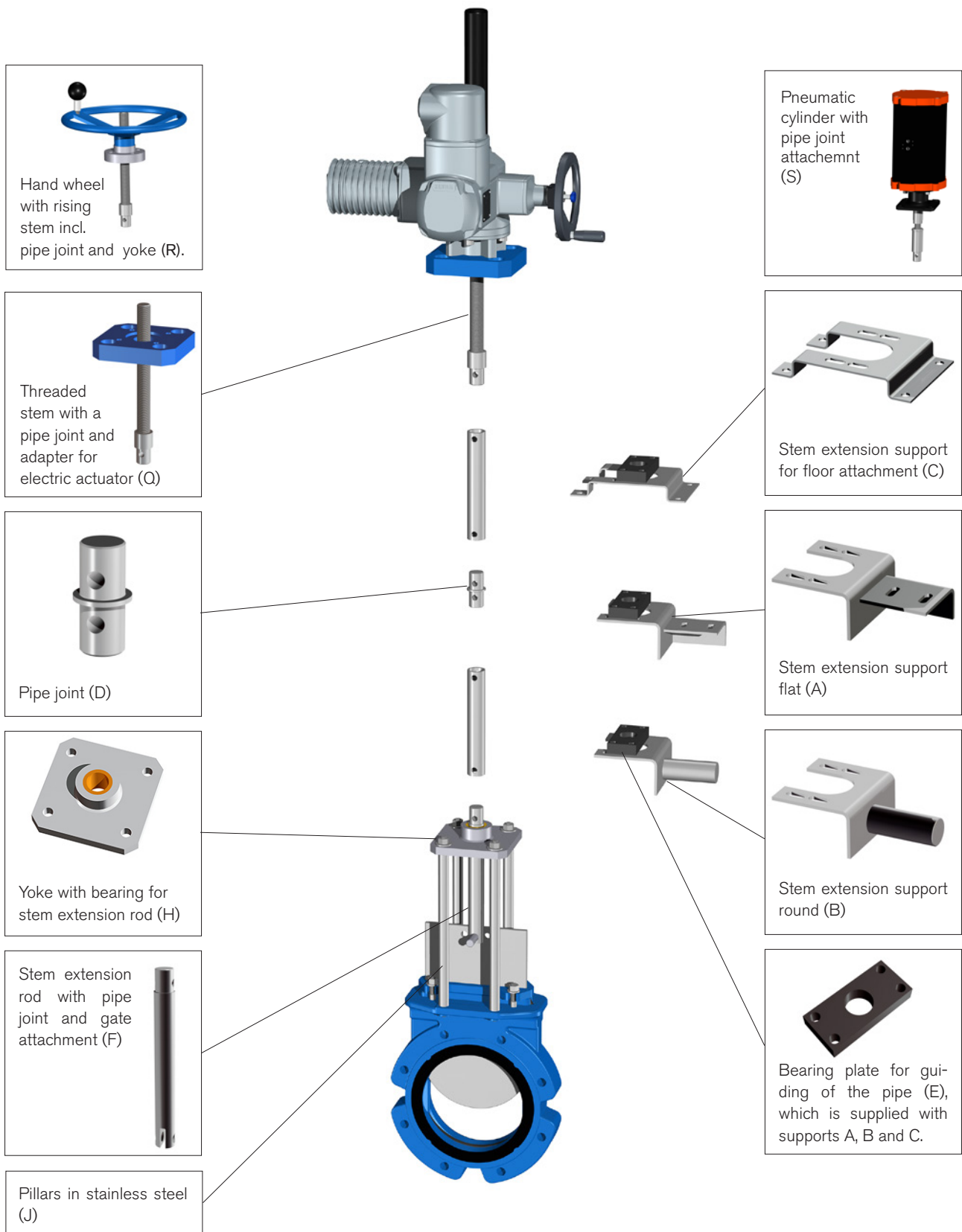
Stem extension long (> 1,5 m)

This stem extension kit offers great flexibility and it can be combined with all of Stafsjö's valves and actuators. The stem extension has a linear movement and all valves and actuators are therefore supplied with rising stems. Normally the knife gate valve is also supplied with pillars in stainless steel for stability and optimal corrosion resistance.

The stem extension must be supported with minimum one support close to the actuator. The distance between the stem extension supports shall not exceed 1700 mm. Floor column (K) for the actuator can be supplied on request for any type of actuator. It is available in coated steel or stainless steel (EN 1.4436).



Details in stem extension long



Screws, nuts and washers in stainless steel (A4) are included to connect the stem extension parts. Stem extension supports (A, B, C), pipe (F), pipe joint (D), stem extension rod (F) and pillars (J) are supplied in stainless steel (EN 1.4436). The bearing plate (E) is supplied in HD-polyethylene. The supports (A, B, C, E) and pipe joint (D) can also be used for stem extension short. See each valve data sheet for material specifications on other parts.

Stem extension with a T-key

The top of the stem can be equipped with a cone-shaped adapter for T-key manoeuvring, which is designed according to DIN3223 C. The knife gate valve is equipped as for a standard hand wheel actuator. The T-key adapter (N), pipe (P) and valve stem adapter (M) are supplied in stainless steel (EN 1.4436).

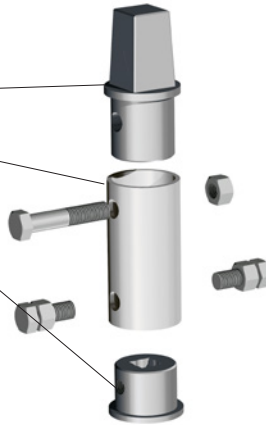
Details in T-key extension kit

T-key adapter (N)

Stem extension pipe (P)

Valve stem adapter (M)

Screws and nuts in stainless steel (A4) are included to connect the T-key adapter to the stem and the stem to the valve stem adapter.



Minimum length of T-key adapter (mm)*

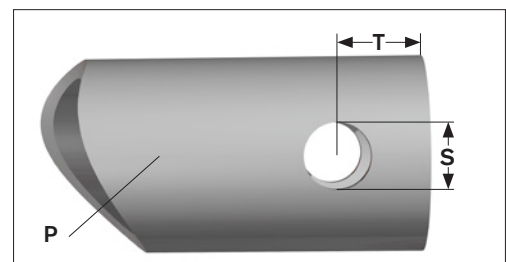
Minimum length	MV sizes	HG sizes	WB sizes	RKO sizes
135 (Tr 19)	50 - 150	80 - 150	80 - 150	100
155 (Tr 25)	200 - 300	200 - 250	200 - 300	150 - 250
175 (Tr 31,5)	350 - 400	300 - 350	-	300 - 350
180 (Tr 40)	450 - 600	400 - 600	-	400

* Measured from valve yoke to top of adapter.

Stem extension pipe

Stem extension kits short and long are designed to use three different pipe sizes, depending on the valve type and its size. All pipe details are connected with screws and nuts through the holes (S).

When ordering a stem extension kit including a stem extension pipe (P), Stafsjö will supply a suitable lengths of pipe depending on total stem extension and freight conditions. A final adjustment of the lengths must be made on site. As standard the pipe is supplied in stainless steel (EN 1.4436).



Recommended pipe sizes (mm)

Ø pipe (P)	Ø hole (S)	Distance (T)	MV sizes	HG sizes	BV sizes	RKO sizes	WB sizes
33,7 x 3,2	11	12	50 - 150	80 - 150	80 - 125	100	50 - 150
48,3 x 3,2	13	17	200 - 400	200 - 350	150 - 300	150 - 350	200 - 400
60,3 x 3,6	17	22	450 - 600	300 - 400	300 - 400	400	300 - 600

Floor column and actuator sizes

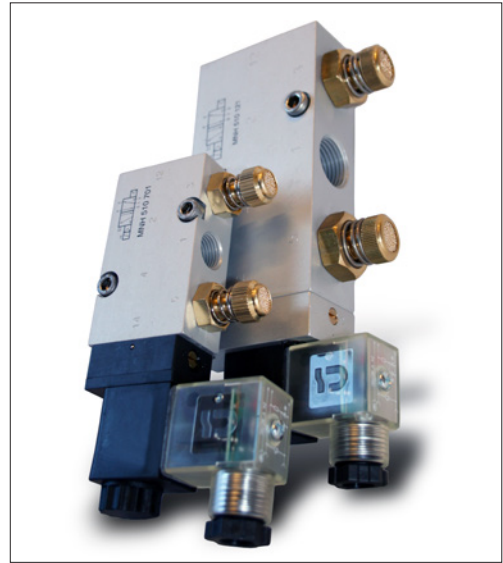
Recommended floor column (K) sizes

Ø pipe (P)	Floor column (K)	Maximum EC size	Maximum AUMA size
33,7 x 3,2	Small	EC 160	SA 07.6
48,3 x 3,2	Small	EC 200	SA 10.2
48,3 x 3,2	Large	EC 200	SA 14.2
60,3 x 3,6	Large	EC 250	SA 14.6

Solenoid valves

Stafsjö's standard solenoid valves comes from Hafner. It has a housing of anodized aluminum and its interface corresponds to the Namur standard, which gives a compact design of the actuator/solenoid valve unit.

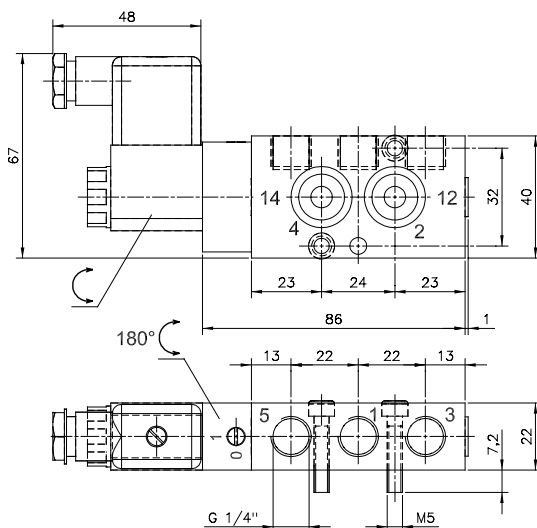
It is a 5/2 way valve available in 1/4" and 1/2". The solenoid valve is supplied with a pneumatic spring return and as standard Stafsjö install it on the pneumatic actuator to close the knife gate valve at any electrical signal interruption. Further to this the solenoid valve is supplied as standard with manual override to turn, coils in either 24 V DC, 110 V AC or 230 V AC, silencers with speed control and a connector with LED indicator. The solenoid valve correspond to IP class 65.



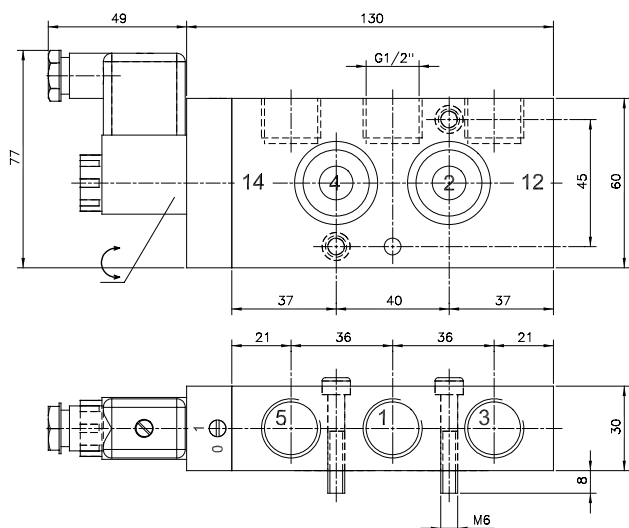
Main dimensions

Dimensions (mm)

Version: 1/4" (silencers excluded)



Version: 1/2" (silencers excluded)



Design data

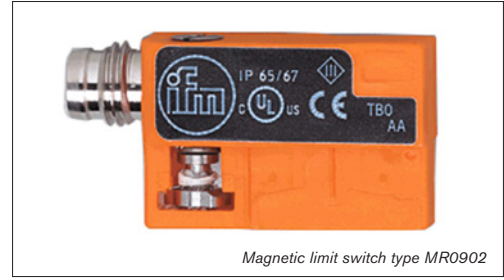
General Information

Function:	5/2 valve monostable
Interface	Namur 1 interface according to VDI/VDE 3845 on 1/4". Namur 2 interface on 1/2"
Material specifications:	Anodized aluminium body, other internal parts and sealings in stainless steel, brass, POM and NBR.
Manual override:	Standard on all versions
Indication type	Red LED
Media:	Cleaned and lubricated or cleaned and unlubricated compressed air quality level 5 acc. ISO 8573-1
Fluid temperature:	Between -10°C and +50°C on AC-coils and -10°C and +60°C on DC-coils. Others on request.
Air-flow:	1/4" 1250 l/min - 1/2" 3000 l/min
Operating pressure	2-10 bar
Voltage:	24 V DC ± 10%, 110 V AC ± 10%, 230 V AC ± 10%
Power consumption:	3 W / 5 VA
Cable connection diameter	6-8 mm
IP class:	IP 65. IP 67 on request.
ATEX approvals:	Only on request

Magnetic limit switch

Stafsjö's pneumatic cylinder range type EC is as standard, in some sizes, supplied with a magnetic ring on the piston. This magnetic ring makes it possible together with a magnetic limit switch to indicate the cylinders' end positions.

Stafsjö's standard magnetic limit switches, the MR0902 from IFM, offers a simple installation and secure operation. It is as standard supplied with 2 m of a three wire connection PUR cable type EVC141 from IFM.



Magnetic limit switch type MR0902



Connection cable type EVC141

Design data

Magnetic limit switch with reed contact	
Type	MR0902
Suitable for cylinder	EC100 EC160 EC200 EC250 EC320
Electrical design:	AC/DC PNP
Operating voltage:	5-50 V AC/5-60 V DC
Output function:	normally open
Current rating:	350 AC/500 DC mA
Mounting:	non-flush mountable
Switching frequency:	1000 Hz
Connection:	M8 connector
Housing materials:	housing: PA (polyamide) fixing element: stainless steel/brass
Ambient temperature:	-25 - +70°C
Protection:	IP 65/IP 67
Output status indication:	LED yellow

Three wire connection cable	
Type	EVC141
Suitable for switch:	MR0902 with M8 connector
Design	Straight
Operating voltage:	50 V AC / 60 V DC
Electrical design:	AC/DC
Connection:	PUR cable / 2 m; 3 x 0.25 mm²
Material body:	housing: TPU orange sealing: Viton
Material nut:	Brass nickel-plated
Ambient temperature:	-25 - +90°C, cULus: max. 80 °C
Protection:	IP 65/IP 67/IP 68/IP 69K

Inductive limit switch

Stafsjö's automated valves are supplied as standard with holes in the beams for inductive or mechanical limit switches. Mounting kits for Stafsjö's valves are available to order.

Stafsjö's standard inductive limit switch comes from IFM and it is available in two versions; one 3-wire DC PNP and one 2-wire AC/DC. Both switches have a plastic, PBT, housing with thread M18 x 1 and 2 m PVC cable. The nominal sensing ranges for both switches are 8 mm.



Design data

Two wire version	
Type	ifm IG0006
Operating voltage:	20 - 250 V AC/DC
Electrical design:	AC/DC
Output function:	normally open
Current rating (continuous):	350 AC (50 °C) / 250 AC (80 °C) / 100 DC mA
Current rating	î: 2.2 A (20 ms / 0.5 Hz) mA
Length:	80 mm
Mounting:	non-flush mountable
Sensing range:	8 mm
Switching frequency:	25 AC / 50 DC Hz
Connection:	PVC cable / 2 m; 2 x 0.5 mm ²
Housing materials:	PBT
Ambient temperature:	-25-80 °C
Protection:	IP 67
Output status indication:	LED yellow

Three wire version	
Type	ifm IG5401
Operating voltage:	10 - 36 V DC
Electrical design:	DC PNP
Output function:	normally open
Current rating:	250 mA
Length:	80 mm
Mounting:	non-flush mountable
Sensing range:	8 mm
Switching frequency:	300 Hz
Connection:	PVC cable / 2 m; 3 x 0.5 mm ²
Housing materials:	PBT
Ambient temperature:	-25-80 °C
Protection:	IP 67
Output status indication:	LED yellow

Mechanical limit switch

Stafsjö's automated valves are supplied as standard with holes in the beams for inductive or mechanical limit switches. Mounting kits for Stafsjö's valves are available to order.

Stafsjö's standard mechanical limit switch comes from Omron and it is supplied with a stainless steel arm (AISI 304). It has a double insulated plastic and metallic housing according to IP65. The switch has 1NO and 1NC contact.



Design data

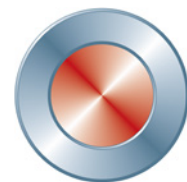
Omron D4V	
Type	Omron D4V
Operating speed	5 mm to 0.5 m/s
Operating frequency	30 operations / minute
Insulation resistance	100 M Ω min. (500 V DC)
Contact resistance	Max. 25 M Ω min. At (initial value)
Dielectric Strength	Between terminals with same polarity; 1,000 V AC, 50/60 Hz for 1 minute Between current carrying metal parts and ground; 1,500 VAC, 50/60 Hz for 1 minute
Rated insulation voltage, U _i	250 V
Thermal current, I _{the}	5 A (EN 60947-5-1)
Rating	AC: 12-250 V AC at 5 A, resistive load DC: 12-125 V DC at 0,4 A, resistive load 5A, 250 V AC 0,4 A, 125 V DC
Short circuit protective device	10 A fuse, gG or gI (IEC 269)
Conditional short circuit current	100 A (EN 60947-5-1)
Operating environment pollution degree	3 (IEC 947-5-1)
Protection against electric shock	Class: I
Mechanical life expectancy	Min. 10 000 000 operations
Electrical life expectancy	Min. 300 000 operations 250 V AC, 5 A with resistance load.
Ambient operating temperature	-20°C - +60°C (with no icing)
Ambient operating humidity	Max. 90%
Protection	IP65
Approvals	
TÜV	EN 60947-5-1
UL	UL 508
CCC	GB 14048.5

Further information is available on www.stafsjo.com



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