

# STEM EXTENSION

The Stafsjö knife gate valves have a flexible design to make a combination between different actuators and accessories possible. The Stafsjö valves can be equipped with two types of stem extension kits, stem extension short for maximum extension 1,5 m or stem extension long for extensions longer than 1,5 m.

The valves can also be prepared for T-key manoeuvring according to standard DIN3223 C.

If limit switches are required on the knife gate valve, Stafsjö recommend that the knife gate valve is installed with a pneumatic cylinder equipped with magnetic limit switches or an electric actuator. Please see [www.stafsjo.com](http://www.stafsjo.com) or contact Stafsjö Valves AB or your local representative for information.

## Stem extension long

This stem extension kit can be combined with all types of actuators. The stem has a linear movement and therefore electric and hand wheel actuators are delivered with rising stem.

The knife gate valve is delivered with stainless steel pillars instead of the standard aluminium beam.

Stafsjö recommends that the stem extension kit long is delivered with a floor column (K), see figure 1.

The floor column is designed in two different sizes depending on the valve size and actuator. It is approximately 840 mm high. The top plate of the floor column is designed to fit all actuators.

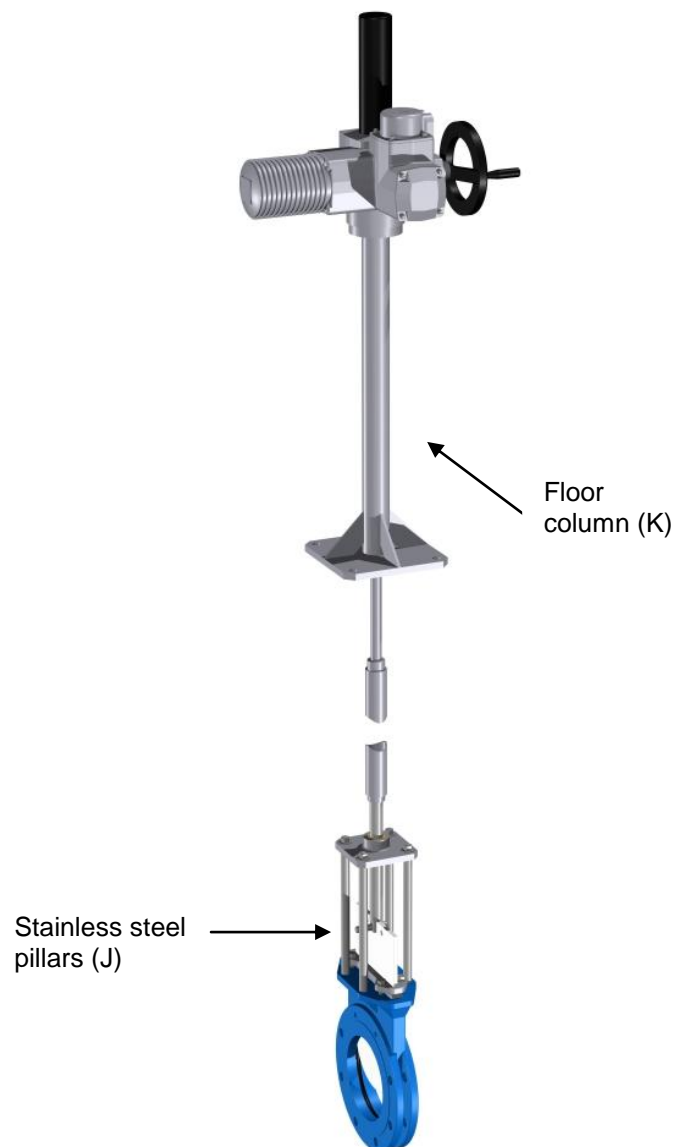


Figure 1

### Details in stem extension long

The Stafsjö stem extension kits offers a large selection of mounting details and therefore great flexibility concerning the valve application.

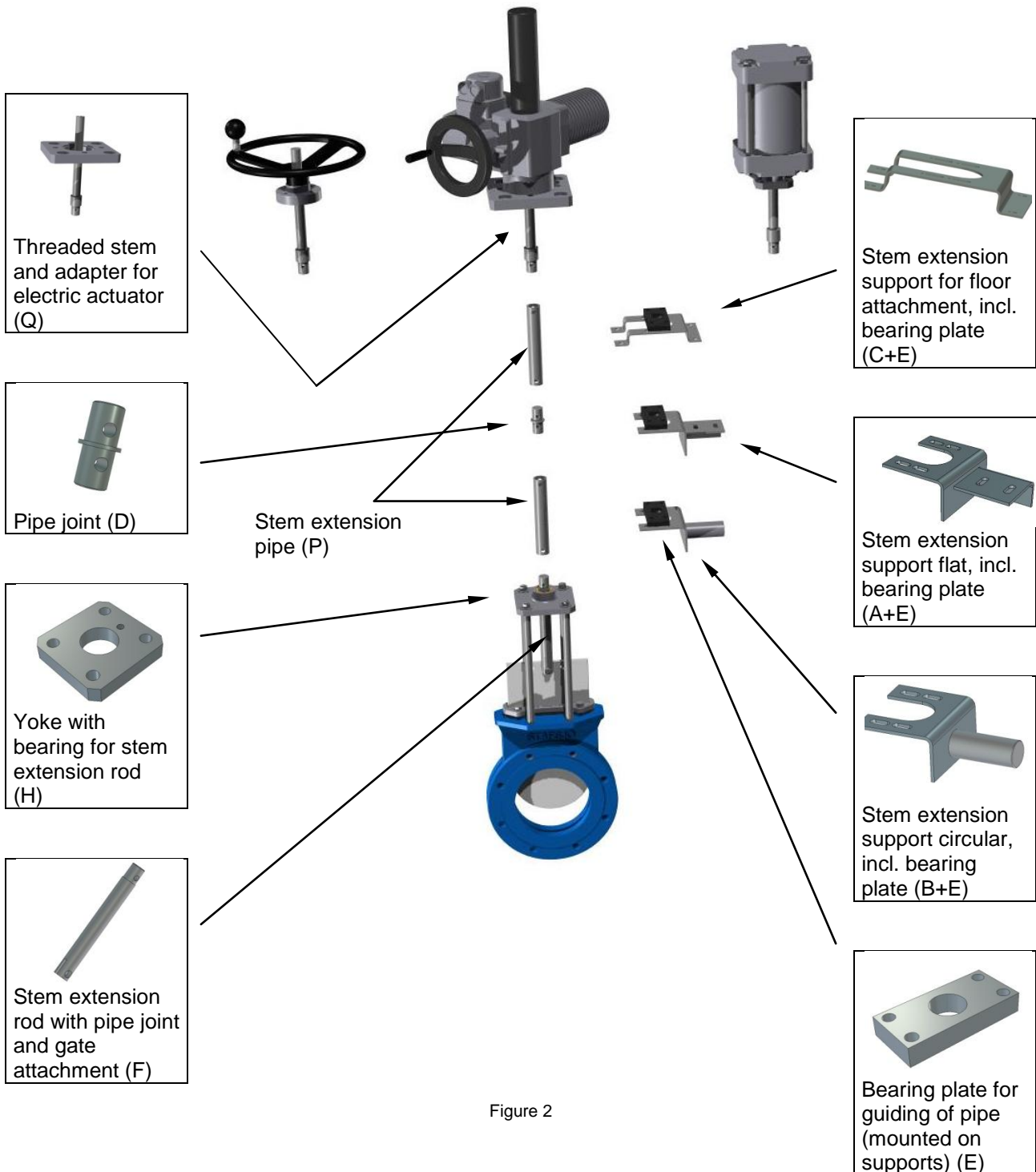


Figure 2

Screws and nuts for connecting the stem extension kit are included.  
 Stem extension supports (A, B, C) are delivered including bearing plate (E).  
 Stem extension supports (A, B, C, E) and pipe joint (D) can also be used for stem extension short.

### Stem extension short

The short stem extension is recommended for hand wheel manoeuvring and restricted to maximum extension 1,5 m of the stem extension pipe (P).

The knife gate valve is equipped as for a standard hand wheel actuator. The knife gate valve stem is extended with a pipe (see table A), rotating when manoeuvred.

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 fig. 2.

The short stem extension can also be combined with an electric actuator, non-rising stem. Please contact Stafsjö Valves AB or your local representative for information.



Figure 3

### Details in stem extension short

For dimensions D1 and D2, please contact Stafsjö Valves AB or your local representative.

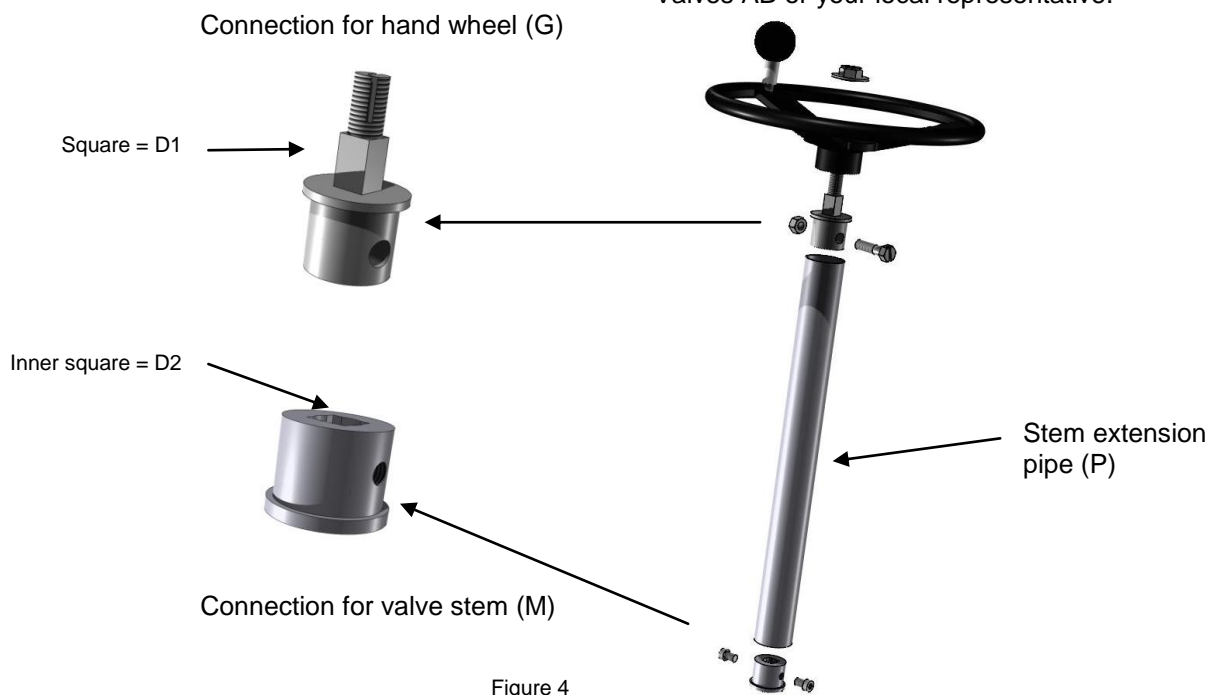


Figure 4

Screws and nuts for connecting the stem extension kit are included.

### T-key adapter

The top of the stem can be equipped with a cone-shaped adapter for T-key manoeuvring.

The adapter is designed according to DIN3223 C.

The knife gate valve is equipped as for a standard hand wheel actuator.



Figure 5

### Details in T-key adapter

Adapter for T-key  
 Cone shape DIN3223 C (N)

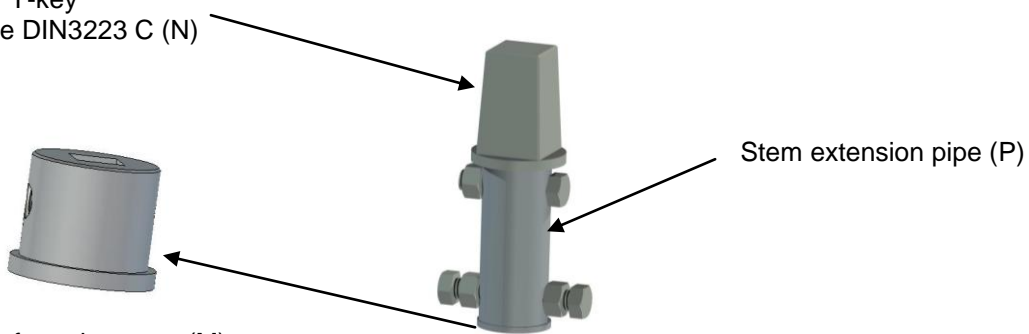


Figure 6

Screws and nuts for connecting the T-key adapter are included.

### Minimum length of T-key adapter

Measured from valve yoke to top of adapter.

| Minimum length [mm] | MV DN   | HG DN   | BV DN   | RKO DN  |
|---------------------|---------|---------|---------|---------|
| 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     |

## Materials

Metal details for the stem extension kits, pipe (P), pipe joint (D), stem extension supports (A, B, C), stem extension rod (F), yoke (H), floor column (K), pillars (J), connection for hand wheel (G) and valve stem (M) and T-key adapter (N) are manufactured in stainless steel SS2343-02/1.4436/316.

The bearing plate (E) in the stem extension supports (A, B, C) is made of HD-polyethylene.

The bearing in the yoke (H) is a plain bearing bushing in steel and PTFE.

Screws, nuts and washers for the knife gate valve and stem extension kits are delivered in material A4.

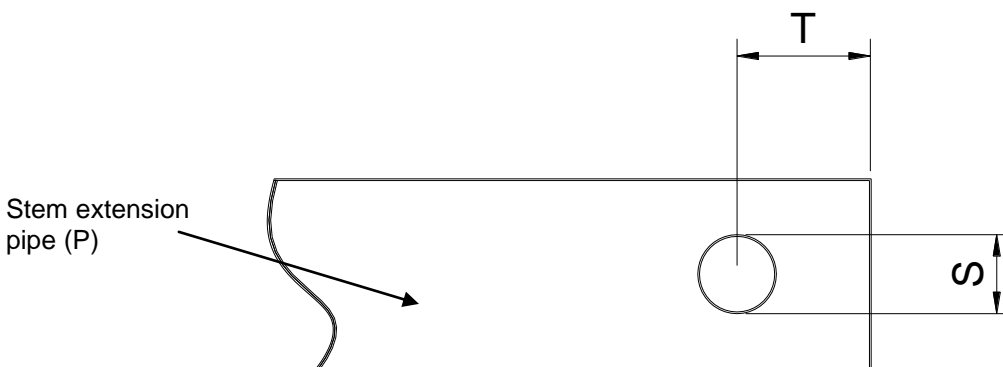
Other details that are parts in the Stafsjö standard knife gate valves, are manufactured in materials according to each knife gate valve data sheet, see [www.stafsjo.com](http://www.stafsjo.com).

## Stem extension pipe (P)

Stem extension kits short and long are designed in three different pipe sizes depending on the valve type and size. Table A shows pipe sizes for each valve type and size. All pipe details are connected with screws and nuts in thorough holes (S).

**Table A**

| Ø pipe (P)<br>[mm] | Ø hole (S)<br>[mm] | Distance (T)<br>[mm] | MV<br>DN | HG<br>DN | BV<br>DN | RKO<br>DN |
|--------------------|--------------------|----------------------|----------|----------|----------|-----------|
| 33,7 x 3,2         | 11                 | 12                   | 50-150   | 80-150   | 80-125   | 100       |
| 48,3 x 3,2         | 13                 | 17                   | 200-400  | 200-350  | 150-300  | 150-350   |
| 60,3 x 3,2         | 17                 | 22                   | 450-600  | 400-500  | -        | 400       |



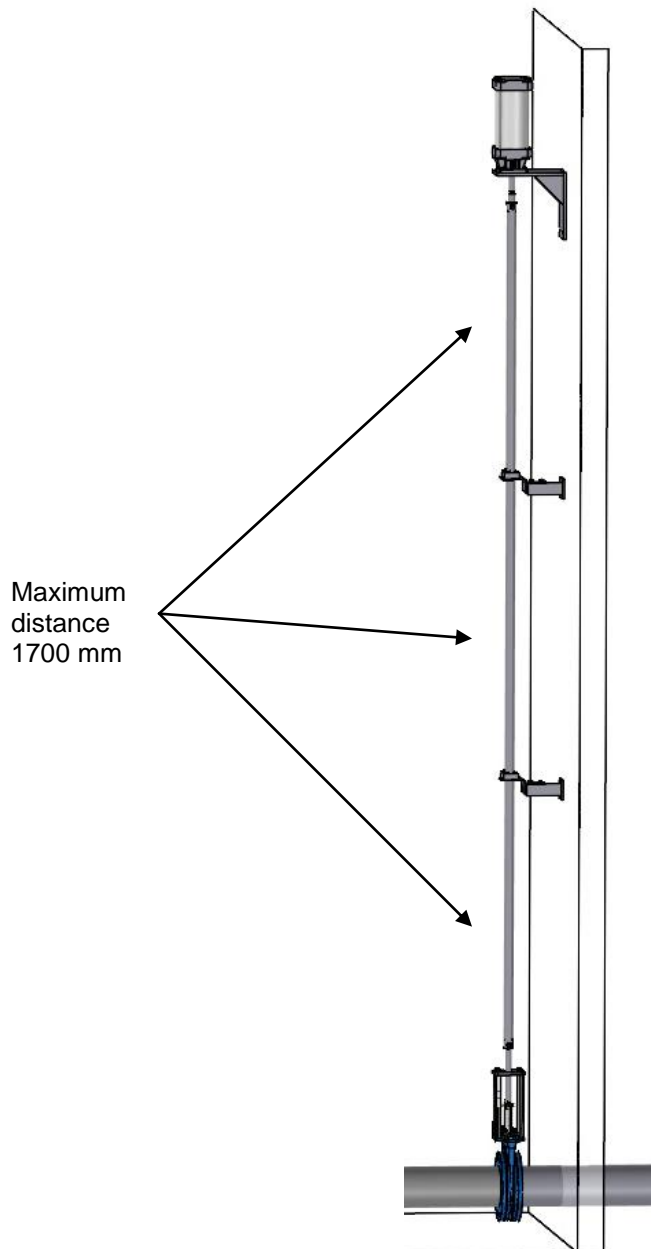
When ordering a stem extension kit including stem extension pipe (P), Stafsjö will deliver suitable lengths of pipe depending on total stem extension and freight conditions. A final adjustment of the lengths must be made on site at installation of the stem extension kit.

## Choice of actuator and floor column

The floor column (K) size is determined by the valve type, size and actuator.

| Ø pipe (P)<br>[mm] | Floor-<br>column (K) | Maximum actuator |         |
|--------------------|----------------------|------------------|---------|
|                    |                      | AC               | AUMA    |
| 33,7 x 3,2         | Small                | AC160            | SA 07.5 |
| 48,3 x 3,2         | Small                | AC 200           | SA 10.1 |
| 48,3 x 3,2         | Large                | AC 200           | SA 14.1 |
| 60,3 x 3,2         | Large                | AC 250           | SA 14.5 |

## Installation of supports



Maximum distance between stem extension supports is 1700 mm.

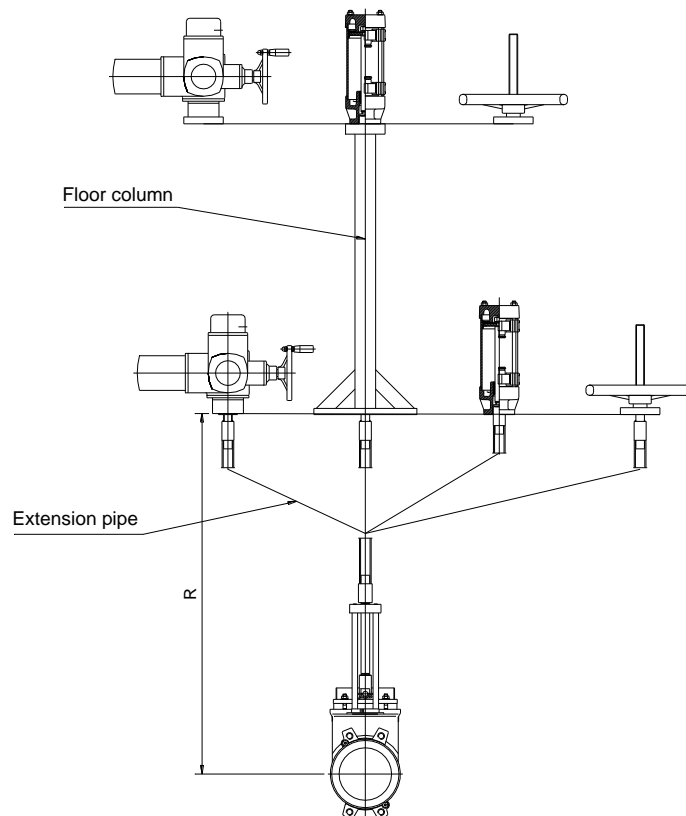
Stem extension kit short must have minimum one support placed close to the actuator.

Note! With linear moving stem in stem extension kit long, make sure that pipe joints (D) do not collide with the stem extension supports (A, B, C).

### Order form stem extension

When ordering a stem extension kit you must specify requested valve type, size, actuator and accessories. The length of the stem extension shall be specified as the dimension (R) from the knife gate valve centre to the connecting surface of the actuator or floor column.

When ordering a stem extension kit for an old already installed Stafsjö knife gate valve, the drawing number on the valve body, article and serial number and the Stafsjö order number must be enclosed.



|                           |  |
|---------------------------|--|
| Valve type and size       |  |
| Actuator                  |  |
| Accessories               |  |
| Stem extension (R) mm     |  |
| Drawing number on body    |  |
| Article and serial number |  |
| Stafsjö order number      |  |

Please fill in all accessible data and send to Stafsjö Valves AB or your local representative.