

# Promix<sup>FDL</sup> 35/40



## Single lever cartridge with ceramic discs

In many faucets, the water temperature and the volume are regulated by single lever mixing cartridges with a diameter of 35 and 40 mm.

The ease of operation of the faucet depends on the ease of movement of the cartridge. In order to achieve this over a long period of time, it is necessary to use high-quality ceramic discs and the appropriate components.

The Promix offers a high level of comfort in use thanks to the high flow rate and Promix's easy-to-set operating angle, which ensures to easily get the water temperature which is desired.

The articles are available as Promix<sup>FDL</sup> 35 and 40.

### *Water saving with a two step system*

Based on a click made of ceramic and special metal water consumption can be minimized.

### *Water saving with an adjustable flow reducer*

By turning the incorporated stainless steel screw in the spindle the maximum flow of the Promix will be limited.

### *Hot water limitation*

A temperature limit ring can reduce the opening of the hot water inlet.

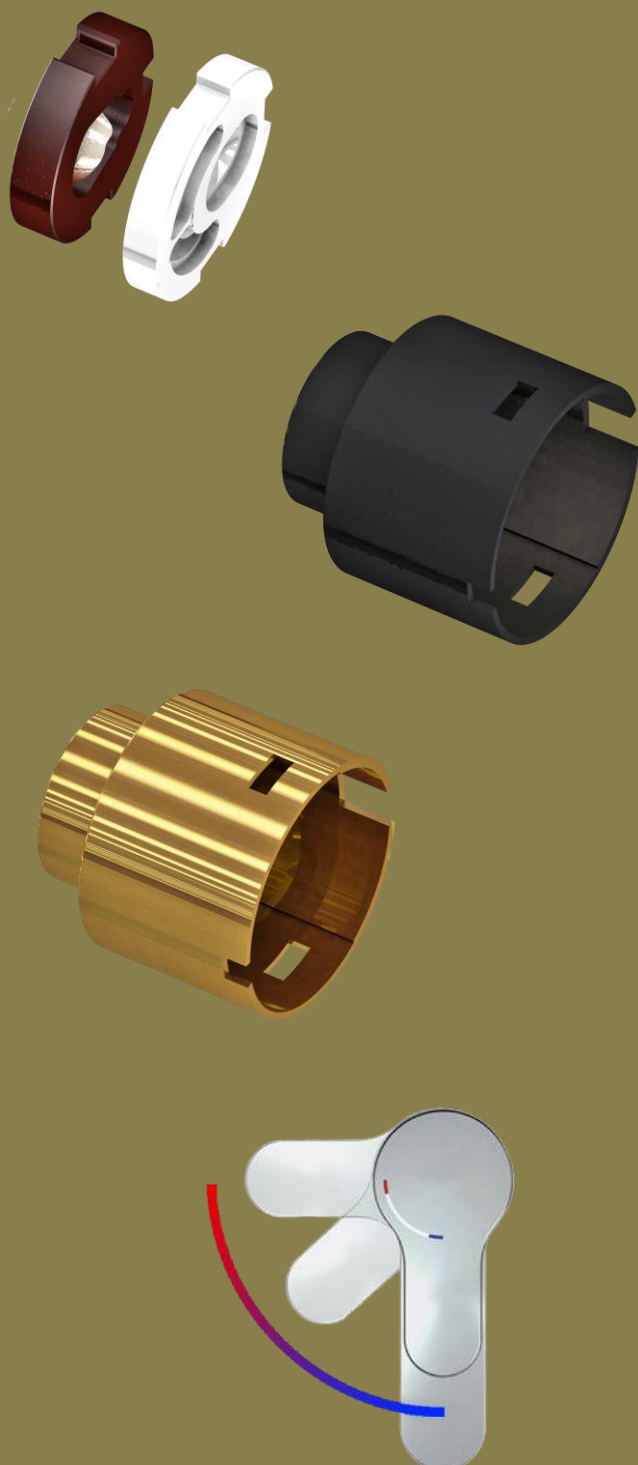
### *Noise reducing element*

The Promix achieves a significant reduction in noise thanks to the high precision laminar sieve.

## Promix in detail

The careful German workmanship and the high standards of quality which our company sets ensure that this article provides the function required. Each cartridge is 100% tested for leakage on fully-automatic inspection units.





## Promix in detail

The exclusive combination of brown and white special ceramic material with a self-lubricating effect supports the ease of operation. In addition, the ceramic discs have a smaller sealing surface, so there is even less friction.

## Promix KU

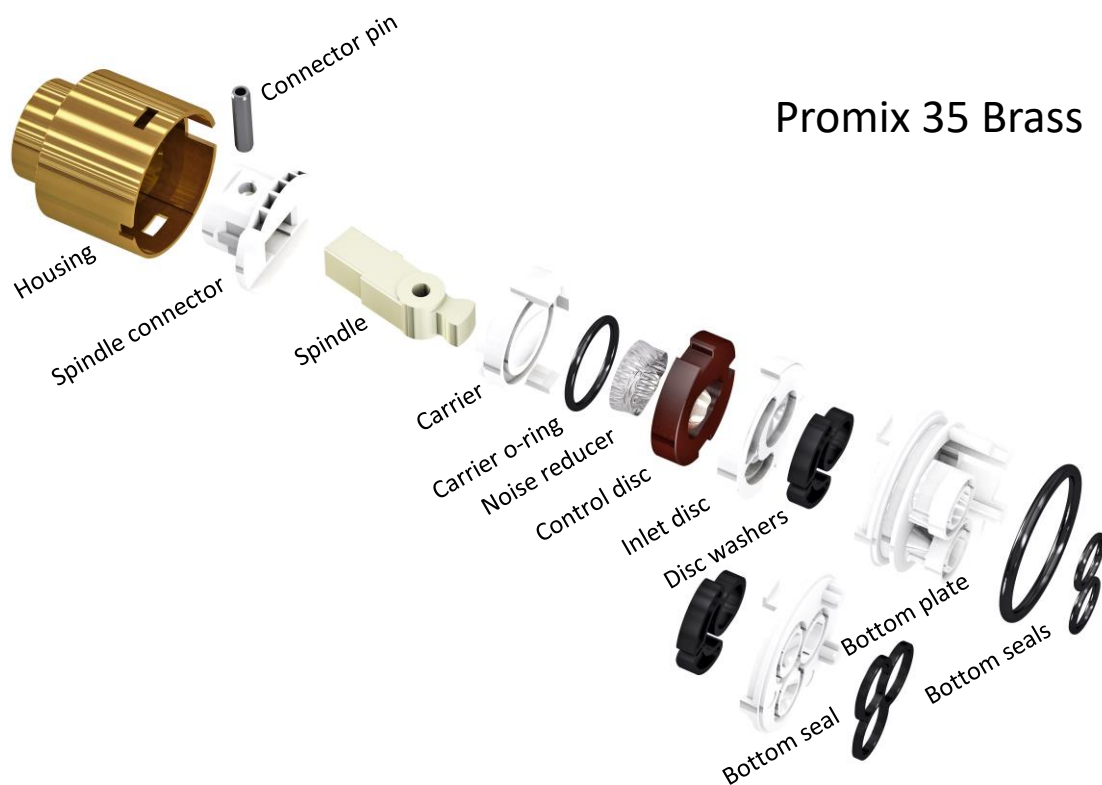
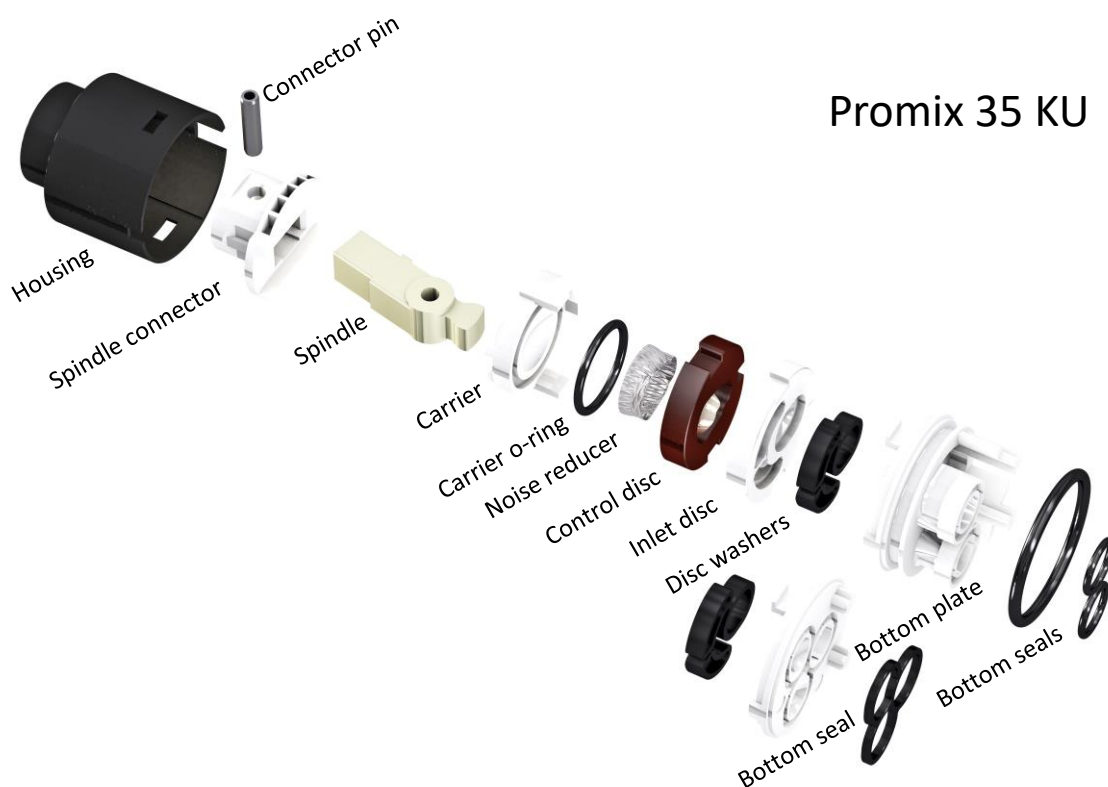
In contrast to the acetal material which is frequently used for the housing, the PBT plastic found in this product serie offers a high degree of stability and temperature-resistance. By this the deformation of the housing is limited and the operation of the cartridge is as required. The producer of these plastic components is the well-known, family owned Greiner AG founded in 1868.

## Promix Brass

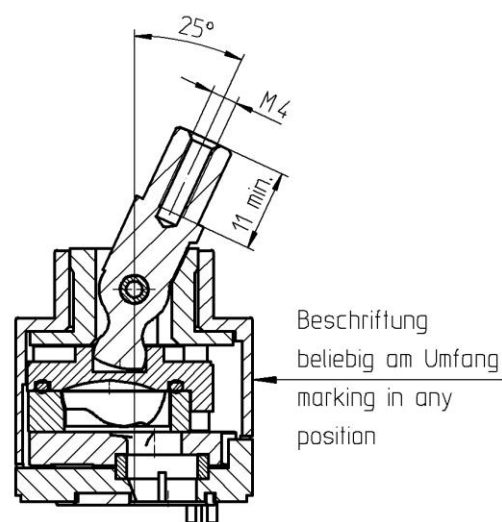
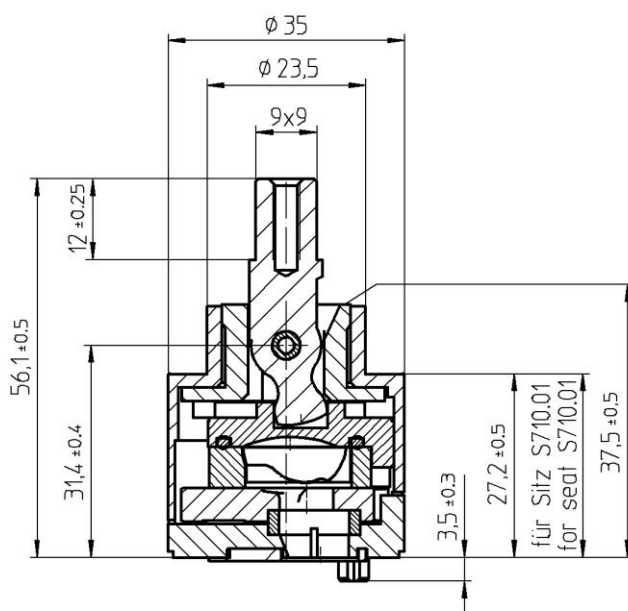
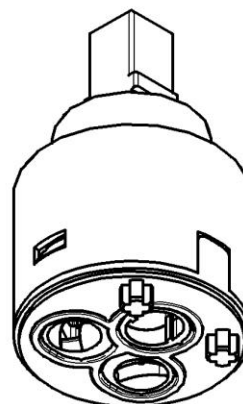
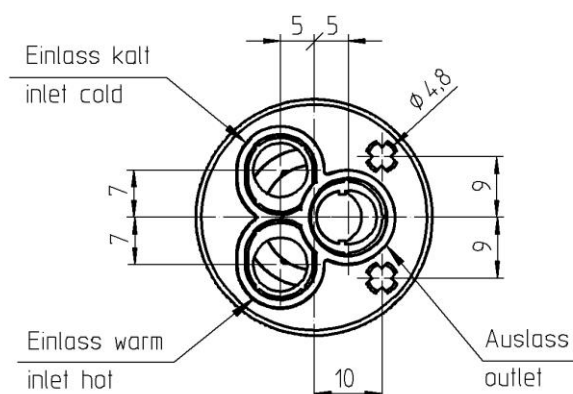
The Flühs Promix Brass Housing does not deform at all. This maintains the forces which are applied during installation as well as the sealing forces between the brass housing and the seat of the tap. As a result the operating torque of the lever is much more comfortable to handle compared to common plastic cartridges. In addition, the brass housing is less affected by a higher degree of pressure and/or temperature conditions in the plumbing system.

## Promix Cold Start

In most cartridges, the middle position of the lever opens up the hot water inlet. The energy saving Promix Cold Start function avoids this often unnecessary use of hot water and energy, as its middle position of the lever opens up only the cold water inlet. If hot water is required, the lever just needs to be turned slightly to the left. This reduces the quantity of warm water of up to 50 % of the daily use which contributes considerably to higher efficiency of energy.

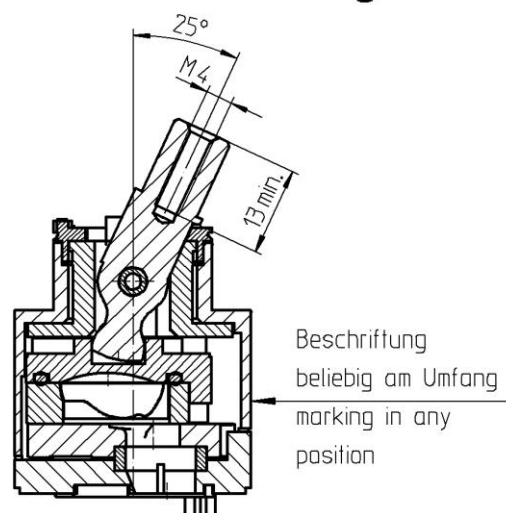
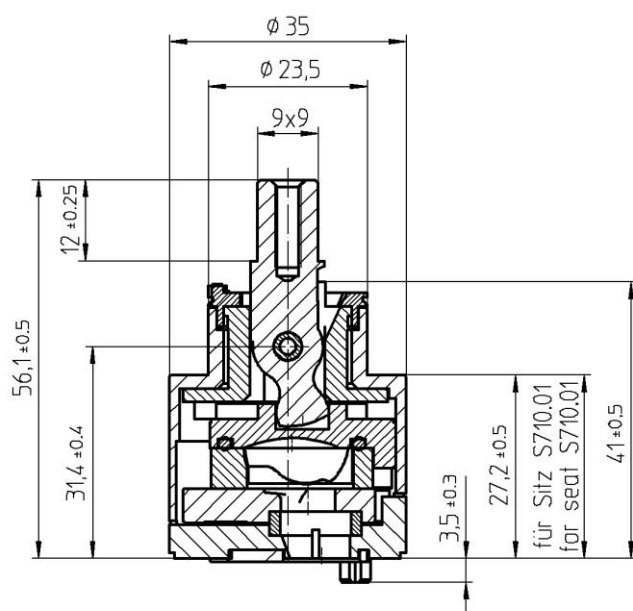
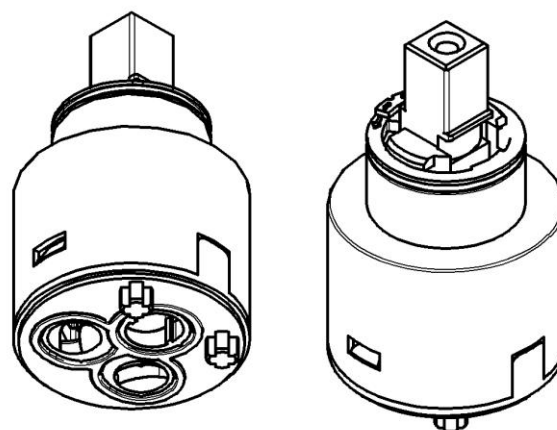
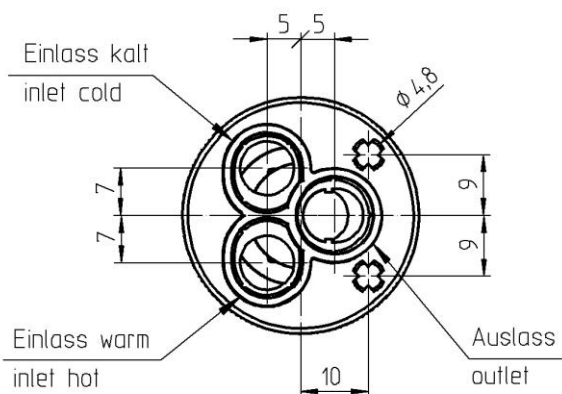


## Technical data sheet



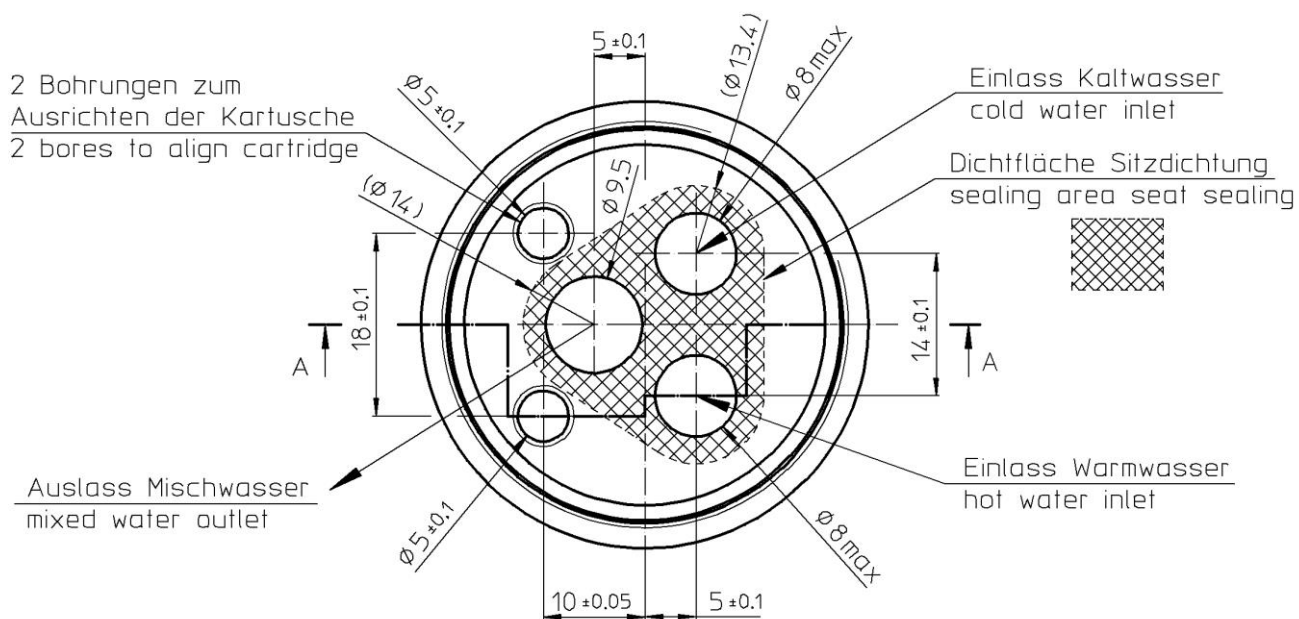
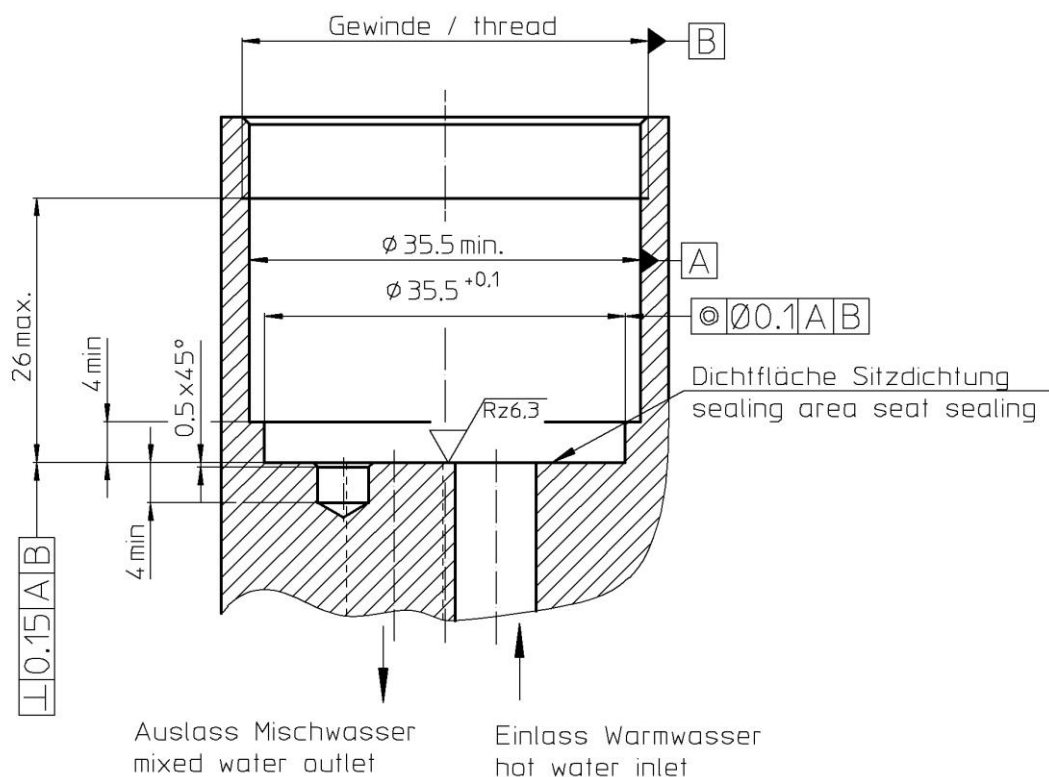
Item no.	Description	Turning angle
BF#17127	Promix 35 F, KU – Flat, Plastic Housing	115°
BF#17227	Promix 35 F Brass, MS – Flat, Brass Housing	115°
BF#17100	Promix 35 FG, KU – Flat, Noise Reducer, Plastic Housing	115°
BF#17200	Promix 35 FG Brass, MS – Flat, Noise Reducer, Brass Housing	115°
BF#17125	Promix 35 FG, CS, KU – Flat, Noise Reducer, Cold Start, Plastic Housing, NV	90°

## Technical data sheet

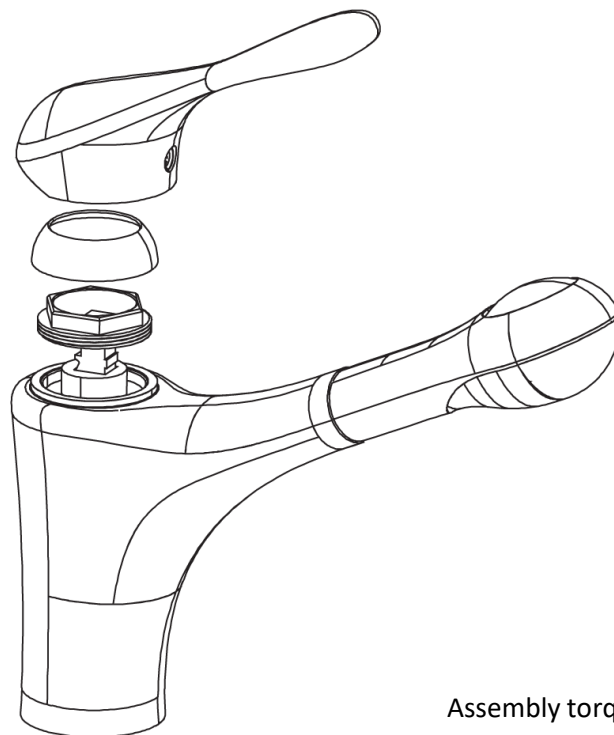
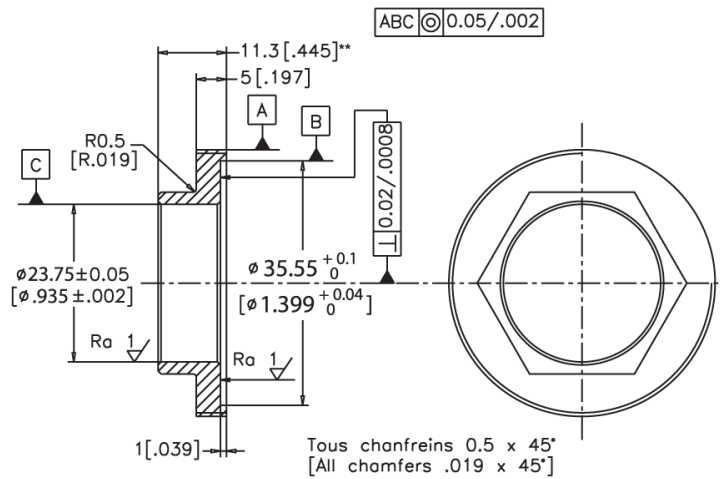


Item no.	Description	Turning angle
BF#17106	Promix 35 FGT, KU – Flat, Noise Reducer, Temperature Limiter, Plastic Housing	115°
BF#17135	Promix 35 FGCT, KU – Flat, Noise Reducer, Click, Temperature Limiter, Plastic Housing	115°
BF#17110	Promix 35 FGTD, KU – Flat, Noise Reducer, Temperature and Flow Limiter, Plastic Housing	115°

## Seat recommendation

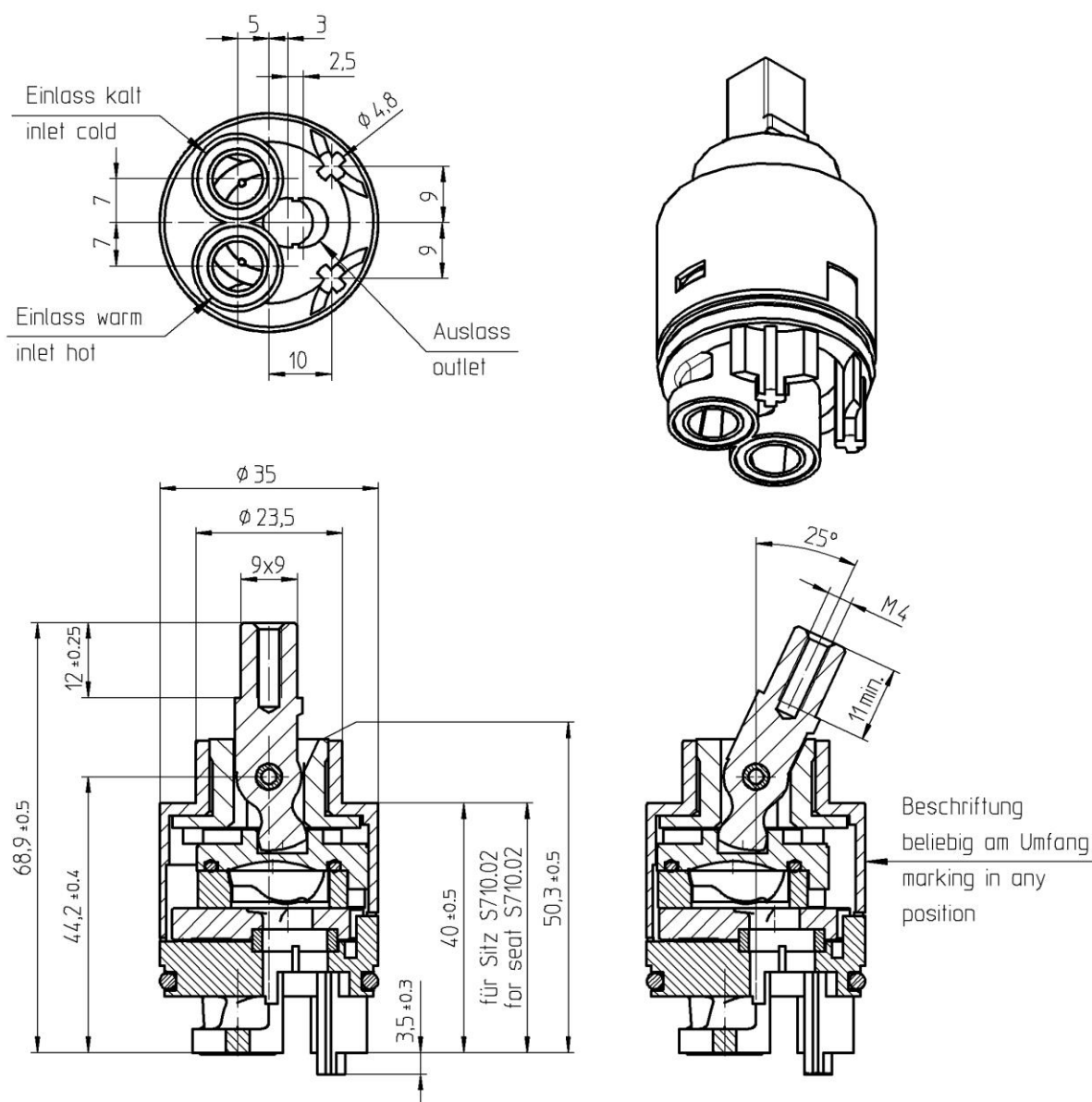


## Assembly



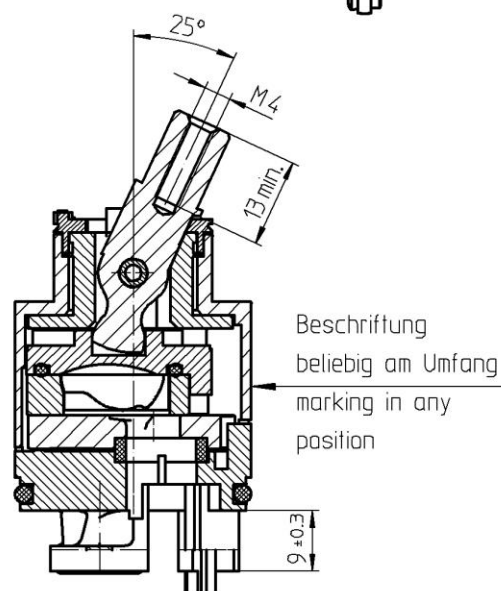
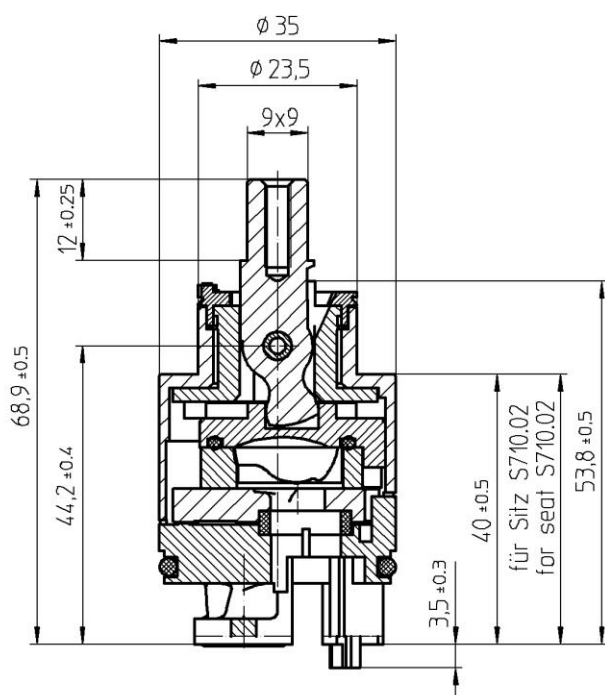
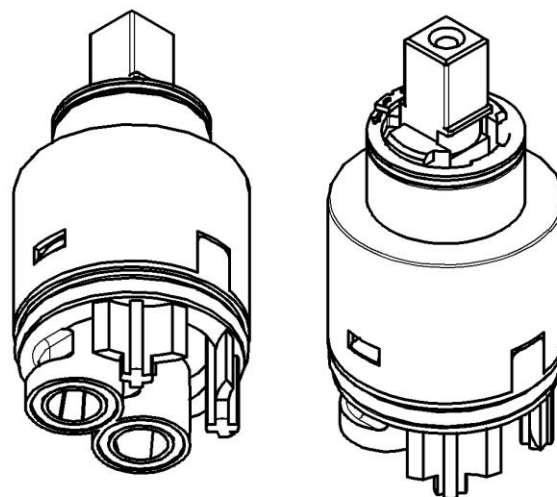
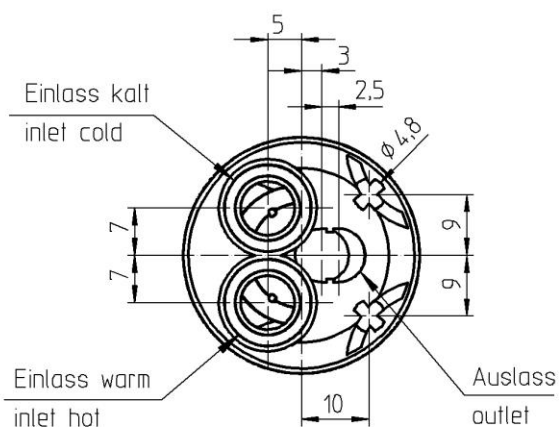
Assembly torque: 8 – 10 Nm.

## Technical data sheet



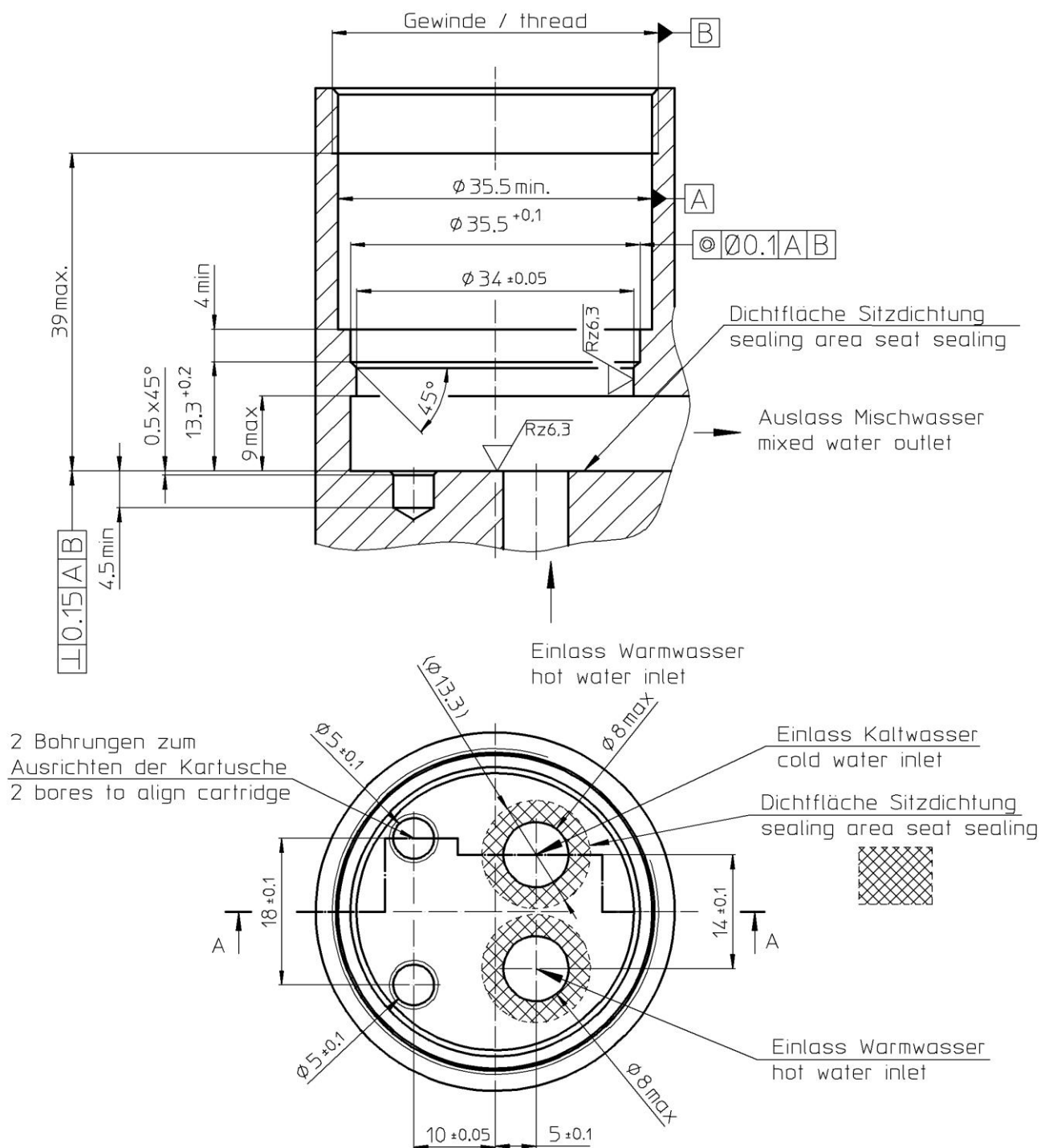
Item no.	Description	Turning angle
BF#17128	Promix 35 O, KU – Open, Plastic Housing	115°
BF#17228	Promix 35 O Brass, MS – Open, Brass Housing	115°
BF#17104	Promix 35 OG, KU – Open, Noise Reducer, Plastic Housing	115°
BF#17204	Promix 35 OG Brass, MS – Open, Noise Reducer, Brass Housing	115°
BF#17126	Promix 35 OG, CS, KU – Open, Noise Reducer, Cold Start, Plastic Housing, NV	90°

## Technical data sheet



Item no.	Description	Turning angle
BF#17103	Promix 35 OGT, KU – Open, Noise Reducer, Temperature Limiter, Plastic Housing	115°
BF#171XY	Promix 35 OGCT, KU – Open, Noise Reducer, Click, Temperature Limiter, Plastic Housing	115°
BF#17108	Promix 35 OGTD, KU – Open, Noise Reducer, Temperature and Flow Limiter, Plastic Housing	115°

## Seat recommendation



Technical drawing of a mechanical part showing a cross-section and a top view.

**Top View:** A circular feature with a hexagonal hole in the center. The hole has a diameter of  $\phi 35.55^{+0.1}_0$  mm. The outer diameter of the circular feature is  $\phi 23.75 \pm 0.05$  mm ( $\phi .935 \pm .002$  inches).

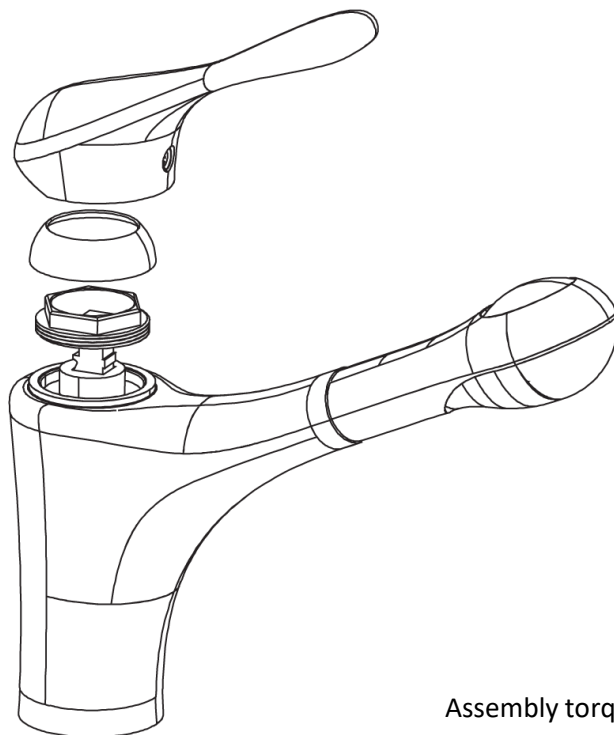
**Cross-Section View:** Shows the internal profile of the part. Key dimensions include:

- Overall length:  $11.3[.445]^{**}$  mm.
- Distance from the right face to the start of the hexagonal hole:  $5[.197]$  mm.
- Radius of the fillet at the top left:  $R0.5$  ( $[R.019]$  inches).
- Surface texture symbol:  $Ra \sqrt{0.02/.0008}$  (inches).
- Surface texture symbol:  $Ra \sqrt{0.02/.0008}$  (inches).
- Distance from the left face to the start of the hexagonal hole:  $1[.039]$  mm.
- Distance from the left face to the start of the hexagonal hole:  $1[.039]$  mm.

**Feature Callouts:** A, B, and C are used to identify specific features on the part.

**Notes:**

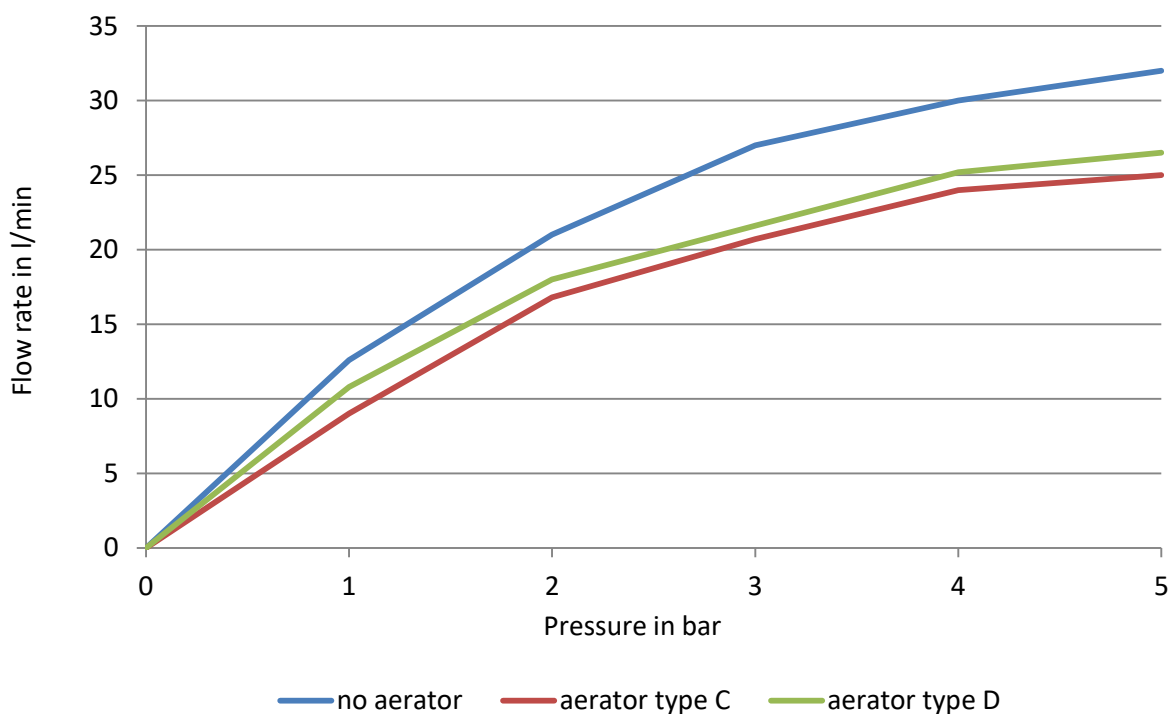
- Tous chanfreins  $0.5 \times 45^\circ$  (All chamfers  $.019 \times 45^\circ$ )



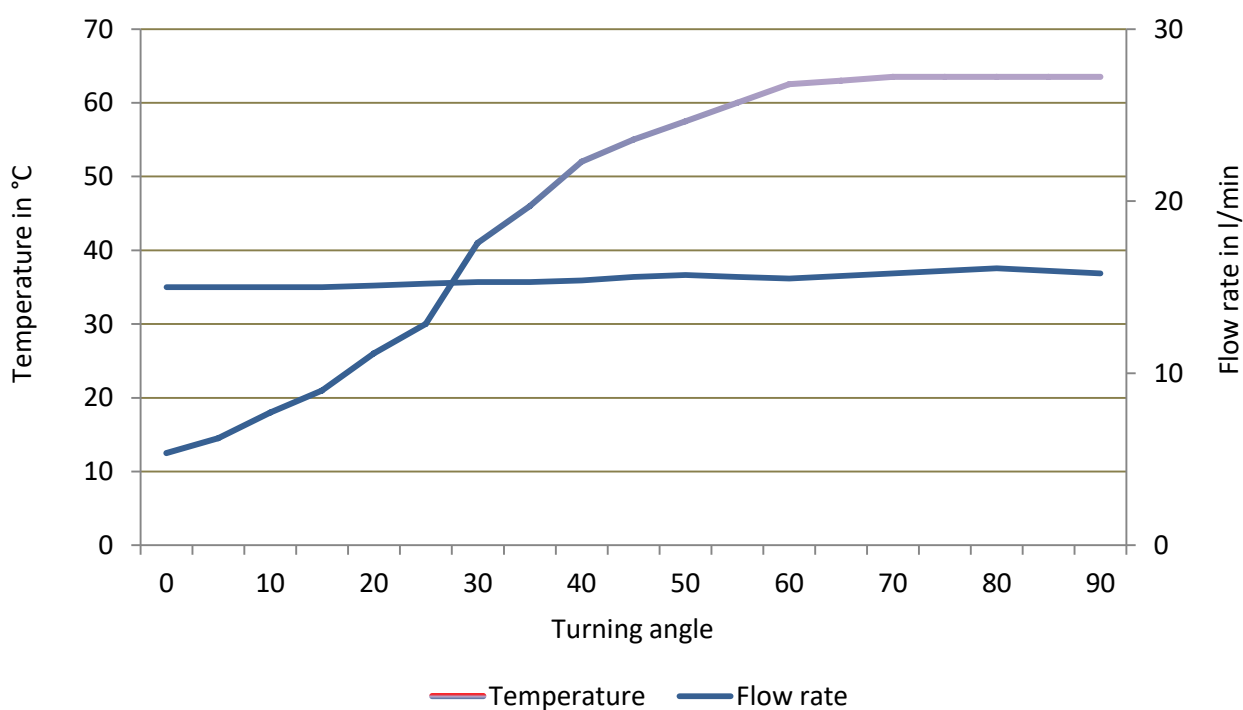
Assembly torque: 8 – 10 Nm.

## Flow rate

Flow rate at different water pressure for normal rotation Promix cartridges



Temperature and flow rate for Promix Cold Start\*



\* fully open position at 3 bar water pressure, cold water temperature 12,5 °C, hot water temperature 63,5 °C

## For the more efficient usage of water and energy

Single lever mixing cartridges are generally opened in the middle position. In this position, both hot water inlet and cold water inlet are activated at the same time. This happens up to 40 times a day. In public areas, this number is even exceeded by far. In a large number of installations, the opening time is so short, that the hot water does not even reach the outlet. Before the hot water has flown into the outlet, the faucet is closed and the hot water remains unused in the pipe system, where it cools down again.

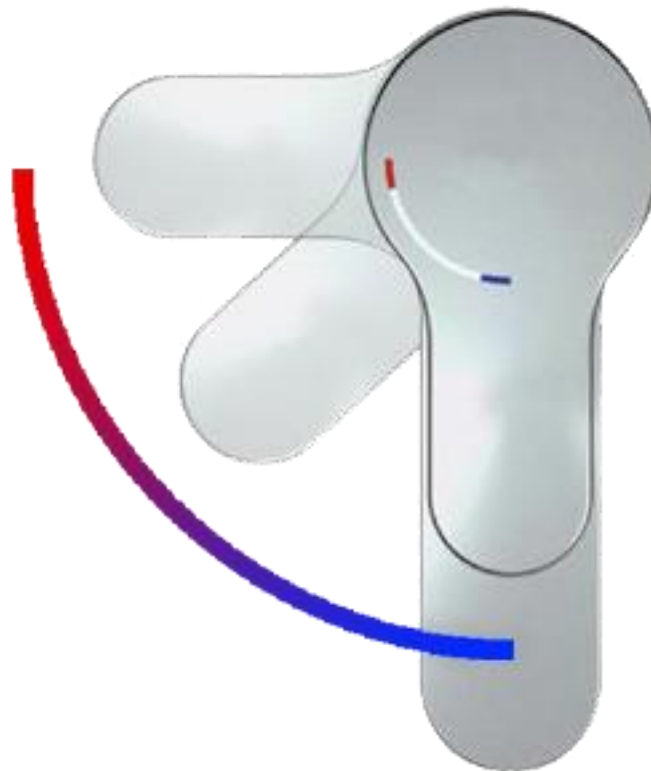
An opened faucet activates 0.1 litres of hot water (60°-70°) on average per second, an amount which is neither required nor used by the consumer.

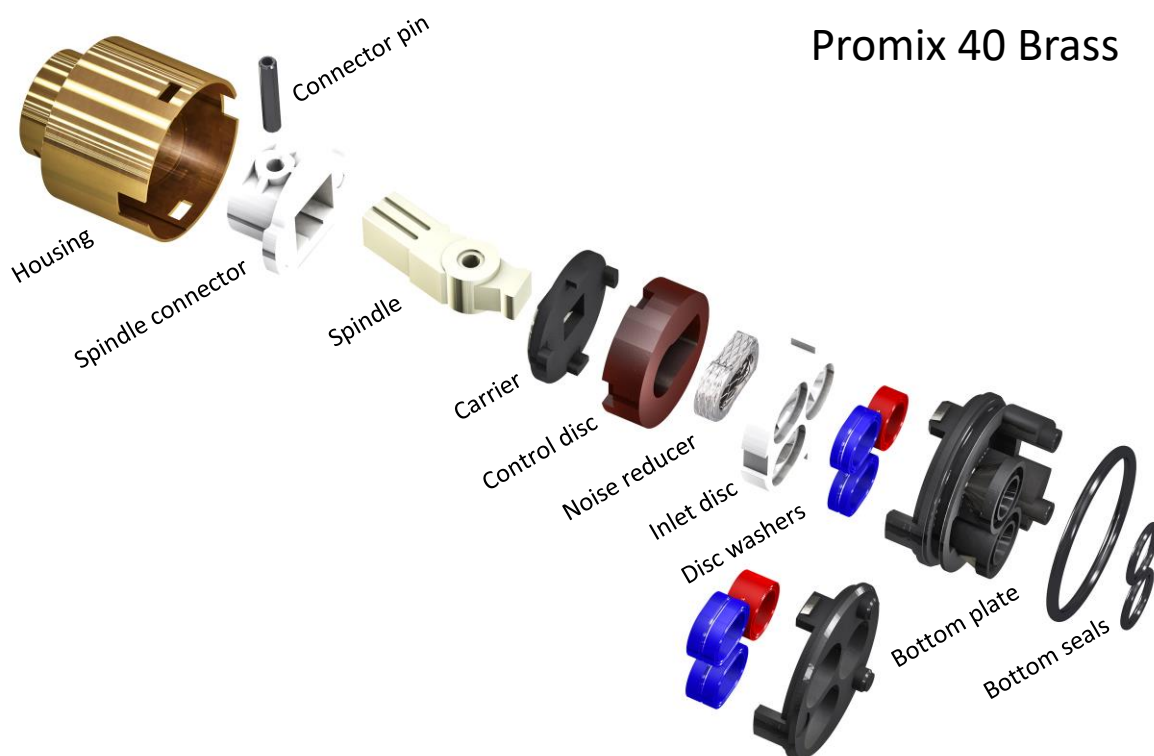
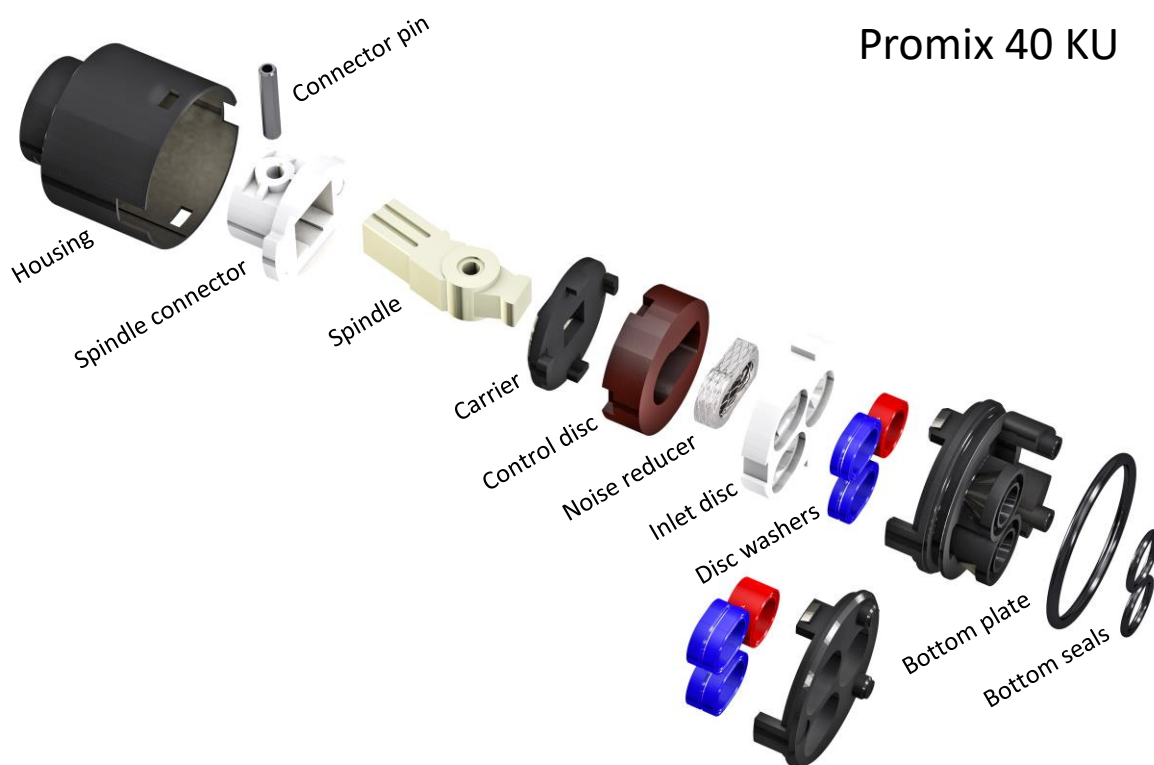
With this, resources and expenses are wasted unnecessarily.

In Coldstart faucets only cold water flows when the lever is in its middle position.

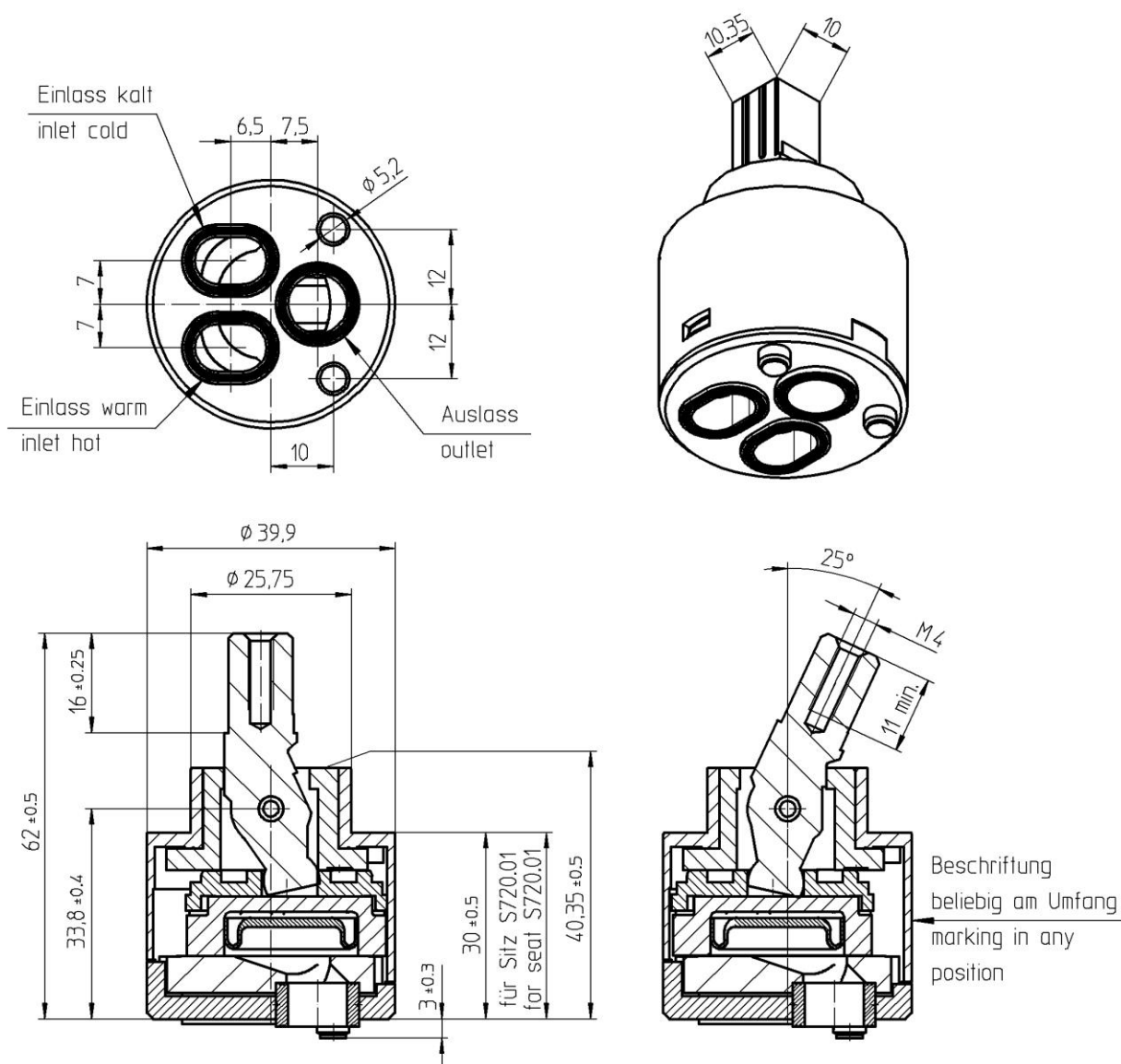
On-demand water heaters as well as circulation pumps stay on stand-by and heating energy is therefore saved. Only if the lever is turned to the left into the hot water position, the energy for the supply of hot water is used. This means that hot water is only paid for when it is required.

Tests with Coldstart function have been run both in public buildings as well as in private households. They show that 50 % of energy consumption can be saved without any impairment of comfort.



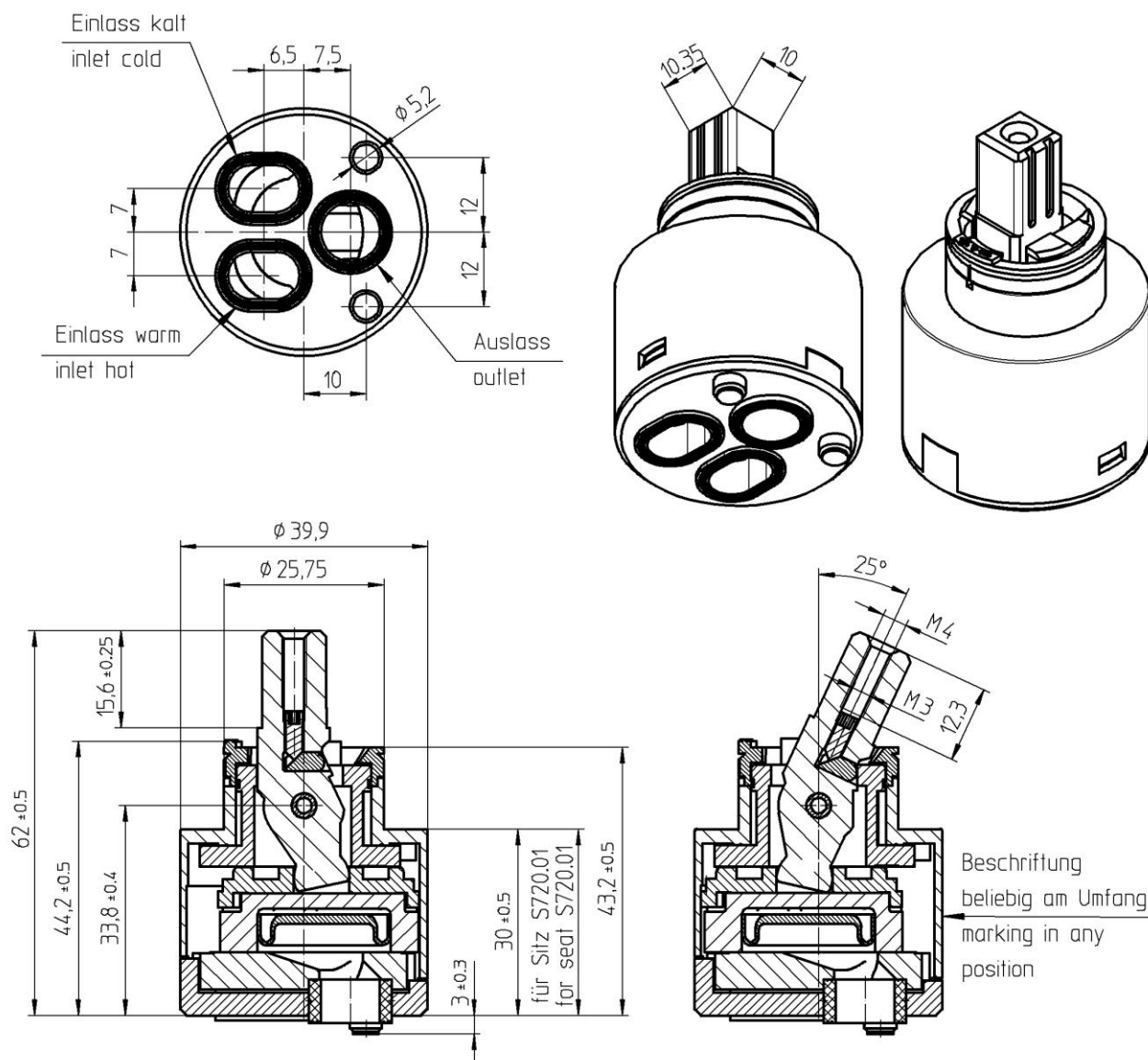


## Technical data sheet



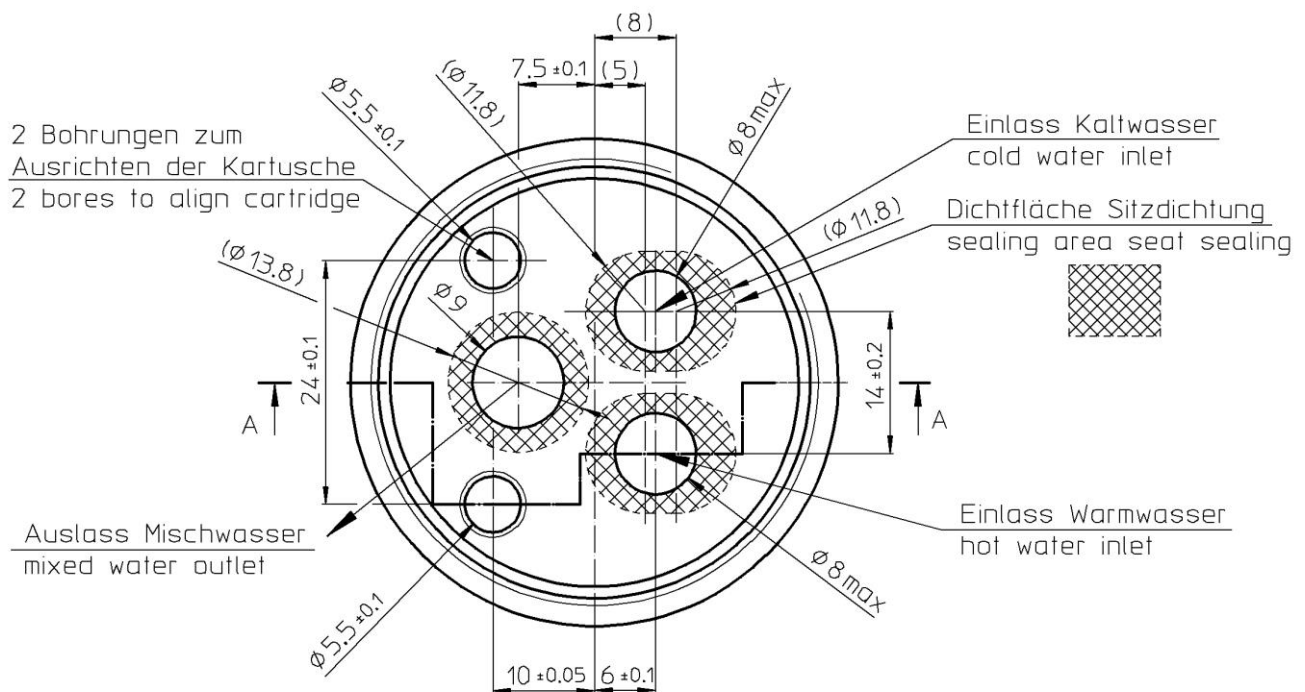
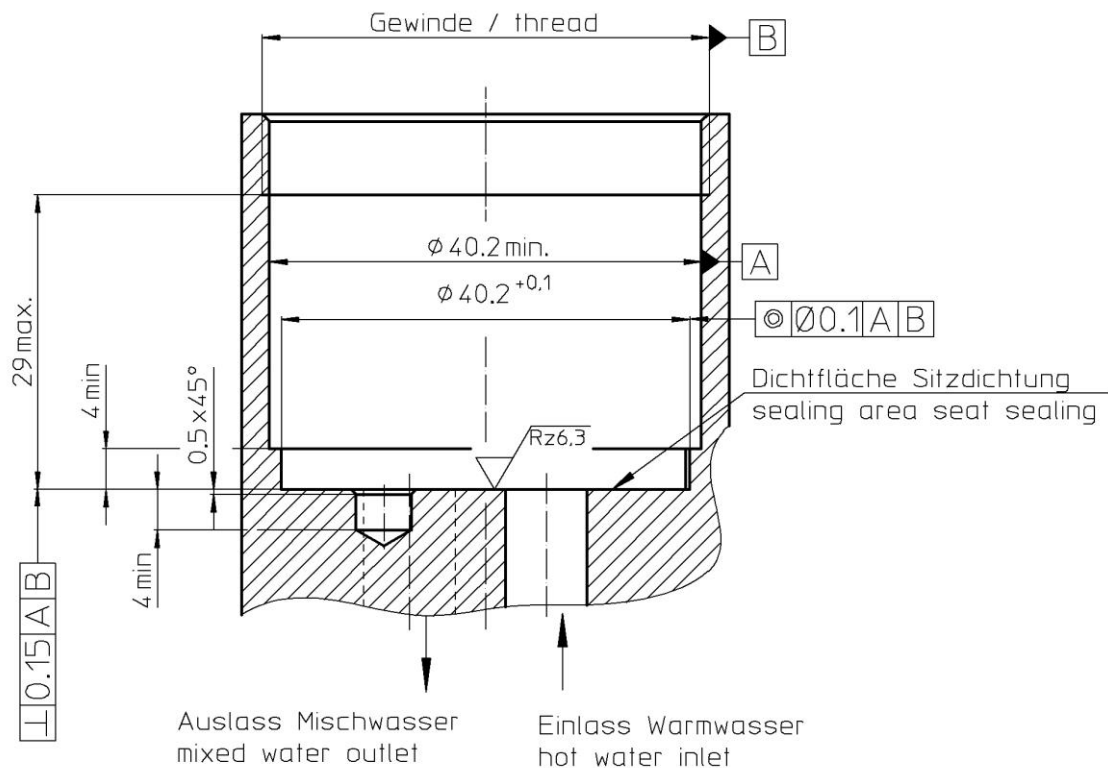
Item no.	Description	Turning angle
BF#17129	Promix 40 F, KU – Flat, Plastic Housing, NV	100°
BF#17229	Promix 40 F Brass, MS – Flat, Brass Housing, NV	100°
BF#17101	Promix 40 FG, KU – Flat, Noise Reducer, Plastic Housing, NV	100°
BF#17201	Promix 40 FG Brass, MS – Flat, Noise Reducer, Brass Housing, NV	100°

## Technical data sheet

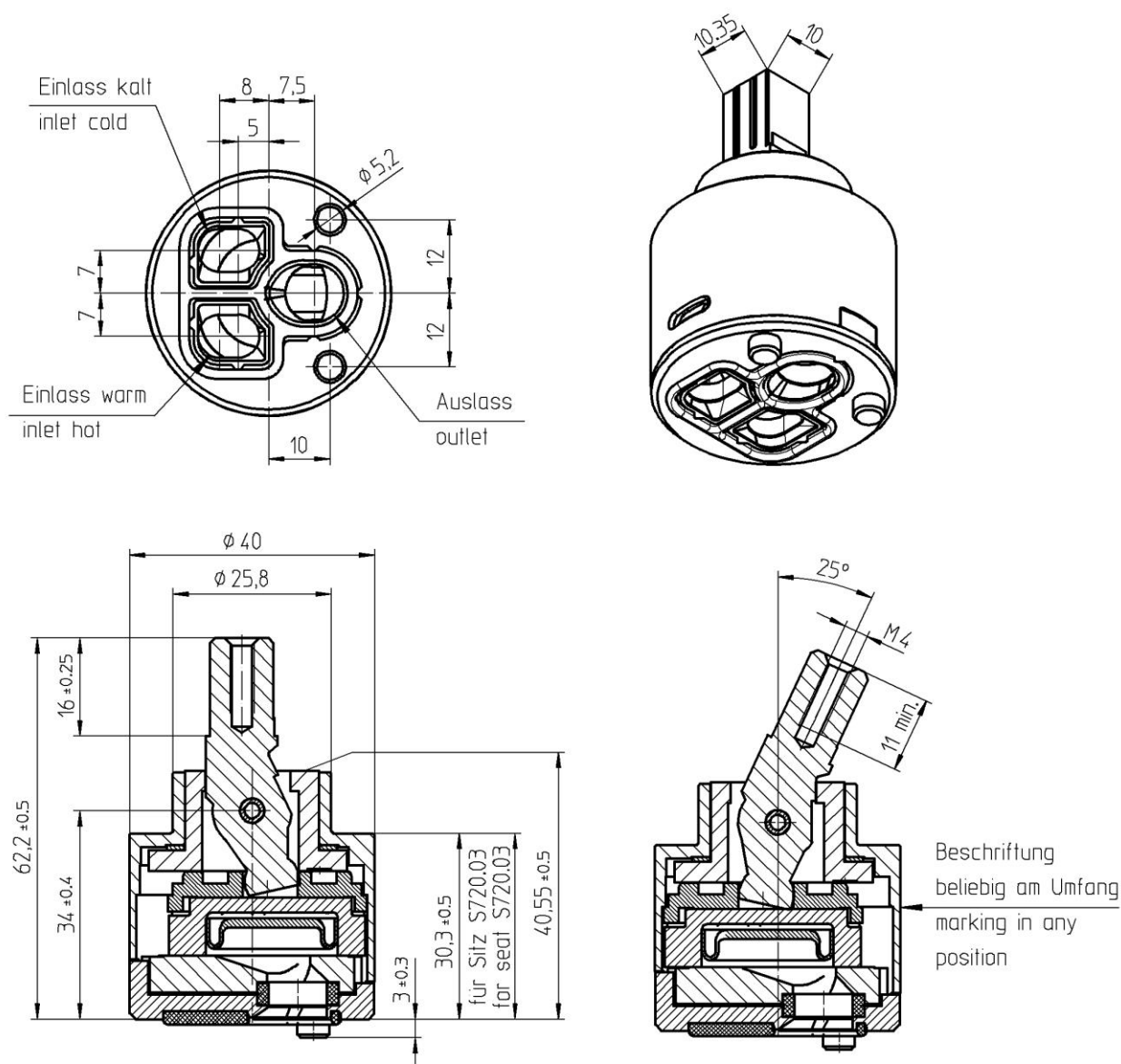


Item no.	Description	Turning angle
BF#171XY	Promix 40 FGT, KU – Flat, Noise Reducer, Temperature Limiter, Plastic Housing, NV	100°
BF#17112	Promix 40 FGCT, KU – Flat, Noise Reducer, Click, Temperature Limiter, Plastic Housing, NV	100°
BF#17105	Promix 40 FGTD, KU – Flat, Noise Reducer, Temperature and Flow Limiter, Plastic Housing, NV	100°

## Seat recommendation

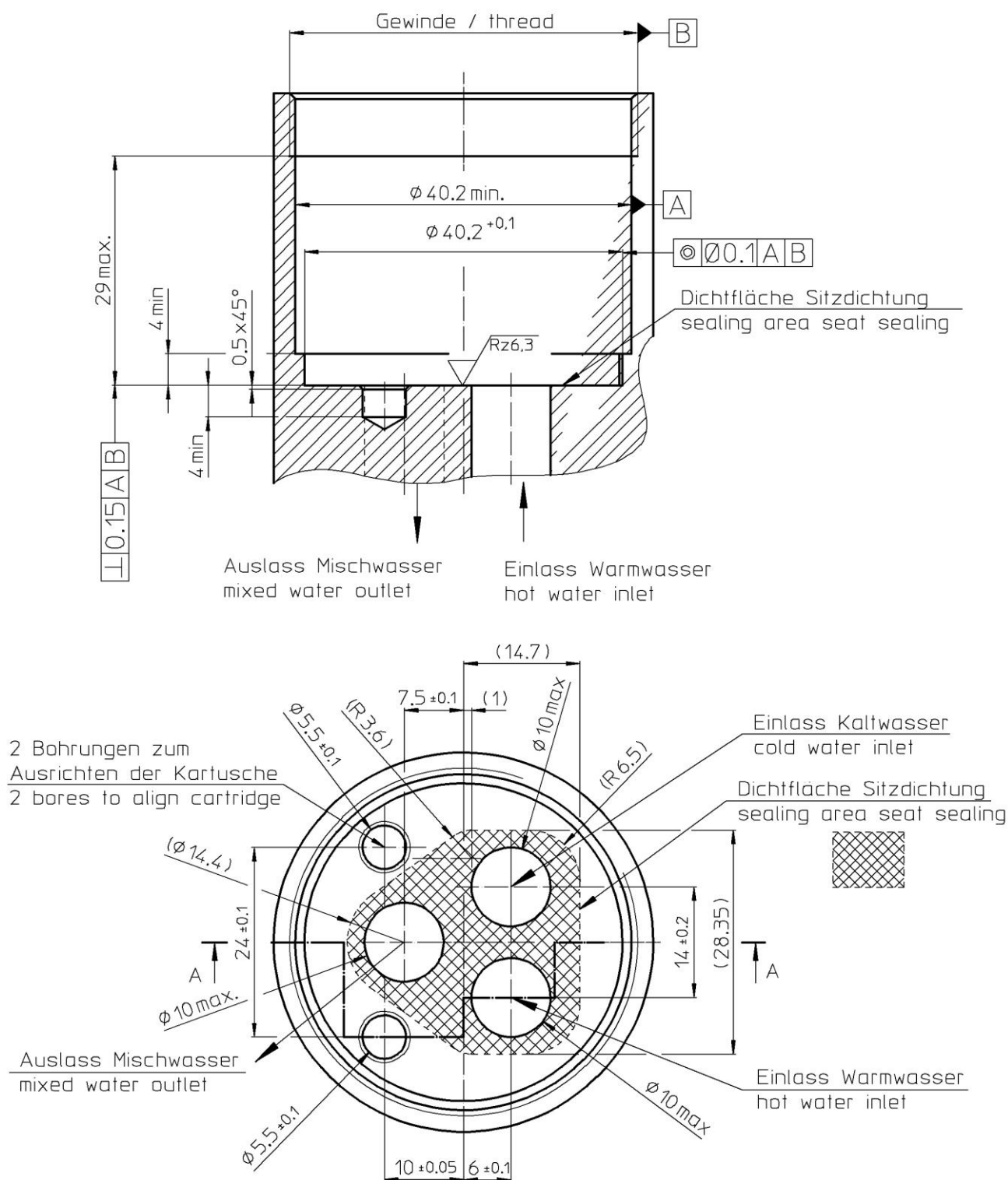


## Technical data sheet

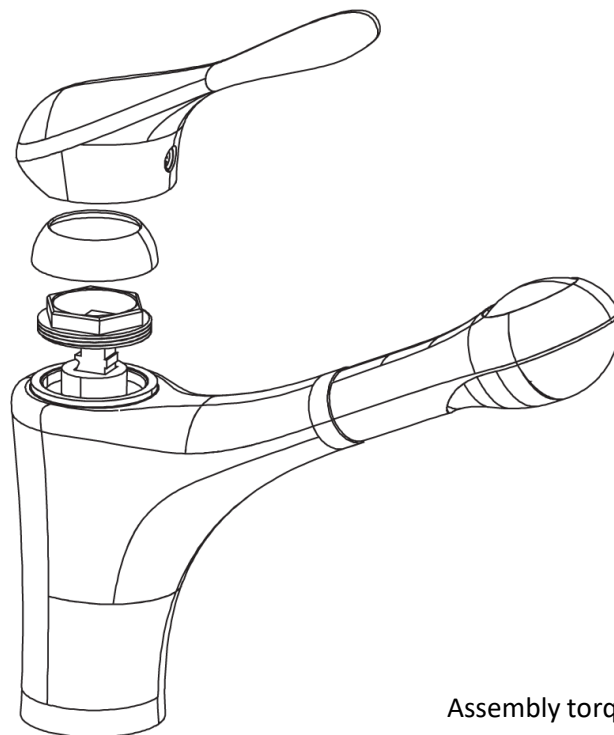
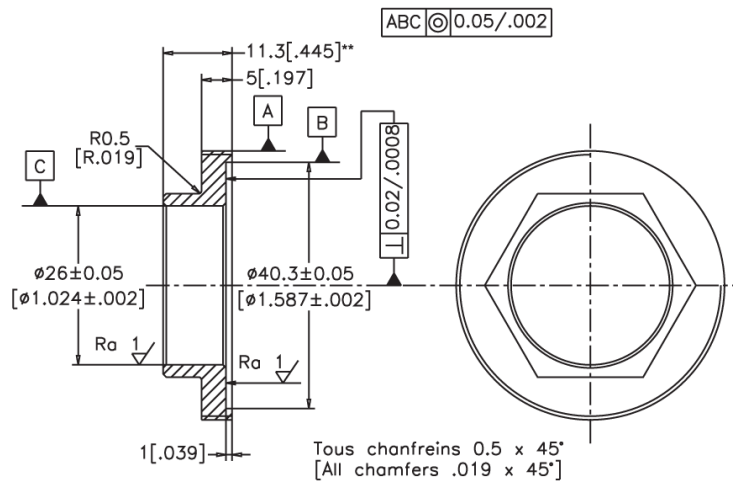


Item no.	Description	Turning angle
BF#171XY	Promix 40 FGT, KU – Flat, Noise Reducer, Temperature Limiter, Plastic Housing, NV	100°
BF#17112	Promix 40 FGCT, KU – Flat, Noise Reducer, Click, Temperature Limiter, Plastic Housing, NV	100°
BF#17105	Promix 40 FGTD, KU – Flat, Noise Reducer, Temperature and Flow Limiter, Plastic Housing, NV	100°

## Seat recommendation

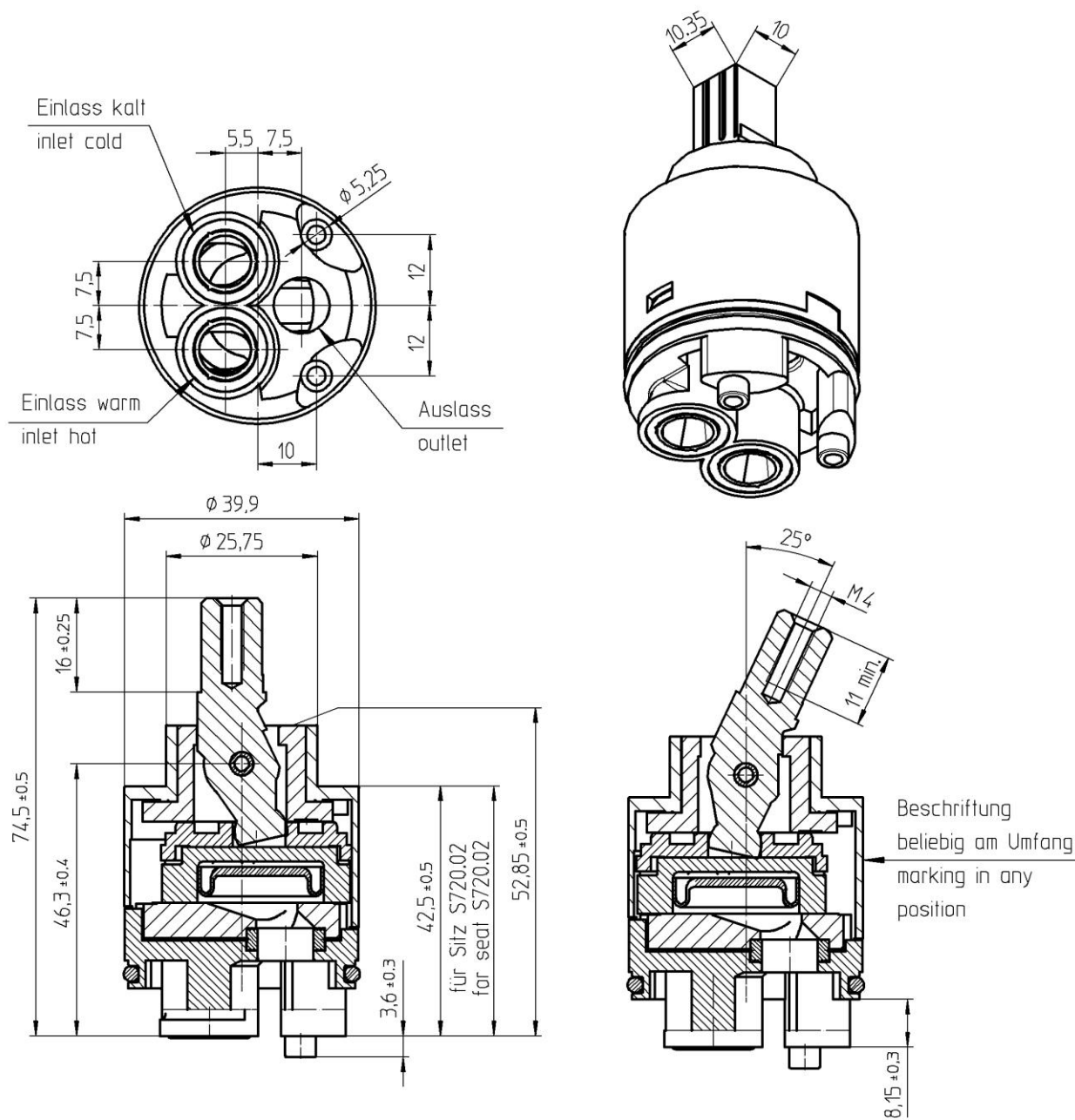


## Assembly



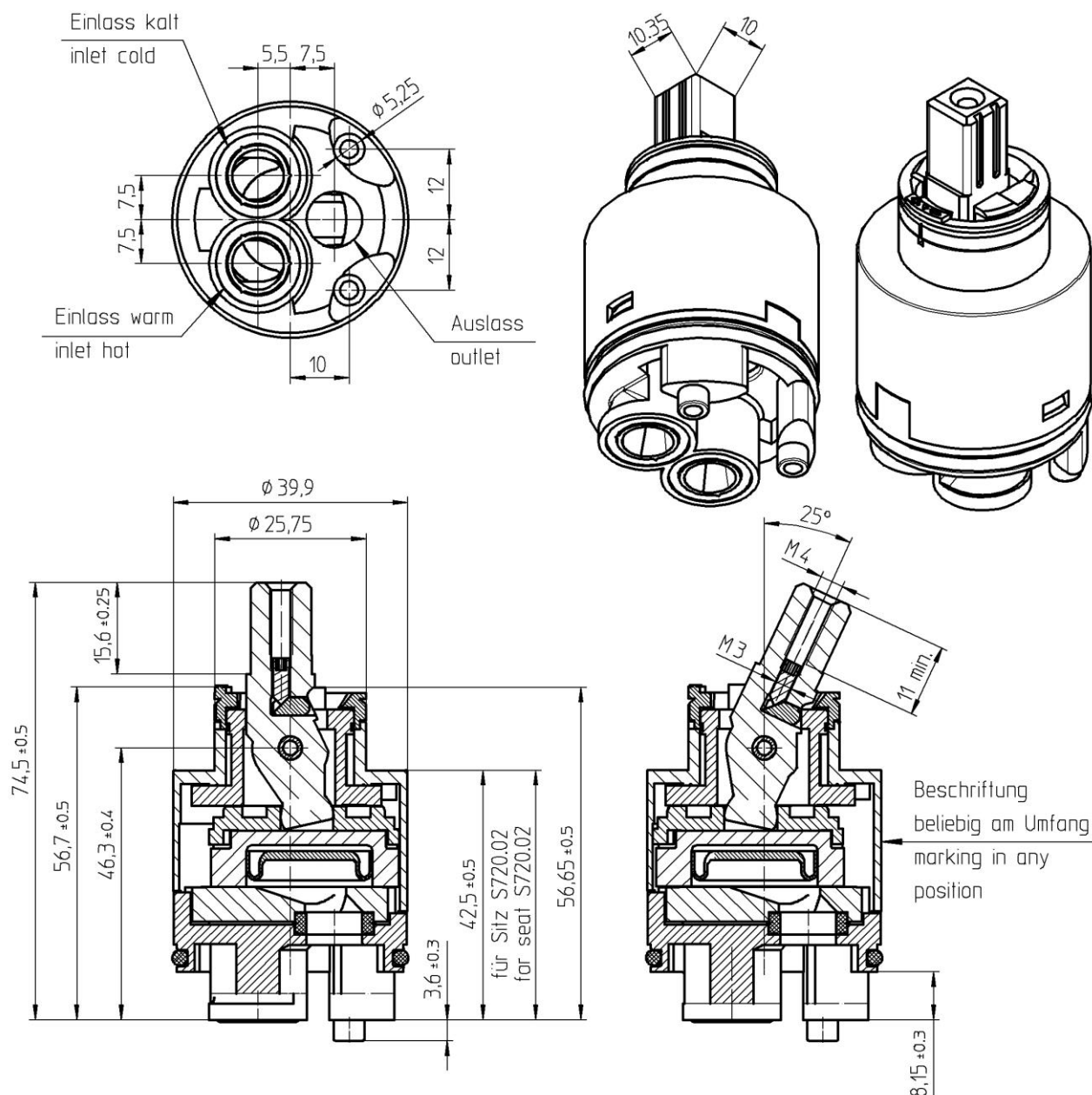
Assembly torque: 8 – 10 Nm.

## Technical data sheet



Item no.	Description	Turning angle
BF#17130	Promix 40 O, KU – Open, Plastic Housing, NV	100°
BF#17230	Promix 40 O Brass, MS – Open, Brass Housing, NV	100°
BF#17102	Promix 40 OG, KU – Open, Noise Reducer, Plastic Housing, NV	100°
BF#17202	Promix 40 OG Brass, MS – Open, Noise Reducer, Brass Housing, NV	100°

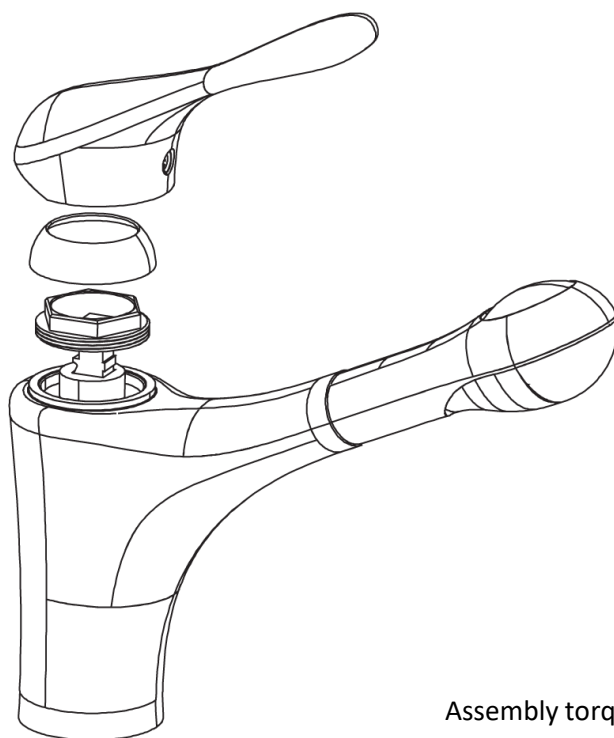
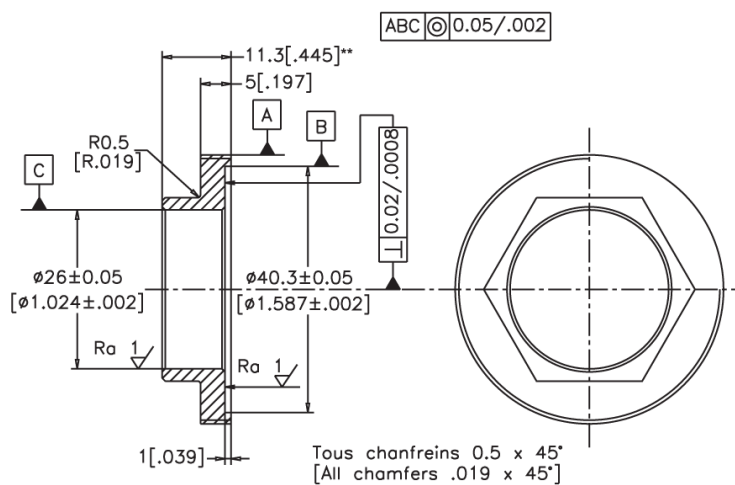
## Technical data sheet



Item no.	Description	Turning angle
BF#17131	Promix 40 OGT, KU – Open, Noise Reducer, Temperature Limiter, Plastic Housing, NV	100°
BF#17113	Promix 40 OGCT, KU – Open, Noise Reducer, Click, Temperature Limiter, Plastic Housing, NV	100°
BF#17134	Promix 40 OGTD, KU – Open, Noise Reducer, Temperature and Flow Limiter, Plastic Housing, NV	100°

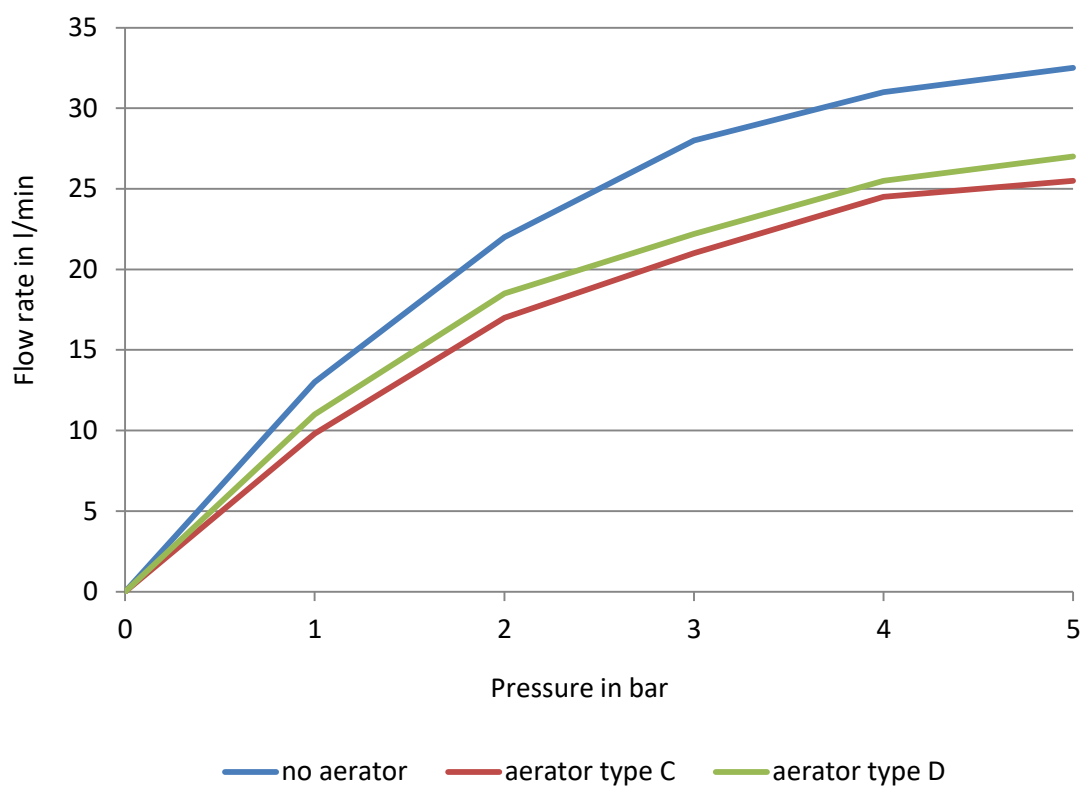
The drawing shows a 3/4 inch ball valve. The cross-section view at the top details the internal components: a ball with a diameter of  $\phi 40.2^{+0.1}$  min. and a seat with a diameter of  $\phi 39.1^{+0.1}$ . The ball has a surface finish of  $Rz6.3$  and a 45-degree chamfer. The seat also has a surface finish of  $Rz6.3$ . The valve body has a total length of 41.5 max. and a thread section of length B. The top view at the bottom shows the four bores for aligning the cartridge, with diameters of  $\phi 5.5 \pm 0.1$  and  $\phi 14.7$ . The top view also shows the two inlets: cold water inlet (top) and hot water inlet (bottom), both with diameters of  $\phi 8 \text{ max}$ . The top view includes a sealing area (hatched) and a dimension of  $15 \pm 0.1$  for the distance from the center to the inlet. The overall diameter of the top view is  $24 \pm 0.1$ . The drawing is labeled with 'A' and 'B' for reference points.

## Assembly



Assembly torque: 8 – 10 Nm.

## Flow rate



## General technical data

### Uses

Promix cartridges were developed for standard single lever faucets. Each of these has a cold and hot water inlet, and the mixed water is conducted through the spout. There should be no shut off device after the Promix.

### Water pressure

Maximum: 5 bar / 72,5 psi (dynamic)

16 bar / 232 psi (static)

Recommended: 2 – 3 bar / 30 – 45 psi (dynamic)

2 – 3 bar / 30 – 45 psi (static)

In the case of higher water pressures, we Recommend the use of pressure reducers. Alternatively, please contact our technical department for additional tests.

Pressure differences for hot and cold water.

Maximum: 1,5 bar / 21.75 psi

### Temperature

Maximum: 85°C / 185°F

Minimum: 1°C / 33.8°F

Recommended: 5°C – 65°C / 40°F – 149°F

### General

The cartridge body must be free of grease, swarf, paint etc..

All products are only designed for conventional domestic use in sanitary faucets. Our research and development department does not authorise use in other situations.

Any sealing material used must be used in

accordance with the specifications.

The products must be stored in dry conditions. Information on products and installation is not provided in full. Please contact us at [info@fluehs.de](mailto:info@fluehs.de) for more detailed information.

All forms of warranty and liability are invalidated in the event of failure to keep to the instructions which relate to products and installation or to comply with standards, regulations etc, to use the products in an incorrect or unsuitable way, faulty installation by the user or third parties, natural wear, faulty or negligent treatment of the products, alterations to the products carried out by unauthorised personnel or as a result of chemical or electrical influences.

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