

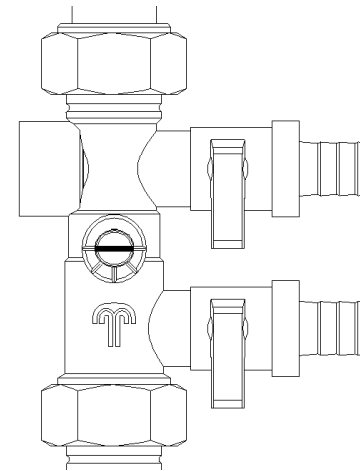
Flushing, filling and commissioning the system



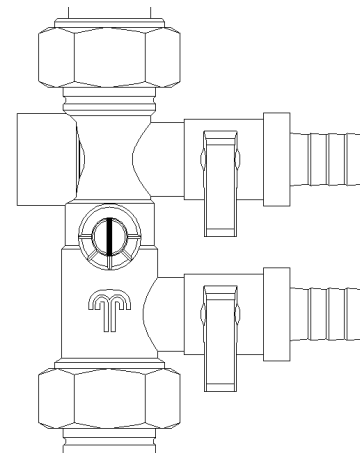
Filling and flushing gate valves

The KFE stop valves on the flush/fill gate valve are used for filling and flushing the solar device.

To enable flushing, the slot in the spindle must be in the horizontal position.



Gate valve
closed



Gate valve
fully open

Filling the system

- **Connect pressure hose to the filling valve and open the valve.**
- **Connect the flushing hose to the flushing valve and open the valve.**
- **Using a slotted head screwdriver, close the stopcock in the flush/fill gate valve**
- **Fill the containers of filling station with sufficient solar fluid for the system.**
- **Using filling station, fill the solar circuit and then flush for approx. 15 minutes.**

Filling the system

- When the filling pump is running, close the flushing valve and set the system pressure to around 4 bar
- When the pressure is reached, close the filling valve and immediately switch off the filling pump
- Check that the device is leak-free. If the manometer shows a significant drop in pressure, this points to a leakage in the system
- Re-open the stopcock in the flush/fill panel
- Switch on the circulating pump (control position “manual”) to the highest pumping level (III) and allow it to circulate for at least 15 minutes
- Set the control station to “stand by” (pump = OFF) and then bleed the system using the hand ventilator on the air jet until the heat transfer fluid begins to escape.

Filling the system

- Set the operating pressure in accordance with table 1 by carefully opening the flushing valve and releasing the heat transfer fluid into the catchment tank
- Switch on the circulating pump (control position “manual”) and set the volume flow on the flow indicator in accordance with table 2 by selecting the appropriate setting (I, II, III) and by using the restrictor on the flush/fill gate valve
- Remove the hoses from the filling station and screw the caps on to the filling and flushing valves and (release the flushing valve first, then the filling valve).

Note:

- **Now switch the control setting to automatic operation**

Setting of initial pressure for expansion tank and operating pressure

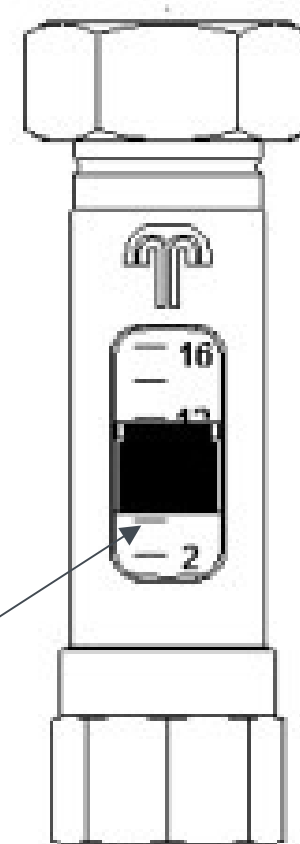
Height difference	Initial pressure for expansion tank	Operating pressure at 20°C
(height of collector field - height of expansion tank)	(setting on valve, behind cover cap)	(0.2 to 0.5 mbar greater than initial pressure)
-5 m	~ 1.0 bar	~ 1.3 bar
< 0 m	~ 1.0 bar	~ 1.3 bar
< 5 m	~ 1.5 bar	~ 1.8 bar
< 10 m	~ 2.0 bar	~ 2.3 bar
< 15 m	~ 2.5 bar	~ 2.8 bar
> 15 m	Separate dimensioning of safety device required	

Setting of initial pressure for expansion tank and operating pressure

Number of solar panels	≤ 5	6	8	9	12
Type of connection	Up to 5 in series	2 x 3 parallel	2 x 4 parallel	3 x 3 parallel	4 x 3 parallel
Diameter of forward and return flow pipe	15 mm	18 mm	18 mm	22 mm	22 mm
Minimum volume flow	2-3 l/ min	4-5 l/ min	4-5 l/ min	6-8 l/ min	6-8 l/ min

Setting the flow

- The setting of the volume flow for the heat transfer fluid is made via the setting for the revolution levels (I, II, III) of the circulating pump and the restrictor in the flush/fill panel
- The flow indicator displays the volume flow set. The display range is between 2 and 8 l/min or 2 and 16 l/min.



Read off the volume flow values on the lower edge of the rotameter.

Releasing trapped air

- The residual air in the heat transfer fluid is collected in the Air jet and can be manually released via the ventilation nipple
- To do so, push a hose onto the spout of the ventilation nipple and catch the fluid that is released in a suitable container



Any questions?

