
Installation

Before mounting the flowmeter please check if the metering tube and the float are clean and free from any impurities. The dust protection caps and transportation protection must be removed. If the union nuts (4) (see illustration 3) have to be removed, care has to be taken that the float does not fall out and become damaged. It is advisable to ensure that the float will move freely.

The fluid flows through the metering tube from bottom to top. Therefore the metering tube must be vertical during operation. If the pipeline is not vertical or if there is flow from top to bottom, the corresponding by-passes have to be provided (see illustration 1).

If the fluid flows through the by-pass we recommend installing a bleed valve at the highest point enabling gas bubbles to be removed. For gases which might form condensate, a drain valve must be installed at the lowest point of the by-pass.

The pipeline should be aligned and installed in such a way that mechanical stress is avoided.

The GEMÜ plastic flowmeter can be installed in pipelines of any size. When there are large differences in nominal sizes it is advisable to use the nominal size of the flowmeter for a distance of approximately 10 pipe diameters.

To enable removal of the GEMÜ flowmeter even when the pipes are full, a shut off valve should be installed before and after the flowmeter.

If the flowmeter is also to be removed during the operation of the plant, a bypass should be installed according to illustration 2.

Installation procedure (see illustrations 3/4):

Unscrew union nut (4) with union end (5) (Note: Float may fall out). Push union nut (4) onto the pipe. Thread, solvent cement or weld the union end (5) onto the pipe. Install the unit with union nut (4) into the pipe-line. The O-ring (6) provides sealing between the metering tube (1) and the union end (5). With type 800 the upper float stop (3) and lower float stop (8) are held by the union end (5) and the union nut (4). With type 850 the lower float stop (8) is moulded.

Flow direction: From bottom to top.

Regulating units

With **liquids**, throttle valves can be installed and used before and / or after the flowmeter.

With **gases** we recommend the use of a throttle only after the flowmeter thus preventing oscillation of the float in the metering tube. These oscillations occur when there is a relatively high pressure drop at the float when the metering tube is handling a large volume. The throttle valve increases the pressure behind the float and limits the pressure drop. Flowmeters with floats are very sensitive to changes in flow. For this reason regulating units always have to be opened slowly preventing the float from being slammed against the float stop.

Calibration data

The calibration data (medium and temperature with liquids; medium, pressure and temperature with gases) are indicated on the metering tube and must be adhered to, if exact flow values are required.

Reading the flow rate

The reading mark is the top edge of the float. To get an exact reading, look over the plane face of the float and read the measured value at the scale.

Removal of metering tube (see illustrations 3 / 4)

Empty, rinse and vent the flowmeter before removing the metering tube.

Unscrew union nuts (4) and remove metering tube (1) from the pipeline.

Note: Take care that the float does not fall out and become damaged.

Installation of metering tube

Takes place in reverse sequence as described under removal of metering tube.

Maintenance

In most cases continuous maintenance of the flowmeter is not required, as the float is the only media wetted moving part. The float should be periodically checked for changes in weight and diameter caused by impure or corrosive media. If the required data are not available, please contact GEMÜ. The O-rings which provide sealing between the metering tube and the union end should also be checked periodically.

Some fluid may leave a deposit on the wall of the metering tube and on the float which makes the float difficult to see and may cause wrong indication. In this case the metering tube and the float have to be cleaned. The cleaning agent has to be chosen depending on the materials used.

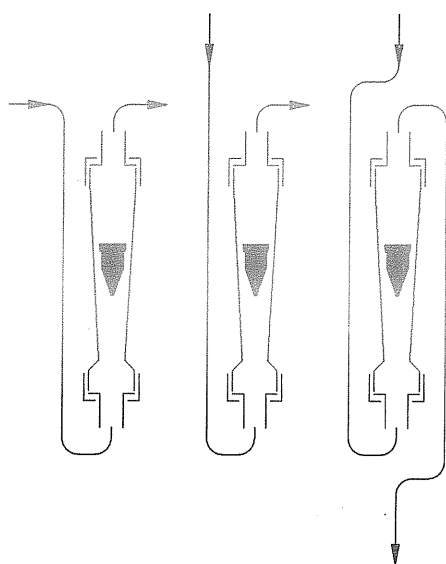


Illustration 1
Installation of GEMÜ
flowmeters

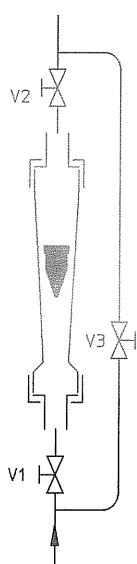


Illustration 2
GEMÜ flow-
meter with
bypass

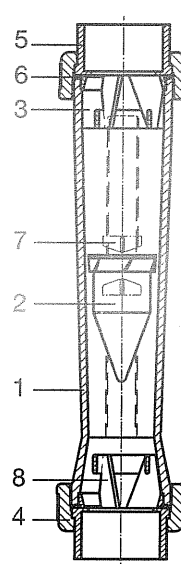


Illustration 3
Sectional
drawing
GEMÜ 800

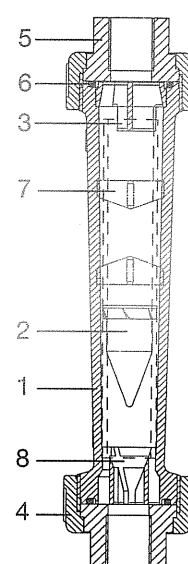


Illustration 4
Sectional
drawing
GEMÜ 850

Legend:

1. Metering tube
2. Float
3. Float stop (upper)
4. Union nut

5. Union end
6. O-ring
7. Sliding indicator
8. Float stop (lower)