

PF500

Shuttle flow meter



- *Applicable for flows 0..5 l / min*
- *Robust stainless steel design*
- *Shaft mounted in a ball bearing*
- *Passive output for easy connection to all recording devices*
- *Easy recalibration by the user*
- *Compatible with all FIEDLER telemetry stations*
- *Graphic and tabular visualization of the measured flow on the server (data hosting of telemetry stations)*

Examples of use

The pulse flow meter with a tilting double shuttle with a volume of 500 ml is designed for monitoring small water flows in the range from 0 to 5 l / min. The tilting shuttle can work even at higher flow rates, but the measurement error resulting from the used measuring principle increases disproportionately (tilting time influenced by inertia of filled shuttle, kinetic energy of flowing water, inflow also during tilting time, water splash at higher inflow).

The installation of the flow meter requires a height drop of at least 250 mm at the measuring point and a directed water supply above the center of the flow meter. On the other hand, the construction of the usual triangular specific overflow and the level sensor are eliminated. The flow meter also does not require any supply voltage and pulses can be recorded for a long time in a device powered only by a battery. The durable stainless steel design of the flowmeter is also not endangered by freezing, which endangers the sensitive membranes of hydrostatic level sensors.

Due to its simplicity and operational reliability, this type of flow meter can be used, for example, in the following applications:

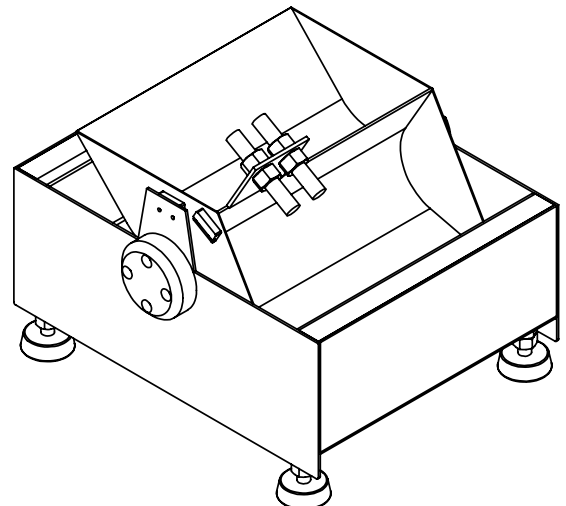
- **Leakage measurement in construction and geology**
- **Measurement of yield of small springs**
- **Measuring the amount of water flowing out of melting snow**
- **Measuring the amount of drainage water**

In conjunction with the telemetry unit H1 to H7, Q2, H40, H50 or STELA, this robust flow meter can be used to monitor the instantaneous flow and to calculate the total flow, including automatic transfer of measured data to a database on the Internet and graphical and tabular visualization of measured flows and volumes.

Examples of use

The basis of the PF500 flow meter is a stainless steel rectangular construction in the shape of a bathtub with an eccentrically located drain hole in its bottom. The mechanical design of the tub is robust enough to support a double tilting shuttle located on a shaft mounted in stainless steel bearings.

The shuttle body contains two interconnected 2 x 750 ml trays, which are mounted on a rotating shaft. Using rubber stops and a balancing fitting, the flow meter is set so that the trays are tilted at a water volume of 500 ml. After tipping over, the contents of the tray are poured out and the second of the pair of shuttles is set under the inflow. Each tilting of the shuttle body causes a short closing of the relay contacts by means of a magnetic coupling. This pulse can then be stored in the connected recording unit.



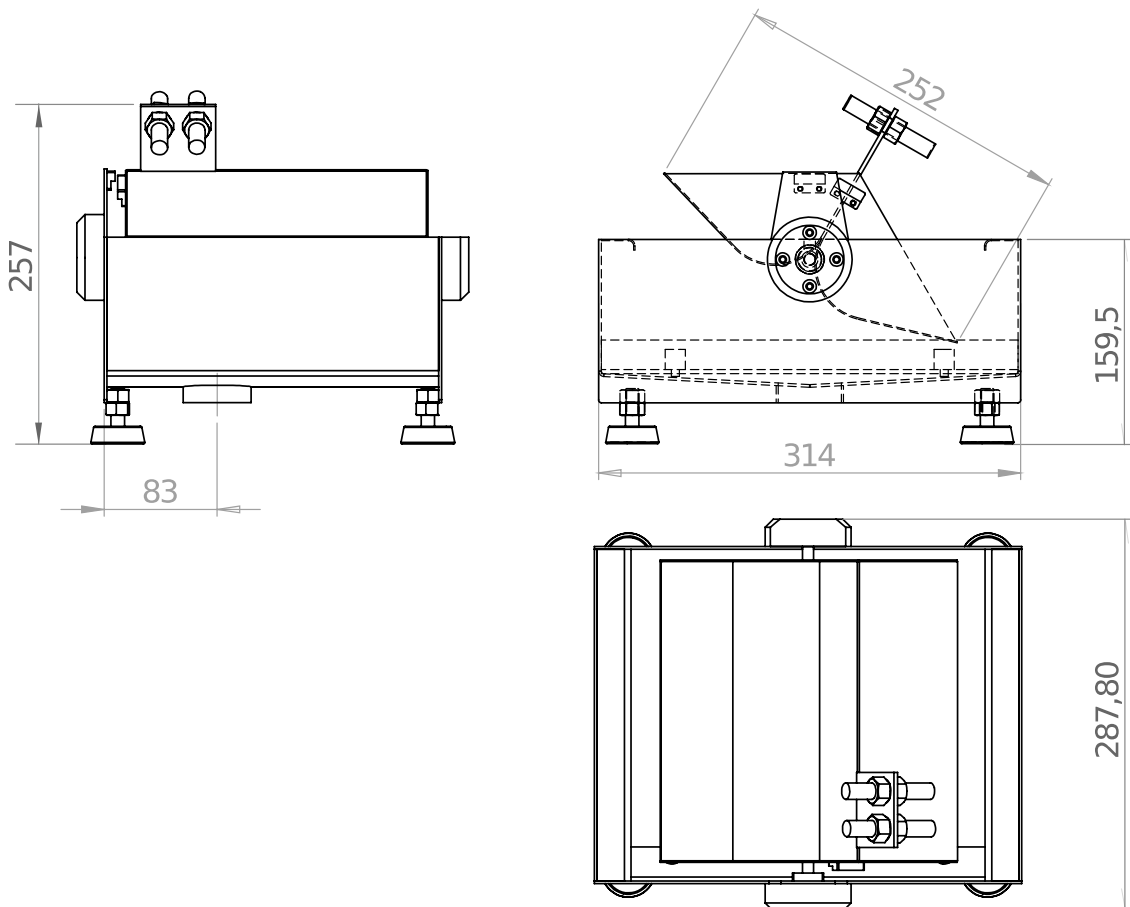
PF500 SHUTTLE FLOW METER

Installation and recalibration

The basic calibration of the flow meter is performed by adjusting the height of the rubber stops and moving the balancing fitting before the flow meter is shipped in production. If the flowmeter is placed in a horizontal position using height-adjustable feet during installation, then no additional calibration will be necessary for about 1 year from installation (time depends on the frequency of tilting) and only the pulse volume constant needs to be set in the connected recording unit, which is supplied with the device - the usual value of this constant is 500 ml / pulse).

Due to the settling and wear of the rubber stops, the set volume constant of the rain gauge (volume of water in ml required for one tilting of the shuttle) may change after a certain period of operation.

The operator can easily recalibrate the PF500 rain gauge on his own without having to change the stop settings and balance of the rain gauge. During such recalibration, it is sufficient to slowly pour water from the measuring cylinder into the rain gauge tray until the shuttle is overturned and then store the average value of the required volume of water required to overturn the tray from several such measurements into the volume constant in the connected recording device.



Technické parametry:

Shuttle volume:	600 ml (set pulse weight in the connected recording unit)
Flip detection:	magnetic switching contact of the reed relay
Relay contact:	max 50 mA, 30V
Pulse length:	min 25 mS
Shuttle material and supporting structure:	stainless steel
Shuttle shaft mounting:	stainless steel blades, stainless steel ball bearings
Maximum flip frequency:	10 flips / min
Max. recommended measurable flow:	5 l / min
Dimensions:	300 x 300 x 250 mm
Weight:	2.2 kg