

## 3.21 Accessories - DulcoFlow® flow meter

### 3.21 DulcoFlow flow meter



The DulcoFlow® flow meter measures all liquid media without any media contact. The rate of flow of non-continuous volume flows and the amount of liquid which has passed through in pulsing flow regimes are measured.

The measuring instrument operates based on the ultrasonic measurement method. Media contacting parts are manufactured using chemically resistant PVDF/PTFE. This ensures that aggressive media can also be measured without problem. The instrument is installed directly in the pipe of the medium being measured.

Interfering influences, such as air bubbles, are identified by the DulcoFlow® and forwarded to the analysis unit as an error message. The instrument, which is structured for wall mounting, is designed for a measurement range of 0.1 to 30 litres per hour.

#### Features

- Direct display of the instantaneous flow and cumulative flow in litres.
- Compact universal housing.
- Two-line display.
- Frequency output for metering pump control.
- Analogue output 0/4...20 mA, can be configured as a recorder output or a control output.

#### Main Applications

Monitoring and recording the dosing of chemicals in:

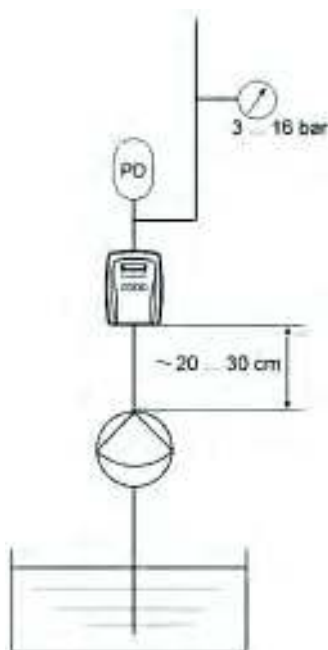
- Water treatment, Paper industry.
- Waste water treatment.
- Chemical industry, Power plants, etc.

#### Measuring principle

The DulcoFlow® flow meter measures the volume flow of pulsing flows. The ultrasonic, time of flight measurement method is used. For the time of flight measurement, a sound signal is alternately transmitted in and against the direction of flow. The time difference is then a measure of the mean flow velocity. Use of the ultrasound measurement method automatically compensates any temperature induced changes in the medium. Operation without moving parts guarantees a long service life and wear-free operation.

#### Advantages

- Direct display of the instantaneous flow and cumulative flow in litres.
- Can be switched over to display the pulsing frequency of the liquid or pump.
- Safety and reliability through display of the device operating status using LEDs.
- Safety and reliability through display of the measurement status using LEDs



#### Hydraulic installation parameters

The DulcoFlow® can also be used at constant pressures under 3 bar. However, in such cases, we recommend consulting with ProMinent head office, Sydney.

#### NOTE

Not suitable for liquids, which have minimal acoustic conductivity, e.g. sodium hydroxide (NaOH) with a concentration of greater than around 20%

**We recommend first testing the measurability with emulsions and suspensions.**

#### Technical Data

Measuring range:	0.1..... 50 l/h
Accuracy:	< 2 % after calibration
Analogue output:	4...20 mA
Frequency output:	< 10 kHz (optional on special order)
Protection class:	IP 65
Power supply:	100...230V AC/ 50/60 Hz
Dimensions:	183.6 x 121 x 122.7 mm (H x W x D)
Media to be measured	
Connector:	Tube connection with 6x4, 8x5 or 12x9 mm
Medium pressure:	(min.) 3 ...16 bar
Medium temperature :	-10 ... 45 °C
Dyn. viscosity (rj):	0.5 ... 2000 mPa

Current output	DFMa05T1C100	6x4
Contact output	DFMa05T1C200	6x4
Current output	DFMa05T2C100	8x5
Contact output	DFMa05T2C200	8x5
Current output	DFMa08T3C100	12x9
Contact output	DFMa08T3C200	12x9

DFMa05 Beta/Gamma L ... 1000 - 0413/0713, Delta 1608-1612

DFMa08 Beta/Gamma L ... 0420, Delta 1020 - 0450