

DulcoFlow flow meter

Precise measurement of pulsing liquids



The **DulcoFlow flow meter** measures all liquid media with few exceptions. 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 as an error message. The instrument, which is designed for wall mounting, will accommodate a measurement range of **0.02 - 31.7 GPH**.

Features & Benefits

- Compact universal housing
- Two-line display
- Frequency output for metering pump control
- Analog output 0/4-20 mA, can be configured as a recording or a control output
- Direct display of the current flow and cumulative flow in gallons
- Can be switched over to display the pulsing frequency of the liquid or pump
- Safety and reliability through display of the device operating status and measurement status using LEDs
- Use with Beta b, gamma/ X, gamma/ XL or Sigma/ 1X pump models

Applications

- Water treatment
- Paper industry
- Wastewater treatment
- Chemical industry
- Power industry

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Measuring principle

The DulcoFlow flow meter measures the volume flow of pulsing flows, using an ultrasonic, time of flight measurement. 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.

Technical Data

Measuring range:	0.02 - 31.7 GPH
Accuracy:	± 2% after calibration using actual chemical
Analog output:	4-20 mA (recording or control)
Frequency output:	Configurable, max. 10 kHz
Protection class:	IP 65
Power supply:	100-230 V AC / 50/60 Hz
Max. viscosity of fluid:	2000 cP
Dimensions:	7.22" x 4.76" x 4.38" (HxWxD)
Smallest measurable volume:	0.03 ml / stroke (DFMa05) 0.05 ml / stroke (DFMa08)
Distance from pump discharge to DulcoFlow:	8" to 12"

Models DFMa05 & DFMa08 can only be used with the following pumps:

DFMa05

Beta b: 1000 - 0413 & 0713
gamma/ X: 1000 - 0414/0715
(w/ the exception of 0220)
gamma/ XL: 1608 - 1612

DFMa08

Beta b: 1005/ 1605 - 0420
gamma/ X: 1604 - 0224
(w/ the exception of 0220)
gamma/ XL: 1020 - 0450
Sigma/ 1X

Media to be measured

Connector:	Hose connection with nominal width 1/4" x 3/16", 1/2" x 3/8", 3/8" x 1/4", 1/2" MNPT
Medium pressure:	44 - 232 psi *(minimum 44 psi needed for consistent measurement)
Medium temperature:	14 - 113 °F

Note: Backpressure valve is recommended