

DESCRIPTION

The DigiFlow DFS-2/3 flowmeters have specifically been developed for use in a wide range of applications, such as (fine) chemicals, water treatment, agriculture, food processing, paper processing and other end-use/OEM applications.

This flowmeter is suitable for various for mid- to long-term use. The flowmeter design makes it an integral component of systems designed for accurate monitoring or flow control of liquids.

ADVANTAGES

- Easy and quick installation of rotor assembly
- Permits continuous feedback during flow process of quantity dosed
- Flowmeter control system permits easy adjustment of different quantities
- Wetted surfaces of FDA approved materials

DESIGN FEATURES

- Suitable for flows ranging from 0.07 – 16 L/min (0.02 – 4.22 GPM)
- Accuracy within 1%
- Wetted surfaces and housing of high-quality polymers
- Low pressure drops
- Ultra-low friction bearings yielding long life
- High chemical resistance
- Turn down ratios of up 28:1
- Infrared signal detection
- Resolution of up to 65,000 pulses/L (247,000/gallon)

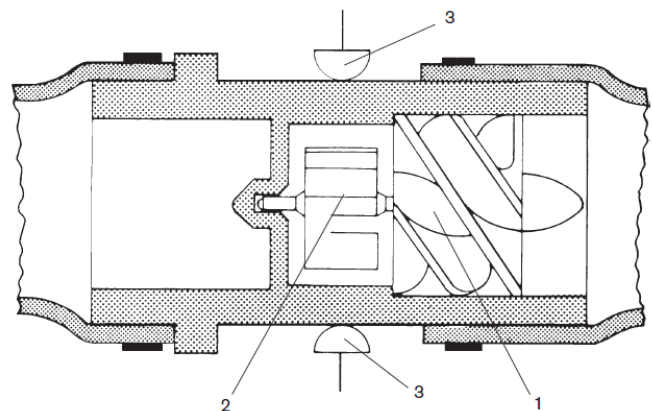
SYSTEMS & APPLICATIONS

The DFS flowmeters can be connected to a controller (stand alone or interfaced with process control). The data generated can be used to control flow processes (filtration, reaction, extraction, and more). Monitoring of dosing operations (volume) control is also possible. The sensors are frequently used in biopharma and medical devices but can also be used in dispensing and filling operations (beverages, fuels, water, and more).



DFS-2 and DFS-3 models

PRINCIPLE OF OPERATIONS



The fluid flows through the meter, first passing the fixed worm (1) causing a spiral flow which, in turn, spins the rotor (2) on a virtually frictionless bearing. The rotor blades interrupt an infrared beam (3), thus generating a square wave digital output signal.

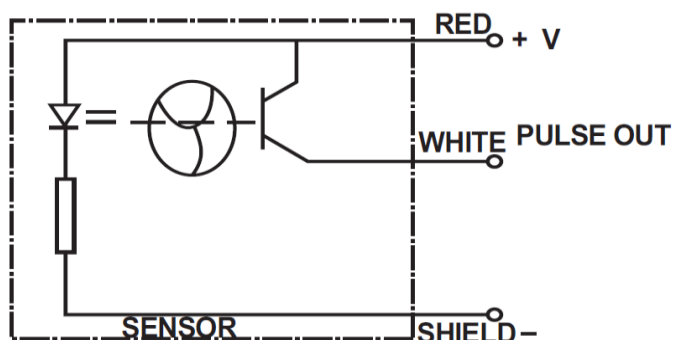
The rotor is the only moving part. Due to its light weight and the helical pattern, the rotor has a minimum response time, resulting in very high resolution and accuracy, linearity, and repeatability.

DFS meters can be mounted in any position and do not require flow straighteners or other specialized tools.

SPECIFICATIONS

	DFS-2	DFS-3
Media	liquids	liquids
Flow range	0.07 – 2.0 L/min (0.02 – 0.52 GPM)	0.66 - 16 L/min (0.17 – 4.22 GPM)
Turndown ratio	28:1	24:1
Accuracy	± 1% (of actual flow reading)	± 1% (of actual flow reading)
Repeatability	< 0.15%	< 0.10%
Average K-factor	65,000 pulses/L (247,000 pulses/Gal.)	4,400 pulses/L (16,650 pulses/Gal.)
Temperature range		
Operational	-15°C to +85°C (5°F to +185°F)	-15°C to +85°C (5°F to +185°F)
Static	-20°C to +130°C (-4°F to +266°F)	-20°C to +130°C (-4°F to +266°F)
Viscosity range	0.8 - 10 cp (0.8 - 10 mm ² /s)	0.8 - 15 cp (0.8 - 15 mm ² /s)
Operational pressure	10 bar (145 PSIG)	10 bar (145 PSIG)
Pressure drop	0.2 bar @ 1 L/m (2.9 PSI @ .025 GPM)	0.2 bar @ 5 L/m (2.9 PSI @ 1.3 GPM)
Power supply	5 VDC, 12 - 36 mAmp	5 VDC, 12 - 36 mAmp
Output signal	5 VDC square wave	5 VDC square wave
Materials		
Rotor assembly	PVDF	PVDF
Housing	PVDF or Stainless Steel	PVDF or Stainless Steel
O-rings	Viton	Viton
Electrical lead	1 meter (39") in length	1 meter (39") in length
Dimensions		
Length	63.3 mm (2.5")	74 mm (2.91")
Diameter	21 mm (0.83")	44 mm (1.73")
Connections	7 mm (9/32") hose barb or ¼" NPT or BSP	¼" NPT or BSP
Torque	4 Nm	4 Nm

WIRING CHART



RECOMMENDATIONS FOR USING DIGIFLOW FLOWMETERS

- Check flow direction (arrow on the tube), fluid going in the opposite direction will not generate an output signal.
- Install a suitable filter in front of the sensor (pore size ≤100 micron).
- De-aerate the system with a gentle flow before starting the system.
- Check for leakages after starting the system.
- Never clean the flow tube with compressed air.
- Check chemical resistance of the wetted parts before use