

### DESCRIPTION

The DigiFlow DFS-20 Series Teflon® flow meters provide flow sensing capabilities in a wide variety of OEM and end-use applications including corrosive aqueous liquids. Utilizing a rotor which, through use of a reflected infrared beam, generates a digital signal, the DFS-20 series offers an accurate, economical, and flexible design to meet customer requirements. In either flow controlled or monitoring applications, the DFS-20 series can measure flow rates and totalize.

### DESIGN FEATURES

- 3 ranges from 0.09 – 35 litres/minute (.025 – 9.2 GPM)
- wetted surfaces of PFA Teflon® with ruby glass bearing
- accuracy within 1% or better (0.15% repeatability)
- outer housing of PFA or SS
- low pressure drops
- CE mark approved
- mount in any position without flow straighteners
- infrared signal pickup
- interchangeable/disposable rotor assembly option
- fiber optic signal transmission option

### PRINCIPLE OF OPERATION

The fluid flows through the meter, passing a fixed worm which imparts a spiral flow which, in turn, spins the rotor on a virtually friction free bearing. The rotor blades reflect an infrared beam which generates a high resolution digital output signal. The rotor is the only moving part and, due to its light weight and the helical pattern of the fluid flow, it has a minimal response time. DFS meters can be mounted in any position and do not require flow straighteners or other specialized installations. Hose-barb, threaded, and other connections are available.

### SYSTEMS & APPLICATIONS

Connected to a basic counter, the DFS meter can monitor flow rates and/or total quantities. In conjunction with a stand-alone controller or interfaced with process control or general purpose computers, the DFS is an integral part of flow controlled processes. In end-use, or in OEM applications, the DFS is a key part in a systems approach to a wide range of monitoring and controlling applications including:

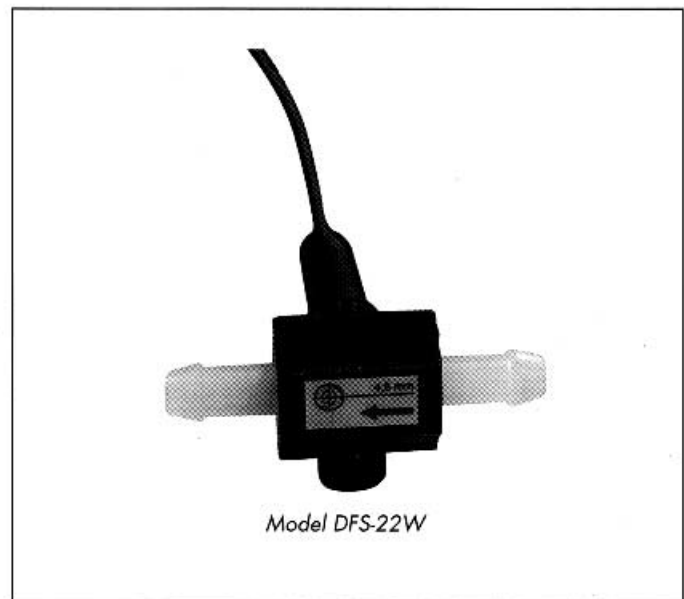
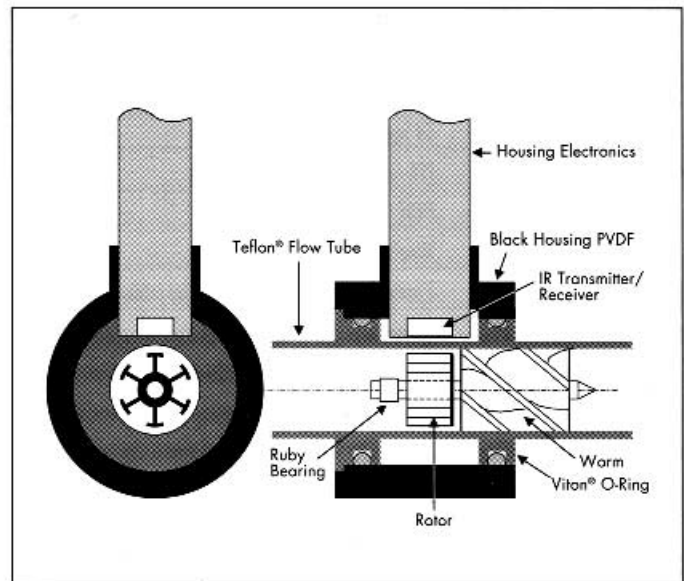
- dosing of chemicals into main stream flows for agricultural, water treatment, and other processes
- semiconductor and other high purity processes
- additive injection in chemical processes
- medical/pharmaceutical equipment
- monitoring/controlling fuel flows



Model DFS-23



Model DFS-24



Model DFS-22W

SPECIFICATIONS	DFS-22/DFS-22W	DFS-23/DFS-23W	DFS-24
(Data based on water)			
Media	liquids	liquids	liquids
Flow Range	0.09– 1.5 L/m (0.025–0.4GPM)	1.5 – 20 L/m (0.4– 5.3 GPM)	2.5 – 35 L/m (0.66– 9.2 GPM)
Turndown Ratio	17:1	13:1	14:1
Linearity Deviation	±1% (of actual flow reading)	±2% (of actual flow reading)	±3% (of actual flow reading)
Repeatability	<0.15%	<0.15%	<0.15%
Resolution (pulses)	124,000 pulses/L (469,400/Gal.)	6,350 pulses/L (24,000/Gal.)	2,050 pulses/L (7,750/Gal.)
Temperature Operational – Media	All models: –20 to +80°C (–4 to +176°F)(std. electronics) For fiber optics units, –20 to +180°C (–4 to +350°F)		
Temperature Static	–20 to +100°C (–4 to +212°F)	–20 to +100°C (–4 to +212°F)	–20 to +100°C (–4 to +212°F)
Viscosity Range	0.8 – 10mm <sup>2</sup> /s (0.8 – 10 cSt)	0.8 – 10mm <sup>2</sup> /s (0.8 – 10 cSt)	0.8 – 10mm <sup>2</sup> /s (0.8 – 10 cSt)
Operational Pressure – Max. (PFA)	20 bar (290 PSIG) @ 20°C (68°F)	15 bar (217 PSIG) @ 20°C (68°F)	10 bar (145 PSIG) @ 20°C (68°F)
Max. (SS)	200 bar (2900 PSIG)	200 bar (2900 PSIG)	150 bar (2175 PSIG)
Pressure Drop	0.2 bar @ 0.75 L/m (2.9 PSI @ 0.2GPM)	0.2 bar @ 8 L/m (2.9 PSI @ 2.1 GPM)	0.2 bar @ 17 L/m (2.9 PSI @ 4.5 GPM)
Power Supply	4 – 9 VDC, 12 mAmp	4 – 9 VDC, 12 mAmp	4 – 9 VDC, 12 mAmp
Output Signal	5V Square Wave	5V Square Wave	5V Square Wave
Materials – Wetted Parts	PFA–Teflon® – ruby glass bearing	PFA–Teflon® – ruby glass bearing	PFA–Teflon® – ruby glass bearing
– Housing	PVDF	PVDF	PVDF
– O-rings	Viton®	Viton®	Viton®
Electrical Lead	1 meter (39") in length, PVC shielded cable	1 meter (39") in length, PVC shielded cable	1 meter (39") in length, PVC shielded cable
Dimensions – Length	52mm (2")	60mm (2.4")	73mm (2.9")
– Max. Diameter	DFS-22:17mm (0.67"), DFS-22W:32mm (1.26")	23mm (0.9")	26mm (1")
– Pin Electronics	47mm (1.85")	47mm (1.85")	47mm (1.85")
Connections – Hose Barb	7mm (½")	12mm (½") hose barb fitting	N/A
– Threaded	¼" MNPT	¼" MNPT	½" MNPT or ½" MBSP
– Flare	¼"	½"	N/A
<b>OPTIONS</b>			
Materials – Housing	316L SS ¼" NPT/BSP	316L SS ¼" NPT/BSP	316L SS ¼" NPT/BSP
– O-rings	EPDM (Ethylene Propylene Rubber)	EPDM (Ethylene Propylene Rubber)	EPDM (Ethylene Propylene Rubber)
– Cable		Tefzel® shielded cable or fiber optical with amplifier 6700 (all models)	
Output Signal	4 – 20 mA, 1 – 5V, 1 – 10V with external 6100 converter		
Power Supply- Internal	12 – 24 VDC	12 – 24 VDC	12 – 24 VDC
Electrical Lead	Other lengths and insulations available		
Connections	OEM custom design	OEM custom design	OEM custom design