flowsonic Ultrasonic Flow Meter

This innovative design provides a high accuracy, non-invasive, flow measurement device at a fraction of the cost of other current non-invasive systems. The unique measurement technique automatically compensates for viscosity and temperature variations. The measurement of flow is by ultrasonic transit time in-line cell.

The flow path is designed to minimise pressure drop and, having no moving parts within, will not clog or jam. The flowsonic sensor also allows contaminants to pass through without affecting its performance.

The flowsonic sensor can be supplied with either a 0-5Vdc analogue output, or a pulsed 5V output.

Technical Specifications	*UF10V*	*UF10P*	*UF25V*	*UF25P*
Max. flow L/min	10		25	
Min. flow L/min	0.1		0.25	
Output	0-5VDC	Pulse	0-5VDC	Pulse

Performance	*UF10V*	*UF10P*	*UF25V*	*UF25P*
Accuracy 3% of reading or	±0.1L/min		±0.25L/min	
Repeatability 1% of reading or	±0.05 L/min		±0.1L/min	
Linearity	1% of full scale			
Resolution better than	0.05L/min		0.1L/min	
Reverse flow	0-10L/min		0-25L/min	
Response time	Better than 0.4s			

The flowsonic meter can be used, in addition to flow rate measurement, for very accurate batch control of liquids in processes, such as chemical dosing or food processing. Accurate dispensing of drinks over the counter or in vending machines can be achieved by interfacing this flow meter with the dispensing system.

Interface	*UF10V*	*UF10P*	*UF25V*	*UF25P*
Connection	3 wires (RED input, BLUE common, GREEN output)			
Supply	7.5 - 26VDC (input current <60mA @ 9VDC)			
Output load	100kΩ (for 4.8VDC output, lower impedance loads will reduce maximum output voltage)			
Output	0-5VDC	1500 pulses/L	0-5VDC	752 pulses/L
Max. output	5VDC	250 pulses/sec	5VDC	314 pulses/sec
Min. output	0VDC	0 pulses	0VDC	0 pulses

Operation	
Principle	Ultrasonic transit time in-line flow cell
Temp. range (fluid)	-10°C to 85°C
Continuous fluid sound	Maintains performance regardless of fluid type, temperature or viscosity for speed measurement fluids with sound speeds 1250 - 1750 m/s

- ***Non-invasive sensor technology***
- ***No moving parts***
- ***Automatic viscosity and temperature compensation***
- ***Unaffected by fluid contaminants***
- ***Low pressure drop***
- ***Push fit connection option***

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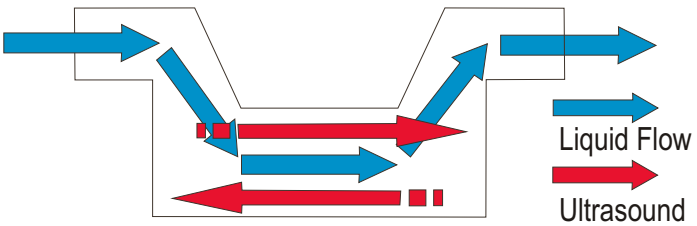
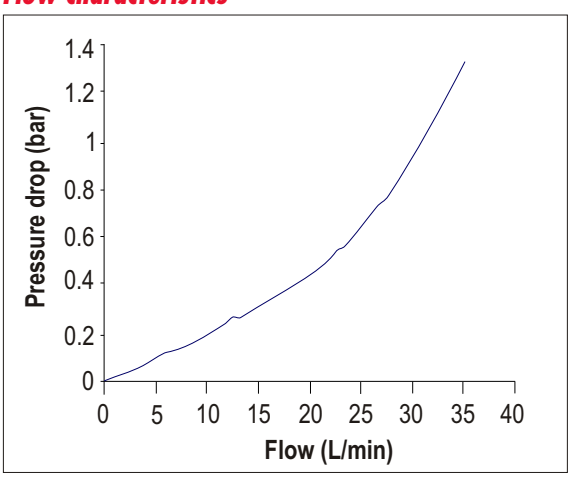
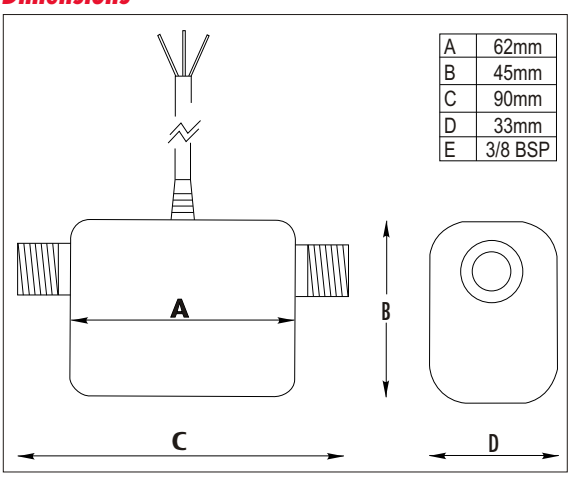


Sound transmitted in direction of flow is accelerated; sound transmitted against flow is decelerated. The resulting time difference is proportional to flow and converted by a microcontroller into an output signal.

Flow characteristics



Dimensions



Physical characteristics

Flow tube material Glass filled plastic, Grivory HTV-4X1 (WRAS approved)

Flow tube internal diameter	12.5mm
Connection thread	3/8″ BSP
Internal bore of connection	10mm
Pushfit adaptor (to fit 1/2″ OD Tube)	John Guest Speedfit PI451613S
Maximum pressure	15 bar
Case material	Nylon 66
Case integrity	Ultrasonically welded, not liquid proof
Connection	6 core shielded, PVC sheathed, 50cm long standard

Ordering Code

UF 10 P 050

Series — ***UF***

Flow range — ***10*** (10 = 0 to 10L/min) (25= 0 to 25L/min)

Output — ***P*** (P = pulse, V = volts)

Cable length (cms) — ***050***