

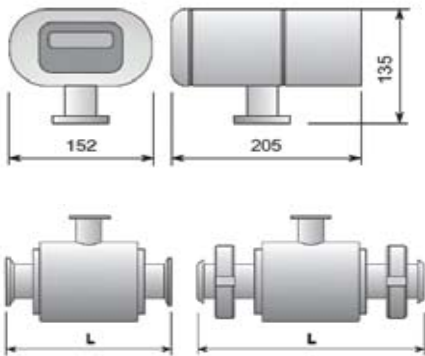
Magnetic Inductive Flowmeters

FF10 series hygienic magnetic inductive flowmeters



- Rugged Hygienic design
- DIN11851 or Tri-clamp fittings
- PTFE lined
- Sizes up to 4"

Dimensional Information



The FLONET FF10 induction flow meter has been designed to measure volume flow rates of electrically conductive liquids (min 5µS/cm) in closed piping systems. Measurements in both flow directions are possible, with high measurement accuracy over a wide range of flow rates (0.1 to 10 m/s).

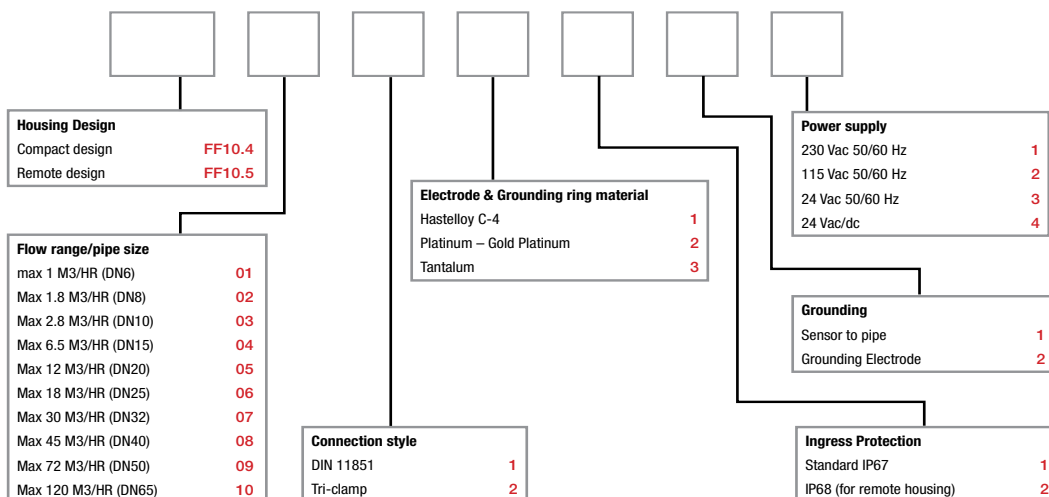
The measurement evaluation electronic unit includes a 2 line alphanumeric display to show the measured values where various operational parameters of the meter can be selected by means of an associated keyboard. Available are two passive binary outputs (frequency, impulse and limit values), one active current output and an output to connect a digital communication line. All meter functions and output parameters can be reset during the meter operation. If the meter is to be used as a commercial (invoicing) meter, some of its functions are blocked to prevent the user from interfering with the meter readings.

Technical Information

nominal diameter DN	10 to 100mm, 1/2" to 2.1/2" (Clamp)
nominal pressure PN (bar)	10
min. conductivity of measured fluid	20µS/cm, on special requirement 5µS/cm
max. temperature of measured fluid	+150°C
Electrode material	Hastelloy-C4 on special requirement platinum or tantalum
sensor lining	PTFE
Connections	Clamp (ITE Intertechnik DIN 32676), Tri Clamp (Tri Clover) screw fittings for food-processing applications (DIN 11851)
design version	compact or with remote electronic unit
measuring accuracy	±0.5% for flow rates 5 to 100% qs
measuring range	0.1 to 10m/s
signal and communications output	insulated current (0) 4 to 20mA, insulated frequency 0 to 1,000Hz, insulated impulse output 0.001 to 1,000/imp, insulated communication interfaces USB and RS 485
power supply	24/115/230V AC +10%-15%, 50 to 60Hz, 15VA, 24VDC +10%-15%
ambient temperature	-5 to +55°C
protection class	IP 67 (IP 68)

Diameter	10	15	20	25	32	40	50	65	80	100	1/2"	3/4"	1"	1 1/2"	2"	2 1/2"
Clamp	145	145	145	145	145	145	145	200	200	200	-	-	-	-	-	-
Tri-clamp	-	-	-	-	-	-	-	-	-	-	137	137	137	137	137	192
DIN11851	170	170	170	225	225	225	225	225	280	280	-	-	-	-	-	-

Options & Ordering Information



Ultrasonic Flowmeters

Ultrasonic flowmeters - principle of operation

Principle of operation

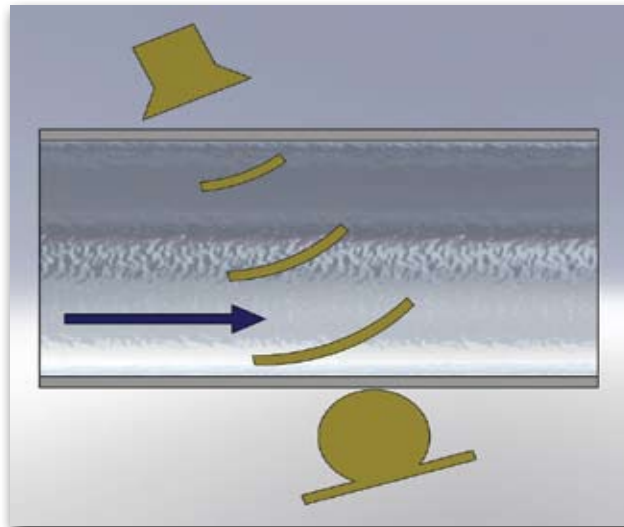
Ultrasonic flowmeters generally come in two forms, both using high frequency sound waves to infer the velocity of a fluid flowing through a pipe. This can either be done with sensors mounted or clamped on to the outside of the pipe or built into an in-line body.

The first type uses the Doppler effect to measure the speed of particles or air bubbles in the liquid to determine the fluids speed, just as a hand held speed gun is used to measure the velocity of cars moving along a road.

The second type measures the time taken for the sound waves to move between two points along a pipe, firstly upstream and then downstream. When the sound is moving upstream it is slowed by the velocity of the passing fluid, conversely when it moves downstream its speed is increased. The difference between the time taken for the upstream and downstream runs can be used to infer the fluids velocity and gives these units their name of 'time of flight' or 'transit time' flowmeters.

Although there are a few hybrid units on the market that use both methods to produce a reading it is more common to find either Doppler or Time of Flight flowmeters. The applications for the two methods vary quite considerably - Doppler units need air or particles in the fluid to be measured to work, whereas this causes Time of Flight version considerable problems.

The relative low power requirements of either system mean that battery powered versions are available, this combined with the ability to measure flows without having to break into the pipe to put a conventional flowmeter in, make them a very useful solution for larger pipe size applications.



Principle of Ultrasonic flow measurement

Media application guide



Oils ✓



Water ✓



Fuels ✓



Chemicals ✓

Ultrasonic Flowmeters

SL1168P Portable clamp on ultrasonic flowmeter kit

The model SL1168P portable handheld ultrasonic flowmeter is a true state-of-the-art transit-time flowmeter designed using the latest digital technology and intelligent self-correcting sonic transmission technology. SL1168P features high reliability and low maintenance. Compared with other flowmeters and other ultrasonic flowmeters, the SL1168P is characterized by high accuracy, high reliability, superior performance, rapid response to flow changes, and low cost.



SL1168 hand-held display and set up unit



Magnetic clamp on sensors

- Measure from pipe sizes 25mm to 1200mm
- Simple menu driven programming
- Low cost solution to difficult metering requirements
- Supplied in sturdy portable carry case

Technical Information

Performance	
Velocity range	0~±12m/s
Accuracy	±1%
Repeatability	0.2%
Linearity	±1%
Pipe Size	25mm~1200mm
Functional	
Output	Analogue output: 4-20mA, Max750Ohm
SD Card	Storage:2GB Max: 512 files Interval:5~60 seconds
Power Supply	11.1V rechargeable Lithium Battery Power (continuous operation of main battery 16 hours)
Keypad	Tactile keys
Display	64x128 alphanumeric, backlit LCD
Temperature	Transmitter: -10°C ~ 60°C Measured medium: -10°C~80°C (Standard) NEMA13, IP54
Humidity	0~99%RH, non-condensing
Physical	
Transducers	Encapsulated design, IP68; standard cable length: 16ft (5m)
Weight	Transmitter: 1kg

Ordering Information

Part Number:	SL1168P
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