

Atrato® Ultrasonic Beverage Meter



INSTALLATION

The pipe work must be designed in such a way as to eliminate reverse flow as the meter is not programmed for bi-directional use. The flowmeter inlet is next to the cable entry and should be installed in a position that prevents the meter from draining down to avoid missed recording of flow on start-up. This could result when an empty flowmeter recharges with gas in the line.

The meter should be positioned in a permanently pressured part of the system and not installed immediately after an elbow or other fittings. The pipework must not stress the body of the meter.

The fluid should be single phase with no bubbles. Care should be taken to ensure that no air enters the system (e.g. leaky pump gland) or that no cavitation takes place. If particles are present, the user should ensure that these do not affect the meter's performance.

We recommend at least 1 bar as the back pressure at full flow. Carbonated fluids should have the highest possible back pressure to prevent gas break-out as this would prevent the meter from operating effectively.

It is the users' responsibility to ensure that the materials of construction are compatible with the fluid being monitored. Titan accepts no responsibility for material compatibility.

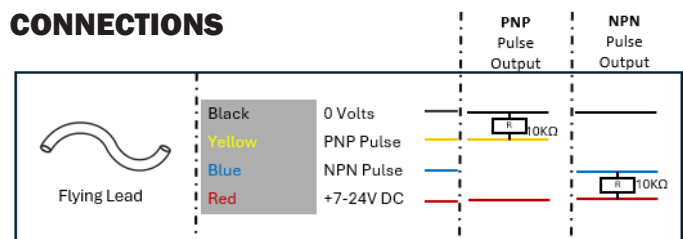
The low-cost, clean bore Atrato® Ultrasonic Beverage meter is designed specifically for the drinks dispense industries, including juice extracts. With a flow range of 0.5 to 10 litres per minute, the high performance ultrasonic beverage meter produces a pulse output, the total of which is proportional to the total flow through the device. Constructed of totally non-metallic, food-grade wetted components and a clear, unobstructed bore, the ultrasonic beverage meter is the optimal choice for metering food-based products, as well as ultra-pure water. The standard inlet tubes are $\frac{3}{8}$ " push-on pipe connectors. As the Atrato® Ultrasonic Beverage meter is a through bore design, there are no changes in section within the meter and can therefore be cleaned using foam pellets.



FEATURES

- Ultrasonic flow measurement
- Food contact approved materials
- Straight and clear 6mm bore
- Slimline design for python installation
- 5 bar rating
- $\frac{3}{8}$ " John Guest push-on fittings
- Low cost
- $\pm 0.5\%$ FSD Linearity
- LED indicator
- 0 - 50°C Max
- 2m flying lead cable

CONNECTIONS



The unit is supplied with a 2m cable flying lead connected. A pull-up/pull-down resistor must be used. For best accuracy install with the cable outlet at the bottom, which is also the inlet, to direct upward flow.



TECHNICAL SPECIFICATIONS

Accuracy	Flow range	0.5 - 10 L/min
	Linearity	±0.5% FSD
Temperature range		0 - 15°C (for best results) 0-50°C useable range
Repeatability		Better than 1% at 250ml batches
Sensor to sensor variation		±5%
Supply voltage		7 - 24Vdc (Reccomend 12Vdc)
Current		40mA (typical)
Outputs		Open collector NPN and PNP pulse 50mV maximum load
Max Pressure		5 bar
Calibration		Unit is uncalibrated as standard
'K' Factor		Approximately 5000 pulse per litre (may be customised for high volume sales)
Max Frequency		833Hz
Pressure drop at full flow		0.1 bar
Bore		6mm
Wetted Materials		Food-grade PC/ABS polymer flow tube and Viton™ seals
Cable		2m flying lead



ELECTRICAL CHARACTERISTICS

It is recommended that all 'signal' cables are run separately to power lines and switched inductive loads. Locate well away from inverters and other 'noisy' apparatus. Always use sound engineering practice.

The NPN pulse output requires a 10k ohm external pull-up resistor connected between the output and a suitable power supply to attain a pulse. Whilst the PNP pulse output requires an external pull-down resistor connected between the output and the 0V supply.



COMMISSIONING

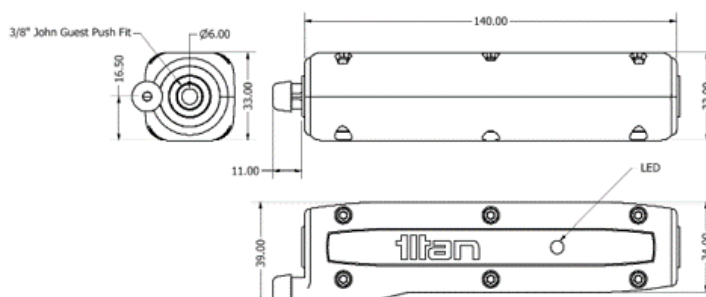
If problems occur during commissioning, always check the fundamentals first.

- Is the flowmeter the correct specification for the installation?
- Is the flowmeter installed in the right direction?
- Is the power connected to the meter and the instrument; is it turned on?
- Is the flowmeter/instrument set/wired correctly? I/P port, pulse type, frequency span, units, pull-up resistor, etc.
- Where possible check the O/P from the flowmeter with an oscilloscope before proceeding.
- Is the meter blocked?

If you are unable to find a solution, ask your supplier for technical support or visit [Titan's Troubleshooting webpage](#).

Green LED Indicator:

- Powered ready to measure > constant lit LED
- Flow measured > 50:50 flash in proportion to flow rate
- Empty pipe > short flashes 1 second apart
- Fault > 3 short flashes, 3 long flashes, 3 short flashes



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