TECHNICAL PRODUCT
INSTRUCTION SHEET

titan

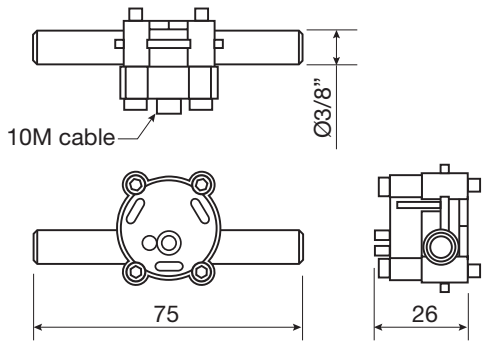
NSF-Approved Beverage Meter



The low-cost Beverage meter is designed specifically for the drinks dispense industries, including coffee, beer, wine and spirits (excluding juice extracts). NSF-Approved, this high-performance turbine meter produces a pulse output, the total of which is proportional to the total flow through the device. Constructed of totally non-metallic wetted components, the Beverage meter is the ideal choice for metering food based products, and even ultra-pure water. The standard inlet tubes are ⅜" push-on pipe connectors. The bearings are made of sapphire for long life and reliability.

FEATURES

- NSF-Approved for use in food and beverage production; suitable for low viscosity liquids
- 4.5 to 24Vdc
- 10 bar rating
- Compatible with ⅜" John Guest style fittings
- IP65
- 0.1% repeatability
- 0 - 70°C Max
- Supplied with 10M (approx) cable
- Flow range from 0.6 – 10 L/min



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.

INSTALLATION

The pipe work must be designed in such a way as to eliminate reverse flow as the meter is bi-directional. The flowmeter should be installed in a position that prevents it from draining down to avoid serious damage on start-up, which could result when an empty flowmeter is 'impacted' with a high velocity fluid stream, or over-speeding the turbine with air in the line. The fluid should be clean and homogenous. In all cases, an upstream filter of at least 80 microns **must** be fitted.

It is recommended that before the flowmeter is installed in the line, a "dummy" section of pipe is inserted and the system flushed.

This is to eliminate any debris in that section of the line. The pipe must not stress the body of the meter and should be fully supported either side with appropriate isolation valves, and in some cases, a by-pass valve. On initial start-up, increase the flow slowly to ensure no over speeding of the meter occurs as the air is forced from the line. This is best achieved by monitoring the flow rate and ensuring that a 50% over-range is not exceeded.

Never blow a flowmeter with an airline.

Care should be taken to ensure that no air enters the system (e.g. leaky pump gland) or that no cavitation takes place.

With a volatile liquid we recommend at least twice the vapour pressure plus 1 bar as the operating pressure. Carbonated fluids should have the highest possible back pressure to prevent gas break-out.

TITAN ENTERPRISES LTD.
www.flowmeters.co.uk

NSF-Approved Beverage Meter

TECHNICAL SPECIFICATIONS

Accuracy Flow range Linearity	0.6 - 10 L/min 1.0 - 10 L/min ±1.0% FSD ±2.5% Actual
Temp range	0 - 70°C
Repeatability	±0.25%
Sensor to sensor	±3%
Supply voltage	4.5 - 24Vdc
Current	10mA (typical)
Output	Open collector (NPN)
Output low	100mV max
Rise & fall times	2uS max
Wetted materials	PVDF, sapphire and Viton™ Ceramic magnet
'K' Factor	1420 approximately
Max Frequency	235Hz
Pressure drop at full flow	750m bar
Weight	0.150kg (with cable)

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 Hall Effect detector (NPN) requires a 10k ohm external pull-up resistor connected between the output and a suitable power supply to attain a pulse. This may differ from the PSU voltage.

COMMISSIONING

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

- Is the flowmeter/instrument the correct one for the installation?
- Is the power connected to the meter and the instrument; is it turned on?
- Is the instrument set/wired correctly? I/P port, pulse type, frequency span, units etc.
- Where possible check the O/P from the flowmeter with an oscilloscope before proceeding.
- Was the line flushed prior to installing the meter?
- Was the flow increased slowly?
- Is the meter blocked?

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

To view the wiring tutorial for the Beverage meter, scan the QR code.

CONNECTIONS



Black	0 Volts
Red	+4.5 – 24Vdc
Blue	Output

A pull-up resistor must be used.
For best accuracy install with the cable outlet horizontal.

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For reference only; for latest information contact your local distributor.