Innovative Liquid Flow Measurement Solutions

- End user & OEM high performance liquid flow measurement solutions
- Specialists of small bore, low flow and ultrasonic flow meters
- Flow meters and instruments designed & manufactured to ISO 9001 with traceable calibrations

Titan Enterprises Ltd

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Company Overview

With over 40-years experience in flow meter innovation, Titan Enterprises Ltd are a leading UK-based design, manufacturer and supplier of high-performance liquid flow measuring solutions.

Titan's Atrato® and Metraflow® ultrasonic flow meters, Oval Gear flow meters, the low flow Turbine flow meters, and instrument range, meet the requirements of broad industrial process applications.

Our knowledgeable team can offer either an off-the-shelf flow measurement device or fully bespoke OEM flow system solution designed for a particular application or to work within customer-specific equipment or process.

Titan's flow measurement solutions utilise advanced technology and designs for a broad range of sectors, including medical, pharmaceutical, industrial, oil and petrochemical, food and drink, and laboratory.

Titan's chemically resistant, high accuracy flow meters are not only competitively priced but engineered to give long-term reliable performance.

OEM solutions

Titan works with OEM customers in developing bespoke liquid flow meters outside of our standard range of measurement flow devices, driving our partnership innovation in key sectors.

Titan prides itself in its ability to produce a flowmeter for specific applications, whether it is to work with laboratory equipment, a medical sensor or as part of an industrial process plant.

Each OEM solution is developed to provide an optimised flow meter specific for the customer and if required, branded to their requirements.

"The way we work with customers from research, development, through to production has enabled us to solve a lot of OEM application issues. Through that process, we've helped customers decrease their assembly times, improve efficiency, and provide extra functionality."

Trevor Forster, Managing Director of Titan Enterprises

Quality and Production

All our standard flowmeters are designed, manufactured, tested and calibrated in-house. We are an ISO 9001 certified company with a highly experienced and conscientious technical team of engineers, designers and production operatives. Our standard materials used in flowmeter construction are selected for their excellent mechanical and chemical stability. Custom flow meters can be designed to meet specific OEM applications and produced in materials acceptable to a customer's system environment. Titan employs a manufacturing system that has full traceability for all critical components.

All our suppliers of components and raw materials are vetted to Titan's standards to ensure top quality, reliable products and deliveries.

Calibration of our flow meters is undertaken in-house on our bespoke calibration rigs. All flowmeters (unless otherwise specified or requested) are calibrated to an uncertainty of ±0.25%. Flowmeters are usually calibrated at 6 points over the whole flow range. Titan also has the capability to pressure test in-house up to 950 bar for custom-designed Oval Gear models.

Product Range Overview

Ultrasonic flowmeters

Titan's ever expanding range of ultrasonic flow monitoring products, both bespoke and with standard configurations, include the Atrato®, Process Atrato® and Metraflow®. Utilising Titan's patented flow technology, the range of Atrato® inline ultrasonic flow meters are a genuine breakthrough in flowmeter innovation. Operating with excellent accuracy over wide flow ranges, the rugged, clean bore construction makes the Atrato® ideal for low flow applications. All these electronic meters are immune from viscosity effects, deliver excellent accuracy and unmatched performance across a wide dynamic range.

Oval gear flowmeters

Titan designed its own range of oval gear flowmeters to satisfy the market need for a simple, reliable gear meter that could be used on both viscous and non-viscous liquids. Industry proven by both process and precision control customers worldwide, Titan's Oval Gear (OG) flow meter range is extensive. Models give a choice of materials and fittings, seven flow ranges and sensor options for hazardous environments. OEM configurations include meters for use at high temperature (150°C), high pressure (up to 950 bar) and high viscosities (above 1000cSt).

Turbine flowmeters

Ideal for monitoring low viscosity liquids, these low cost turbine flow meters provide an affordable solution for a broad scope of applications. This flexible range of meters is available in a wide choice of permutations across 9 flow ranges. With options of materials, detector types and fittings, Titan's turbine flowmeters can be optimised to precise OEM requirements.

Titan Enterprises maintains certification under NSF169 for their 800 Series turbine flowmeters and beverage dispensing flowmeters, as 'equipment for food and drinks products'. Manufactured from high quality, chemically resistant polymers, these turbine meters can also be used with very aggressive chemicals and ultra-pure water.

Instrumentation

Titan's Pulsite® instruments - the Pulsite® Solo and Pulsite® Link - interface with flow measuring elements to provide useful output readings or parameters. This is either in the form of locally displayed flow rate and total indication or analog outputs connecting to a computer.

atrato®™

BENEFITS

- High reliability
- No moving parts
- Fast response
- Through bore design
- Time of flight technology
- Ease of use

Low flow ultrasonic flow meter

This unique patented ultrasonic technology enables Titan's Atrato® to out-perform any other low flow ultrasonic meter on the world market today. It is an in-line product with a straight through bore which varies from 1mm (operating from 2ml/min) up to 6mm for the 20 litre per minute model. The wetted components are all selected to offer high chemical resistance and long term meter stability. Each meter has a 250:1 ratio between the minimum and maximum flow with a linearity of ±1.0% over the entire range. Utilising the accompanying proprietary USB interface software, the Atrato® family of ultrasonic flow meters gives full user control and the ability to alter all of the input and output parameters to suit their application. The meters can be stand alone units or operated with a computer connection, running effectively on USB power alone, albeit with some output limitations.

The Atrato® line of ultrasonic inline flowmeters now has ASCII flow streaming capability via USB and is reverse flow enabled, enhancing its capacity to be optimised for the user's application.

FEATURES

- Choice of materials
- ±1.0% of reading
- ±0.1% repeatability
- 4 Flow ranges
- USB interface
- 10 or 30 bar rating
- Choice of end fitting
- 250:1 turndown
- Rate & total option
- Flow switch
- 60°C or 110°C max
- Remote inputs
- Option 9-24 Vdc
- Non-metallic options
- ASCII flow streaming via USB
- Optional seal materials
- Analog outputs
- 0-10V or 4-20mA
- Pulse - NPN or PNP output
- LCD display (optional)
- Unit & time enunciators

process

atrato®

BENEFITS

- High reliability
- No moving parts
- Fast response
- Through bore design
- Time of flight technology
- Ease of use

Industrial process & control ultrasonic flow meter

The Process Atrato® is based on the same patented technology as our standard Atrato® meter but packaged to address the more challenging process and control environment. The body is 316 stainless steel, rated at 20 bar and the electronics are built-in and sealed to IP65. The only other wetted materials are PEEK and the customer's choice of elastomers. The Process Atrato® is calibrated with a pre-set 'K' factor so all meters of the same flow range are fully interchangeable, simplifying assembly and set-up procedures for OEM manufacturers. There are two adaptable frequency outputs, one PNP and NPN. Two multicolour LEDs indicate signal strength, power malfunctions and pulse outputs. Electrical connections are through a standard M12, four pin, sensor connector. Four flow ranges are available from 2 ml/min to 15 litres per minute and accuracy is ±1% over the whole flow range.

FEATURES

- Patented ultrasonic technology
- 4 flow ranges
- Accuracy
  - ±1% of reading 2 - 100% range
  - ±2% of reading 0 - 2% of range
- Repeatability ±0.1%, ±0.005% FSD
- Pulse output, NPN and PNP
- 20 bar rating
- 8 - 24 Vdc operation
- Large turndown ratio
- ¼" BSP fittings
- IP65 enclosure
- -10 to 65°C operation
- Pre-set 'K' factors

metraflow®

BENEFITS

- High reliability
- No moving parts
- Fast response
- Through bore design
- Time of flight technology
- Data logging
- Excellent chemical inertness

Non-invasive PFA ultrasonic flow meter

The Metraflow® clean bore, non-intrusive flowmeter uses Titan's patented transit time ultrasonic technology to accurately measure liquid travelling through a PFA (FDA approved) flow tube. The compact, integrated electronic display and sensor package offers superior performance in a single assembly. Computer and operational connections are separate, permitting setting and interface monitoring during normal operation. The units, time base, set points, analog and digital outputs, can all be set through Titan's proprietary USB connector and meter interface software. Other parameters, such as minimum flow cut-off, computer based data logging, display/output filtration and a negative flow flag can also be configured through this port. The Metraflow® is designed primarily for applications requiring a high degree of cleanliness. Its wide flow range and PFA tubing also makes the Metraflow® highly suited to aggressive chemical flow measurement.

FEATURES

- Straight through construction
- Patented ultrasonic technology
- No dead areas or obstructions
- PFA (FDA approved) flow tube
- High accuracy time of flight measurement system
- Linearity 0.5% FSD (±1% reading isothermal)
- Repeatability ±0.1%; ±0.02% FSD
- Wide flow range: 20ml/min to 5l/min
- Compact body with built in display
- Free from ion contamination
- Maximum temperature 60°C
- High performance

OG Range

BENEFITS

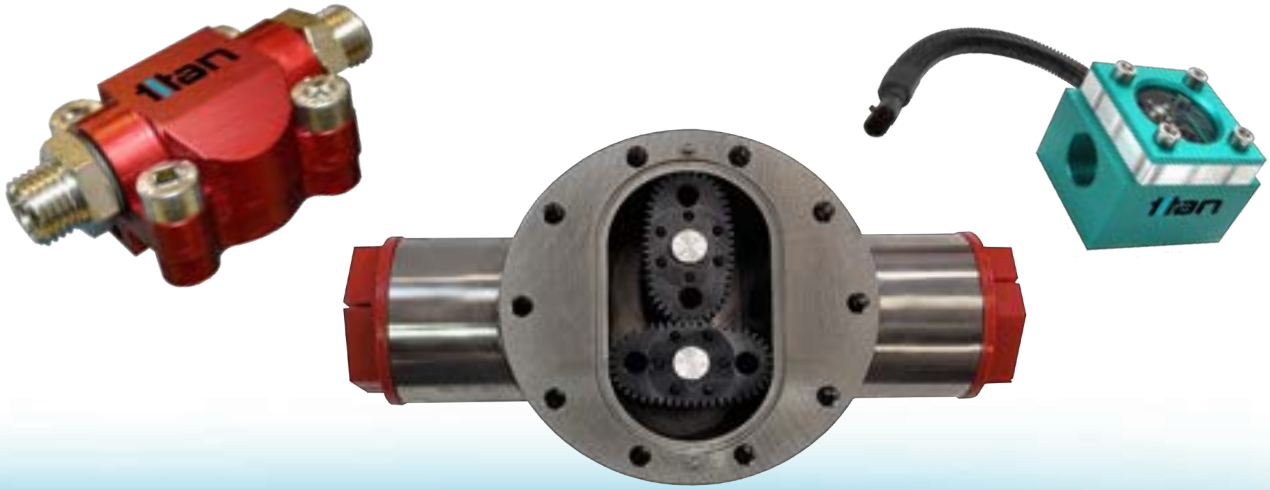
- High reliability
- Bidirectional
- Easily serviced
- Low pressure drop
- Custom OEM options

High performance Oval Gear flow meters

Titan's compact rugged oval gear flowmeters are designed to give high performance over a long service life. They are ideally suited to measuring simple water-like products, as well as lubricating fluids and high viscosity liquids. The OG range offers options depending on the application. Some models are available with totally non-metallic wetted components, PEEK, PTFE encapsultated magnets and a choice of elastomer seals, which make these oval gear meters an ideal choice for metering aggressive chemicals. The standard inlet and outlet are BSP or NPT female threads. A solid choice for many applications in today's modern process control environment, the oval gear flowmeters are precision engineered to provide highly accurate flow measurement in harsh environments, under high-pressure conditions, and with highly viscous fluids. For hazardous areas, either the Namur sensor or the reed switch (simple apparatus) may be used.

FEATURES

- Choice of materials
- Up to ±0.5% of reading
- ±0.1% repeatability
- 7 flow ranges
- IS options
- 10-700 bar rating
- Choice of end fittings
- High turndown
- Individual calibration
- Compact assembly
- 80°C to 150°C Max
- Pulse output
- 5-24 Vdc
- Non-metallic options
- Rugged construction
- High pressure options available
- Sensor choices, incl. ATEX compliant
- 1-1000cSt; >1000cSt high viscosity options
- Optional seal materials
- IP65 NEMA 4
- OEM options



FT2 Range

BENEFITS

- High reliability
- Long service life
- Cost effective
- Easily serviced
- Low pressure drop
- Can be tailored to suit

Multi-range turbine flow meters

These flexible, multi-range radial flow turbine meters use a low inertia turbine supported on robust sapphire bearings in a chemically resistant housing. With models across nine flow ranges (0.02 to 160 litres per minute), a choice of 'plug in' fittings and individual traceable calibration, this meter is one of the most economical and versatile available. For OEM applications, the fittings can be tailored to suit the installation and speed production. Custom leads or connectors are also available for quantity orders. Two sensor types are available: Optical detection for greatest flow range and accuracy; Hall effect for high reliability and opaque fluids.

FEATURES

- Rugged construction
- up to ±1.0% FSD
- ±0.1% repeatability
- 9 flow ranges
- Pulse output
- 5 or 7-24 Vdc
- Non-metallic option
- OEM possibilities
- Compact assembly
- -15°C to 125°C Max
- 15 bar rating
- IP65 NEMA 4
- Hall effect or Optical detection
- Optional seal materials
- Sapphire bearings
- Traceable calibration
- Choice of end fitting materials, threaded or hose

900/1000 Range

BENEFITS

- High reliability
- Long service life
- Cost effective
- Easily serviced
- Low pressure drop
- OEM options

High performance turbine meters

Both the competatively priced 900 and 1000 series turbine flowmeters are designed to give high performance over up to 7 flow ranges from 0.05 to 30 litres per minute. Its choice of body materials makes these flowmeters ideally suited for metering aggressive chemicals, including ultra-pure water. The standard inlets are ¼" and ½" BSPF, although alternatives are available for OEM use. The bearings are made of sapphire for long life and reliability, the body is either PVDF or 316 stainless steel, and as standard the 'O' ring seal is Viton™. Dual pulse outputs are available to give both PNP and NPN pulses for greater interface flexibility.

FEATURES

- Hall effect sensor
- Up to ±1.0% FSD
- ±0.1% repeatability
- 80°C / 125°C Max
- PVDF body option
- Choice of materials
- IP65 protection
- Compact assembly
- Traceable calibration
- 10 bar rating
- Rugged construction
- Optional seal materials
- 7 flow ranges
- Pulse output
- 5 -24 Vdc

NSF 800 Range

BENEFITS

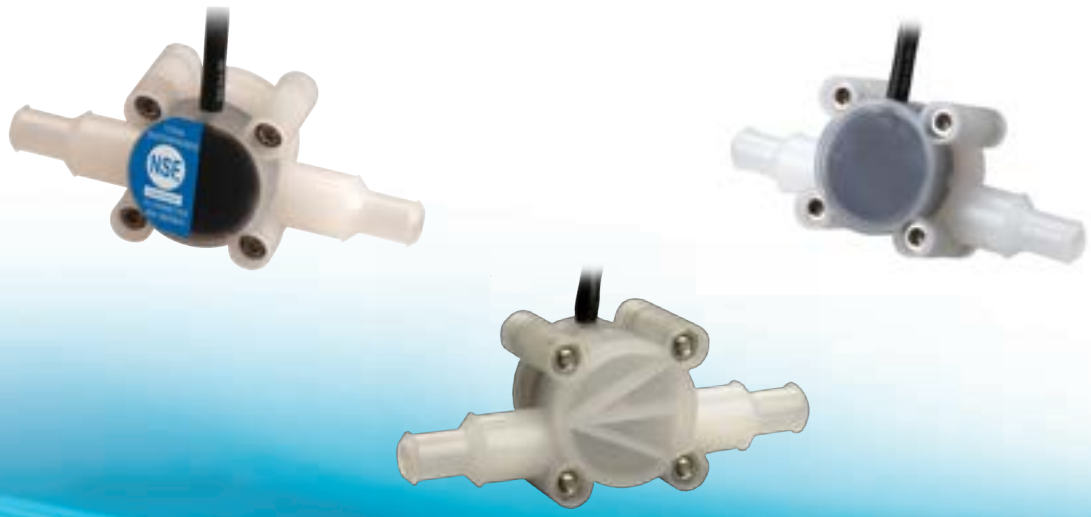
- High reliability
- Long service life
- Cost effective
- Easily serviced
- NSF-Approved
- OEM bespoke options

NSF-Approved mini turbine flow meters

Perfect for liquid batching / dispensing processes, the 800 series mini turbine flowmeter is a dependable, economic solution designed to give high performance and inherent reliability. NSF-approved for use in food and beverage production, the meter's totally non-metallic construction also makes it the ideal choice for pharmaceutical and medical applications, metering aggressive chemicals and ultra-pure water. It has 6 flow ranges from 0.05 to 15 litres per minute and the standard inlet tubes are barbed to accept two hose sizes, 8mm and 12mm. The bearings are made of sapphire for long life and reliability, the body is moulded PVDF as standard and the 'O' ring seal is typically Viton™. The magnets within the turbine are moulded in for better chemical compatibility. A dual pulse output option is also available. For OEM applications, alternative cable types and lengths are possible, as are custom flow ranges and a battery powered option. Titan's Pulsite® Solo rate and totaliser is a suitable display instrument that can be used with the 800 series flow meter.

FEATURES

- Hall effect sensor
- up to ±1.0% FSD
- ±0.1% repeatability
- 6 flow ranges
- Traceable calibration
- 10 bar rating
- Non-metallic
- OEM options
- Compact assembly
- -25°C - 125°C Max
- Pulse output
- 5 -24 Vdc
- Rugged construction
- Optional seal materials.
- Two temperature options
- Low power option available
- PVDF or PP body option
- 8 or 12mm hose



Beverage Meter

BENEFITS

- Reliable
- Accurate
- NSF-Approved
- Cost effective
- PVDF as standard
- OEM bespoke options

NSF-Approved low cost flow meter

Designed specifically for the drink dispensing industries, the Beverage flow meter is a dependable and low cost solution for monitoring the dispensing of beer, wine, spirits, soft drinks and flavouring syrups. NSF-approved for use in food and beverage production, the Beverage meter is constructed from totally non-metallic materials. The standard inlet tubes are 3/8" push-on pipe connectors, the bearings are made of sapphire for long life and reliability, the body is moulded PVDF as standard and the 'O' ring seal is typically Viton™.

FEATURES

- Hall effect sensor
- Up to ±1.0% FSD
- ±0.1% repeatability
- 0°C - 70°C Max
- PVDF body
- Non-metallic
- OEM options
- Compact assembly
- NPN Pulse output
- 10 bar rating
- Low cost
- Optional seal materials.
- 0.6 - 10 l/min flow range
- Low power option available
- 5 -24 Vdc

PULSITE SOLO

BENEFITS

- Low cost of ownership
- Long battery Life
- Various mounting options
- Compact size
- Easy programming with prompts

Digital Rate and Total Indicator

These panel or surface mounting digital instruments that require no external power, are designed to be as versatile as possible, permitting customisation to suit the application. Powered by a long-life battery, the Pulsite® Solo is a programmable indicator unit that allows the user to digitally display either flow rate or total flow.

FEATURES

- Clear 6 digit LCD display with enunciators
- Simple setting procedure
- Password protected
- Programmable scaling for rate and total
- Programmable time base for rate
- 96 x 48mm 1/8 DIN case
- Environmentally protected tough polymer housing
- Panel or surface mount
- Replaceable battery
- Front panel programmable
- 5 to 24 Vdc power with the battery as backup
- Pulse, coil and switch inputs
- Logic\transistor inputs (external power recommended)

PULSITE LINK

BENEFITS

- Low cost of ownership
- Simple to programme
- Uses proprietary software
- Compact size
- Data logging

Pulse and Analog Converter

Titan's programmable Pulsite® Link allows the user to convert standard pulse output flow meters to give linearised analog and NPN/PNP outputs. Models with or without a display, the device will accept both pulse and reed switch devices and provides 5Vdc to the installed flow meter. Titan's proprietary Interface Software allows the user to configure and test the system via USB and a computer. Calibration data can be entered in order to linearise the flowmeter signal for greater accuracy. The Pulsite® Link offers NPN, PNP pulses and analog output of 0-5Vdc / 0-10Vdc or 4-20mA and the ability to configure flow alarm outputs.

FEATURES

- NPN and PNP logic direct outputs
- Inputs: Pulse or Reed switch inputs
- With or without display
- Inbuilt sensor power supply (+5Vdc)
- Analog response rate from 100ms
- Inbuilt linearisation
- User programmable settings; easy access USB
- ASCII data streaming of flow measurement
- Datalogging via PC
- Software indication for system set up
- Configurable flow alarm outputs
- LED indicators
- 0-65°C

There is easy access to the USB connection to allow adjustment of settings without the need to uninstall the unit. The USB connection via the base port offers datalogging of parameters via PC and Titan's Interface Software. ASCII flow information can be directly received from the USB connection to ease installation for computer

Utilising the latest technology and collaborative partnerships, Titan Enterprises' innovation challenges conventional flowmeter thinking.

The varied parameters and technology of our flowmeter range - chemical resistance, long-life, clean bore, low flow - enable us to provide cost-effective liquid flow control solutions to a diverse range of industries.

Suitable for industrial processes and applications, from breweries to pharmaceuticals, bio-engineering to chemical, and agriculture to high-performance vehicles, Titan's flowmeters are industry proven around the world.

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