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VAT No. GB 365 9701 23

*Mitigating the Effects of Pulsating Flow in Flow Measurement*

**Titan Enterprises**

has published a new technical article that discusses how variation in flow velocity can impact flow measurement accuracy and how to mitigate any undesirable effects.

**It is well known that flowmeters**

are sensitive to effects such as pulsating flow which can generate errors in flow measurement. Pulsating flows are common in systems using diaphragm, peristaltic or piston pumps for example. In a pulsating flow system, the velocity profile of the flow undergoes a dramatic change during each cycle of pulsation compared to even flow conditions.





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### According to theory,

to accurately measure flow in a pulsating flow scenario the sampling rate of an electronic flow meter needs to be at least double the frequency rate of the pulsations themselves. If the pulsation rate is not taken into account, aliasing of the flow signal will be seen, resulting in erroneous measurement from the flowmeter.

### Using advanced electronics,

Titan's **Atrato®** and **Metraflow®** ranges of ultrasonic flowmeters are able to resolve the ultrasonic signals to about 50 picoseconds. With downstream signal processing, Titan's ultrasonic flowmeters are able to accurately measure pulsating fluid flow that is less than 10Hz. To accurately measure pulsating flows above this frequency requires inline pulse dampening.

### To read the technical article

in full please visit <https://www.flowmeters.co.uk/mitigating-the-effects-of-pulsating-flow-in-flow-measurement/>.

For further information on the Atrato and Metraflow range of ultrasonic flowmeters please visit <https://www.flowmeters.co.uk/ultrasonic-flow-meter-selection-chart/> or contact Titan Enterprises on +44 (0)1935 812790 or [sales@flowmeters.co.uk](mailto:sales@flowmeters.co.uk).

### Titan Enterprises Ltd

Drawing upon over 40-years of flowmeter innovation - Titan Enterprises Ltd is a manufacturer of high-performance solutions including the Atrato ultrasonic flowmeter, Oval Gear flowmeters, low flow Turbine flow meters and a flow instrument range. Titan's company philosophy of "pushing the envelope by trying to do things a little different and better" has resulted in sales of over 500,000 products into 50 countries worldwide and a repeat purchase percentage of 95%. All flowmeters produced by Titan Enterprises are designed and manufactured to ISO9001 and calibrated to an uncertainty of  $\pm 0.25\%$ .

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