

De-ionised (D.I.) Water Flow Measurement

Recently Micronics have had a number of retrofit applications in the Pharmaceutical and Semiconductor industries.

The original flow meters supplied as part of the water processing package were vane or turbine types, providing 4-20mA or pulse outputs to the water treatment control system. These had failed after a relatively short time in operation on D.I. Water duty.

The above industries use D.I. water (subjected to ultra-fine filtration) as part of their manufacturing process. The resultant liquid is super clean, has almost zero electrical conductivity, and is very "dry".

Any flow meter which has wetted moving parts such as turbine rotors, vanes, bearings, etc., will suffer from this lack of lubrication and eventually fail. Any bearing lubrication other than by the metered liquid is not permissible due to possible process contamination. Unless the failed meter is in a by-pass piping arrangement, removing it to replace or repair is usually not possible because of production down-time.



Other flow meters may also experience problems on this particular application.

- **ELECTROMAGNETIC :**
Low electrical conductivity
- **VORTEX :**
Erosion of vortex shedding strut
- **ORIFICE PLATE :**
Erosion of sharp edge profile

A quick and convenient solution is to retrofit the Micronics Ultrasonic Flowmeter Model Ultraflo 2000.

This is a clamp-on non invasive flowmeter suitable for pipe sizes 13mm to 1000mm diameter as standard, to measure ALL liquids with suspended solids or entrained air bubbles up to 2% by volume.

No process down-time.

No product contamination.

No moving or wetted parts.

Ultraflow 2000

- Simple set-up menu.
- High temp. Transducers-option.
- Current, pulse or set point outputs.
- Energy meter version.

Electronics:- ABS housing with clear polycarbonate front panel waterproof and dustproof to IP66.

Temperature Range:- +5°C to + 60°C.

Keypad:- 16 key panel for set up, Diagnostics. Access password protected

Display: 2 x 16 LCD. Backlit.

Power Input:- 110/240VAC +/-10% 50/60Hz @ 50watts 24VDC +/- 10%, 6 watts.

Outputs:- Flow proportional 0/4 – 20mA Active opto isolated into 1000ohms. Bi-directional; 5v Pulse or set point relay. 5A- SPDT. Selectable rate and totaliser to 12 digits.

Transducers:- A, B, C or D sensors factory selected based on flow rate.

Range:- 0.5m/sec to 10m/sec.

Operating Temp. -20°C to +125°C
Optional hi-temp to 175°C

Accuracy:- < +/- 3% of reading or +/- 0.02/sec whichever is the greater

Repeatability:- < +/- 1% with unchanged Transducer positions.

