

Contactless flow measurement for the Pharmaceutical Industry. The clamp-on mounting technique allows flow to be measured without any risk of compromising the hygienic environment.

Specifications

- **Installation:** Portable & fixed installed
- **Medium:** Purified Water, WFI
- **Pipe Materials:** All common metals, plastics and more
- **Pipe Diameters:** 10 to 3,000 mm
- **Flow Velocities:** 0.01 to 25 m/s
- **Accuracy:** Up to $\pm 0.5\%$ for volume flow and flow velocity

Application



WFI (Water for Injection) and other liquids are essential elements for many products of the Pharmaceutical Industry.

Instrument Solution



The hand-held ultrasonic clamp-on flowmeter KATflow 200 helps to create a more efficient WFI production process.

Measurement Task

All invasive metering technologies require the process to be opened up to the environment during installation and can also create small pockets within the flowmeter body where bacterial growth can occur.

Furthermore, some of the products used in the Pharmaceutical Industry are so pure that they are non-conductive and therefore unsuitable for measurements with electro-magnetic flowmeters.

One of these products is Water For Injection or WFI. It is an ultra pure product produced through a process of reverse osmosis or distillation from purified water.

Solution

The production of WFI is a time consuming and expensive process and it is therefore important to monitor its utilisation and disposal. This is where clamp-on flowmeters and especially portable instruments such as the KATflow 200 and 230 are ideal.

The hand-held KATflow 200 can be used for pump performance testing, system verification and problem identification. The KATflow 150 on the other hand would be installed on a permanent basis to provide continuous, reliable flow information from any critical location in the purified water system.

As well as assuring sterility during flow measurements, there is another important role for the clamp-on flowmeters in helping to control cost. The water purification process is very energy consuming. By using the clamp-on temperature sensors on the KATflow 230 or 150, the energy and total heat quantity in the system can be monitored very easily. This information can then be used to calculate energy efficiency and COP.

Advantages

- Easy, quick and cost-effective installation to existing pipelines
- No sensor contact with the fluid ensuring complete sterility
- Possible to use on small bore pipes and on flexible hoses
- Easy integration into existing or future control systems possible
- Maintenance free, very low MTBR (mean time between repairs)
- KATflow 230 and 150 supplied with optional PT100 clamp-on sensors for Heat Quantity and Energy Efficiency monitoring

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