

Having problems measuring/monitoring difficult media?

KOBOLD, represented locally by Instrotech, has a turbine wheel flowmeter, model DOT, that is perfectly suited to low viscosity applications. Proven turbine wheel technology measures and monitors even difficult media such as distilled water, acids, bases, alcohol and additives as well as several chemical or pharmaceutical compounds.

The unit comprises a helically shaped turbine rotor supported in two tungsten carbide bearings and a rotor of solid ferritic stainless steel in a grade compatible with the metered liquid – all contained within a housing of non-magnetic stainless steel. This housing allows for use in applications of up to 250 bar and temperatures of minus 20°C up to +120°C.

A pick-off coil with a permanent magnet core is mounted in the housing adjacent to the rotor blade tips so that a magnetic circuit is set up via the rotor blades. Rotation of the rotor varies the resistance of this magnetic circuit and the flux changes induce a small voltage within the coil, the frequency of which is directly proportional to the rotor speed and therefore proportional to the volumetric flow rate.

The effects of increasing viscosity reduce the linear flow range and shifts the k-factor. Furthermore, the effect of viscosity depends on the frequency (RPM of rotors). Therefore, the smaller the meter, the higher the effect of viscosity on the linearity curve.

Independent of medium conductivity, the robust DOT features an accuracy of $\pm 0.2\%$ to $\pm 0.5\%$ of full scale and a repeatability of $\pm 0.02\%$ to $\pm 0.05\%$ under steady flow conditions. The standard model DOT is available in 10 different measuring ranges from 0.11 – 1.1 m³/h up to 55–550 m³/h for pipe diameters of 15mm up to 150mm. Process connection can be G or NPT thread, DIN or ANSI flanges. Higher ranges and diameters can be supplied as well (up to pipe diameter of 300mm).

The standard meter is available with a pre-amplified square wave pulse output. Alternatively, the meter is supplied fitted with integral instruments. For more information on **Kobold's DOT Wheel Flowmeter**, contact Instrotech on 010 595 1831, sales@instrotech.co.za