![truedyne logo]

VLO-M2 viscosity sensor for liquids

Viscosity data can be used to determine the properties of liquids and monitor their quality. The sensor measures the viscosity in the running process – even in the smallest of spaces. Irrespective of the viscosity, the sensor also measures the density and temperature of the medium.

Application examples:

- Optimization of process reliability in applications where a certain viscosity is required. For example, engine oils on calibration systems.
- Supplementation of the density values to ensure the quality of lubricants or fuels.

Monitoring of fuel concentrations

New cars must be put through their paces before they are registered. The engine is tested at its limits and often started "cold". As a result, the fuel does not burn completely and it mixes with the engine oil. Too much fuel in the engine oil can destroy the engine. With the viscosity sensor, tests no longer have to be interrupted – you can monitor the viscosity of the oil directly in the process and replace it if necessary.
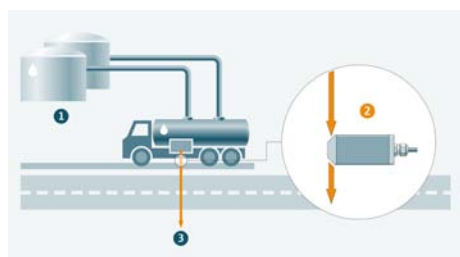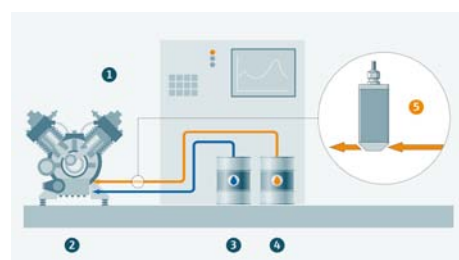
Quality monitoring

The density and viscosity of a liquid depend on its composition. If different liquids are mixed together, the correct mixing ratio can be checked with those measurements. Take heating oil, for example: According to legal requirements, 7 % biodiesel may be added to heating oil. As biodiesel is tax-free, this process is often carried out at the limit of legality. With the VLO-M2 viscosity sensor from TrueDyne, you can monitor the quality of the heating oil during the process.

Measured variables:

Viscosity, density, temperature and several metrics derived from them (e.g. standard density, concentration, etc.)

Typical media:

- Gasoline, diesel, kerosene
- OME (synthetic materials)
- Oils and lubricants
- Water-based media
- Methanol, isopropanol
- LPG
- AdBlue

Concentration packages:

- Sugar in water
- Alcohol in water
- Salt in water
- Minerals in water
- Hydrogen peroxide in water
- Ethylene glycol in water

Media and concentrations that deviate from those listed above may be used after individual clarification if necessary.

Accuracy of measurement:

- Viscosity: ±[0.2 mPa s + 5% of measured value]
- Density: ±0.2 or ±[0.0075 x abs (T-25℃)] ℃ if the value is >0.2

Permitted density measurement range:

0...1200 kg/m³

Permitted viscosity range

0,3...50 mPa s

Permitted process pressure range:

0...20 bar (absolute)

Permitted flow range:

0...10 l/h (water)

Temperature conditions:

-40...+60 ℃

Fluidic Interfaces:

2x M5 threaded holes

Electrical interface:

Modbus RTU over RS485

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