

Examine Wax Appearance Temperature

with the

Optical WAT Detector

Characteristics

- Most accurate measurement of wax appearance temperature WAT
- Measurement by cross-polarized light (CPM principle)
- Ultra-high sensible light sensor
- Small sample volume of <1 ml
- Fast and precise temperature control
- Adaptable temperature ramps

Measure Wax Appearance Temperature WAT with high precision

The precise detection of a samples wax appearance temperature WAT is of high importance for multiple applications.

The new Optical WAT Detector OWD allows a fast and accurate measurement for the onset of wax crystallization of oil samples with the integrated thermoelectric heating/cooling unit and a highly sensitive light sensor.

Besides the use in a laboratory the unit is also highly portable for field tests.



Measurement principle

The Optical WAT Detector uses the principle of light cross-polarization and the property of hydrocarbon crystals to alter the direction of the oscillation angle of polarized light. The sample is placed in a small test chamber with less than 1 ml volume. The chamber has a transparent bottom including a polarized filter, it is illuminated from below so the

polarized light can pass the sample. On top is a second polarized filter which is set to an angle of 90° for maximum elimination. When cooling down wax crystals form in the sample and change the orientation of the polarized light so a higher amount of light can pass the second filter. This change of light transmittance is detected by the highly sensitive light sensor.

Cloud point detection

The detector also allows to measure the cloud point for paraffinic content, e.g. for condensates, diesel and fuel oils.

Low sample amount

The OWD runs with only a very small sample amount of less than 1 ml. Just a few drops placed on the sensor plate are enough to run an entire temperature profile for the determination of the sample's WAT or cloud point.

Portability

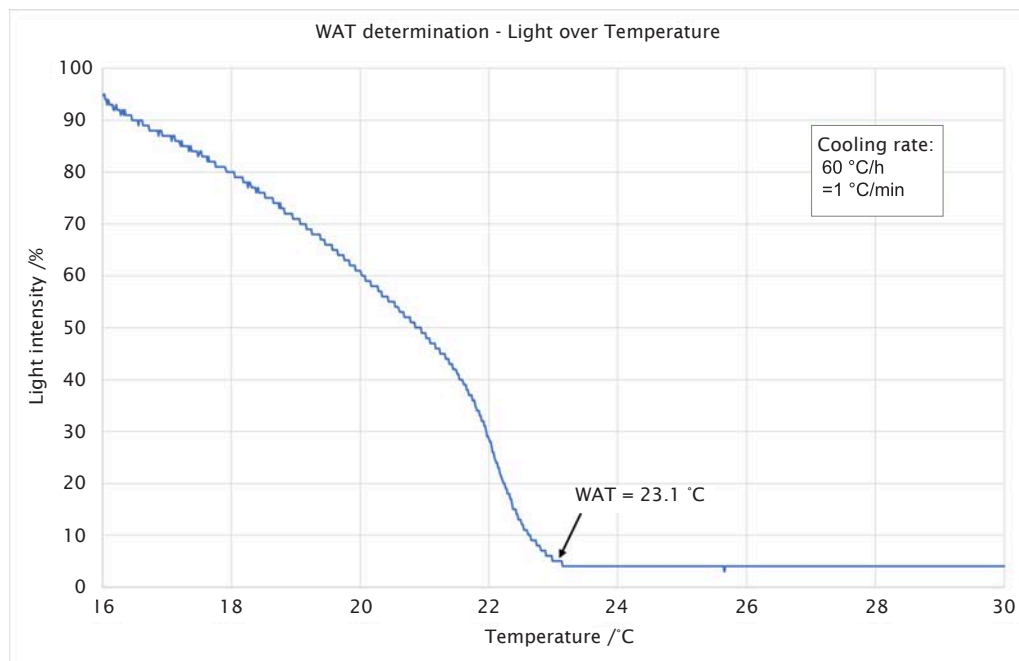
Designed for use in laboratories as well as a portable unit for field tests the OWD offers a high flexibility. Only a water supply or a

portable chiller is required for counter-cooling.

Stand-alone or controlled via software

The OWD can be operated stand-alone with the integrated, fix programs. More comfortable and more flexible is the use of the WinOWD control software. With the software additional features are available, e.g. a more detailed customization of ramp settings, a time-saving sweep program, test repetitions. Also the data can be exported to a spreadsheet program.

The Optical WAT Detector can be adapted to your requirements.



Measurement example for wax appearance temperature (WAT) determination

Specifications:

Temperature range:	-20 .. +80 °C (-4 .. +176 °F) with cooling water at +10 °C -30 .. +80 °C (-22 .. +176 °F) with pre-cooler at -5 °C
Sample volume:	< 1 ml
Accuracy / Repeatability:	0.1 °C / 0.2 °C
Power consumption:	max. 90 W
Voltage input:	110 - 240 V~, 50/60 Hz wide-range
Weight:	4.7 kg
Dimensions (WxDxH):	19 x 32 x 22 cm