Examination of Wax Deposition

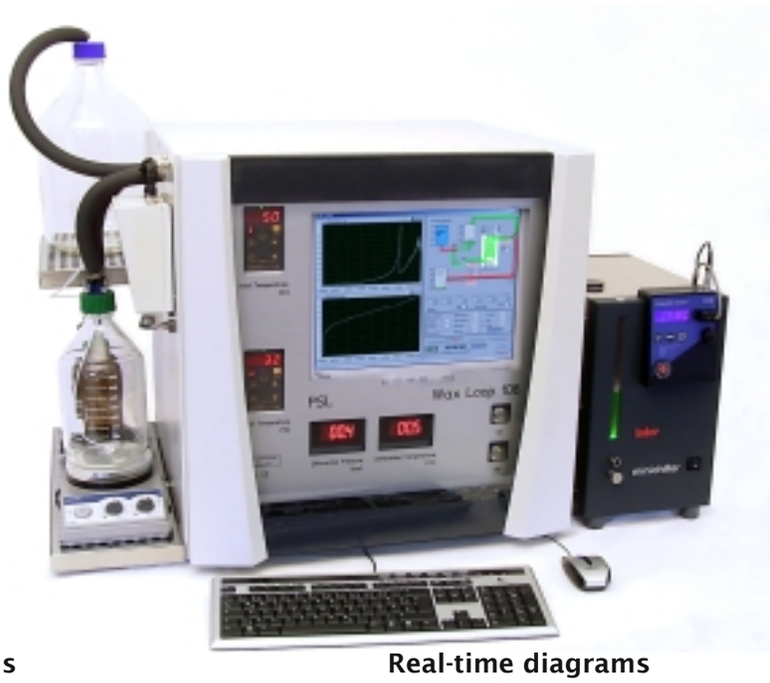
with the

Wax Flow Loop

Characteristics

- Fully automated with integrated PC
- Shock-cooling and flexible temperature profile settings
- Exchangeable model pipeline
- Small sample volumes from 50 ml
- Real-time diagrams
- Simple recording, visualisation and export of the results by software

Fully automated lab instrument
The Wax Flow Loop is a compact laboratory instrument that allows you to examine the effects of wax, paraffin and asphaltene precipitation and deposition in pipelines directly in your lab. The Wax Flow Loop provides fast, accurate and reliable results for research of inhibiting and dissolving agents or quality control. The Wax Flow Loop is fully automatised with its integrated PC. Start an automated test run in the morning, get your results by midday and in the meantime get the current state of the measuring by real-time diagrams.



Simple measurings
The sample is heated to a set start temperature and pumped through a cooled/heated model pipeline, while the differential pressure and differential or outlet temperature are measured. Pressure changes indicate wax depositions to the inner wall of the model pipeline and temperature changes indicate wax crystallisation in the medium itself.

Real-time diagrams
The differential pressure and temperature are displayed as real-time diagrams on the monitor. This allows precise conclusions about develop-ment of wax depositions and crystallisation in the medium during a test run. To maxi-mise deposition effects and to shorten test-times a shock-cooling is possible.

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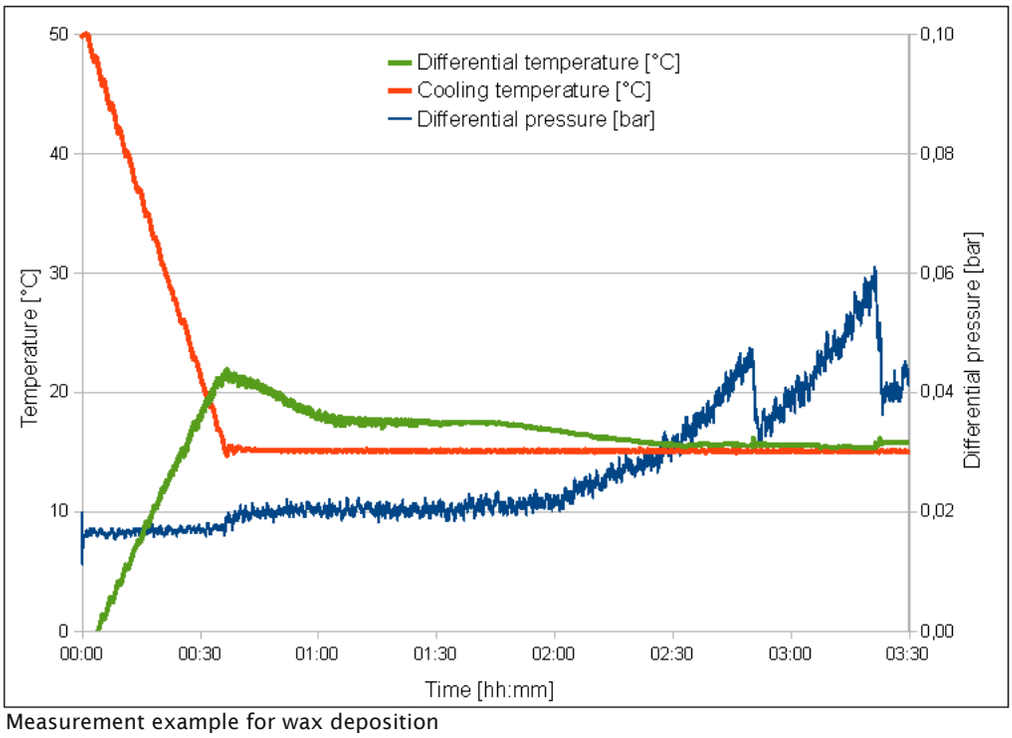
Small sample volumes
Only 50 ml of sample volumes are sufficient to come to conclusions about the efficiency and effectiveness of wax inhibitors or dissolvers. As an additional feature, pipeline restart and yield stress tests can be executed.

Exchangeble model pipeline
The model pipeline can easily be exchanged. Thus you can vary the length and diameter of the model pipeline for different measuring approaches. By changing the pump rate you can measure the deposition at different shear rates.
The instrument features different operation modes to execute automated test schedules with fixed configuration as well as flexibly arranged test conditions. For example short tests can be performed in open loop or long-term experiments in closed loop, on fix temperature or temperature ramp. Direct injection at model pipeline is possible, too.

Easy use and automatic cleaning
The integrated PC and the software allows an easy usage of the instrument.
The software supports the definition and management of standardised experiment runs. So repeated under similar conditions can be run time-saving and in quick succession. To clean the model pipeline from remains of chemicals, it is possible to execute an automatic cleaning after every test run.

The Wax Flow Loop can be adapted to your requirements.



Measurement example for wax deposition

Specifications:

Temperature range*:	model pipeline: -10 °C ... +80 °C (+14 °F ... +176 °F)
	inlet: 5 °C (+41 °F) above ambient ... +80 °C (+176 °F)
	pre-heating: off ... +80 °C (+176 °F)
Pressure range*:	0 bar ... 5 bar (0 psi ... 72,5 psi)
Flow rate*:	0.03 ... 30 ml/min
Sample volume:	min. 50 ml
Stirrer speed:	100 ... 2,000 rpm
Power consumption:	max. 2,900 W
Voltage input:	230 V~ (110 V~ on request)
Weight:	72 kg
Dimensions (WxDxH):	130 cm x 60 cm x 70 cm (incl. Cryostat)

* Alternative designs possible

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