LINETRONIC TECHNOLOGIES

CP+PP

NewLab 1300

Cloud and Pour Point

Cloud Point:
ASTM D2500 - D5771 - D5772 - D5773
DIN 51597
IP 219 - IP 444 - IP 445 - IP 446
ISO 3015

Pour Point:
ASTM D97 - ASTM D5853 - ASTM D5950
IP 15 - IP 441
ISO 3016

Subject

Cloud Point of petroleum products and biodiesel fuels.
Pour Point of petroleum products, crude oils, motor and engine oils, additives, lubricating oils, …

Measuring Cloud and Pour Point Principle

Cloud Point

The sample is cooled down according to the methods while the clouds appearance is observed on the silver bottom of the test jar by means of an optical sensor. The measurement is done by reflection on the silver bottom of the test jar via a fast light detector. The signal from light detector is traded by the LabLink software. The dynamic measurement is performed regardless of the sample's colour.

Pour Point

According to the methods, the sample is cooled down at a specified rate and, at the prescribed temperature intervals, the mechanical arm of the analyser lifts the test jar from the cooling jacket and tilts it in order to bring it in horizontal position to test the flow of the product.
The sample movement is detected by the thermal probes (PT100 detection) placed above the sample surface which react if touched by the cooled sample.

Measuring Cloud and Pour Point Devices

- Cloud: light pulsed emission on I.R spectrum through a coaxial fibber optic
- Pour: platinum resistance PT100 class A
- Pour: mechanical moving arm bringing the test jar in horizontal position

Measuring Temperature Probe

- Platinum resistance PT100 class A
- The Cloud Point PT100 is touching the bottom of the test jar

Measuring Parameters

- Temperatures: in °C
- Measuring range: +80°C … -80°C
- Resolution: 0.06 °C
- Accuracy: ± 0.1 °C
- Repeatability / Reproducibility: as per standards methods or better

Software Features

- New LabLink software able to manage up to 6 analytical heads simultaneously (stand alone)
- User friendly interface
- All analytical parameters recoded
- Customizable analysis parameters and methods
- Customizable results report
- Printable graphs and results
- Self-identification of the typology of the analysers connected

The software includes:

Analysis Menu

- Standard method as per ASTM / IP / ISO / EN / DIN… norms of reference:
  · (internal) with sample pre-heating;
  · (external) without sample pre-heating.
- Optional methods:
  · fast bath, to reduce the time of analysis;
  · T-sample – T-bath (Delta T constant);
  · cooling rate °C / h.
- Audible alarm and displayed messages (at the end of the analysis and in case of errors and/or malfunctions).

Diagnostic Menu

- Direct access to all analog, digital, inputs and outputs.
- Selectable value displaying: °C / Volt

Calibration Menu

- Automatic calibration of temperature probe
- Last calibration date referred to each single probe displayed and relative data printable
- Display of calibration diagram
- Insertion of offset values
- Standard and advanced calibration modes

Data Utilities

- Fields for introduction of operator and product name
- Archive viewer for files recall
- All analysis stored in Excel® compatible format
- Storage capacity for more than 60'000 analysis
- LIMS compatible

CP+PP

NewLab 1300
Cloud and Pour Point

Integrated panel PC
- TFT/LCD 12”
- Resolution 1024 × 768, 16.2 M colours
- 2 USB ports for connection to an external printer and/or external PC

Test Jar
- Same dimensions and volume as described by the standard test methods
- Product level mark
- Small edge on the top in order to fix the glass cell to the analytical head
- Silvered bottom with anti-scratch film protection

Cooling System
- Integrated gas CFC free motor compressors:
  · Single stage
  (for temperatures up to -40°C / 1)
  · Double stage
  (for temperatures up to -80°C / 2)
- Equipped with an automatic energy power save system.
  After 15 minutes from the end of the analysis the cooling system goes in stand-by mode.

Safety Devices
- Pressure controller for 1st stage motor compressor
- Pressure controller for 2nd stage motor compressor
- Thermostat for 2nd stage activation
- Thermo-switch for each cooling / heating jacket
- Motor compressors equipped with internal overload devices

Electrical Supply
- 220V ± 15% / 50 to 60 Hz
- 115V ± 15% / 60 Hz

Cord Cable:
- 3 conductors flexible cable 2 m (7 feet) length with PVC sheath oil and heat resistant as per CENELEC directives

Ambient Temperature
- Max 32 °C
- H.R. 80%

Spare Parts
LAB-xxx/005-04: thermo switch
LAB-xxx/005-06: PT100 bath
LAB-xxx/007-02: static relay
LAB-xxx/007-04: PCB fuse 1 AT (box of 10 pcs)
LAB-xxx/006-01: cooling fluid valve + fitting
LAB-1300/007-01: main electronic board CP&PP
LAB-100/008-06: fibber optic
LAB-100/008-07: light board
LAB-1300/008-12: PT100 product w/connector Cloud Point
LAB-100/008-04: test jar with silver bottom
LAB-100/008-041: o-ring for test jar
LAB-300/002-16: precision potentiometer
LAB-300/008-12: PT100 product w/connector Pour Point
LAB-300/008-13: PT100 detection Pour Point

Calibration Tools
OilLab 80: calibration decade box – PT100 simulator
OilLab 81: set of connectors and cables for cold range

Dimensions and weight
1 test pos.: w 66 × d 60 × h 80 cm, 60 kg
2 test pos.: w 66 × d 60 × h 80 cm, 90 kg / 100 kg
3 test pos.: w 100 × d 60 × h 80 cm, 130 kg
4 test pos.: w 134 × d 60 × h 80 cm, 160 kg
6 test pos.: w 150 × d 105 × h 150 cm, 280 kg

CE

Linetronic Technologies
Via Onorio Longhi 2
6864 Arzo
Mendrisio
Switzerland
tel. +41 91 630 07 03
fax +41 91 630 07 19
email: info@lin-tech.ch

SCES 040