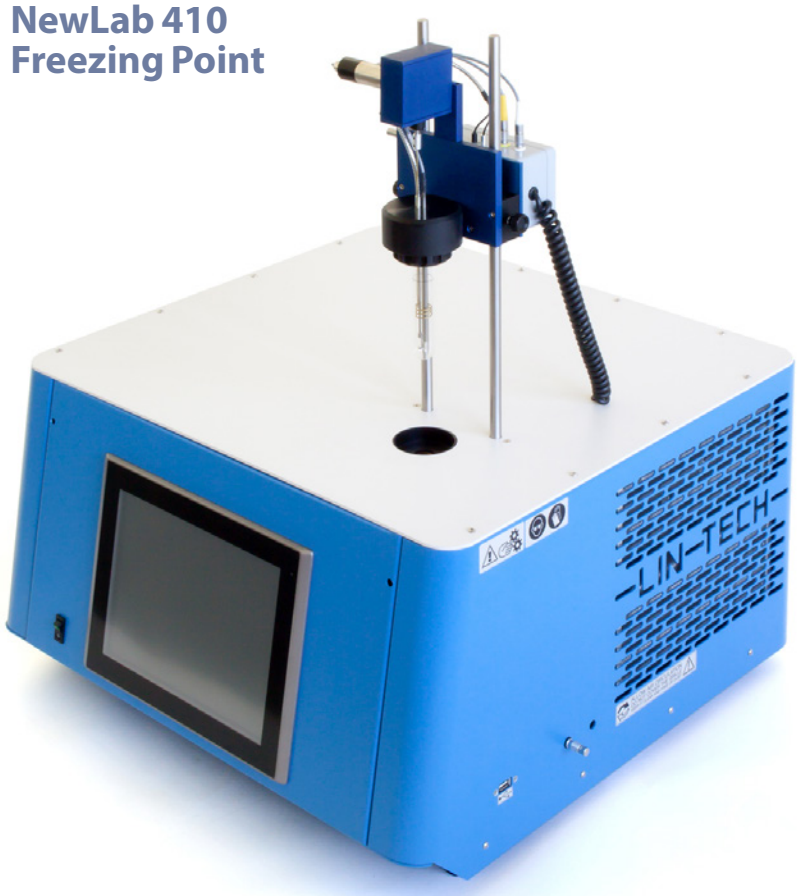
NewLab 410
Freezing Point



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CE

ASTM D852
ASTM D1177
ASTM D1493
ASTM D1655
ASTM D2386
ASTM D5901
ASTM D5972 (correlated)
ASTM D7153 (correlated)
ASTM D7154 (correlated)
IP 16
IP 435
IP 528
IP 529
ISO 3013

Subject
Freezing Point of aviation fuels, aviation gasoline, aviation turbine fuels, engine coolants, antifreeze products, brake fluids, …
Solidification Point of Benzene.
Solidification Point of Industrial Organic Chemicals.

Measuring Freezing Point Principle
According to the methods, the sample is cooled down and stirred. The solid hydrocarbon crystals formation are detected by means of a light beam throught fiber optic reflected thanks to a mirror. As soon as crystals are detected, the sample is warmed up until their complete disappearance.

Measuring Freezing Point Devices
- Light pulsed emission on I.R spectrum through a coaxial fibber optic
- Coaxial fibber optic equipped with a mirror

Measuring Temperature Probe
- Platinum resistance PT100 class A

Stirrer
- A micro-motor drives all the mechanical system
- 3 coils stirrer made of brass

Measuring Parameters
- Temperatures: in °C / °F
- Measuring range: -110°C … +100°C
- Range of analysis: -90°C … +55°C (410/2-SA)
- Resolution: 0.01 °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 recorded
- Customizable analysis parameters and methods
- Results report
- Printable graphs and results - any Windows® compatible printer can be used

The software includes:

Analysis Menu
- Standard method as per ASTM / IP / ISO / EN / DIN… norms of reference
- Optional methods:
  · special detection of contaminants
- 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 / °F / Volt

Calibration Menu
- Automatic calibration of each 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 up to 100 calibration points

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

Integrated Touch Screen 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
- Storage capacity for more than 60'000 analysis

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NewLab 410 ST

Test Jar
- Same dimensions and volume as described by the standard test methods
- Product level mark at 25 ml
- Small edge on the top in order to fix the glass cell to the analytical head

Cooling System
- Insulated cooling jackets
- Integrated gas CFC free motor compressors:
  · Double stage
  (for temperatures up to -90°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

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

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 130 × d 75 × h 170 cm, 280 kg

Spare Parts
- LAB-xxx/005-03: heather + auto adhesive + insulation
- LAB-xxx/005-04: thermo switch
- LAB-xxx/005-06: PT100 bath
- LAB-xxx/007-02: static relay
- LAB-xxx/007-04: PCB fuse 1.6 A, box of 10 pcs.
- LAB-xxx/006-01: cooling fluid valve + fitting
- LAB-400/007-01: main electronic board Freezing Point
- LAB-400/008-04: PT100 product w/connector
- LAB-400/008-05: stirrer
- LAB-400/008-08: mirror for Freezing Point
- LAB-400/008-06: motor for stirrer
- LAB-400/008-07: fibber optic for Freezing Point
- LAB-400/008-09: electronic board for detection
- LAB-410/008-12: removable glass cell for Freezing Point
- LAB-410/008-041: o-ring for Freezing Point test jar

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

NewLab 410 ST
- Measuring range: -110°C … +100°C
- Range of analysis: -110°C … +55°C
- Resolution: 0.01 °C
- Width: 34 cm
- Depth: 60 cm
- Height: 80 cm
- Weight: 34 kg