

# MODEL NDI 450

## AUTOMATED ATMOSPHERIC DISTILLATION OF PETROLEUM PRODUCTS



### STANDARDS

ASTM D86 - D850 - D1078 - ISO 3405 - IP 123 - IP 195 - GOST B - JIS K2254 - DIN 51751 and related methods.

### SCOPE

This test method covers the atmospheric distillation of petroleum products. Natural, motor and aviation gasolines, aviation turbine fuels, special boiling point spirits, naphthas, white spirit, kerosene, gas oils, distillate fuel oils.

NDI 450 is the 5<sup>th</sup> generation of automated distillation developed by Normalab. Normalab has been designing and manufacturing petroleum testing instruments and glassware since 1963.



« OUR FLEXIBLE SOFTWARE  
WILL MEET  
YOUR EXPECTATIONS »»

## SPECIFICATIONS

- **Temperature measurement range: ambient to 450°C**
- Temperature accuracy: 0.05°C
- **Low voltage heating element (850W)**
- **Automatic positioning of heating element**
- Quick cooling of heater by fan
- Condenser temperature: 0 to 60°C
- Receiver compartment temperature: 0 to 60°C
- Level follower accuracy: 0.1 ml with resolution of 0.05ml
- **Built-in Peltier Cooling System**
- Ready for Biodiesels analysis
- Integrated colour touch screen display (10,4 inch)
- **Windows® based software**
- Preprogrammed with Standard Methods
- User programmable methods
- Automatic Barometric pressure correction
- Automatic Cetane Index calculation (ISO 4264)
- **Equipment ready to use as per ASTM D86 and related methods (Optional kit for ASTM D850, D1078)**
- Additional Test Method : ASTM D189, D524 & D4530  
10% Distillation residue with 100ml sample.



Automatic N<sub>2</sub> Fire Extinguisher

## SAFETY FEATURES

- Automatic Fire detection
- **Automated Fire extinguisher (N<sub>2</sub> bottle delivered with the unit)**
- Extinguisher push button
- Sample overheating protection at 600°C
- Sensors:
  - Receiver in position
  - Compartment door: closed
  - Drip deflector in position
  - PT 100 probe: in position
  - Coolant liquid: low level detection
  - N<sub>2</sub> minimum pressure required

## CONNECTIVITY

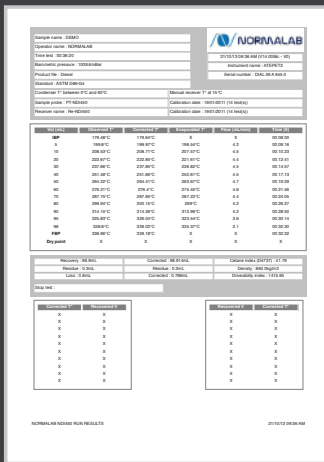
- 3 USB ports
- 1 LAN port
- 1 RS232 port
- 1 VGA port

# SOFTWARE FEATURES SUMMARY



Friendly & Professional Software

- Windows® based software
- Result comparison and analysis
- Different level access settable (Operator - Supervisor - Maintenance - Others...)
- Multi-Language software
- Results database: > 1000 results
- Product files database: > 1000 files
- Reporting: LIMS, E-MAIL, PDF, DOC and XLS
- Reporting: complete or synthetic single page format
- Printer – Network Printer : Any commercial printers
- USB Key : Any commercial keys
- Barcode Reader: Any commercial barcode readers
- Mouse, Keyboard and screen
- Fast and easy access to all parameters



Various report formats

## ACCESS TO EVERY DATA PROCESSING AVAILABLE



Send the selected result to LIMS: By RS-232 connector



Print the selected result: On local printer or network printer



Export the selected result to PDF: Use USB Key or Intranet network



Export the selected result to DOC+XLS: Use USB Key or Intranet network



Send the selected result by e-mail



Quality glassware

## EASY CONFIGURATION



Regional options: date and time, language and keyboard, temperature units and pressure units



User and password: user name, user account, password and security level



Software update: by USB key



Instrument: instrument name, serial number and network information

## ORDERING INFORMATION

### NORMALAB production - Fully automated atmospheric distillation unit

**60502**

NDI 450 operable through integrated touch screen and Windows® based software. Equipment with built in fire extinguishing system and external N<sub>2</sub> bottle fitted with manometer for pressure control.

#### Scope of delivery

NDI 450 delivered ready to use for D86 and related standards:

- 125 ml distillation flask (P/N: 24019)
- 100 ml receiver (P/N: 26111)
- 38 mm heating plate (P/N: 60507)
- 50 mm heating plates (P/N: 60508)
- 5 ml residue receiver (P/N: 12609EC)
- Pt 100 probe (P/N: 60510)
- Pt 100 probe centering device
- Dry point Thermocouple (P/N: 60509)
- Bag of Pumice (20g ) (P/N: 60514)
- Condenser cleaning cable (P/N: 60513)
- 3 Stoppers: condenser stopper (P/N: 60515) / flask probe stopper D86 (P/N: 40065) / flask probe stopper D86 for dry point application (P/N: 40064)

#### Site requirements

Power Supply: **AC 230 V, 50/60 Hz - 9A**

Dimensions: (W) 54cm x (D) 45cm x (H) 63cm

Weight: ±70 kg

**60503**

**Same as 60502 except:**

Power Supply: **AC 115 V, 50/60 Hz - 9A**

**\*Optional kit for ASTM D850, D1078 and related methods (P/N: 60517)**

## SUMMARY

Temperature range	Ambient to 450°C	Barometric pressure correction	Automatic
Temperature accuracy	0,05°C	Sample overheating protection	Integrated 600°C
Condenser temperature	0 to 60°C	Fire detection	Integrated
Receiver Comp temperature	0 to 60°C	Fire extinguisher	Integrated
Heating element power	Low voltage 850W	Extinguisher push button	Integrated
Heating element positioning	Automatic	N <sub>2</sub> bottle	Integrated
Cooling system	Peltier integrated	Software	Windows®
Level follower	2 Photoelectric forks	LIMS connection	RS232 / LAN
Level follower accuracy	0,1 ml	LIMS format	XML/ASCII/CSV
Level follower resolution	0,05 ml	Email reporting	Integrated



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