## LUBRICANT INDUSTRY





Normalab is offering more than testing equipments for the upstream and downstream Oil & Gas, but complete laboratory solutions. We will offer a complete solution for your laboratory with a "ready to use " mode, including all the accessories, reagents, chemicals and consumables you need to make your analysis properly.



#### FLASH POINT BY PENSKY MARTENS ASTM D 93 - IP 34 - ISO 2719 NPM 450 - Automated - Ref 60400

Efficient and compact, the NPM 450 is a fully automated Pensky-Martens Closed Cup Flash Point Tester that combines latest technologies. It offers you the best performances thanks to its predictive heating regulation and the air turbine enabling fast sample cooling after the test.

#### NPM Tech - Half automated - Ref 42100



The NPM Tech is a compact half-automated instrument delivering fast and reliable results. Operation is made easy and safe with minimum operator intervention. The NPM Tech regulates itself thanks to its predefined temperature rise and the turbine allowing rapid cooling of the sample after the test.

CLEVELAND FLASH POINT TESTER

ASTM D 92 - ISO 2592 - IP 36 NCL 440 – Automated - Ref 40400

NCL 440 flash point, combines flash and fire point detection. Fully automatic, the NCL 440 offers good repeatability and reproducibility of your analysis. Easy to use, simply select a pre-installed program : the evolution of the test is displayed in real time on the screen.

#### CLOUD & POUR POINT



ASTM D 2500 - D 97, IP 15, IP 219, ISO 3015, ISO 3016 CPP Classic - Half automated - Ref 941592

CPP test cabinet is mechanically refrigerated by CFC free Gas. There are 4 compartments (0, -18, -33, -51°C), each with 4 wells whose temperature is controlled by digital display. For the filtration limit temperature (ASTM D 6371 - IP 309 - EN 116) a kit is available in option.

#### **OXIDATION CHARACTERISTICS**

ASTM D 943, D 2274, D 2893, D 4310, IP 157, IP 388, ISO 4263-1,2,3, ISO 12205 **TOST Classic – Half automated - Ref 9416260** 

The oxidation characteristics bath is a 8-places unit. User can select suitable accessories according to its needs and get a customed instrument. (glassware and options list are available on request)

#### COPPER AND SILVER CORROSION DETECTION

Copper corrosion : ASTM D130, ASTM D4048, ASTM D7095, EN/ISO 2160, IP154 and IP112 / silver corrosion : D 7671, IP 227



#### NTB Classic - Ref 23007

Thermostatic bath has a temperature range from ambient to +250°C. In order to work under ambient temperature, tap water or external chiller can be connected. Standard is equipped with a bath drain. In option, you have the possibility to increase the capacity from 6 to 9 tests positions.

#### AUTOMATIC ANILINE POINT TESTER ASTM D 611 - IP 2 - NFM 07021 - ISO 2977 NAE 440 - Automated - Ref 40500

The NAE 440 Aniline point tester is the unique twin tester available on the market with two autonomous and independant stations. The instrument allows visual control of the aniline point during test. The NAE operates within a range of -10°C to +150°C. For safety, the heating element is protected in case of tube breakages. An external cooling source is needed for temperatures under ambiant.

#### CENTRIFUGE

ASTM D 91 - D 893 - D 1796 - D 2273 - D 2709 - D 4007 , ISO 3734 - IP 75 - IP 359 **NCP Tech 2 - Ref 29600** 

NCP Tech 2 centrifuge has been specially designed for the determination of water and sediment in petrol and used oils, as well as precipitation and demulsibility features. It allows fast and easy operation for accurate measurements. The model NCP Tech 2 is available in a non-heated version and a large version to centrifuge up to 8 tubes.



#### DIFFUSER WASHER

ASTM D 892, IP 146 NDW Tech – Half automated - Ref 941645

The NDW Tech allows to automatically clean and dry your stone diffusers or your stainless steel diffusers. It also reduces solvent exposure of the users.





#### FOAMING CHARACTERISTICS OF LUBRICATING OILS

ASTM D 892 - D 6082 - IP 146 - ISO 6247 FOAM 1 : Ref 941640 & FOAM 2 : Ref 941643

These instruments are used to detect foaming characteristics in lubricating oils. This model allows to perform sequence I, II or III.

#### FOAM HT : Ref 9416432

FOAM HT can perform a test at max. 150 °C. For sequences I, II, III and IV in one bath.

#### AIR RELEASE VALUE (IMPINGER METHOD)

ASTM D 3427 - IP 313 - ISO 9120 - DIN 51381 - NFT 60149 ARV Tech - Ref 942900

The ARV Tech measure precisely the time required for an oil to separate from water. The test is realised with Impinger method, oil is heated at a temperature of 25°C, 50°C, or 75°C, then compressed air is sent into the oil. The graph shows the evolution of the test in real time. The connected balance allows automatic determination



#### FOAMING TESTER

#### NFT 60185 CNOMO - Ref 23360

The test consists to make a liquid circulate with a pump. The liquid comes from a calibrated ferrule at a specified height in a graduated glass cylinder. The volume of foam created during the test allows characterizing foaming tendency and/or stability.



#### DEMULSIBILITY TESTER ASTM D 1401, ISO 6614, IP 412 DEM Tech - Half automated - Ref 42500

The DEM Tech is an half-automated demulsibility tester that can define the ability of petroleum oils and synthetic fluids to seperate from water. It can contain four measurement stations (+ 2 preheat spots). Its stirring paddle is automatically positioned in the test tube. (6mm between the stirring paddle and the bottom of the test tube). Thanks to its large viewing window and the non-reflective enhanced LED lighting, the test can be easily observed. The touch screen allows easy configuration.

#### PENETROMETER

#### ASTM D 5 - D 217 - D 937 - D 1321 - D 1403 NPN Tech - Half automated - Ref 942734

The half automated penetrometer, NPN Tech, is a compact unit able to measure automatically the penetration value of the sample. With an auto-electronic detection of depth penetration, this device is used for consistency and resistance determination of pasty, creamy, semi-solid or highly viscous samples. An automatic surface detection is available for conductive samples.

#### **GREASE WORKER**

ASTM D 217 GWM Classic - Automated - Ref 9417582

Automatic GWM Classic reduces the procedure required for grease, in order to realize the shear stability test. The grease machine achieves 60 ( $\pm$ 10) strokes/min with a movement of 67mm. This apparatus is used ageing the greases prior to the penetrability test.









#### VISCOSITY BATH

ASTM D 445 - D 446 - ISO 3104 & 3105 - IP 71 NVB Classic – Ref 23207

This viscosity bath, NVB Classic, has a temperature range from ambient to  $230^{\circ}$ C (stability of  $\pm 0.01^{\circ}$ C). Its 40 liters bath has an opening of 260 x 240 mm. There are 7 openings for holding viscometers and a cooling coil to work below ambient temperature.

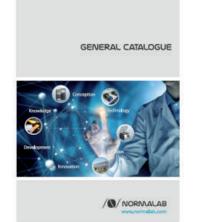


#### AUTOMATIC VISCOMETER WASHER FOR TUBES

ASTM D445 - D446, ISO 3104, IP 71 VTW Classic - Automated - Ref 18450

The viscometer washer allows external and internal washing of all types of viscometer tubes. Viscometer tubes are suspended in solvent vapor. An external cooling circuit is necessary to condensate the vapors. It also reduces solvent exposure of th users.

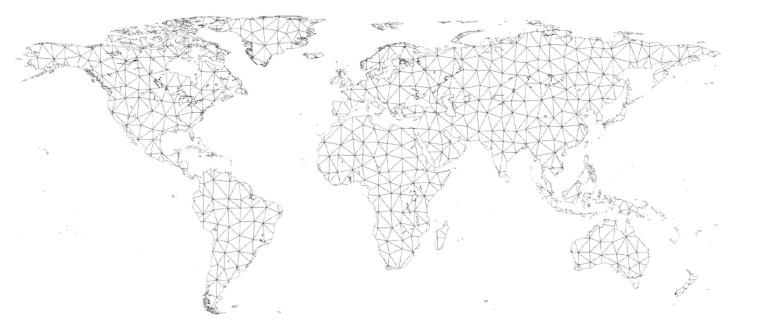
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