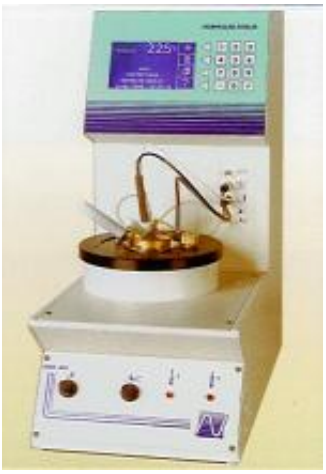
AUTOMATIC CLEVELAND OPEN CUP FLASH POINT
Model NCL 440

As per ASTM D92

- The NCL 440 flash point opened-cup is strictly in accordance with the above-mentioned standards. It is equipped with two ignitors: electric and gas. The gas flame is monitored by a thermocouple for improved safety
- the NCL 440 is built with the state of the art technology and the large digital display allows test in progress to be viewed at distance. The flash point and the fire point are detected automatically using a flame ionization detector. A optional sample changer with 6 cups is available for unattended operation. A new sample may be inserted at any time during a test. A priority analysis function is provided to allow for an urgent test to start.

- The NCL 440 temperature range is from ambient to +400°.The NCL 440 can be connected to a network via an RS232C output to send data. 100 results are stored in the instrument's memory.
- A comprehensive user friendly software allows the operator to access menu and enter parameters for calibration, maintenance and diagnostic via the keyboard..

AUTOMATIC PENSKY MARTENS FLASH POINT APPARATUS NPM 440



In 1984 GT Instruments introduced its first generation of closed cup unit

- AUTOMATIC CLOSED CUP FLASH POINT PENSKY MARTENS
- ASTM D93A, D93B , IP34, ISO 2719, DIN 51758 and User defined test methods
- Built-in Electrical and Gas Ignitor Built-in Ionization Ring
- and Thermocouple Flash Detection Built-in barometer
- Serial Port for Data Transfer
- Standard Printer Interface
- Several Test Procedures:
- Normalized
- Go, No Go test for shipping regulations
- Quick Unknown Flash determination
-

The new closed cup flash point, designed by our team of engineers, integrates more than 20 years of experience with previous models. These units faithfully perform ASTM test procedures automatically with repeatable accuracy, but also include other international methods. The new generation expands its field of application by using a thermocouple flash detector not affected by the water vapors contamination.

The results are memorized until the next test and can be printed or transferred to the LIMS.

An automatic air cool down cycle is immediately initiated and an audible alarm alerts the operator when the test is complete.

All of our flash testers include a service testing and diagnostic mode which allows the technician to troubleshoot each element of the apparatus.

As some laboratories do not have a gas line on-hand, our NPM 440 comes with a gas ignitor as requested by most mandatory methods. It is also equipped with an electric ignitor used as a pilot flame or a test flame applicator.

At no additional charge, the unit includes an inbuilt barometric pressure sensor to correct the results and alert the operator of the acceptable validity of the flash point detected

AUTOMATIC FLASH POINT TAG NTA 440

As per ASTM D56

- Strictly in accordance with the above-mentioned standard this unit benefits from the latest technology improvements. For instance, the testing process can be supervised at distance thanks to a large graphic display. The instrument can also be used with a portable C02 gas cartridge kit. Aside the method
- required by the standard, a quick search method is available in order to find out the flash point of un-known samples. The dual detection system - thermal and ionization - allows testing all type of products.

The NTA 440 is delivered with a flame tip detector as well as an automatic gas cutoff at the end of the test process

- Changing the safety and operating parameters, calibrating through keyboard, modifying language and units, performing maintenance have become easy
- thanks to the new user-friendly software which also memorizes the previous 100 test results
  The instrument can be connected to an external cryostat bath. During the test the system automatically operates solenoid valves in order to regulate the cooling
- medium. The heating block is rapidly cooled down at the end of the test
  The temperature curve can be printed out. The unit has been designed in order to operate between -28°C and +93°C
-

AUTOMATIC CLOUD & POUR POINT ANALYZER
NTE 450

Performs Cloud and Pour Points in accordance with ASTM D97 and D2500

- Tilting pour point determination
- Pour point every I, 2, 3°C
- Cloud point every 1 or O.1°C
- Single position analyzer for cloud and / or Pour Point test
- Works in °C
- Fast testing mode available
- User programmable cooling steps
- Up to 4 instruments can be connected to external cooling bath
- Probes calibration menu
- Diagnostic service mode
- Networking capability
- Printer interface built-in

INSTRUMENT DESCRIPTION:

Our NTE 450 unit is now available with tilting determination of the pour point as required by ASTM D97 and includes the following features:

- Bench-size unit
- Microprocessor control with backlight display
- Waterproof touch screen display
- Built-in printer interface and printer delivered
- Software for printing results and programs
- Storage up to 200 results , Ethernet interface

The cooling jar with ASTM cooling steps controlled automatically.

Testing head on the same instrument can accomodate two types of tests : Cloud Point with optical fiber sensor, And/or Pour Point with ultra sonic sensor with mechanical tilting system, Testing sample receiver with level marker per ASTM with or without mirror .

An external cooling circulating bath is required to achieve the maximum lower temperature desired, i.e. for test down to -30°C or test down to -60°C.

AUTOMATIC VISCOSITY TUBES WASHER
VW6 - V2 VISCO WASH

Cleans up to 6 Viscometer tubes at a time (Cannon, Fenske, Ubbelohde, Zeitfuchs and others)

Saves operating time
- Reduces solvent disposal
- Reduces calibration turn over
- Environmentally safe
-

INSTRUMENT DESCRIPTION:

The unit incorporates a heating rate control for the heating reactor mantle, timer, glass reactor, glass viscometer tubes holder, and top condenser cover. The utilities required to run the VW6-V2 unit are a 11OV or 220V plug and a tap water supply.

Saves operating time - cleans up to 6 viscometer tubes at a time in 5 to 25 minutes even the dirtiest ones such as: polymerized products, tar, asphalt, etc.

Reduces solvent disposal - in regular operation, only 1 liter of solvent is necessary per week.

Reduces calibration turn over - the very gentle cleaning process of the viscometer tubes permits reduction of the calibration frequency.

Environmentally safe - the instrument is a closed system that drastically reduces operator-solvent handling and exposure

AUTOMATIC POTENTIAL GUMS & INDUCTION PERIOD TESTER
Model NPI 442

As per ASTM D525, D873, D942, D5304 ISO 7536, IP 40, IP 138, IP 142, NFT 07013

- Fully automatic
- Automatic print out of test curves
- No water level to adjust
- Safety leak detection
- Pressure relief burst disc

INSTRUMENT BRIEF :

The Induction Period (ASTM D525) and Potential Residue (ASTM D873) are widely used methods for the determination of the stability of gasoline under accelerated oxidation conditions (ASTM D525) and for the determination of aviation reciprocating, turbine and jet engine fuels to form gum and deposits under accelerated aging conditions (ASTM D873).

The user-friendly design of the GECOX Model NPI 442 decreases potential sample preparation errors that most commonly occur during this type of ASTM testing. The unit is available in two configurations:

1. A Model with 2-Testing Positions and utilizes a 26L Water Bath with 1500W Heating Resistance.
2. A Model with 4-Testing Positions and offers the benefit of a temperature-controlled, Solid-Aluminum Block Bath which eliminates the need to adjust the level of water in the bath.

In both models, the regulation accuracy of the temperature is to the nearest 0.1 °C. Other main features for both models include:

-
- Built-in Embedded PC pentium Control Unit.
- Keyboard and Display for Easy Operation.
- Graphics Printer for Results and Curves Reports. PT1 00 Bath Probe with accuracy within
- 0.1 °C.
  Electronic Pressure Sensor for each position, 1-1200 KPa, with accuracy within 1 KPa (0-
- 180 psi + 0.15 psi).
  Oxidation Vessel (ordered separately) with Quick Connectors for Easy Handling and St.St.

AUTOMATIC SOFTENING POINT TESTER
RING AND BALL METHOD
GECSOFT model NBA 440

Performs test in accordance with ASTM D36, EN 1427, NFT 66008 ISO 4625, DIN 52011, NFT 66147, IP 58

- The four blade stirring system provides a perfect homogeneity as well as a perfect follow up of temperature gradients as required by the various standards. The operator can program the sensitivity of
- the photosensitive cells and can also validate the emergent stem correction.
  At the end of the test a cooling fan aimed at the heating block is automatically activated. The operator can
- stop the fan automatically or manually.

INSTRUMENT DESCRIPTION:

The automatic softening point tester NBA 440 uses the ring and ball method to determine the softening point of asphalt, bitumen, tar, pitch and resins. The NBA 440 unit includes a microprocessor control top section with waterproof keyboard and display.

The bottom section includes a control board, safety board, heating element, cooling fan, mechanical stirrer, lamp and two optical sensors, and a standard beaker with dual ring holder.

The mechanical stirrer is specially designed not to influence the falling of the balls and to insure good temperature homogeneity inside the beaker. The NBA 440 is delivered with a RS232 connection and printer outlets. Printing out temperature gradients all along a test process is also possible.

The user-friendly software allows to program safety cuts-off and keyboard calibrations, to display and print out configuration test reports that can be of interest for traceability.

FOAMING CHARACTERISTICS OF LUBRICATING OILS LOW and HIGH TEMPERATURE

As per ASTM D892, IP 146, ISO 6247, ASTM D6082

Dual twin tester, small foot print for easy installation in a standard fume hood.

The instrument performs two tests at 24°C and two tests at 93.5°C.

The equipment comes complete with 2 heat resistant glass jars.

Each jar has its own control module including an electronic temperature controller with digital display and control knob, two factory calibrated flow meters, two 1000ml test cylinders, two certified diffuser stones, immersion heater with overtemperature protection, efficient stirring system with adjustable speed, air delivery tubing and thermometer.

Cold bath with built-in coils for air and cooling water or refrigerant circulations.

An optional additional bath with 2 sample jars can be use to perform test in accordance with ASTM D6082 at 150 °C.

Also all above baths can be connected to an automatic sequencer reducing drasticly the operating time .

HEAT TREATMENTS OF ASPHALTIC MATERIALS
MODELS : P875 & P876

As per ASTM D6, D1754, IP 45

- The oven is constructed according to ASTM E-145 type 1, grade B specifications including stainless steel double walls, glass fiber insulated, with viewing window consisting of two sheets of heat resistant glass separated by an air layer.
- Vents at top and openings at the bottom provide the required ventilation.
- It is equipped with a revolving aluminum shelf, 250 mm diameter, driven by powerful motor at an adjustable speed of 5 to 6 rpm.
- Upper panel shows electronic temperature controller with digital display and setting.
- The whole is protected with separate over-temperature cutoff connected to the circuit breaker. The apparatus comes complete with a set of aluminum sample containers and ASTM 13C thermometer.

A unique feature of the oven is:
The type J thermocouple that is the sensor for the electronic controller is fixed on the rotating shelf and moves with it. This is the same as the ASTM 13c control thermometer also attached to the shelf and described in the standard method. The benefit is a precise control of the temperature of the sample containers positioned on the shelf and a greater reproducibility between tests

TWO MODELS ARE AVAILABLE:

- P875 Revolving shelf oven ASTM D6 alone.
- P876 Revolving shelf oven ASTM D1754 alone.

EXISTENT GUM IN FUELS BY JET EVAPORATION
MODEL REF P303

As per ASTM D381, IP 131, ISO 6246

Compact five unit evaporation solid aluminum block Bath and steam superheater built into the base

Exclusive triple digital controllers

- For air temperature (155 ± 0,5°C)
- For steam temperature (232 ± 2°C)
- For both air and steam flows (1000 ml/sec ± 15 %).

The two temperature controllers are connected to the Pt 100 sensor.

Alternative

- MODEL P302 As above apparatus but for air jet test only, without superheater

AUTOMATIC VACUUM DISTILLATION
MINIDIST 1160 Version V6 With GECDIST Net

Performs distillation in accordance with ASTM D1160

- Fully automatic apparatus for Lab QC and Research
- Embedded PC104 Pentium with Color LCD and Keypad
- User-friendly software with diagnostic display
- Calibration procedure built in
- Totally self-contained analyzer
- Heating rate optimization
- Automatic sample degassing
- Adjustable vacuum lowering rate
- Hot air heated receiver chamber
- Temperature in degrees C or F
- Final reports % V / AET in D1160 and TBP calculations
- Synoptic display of the process and Easy service help display
- Curves display during or after a run
- Extensive library of distillation programs
- Data storage of thousands of distillation runs
- Built-in Ethernet interface to link to network or GECDIST Net PC Supervisor Software

See Also GECDIST Net

INSTRUMENT DESCRIPTION:
MINIDIST 1160 version V6 is a stand-alone, bench-size unit designed to automatically run vacuum distillation of crude residue and high boiling mineral fractions up to 600°C/1100°F AET in accordance with ASTM D1160. It is the result of more than 30 years of experience in manufacturing such analyzer.

- The MINIDIST 1160 consists of two sections in one compact cabinet :
  A process cabinet including all ASTM glassware assembly with double-silvered, jacketed column, 500 ml quartz boiling flask, 200 ml receiver thermostated by hot circulating air in the receiver chamber, vacuum trap, temperature probes, pressure sensor, level follower system to control the volume and the distillation rate, vacuum pump, and water or synthetic oil circulating thermostated bath for the column condenser. All process components are housed in a closed cabinet.
- A computer control embedded PC104 Pentium environment with the latest software generation with color LCD monitor , keypad and label graphic printer. Gecil process has been in fact the first manufacturer worldwide to design a PC control automatic vacuum ASTM D1160 distillation in the 80's.This last genaration also benefit of all capabilities of the GECDIST Net new remote control networking software . See link above .

Evaporators for Oil , Viscuous or Solid Samples
Model ADP511 or ADP513

The **ADP 511** Moisture Evaporator can be combined with the**Aquamax** KF coulometric Karl Fischer titrator for water content determination of samples which cannot be analysed directly in the titration vessel, for example, plastics, nylons, pharmaceutical powders and other solids.

Digital temperature control from ambient to 300 C
Digital carrier gas flow control
Built in carrier gas drying system
Heated trace transfer tube
Glass sample boat and Glass oven for complete inertness
Heater via Pyrex glass tube
Automatic sample boat in/out drive system
100-120V or 200-240V 50/60Hz 150W
L x W x H : 30 x 21 x 33 cm

The **ADP 513** Moisture Evaporator can be combined with the**Aquamax** KF coulometric Karl Fischer titrator for water content determination of heavy oils, greases and lube oils which contain additives that interfere with the KF reagents.
Conforms to **ASTM D6304, ISO-10336, IP-356 & JIS-K2275**.

Digital temperature control up to 200 C .
Rotameter carrier gas flow control.
Built-in carrier gas drying system.
Heated trace transfer tube .
Overheating protection .
Automatic cell evacuation system.
200-240 V 50/60hz 400W
L x W x H : 32 x 21 x 33 cm

Coulometric Karl Fischer Titrator For Liquid Samples
Model Coulo- Aquamax
ASTM D95 -D4377-D4672-D4928-D6304-E202-E203-E1064

The Coulo Aquamax combines Karl Fischer titration with coulometry to provide fast, accurate, and trouble free water content determination, either in the laboratory or out in the field.

Menu Driven software allows easy operation, while the built-in battery and printer ensure that each titration can be performed almost anywhere and provide a hard copy of the calculated results.

Operating methods are stored in memory so that each titration is performed without having to enter additional parameters.

The titration cell design protects results from the ingress of ambient moisture and they can be printed out as quickly as twenty seconds from sample introduction.

Other Applications & Titration Techniques available:

- For Industrial products
- Pharmaceuticals
- Foods
- Petroleum products

Every Coulo Aquamax is supplied with a calibration certificate and five years warranty.

Petroleum Applications:

- Crude Oil (ASTM D4928, IP 386)
- Solvents
- Jet Fuels
- Turbine Lubricants ASTM 6304
- Chemicals
- Transformer oils
- Gases