Heat of Combustion of Liquid Hydrocarbon Fuels by Bomb Calorimeter

Test Method

Heat of combustion is determined in this test method by burning a weighed sample in an oxygen bomb calorimeter under controlled conditions. The heat of combustion is computed from temperature observations before, during and after combustion with proper allowances for thermochemical and heat transfer corrections. Either isothermal or adiabatic calorimeter jackets can be used.

Automatic Calorimeter

The automatic calorimeter is the latest system for determining gross calorific values of liquids and solid fuels. A higher level of automation with extremely simple handling characterizes this device.

In addition to the Isoperibolic measurement procedure, a Dynamic (reduced-time) mode is also available for the user. Different working temperatures can be selected for both procedures based on the temperature of the connected water.

To provide a supply of cooling water, the calorimeter can be connected to a standard thermostat or an appropriate permanently installed water connection, with a connection valve. The unit is equipped with a very convenient operating panel through which operation of the device takes place. The graphical display with active back lighting displays the appropriate status messages. The temporal course of a measurement that has been started and all current parameters of the weighed in sample can be constantly monitored and are arranged to be clearly visible.

Connections for analysis scale, printer, sample rack for identifying and managing samples are already integrated into the basic device. The network connection and the special configuration for data exchange can be implemented at any time with LIMS.

In combination with special halogen-resistant decomposition vessels quantitative decompositions can be performed to determine halogen and sulfur content.

Dimensions lxwxh,in.(cm)
17½x17¾x19¾ (440x450x500) Net Weight: 66 lbs (30 kg)

Specifications

Conforms to the specifications of:
ASTM D240; D4809; D5865; D1989; D5468; E711; ISO 1928; DIN 51900; BS1016
Measurement range: 40,000 J
Measuring mode: Isoperibolic 25°C; Isoperibolic 30°C; Dynamic 25°C; Dynamic 30°C
Isoperibolic Measuring Time: Approximately 22 min
Dynamic Measuring Time: Approximately 7 min
Oxygen Operating Pressure: 30 bar
Cooling Medium: Water via line, flow through quantity 60 + 10 liters / hour
Water Operating Pressure: 1 – 1.5 bar max.
Water Test Pressure: 10 bar
Interfaces: Serial (RS232); Parallel; Keyboard; Sample rack; External monitor

Ordering Information

Catalog No.	
K88800	Automatic Calorimeter, 115V 60Hz
K88890	Automatic Calorimeter, 220V 50Hz

Accessories

K88800-1	Cooling water supply unit, 115V 60Hz
K88890-1	Cooling water supply unit, 220V 50Hz
K88800-2	Pressure Gauge, Oxygen To reduce the pressure of the oxygen cylinder to 30 bar
K88800-3	Standard Decomposition Vessel
K88800-4	Decomposition Vessel, Halogen Resistant For quantitative decomposition determine halogen and sulfur content
K88800-5	Connection valve Required for permanently installed water connection

Automatic Filter Plugging Tendency Analyzer (FPT)

Test Method

Determines the Filter Plugging Tendency (FPT) of distillate fuel oils where the end use demands an exceptional degree of cleanliness. This test is applicable to fuels within the viscosity range of 1.50 to 6.00 mm2/s (cSt) at 40°C. The test is not applicable to fuels that are not clear and bright because water interferes with the measurement of filter plugging. Causes of poor filterability might include fuel degradation products, contaminants picked up during storage or transfer, or interaction of the fuel with the filter media. Any of these could correlate with orifice or filter system plugging, or both.

Automatic Filter Plugging Tendency Analyzer

- Integrated Cooling System equipped with a single stage gas motor compressor CFC free
- Measuring device complete with support for filter, Beakers, PT100 sensor Class A, level sensor, pressure gauge, tubes and joints.
- Pump 20 mL/min
- 6.4" TFT/LCD built-in touch screen panel PC for the managing of the analyzer by means of Lab-Link Software
- USB connection to an external printer or external PC
- Storage capacity for more than 60,000 analysis

Specifications

Conforms to the specifications of:
ASTM D2068; IP 387
Electrical Requirements: CE
115V 60Hz
220-240V 50/60Hz

KLA-6 Automatic Filter Plugging Tendency Analyzer (FPT)

Ordering Information

Catalog No.	
KLA-6	Automatic Filter Plugging Tendency Analyzer (FPT), 115V 60Hz
KLA-6 (220)	Automatic Filter Plugging Tendency Analyzer (FPT), 220-240V 50/60Hz

Accessories

KLA-1820-8013	Glass Fibre Filters, pk of 100
KLA-PT100-CAL	Calibration Box and Cables
KLA-DB-KIT	Kit of Connectors and Cables for Cold range