

Heat of Combustion by Calorimeter (automatic)

ASTM D 240, ASTM D 1989 (obs.), ASTM D 4809, ASTM D 5468, ISO 1928, DIN 51900-1, DIN 51900-2, DIN 51900-3, JIS K2279

Product group(s): Fuel

User group(s): Biodiesel, Biofuel, Distillate Fuel, Fuel, Gas Oil, Gasoline, Jet Fuel, Kerosene, Motor Fuel, Power Plant

Scope: This test method covers the determination of the heat of combustion of liquid hydrocarbon fuels ranging in volatility from that of light distillates to that of residual fuels.

Features:

- Relieves you of routine tasks through automated measurement procedure
- Integrated oxygen filling
- To provide a supply of cooling water, the C2000 calorimeter is connected with a circulation cooler KV 600 digital or with an appropriate permanently installed water connection.
- Measurement of gross calorific values
- Automatic detection of decomposition vessel
- To protect the calorimeter against high water pressure (max: 1,5 bar), it is necessary to install the pressure reduction valve C 25. Using a water pipe the water temperature has to be between 12 °C and 28 °C.
- Calculation of the heat value
- Monitor and external keyboard can be connected
- Software for PC-operation available. (for up to 6 calorimeters upon request)



Calorimeter Test Equipment

to be composed of:

- Calorimeter System - Type C 2000
- Circulation Cooler

Technical Data

Ambient Temperature:	20 °C ...+25 °C
Power Consumption:	1.8 kW
Dimensions (W x D x H):	440 x 450 x 500 mm
Weight:	30 kg
Water Operating Pressure:	0.5 ... 10 bar
Interfaces:	2 x serial (RS 232)

Main Unit

13-1880

Calorimeter System - Type C 2000

ASTM D 240 - ASTM D 4809 - ASTM D 5468 - ISO 1928 -
DIN 51 900 -1-3 (ASTM D 1989) - JIS K2279

Consisting of:

measuring cell with control and evaluation unit, standard decomposition vessel, quartz crucible, consumables for calibration and start up.

Power supply: 230 V, 50/60 Hz (115 V available upon request)

Options & Accessories

13-1883

Circulation Cooler

For cooling of instruments without circulation pump (e.g. Peltier-cooling) like Calorimeter 13-1880.

Consisting of:

Air-cooled cooler with tank, digital display, circulation pump and liquid level indication.

Technical Data:

Working range: -20 to +40 °C (+5 to +32 °C at ambient temp.)

Display / Resolution: digital / 0.1 K

Control: digital

Cooling capacity: 300 W at +15 °C

Pump-Pressure capacity: 12 l/min, 200 mbar

Pump-Suction capacity: 12 l/min, 100 mbar

Volume: 4 l

Sockets for: hose (Ø 8 / 12 mm), Pt-100

Dimensions / Weight: 22.5 x 36 x 38 cm (WxDxH), approx. 23 kg

Power supply: 208-240 V, 50/60 Hz, 770 W, 16 A, EU-plug
(115 V upon request)



13-1866

Aqua-Pro, 30 ml

for water stabilization to avoid algae contamination

13-1882

Pressure Regulation Valve

for regulating the pressure of the cooling water pipe. It is essential when using the C 2000 Calorimeter without the cooling thermostat KV 500 and a water pressure higher than 1.5 bar.

13-1870

PC-Software CalWin (Windows®)

to prepare, control, evaluate and manage measurements of

1 calorimeter (also usable with model C 5000), incl. PC connection equipment

13-1871

Pressure Gauge

to reduce the oxygen pressure from the bottle to 30 bar, 3/4 " right thread

13-1609

Combustion Crucible, set of 25

ASTM D 4809

made of stainless steel

Note! One cup will last 25 tests.

Spare Parts

13-0617

Acetoburate Capsules, 100 pieces

13-0618

Benzoic Acid Pellets, 50 pieces

0.25 g each with certified calibration value

13-0614

Cotton Thread, 500 pieces

cut to approximately 80 mm

13-1864

Decomposition Vessel (standard-type)

not halogen resistant

13-1867

Ignition Wire, 5 pieces

for approx. 200 tests

13-1608

Combustion Crucible, 38 ml, made of quartz

(not for ASTM D 4809)

Order Guideline

Minimum equipment:

1x 13-1880, cooling

Spares (approx. 1 year):

1x 13-0617, 1x 13-1867, 3x 13-1608, 1x 13-0614,
1x 13-0618

Additional requirements: