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C 200 h auto

/// Data Sheet

The C 200 h auto package allows operating the C 200 with a completely automated water cycle. This results in ease of handling and saves valuable time especially for laboratories with a low number of analyses. The water circulates in a closed loop and is kept at a constant temperature by using a recirculating chiller. This leads to shorter preparation time for each experiment and even better reproducible results.

The scope of delivery includes:

C 200 calorimeter measuring cell

C 5012 halogen resistant, catalytic activated decomposition vessel

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Subject to technical changes





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C 200.2 conversion kit for C 5012
C 248 oxygen filling station
RC 2 basic circulating chiller
C 200.RC hose set
Consumables for calibration and installation

The semi-automated and conforming-to-standards combustion calorimeter determines the gross calorific value of liquid and solid samples. So far it has mainly been used for teaching and training purposes at technical schools and universities. Due to the automated water handling it is now also suitable for industrial laboratories with low number of analyses.

The catalytic activated, halogen resistant decomposition vessel C 5012 is specifically designed for the combustion of samples that contain halogens and sulfur ($> 3\%$). The material of the decomposition vessel (Hastelloy) prevents corrosion caused by samples with high chlorine content. The catalytic activated inner-surface leads to higher recovery rates in case analysis of halogens and/or sulfur is required after the combustion.

Four different operation modes enable the user to control the measuring times according to individual requirements:

Isoperibol: approx. 17 min.

Dynamic: approx. 8 min

Manual: approx. 17 min (depends on the operator)

Time controlled: 14 min

Measurements are possible according to e.g. DIN 51900, ISO 1928, ASTM D240, ASTM D4809, ASTM D5865, ASTM D1989, ASTM D5468, ASTM E711.

The software C 6040 CalWin controls the unit and monitors the measurement of the samples. Additionally, collected data can be exported to e.g. Excel, Word, SQL and LIMS for further analysis. It is possible to operate several calorimeters with one PC. A PC is not part of the scope of delivery and needs to be provided by the operator. CalWin is sold separately.

Technical Data

Measuring range max. [J]	40000
Measuring mode dynamic 25°C	yes
Measuring mode isoperibol 25°C	yes
Measuring time dynamic approx. [min]	8
Measuring time isoperibol approx. [min]	17
Reproducibility dynamic (1g benzoic acid NBS39i) [%RSD]	0.1
Reproducibility isoperibol (1g benzoic acid NBS39i) [%RSD]	0.1
Working temperature max. [°C]	25
Temperature measurement resolution [K]	0.0001
Cooling medium permissible operating pressure [bar]	2
Cooling medium	tap water
Type of cooling	flow
Chiller	RC 2 basic
Rec. flow rate at 18°C [l/h]	60
Oxygen operating pressure max. [bar]	40
Interface printer	Centronix
Interface PC	RS232
Decomposition vessel C 5012	yes
Works according to DIN 51900	yes
Works according to DIN EN ISO 1716	yes
Works according to DIN EN ISO 18125	yes
Works according to DIN EN 15400	yes
Works according to DIN CEN TS 14918	yes
Works according to DIN CEN/TS 16023	yes
Works according to DIN SPEC 19524	yes
Works according to ASTM D240	yes
Works according to ASTM D4809	yes
Works according to ASTM D5468	yes
Works according to ASTM D5865	yes
Works according to ISO 1928	yes
Works according to GOST Certified	yes
Dimensions (W x H x D) [mm]	400 x 400 x 400
Weight [kg]	21
Permissible ambient temperature [°C]	20 - 25
Permissible relative humidity [%]	80
Protection class according to DIN EN 60529	IP 20
RS 232 interface	yes
Voltage [V]	100 - 240
Frequency [Hz]	50/60
Power input [W]	120