

Perfect Calorimetry
C 5000 control / duo control

IKA®



Reg.Nr. 4343-01



IKA® C 5000 control / duo control calorimeter system

The C 5000 control / duo-control calorimeter is a modularly composed system. The individual components make it possible to build up different versions of the system so that the device is able to adapt to the needs of the user at any time.

A high level of automation in addition to well thought out, practical accessories leave nothing more for the user to wish for. The C 5000 calorimeter is the only system in the world that offers a free selection of working method for the user. Thus it is possible to perform determinations of gross calorific values in adiabatic, isoperibolic and dynamic (reduced-time) mode.

The technology of the equipment as well as the measuring procedure itself have been validated by all accepted standards such as DIN 51900, ASTM 240D, ISO 1928 and BSI.

In combination with special halogen-resistant decomposition vessels of the C 5012 model series, quantitative decompositions for determining halogen and sulfur can be performed in parallel to the gross calorific value analysis.

The user-friendly and menu-controlled software makes it possible to begin working quickly and effectively with the C 5000 calorimeter without a great deal of adjustment time. The user is then free to direct his or her attention entirely to the task of preparing the samples. All other processes that are necessary for determining the gross calorific value of a solid or liquid sample are completely automated. Filling and emptying the boiler with water and the entire procedure for handling oxygen are processes that run automatically and require no monitoring. The C 5000 calorimeter displays the appropriate status reports on the graphics display with active background illumination. The temporal course of a measurement once it has been started as well as all current parameters of the weighed sample can be constantly monitored and arranged to provide a convenient overview.

The library functions and various correction modes can be used at any time to bring up measurements that have already been performed and to refine search parameters. The C 5000 calorimeter has a separate service menu that allows for rapid access to individual maintenance functions and verification of basic system data.

Connections for analytical scales, printer, sample rack for sample identification / management and for a PC are already integrated into the basic device.

As an additional automation step, the C 5000 calorimeter system, just like all other combustion calorimeters from IKA®, can be run with Calwin software under Win95, Win98, WinNT and Windows 2000. This makes for a very convenient way of working. A network connection as well as special configurations for a data exchange with LIMS can be implemented at any time.

Individual details of the functions:

- *Device validation according to DIN 51900, ASTM 240D, ISO 1928, BSI etc.*
- *Design based on modules*
- *The user selects the working method: adiabatic, isoperibolic, dynamic*
- *Automatic rinsing and filling of the decomposition vessel with oxygen*
- *Automatic degassing of the decomposition vessel after combustion*
- *Patented, dry cooling system (package 1 and 3)*
- *Package 2 suitable for connection to water tap / thermostat*
- *Interfaces for connection to scales, a printer and an external PC*
- *Interface for connection to a C 5020 sample rack (sample management system)*
- *User-friendly and menu-driven software*
- *Special decomposition vessel for halogen and sulfur analysis available*
- *Controllable via Calwin for Windows calorimeter software (accessory)*

System description IKA® C 5000 control, Package 1.....

<i>Description</i>	<i>Part No.</i>
IKA® Calorimeter system C 5000 control Package 1 / 10 For determination of calorific values of solid and liquid fuels	88 010 00 230 V / 50-60 Hz
	88 010 01 115 V / 50-60 Hz

Included with delivery:

- ① C 5000 Controller
- ② C 5003 Measurement cell
- ③ C 5010 Decomposition vessel. standard
- ④ C 5001 Cooling-System

Consumables for installation and calibration are also included with delivery.

<i>Description</i>	<i>Part No.</i>
IKA® Calorimeter system C 5000 control Package 1 / 12 For determination of calorific values of solid and liquid fuels.	88 015 00 230 V / 50-60 Hz
	88 015 01 115 V / 50-60 Hz

Included with delivery:

- ① C 5000 Controller
- ② C 5003 Measurement cell
- ③ C 5012 Decomposition vessel,
halogen resistant, conditioned
- ④ C 5001 Cooling-System

Consumables for installation and calibration are also included with delivery.

IKA® C 5000 Package 1, the universal.



Fig. 1: IKA® Calorimeter C 5000 control Package 1 / 10; (1 / 12)

System description IKA® C 5000 control, Package 2.....

Description	Part No.
IKA® Calorimeter system C 5000 control Package 2 / 10 For determination of calorific values of solid and liquid fuels	88 012 00 230 V / 50-60 Hz 88 012 01 115 V / 50-60 Hz

Included with delivery:

- ① C 5000 Controller
- ② C 5003 Measurement cell
- ③ C 5010 Decomposition vessel standard
- ④ C 5004 Cooling-System
(integrated in measurement cell)

Water pipe between 15 °C and 19 ° C and 2-3 l
flow rate, or thermostat.

Consumables for installations and calibration are also included
with delivery.

Description	Part No.
IKA® Calorimeter system C 5000 control Package 2 / 12 For determination of calorific values of solid and liquid fuels.	88 016 00 230 V / 50-60 Hz 88 016 01 115 V / 50-60 Hz

Included with delivery:

- ① C 5000 Controller
- ② C 5003 Measurement cell
- ③ C 5012 Decomposition vessel,
halogen resistant, conditioned
- ④ C 5004 Cooling-System
(integrated in measurement cell)

Water pipe between 15 °C and 19 ° C and 2-3 l
flow rate, or thermostat.

Consumables for installations and calibration are also included
with delivery.

C 5000 Package 2, the Junior-System for less analyses



Fig. 2: IKA® Calorimeter C 5000 control Package 2 / 10; (2 / 12)

System description IKA® C 5000 duo control, Package 3

<i>Description</i>	<i>Part No.</i>
IKA® Calorimeter system C 5000 duo control Package 3 / 10 For determination of calorific values of solid and liquid fuels	88 011 00 230 V / 50-60 Hz
	88 011 01 115 V / 50-60 Hz

Included with delivery:

- ① C 5000 Controller
- ② 2 x C 5003 Measurement cell
- ③ 2 x C 5010 Decomposition vessel, standard
- ④ C 5002 Cooling-System

Consumables for installation and calibration are also included with delivery.

<i>Description</i>	<i>Part No.</i>
IKA® Calorimeter system C 5000 duo control Package 3 / 12 For determination of calorific values of solid and liquid fuels.	88 017 00 230 V / 50-60 Hz
	88 017 01 115 V / 50-60 Hz

Included with delivery:

- ① C 5000 Controller
- ② 2 x C 5003 Measurement cell
- ③ 2 x C 5012 Decomposition vessel
halogen resistant, conditioned
- ④ C 5002 Cooling-System

Consumables for installation and calibration are also included with delivery.

IKA® C 5000 duo control Package 3, the workhorse for higher sample load.



Fig. 3: IKA® Calorimeter C 5000 duo-control Package 3 / 10; (3 / 12)

Accessories**IKA® C 5000 control / duo control**

<i>Bezeichnung:</i>	<i>Ident-Nr.:</i>
• C 5010 Decomposition vessel, standard	71 140 00
• C 5012 Decomposition vessel, halogen resistant	72 150 00
• C 5010.4 Crucible pan for combustibile crucible	30 169 00
• C 5010.5 Crucible pan, big	30 559 00
• C 5020 Sample rack	71 450 00
• C 5030 Venting station	71 980 00
• C 5040 Calwin, PC-Software for calorimeters	30 450 00
• C 5041 Calwin plus, PC-Software for calorimeters	31 660 00
Consisting of: Software C 5040 PC board, internal Interface box (8-way)	
• C 5041.10 Connection cable Calorimeter – PC	30 360 00
• C 21 Pelleting press	16 053 00
• C 29 Reduction valve	07 502 00

Standard length for connection cable 2m.
Special length (5m and 10m) are available on request.

Consumables

IKA® C 5000 control / duo control

Description	Part No.
• C 5003.1 Aqua Pro, Stabilizing agent	72 077 00
• C 710.4 Cotton thread, cut to length	14 837 00
• C 5010.3 Ignition wire, replacement (5 pcs)	71 228 00
• C 5012.3 Ignition wire, Platinum (2 pcs)	29 949 00
• C 4 Quarz dishes	16 955 00
• C 5 Set of VA-Combustion crucibles (25 pcs)	17 495 00
• C 6 Quarz dish, big	03 551 00
• C 710.2 VA-Combustion crucible, big	17 495 00
• C 9 Gelatine capsules (100 pcs)	07 499 00
• C 10 Acetobutyrate capsules (100 pcs)	07 500 00
• C 12 Combustion bags 40 x 35 mm (100 Stck)	22 014 00
• C 12A Combustion bags 70 x 40 mm (100 Stck)	22 015 00
• C 14 Combustible crucible (100 pcs)	72 245 00
• C 15 Paraffin strips (600 pcs)	31 311 00
• C 723 Benzoic acid, pelleted in blister packaging (50 Stck à 0,5 g)	32 430 00
• C 43 Benzoic acid (NBS 39 j, 30 gr.)	07 506 00
• C 43A Bezoic acid, powder, 100 gr.)	07 507 00
• AOD 1.11 Control standard, f. Sulphur / Chlorine (50 mL)	30 440 00
• AOD 1.12 Control standard, f. Fluorine / Bromine (50 mL)	30 802 00

Introduction / Training

- Training at the user`s site on request

We reserve the right to make technical changes.
Delivery information is not binding.



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