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Operating instructions



Fig. 1: Calorimeter, transparent 04402-00

TABLE OF CONTENTS

- 1 SAFETY INSTRUCTIONS
- 2 PURPOSE AND CHARACTERISTICS
- 3 HANDLING
- 4 ACCESORIES
- 5 TECHNICAL DATA
- 6 WARRANTY
- 7 DISPOSAL

1 SAFETY INSTRUCTIONS



Caution!

- Read the operating instructions thoroughly and completely prior to using this instrument. This is important for your own protection and for avoiding damage to the unit.
- Do not start up this instrument should there be visible signs of damage to it.
- Only use the instrument for the purpose for which it is intended.

2 PURPOSE AND CHARACTERISTICS

In chemistry and physics, the calorimeter 04402-00 is used to determine reaction enthalpy, latent heat or specific heat. In the well-insulated vessel of low thermal capacity the quantity of heat introduced or dissipated causes a change in temperature that can be accurately measured and from which the desired variable can be calculated when the remaining experimental conditions are known. The calorimeter is transparent so that the typical colour changes or precipitations that often occur in chemical reactions can be directly observed. The calorimeter is used in experiments with calorimetric bomb 04403-00 in particular.

The calorimeter consists of a glass Dewar vessel (capacity approx. 1.2 l) with a lid and a base.

The two holes in the lid are used to fill the calorimeter and for inserting a temperature probe, a heating coil or a evaporation vessel.

3 HANDLING

In order to mix the liquid thoroughly it is advisable to operate the calorimeter on a magnetic stirrer. The calorimeter base is designed so as to stand firmly on the baseplate of our magnetic stirrer 35761-93



Caution! For a magnetic stirrer with heating must not be switched on, otherwise the base will become deformed.

If the heating coil in the calorimeter is to be used, the following points should be noted:

- The heating coil must be fully immersed in the liquid
- The maximum operating values (12V AC/5 A) should not be exceeded.
- Solutions of salts whose cations are precipitated out by the iron components because of their position in the electromotive series should not be used. (For example, with copper or silver salt solutions, some of the iron goes into solution and the cation is precipitated as flocculent metal).

The thermal capacity of the calorimeter depends on the proposed experiment set-up (with or without heating coil, number of magnetic stirrer bars, temperature probe used etc.) and should therefore be determined each time.

4 ACCESORIES

Magnetic stirrer	35761-93
Magnetic stirrer bar	35680-04
Calorimetric bomb	04403-00
Heating coil with socket	04450-00
Evaporation vessel	04405-00

5 TECHNICAL DATA

Calorimeter volume approx. 1.2 litres

Heating coil:

Operating voltage 12 V AC max.

Permissible load 5 A max.

6 WARRANTY

We give a warranty of 24 months for units that are supplied by us inside the EU, and a warranty of 12 months outside the EU. The following is excluded from the warranty: damage that is due to non-compliance with the operating instructions, improper use, or natural wear.

The manufacturer can only be held liable for the function and safety-relevant properties of the unit, if the maintenance, service, and modifications of the unit are performed by the manufacturer or by an institution that is expressly authorised by the manufacturer.

7 DISPOSAL

The packaging mainly consists of environmentally-friendly materials that should be returned to the local recycling stations.



Do not dispose of this product with normal household waste.

If this unit needs to be disposed of, please return it to the address that is stated below for proper disposal.

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