

Gas-Tight Cell with water jacket

KEC04

Gas-tight cell with water jacket

This electrochemical glass cell with a water jacket is designed to characterize an electrode material in an inert atmosphere and controlled temperature as well. It provides an airtight attachment of Kanopy working, counter, and reference electrodes or other compatible accessories required for measurements.



Product details

This conical-shaped cell is composed of borosilicate glass and can withstand up to 100°C temperature. This electrochemical cell comes in 100 mL and is ideal for three-electrode voltammetry. It has an integrated water jacket with two hose barbs that accept flexible tubing with approximately 7.5mm internal diameter. All the four B-14 neck joints are compatible with the working, counter, and reference electrodes offered by Kanopy. A single glass stopper is included for airtight fixing of the unused port. We recommend a tiny amount of silicone grease to ensure airtight sealing.

Application note

This four-port cell is mainly used for electrode assembly inside a glovebox, followed by electrochemical measurements outside the glovebox and useful for the

electrochemical characterizations of materials at the desired temperature and/or inert atmosphere.

- The three-electrode cell set-up for half-cell configuration consists of either the cathode or an anode material of interest as a working electrode, platinum metal as a counter electrode, along with a reference electrode. The fourth port can be used for attaching other accessories such as a gas-purging tube, temperature sensors.
- The two-electrode cell set-up uses one working electrode. The reference and counter electrode are connected together.
- The testing materials are typically mounted on Al or Cu-foil substrate etc.. The foil/substrate is immersed inside the electrolyte solution with the help of the substrate holder.
- The water-jacket is used for controlling the temperature for those electrochemical reactions, which are strongly dependent on temperature. The thermostatted water from a water bath is pumped through the jacket with the help of the flexible pipes attached to the hose barbs.

Cleaning instruction

Cleanliness is vital for most electrochemical measurements as contaminants can lead to poorly reproducible results. Cleaning this gas-tight cell is quite easy because of its simple design. The electrolyte inside the cell should be rinsed off thoroughly using a suitable solvent and DI water with multiple washing. After cleaning, it should be dried and stored in a dry place.

Included part



A glass stopper to block any spare neck

Optional accessories

Reference electrodes

Different kinds of Kanopy reference electrodes are available. One can choose any of these according to the reaction conditions such as acidic, basic, or neutral and operating temperature range.

KRE01 Silver-Silver Chloride (Ag/AgCl) electrode

KRE03 Mercury-Mercurous Chloride (Hg/Hg₂Cl₂, saturated KCl) or Saturated Calomel Electrode (SCE)

KRE04 Mercury-Mercuric oxide (Hg/HgO)

Platinum electrodes (working and auxiliary)

KWE01 Platinum wire electrode

KCE01 Platinum mesh electrode

KCE02 Platinum coil electrode

KWE03 Platinum foil electrode

Disc type electrodes (working)

KDE01, KDE02 Glassy carbon disc electrode

KDE03, KDE04 Gold disc electrode

KDE05, KDE06 Platinum disc electrode

Working electrode holder

KWEH01 Working electrode holder, screw type



KWEH02B Working electrode holder, clip type





KEC10A
Banana Cable Set



KEC10B
Banana Connector Pin



KA01 (Red), KA02 (Black)
Alligator Clip



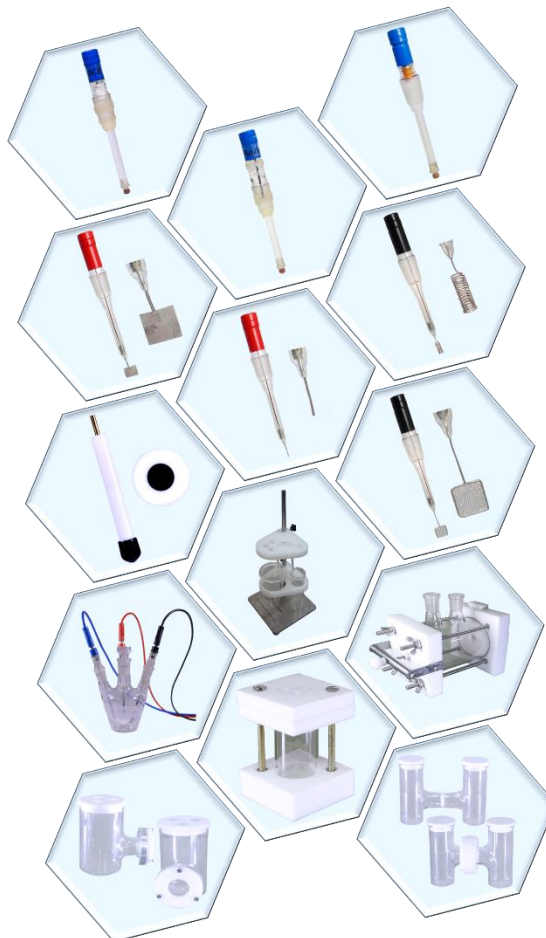
KA17 Cu Foil
Thickness: 0.1mm
Width: 300mm
Purity: >99.50%



KA19 Al Foil
Thickness: 16µm
Width: 200mm
Purity: >99.45%



KA28
Thermometer



Kanopy Techno Solutions

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Product Information Leaflet



Gas-tight cell with water jacket
Product ID: KEC04

Contact us



www.kanopytech.com



contact@kanopytech.com



+91-9834596133, +91-8004567307

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