

**Magnetic Stirrer / Hotplate
MH230**

Impact Test Equipment Ltd
www.impact-test.co.uk & www.impact-test.com

User Guide
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English

Figure 1 - Front view

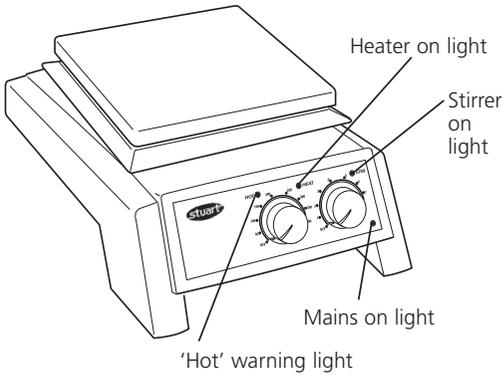


Figure 2 - Rear view

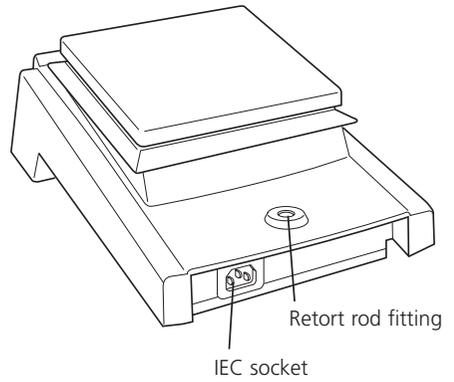


Figure 3 - SC162 & CC162 front view

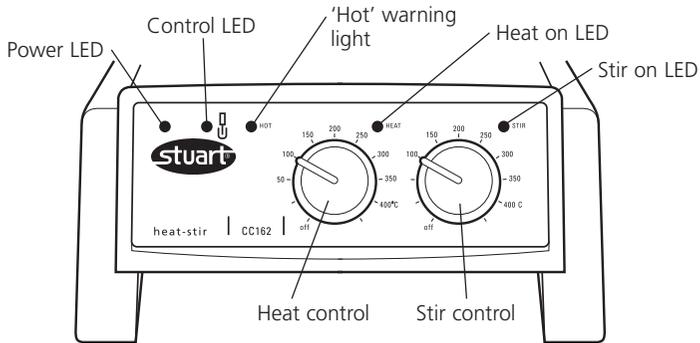
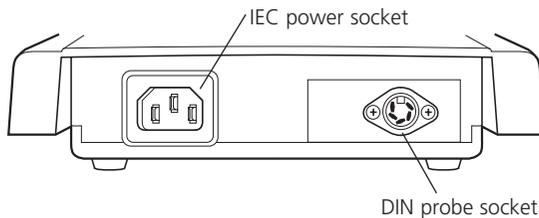


Figure 4 - SC162 & CC162 rear view



Thank you for purchasing this product.
To get the best performance from the equipment,
and for your personal safety, please read these
instructions carefully before use.

Hotplates and stirrers are designed
to operate under the following conditions:-

- . For indoor use only
- . Use in a well ventilated area
- . Ambient temperature range +5°C to +40°C
- . Altitude to 2000m
- . Relative humidity not exceeding 80%
- . Mains supply fluctuations not exceeding 10%
of nominal
- . Overvoltage category II IEC60364-4-443
- . Pollution degree 2 IEC664
- . Use with a minimum distance all round of
200mm from walls or other items

If the equipment is not used in the manner
described in this manual the protection provided
by the equipment may be impaired.

Electrical Installation

THIS EQUIPMENT MUST BE EARTHED

Before connection please ensure that the
line supply corresponds to that stated on the
rating label.

Power requirements:

MH130 550W

There is an IEC socket at the rear of the
instrument for connection to the mains supply,
(see figure 2). The unit is supplied with two mains
leads fitted with IEC plugs for connection to the
instrument. One has a U.K. 3 pin plug and the
other has a 2 pin “Shuko” plug for connection to
the mains. Choose the lead appropriate for your
electrical installation and discard the other.

Should neither lead be suitable, take the lead
with the U.K. plug and replace the plug with a

suitable alternative. See the enclosed instruction
sheet for advice on how to carry out this
procedure.

Should the mains lead require replacement a
cable of 1mm² of harmonised code H05W-F
connected to an IEC 320 plug should be used.

IF IN DOUBT CONSULT A QUALIFIED ELECTRICIAN

The mains lead should be connected to the
instrument BEFORE connection to the mains
supply.

NOTE that when connected to the mains supply a
green neon light on the front of the unit
illuminates, (see figure 1).

Operation

Heating

The control knob labelled “Heat” on the front
panel controls the heat output and hence the
plate temperature. It is graduated with an
approximate temperature scale. This scale refers
to the temperature of the top plate and not to
the temperature of the contents of the vessel
being heated, When the heat is switched on an
amber pilot light illuminates, (see figure 1).

When the surface becomes too hot to touch a
red warning light on the front panel will begin to
flash, (see figure 1). This will continue to flash
while the plate temperature is above 50°C so
long as the unit remains connected to the
electricity supply.

WARNING: The top surface of the instrument
may be HOT In free air a surface temperature of
450°C can be achieved on the ceramic top
models and 325°C on the metal top models. Do
not leave heaters switched on when not in use.

Stirring

The control knob labelled “Stir” on the front
panel controls the stirrer speed. When switched
on an amber pilot light illuminates, (see figure 1).

The knob is graduated with an arbitrary 1-9 scale.
Turning the knob to a higher number increases
the stirrer speed.

Cleaning and Care

Before attempting cleaning:-

Ensure that the top is cool, disconnect from the mains electricity supply.

The metal casing should be cleaned using a damp cloth and a mild detergent solution.

Ceramic top units:

A damp cloth will normally remove most types of contamination. For more difficult stains a domestic cream cleanser is recommended.

Cleaning is made easier if spillages are attended to promptly. In any case, spillages of alkali, phosphoric acid and hydrofluoric acid **MUST** be removed immediately as these chemicals can attack and damage the glass ceramic. Ensure that the appropriate safety precautions are observed.

During cleaning and general operation take care not to scratch the surface of the top plate as this could result in subsequent thermal breakage.

WARNING: A ceramic top which is scratched, chipped, chemically etched or damaged must not be used.

Metal top units:

The metal top plate should be cleaned using a damp cloth and a mild detergent solution.

Cleaning is made easier if spillages are attended to promptly. In any case, spillages of acids and alkalis **MUST** be removed immediately as these chemicals can attack and damage the surface of the aluminium alloy. Ensure that the appropriate safety precautions are observed.

Preparation of Media

Take particular care when heating liquids having a high viscosity. Viscous liquids can act as thermal insulators and can cause thermal breakage of the glassware. This is very important with media solutions as the viscosity will usually increase as the temperature rises.

- ❖ Check that the stirring action is sufficient to agitate the whole of the liquid. Unstirred areas in the liquid can result in uneven heat transfer and "hot spots" in the glassware. This can induce thermal stress and so cause failure.
- ❖ Check the stirring action regularly to ensure that it remains adequate as the viscosity of the solution increases.

- ❖ Always use the largest magnetic follower possible and, if necessary, use a mechanical overhead stirrer.
- ❖ Do not use glass vessels with thick walls, e.g. Pyrex Heavy Duty Ware or standard beakers and flasks having capacities of 5 litres or greater.
- ❖ NEVER heat glass bottles on a hotplate.
- ❖ Ensure that the heat is built up slowly to avoid localised overheating.
- ❖ Ensure the glassware is completely free from scratches or other defects.
- ❖ Place the hotplate in a tray large enough to contain the liquid in the event of glassware failure.
- ❖ Wear the appropriate safety clothing - e.g. gloves, goggles, protective apron etc.

The following spare parts are available from your laboratory supplier. For a comprehensive parts list please contact the Service Department quoting model and serial number.

Spares

	Cat. No.
Control knob	SB160/CK
Rubber feet, set of 4	SB160/RF
Retort rod,	SR1

Accessory

A rod is available to support apparatus used with the instrument. The instrument is equipped with a fitting on the rear to accept the support rod - catalogue number SR1, (see figure 2). To fit the rod to your instrument, first isolate from the mains supply and allow to cool. Then simply screw the threaded end of the support rod into the fitting on the rear of the instrument.

Servicing and Repair

This product range does not require any routine servicing.

Note: There are no internal user replaceable parts.

In the event of product failure it is recommended that any repair is only undertaken by suitably qualified personnel. For advice or to receive a service manual please contact the Service Department of Impact Ltd.

Fitting of non-approved parts may affect the performance of the safety features of the instrument.

Note: The magnetic stirrer drive utilises strong magnets.

Warranty

Impact Ltd warrants this instrument to be free from defects in material and workmanship, when used under normal laboratory conditions, for a period of three (3) years. In the event of a justified claim Impact Ltd will replace any defective component free of charge.

This warranty does NOT apply if,

1. A ceramic top has broken due to mechanical impact, scratching, chipping or chemical etching.
2. Any repair has been made or attempted other than by Impact or its agent.

INSPECTION REPORT

MODEL _____

SERIAL No. _____

ELECTRICAL SAFETY

1. Earth continuity



2. Insulation



3. Flash test



FUNCTIONAL

1. Indicators



2. Heater/stirrer control



3. Visual acceptance



QUALITY CONTROL INSPECTOR

