



Refrigerated immersion Coolers

C1G, C1GL
C2G, C2GL

Operating Manual

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1 Safety

The following symbols marked on the equipment mean:-



Caution: Read these operating instructions fully before use and pay particular attention to sections containing this symbol



Caution: Surfaces can become hot during use.

Always observe the following safety precautions



- Use only as specified by the operating instructions, or the intrinsic protection may be impaired.
- After transport or storage in humid conditions, dry out the unit before connecting it to the supply voltage. During drying out the intrinsic protection may be impaired.
- Connect only to a power supply with a voltage corresponding to that on the serial number label.
- Connect only to a power supply which provides a safety earth (ground) terminal.
- Before moving, disconnect at the power supply socket. Do not remove the IEC connector.
- When lifting use top flange by the ventilation grilles at the front and rear or lift from under the base.
- Ensure that the mains switch is easily accessible during use.
- Do not block or restrict ventilation slots.
- If liquid is spilt inside the unit, disconnect it from the power supply and have it checked by a competent person.
- It is the user's responsibility to carry out appropriate decontamination if hazardous material is spilt on or inside the equipment.

When using with Baths



- Do not check the temperature by touch, use the temperature display or a thermometer.
- To reduce the risk of eye injury during high temperature operation, use safety goggles or spectacles.
- Do not touch surfaces which become hot during high temperature operation.

2. Getting Started

2.1 Unpacking

Remove the packing materials carefully, and retain for future shipment or storage.

2.1.1 Cooler

C1G:

The pack should contain:

C1G Cooler

Mains cable

Cooling coil locator pack

These instructions.

C2G:

The pack should contain:

C2G Cooler

Mains cable

Cooling coil locator pack

These instructions

2.2 Installation

WARNING: The equipment must be earthed (grounded). It is protected by electrical fuses. We strongly recommend that the power supply to any equipment for heating liquids should include a residual-current circuit breaker (earth leakage trip).

Check that the voltage rating of the products, given on the serial plate at the power cable entry, is correct for your supply.

Fit the mains cable into the IEC socket at the rear of the unit. The mains (power) switch is at the rear of the unit.

Switch on at the rear. Always ensure that the bath is switched on to provide temperature control, and to prevent the formation of ice

Do not switch on if :

- the temperature of the liquid in the bath is above 100°C
- the cooler has been tilted by more than 25° during the past six hours
- the interval since switching off the cooling system is less than 10 minutes

Condensed water vapour from the air will dilute water/glycol mixture and eventually ice will form on the cooling coil. This should be removed and liquid replaced, otherwise cooling power will be reduced.

2.2.1 C1G, C2G

The C1G and C2G are designed for use with the Grant Optima, Y and W Series baths. The C2G is only suitable for fitting in the 26, 28 and 38 litre baths.

For fitting coiling coil in the Optima, Y and W series baths refer to instruction included with cooling coil locator pack.

Ensure that the unit is located so that the ventilation grilles are not less than 100mm from any obstruction.

The cooling coil may be immersed in liquids up to 100°C but the cooler should only be used to cool down the liquid not to operate continuously above 40°C.

Immersed material: the cooling coil is nickel plated copper.

2.3 Specifications

		C1G	C2G
Cooling power	@ 20°C	350W	400W
	@ 0°C	110W	320W
Overall power consumption		300VA	500VA
Refrigeration gas	R134A	100g	160g
Dimensions	d/w/h	460/305/225mm	460/305/225mm
Flexible pipe	length	925mm	925mm
Coil	Diameter /length	77/55mm	77/105mm
Electrical Supply		240V 50 Hz 120V 60Hz	240V 50Hz 120V 60Hz
Weight		16Kg	21Kg

3 Maintenance and Service

All Grant laboratory products are designed to comply with IEC61010-1 and can be flash tested. Some are fitted with radio frequency interference suppressors. Therefore it is recommended that only a d.c. test is performed.

3.1 C1G, C2G

Dust the refrigeration condenser: Cooling power will be reduced if the fins behind the front grille become clogged with dust. Examine monthly and, if necessary, call a competent person to take off the cover and remove the dust.

Disposal

This unit contains refrigerant gas, which must NOT be discharged to the atmosphere. At the end of the unit's working life, either have the gas removed safely by using refrigerant recovery equipment or return the unit to us for disposal.

3.2 Cleaning

The cases can be cleaned with a damp cloth after disconnection. Do not use solvents. The immersed parts can be cleaned with soapy water.

Before using any decontamination or cleaning method except that recommended, check with our Service Department, or in other countries with our distributor, that the proposed method will not damage the equipment.

3.3 Replacement of fuses

Disconnect the unit from the power supply socket. Remove the IEC power plug from the rear of the unit. Press down the drawer catch. Pull out the fuse drawer, check and replace with the correct fuse, if necessary, as follows:

1.25 x 0.25 inch ceramic quick acting rated:

C1G:	240V: 5AF	120V: 10AF
C2G :	240V: 10AF	120V 20AF

Push back the drawer and replace the IEC plug.

Guarantee

When used in laboratory conditions and according to these working instructions, this equipment is guaranteed for THREE YEARS against faulty materials or workmanship.

Service repairs outside of the guarantee period, carried out by Grant Instruments, carry a further one year guarantee.

4. Service

For service, return for repair to our Service Department in the UK or, in other countries, to our distributor.

Grant Instruments (Cambridge) Ltd
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SHEPRETH
Cambridgeshire
SG8 6GB
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Tel: +44 (0) 1763 260811

E-mail: service@grantinstruments.com

5. Compliance

6.1 WEEE Directive

In Europe, at the end of its life the unit must be disposed of in accordance with the WEEE directive, For information regarding WEEE collections in the UK please contact our B2B Compliance Scheme directly on 01691 676 124

Grant Instruments complies fully with the Waste Electrical & Electronic Equipment (WEEE) regulations 2006. We are a member of the B2B compliance scheme (Scheme Approval Number WEE/MP3338PT/SCH), which handle our WEEE obligations on our behalf. Grant Instruments have been issued with a unique registration number by the Environmental Agency, this reference number is WEE/GA0048TZ.

For other countries please contact your equipment supplier.

For General WEEE information please visit: www.b2bcompliance.org.uk

6.2 RoHS Directive

All the products covered by this manual comply with the requirements of the RoHS Directive (Directive 2011/65/EC). This means the products are free of Lead and other hazardous substances covered by the directive.

6.3 Electrical safety and Electromagnetic compatibility

All the products covered by this manual comply the requirements of the Low Voltage Directive (2014/35/EC) for Electrical safety and the EMC directive (2014/30/EC) for Electromagnetic compatibility.

6.4 REACH Regulation

This product does not contain any SVHCs at greater than 0.1% that must be identified in accordance with Regulation (EC) No 1907/2006 and therefore does not have an entry in the SCIP database

Notes



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