



# THE *Clifton* RANGE

Blockheater Thermubloc  
BH-T Series

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## About this Manual

This user Manual contains instructions which must be followed in order that the product is operated correctly.

## General Notes

1. Always follow good laboratory practice by ensuring substances being heated offer no risk of a hazard (explosion, implosion or release of toxic or flammable gases) or that these have been addressed. When heating substances where liberation of gases occurs suitable extraction should be used.
2. If this product is not used in accordance with these instructions, then basic safety protection afforded by the BH range is affected.
3. The BH range are classified as Class 1 (IEC519 - Self resetting cut out) with regards to overtemperature protection.
4. Check the operation of the over temperature device regularly.
5. The mains supply cord fitted to this product is a heat resistant type and should be replaced by an equivalent type.
6. It is recommended the units are connected to the mains supply with RCD protection.
7. Before using any cleaning or decontamination method except those recommended, check with your distributor that the proposed method will not damage the equipment.
8. Do not move the unit when in use or when connected to an electrical supply. Always use both hands.
9. Only switch the unit on when the correct number of aluminium blocks are fitted.
10. Please note the aluminium blocks may be HOT. Do not remove the blocks until the unit has been disconnected and allowed to cool. Use the block extraction tool supplied.
11. In the event of liquid being spilt onto the blocks please switch off unit immediately and allow to cool. The blocks and recess should be cleaned and dried (see page 8) before further use. Use appropriate safety precautions depending on the liquid used. If a large quantity is spilt please consult a qualified electrician before further use.

## Amendments

Issue 1	January	2004	Initial Issue
Issue 2	January	2007	Anti-bacterial paint finish, WEEE

## Symbols



### **HOT SURFACES**

Paragraphs marked by this symbol indicate that a potential hazard to your personal safety exists from heated surfaces or other appendages on the outside or inside of the equipment.



### **CAUTION**

This icon accompanies text and/or other international symbols dealing with potential damage to equipment. When present, it indicates that there is a potential danger of equipment damage may occur if information stated within the "CAUTION" paragraph is not adhered to or procedures are executed incorrectly.



### **PROTECTIVE EARTH OR GROUND TERMINAL**

Protective earth conductor terminal.

### Location

The product must be placed on a smooth, level and sturdy work surface in a ventilated room. Suitable for use in a ventilated room with ambient temperature range 5 to 40°C. Maximum humidity 80% for temperature 31°C decreasing to 50% at 40°C. The product is designed for laboratory use.



The unit must be sited away from draughts and direct sunlight as both affect temperature control.

### Unpacking

Remove the Thermubloc from its packaging. Any damage please notify your dealer and retain the packaging over the warranty period. Place the aluminium Bloc(s) (accessories) into the heating well (ensure both the heating and underside block surfaces are clean and smooth). Good temperature control relies on this feature. Fit the mains lead. Also supplied with extraction tool for removing blocs.

### Safety

Do not touch any electrical contacts or open any closure panels.  
**RISK OF ELECTRICAL SHOCK!**



The BH range are Class 0 (IEC519 - Part 2) - with reference to over temperature condition. These Thermublocs are designed that if the temperature control system fails in use the heating plate will not exceed its maximum temperature.

### Power Lead and Connection Electrical Supply

Before connecting the product to the electrical supply, check the information on the rating label is compatible. IF IN DOUBT CONSULT AN ELECTRICIAN. THE PRODUCT MUST BE EARTHED!

Where the mains supply or plug connection differs refer to local regulations or qualified electrician.

### Operating Instructions

**Thermometers:** Heat loss from bloc accessory inserts can vary. We therefore recommend using a thermometer to measure actual bloc temperature particularly on this model where temperature setting is an arbitrary scale. Each accessory bloc has a dedicated 6mm hole to accept a thermometer.



When there is a risk of 'spitting' from tubes an accessory safety cover can be fitted.

**Calibration and Accuracy:** To ensure maximum accuracy from the Thermubloc and accurate calibration the following factors must be considered:

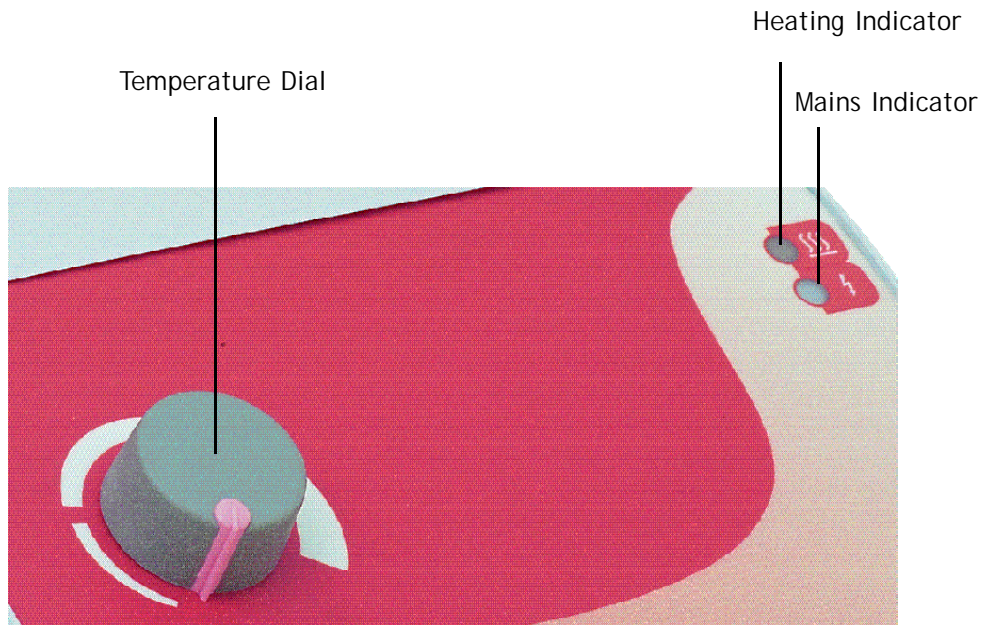
1. The heating plate situated at the bottom of the heating well and the blocs must be kept clean to allow optimum thermal performance. Any debris or particles between the plate and bloc will affect its operation.
2. Blocs must be pushed firmly together in the well.
3. The top surface of the blocs should be kept clean and shiny. The thermal radiation from the blocs can be affected by surface condition.
4. Strong draughts (i.e. inside a fume hood) can cause a temperature gradient across the blocs. In the case the accessory safety cover should be used.

**Removal of Blocs:** The Thermubloc is supplied with an extraction tool for the removal of blocs. The tool should be screwed into the threaded hole on the top of the bloc allowing it to be lifted clear of the unit.



Do not remove the blocs until the unit has been switched off and allowed to cool.

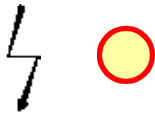
## Control Panel



## Operating Instructions



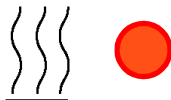
1. Switch the unit on using the mains switch located on the back of the unit.



Mains indicator will illuminate.



2. Adjust temperature dial.



The Thermubloc will start to heat the blocs to the required temperature. Heating indicator will illuminate to show heater activity.



3. Accurately set temperature using a reference thermometer (not supplied) positioned in the dedicated hole in the top of bloc. Adjust the temperature dial accordingly. The Thermubloc will control at this temperature until the setting is changed.

To retain the setting for repeated use turn the unit off using the mains switch only. Do not adjust the temperature dial.

## Cleaning

### General



Important - please follow these cleaning instructions to avoid possible damage to the unit which may affect its performance.  
Disconnect the product from the electrical supply before cleaning.  
Please ensure heating blocs and accessories have cooled before attempting any cleaning.

The Thermubloc should be cleaned at regular intervals to remove dirt and contamination.

Accessory Safety Cover BHL-1 - ONLY use detergent and hot water to avoid damage/scratching to the acrylic.

Blocs - remove using an extractor tool and immerse in water with a non-abrasive cleaning solution added. This will loosen and remove baked on material. Try to protect the base of the block during the cleaning process to ensure the machined flat surface is preserved. Do not use any abrasive materials/solutions when cleaning the Blocs. The blocs can be autoclaved if required.

Thermubloc:Heating Plate - turn the thermubloc onto its side (this reduces the chances of water ingressing into the unit). Wipe the heating plate and surrounding areas with a soft cloth soaked in detergent. To remove stubborn material which may have become 'baked on' repeat the process. Do not use any abrasive materials/solutions on the heating plate.



Before cleaning the Heating plate check the seal around the plate and side walls is complete. Otherwise serious damage will occur to the element should water ingress!

### Cleaning External Painted Surfaces featuring "Anti-bacterial Paint Finish"

The blockheater should be cleaned at regular intervals wiping external surfaces with a cloth or sponge soaked in warm soapy water with a mild detergent. All surfaces should be cleaned using a soft cloth or sponge.



Do not under any circumstances use strong solvents or solutions containing Chlorinated Hydrocarbons, Esters, Ketones or abrasive cleaners or polish on the paint finish otherwise it damages the built in anti-bacterial properties.

All painted surfaces on Clifton range products features an "Anti-bacterial paint finish" identified with this authenticating logo on the unit. This "Anti-bacterial paint finish" inhibits the growth of bacteria. It has been tested by independent specialist test houses such as the Law Laboratories (in the UK) using internationally recognized test methods and proven to be effective versus a wide range of bacteria species including Escherichia coli and Staphylococcus aureus (MRSA).



We recognise hygienic coatings are part of a controlled approach to a cleaner working environment. Within its formulation an active ingredient with proven anti-bacterial properties is bound into the paint finish. The efficacy of the paint finish applied to the Clifton range is maintained over its lifetime, as the anti-bacterial agent is integral within the paint. In a laboratory environment it makes this one less source of contamination, contributing to essential clean working practices. A benefit of such a paint finish can lead to a reduction in cleaning schedules because surfaces are more protected and improves protection between cleaning. Unlike detergents "Anti-bacterial paint finish" does not offer an instantaneous action, but is intended for long-term general protection against bacterial growth. Moisture on the painted surface is necessary for the bacterium to absorb the agent and be affected by it. The coating is therefore less active in very dry conditions, but dependent upon relative humidity, moisture in the atmosphere maintains activity. Areas where moisture is trapped are also areas that normally are difficult to clean and where bacteria proliferate but these areas are most active for the anti-bacterial coating improving the defence against bacterial growth.

### Disinfectant/Sterilant

We recommend PeraSafe a powder product for the safe and rapid chemical sterilant of equipment in a wide variety of situations available from your distributor or contact Day-Impex Ltd for more details. Telephone: 44+(0)1787 223232 or <http://www.day-impex.co.uk>

PeraSafe has a proven safety profile for end-users with none of the undesirable properties of skin sensitisation, toxic fumes or unpleasant odours that are associated with aldehyde solutions.

Leading UK and USA microbiologists have proven PeraSafe to be active against viruses, mycobacteria and fungi. It is microbiologically superior to glutaraldehyde, destroying sporing bacteria in one minute. It has also been independently proven that PeraSafe sterilises in just 10 minutes.



For more detailed information relating to how PeraSafe should be used with access to test reports [www.relyon.dupont.co.uk](http://www.relyon.dupont.co.uk)

### Virucidal Disinfectant

We recommend Virkon tablets for the safe and rapid disinfection of equipment in a wide variety of situations available from your distributor or contact Day-Impex Ltd. for more details. Telephone: 44+(0)1787 223232 or <http://www.day-impex.co.uk>

The ultimate high level surface disinfectant, dissolve VIRKON in water, providing a safe working solution with a faint lemon odor. It has proven efficacy against bacteria (including mycobacteria), viruses, spores and fungi in a variety of independent tests using different protocols. Presents no serious long term health risks to staff - obviating the need for costly ventilation equipment and health monitoring. Also provides high level disinfection of laboratory equipment and instruments where autoclaving is neither practical nor necessary. For more detailed information relating to how Virkon should be used with access to test reports [www.relyon.dupont.co.uk](http://www.relyon.dupont.co.uk)



*Is Virkon solution corrosive? Virkon solution requires only 10 minutes contact time to be effective so long-term exposure is not necessary and therefore will not corrode most materials. Care should be taken with Stainless steel water bath tanks, these surfaces should not be affected however, it is important that generally you do not leave Virkon solution in contact with metal surfaces "FOR LONGER THAN IS NECESSARY".*

Virkon is Registered in accordance with the requirements of the Medical Devices Directive, (93/42/EEC) as a Medical Device.

### Warranty

The Thermubloc is guaranteed against faulty workmanship and components for Three years. In the unlikely event of service requirements during, or after, the warranty period, do not open the instrument to attempt repairs. Please return the instrument either to Nickel-Electro Ltd or to your local distributor. Whenever an instrument is returned, please ensure that a label indicating your name, address, telephone and extension number is securely attached to the instrument.

Please note this warranty is invalidated if damage is caused by fire, accident, misuse, neglect, incorrect repair or installation, modification fitting of non approved parts or repair by unauthorised personnel.

Instruments will only be accepted for repair when a signed letter or certificate has been received from the sender, to the effect that there is no hazard to health due to Biological, Chemical or Radioactive contamination of the instrument or its accessories.

### Out of Warranty

Our Service Department has comprehensive stock of chargeable spare parts maintaining working life of equipment or units can be returned for quotation before repairs are undertaken.

### End of Life



This symbol indicates that this product should not be disposed of with your waste. Instead, dispose waste electrical equipment by handing it over to a designated collection point for the recycling of waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment.

For more information about where you can drop off your waste equipment for recycling, in UK please contact Service Department, rest Europe contact your Distributor.

Health & Safety, unless in receipt of a Decontamination Notice or Report the unit cannot be returned or accepted for disposal.

Clifton electrical and electronic equipment has been designed for recycling and takes into account the dismantling and recovery its components and materials. Clifton products are easily recycled with majority of the product constructed from stainless or mild steels, which can readily be re-used or recycled.

In excess of 82% of this product range can be easily re-cycled economically.

### Portable Appliance Testing

When conducting testing ensure it is completed by a qualified person.

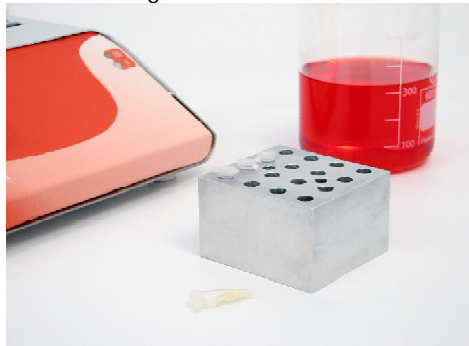


The product **MUST NOT** be Flash tested !



## Accessories

The following accessories are available:



DBK-0.2, 0.5, 1.5, 2.0 [2 BLOCKS CAN BE FITTED]

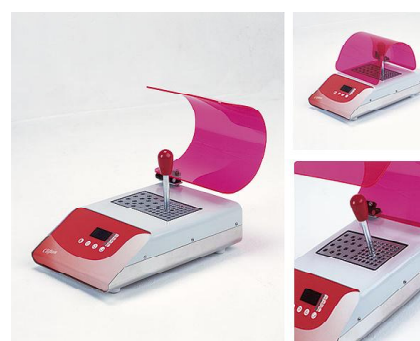
DBK-0, 10, 12, 13, 16, 19, 25, 50

## BLOCS

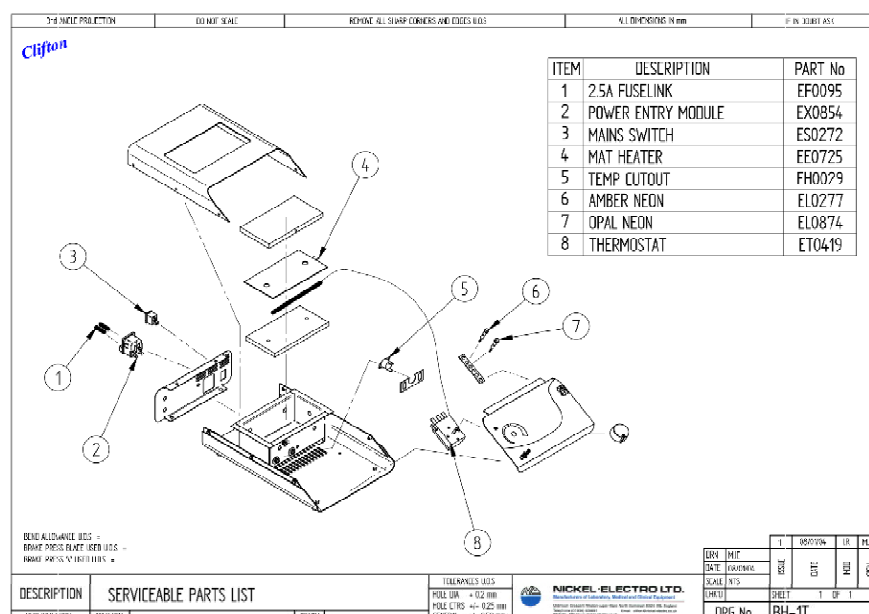
DBK-0	Plain Bloc
DBK-0.2	0.2ml micro tube Bloc *
DBK-0.5	0.5ml micro tube Bloc *
DBK-1.5	1.5ml micro tube Bloc *
DBK-2.0	2.0ml micro tube Bloc *
* Two blocs can be fitted in heating well	
DBK-10	10mm x 32 Hole Bloc
DBK-12	12mm x 26 Hole Bloc
DBK-16	16mm x 18 Hole Bloc
DBK-19	19mm x 10 Hole Bloc
DBK-25	25mm x 10 Hole Bloc
DBK-50	50mm x 8 Hole Bloc#

## MISCELLANEOUS

BHL-1 Lid



## Spares/Service Diagrams



# BLOCKHEATERS

## BH-T series, Thermubloc

The Thermubloc is a thermostatically controlled analogue block heater being easy to use and cost effective.

A low profile durable corrosion resistant stainless steel case with chemical resistant wipe clean sloping control panel featuring heater and mains indicators with rotary dial for temperature setting using reference thermometer. Supplied with Bloc extraction tool.

### Features Include:

- Sensitivity:  $\pm 0.5^{\circ}\text{C}$  @  $60^{\circ}\text{C}$
- Uniformity:  $\pm 0.5^{\circ}\text{C}$  @  $60^{\circ}\text{C}$
- Temperature range: ambient  $+5^{\circ}\text{C}$  -  $120^{\circ}\text{C}$
- Easy to use



### Cat No.

#### Temperature

Display/resolution

Range

Sensitivity

Uniformity well to well

### BH-1T

analogue dial

ambient  $+5^{\circ}\text{C}$  -  $120^{\circ}\text{C}$

$\pm 0.5^{\circ}\text{C}$  @  $60^{\circ}\text{C}$

$\pm 0.5^{\circ}\text{C}$  @  $60^{\circ}\text{C}$

#### General

Heater, Watts

Well dims

Well capacity

Overall, dims

Voltage

250W

140w x 50d x 72h mm

1 or 2

200w x 295d x 85h mm

100 - 230V



## EC Declaration of Conformity

We herewith confirm the following product

### BH Blockheater Range

Conforms with the requirements outlined by following European Directives.

Low Voltage Directive (73/23/EEC)  
EMC Directive (89/336/EEC)

We confirm the declaration

#### NICKEL-ELECTRO LIMITED



Manufacturers of laboratory, medical and clinical equipment.

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Email: [clifton@nickel-electro.co.uk](mailto:clifton@nickel-electro.co.uk)

[www.nickel-electro.co.uk](http://www.nickel-electro.co.uk)

Nickel-Electro Ltd is also registered ISO9001  
reference No. Q09820

Conforms with the requirements of following Standards

BS EN 61010:1

BS EN 61010:2.010

Safety requirements for electrical equipment for measurement, control and laboratory use.

BS EN 61326

Electrical equipment for measurement control and laboratory use - EMC requirements.



Nickel-Electro Ltd is also registered ISO9001  
reference No. Q09820

## Final Inspection and Electrical Safety Test Report



### **NICKEL-ELECTRO Ltd.**

**Manufacturers of laboratory, medical and clinical equipment.**

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