

THE *Clifton* RANGE

**Round and Rectangular Boiling Baths  
with Energy Regulator  
1000ER and 1100ER Series**

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Final Inspection and Product Testing Document Attached.

## About this Manual

This user Manual contains instructions which must be followed to ensure 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 unit may be affected.
3. The mains supply cord fitted to this product is a heat resistant type and should be replaced by an equivalent type.
4. Overvoltage category II (IEC 644) and Pollution Degree 2 (IEC 644)
5. The 1000 and 1100 series are as fitted with non-resetting overtemperature device, caused to operate once. The heater is a type which is capable of withstanding boil dry situations.
6. Please note the fuse in bath is 6.3A and UK 3pin plug fuse is 5A - always replace with these values. [The product fuse is rated at 6.3A however in use its is derated due to heat in close proximity to the bath].
6. It is recommended the units are connected to the mains supply with RCD protection.
7. Before using any cleaning or decontamination methods except those recommended, check with your distributor that the proposed method will not damage the equipment.

## Amendments

|         |          |      |  |
|---------|----------|------|--|
| Issue 1 | February | 2007 | Initial issue instruction book                   |
| Issue 2 | May      | 2008 | Thermal fuse added to protect bath from mis-use. |

## 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 and used indoors. Use in a ventilated room. Suitable for use in ambient temperatures 5°C to 40°C with a maximum humidity 80% (temperature 31°C) decreasing to 50% (temperature 40°C). Mains voltage fluctuations are not to exceed  $\pm 10\%$  of the nominal supply.

The product is designed for laboratory use.

## Unpacking

Remove the product from its packaging, if anything is damaged please notify your distributor immediately or contact our service department. Retain the packaging over the warranty period.

Remove any protective vinyl coating applied to rings or lids before use.

## Safety



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

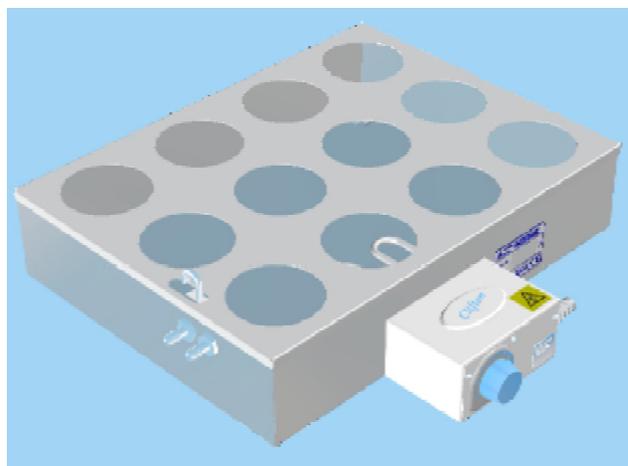
## Power Supply - Lead and Connection to Electrical Supply

Before connecting the unit to the main electrical supply, check the voltage and frequency information on the rating label matches the supply you have available.



**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



1. Always ensure the boiling bath is filled with water and correct water level is maintained in use, following details on page 6 on how to connect the constant level with laboratory tubing to a water supply.



**Water Level - Always ensure the water level in the bath is maintained by the constant level device.**

**DO NOT SWITCH ON UNLESS FILLED WITH WATER.**

2. For temperatures over 60° C the bath should be used with its lid to achieve and maintain boiling.
3. Before use, ensure the bath is filled with water and there is a slow running supply of water topping up for losses due to steam. Switch the main electrical supply ON and allow the water to boil.



**FOR YOUR OWN SAFETY AND THAT OF OTHER PLEASE READ AND UNDERSTAND THE SAFETY ADVICE GIVEN.**

**SURFACES ARE HOT TO TOUCH.**

- 4.



To control the amount of boiling in the bath from a gentle simmer to a vigorous boil adjust the blue knob accordingly.

## Fault Condition

A fault condition is where the water bath has been allowed to boil dry. The boiling bath is fitted with a non-resetting safety cut-out. It operates once.

In this condition turn the unit OFF "O" and refer to a qualified person. In a boil dry condition, for intermittent periods there should be no damage to the water bath.

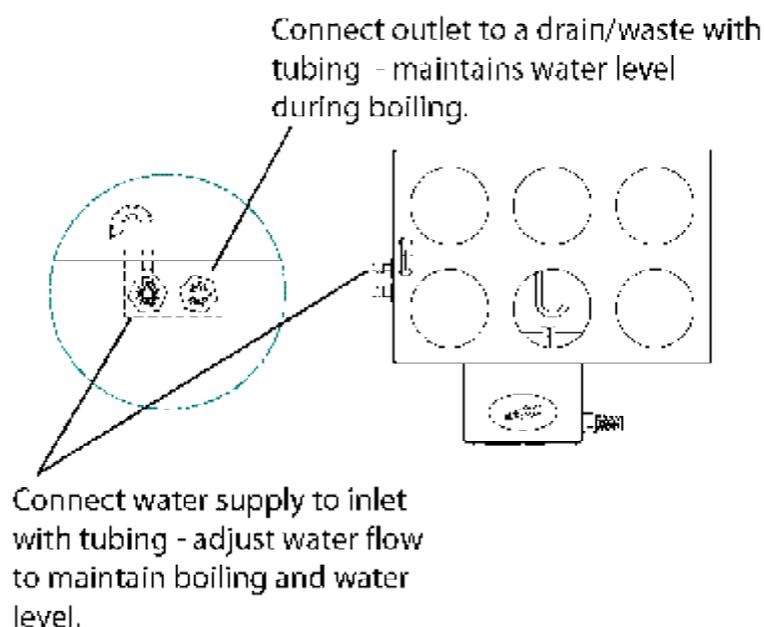
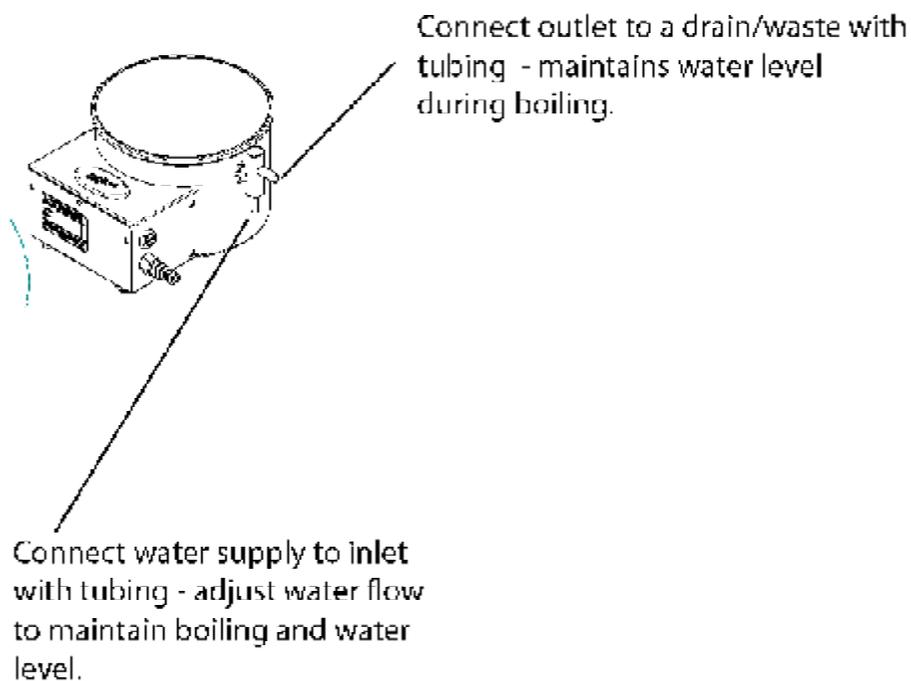


**TURN THE WATER BATH OFF AND ALLOW TO COOL. REFER TO PAGE 8 "OUT OF WARRANTY" SECTION.**

Always use the constant level device to maintain liquid level.

## Operating Instructions - Maintaining Liquid Level and Boiling Water

1. The boiling bath can be economically used with "tap" water.
2. Connect constant level with laboratory tubing to the water supply and adjust the flow to maintain both boiling and constant water level - reference diagrams below.



Once connected to water supply, water should be flowing out of the spout into the bath.

At a glance this provides a quick method for checking water levels are being topped up in use.

## Cleaning

### General Cleaning



**Important - please follow these instructions to avoid possible damage to the unit, otherwise affect its performance and or warranty. Disconnect the product from the electrical supply before cleaning.**

The water bath must be cleaned at regular intervals wiping casework with a cloth or sponge soaked in warm soapy water.

The stainless steel crevice free tank with smooth corners should provide years of valuable service and is resistant to chloride containing solutions it is however important to avoid high concentrations of halogens - especially chloride. With such a high quality and resistant tank it may show symptoms of these halogens as rust, which are deposits from external sources in the water supply.

We recommend always empty the bath of liquid after use and wipe out the internal faces of the tank with a non-abrasive cloth and allow to dry. Any deposits can be removed with nitric acid (10%) on a cloth. **WEAR PROTECTIVE EQUIPMENT!**

It is also recommended to use an accessory lid to prevent contaminants landing in bath liquids.

### Descaling

Descal the stainless steel tank regularly to maintain it in as new condition ensuring the corrosion resistance and normal operating conditions are maintained throughout its working life. Descal by adding 1 litre of vinegar to water and gently heating to 50°C for an hour, empty and brush the lime away.

Rinse thoroughly afterwards.

### 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.

## 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)

## 3 Year Warranty

Our service engineers are fully trained in the assembly, calibration and servicing of all Clifton instrumentation. Products can be returned to our comprehensively equipped service centre where a fast and efficient turnaround is guaranteed:

Service Department, Nickel Electro Limited, Oldmixon Crescent, Weston-super-Mare, North Somerset BS24 9BL, UK. Tel +44 (0)1934 626691 Fax +44 (0)1934 630300.

## 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: 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 80% of this product range can be easily re-cycled economically.**

## Portable Appliance Testing

When conducting testing, ensure it is conducted by a qualified person.



**DO NOT PAT TEST THE BATH UNLESS IT CONTAINS WATER.**

**THIS EQUIPMENT MUST NOT BE FLASH TESTED!**

## Service Diagram 1100 Series - Rectangular Boiling Baths

| ITEM | DESCRIPTION                          | QTY | PART NO  |
|------|--------------------------------------|-----|----------|
| 2    | FIBRE WASHER 12.7mm I/D X 19.0mm O/D | 2   | FPW003   |
| 3    | 1000W ELEMENT                        | 1   | EE0987   |
| 4    | M12 SHAKEPROOF WASHER                | 2   | FSW0447  |
| 5    | CONTROL BOX COVER                    | 1   | SBF04584 |
| 9    | CABLE GLAND                          | 1   | EW0428   |
| 10   | FUSE HOLDER                          | 1   | EX0967   |
| 19   | 5 A FUSE                             | 1   | EF0515   |
| 20   | 6.3A FUSE (NORM)                     | 1   | EF0094   |
| 22   | CONSTANT LEVEL                       | 1   | SAC0033  |

|             |                          |              |       |      |     |
|-------------|--------------------------|--------------|-------|------|-----|
| DESCRIPTION | GENERAL ASSEMBLY - 1100E | ITEM NO.     | 1100E | REV. | 001 |
| DATE        | 07/11/11                 | BY           | 001   | CHKD | 001 |
| DRG NO.     | 1100E                    | SHEET 1 OF 2 |       |      |     |

**NICKEL-ELECTRO LTD.**  
Manufacturers of Laboratory, Medical and Clinical Equipment  
Medical General Equipment, Test Equipment, IVD, OTC, Diagnostics, Laboratory Equipment, and more.  
www.nickel-electro.com

## Service Diagram 1000 Series - Round Boiling Baths

| ITEM | DESCRIPTION                          | QTY | PART NO |
|------|--------------------------------------|-----|---------|
| 2    | FIBRE WASHER 12.7mm I/D X 19.0mm O/D | 4   | FPW003  |
| 3    | M12 SHAKEPROOF WASHER                | 2   | FSW0447 |
| 4    | 1000W ELEMENT                        | 1   | EE0987  |
| 9    | CABLE GLAND                          | 1   | EW0428  |
| 10   | FUSE HOLDER                          | 1   | EX0967  |
| 19   | 5.0A FUSE (NORM)                     | 1   | EF0094  |
| 20   | 5 A FUSE                             | 1   | EF0515  |
| 26   | CONSTANT LEVEL ASSEMBLY              | 1   | SAC0033 |

|             |                          |              |       |      |     |
|-------------|--------------------------|--------------|-------|------|-----|
| DESCRIPTION | CIRCULAR WATER BATH ASSY | ITEM NO.     | 1000E | REV. | 001 |
| DATE        | 07/11/11                 | BY           | 001   | CHKD | 001 |
| DRG NO.     | 1000E                    | SHEET 1 OF 2 |       |      |     |

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# ROUNDS

Fixed temperature baths with concentric ringed lids to vary the hole size. The steam produced provides an effective source of heat for samples that may be otherwise thermally damaged by a naked flame.

A circular Boiling bath with an integral constant level device to maintain water level during boiling and supplied with a set of rings to vary the diameter of each place. Features a built in energy regulator to control the degree of boil from a gentle simmer to vigorous boiling.

| Cat No | Dia x Depth | Hole Details | Material        | Heater, Watts | Voltage |
|--------|-------------|--------------|-----------------|---------------|---------|
| 1026ER | 203 x 127mm | 200mm dia    | Aluminium       | 1000W         | 230V    |
| 1007ER | 203 x 127mm | 200mm dia    | Stainless Steel | 1000W         | 230V    |

# RECTANGULAR

Rectangular, stainless steel electrically heated - multiplace baths. Fixed temperature baths with concentric ringed lids to vary the hole size. The steam produced provides an effective source of heat for samples that may be otherwise thermally damaged by a naked flame.

Boiling bath with an integral constant level device to maintain water level during boiling and supplied with sets of rings to vary the diameter of each hole to accommodate different sizes of vessels simultaneously. Features a built in energy regulator to control the degree of boil from a gentle simmer to vigorous boiling.

| Cat No | Overall Dimensions | Hole Details  | Material        | Heater, Watts | Voltage |
|--------|--------------------|---------------|-----------------|---------------|---------|
| 1101ER | 321wx219dx90h mm   | 6 @ 76mm dia  | Stainless Steel | 1000W         | 230V    |
| 1104ER | 425wx321dx90h mm   | 12 @ 76mm dia | Stainless Steel | 1000W         | 230V    |
| 1105ER | 400wx200dx65h mm   | 6 @ 84mm dia  | Aluminium       | 1000W         | 230V    |



## EC Declaration of Conformity

We herewith confirm the following product

1000 Round Waterbath Range  
1100 Rectangular Waterbath Range

Conforms with the requirements outlined by following European Directives.

**Low Voltage Directive (2006/95/EC)**  
**EMC Directive (89/336/EEC)**

We confirm the declaration



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

**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)**

Conforms with the requirements of following Standards

**BS EN 61010:1:1993**

**BS EN 61010:2.010:1995**

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

**BS EN 61326:1997**

**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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