

A close-up photograph of a Clifton Unstirred Bath. A glass flask containing a blue liquid is positioned in the foreground, partially obscuring the bath's surface. The bath is a light-colored, rectangular unit with a digital display showing the number '10' in red. The brand name 'Clifton' and the model 'UNSTIRRED BATH' are printed on the upper left. A small orange indicator light is visible below the display. The background is a solid blue color.

**Clifton**  
UNSTIRRED BATH

## UNSTIRRED BATHS

NE1B series BOILING BATHS

SHALLOWBATHS

TRIPLEBATHS

NE1 series THERMOSTATIC BATHS

NE2D series DIGITAL BATHS

NE3DT series DIGITAL AND TIMER BATHS

DUOBATHS

NE5 series SHAKERBATHS

SW series ULTRASONICBATHS

THE *Clifton* RANGE



**NICKEL-ELECTRO Ltd.**



## Welcome to the *Clifton* range from Nickel-Electro

Nickel-Electro is a wholly independent, family owned company, based in the South West of England. We design and manufacture the well known Clifton Range of temperature control equipment and instrumentation, which includes unstirred, stirred, shaking baths, digital hotplates and the innovative Duobaths. Trading since 1941, continued investment and development has established Nickel-Electro as a leading manufacturer of laboratory instrumentation.

Our extensive design and production facilities feature state of the art 3D design, computerised punching and forming, powder painting and electrical and electronic assembly all fully supported by an integrated ERP manufacturing system, managing and coordinating the business within an ISO9001 environment. The complete manufacturing solution on one site, controlling the entire production process, a guarantee of quality.

Recognised as an 'Investor in People' our staff offer you high levels of skill and experience, having many years of service in the business. We believe in combining cutting edge technology with traditional skills and values and take pride in being a high quality precision UK manufacturer.

In addition Nickel-Electro manufactures a comprehensive range of laboratory consumables in a variety of materials including aluminium, stainless steel, nickel and zirconium. This complements the Clifton Range and provides our customers with a single source of many types of laboratory equipment.

*Melvin Dickson*

Managing Director



INVESTOR IN PEOPLE



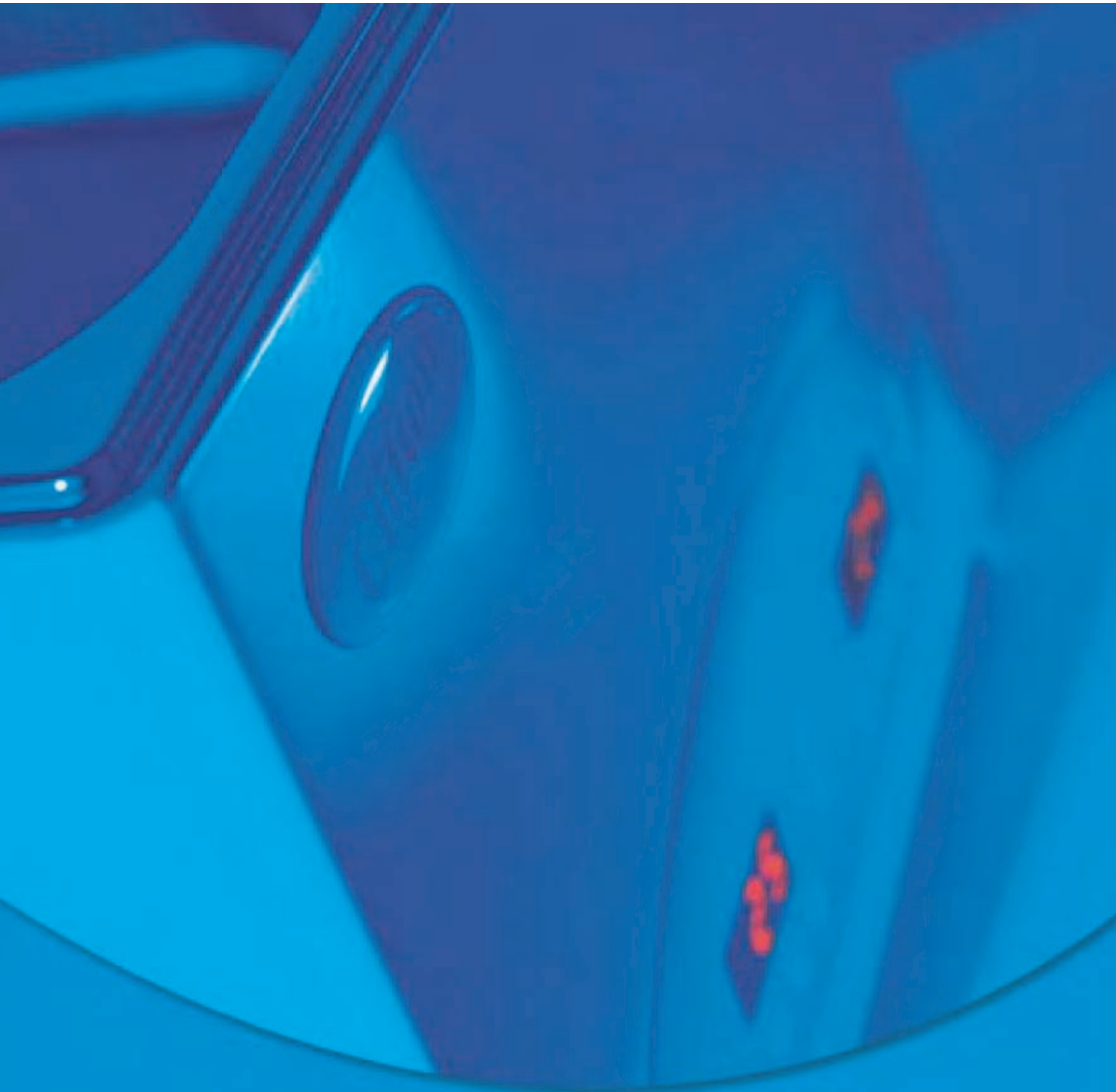
**SOLID EDGE**  
VELOCITY SERIES

**radan**

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Our partners Providing world class innovative manufacturing solutions



# UNSTIRRED BATHS

1000 series ROUND AND RECTANGULAR BOILING BATHS

NE1B series BOILING BATHS

SHALLOWBATHS

TRIPLEBATHS

NE1 series THERMOSTATIC BATHS

NE2D series DIGITAL BATHS

NE3DT series DIGITAL AND TIMER BATHS

DUOBATHS

ACCESSORIES

# BOILING BATHS

## Features Include:

Suitable for use with hotplate or gas burner, the steam produced from bath, provides an effective source of constant heat for samples that otherwise could be thermally damaged by a naked flame

- \* Supplied with a set of rings to vary the diameter of the hole in the lid

## 1000G series, Circular baths, Boiling - Gas or Direct Heating



Circular Gas heated baths - stainless steel - G range

Cat. No.	Dia x Depth	Hole details	Heater, Watts	Voltage
1020G	125 x 90mm	125mm dia.	-	-
1021G	152 x 102mm	150mm dia.	-	-
1026G	203 x 127mm	200mm dia.	-	-

## Features Include:

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

- \* All electrically heated baths have an integral constant level device to regulate the level of water
- \* Supplied with a set of rings to vary the diameter of the hole in the lid
- \* Electrically heated baths have a one shot thermal cut-out for safety
- \* Accessory Energy Regulator ER-1 for bath control between vigorous boil and gentle simmer

## 1000E series, Circular baths, Boiling - Electric Heating



Circular Electric heated baths - stainless steel - E range

Cat. No.	Dia x Depth	Hole details	Heater, Watts	Voltage
1026E	203 x 127mm	200mm dia.	1000W	230V



Accessory Energy Regulator ER-1 for use with E range bath provides control between vigorous boil and simmer.

## Features Include:

Circular Electric Heating with built in energy regulator.

- \* Same features as Circular Electric Heating baths
- \* Boiling control from a vigorous boil to a gentle simmer

## 1000ER series, Circular baths, Boiling - Electric Heating

Circular Electric heated baths - stainless steel - ER range

Cat. No.	Dia x Depth	Hole details	Heater, Watts	Voltage
1026ER	203 x 127mm	200mm dia.	1000W	230V

## 1100E series, Rectangular baths, Boiling - Electric Heating

By removing rings, the hole sizes can be varied to accommodate different sizes of vessel simultaneously



Accessory Energy Regulator ER-1 for use with E range

### Features Include:

- \* Integral constant level to maintain water level ■
- \* Supplied with multiple sets of rings to vary diameter of holes
- \* Supplied with a connector and power cord with plug
- \* Electrically heated baths have a one shot thermal cut-out for safety
- \* Accessory Energy Regulator ER-1 for bath control between vigorous boil and gentle simmer

Rectangular Multiplace Electric heated baths - E range

Cat. No.	Overall dims	No. of Holes	Heater, Watts	Voltage	Material
1101E	321w x 219d x 90h mm	6 @80mm dia	1000W	230V	Stainless Steel
1102E	425w x 321d x 90h mm	6 @101mm dia	1000W	230V	Stainless Steel
1104E	425w x 321d x 90h mm	12 @80mm dia	1000W	230V	Stainless Steel
1105E	400w x 200d x 90h mm	6 @80mm dia	1000W	230V	Aluminium

## 1100ER series, Rectangular baths, Boiling - Electric Heating



### Features Include:

- \* Integral constant level to maintain water level ■
- \* Supplied with multiple sets of rings to vary diameter of holes
- \* Supplied with a connector and power cord with plug
- \* Electrically heated baths have a one shot thermal cut-out for safety
- \* Boiling control from a vigorous boil to a gentle simmer

Rectangular Multiplace Electric heated baths with built in Simmer to Boiling control - ER range

Cat. No.	Overall dims	No. of Holes	Heater, Watts	Voltage	Material
1101ER	321w x 219d x 90h mm	6 @80mm dia	1000W	230V	Stainless Steel
1104ER	425w x 321d x 90h mm	12 @80mm dia	1000W	230V	Stainless Steel
1105ER	400w x 200d x 90h mm	6 @80mm dia	1000W	230V	Aluminium



# BOILING BATHS

## NE1B series, Boiling

Designed for applications that require continuous boiling. This range also has the flexibility where the control can be regulated from a gentle simmer to a vigorous boil.

Comprising of a 304 spec (18/8) high quality, stainless steel tank, housed in a durable paint finished outer case. Complete with a removable stainless steel perforated shelf and constant level device. Controls feature an illuminated on/off switch and heater on indicator.

Bath and accessory lid combinations designed to accommodate tall vessels for direct immersion of samples and reduction of water evaporation.



Cat No.	NE1B -8	NE1B -14	NE1B -28
Capacity, litres	8/	14/	28/
Internal Dims	240w x 300d x 150h mm	325w x 300d x 150h mm	500w x 300d x 200h mm
Overall Dims	332w x 270d x 290h mm	361w x 332d x 290h mm	538w x 332d x 290h mm
Heater, Watts	800W	1200W	1500W
Voltage	120V or 230V models	120V or 230V models	120V or 230V models



1. These boiling baths should always be covered with an accessory Lid to **save energy** and reduce water evaporation.
2. It is recommended the constant level is always in use to ensure safe water levels at all times.
3. NE1B-18W Boiling bath, for direct heating faster boiling.
4. For a full list of accessories refer to Accessory pages.

## Features Include:

- \* Stainless steel tank
  - corrosion resistant, easy to clean
  - easy cleaning
- \* Heater with safety cut-out
- \* Accessory lids recommended
- \* NE1B-18W model shown with ST-1 accessory Tray for lowering and raising items for sterilising.



NE1B-18W and NE1B-18 models

18 /

325w x 300d x 200h mm

362w x 332d x 290h mm

2400W

230V



\* Constant level to combat water evaporation, all models.



\* Drain outlet fitted to 18 and 28 litre.

## UNSTIRRERS

### ShallowBath series



These shallow form Clifton baths are ideal for heating small height samples such as micro tubes and trays. Perfect for heating samples in microcentrifuge tubes and for other molecular-biology procedures.

For molecular-biology procedures these baths can be used for dry heating and incubation using Lab Armor™. Its unique properties of a dry media support the samples without blocks, racks, floats or weights. The cumbersome task and frequency of emptying, cleaning and refilling is simplified and dramatically reduced, resulting in a more productive lab, more successful experiments and less lab downtime.

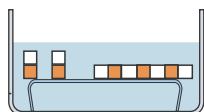


Cat No.

NE1-9

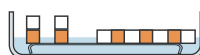


Cat No.	NE2-2D	NE2-5D	NE2-9D
Capacity, litres	2 litre	5 litre	9 litre
Internal Dims	300w x 150d x 65h mm	325w x 300d x 65h mm	500w x 300d x 65h mm
Overall Dims	332w x 185d x 135h mm	361w x 332d x 135h mm	535w x 332d x 135h mm
Heater, Watts	200W	800W	800W
Voltage	120V or 230V models	120V or 230V models	120V or 230V models



\* Traditional style water bath

- If using a conventional water bath the minimum liquid level for accurate operation is above the height of small bottles tubes etc, often requiring the extra expense of additional raised shelves.



\* Clifton shallow form series

- Clifton shallow height water baths operate with low liquid levels suiting small bottles, tubes and micro plates.
- Low-profile design allows easy access to samples and improved visibility
- Small samples easily seen and not obscured by high sided baths
- **Use less water and energy.**



#### Features Include:



BA-5 Bath Armor accessory media

1. Painted body and splash proof controls on Shallow baths feature Anti-bacterial protection.
2. For full specification on NE2-2D, NE2-5D and NE2-9D please refer to NE2D series, Digital water baths.
3. For full specification on NE1-9 please refer to NE1 series, Thermostatic water baths.
4. Above 60°C it is recommended that to **save energy** and to achieve optimum performance the bath should be covered with a Lid.
5. For a full list of accessories including Lab Armor refer to Accessory pages.





## UNSTIRRERS

### TripleBaths

Three independent temperature controlled water baths, suitable for processing small reaction tubes, test tubes or vessels at three different temperatures, in one location.

#### Features Include:

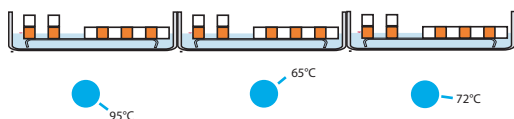
- \* Sensitivity:  $\pm 0.5^{\circ}\text{C}$
- \* Uniformity:  $\pm 0.5^{\circ}\text{C}$
- \* Range: ambient  $+5^{\circ}\text{C}$  -  $99^{\circ}\text{C}$
- \* Thermostatic control



Cat No.	NE1-2/2/2	NE1-4/4/4
Capacity, litres	2 litre + 2 litre + 2 litre	4 litre + 4 litre + 4 litre
Internal Dims each tank	230w x 130d x 65h mm	300w x 150d x 150h mm
Overall Dims	535w x 332d x 135h mm	535w x 332d x 135h mm
Heater, Watts	750W	1200W
Voltage	230V	230V

For wet or dry heating using Lab Armor, for PCR routines denaturing, annealing and elongation.

Clifton NE1-2/2/2 TripleBath



- Clifton shallow height water baths operate with low liquid levels suiting small bottles, tubes and micro plates.
- Low profile bath allows easy access and better visibility of samples being heated.
- Use less water and energy.



1. Painted body and splash proof controls on Shallow baths feature Anti-bacterial protection.
2. Above  $60^{\circ}\text{C}$  it is recommended that to **save energy** and to achieve optimum performance the bath should be covered with a Lid.
3. For a full list of accessories including Lab Armor refer to Accessory pages.

## NE1 series, Thermostatic

These Clifton analogue baths are designed for general use and are economically priced without compromising quality.

Comprising of a 304 spec (18/8) stainless steel tank, housed in a durable paint finished outer case. Complete with a removable stainless steel perforated shelf. Controls feature an illuminated on/off switch and heater on indicator. For temperatures above 60°C a lid is recommended. Larger baths are fitted with a drain.

We verify the performance of every bath calibrating its controls and water temperature at 45°C for consistent temperature control in use.

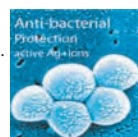


Cat No.	NE1-4	NE1-8	NE1-14
Capacity, litres	4 litre	8 litre	14 litre
Internal Dims	300w x 150d x 150h mm	300w x 240d x 150h mm	325w x 300d x 150h mm
Overall Dims	332w x 185d x 290h mm	332w x 270d x 290h mm	361w x 332d x 290h mm
Heater, Watts	400W	800W	1000W
Voltage	120V or 230V models	120V or 230V models	120V or 230V models



NE1-2.5

1. A 2.5litre size of Thermostatic water baths available, Cat.No.NE1-2.5
2. Painted body on Clifton water baths feature Anti-bacterial protection, hygienic coating which actively inhibits bacterial growth.
3. This series of baths will operate at 100°C but are not designed for continuous boiling, we recommend NE1B series.



## Features Include:

- \* Temperature
  - range: ambient +5°C - 100°C<sup>3</sup>
  - thermostatic control
  - sensitivity:  $\pm 0.25^\circ\text{C}$
  - uniformity:  $\pm 0.1^\circ\text{C}$
  - heating element, safety cut out and temperature sensor concealed
  - every water bath factory calibrated
- \* Side lifting handles
  - for ease of transportation
- \* Lids recommended above 60°C
  - to **save energy** and achieve optimum bath performance
- \* Tank
  - corrosion resistant stainless steel
  - easy to clean
  - clutter free working area
- \* Drain outlet fitted onto 22, 28 and 56 litre baths - large bore for fast emptying. Accessory gated tap can be fitted.



Clifton Low height shelf needs **less water** for same work.

Also allows samples to be immersed to a greater working depth - for tall vessels.

Conventional shelf height.



NE1-22

NE1-28

NE1-56

22 litre

28 litre

56 litre

500w x 300d x 150h mm

500w x 300d x 200h mm

620w x 500d x 200h mm

538w x 332d x 290h mm

538w x 332d x 290h mm

660w x 540d x 290h mm

1500W

1500W

2500W

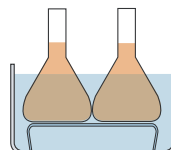
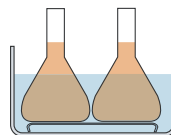
120V or 230V models

120V or 230V models

120V or 230V models



NE1-56



## NE2-D series, Digital

These water baths provide a stable temperature environment ideal for meeting quality control requirements. Featuring a digital PID controller with smart technology for adaptive temperature control to maintain accuracy. Also featuring auto alarm settings, illuminated on/off switch, heater and over and under temperature indicators.



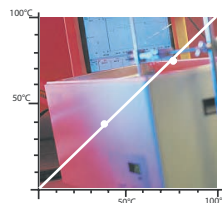
Cat No.	NE2-4D	NE2-8D	NE2-10D	NE2-14D
Capacity, litres	4 litre	8 litre	10 litre	14 litre
Internal Dims	300w x 150d x 150h mm	300w x 240d x 150h mm	300w x 240d x 200h mm	325w x 300d x 150h mm
Overall Dims	332w x 185d x 290h mm	332w x 270d x 290h mm		361w x 332d x 290h mm
Heater, Watts	400W	800W		1000W
Voltage	120V or 230V models	120V or 230V models		120V or 230V models

1. Shallow series of Digital water baths available: NE2-2D, NE2-5D, NE2-9D, details page 7.
2. Painted body and control panel on these Clifton water baths feature Anti-bacterial protection, hygienic coating which actively inhibits bacterial growth.



## Features Include:

- \* Temperature
  - range: ambient +5°C - 99°C
  - digital PID adaptive control
  - LED display: 0.1°C resolution
  - sensitivity:  $\pm 0.2^\circ\text{C}$
  - uniformity:  $\pm 0.1^\circ\text{C}$
  - heating element, safety cut out and temperature sensor concealed
  - over-temperature alarm always on experiment/sample protection
  - ~ in alarm condition, indicator on and heating suspended
  - bath and sensor diagnostics
  - every water bath factory calibrated at two temperatures



- \* Lids recommended above 60°C
  - to **save energy**<sup>1</sup> and optimum bath performance



NE2-22D

NE2-28D

NE2-56D

22 litre

28 litre

56 litre

500w x 300d x 150h mm

500w x 300d x 200h mm

620w x 500d x 200h mm

538w x 332d x 290h mm

538w x 332d x 290h mm

660w x 540d x 290h mm

1500W

1500W

2500W

120V or 230V models

120V or 230V models

120V or 230V models



NE2-56D

- \* Drain outlet fitted on 22, 28, 56 litre baths, large bore fast emptying
  - accessory tap can be fitted for convenience
- \* Tank
  - corrosion resistant stainless steel
  - easy to clean, clutter free area
- \* Controls
  - touch pad temperature setting
  - wipe clean, easy clean antibacterial surfaces
- \* Side lifting handles
  - for ease of transportation

## NE3-DT series, Digital, with run back and delay start timer

These precision temperature control water baths feature an option to enable a run back or delay start timers, the latter useful for pre-conditioning water temperature before for use.

Supplied with clear hinged polycarbonate lid, convenient to use ensuring all condensate runs back into the bath in either open or closed positions. Also featured a gated drain tap designed to quickly empty the water bath, painted antibacterial surfaces and touch flush fitting controls, with illuminated LED display for temperature and time values.



Cat No.	NE3-4DT	NE3-8DT	NE3-14DT
Capacity, litres	4 litre	8 litre	14 litre
Internal Dims	300w x 150d x 150h mm	300w x 240d x 150h mm	325w x 300d x 150h mm
Overall Dims	332w x 185d x 290h mm	332w x 270d x 290h mm	361w x 332d x 290h mm
Heater, Watts	400W	800W	1000W
Voltage	120V or 230V models	120V or 230V models	120V or 230V models

1. Painted body on Clifton water baths feature Anti-bacterial protection, hygienic coating which actively inhibits bacterial growth.
2. Gated drain tap featured on NE3-8DT, NE3-14DT and NE3-28DT for convenience.





## Features Include

- \* Temperature
  - range: ambient +5°C - 99°C<sup>7</sup>
  - digital PID adaptive control
  - LED display: 0.1°C resolution
  - sensitivity: ±0.2°C
  - uniformity: ±0.1°C
  - heating element, safety cut out<sup>7</sup> and temperature sensor concealed
  - over-temperature alarm<sup>10</sup>
    - ~ always on/automatically set
    - ~ indicator and heating suspended
  - experiment/sample protection
  - bath and sensor diagnostics<sup>11</sup>
  - every water bath factory calibrated at two temperatures

- \* Timer, options
  - no timer
  - run back timer at set temperature<sup>12</sup>
  - delay start and dwell at set temperature<sup>13</sup>



NE3-28DT

28 litre

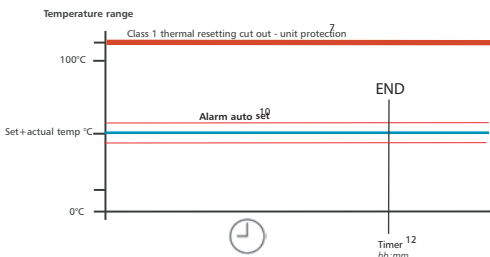
500w x 300d x 200h mm

538w x 332d x 290h mm

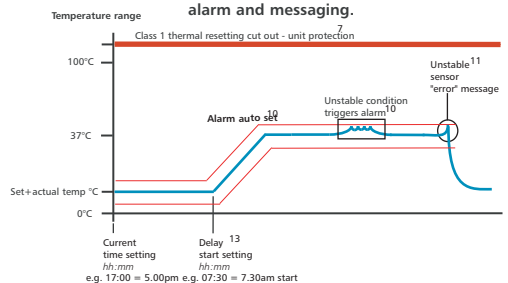
1500W

120V or 230V models

### Run back timer at set temperature.



### Delay start and dwell at set temperature. And showing alarm and messaging.



## DuoBaths

Two independently controlled unstirred baths in one space-saving unit. Specifically designed with the busy laboratory in mind.

A painted durable steel outer case houses two high quality corrosion resistant stainless steel tanks each with their own independent controls. Three shelves are supplied with the bath, two at conventional height and a taller one designed to accommodate bijoux style bottles in a shallow depth. Using the conventional height in both chambers gives the benefit of two standard baths in one space-saving unit.



Cat No.	NE2D-4/4	NE2D-4/8
Capacity, litres	4l + 4l	4l + 8l
Internal Dims	150w x 300d x 150h mm 150w x 300d x 150h mm	150w x 300d x 150h mm 240w x 300d x 150h mm
Overall Dims	361w x 332d x 290h mm	450w x 332d x 290h mm
Temp range °C	ambient +5 °C - 99°C	ambient +5 °C - 99°C
Uniformity @45°C in same tank	±0.1°C	±0.1°C
Sensitivity @45°C in same tank	±0.2°C	±0.2°C
100°C tank effect on 30°C tank	+0.1°C	+0.1°C
Heater, Watts	800W	1200W
Voltage	120V or 230V models	120V or 230V models



1. It is recommended that to **save energy** and to achieve optimum performance the bath should be covered with a Lid.
2. Painted body and controls features Antibacterial protection, hygienic coating which actively inhibits bacterial growth.
3. Accessories for illustration purposes only
4. Other sizes available NE2D-8/8.



#### Benefits of Duobaths:

- \* Disturbance/swamping samples
- \* Different temperature in each tank
- \* Shelf heights



NE2D-8/22

NE2D-4/22

NE2D-8/22

4l + 22l

8l + 22l

150w x 300d x 150h mm  
500w x 300d x 150h mm

240w x 300d x 150h mm  
500w x 300d x 150h mm

710w x 332d x 290h mm

800w x 332d x 290h mm

ambient +5° C - 99°C

ambient +5° C - 99°C

±0.1°C

±0.1°C

±0.2°C

±0.2°C

+0.1°C

+0.1°C

1900W

2300W

230V

230V

## Features Include:

### Disturbance/swamping



Single bath - shallow depth of water is unsuitable for combination of large and small vessels.



Single bath - remove large bottle/flasks and samples are out of the water

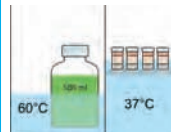


Duobath - large bottle/flask immersed to correct depth and no risk to smaller media.

### Temperatures



Single bath - applications for keeping bottles of media molten and incubating culture samples will need TWO baths.



Duobath - two tanks at 2 different temperatures with added convenience for routine work to be conducted in one place in one bath.

Cross contamination of temperature from 60°C tank to 37°C tank = +0.1°C

60°C tank Preparation.

37°C tank Incubation.

### Shelf heights



Duo bath - smaller volume tank has option of 2 shelves - high - for small media.



Duo bath - low shelf - for large bottles/flasks. Unique feature of Clifton baths are low height shelves maximising work depth in the tank. Also potentially lower water volumes required increasing heat up performance.

# ACCESSORIES

## NE1B, NE1, NE2-D, ShallowBaths, DuoBaths and TripleBaths

### STAINLESS STEEL GABLE LIDS

The use of a lid helps **reduce evaporation**, assists in keeping samples free from contamination and **saves energy**.

- \* Stainless gable lids with a high profile allowing extended use of the bath area, right into edges of the tank
- \* Insulated handles
- \* Design ensures that all condensate goes back into bath.
- \* No drip points to contaminate samples

Cat No.	Description
SL1-4	Gabled lid, stainless steel, for 2 and 4 litre baths
SL1-8	Gabled lid, stainless steel, for 8 and 10 litre baths
SL1-14	Gabled lid, stainless steel, for 5 and 14 litre baths
SL1-22	Gabled lid, stainless steel, for 9/22/28 litre baths
SL1-22H	Hinged gabled lid, stainless steel, for 22/28 litre baths



SL1-22

## NE1, NE2-D and ShallowBaths

### HINGED GABLE LIDS

The use of a lid helps **reduce evaporation**, assists in keeping samples free from contamination and **saves energy**.

- \* Clear polycarbonate lid, hinged, light and easy to use.
- \* With a high profile allowing extended use of bath, right into edges of tank
- \* Lid easy to remove and clean.
- \* Design ensures that all condensate goes back into bath, even when raised.
- \* No drip points to contaminate samples

Cat No.	Description
GL1-4	Gabled lid, for 4 litre baths
GL1-8	Gabled lid, for 8 and 10 litre baths
GL1-14	Gabled lid, for 5 and 14 litre baths
GL1-22	Gabled lid, for 9/22/28 litre baths



GL1-14



## NE1, NE2-D, ShallowBaths, DuoBaths and TripleBaths

### LIFT-OFF GABLE LIDS

Cat No.	Description
GL1-4AF	Gabled lid, for 4 litre baths
GL1-8AF	Gabled lid, for 8 and 10 litre baths
GL1-14AF	Gabled lid, for 5 and 14 litre baths
GL1-22AF	Gabled lid, for 9/22/28 litre baths

## NE1B, NE1, NE2-D and NE3-DT series

### STAINLESS STEEL RING SET LIDS

- \* Ringed lids allow necks of immersed flasks to protrude.
- \* Concentric ringed lid, stainless steel.

Cat No.	Description
SLR1-4	2 x 105mm holes for 4 litre baths
SLR1-8	4 x 83mm holes for 8 and 10 litre
SLR1-14	4 x 105mm holes for 5 and 14 litre baths
SLR2-14	6 x 83mm holes for 5 and 14 litre baths
SLR1-22	6 x 105mm holes for 9/22/28 litre baths



SLR1-14

## NE1B, NE1, NE2-D, NE3-DT and DuoBaths

### BASKETS, STAINLESS STEEL WIRE

Cat No.	Description
BSK-4	Basket, stainless steel, for 4 litre baths
BSK-8	Basket, stainless steel, for 8 litre baths
BSK-14	Basket, stainless steel, for 14 litre baths
BSK-22	Basket, stainless steel, for 22 litre baths



BSK-8

## NE1B series

### STERILISING TRAY

Cat No.	Description
ST-1	Raise and Lower Sterilising Tray for NE1B-18W
SA01409	Pair of Guide Rail assemblies for ST-1

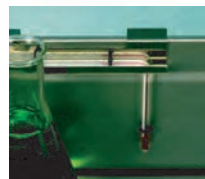


ST-1 in a NE1B-14

## NE1, NE2-D, NE3-DT, DuoBaths and TripleBaths

### THERMOMETER

Cat No.	Description
TC-1	Thermometer clip with bent stem spirit filled thermometer lies flush with top edge of the bath to prevent accidental damage. Scale: 0-100°C in 2°C graduations



TC-1

## NE1, NE2-D, NE3-DT, DuoBaths and TripleBaths

### CALIBRATION

Cat No.	Description
CAL	Calibration Record



CAL

## NE1B, NE1 and NE2-D series

### GATED TAP FOR DRAIN

Cat No.	Description
BX0953	Drain Tap



BX0953



## NE1, NE2-D, NE3-DT, DuoBaths and TripleBaths

Lab Armor™ replacement for **water** in water baths, dry media, thermally efficient pellets enabling you to almost eliminate water bath cleaning and protects your bath from drying out. Also saves the need for racks, floaties or weights.

Cat No.	Description
BA-5	Bath Armor 4 litre pack
BA-12	Bath Armor 12 litre pack



BA-5 in NE2-4D

# BATHS

## NE1B, NE1, NE2-D, NE3-DT, DuoBaths and TripleBaths

### SPHERES, POLYPROPYLENE

Provides a floating lid on water baths to **reduce evaporation**, allows easy immersion/removal of flasks and **saves energy**.

Cat No.	Sphere dia.	Pk qty
BP0368	20 mm	200
Bath Size	No. of packs required	
2 and 4 litres	1 pack	
5, 8, 10, 14 and 18 litres	2 packs	
9, 22, and 28 litres	4 packs	
56 litres	8 packs	

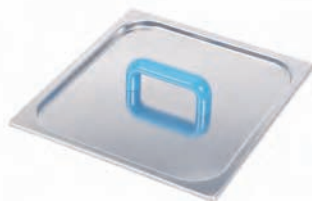


NE3-8DT shown with BP0368 polypropylene spheres

### STAINLESS STEEL FLAT LIDS

The use of a lid helps reduce evaporation and can be used as a dust cover whilst the bath is left overnight, reducing water contamination.

Cat No.	Description
LD-4	Flat lid, stainless steel, for 2 and 4 litre baths
LD-8	Flat lid, stainless steel, for 8 and 10 litre baths
LD-14	Flat lid, stainless steel, for 5 and 14 litre baths
LD-22	Flat lid, stainless steel, for 9/22/28 litre baths
LD-56	Flat lid, stainless steel, for 56 litre baths



LD-14

### STAINLESS STEEL RACKS

\* All 304 stainless steel construction.

Cat No.	Description
6870	Test tube rack, stainless steel, 26 holes x 17mm dia.
6871	Test tube rack, stainless steel, 16 holes x 26mm dia.
6872	Test tube rack, stainless steel, 36 holes x 13mm dia. also suitable for 1.5ml microtubes
6873	Test tube rack, stainless steel, 18 holes x 19mm dia.
6900	Test tube rack, stainless steel, 12 holes x 32mm dia.
Overall dimensions of rack: 260mm long x 70mm wide, height to top of lifting handle: 138mm	
Max number of racks per bath	
Bath size	2/4 litre   8 litre   5/14 litre   9/22/28 litre   56 litre
No. racks	1   2   4   6   12



6871

6875	Test tube rack, stainless steel, 50 holes x 32mm dia.				
Overall dimensions of rack: 270mm long x 290mm wide, height to top of lifting handle: 138mm					
Max number of racks per bath					
Bath size	2/4 litre	8 litre	5/14 litre	9/22/28 litre	56 litre
No. racks	0	0	1	2	4



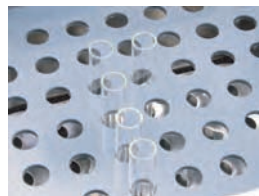
6875



## NE1, NE2-D, NE3-DT, DuoBaths and TripleBaths

### Churchill test tube racks

Churchill test tube racks have been developed in conjunction with a school to allow a classroom of students to each place a test tube into the rack for incubation and other experiments in a water bath. Churchill racks can accommodate the popular 18mm or 25mm diameter test tubes. Each rack fits into Clifton water baths and easily removed and stored flat.



Cat No.	C18-4	C18-8	C18-14
Fits Water baths	4 litre	8 litre	14 litre
Tube, diameter	18mm	18mm	18mm
Capacity, holes	28	44	68
Clifton water bath models	NE1-4, NE1-4/4/4, NE2-4D, NE3-4DT, NE2D-4/4, NE2D-4/8, NE2D-4/22	NE1-8, NE2-8D, NE3-8DT, NE2D-4/8	NE1-14, NE2-14D, NE3-14DT

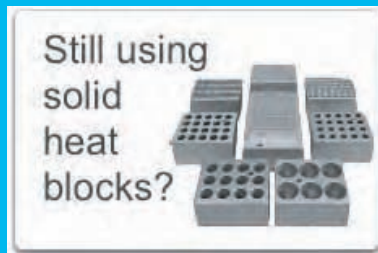


Cat No.	C25-4	C25-8	C25-14
Fits Water baths	4 litre	8 litre	14 litre
Tube, diameter	25mm	25mm	25mm
Capacity, holes	28	44	68
Clifton water bath models	NE1-4, NE1-4/4/4, NE2-4D, NE3-4DT, NE2D-4/4, NE2D-4/8, NE2D-4/22	NE1-8, NE2-8D, NE3-8DT, NE2D-4/8	NE1-14, NE2-14D, NE3-14DT

- Churchill test tube racks are manufactured from nylon.
  - Offer good resistance to solvents, formaldehyde and alcohols.
  - Limited resistance to dilute acids.
  - Not recommended for use with phenols, alkalis, iodine and acids.
  - Maximum recommended temperature 70°C.

# BATH ARMOR™

## FULL METAL



## Then use Bath Armor

Moisture and Gas impermeable

Smooth, rounded & fluid-like



High thermal conductivity

Reduces water consumption



### Water baths

- \* No more filling.
- \* No more routine cleaning.
- \* No water borne contamination.
- \* No longer incubating microbes.
- \* Washes and sterilizes easily.
- \* Good thermal heat distribution.

Replace water in your water bath with these thermally efficient pellets that are easy to keep clean. It enables you to eliminate nearly all water bath cleaning and protects your water bath from drying out.

Saving need for racks, floaties and bottle weights. More free time, one less lab duty, never have to wash or refill a water bath again.

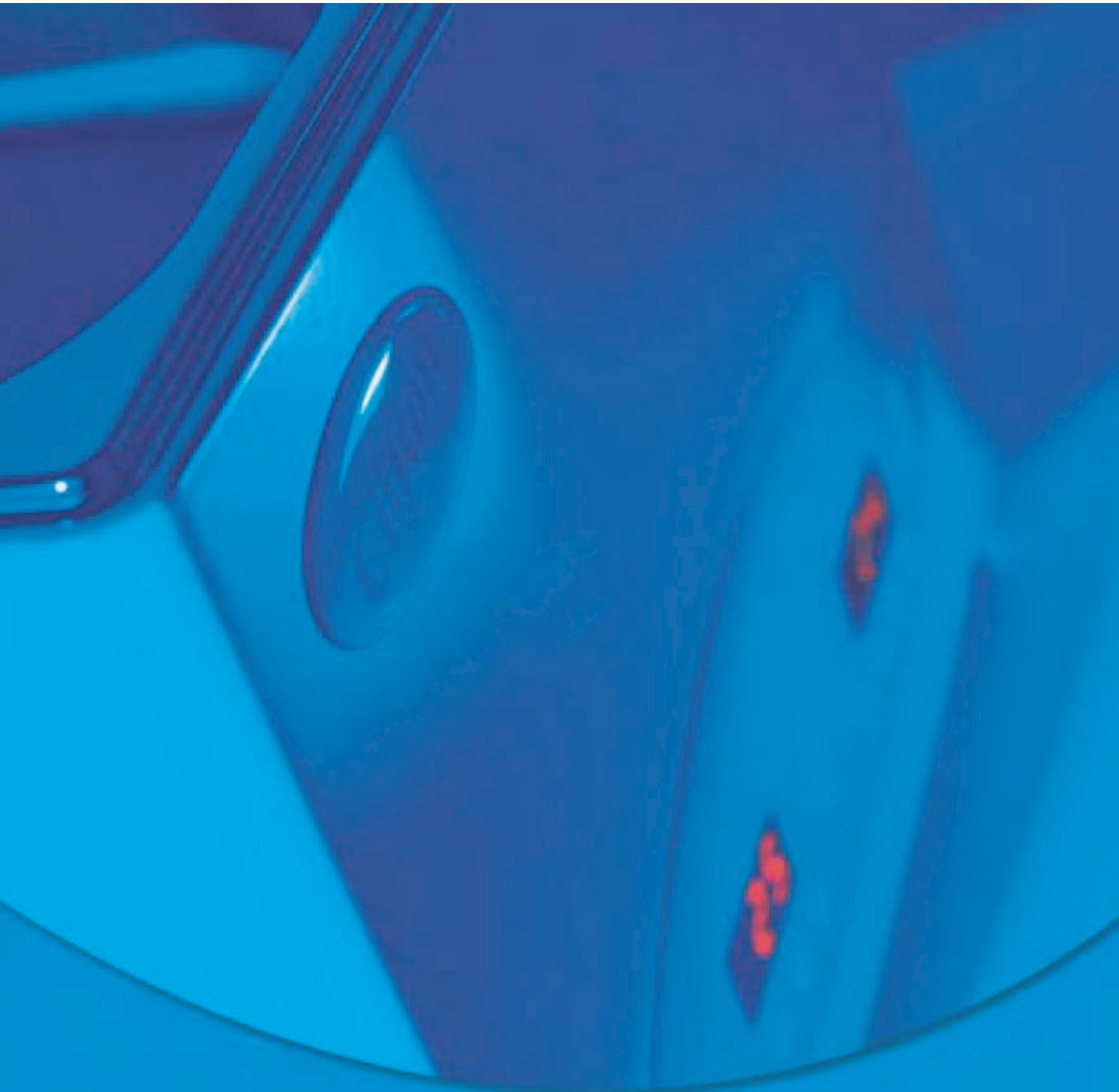


### Blockheaters

- \* One pile suits all tube sizes.
- \* Replaces pre-drilled blocks.
- \* More convenient to use.
- \* Thermally efficient.
- \* Accepts any size and shape vessels.
- \* Washes and sterilizes easily.

Replaces pre-drilled blocks in your blockheaters with thermally efficient pellets that are easy to keep clean.

Reduces investment in blocks and heating well can be used for heating any tube size or shape at the same time.



# SHAKER BATHS

NE5 series SHAKERBATHS  
ACCESSORIES

# BATHS

## NE5-D series, Shaking

This range of Shaker water baths feature a deep drawn tank with rounded corners manufactured from stainless steel. Ideal for day-to-day use and can be easily cleaned. A reciprocating stainless steel trolley, which accepts a wide variety of accessory combinations for flasks, micro-titre plates or test tube racks.



Featuring advanced PID temperature control for precision, with set and actual temperatures displayed simultaneously. Featuring a highly accurate PT100 sensor with the added advantage of being immersed for direct measurement.

Designed and constructed for ease of use carrying a number of safety features for demanding continuous laboratory applications. Protecting your work the bath features auto setting High and Low Alarms, about set temperature. When the alarm is activated, heaters switch off, temperature details revert to a red warning display.

These Shaker baths can also be programmed with delay start, ramp and dwell at set temperature for timed period.

The NE5-28D has in addition to greater capacity, further refinements of an adjustable stroke length, access door and drain outlet.

Additionally an autotune facility allows the shaker bath to learn about applications and its environment.

Features actual temperature logging with set temperature.

With continual diagnostics and a service screen for product support.

Every shaker bath is factory calibrated at a reference temperature for assurance.



Cat No.	NE5-10D
<b>Temperature</b>	
Set point display/resolution	Digital LCD / 0.1°C
Actual display/resolution	Digital LCD / 0.1°C
Range	(min 20°C) ambient +5°C to 99°C
Sensitivity @ 45°C	± 0.1°C
Uniformity @ 45°C	± 0.1°C
+4°C High alarm	Heating off, red indicator and display <sup>10</sup>
-4°C Low alarm	Red indicator and display <sup>10</sup>
Diagnostics	Continuous with messaging and service screen <sup>11</sup>
<b>Timer option</b>	
Display/resolution	Timer messaging/hh:mm:ss
Settings	00h:00m:01s upto 99h:99m:99s <sup>13, 9, 12</sup>
Timer options	Delay start/Ramp/Dwell timers <sup>13, 9, 12</sup>
<b>Shaking</b>	
Stroke length	Fixed 20mm
Speed	up to 380 strokes/min
Flask Tray size	175w x 270d mm
Flask immersion depth	50 - 120mm
Capacity, litres	10l
Internal dimensions	242w x 300d x 200h mm
<b>General</b>	
Overall dimensions	449w x 332d x 290h mm
Drain, outlet	No
Heater, Watts	800W
Safety	Thermal resetting cut-out <sup>7</sup>
Voltage	230V

1. It is recommended that to **save energy** and to achieve optimum performance the bath should be covered with a Lid.
2. NE5-10D supplied with a Trolley and Perforated Tray for accessories to be affixed.
3. NE5-28D supplied with a Trolley, supplied without Perforated Tray SBF01804 for accessories to be affixed.
4. Painted body and controls features Antibacterial protection, hygienic coating which actively inhibits bacterial growth.



## Operation mode

\* Temperature control only

\* Program options delay start <sup>13</sup>, ramp timer <sup>9</sup> and dwell at set temperature with timer <sup>12</sup>.

NES-28D

Digital LCD / 0.1°C  
Digital LCD / 0.1°C

(min 20°C) ambient +5°C to 99°C

±0.1°C

±0.1°C

Heating off, red indicator and display <sup>10</sup>

Red indicator and display <sup>10</sup>

Continuous with messaging and service screen <sup>11</sup>

Timer messaging/hh:mm:ss

00h:00m:01s upto 99h:99m:99s <sup>13</sup>, <sup>9</sup>, <sup>12</sup>

Delay start/Ramp/Dwell timers <sup>13</sup>, <sup>9</sup>, <sup>12</sup>

Variable up to 40mm  
up to 380 strokes/min

175w x 385d mm

50-120mm

28l

500w x 300d x 200h mm

715w x 332d x 290h mm

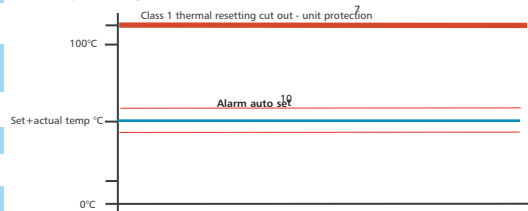
Yes

1000W

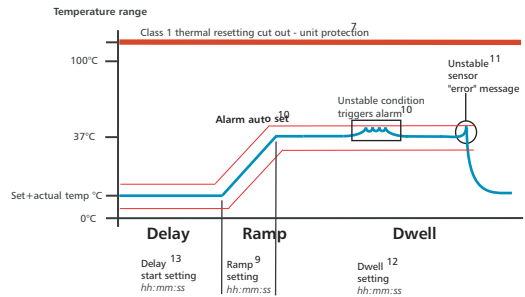
Thermal resetting cut-out <sup>7</sup>

230V

## Temperature range



## Timer options: delay start timer, ramp timer and dwell at set temperature with timer. And showing alarm and mess.

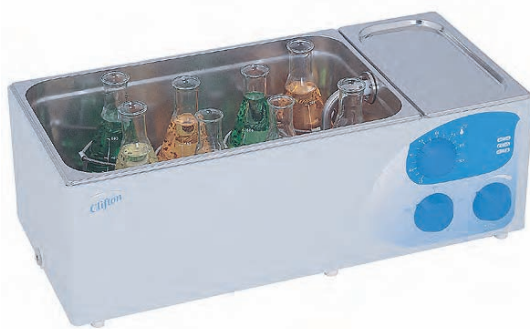


## NE5 series, Shaking

Featuring electronic temperature and shaker speed control for sample incubation with a broad range of accessory clips and racks.

Designed for ease of use and intrinsically safe temperature control systems built in to the durable powder painted Clifton body. The bath uses a deep drawn pressing with rounded corners manufactured from stainless steel which produces the ideal environment for day-to-day use and can be easily cleaned. Inside the bath connected to shaker drive a reciprocating stainless trolley, accepts a wide variety of clip combinations of accessories for holding flasks, micro-titre plates or test tube racks. These can all be easily inter -changed and removed for cleaning purposes.

The heater and safety device are concealed beneath the tank allowing easy cleaning of full working area inside the bath.



Cat No.	NE5-28
Temperature	
Range	ambient +5 °C - 99°C
Sensitivity @ 45°C	± 0.2°C
Uniformity @ 45°C	± 0.1°C
Shaking	
Stroke length	Variable up to 40mm
Speed	up to 380 strokes/min
Flask Tray size	175w x 385d mm
Flask Immersion	50-120 mm
Capacity, litres	28l
Internal Dims	500w x 300d x 200h mm
General	
Overall Dims	715w x 332d x 290h mm
Drain, outlet	Yes
Heater, Watts	1000W
Safety	Self reset cut-out heater
Voltage	230V



1. It is recommended to **save energy** and to achieve optimum performance the bath should be covered with a Lid.
2. NE5-28 supplied with a Trolley to accommodate accessories.
3. Painted body and controls features Antibacterial protection, hygienic coating which actively inhibits bacterial growth.
4. Accessory glassware for illustration purposes only.



# ACCESSORIES

## NE5 Shaker series accessories

The NE5-28 and NE5-28D are supplied complete with a trolley platform to accommodate universal spring tray, flask clip trays and test tube rack trays.

For the NE5-10D flask clips and test tube racks can be mounted directly onto perforated reciprocating trolley, supplied.

## Flask Trays for NE5-28 and NE5-28D

A perforated tray, complete with flask clips to suit common sizes of glass/polypropylene Erlenmeyer flasks. The tray simply drops onto the reciprocating trolley and locates snugly.

Cat. No.	Description
SFT0025	39 x 25ml flask clip tray
SFT0050	32 x 50ml flask clip tray
SFT0100	18 x 100ml flask clip tray
SFT0250	12 x 250 ml flask clip tray
SFT0500	8 x 500 ml flask clip tray
SFT1000	5 x 1000ml flask clip tray
SFT2000	2 x 2000ml flask clip tray
SFT9000	Universal spring tray - a multispring tray to accommodate a variety of sizes of vessel
STT004	Test tube rack tray with side clips - accommodates up to four racks from 687x series
SBF01804	The tray provides a platform onto which racks etc can be placed. Also can be substituted for reciprocating trolley, this allows it to be used as an unstirred bath.



Flask Clip Tray

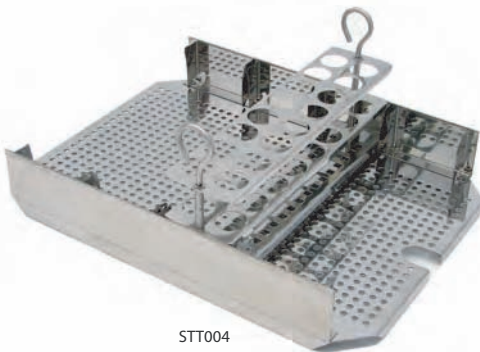


SFT9000

## Test Tube Racks for NE5 series

For the NE5-10D these racks can be mounted directly onto perforated reciprocating trolley. For the NE5-28 and NE5-28D a Test tube rack tray with side clips is required, STT004.

6870	Test tube rack, stainless steel, 26 holes x 17mm dia.
6871	Test tube rack, stainless steel, 16 holes x 26mm dia.
6872	Test tube rack, stainless steel, 36 holes x 13mm dia. also suitable for 1.5ml microtubes.
6873	Test tube rack, stainless steel, 18 holes x 19mm dia.
6900	Test tube rack, stainless steel, 12 holes x 32mm dia.



STT004

1. Maximum 2 off Test Tube Racks can be fitted into the NE5-10D and fasten directly onto trolley.
2. Maximum 4 off Test Tube Racks can be fitted onto STT004 Test tube rack tray into the NE5-28 and NE5-28D.

# BATHS ACCESSORIES

## Lids for NE5 series

The use of a lid helps reduce evaporation and assists in keeping samples free from contamination and **saves energy**.

\* Gable lids with a high profile allowing extended use of the bath area, right into edges of the tank

\* Design ensures that all condensate goes back into bath.

\* No drip points to contaminate samples.



Cat. No.	Description
SL1-8	Gabled lid, lift off, stainless steel for NE5-10D
GL1-8	Gabled lid, hinged, clear polycarbonate for NE5-10D
GL1-8AF	Gabled lid, lift off, clear polycarbonate for NE5-10D
SL1-22	Gabled lid, lift off, stainless steel for NE5-28 and NE5-28D
SL1-22H	Gabled lid, hinged, stainless steel for NE5-28 and NE5-28D
GL1-22	Gabled lid, hinged, clear polycarbonate NE5-28/NE5-28D
GL1-22AF	Gabled lid, hinged, clear polycarbonate NE5-28/NE5-28D



GL1-8



SL1-22

## Separate Flask Clips for NE5 series

For personalised clip arrangement, clips are supplied with all necessary fixings to enable them to be attached to the selected perforated tray SBF01804 (NE5-28D and NE5-28) or SA01773 (NE5-10D).

It is possible to mix and match a variety of clips to suit different applications.

FC0025	25ml flask clip
FC0050	50ml flask clip
FC0100	100ml flask clip
FC0250	250ml flask clip
FC0500	500ml flask clip
FC1000	1000ml flask clip
FC2000	2000ml flask clip
FC2000/HD	2000ml flask clip - heavy duty
FC3000	3000ml flask clip
FC3000/HD	3000ml flask clip - heavy duty
FC3000FB	2.8l Fernbach flask clip
FC5000/HD	5000ml flask clip - heavy duty
M11	Microplate clip
SBF01804	Perforated tray for NE5-28 and NE5-28D
SA01773	Perforated tray for NE5-10D



SFT0050



M11

## Miscellaneous for NE5 series

BX0953	Drain T ap
CAL	Calibration Record
BP0368	Spheres 1 pack NE5-10D, 2 packs NE5-28 or NE5-28D
LB-5.0	5 litres - Lab Bath 4590 - Heat transfer fluid 15°C to 90°C



BX0688



# ULTRASONIC BATHS

SW series ULTRASONICBATHS

## SW series, industrial

These industrial strength Ultrasonic Baths, designed for demanding applications and suitable for continuous operation. Featuring heating and timer controls with ultrasonic boost, degas and sweep functions. Drain outlet and tap fitted in models 6 litres and above.



Cat. No.	SW1H	SW3H	SW6H
Capacity, litres	1 /	3 /	6 /
Internal Dims	190w x 85d x 60h mm	240w x 137d x 100h mm	300w x 150d x 150h mm
Overall Dims	200w x 100d x 180h mm	250w x 150d x 220h mm	310w x 160d x 270h mm
Operating Frequency, kHz	37kHz		
Sonics, Watts	25W	80W	100W
Timer	1, 2, 3, 4, 5, 10, 15, 20, 25, 30 mins and permanent on position		
Heater, Watts	60W	200W	400W
Voltage	230V		

## ACCESSORIES



BSK-1 Stainless steel wire Basket for SW1H

BSK-3 Stainless steel wire Basket for SW3H

BSK-6 Stainless steel wire Basket for SW6H



LD-1 Flat moulded plastic Lid for SW1H

LD-3 Flat moulded plastic Lid for SW3H

LD-6 Flat stainless steel Lid for SW6H

## Features Include:

- \* Stainless steel construction.
- \* High performance industrial strength ultrasonics with sweep function for perfect and even distribution of ultrasonic activity.
- \* Auto-Degassing function useful for liquid changes in the tank, decarbonating and degassing HPLC solutions.
- \* Ultrasonic Boost function for 25% more sonic power.
- \* Easy to use drain facility, 6 litres and above.
- \* Heaters can safely run dry.
- \* Temperature controlled ultrasonics – activity will start once set temperature is achieved.
- \* Indication of time remaining.



SW45H

SW12H	SW30H	SW45H	SW90H
12 l	28 l	45 l	90 l
300w x 240d x 200h mm	505w x 300d x 200h mm	500w x 300d x 300h mm	600w x 500d x 300h mm
365w x 278d x 321h mm	568w x 340d x 321h mm	615w x 370d x 467h mm	715w x 570d x 467h mm
37kHz			
200W	300W	400W	800W
1, 2, 3, 4, 5, 10, 15, 20, 25, 30 mins and permanent on position			
800W	1200W	1600W	2000W
230V			

## ACCESSORIES



BSK-12 Stainless steel wire Basket for SW12H

BSK-30 Stainless steel wire Basket for SW30H

BSK-45 Stainless steel wire Basket for SW45H

BSK-90 Stainless steel wire Basket for SW90H



LD-12 Flat moulded plastic Lid for SW12H

LD-30 Flat moulded plastic Lid for SW30H

LD-45 Flat stainless steel Lid for SW45H

LD-90 Flat stainless steel Lid for SW90H

Cleaning concentrates for SW range

SW-C series features a wide selection of cleaning concentrates, L1 to L5 grade from acidic, neutral to alkaline.



## Service Support

At Nickel-Electro our customers can rely on good service throughout the life of their equipment and even give you the opportunity to download operating instructions that you may have mislaid.

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

A full technical service is available.

We are keen to ensure that new and existing distributors are fully aware of our products. We can arrange training if requested.

## Environmental Policy

We recognise our responsibility towards the environment and strive to ensure that all aspects of the business and its products have the least harmful effect on the environment by:

- \* Designing products for long durable working life supported with comprehensive backup of spares.
- \* Designing equipment using mainly metal based structures for easy conversion, recycling at the end of product life.
- \* Designing equipment to reduce energy consumption during their working life.
- \* Minimising waste in manufacturing and where it is produced compost, re-use or recycle.

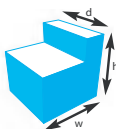
## Anti-bacterial surfaces

Anti-bacterial finishes inhibit 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).

Hygienic coatings are part of a controlled approach to cleaner facilities. Within its formulation an active ingredient with proven anti-bacterial properties is bound into the coating. The efficacy of the finish applied to the Clifton range is maintained over its lifetime, as the anti-bacterial agent is integral within the paint.

In a busy laboratory environment, this finish effectively limits everyday bacteria transfer from operator to equipment and then on to other operators. This is one less source of contamination, contributing to essential clean working practices.

## Key to Dimensions



## Engineered & Built in Great Britain



## Safety and product marking

Clifton range laboratory equipment carries CE mark indicating that it meets the requirements of applicable European Directives.

The Clifton range meets International Standards BS EN 61010-1, Safety requirements for electrical and electronic equipment for measurement, control and laboratory use.

Equipment used for heating additionally meets BS EN 61010-2-010 Particular requirements for laboratory equipment for the heating of materials.

Equipment used for mixing additionally meets BS EN 61010-2-051 Particular requirements for laboratory equipment for mixing and stirring.

Centrifuges meet requirements BS EN 61010-2-020 Particular requirements for laboratory centrifuges.

The Clifton range meets International Standards BS EN 61326-1 Electrical equipment for measurement, control and laboratory use - EMC Requirements both A and B classes.



Every piece of Clifton equipment has a unique serial number, recorded on our database with its manufacturing inspection data. Every item is electrically tested for safety, and a copy of test certificate enclosed in the instruction book.

## Temperature performance

We pride ourselves on assuring that Clifton range performs to the highest level. All Clifton temperature controlled equipment undergoes temperature calibration, in controlled conditions, to thoroughly test its performance before release to you.

Analogue controlled equipment is checked at one temperature over its working range against a UKAS calibrated reference device. We adjust the equipment to reference temperature.

Digital controlled equipment is checked at one or two temperatures over its range against a UKAS calibrated reference device measuring actual and indicated temperatures. A sophisticated system then automatically enters any necessary temperature adjustments and only then is equipment released from the factory.

## Quality System

Our products are designed, developed and manufactured in a tightly controlled ISO9001:2008 environment and all products are CE compliant.



## Future Development

We have a policy of ongoing product development to ensure that tomorrow's laboratory is equipped with innovative, well-designed and reliable equipment.





**NICKEL - ELECTRO LTD.**



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