NICKEL-ELECTRO Ltd.

Manufacturers of the Clifton Range.
Manufacturers of the Clifton Bio Range..
Manufacturers of laboratory, medical and clinical equipment.

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Your local dealer is:

CR/03/05

THE *Clifton* RANGE

NICKEL-ELECTRO Ltd.

Welcome to the *Clifton* 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.

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

We carry out all manufacturing processes in our own factory to ensure that the highest standards of quality control are strictly adhered to and that lead times are closely monitored. This ensures a flexible and fast response to changing demands.

Our commitment to all round high standards of product excellence and quality is demonstrated by our accreditation to IS09002 since 1991.

Melvin Dickson

Managing Director

INVESTOR IN PEOPLE

Service Support

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.

In the UK, on-site repair work can also be undertaken depending on the nature of the problem. For more complex, time consuming repairs, loan units are often available. A full technical service is available to distributors and end-users of our equipment.

Dealer Training

We are keen to ensure that new and existing dealers are fully aware of our products and we can arrange for regular training at our premises or off-site.

Quality System

Our products are designed, developed and manufactured in a tightly controlled ISO9001:2000 environment and all products are CE compliant.

Certificate No. Q09820

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.

Environmental Policy

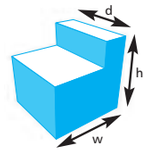
We recognise our responsibility towards the environment and strive to ensure that all aspects of the business have the least harmful effect on the environment by:

- being fully aware of all environmental legislation
- following a policy of re-use, recycling and waste minimisation
- designing products with minimum energy requirements.

Payment Process

We are able to process payments electronically and accept most major debit/credit cards.

Key to Dimensions



ACCESSORIES

MU and DU series Ultrasonic Baths

FLAT LIDS

Minimise evaporation and act as dust covers whilst bath is left overnight for example

Cat No.	Description
LD-0.5	Flat lid, plastic, for 0.5 litre baths
LD-1.5	Flat lid, plastic, for 1.5 litre baths
LD-2.5	Flat lid, plastic, for 2.5 litre baths
Insulated handles	
LD-4	Flat lid, stainless steel, for 4 litre baths
LD-8	Flat lid, stainless steel, for 8 litre baths
LD-14	Flat lid, stainless steel, for 14 litre baths
LD-22	Flat lid, stainless steel, for 22 litre baths

LD-1.5

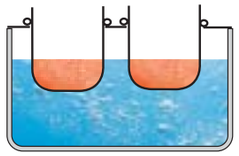
LD-22

STAINLESS STEEL FLAT LIDS FOR BEAKERS

Convenient method for locating beakers into ultrasonic activity separating their content from bath liquid. Ultrasonic activity is transmitted through beaker wall into its contents.

SLU1-4	Beaker lid, stainless steel, for 4 litre baths 2 x 105mm holes suitable for 800ml glass or 1250ml stainless steel beakers◆
SLU1-8	Beaker lid, stainless steel, for 8 litre baths 4 x 83mm holes suitable for 400ml glass or 700ml stainless steel beakers■
SLU1-14	Beaker lid, stainless steel, for 14 litre baths 4 x 105mm holes suitable for 800ml glass or 1250ml stainless steel beakers◆
SLU1-22	Beaker lid, stainless steel, for 22 litre baths 6 x 105mm holes suitable for 800ml glass or 1250ml stainless steel beakers◆

SLU1-14



Indirect ultrasonic action with beakers containing solutions, samples or items immersed in tank with ultrasonic activity.

STAINLESS STEEL BASKETS

We recommend that baskets are used to prevent items touching the bottom or sides of tank. Convenient lifting handles enable contents to be removed without immersing your hands.

BSK-0.5	Basket, stainless steel, for 0.5 litre baths
BSK-1.5	Basket, stainless steel, for 1.5 litre baths
BSK-2.5	Basket, stainless steel, for 2.5 litre baths
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

LD-0.5

Direct ultrasonic action with basket containing samples or items immersed in tank with ultrasonic activity.

MISCELLANEOUS

BX0688	Drain Tap for 22 litre baths
BX0613	Ultraclear Cleaning Solution 1 litre
■204	700ml Stainless Steel Beaker 76mm dia x 165mm
◆205	1250ml Stainless Steel Beaker 100mm dia x 165mm
BX0616	Draining Syphon

BOILING 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.

Circular and rectangular style

- 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 class 1 over-heat protection device
- Supplied with a connector and power cord with plug
- The metal element collar ensures earth continuity to the outer case
- Accessory energy regulator can be used for control between vigorous boil and gentle simmer - see page 5 for details

Circular baths

Cat. No.	Dia x Depth	Hole details	Heater, Watts	Voltage
Gas heated - aluminium				
1020G	125 x 90mm	125mm dia.	-	-
1021G	152 x 102mm	150mm dia.	-	-
1026G	203 x 127mm	200mm dia.	-	-
Electrically heated - aluminium				
1022E	178 x 127mm	175mm dia.	1000W	230V
1026E	203 x 127mm	200mm dia.	1000W	230V
Electrically heated - stainless steel				
1007E	203 x 127mm	200mm dia.	1000W	230V

	DU-14	DU-22
	14*l*	22*l*
	325w x 300d x 150h mm	500w x 300d x 150h mm
	361w x 332d x 290h mm	538w x 332d x 290h mm
	30 - 40kHz	30 - 40kHz
	<65dBa @ 1m	<70dBa @ 1m
	200W	300W
	200W	600W
	Variable - 30 minutes	Variable - 30 minutes
	230V	230V

Features Include:

- Temperature
  - *range: ambient +5°C - 69°C*
  - *digital LED display*
  - *overtemperature alarm*
- Timer
  - *variable 0-30 minutes*
  - *electronic run back timer*
  - *audible buzzer end timed period*
- Heating element, safety cut-out, liquid and temperature sensors
  - *concealed providing a totally clear 'clutter free' working area*
  - *easy to clean*
  - *corrosion resistant stainless steel working environment*
- Side lifting handles
  - *for ease of transportation*
- Low liquid level audible alarm
- Constant tuning ultasonics for optimum working
  - *eliminates need for frequency sweeping*
- Noise reduction techniques for reduced noise levels in a laboratory
  - *insulating gasket between vibrating and static surfaces reducing ultrasonic 'shrill' to a vigorous 'hum'*
  - *at key points inside bath insulation used to dampen noise levels*
  - *using disc transducers rather than pillars for quieter operation*
- Sturdy
  - *powder coated and chemical resistant exterior construction*
- Drain outlet fitted to 22 litre.
  - *remove plug to drain bath*
  - *accessory tap can be fitted for convenient use*

ULTRASONIC BATHS

DU series, Heated

These heated ultrasonic baths are suitable for sonochemistry, degassing and sample dissolution and cleaning of delicate or fragile components/glassware especially where there may be a risk of breakage as a result of manual cleaning. The addition of heaters on this range ensures that optimum operating temperature for maximum ultrasonic efficiency is reached rapidly.

Using high performance piezoelectric disc transducers to ensure, consistant ultrasonic activity throughout the tank liquid ideal for laboratory routines. The activity is called cavitation - this is created by pressure waves which causes bubbles to form and collapse.

Compising of a stainless steel tank housed in a durable paint finished outer case. Wipe clean controls feature bold 2 digit LED display of actual temperature, adjusting temperature and time and activating sonics

Cat. No.	DU-4	DU-8
Capacity, litres	4*l*	8*l*
Internal Dims	300w x 150d x 150h mm	300w x 240d x 150h mm
Overall Dims	332w x 185d x 290h mm	332w x 270d x 290h mm
Operating Frequency, kHz	30 - 40kHz	30 - 40kHz
★ Noise Level	<65dBa @ 1m	<65dBa @ 1m
Sonics, Watts	150W	200W
Heater, Watts	200W	200W
▲Timer	Variable - 30 minutes	Variable - 30 minutes
Voltage	230V	230V

● **It is recommended that to minimise evaporation and act as dust covers preventing contamination whilst the bath is left overnight it should be covered with LD series Lid - see accessories page 26.**

■ **It is essential that either BSK series Baskets or SLU series Lids are used in order to prevent items from touching bottom or sides of the tank - see accessories page 26.**

★ **With accessory lid fitted.**

▲ **Intermittant use only, no permanent on setting.**

Rectangular, multiplace baths

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

Features Include:

- Integral constant level to maintain water level ■
- Supplied with multiple sets of rings to vary diameter holes
- Class 1 over-heat protection device
- Supplied with a connector and power cord with plug
- The metal element collar ensures earth continuity to outer case

Cat. No.	Overall dims	No. of Holes	Heater, Watts	Voltage	Material
Electrically heated					
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	1500W	230V	Stainless Steel
1105E	400w x 200d x 90h mm	6 @80mm dia	1000W	230V	Aluminium

Energy regulator

- **This compact energy regulator is ideal for use with electric round and rectangular boiling baths allowing the degree of boil to be controlled from vigorous boil to gentle simmer.**
- **Supplied with mains inlet and outlet leads.**
- **Suitable for 230V, 50-60Hz operation up to 10 amps.**

ER-1	Energy regulator

▲ **Shown with laboratory consumables for illustration purposes only.**

BOILING BATHS

NE1B series

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.

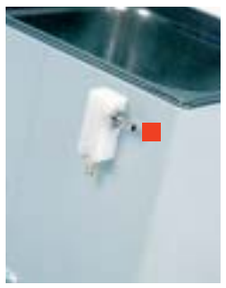
Comprising of a 304 spec (18/8) high quality, stainless steel tank, housed in a durable paint finished outer case. Complete with a removable stainless steel perforated shelf and constant level device. Controls feature an illuminated on/off switch and "heater on" indicator.

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

Features Include:

- Stainless steel perforated false base
  - *removable*
- Stainless steel tank
  - *corrosion resistant and easy to clean*
  - *concealed heating element for easy cleaning*
- Heater with safety cut-out
- Lids optional extra
  - *accessory lid recommended to reduce evaporation above 60˚C*
- Sturdy construction
  - *powder coated for chemical resistant exterior*

Cat No.	NE1B-8	NE1B-14	NE1B-28
Capacity, litres	8*l*	14*l*	28*l*
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	1000W	1500W
Voltage	120V or 230V models	120V or 230V models	120V or 230V models



- Integral constant level device ■ to combat evaporation of water
- Drain outlet fitted to 28 litre

Features Include:

- One piece construction tank
  - *crevice free*
  - *easy to clean*
  - *corrosion resistant stainless steel*
- Noise reduction techniques for reduced noise levels in a laboratory
  - *insulating gasket between vibrating and static surfaces reducing ultrasonic 'shrill' to a vigorous 'hum'*
  - *at key points inside bath insulation used to dampen noise levels*
  - *using disc transducers rather than pillars for quieter operation*
- 8, 14 and 22 litre models
  - *low liquid level audible alarm*
  - *electronic timer*

Cat No.	MU-8	MU-14	MU-22
Capacity, litres	8*l*	14*l*	22*l*
Internal Dims	300w x 240d x 150h mm	325w x 300d x 150h mm	500w x 300d x 150h mm
Overall Dims	332w x 270d x 290h mm	361w x 332d x 290h mm	538w x 332d x 290h mm
Heater, Watts	30 - 40kHz	30 - 40kHz	30 - 40kHz
Voltage	200W	200W	300W
Timer	Variable - 30 minutes	Variable - 30 minutes	Variable - 30 minutes
Noise	<65dBa @ 1m	<65dBa @ 1m	<70dBa @ 1m
Voltage	230V	230V	230V

★ Above 60˚C it is recommended that to achieve optimum performance the bath should be covered with an SL1 Lid or Polypropylene Spheres - see accessories page 14-15.

ULTRASONIC BATHS

MU series, Unheated

These ultrasonic baths are suitable for sonochemistry, degassing and sample dissolution and cleaning of delicate or fragile components/glassware especially where there may be a risk of breakage as a result of manual cleaning.

Using high performance piezoelectric disc transducers to ensure consistant ultrasonic activity throughout the tank liquid ideal for laboratory routines. The activity is called cavitation - this is created by pressure waves which causes bubbles to form and collapse.

Comprising of a stainless steel tank housed in a durable paint finished outer case. Controls feature an illuminated on/off switch, timer and sonics on indicator.

Cat. No.	MU-0.5	MU-1.5	MU-2.5
Capacity, litres	0.5*l*	1.5*l*	2.5*l*
Internal Dims	140w x 80d x 65h mm	140w x 130d x 100h mm	235w x 130d x 100h mm
Overall Dims	181w x 113d x 165h mm	184w x 170d x 237h mm	270w x 170d x 235h mm
Operating Frequency, kHz	30 - 40kHz	30 - 40kHz	30 - 40kHz
Sonic Sq Watts	50W	80W	100W
▲ Timer	Variable - 15 minutes	Variable - 15 minutes	Variable - 15 minutes
★ Noise Level	<65dBa @ 1m	<65dBa @ 1m	<65dBa @ 1m
Voltage	230V	230V	230V

● **It is recommended that to minimise evaporation and act as dust covers preventing contamination whilst the bath is left overnight it should be covered with LD series Lid - see accessories page 26.**

■ **It is essential that either BSK series Baskets or SLU series Lids are used in order to prevent items from touching bottom or sides of the tank - see accessories page 26.**

★ **With accessory lid fitted.**

▲ **Intermittant use only, no permanent on setting.**

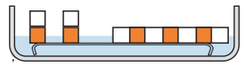
UNSTIRRED BATHS

Shallow Form series

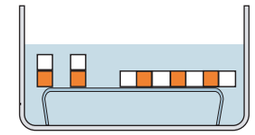
These shallow form Clifton baths are perfect for heating small height samples such as micro tubes and trays. Perfect for heating samples in microcentrifuge tubes and for other molecular-biology procedures.

Cat No.	NE1-9	NE2-9D
Capacity, litres	9*l*	9*l*
Internal Dims	500w x 300d x 65h mm	500w x 300d x 65h mm
Overall Dims	535w x 332d x 135h mm	535w x 332d x 135h mm
Heater, Watts	1000W	1000W
Voltage	120V or 230V models	120V or 230V models

Features Include:



- 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*



- Traditional style
  - *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 shelf*

▲ **NE1-9 Features refer to page 9.**

■ **NE2-9D Features refer to page 11.**

★ **Above 60°C it is recommended that to achieve optimum performance the bath should be covered with an SL1-22 Lid or Polypropylene Spheres - see accessories page 14-15.**

UNSTIRRED BATHS

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. This range of baths will operate at 100°C but is not designed for continuous boiling where the NE1B range is recommended.

Cat No.	NE1-4	NE1-8	NE1-14
Capacity, litres	4*l*	8*l*	14*l*
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

▲ **Other sizes of water baths available (NE1-2.5 and NE1-56).**

★ **Above 60°C it is recommended that to achieve optimum performance the bath should be covered with an SL1 Lid or Polypropylene Spheres - see accessories page 14-15.**

■ **Accessory glassware for illustration purposes only.**

ULTRASONIC BATHS

UNHEATED BATHS

HEATED BATHS

ACCESSORIES

Lids for all NE5 models

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

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

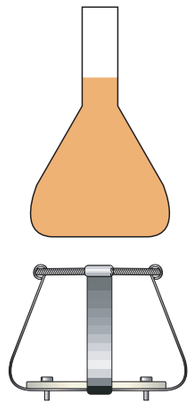
Cat. No.	Description
SL1-8	Gabled lid, lift off, stainless steel for NE5-10D
SL1-22	Gabled lid, lift off, stainless steel for NE5-28/28D
SL1-22H	Gabled lid, hinged, stainless steel for NE5-28/28D

SL1-22H

Separate Flask Clips for all NE5 models

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 Trolley (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
FC3000	3000ml flask clip
FC3000FB	2.8l Fernbach flask clip
M11	Microplate clip
SBF01804	Perforated tray ●



FC0250

Miscellaneous for all NE5 models

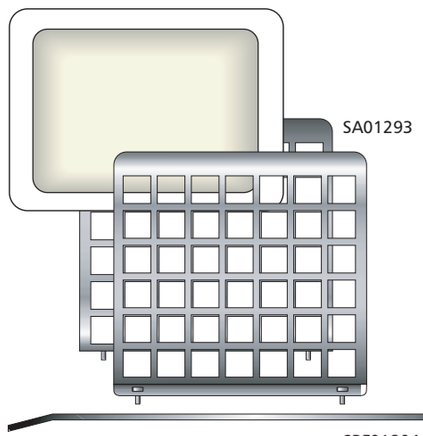
BX0688	Drain Tap
LB-5.0	Lab Bath 4590 - Heat transfer fluid
NE-RS	RS232 Comms option
BP0368	Spheres polypropylene - 1 pack for NE5-10D 2 packs for NE5-28 models

NE-RS

Plasma Bath Option for NE5-28D

- The NE5-28D shaker bath can be converted into a plasma-thawing bath capable of holding up to 12 plasma bags
- Specify the number of sets of clips required up to a maximum of 12 pairs (reference SA01293)
- Specify SBF01804 perforated clip tray
- Specify SL1-22H lid

The bath will accommodate a maximum of 12 bags of FFP (fresh frozen plasma).



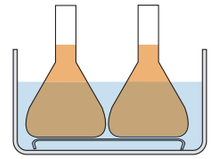
SA01293

SBF01804

NE1-22	NE1-28
22*l*	28*l*
500w x 300d x 150h mm	500w x 300d x 200h mm
538w x 332d x 290h mm	538w x 332d x 290h mm
1500W	1500W
120V or 230V models	120V or 230V models

Features Include:

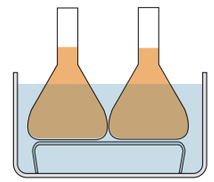
- Sensitivity: ±0.25°C
- Uniformity: ±0.1°C
- Range: ambient +5°C - 100°C
- Thermostat control
- Sturdy construction
  - *powder coated and chemical resistant exterior*
- Heating element, safety cut-out and temperature sensors
  - *concealed underneath the tank providing a totally clear 'clutter free' working area*
  - *easy to clean*
  - *corrosion resistant stainless steel working environment*
- Side lifting handles
  - *for ease of transportation*
- Stainless steel perforated false base
  - *removable*
  - *Clifton "Low" height stainless steel shelf*
- Clifton range style



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

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

- Traditional style



Conventional shelf height.

- Drain outlet fitted to 22 and 28 litre ■
  - *remove plug to drain bath*
  - *accessory tap can be fitted for convenient use*

- Lids optional extra
  - *accessory lid recommended to reduce evaporation above 60°C*

BATHS UNSTIRRED

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, timer, set temperature and over and under temperature indicators.

Cat No.	NE2-4D	NE2-8D	NE2-14D
Capacity, litres	4*l*	8*l*	14*l*
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

- Clearly visible LED display suiting all lighting conditions
  - *time or temperature display*
  - *digital PID temperature control*
  - *menu driven data entry*
  - *indicators heating, alarm, time and set point*
  - *settings retained in memory*
- Wipe clean controls

▲ A larger size of water bath is available (NE2-56D).

★ Above 60ºC it is recommended that to achieve optimum performance the bath should be covered with an SL1 Lid or Polypropylene Spheres - see accessories page 14-15.

■ Accessory glassware shown for illustration only.

BATHS ACCESSORIES

●　★　■

Flask Trays for NE5-28 models

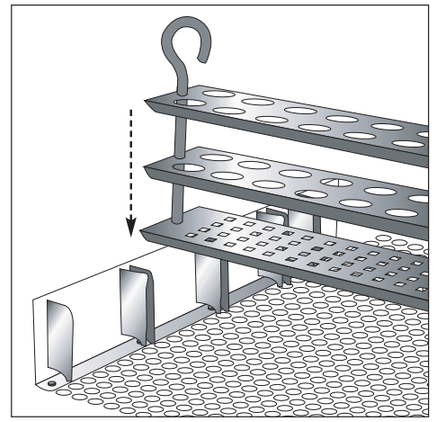
A perforated tray, complete with flask clips to suit common sizes of glass/polypropylene Erlenmeyer flasks. The tray simply drops onto the reciprocating trolley and locates snugly.

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. ●

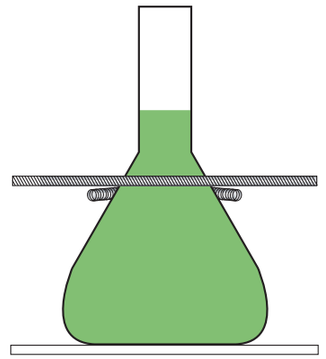
■ Other sizes/styles of clips available on request.

Racks for all NE5 models

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 Test tube rack tray ■



SFT9000 Universal spring tray ★

● Maximum 2 off Test Tube Racks can be fitted NE5-10D and fasten directly onto trolley.

BATHS
SHAKING

NE5 series, Shaking

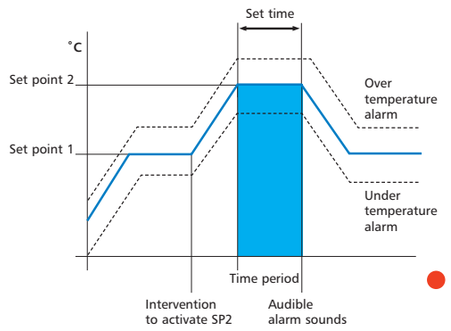
Using an electronic temperature controller with analogue temperature selection and electronic speed control available with broad range of accessory trays, flask clips and racks.

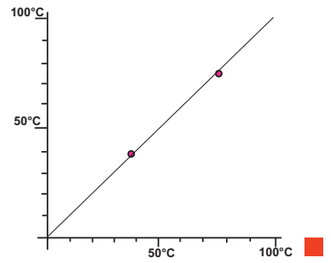
Designed for ease of use and intrinsically safe temperature control systems built in to the durable powder painted Clifton body. The bath uses a deep drawn pressing with rounded corners manufactured from stainless steel which produces the ideal environment for day-to-day use and can be easily cleaned. Inside the bath connected to shaker drive a reciprocating stainless trolley, which 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	28*l*
Internal Dims	500w x 300d x 200h mm
General	
Overall Dims	715w x 332d x 240h mm
Drain, outlet	Yes
Heater, Watts	1000W
Safety	Self reset cut-out heater
Voltage	230V

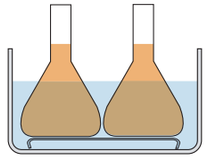
NE2-22D	NE2-28D
22*l*	28*l*
500w x 300d x 150h mm	500w x 300d x 200h mm
538w x 332d x 290h mm	538w x 332d x 290h mm
1500W	1500W
120V or 230V models	120V or 230V models





Features Include:

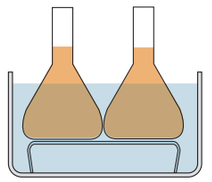
- Temperature
  - *sensitivity: ±0.2°C*
  - *uniformity: ±0.1°C*
  - *range: ambient +5°C - 99°C*
  - *PID control*
  - *digital LED display to 0.1°C resolution*
- Over-temperature alarm
  - *with heater cut off +4°C above set point*
- Timer
  - *variable 0-999 minutes*
  - *cycle commences @ set point 2*
  - *audible at buzzer end of timed period*
- Heating element, safety cut-out and temperature sensors
  - *concealed underneath the tank providing a totally clear 'clutter free' working area*
  - *easy to clean*
  - *corrosion resistant stainless steel working environment*
- Side Lifting handles
  - *for ease of transportation*
- Stainless steel perforated false base
  - *removable*
  - *Clifton "Low" height stainless steel shelf*
- Clifton range style



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

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

- Traditional style



Conventional shelf height.

- Drain outlet fitted to 22 and 28 litre.
- Verify the performance of the ■ temperature control system
  - *Digital display units undergo a factory calibration procedure which calculates the temperature values over the operating range of the equipment from 2 reference calibration points*
- Control options ●
  - *single point temperature controls*
  - *process control with two temperatures and a time setting*

▲ **Above 60°C or below room temperature it is recommended that to achieve optimum performance the bath should be covered with SL1 Lid or Polypropylene Spheres - see accessories page 19-20.**

■ **NE5-28 Supplied without SBF01804 Perforated Tray - see accessories page 19-20.**

BATHS
UNSTIRRED

NE2D series, 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 bijou 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	4*l* + 4*l*	4*l* + 8*l*
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	±0.25°C	±0.25°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

▲ **Duobaths features refer to page 11.**

■ **Shown with laboratory consumables, glassware and accessories.**

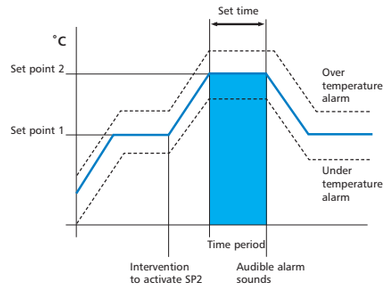
● **Totally unobstructed crevice free tanks.**

★ **Above 60°C it is recommended that to achieve optimum performance the bath should be covered with an SL1 Lid or Polypropylene Spheres - see accessories page 14-15.**

NE5-28D
digital LED / 0.1°C digital LED / 0.1°C
ambient +5°C - 99°C
±0.1°C
±0.1°C
+4°C with heater cut off indication
-4°C with indication
1 minute
variable 0-999 minutes
activated @ set point 2
audible buzzer and end message
Variable up to 40mm up to 380 strokes/min
175w x 385d mm
50-120mm
28*l*
500w x 300d x 200h mm
715w x 332d x 240h mm
Yes
1000W
Self reset cut-out heater
230V

Features Include:

- Control options
  - *single point temperature controls*
  - *process control with two temperatures and a time setting*



- Clearly visible LED display suiting all lighting conditions
  - *time or temperature display*
  - *digital PID temperature control with smart technology for adaptive temperature control maintaining accurate working temperatures*
  - *menu driven data entry*
  - *indicators heating, alarm, time and set point*
  - *settings retained in memory*

- Simultaneous display of set and actual temperature

- Heating element and safety cut-out
  - *concealed underneath the tank*
  - *corrosion resistant stainless steel working environment*
  - *temperature sensor probe immersed directly in liquid for increased temperature sensitivity*
  - *immersed parts can be easily removed for cleaning*

- Verify the performance of the temperature control system
  - *Digital display units undergo a factory calibration procedure which calculates the temperature values over the operating range of the equipment from 2 reference calibration points*

SHAKING BATHS

NE5-D series, Shaking

Use of an advanced PID temperature controller allows observation of set and actual temperature simultaneously. The broad range of accessory trays, flask clips and racks ensures flexibility for routine and specialised work.

Designed and constructed for ease of use and importantly carrying a number of safety features for demanding continuous laboratory applications. Featuring a stainless steel water bath with PID temperature control displaying actual and set water temperature, perforated reciprocating stainless steel trolley which directly accepts flask clips and racks, shaker speed control, and temperature alarms.

Built primarily around reliable and intrinsically safe temperature and speed control systems built into 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 a shaker drive, a reciprocating stainless trolley, which 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 28 Litre versions uniquely feature a useful stainless steel recessed tray for standing flasks on prior to and after immersion.

Temperature control features a highly accurate PT100 sensor with the added advantage of it being immersed in the water for direct temperature measurement. PID temperature controller displaying set and actual water temperature simultaneously.

Protecting your work in the bath, the temperature controller features auto setting alarms about set point. When these activate the heaters switch off.

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

Cat No.	NE5-10D
Temperature	
Set point Display/resolution	digital LED / 0.1°C
Actual Display/resolution	digital LED / 0.1°C
Range	ambient +5°C - 99°C
Sensitivity @ 45°C	±0.1°C
Uniformity @ 45°C	±0.1°C
Over temp. alarm	+4°C with heater cut off indication
Under temp. alarm	-4°C with indication
Timer	
Display/resolution	1 minute
Settings	variable 0-999 minutes
Time cycle	activated @ set point 2
Cycle end	audible buzzer and end message
Shaking	
Stroke length	Fixed 20mm
Speed	up to 380 strokes/min
Flask Tray size	175w x 270d mm
Flask immersion	50 - 120mm
Capacity, litres	10*l*
Internal Dims	242w x 300d x 200h mm
General	
Overall Dims	449w x 332d x 240h mm
Drain, outlet	No
Heater, Watts	800W
Safety	Self reset cut-out heater
Voltage	230V

NE2D-4/22	NE2D-8/22
4*l* + 22*l*	8*l* + 22*l*
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
±0.25°C	±0.25°C
±0.1°C	±0.1°C
1900W	2300W
120V or 230V models	120V or 230V models

▲ **Above 60°C or below room temperature it is recommended that to achieve optimum performance the bath should be covered with SL1 Lid or Polypropylene Sheres - see accessories page 19-20.**

★ **NE5-10D Supplied with Perforated Trolley.**

■ **NE5-28D Supplied without SBF01804 Perforated Tray - see accessories page 19-20.**

Features Include:

Disturbance/swamping

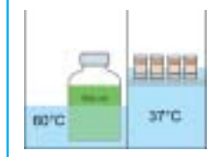
Single bath - shallow depth of water is unsuitable for combination of large and small vessels.

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.



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

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

60˚C tank Preparation.

37˚C tank Incubation.

Shelf heights

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

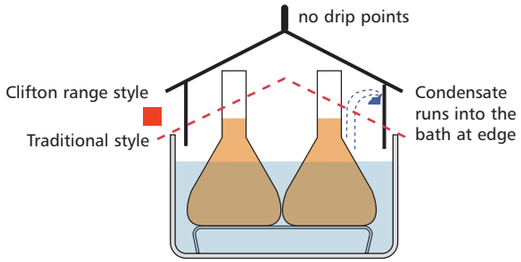
Duo bath - low shelf - for large bottles/flasks. Unique feature of Clifton baths are low height shelves maximising work depth in the tank. Also potentially lower water volumes required increasing heat up performance.

NE1B, NE1, NE2-D and Duo series unstirred water baths

STAINLESS STEEL GABLE LIDS

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

- 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

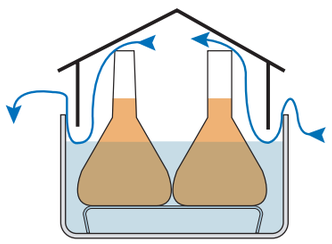


Cat No.	Description
SL1-4	Gabled lid, stainless steel, for 4 litre baths
SL1-8	Gabled lid, stainless steel, for 8 litre baths
SL1-14	Gabled lid, stainless steel, for 14 litre baths
SL1-22	Gabled lid, stainless steel, for 9/22/28 litre baths
SL1-22H	Hinged gabled lid, stainless steel, for 22/28 litre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


SL1-22

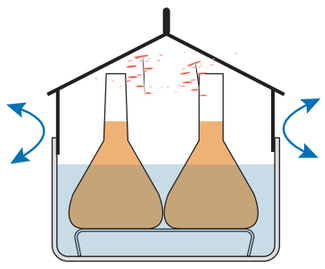
Clifton range style

Natural air flow maintained during incubation, without sacrificing water temperature stability, with the added benefit of minimising micro-biological cross contamination.



Traditional style

Airbourne microbiological spores trapped inside the lid may lead to risk of contamination



STAINLESS STEEL RING SET LIDS

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

SLR1-4	2 x 105mm holes for 4 litre baths
SLR1-8	4 x 83mm holes for 8 litre baths
SLR1-14	4 x 105mm holes for 14 litre baths
SLR2-14	6 x 83mm holes for 14 litre baths
SLR1-22	6 x 105mm holes for 9/22/28 litre baths


SLR1-14

FOOD GRADE PLASTIC GABLE LIDS

GL1-4	Gabled lid, food grade plastic, for 4 litre baths
GL1-14	Gabled lid, food grade plastic, for 14 litre baths
GL1-22	Gabled lid, food grade plastic, for 9/22/28 litre baths


GL1-22

NE1B, NE1, NE2-D and Duo series unstirred water baths

SPHERES, POLYPROPYLENE

Provides a floating lid on water baths to minimise evaporation and allows easy immersion/removal of flasks etc.

Bath Size	No. of packs required		
4 litres	1 pack	22/28 litre	4 packs
8/14 litre	2 packs	9 litre	4 packs

Cat No.	Sphere dia.	Pk qty
BP0368	20 mm	200


NE2-14D shown with 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 which reduces water contamination.

- Insulated handles

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


LD-22

STAINLESS STEEL RACKS

All 304 stainless steel construction.

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: 270mm long x 70mm wide, height to top of lifting handle: 138mm

Max number of racks per bath				
Bath size	4 litre	8 litre	14 litre	22/28 litre
No. racks	1	2	4	6


6871

MISCELLANEOUS

BX0616	Drain Syphon
BX0688	Drain Tap
LB-2.5	2.5 litres - Lab Bath 4590 - Heat Transfer Fluid - max. 90˚C
LB-5.0	5.0 litres - Lab Bath 4590 - Heat Transfer Fluid - max. 90˚C
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