Clifton
UNSTIRRED BATH

THE *Clifton* RANGE

I.C.T, S.L.
INSTRUMENTACIÓN CIENTÍFICO TÉCNICA

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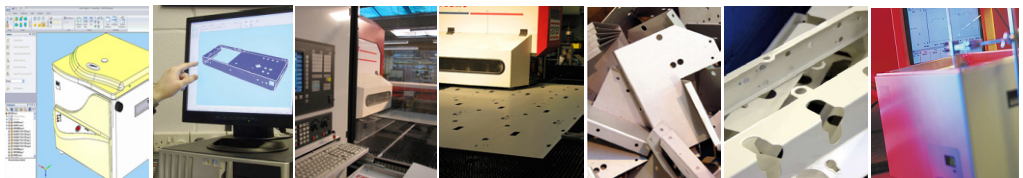
In addition Nickel-Electro manufactures a comprehensive range of laboratory consumables in a variety of materials including aluminium, stainless steel, nickel and zirconium. This complements the Clifton Range and provides our customers with a single source of many types of laboratory equipment.

Melvin Dickson

Managing Director

INVESTOR IN PEOPLE

Our partners Providing world class innovative manufacturing solutions

HEATING

HOTPLATES
BLOCKHEATER

BH-DIG series, Digibloc

Digibloc provides a safe, dry and consistent method of heating using accessory aluminium heating blocks with excellent thermal conductivity. The accurate PID controller has the facility to retain a user adjustable, independent time and temperature combination making it ideally suited for a variety of purposes including heating tubes, micro tubes or vials, which demand repeatability.

The unit consists of a low profile durable corrosion resistant stainless steel case with chemical resistant wipe clean sloping control panel with touch buttons to enter temperature and time values. Indicators show heating, alarm, time and set point modes in use. Supplied with Bloc extraction tool. The accessory probe overrides the internal sensor allowing direct measurement and control of Blocs.
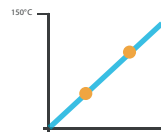
Features Include:

* Sensitivity: ± 0.1°C @ 60°C.
* Uniformity: ± 0.1°C @ 60°C.
* Temperature range:
  ambient + 5°C - 150°C.
* Clearly visible LED display suiting all lighting conditions
  - time or temperature display.
  - menu driven data entry.

★

  - temperature display to 0.1° resolution up to 99°C.
  - indicators heating, alarm, time and set point.
* Precision control
  - In normal use 'Adaptive PID'.
  - Changeable conditions or liquids
* Auto setting Under and Over temperature alarm.
* Time and temperature settings retained after power off.
* Control options
  - temperature control only.
  - process - temperature and time
* Factory pre-set two point calibration completed.

Cat No.	BH-1/DI G
Temperature	
Display/resolution	0.1°C
Range	ambient + 5°C - 150°C
Sensitivity	± 0.1°C @ 60°C
Uniformity well to well	± 0.1°C @ 60°C
Over temp. alarm	+ 4°C with heater cut-off, indication
Timer	
Display/resolution	1 minute
Settings	variable, 00hrs.01mins - 99hrs.59mins
Time cycle	activated @ set point 2
Cycle end	audible buzzer and "end" message
General	
Heater, Watts	250W
Well dims	140w x 50d x 72h mm
Well capacity	1 or 2 ▉
Overall, dims	200w x 295d x 85h mm
Voltage	100 - 230V

1. Two Blocs can be fitted in the Heating well. ▉
2. Wide range of Accessory Blocks, Lid and Probe available - see accessories page 5 ★
3. BH-1/DIG is dual point calibrated at Factory.

150°C

Factory pre-set two point calibration on every unit.

• Chemical resistant controls
  - splash proof, wipe clean.
• Wide choice of accessory Blocs suiting
  - micro tubes, tubes and vials. ★
• Accepts external accessory probe
  - in bloc temperature control. ★

ACCESSORIES
Blocs

DBK-0	Plain Bloc

DBK-0.2	0.2ml micro tube Bloc
	54 holes ■

DBK-0.5	0.5ml micro tube Bloc
	16 holes ■

DBK-1.5	1.5ml micro tube Bloc
	12 holes ■
DBK-2.0	2.0ml micro tube Bloc
	16 holes ■

DBK-10	10mm x 32 Hole Bloc
DBK-12	12mm x 32 Hole Bloc
DBK-13	13mm x 32 Hole Bloc

DBK-16	16mm x 18 Hole Bloc

DBK-19	19mm x 10 Hole Bloc

DBK-25	25mm x 10 Hole Bloc

DBK-50	50ml x 8 Hole Bloc

Miscellaneous

CAL	Calibration Record	BHL-1	Hinged Lid safety cover

BH- T series, Thermubloc

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

Anti-bacterial Protection active Ag+ions

Features Include:

* Sensitivity: ±0.5°C @ 60°C
* Uniformity: ±0.5°C @ 60°C
* Temperature range: ambient +5°C - 120°C
* Easy to use

Cat No.	BH-1T
Temperature	
Display/resolution	analogue
Range	ambient +5°C - 120°C
Sensitivity	±0.5°C @ 60°C
Uniformity well to well	± 0.5°C @ 60°C
General	
Heater, W atts	250W
Well dims	140w x 50d x 72h mm
Well capacity	1 or 2
Overall, dims	200w x 295d x 85h mm
Voltage	100 - 230V

1. Two Blocs can be fitted in the Heating well. ■
2. BH-1/DIG is dual point calibrated at Factory.
3. Painted body features Anti-bacterial protection, a hygenic coating which inhibits bacterial growth.

HOTPLATES
DIGITAL

HP1D series,
Digital Hotplates

These digital hotplates feature a precision PID controller providing degree by degree temperature setting and control, with refined hotplate sensitivity.

Temperature and time settings are retained in memory, even after power off.

Featuring a hob surface which overlaps the body to ensure that no spillages enter the controls.

The hob is solid aluminium, 12mm thick for excellent thermal properties and even heat distribution over its working area.

Anti-bacterial
Protection
active Ag+ions
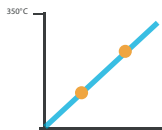
Factory pre-set two point calibration on every unit.
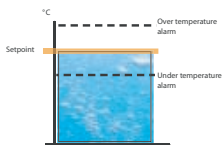
Auto set temperature alarms

Features Include:

* Sensitivity ±0.5°C @ 60°C.

* Uniformity ±0.5°C @ 60°C.

* Clear 3 digit display: 1°C resolution.

* Auto setting Over temperature alarm.

* Variable Timer
  - 00hrs.01mins - 99hrs.59mins
  - activated once set point is reached
  - audible buzzer and end message

* Precision control
  - In normal use 'Adaptive PID'.
  - Changeable conditions or liquids

* Durable
  - Bath body zinc coated steel, for corrosion protection, powder coated exterior with a chemical resistant anti-bacterial paint.
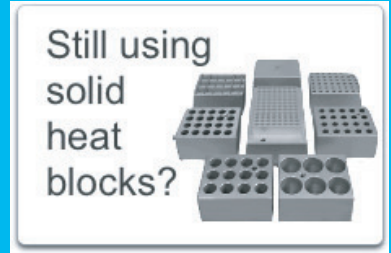 - Chemical resistant*, anti-bacterial splash proof controls.

Cat. No.	HP1-1D	HP1-2D
Hotplate dims	305w x 240d mm	457w x 305d mm
Temperature settings	ambient + 10°C to 350°C	
Temperature control	Digital, PID, PT100	
Over temp. alarm	+10°C, warning message, heater cut off, indicator	
Retort points	1	2
Overall, dims	305w x 240d x 200h mm	457w x 305d x 200h mm
Heater, Watts	1000W	2000W
Voltage	230V	

1. HP-D Hotplates are dual point calibrated at Factory.
2. Painted body and splash proof controls features Anti-bacterial protection, a hygenic coating which actively inhibits bacterial growth.
3. Control panel has good general chemical and detergent resistance.
4. A larger size Digital Hotplate is available HP1-3D - based on unit sizes detailed HP1-3 Analogue Hotplates.

BATH ARMOR™
FULL METAL

Still using water?

Still using solid heat blocks?

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 bourne 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.

HOTPLATES

HP1 series,
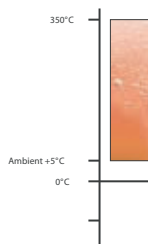## Analogue Hotplates

These analogue hotplates feature a generous working area.

Thermostatically controlled, with an illuminated on/off switch and heater indicator.

Featuring a heating surface which overlaps the body to ensure that no spillages enter the controls. This surface is a substantial solid aluminium plate providing excellent thermal properties with even temperature distribution over its working area.

All these hotplates accept standard laboratory retort rods enabling scaffolding to be constructed.

These hotplates are constructed from durable zinc coated steel with chemical resistant anti-bacterial paint finish.

Cat. No.	HP1-1	HP1-2
Hotplate dims	305w x 240d mm	457w x 305d mm
Max. surface temp.	350°C	350°C
Temperature control	Analogue, thermostatic	Analogue, thermostatic
Retort points	1	2
Overall, dims	305w x 240d x 200h mm	457w x 305d x 200h mm
Heater, Watts	1000W	2000W
Voltage	230V	230V

1. A range of accessories are available - see accessories page 7.
2. Painted body and control panel features anti-bacterial protection, a hygenic coating which actively inhibits bacterial growth.

Features Include:

* Sensitivity ±10°C @ 150°C.

* HOT warning indicator - above 60°C.

* Temperature range: ambient +5°C - 350°C.

* "Heater ON" and "Mains supply ON" indicator.

* Solid aluminium top plate with excellent thermal properties.

* Hob overlaps the controls ensuring spillage's do not ingress into controls.

* Easily converted into a sand bath with accessory kit. Sand bath provides even heating for a vessels or containers, for chemical reactions.

HOTPLATE
ACCESSORIES

HP series of Hotplates

SAND BATHS

Cat. No.	Description
SB1-1	Sand bath kits for HP1-1 and HP1-1D Hotplates.
SB1-2	Sand bath kits for HP1-2 and HP1-2D Hotplates.
SB1-3	Sand bath kits for HP1-3 and HP1-3D Hotplates.

HP1-3
686w x 305d mm
350°C
Analogue, thermostatic
2
686w x 305d x 200h mm
3000W
230V

MISCELLANEOUS

CAL	Calibration Record

C O O L E D I N C U B A T O R S

NE7 series, Cooled Incubators

This series of Clifton Cooled Incubators feature precision time and temperature control with programming options from 0°C to 70°C. Microprocessor control with auto diagnostics, digital LCD display to 0.1°C resolution, three program memory with event log of actual temperature and time data with RS232 interface. Calibrated at 37°C with certificate.

It can provide heating or cooling cycles or produce a controlled environment above or below ambient. Featuring forced air circulation with Fan speed regulation from 0 to 100%.

Featuring wipe clean touch pad controls illuminated LCD display for viewing wide range of settings, programs, temperature and time values.

The high grade 304 spec stainless steel chamber is sealed shut with a solid door. Other door options available include a window in the door or an internal glass door allowing the observation the chamber with no temperature disturbance.

The Cooled range can be specified with accessory "Photoperiodic System" lighting elements. This makes the Incubator suitable for plant growth, micro organisms, fungi, etc. A wide range of light sources, light colour and illumination intensity can be installed in the chamber.

NE7-56S

Temperature range

70°C

Ambient +5°C

0°C

-10°C   Accessory cooling 3
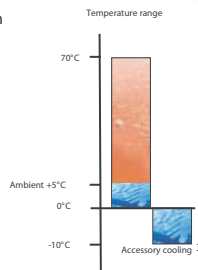
Cat. No.	NE7-56S	NE7-112S	NE7-240S
Capacity, litres	56 *l*	112 *l*	240 *l*
Internal Dims [2]	395w x 360d x 395h mm	460w x 450d x 540h mm	600w x 510d x 800h mm
Overall Dims	590w x 560d x 950h mm	650w x 650d x 1095h mm	815w x 710d x 1420h mm
Sensitivity @37°C [1]	±0.1°C	±0.1°C	±0.2°C
Sensitivity @10°C [1]	±0.4°C	±0.4°C	±0.5°C
Uniformity @37°C [5]	±0.2°C	±0.2°C	±0.2°C
Shelves fitted	2	2	3
Shelves max no.	5	7	10
Watts	400W	400W	800W
Voltage	230V	230V	230V
Weight	69kg	90kg	140kg

1. Sensitivity measurements based on temperature readings on shelf in centre of the chamber.
2. Working capacity of chamber can be smaller.
3. Temperature range can be extended to -10°C as an accessory item, factory configurable.
4. Before ordering please check the room or building access where this Incubator will be installed and electrical power requirements.
5. Uniformity measured in vertical axis in the chamber using Wired Shelves.
6. Incubator constructed from powder coated stainless steel.

Features Include:

* Temperature
  - range: 0°C to 70°C (-10°C to 70°C)[3]
  - dual pt100 temperature probes [11]

* Temperature and time programmable
  - operate with six segment temperature-time profile with delay ON[13] heating up[9] hold at set point and cooling down - settable 1 minute to 99 hours[12]
  - or use in continuous mode at set point with either delay start[13] or timed up to 999 hours[12]
  - date and time setting, program start unsupervised[13]
  - audible alarm and display, setting 0.5°C to 5.0°C about set point [10]
  - fast temperature rise to attain set point or normal for no overshoot[9]

* Over-temperature protection
  - class 1, thermal cut out +80°C and separate element overheat protection[7]
  - class 2, experiment/sample protection, adjustable setting above set point, heating and cooling switched off, audible and visual indication[8]
  - temperature sensor fail alarm[11]
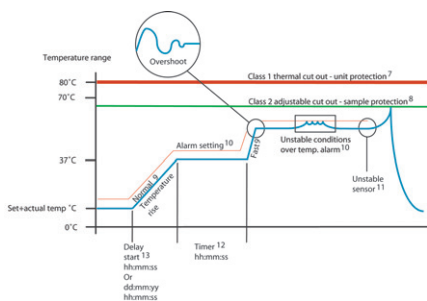
	NE7-400S	NE7-750S
	400 *l*	750 *l*
	800w x 510d x 1040h mm	1040w x 600d x 1200h mm
	1015w x 710d x 1610h mm	1250w x 810d x 1780h mm
	±0.3°C	±0.5°C
	±0.7°C	±0.7°C
	±0.4°C	±0.5°C
	3	5
	14	16
	1200W	1800W
	230V	230V
	180kg	280kg

Ask about Chill Buckets your mobile mini cooled incubator for 8 hours cold benchtop use. The ice bucket, reinvented. No more melted ice, puddles, floating tubes or wet and contaminated samples.

ACCESSORIES - FACTORY FIT OPTIONS

NE7 series Cooled Incubators

ADDITIONAL INTERIOR GLASS DOOR

Cat No.	Description
GD-56	Additional interior glass door, for 56 litre incubators
GD-112	Additional interior glass door, for 112 litre incubators
GD-240	Additional interior glass door, for 240 litre incubators
GD-400	Additional interior glass door, for 400 litre incubators
GD-750	Additional interior glass door, for 750 litre incubators

DOOR WITH VIEWING WINDOW

Cat No.	Description
W-56	Door with viewing window, for 56 litre incubators
W-112	Door with viewing window, for 112 litre incubators
W-240	Door with viewing window, for 240 litre incubators
W-400	Door with viewing window, for 400 litre incubators
W-750	Door with viewing window, for 750 litre incubators

WIRE SHELVES

Cat No.	Description
WS-56	Wire shelf, max 10 kg load, for 56 litre incubators
WS-112	Wire shelf, max 10 kg load, for 112 litre incubators
WS-240	Wire shelf, max 10 kg load, for 240 litre incubators
WS-400	Wire shelf, max 10 kg load, for 400 litre incubators
WS-750	Wire shelf, max 10 kg load, for 750 litre incubators

PERFORATED SHELVES

Cat No.	Description
SP-56	Perforated shelf, max 10 kg load, for 56 litre
SP-112	Perforated shelf, max 10 kg load, for 112 litre incubators
SP-240	Perforated shelf, max 10 kg load, for 240 litre incubators
SP-400	Perforated shelf, max 10 kg load, for 400 litre incubators
SP-750	Perforated shelf, max 10 kg load, for 750 litre incubators

PHOTOPERIODIC SYSTEM
Featuring day and night simulation software, maximum night temperature range -10°C to 70°C and +5°C to 70°C for day temperatures.
A wide range of light sources, light colour and intensity can be installed in the chamber.

Cat No.	Description
PH-2-56	2 light elements, ceiling mounted, for 56 litre incubators
PH-3-112	3 light elements, ceiling mounted, for 112 litre incubators
PH-5-56	5 light elements, door mounted, for 56 litre incubators
PH-6-112-240	6 light elements, door mounted, for 112, 240 litre incubators
PH-8-240-400	8 light elements, door mounted, for 240, 400 litre incubators
PH-10-750	10 light elements, door mounted, for 750 litre incubators

MISCELLANEOUS

Cat No.	Description
IS-1	Internal power socket
OT-3.1	Over-temperature protection 3.1
OT-3.2	Under-temperature protection 3.2
OT-3.3	Over and under temperature protection 3.3
HEPA-1	HEPA air filter in the air inlet
ODC-1	Open door counter
EP-5	Additional PT100 temperature sensor for remote measurement
DA-1	Audible door alarm

ADDITIONAL ACCESSORIES ARE AVAILABLE INCLUDING TEMPERATURE RANGE TO -10°C, ACCESS PORTS, CASTORS, TABLES, COMMUNICATION AND CALIBRATION+IQ/OQ/PQ. www.nickelelectro.co.uk FOR MORE INFOMATION.

NATURAL CIRCULATION S

NE8-E series, Incubators, natural circulation

An economical range of Clifton Incubators featuring precision temperature control up to 70°C ideally suited for incubations. Featuring wipe clean touch pad controls digital display of set or actual temperature.

NE8-56E

Cat. No.	NE8-15E	NE8-32E	NE8-56E
Capacity, litres	15 l	32 l	56 l
Internal Dims [2]	320w x 200d x 240h mm	400w x 250d x 320h mm	395w x 360d x 395h mm
Overall Dims	440w x 350d x 520h mm	520w x 400d x 600h mm	590w x 560d x 690h mm
Sensitivity @ 37°C [1]	±0.5°C	±0.5°C	±0.4°C
Shelves fitted	1	1	2
Shelves max no.	2	3	5
Heater, Watts	300W	400W	400W
Voltage	230V	230V	230V

1. Sensitivity measurements based on temperature readings on shelf in centre of the chamber.
2. Working capacity of chamber can be smaller.
3. Before ordering please check the room or building access where this Incubator will be installed and electrical power requirements.
4. Incubator construction stainless steel powder coated.

Features Include:

* Temperature
  - range: ambient +5°C - 70°C
  - microprocessor control, single temperature probe
  - auto diagnostic system
  - digital display to 1°C resolution
  - calibration certificate @ 37°C

* Temperature and time programmable
  - one segment temperature-time profile
    with delay [13] and timer at set-point
    from 1 minute to 99 hours.
  - timer activated once set point is reached [12]
  - continuous mode at set point with
    option timer up to 99 hours
  - manual Air-flap control, adjustable

* Over-temperature protection
  - class 1, thermal fuse [7]
  - temperature sensor fail alarm
  - power failure alarm

* Chamber
  - natural air circulation
  - stainless steel 304
  - solid door, options available
  - shelf maximum loading 10 kg
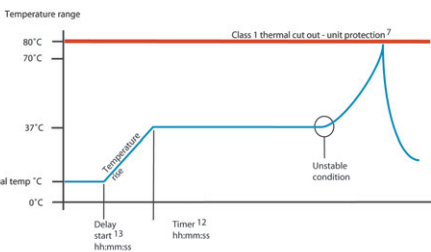
Temperature range

NE8-112E	NE8-240E
112 l	240 l
460w x 450d x 540h mm	600w x 510d x 800h mm
650w x 650d x 835h mm	815w x 710d x 1140h mm
±0.4°C	±0.4°C
2	3
7	10
400W	800W
230V	230V

Ask about Walk about Trays for your samples useful in or out of Incubators minimizing temperature shocks. An incubated Walk about Tray keeps your work at temperature 15 times longer than plastic or metal racks!

ACCESSORIES - FACTORY FIT OPTIONS

NE8-E series Incubators

ADDITIONAL INTERIOR GLASS DOOR

Opening the solid door the Interior Glass Door allows chamber area to be viewed whilst retaining working temperature in the chamber - this also saves energy.

Cat No.	Description
GD-56	Additional interior glass door, for 56 litre incubators
GD-112	Additional interior glass door, for 112 litre incubators
GD-240	Additional interior glass door, for 240 litre incubators

DOOR WITH VIEWING WINDOW

Viewing window in the solid door allows chamber area to be viewed whilst retaining working temperature in the chamber - this also saves energy.

Cat No.	Description
W-56	Door with viewing window, for 56 litre incubators
W-112	Door with viewing window, for 112 litre incubators
W-240	Door with viewing window, for 240 litre incubators

WIRE SHELVES

Cat No.	Description
SW-15	Wire shelf, max 10 kg load, for 15 litre incubators
SW-32	Wire shelf, max 10 kg load, for 32 litre incubators
SW-56	Wire shelf, max 10 kg load, for 56 litre incubators
SW-112	Wire shelf, max 10 kg load, for 112 litre incubators
SW-240	Wire shelf, max 10 kg load, for 240 litre incubators

PERFORATED SHELVES

Cat No.	Description
SP-15	Perforated shelf, max 10 kg load, for 15 litre incubators
SP-32	Perforated shelf, max 10 kg load, for 32 litre incubators
SP-56	Perforated shelf, max 10 kg load, for 56 litre incubators
SP-112	Perforated shelf, max 10 kg load, for 112 litre incubators
SP-240	Perforated shelf, max 10 kg load, for 240 litre incubators

TEST TUBE RACKS

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.
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

ADDITIONAL ACCESSORIES ARE AVAILABLE INCLUDING ROTARY MIXERS, ACCESS PORTS, CASTORS, TABLES AND CALIBRATION+IQ/OQ/PQ.
ASK FOR DETAILS OR REFER TO www.nickelelectro.co.uk FOR MORE INFOMATION.

INCUBATORS

## NE8-S series, Incubators, fan circulation

This series of Clifton Incubators feature precision time and temperature control with programming options from ambient +5°C to 100°C. It can provide fast heating cycles to produce a controlled environment above ambient. Microprocessor control with auto diagnostics, digital LCD display to 0.1°C resolution, three program memory with event log of actual temperature and time data with RS232 interface. Calibrated at 37°C with Certificate.

Featuring wipe clean touch pad controls illuminated LCD display for viewing wide range of settings, programs, temperature and time values.

The high grade 304 spec stainless steel chamber is sealed shut with a solid door. Other door options available include a window in the door or an internal glass door allowing the observation the chamber with no temperature disturbance.

NE8-56S

Temperature range

100°C

Ambient +5°C

0°C
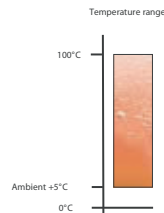
Cat. No.	NE8-56S	NE8-112S	NE8-240S
Capacity, litres	56 l	112 l	240 l
Internal Dims [2]	395w x 360d x 395h mm	460w x 450d x 540h mm	600w x 510d x 800h mm
Overall Dims	590w x 560d x 690h mm	650w x 650d x 835h mm	815w x 710d x 1140h mm
Sensitivity @37°C [1]	±0.2°C	±0.2°C	±0.2°C
Sensitivity @50°C [1]	±0.2°C	±0.2°C	±0.2°C
Uniformity @37°C [4]	±0.2°C	±0.2°C	±0.2°C
Shelves fitted	2	2	3
Shelves max no.	5	7	10
Watts	400W	400W	800W
Voltage	230V	230V	230V
Weight	50kg	65kg	120kg

1. Sensitivity measurements based on temperature readings on shelf in centre of the chamber.
2. Working capacity of chamber can be smaller.
3. Before ordering please check the room or building access where this Incubator will be installed and electrical power requirements.
4. Uniformity measured in vertical axis in the chamber using Wired Shelves.
5. Incubator constructed from powder coated stainless steel.

Features Include:

* Temperature
  - range: ambient +5°C - 100°C
  - dual pt100 temperature probes [11]

* Temperature and time programmable
  - operate with six segment temperature-time profile with delay ON [13], heating up [9] and hold at set point, [12] settable 1 minute to 99 hours
  - or use in continuous mode at set point with either delay start [13] or timed up to 999 hours [12]
  - date and time setting, program start unsupervised [13]
  - audible alarm and display, setting 0.5°C to 5.0°C about set point [10]
  - fast temperature rise to attain set point or normal for no overshoot [9]

* Over-temperature protection
  - class 1, thermal cut out +110°C and separate element overheat protection [7]
  - class 2, experiment/sample protection, adjustable setting about set point, heating switched off, audible and visual indication [8]
  - temperature sensor fail alarm [11]
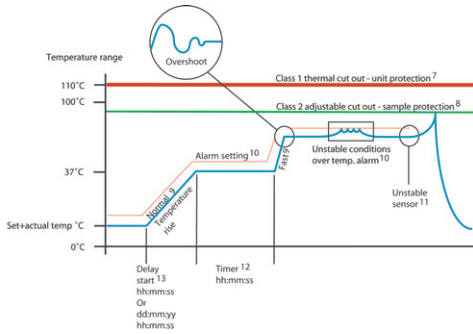
	NE8-400S	NE8-750S
	400 *l*	750 *l*
	800w x 510d x 1040h mm	1040w x 600d x 1200h mm
	1015w x 710d x 1385h mm	1250w x 810d x 1620h mm
	±0.2°C	±0.2°C
	±0.4°C	±0.4°C
	±0.3°C	±0.3°C
	3	5
	14	16
	1200W	1800W
	230V	230V
	174kg	280kg

ACCESSORIES - FACTORY FIT OPTIONS

NE8-S series Incubators

ADDITIONAL INTERIOR GLASS DOOR

Cat No.	Description
GD-56	Additional interior glass door, for 56 litre incubators
GD-112	Additional interior glass door, for 112 litre incubators
GD-240	Additional interior glass door, for 240 litre incubators
GD-400	Additional interior glass door, for 400 litre incubators
GD-750	Additional interior glass door, for 750 litre incubators

DOOR WITH VIEWING WINDOW

Cat No.	Description
W-56	Door with viewing window, for 56 litre incubators
W-112	Door with viewing window, for 112 litre incubators
W-240	Door with viewing window, for 240 litre incubators
W-400	Door with viewing window, for 400 litre incubators
W-750	Door with viewing window, for 750 litre incubators

WIRE SHELVES

Cat No.	Description
WS-56	Wire shelf, max 10 kg load, for 56 litre incubators
WS-112	Wire shelf, max 10 kg load, for 112 litre incubators
WS-240	Wire shelf, max 10 kg load, for 240 litre incubators
WS-400	Wire shelf, max 10 kg load, for 400 litre incubators
WS-750	Wire shelf, max 10 kg load, for 750 litre incubators

PERFORATED SHELVES

Cat No.	Description
SP-56	Perforated shelf, max 10 kg load, for 56 litre incubators
SP-112	Perforated shelf, max 10 kg load, for 112 litre incubators
SP-240	Perforated shelf, max 10 kg load, for 240 litre incubators
SP-400	Perforated shelf, max 10 kg load, for 400 litre incubators
SP-750	Perforated shelf, max 10 kg load, for 750 litre incubators

TEST TUBE RACKS

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.
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

LAB ARMOR

BA-0.5	Bath Armor pack 0.5 Litre
WA-0	Walkabout Insulative Scoop Tray
BUCB-1	Chill Bucket with Beads, bag and Chilli Packs

MISCELLANEOUS

Cat No.	Description
IS-1	Internal power socket
OT-3.1	Over-temperature protection 3.1
OT-3.2	Under-temperature protection 3.2
OT-3.3	Over and under temperature protection 3.3
HEPA-1	HEPA air filter in the air inlet
ODC-1	Open door counter
EP-5	Additional PT100 temperature sensor for remote measurement
DA-1	Audible door alarm

ADDITIONAL ACCESSORIES ARE AVAILABLE INCLUDING ROTARY MIXERS, ACCESS PORTS, CASTORS, TABLES, COMMUNICATION AND CALIBRATION+IQ/OQ/PQ. ASK FOR DETAILS OR REFER TO www.nickelelectro.co.uk FOR MORE INFOMATION.

NATURAL CIRCULATION

NE9-E series, Ovens, natural circulation

An economical range of Clifton Ovens featuring precision temperature control up to 250°C featuring wipe clean controls and digital display of set or actual temperature.

NE9-56E

Cat. No.	NE9-15E	NE9-32E	NE9-56E
Capacity, litres	15 *l*	32 *l*	56 *l*
Internal Dims [2]	320w x 200d x 240h mm	400w x 250d x 320h mm	395w x 360d x 395h mm
Overall Dims	440w x 350d x 520h mm	520w x 400d x 600h mm	590w x 560d x 690h mm
Sensitivity @ 70°C [1]	±0.7°C	±0.7°C	±0.7°C
Shelves fitted	1	1	2
Shelves max no.	2	3	5
Heater, Watts	600W	1100W	1600W
Voltage	230V	230V	230V

1. Sensitivity based on fluctuation in temperature on shelf in centre chamber.
2. Working capacity of chamber can be smaller.
3. Before ordering please check the room or building access where this Incubator will be installed and electrical power requirements.
4. Oven construction stainless steel powder coated.

Features Include:

* Temperature
  - range: ambient +5°C - 250°C
  - microprocessor control, single temperature probe
  - auto diagnostic system
  - digital display to 1°C resolution
  - calibration certificate @ 105°C

* Temperature and time programmable
  - one segment temperature-time profile with delay[13] and timer at set-point from 1 minute to 99 hours.
  - timer activated once set point is reached [12]
  - continuous mode at set point with option timer up to 99 hours

* Over-temperature protection
  - class 1, thermal fuse [7]
  - temperature sensor fail alarm
  - power failure alarm

* Chamber
  - natural air circulation
  - stainless steel 304
  - solid door, options available
  - shelf maximum loading 10 kg

Temperature range
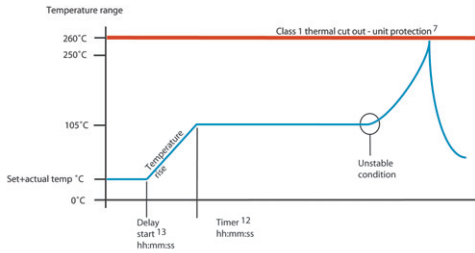
	NE9-112E	NE9-240E
	112 *l*	240 *l*
	460w x 450d x 540h mm	600w x 510d x 800h mm
	650w x 650d x 835h mm	815w x 710d x 1140h mm
	±0.7°C	±0.8°C
	2	3
	7	10
	2400W	3000W
	230V	230V

ACCESSORIES - FACTORY FIT OPTIONS
NE9-E series Ovens

DOOR WITH VIEWING WINDOW

Viewing window in the solid door allows chamber area to be viewed whilst retaining working temperature in the chamber - this also saves energy.

Cat No.	Description
W-56	Door with viewing window, for 56 litre ovens
W-112	Door with viewing window, for 112 litre ovens
W-240	Door with viewing window, for 240 litre ovens

WIRE SHELVES

Cat No.	Description
SW-15	Wire shelf, max 10 kg load, for 15 litre ovens
SW-32	Wire shelf, max 10 kg load, for 32 litre ovens
SW-56	Wire shelf, max 10 kg load, for 56 litre ovens
SW-112	Wire shelf, max 10 kg load, for 112 litre ovens
SW-240	Wire shelf, max 10 kg load, for 240 litre ovens

PERFORATED SHELVES

Cat No.	Description
SP-15	Perforated shelf, max 10 kg load, for 15 litre ovens
SP-32	Perforated shelf, max 10 kg load, for 32 litre ovens
SP-56	Perforated shelf, max 10 kg load, for 56 litre ovens
SP-112	Perforated shelf, max 10 kg load, for 112 litre ovens
SP-240	Perforated shelf, max 10 kg load, for 240 litre ovens

ADDITIONAL ACCESSORIES ARE AVAILABLE INCLUDING ACCESS PORTS, CASTORS, TABLES AND CALIBRATION+IQ/OQ/PQ.
ASK FOR DETAILS OR REFER TO www.nickelelectro.co.uk FOR MORE INFOMATION.

NE9-S series, Ovens, fan circulation

This series of Clifton Drying Ovens feature precision time and temperature control with programming options from ambient +5°C to 300°C.

Microprocessor control with auto diagnostics, digital LCD display to 0.1°C resolution, three program memory with event log of actual temperature and time data with RS232 interface. Calibrated at 105°C with Certificate.

It can provide heating cycles to produce a controlled environment above ambient.

Featuring wipe clean touch pad controls illuminated LCD display for viewing wide range of settings, programs, temperature and time values

The high grade 304 spec stainless steel chamber is sealed shut with a solid door. Alternative door configuration includes a window in the door allowing the observation the chamber with no temperature disturbance.

NE9-56S

Cat. No.	NE9-56S	NE9-112S	NE9-240S
Capacity, litres	56 *l*	112 *l*	240 *l*
Internal Dims [2]	395w x 360d x 395h mm	460w x 450d x 540h mm	600w x 510d x 800h mm
Overall Dims	590w x 560d x 690h mm	650w x 650d x 835h mm	815w x 710d x 1140h mm
Sensitivity @70°C [1]	±0.3°C	±0.3°C	±0.4°C
Sensitivity @150°C [1]	±0.3°C	±0.5°C	±0.5°C
Uniformity @150°C [4]	±0.7°C	±0.8°C	±0.9°C
Shelves fitted	2	2	3
Shelves max no.	5	7	10
Watts	1600W	2400W	3000W
Voltage	230V	230V	230V
Weight	50kg	65kg	126kg

1. Sensitivity measurements based on temperature readings on shelf in centre of the chamber.
2. Working capacity of chamber can be smaller.
3. Before ordering please check the room or building access where this Incubator will be installed and electrical power requirements.
4. Uniformity measured in vertical axis in the chamber using Wired Shelves.
5. Oven constructed from powder coated stainless steel.

Features Include:

* Temperature
  - range: ambient +5°C - 300°C
  - dual pt100 temperature probes [11]

* Temperature and time programmable
  - operate with six segment temperature-time profile with delay ON [13], heating up [9], hold at set point [12] and cooling down - settable 1 minute to 99 hours
  - or use in continuous mode at set point with either delay start[13] or timed up to 999 hours [12]
  - date and time setting, program start unsupervised [13]
  - audible alarm and display, setting 0.5°C to 10°C about set point [10]
  - fast temperature rise to attain set point or normal for no overshoot [9]

* Over-temperature protection
  - class 1, thermal cut out 310°C and separate element overheat protection [7]
  - class 2, experiment/sample protection, adjustable setting above set point, heating switched off, audible and visual indication [8]
  - temperature sensor fail alarm [11]
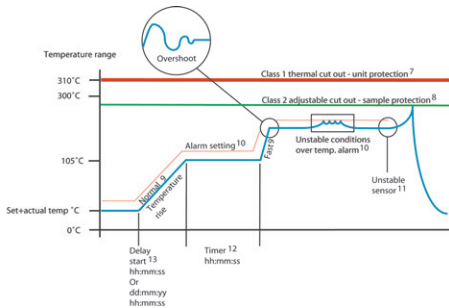
NE9-400S	NE9-750S
400 *l*	750 *l*
800w x 510d x 1040h mm	1040w x 600d x 1200h mm
1015w x 710d x 1385h mm	1250w x 810d x 1620h mm
±0.5°C	±0.5°C
±0.7°C	±0.7°C
±1.6°C	±1.6°C
3	5
14	16
3900W	5400W
230V	230V
174kg	280kg

ACCESSORIES - FACTORY FIT OPTIONS

NE9-S series Ovens

DOOR WITH VIEWING WINDOW

Cat No.	Description
W-56	Door with viewing window, for 56 litre ovens
W-112	Door with viewing window, for 112 litre ovens
W-240	Door with viewing window, for 240 litre ovens
W-400	Door with viewing window, for 400 litre ovens
W-750	Door with viewing window, for 750 litre ovens

WIRE SHELVES

Cat No.	Description
WS-56	Wire shelf, max 10 kg load, for 56 litre ovens
WS-112	Wire shelf, max 10 kg load, for 112 litre ovens
WS-240	Wire shelf, max 10 kg load, for 240 litre ovens
WS-400	Wire shelf, max 10 kg load, for 400 litre ovens
WS-750	Wire shelf, max 10 kg load, for 750 litre ovens

PERFORATED SHELVES

Cat No.	Description
SP-56	Perforated shelf, max 10 kg load, for 56 litre ovens
SP-112	Perforated shelf, max 10 kg load, for 112 litre ovens
SP-240	Perforated shelf, max 10 kg load, for 240 litre ovens
SP-400	Perforated shelf, max 10 kg load, for 400 litre ovens
SP-750	Perforated shelf, max 10 kg load, for 750 litre ovens

MISCELLANEOUS

Cat No.	Description
OT-3.1	Over-temperature protection 3.1
HEPA-1	HEPA air filter in the air inlet
ODC-1	Open door counter
EP-5	Additional PT100 temperature sensor for remote measurement
DA-1	Audible door alarm
CAL2	Factory Calibration @105°C, 5 points, 1 shelf.
CAL3	Factory Calibration @105°C, 5 points, 2 shelves.
CAL4	Factory Calibration 9 points, 1 shelf.
CAL5	Qualification Procedure - empty chamber, 9 points for 3 temperature readings and repeated with chamber 40% full

ADDITIONAL ACCESSORIES ARE AVAILABLE INCLUDING ACCESS PORTS, CASTORS, TABLES AND COMMUNICATION.
ASK FOR DETAILS OR REFER TO www.nickelelectro.co.uk FOR MORE INFOMATION.

KSD series, Sterilisers, Dry heat

These Clifton Sterilisers feature precision time and temperature control with programming options suitable for hot-air sterilisation of containers and instruments up to 250°C.

Steriliser features door locking and chamber vent closure when starting and during a sterilisation program.

Microprocessor control with auto diagnostics, digital LCD display to 0.1°C resolution, twenty program memory with event log of actual temperature and time data with RS232 interface. Calibrated at 170°C with Certificate.

Featuring wipe clean touch pad controls illuminated LCD display for viewing wide range of settings, programs, temperature and time values.

The high grade 304 spec stainless steel chamber is sealed shut with a solid door. Other door options available include a window in the door.

Cat. No.	KSD-56S	KSD-112S	KSD-240S
Capacity, litres	56 *l*	112 *l*	240 *l*
Internal Dims [2]	395w x 360d x 395h mm	460w x 450d x 540h mm	600w x 510d x 800h mm
Overall Dims	590w x 560d x 690h mm	650w x 650d x 835h mm	815w x 710d x 1140h mm
Sensitivity @70°C [1]	±0.3°C	±0.3°C	±0.4°C
Sensitivity @150°C [1]	±0.3°C	±0.5°C	±0.5°C
Uniformity @150°C [4]	±0.7°C	±0.8°C	±0.9°C
Shelves fitted	2	2	3
Shelves max no.	5	7	10
Watts	1600W	2400W	3000W
Voltage	230V	230V	230V
Weight	50kg	65kg	126kg

1. Sensitivity measurements based on temperature readings on shelf in centre of the chamber.
2. Working capacity of chamber can be smaller.
3. Before ordering please check the room or building access where this Steriliser will be installed.
4. Uniformity measured in vertical axis in the chamber using Wired Shelves.
5. Steriliser constructed powder coated stainless steel.

Features Include:

* Temperature
  - range: ambient +5°C - 250°C
  - dual pt100 temperature probes [11]

* Temperature and time programmable
  - operate with six segment temperature-time profile with delay ON [13], heating up [9], hold at set point [12] and cooling down - settable 1 minute to 99 hours
  - or use in continuous mode at set point with either delay start [13] or timed up to 999 hours [12]
  - date and time setting, program start unsupervised [13]
  - audible alarm and display, setting 0.5°C to 10°C about set point [10]
  - fast temperature rise to attain set point or normal for no overshoot [9]

* Over-temperature protection
  - class 1, thermal cut out 260°C and separate element overheat protection [7]
  - class 2, experiment/sample protection, adjustable setting about set point, heating and cooling switched off, audible and visual indication [8]
  - temperature sensor fail alarm [11]
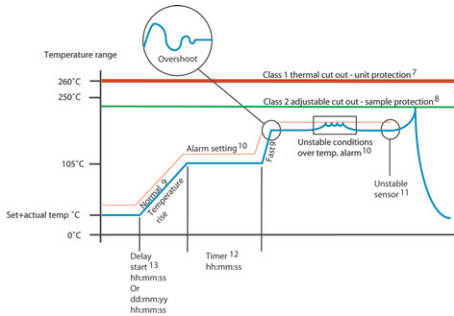
KSD-400S	KSD-750S
400 *l*	750 *l*
800w x 510d x 1040h mm	1040w x 600d x 1200h mm
1015w x 710d x 1385h mm	1250w x 810d x 1620h mm
±0.5°C	±0.5°C
±0.7°C	±0.6°C
±1.6°C	±1.8°C
3	5
14	16
3900W	5400W
230V	230V
174kg	280kg

ACCESSORIES - FACTORY FIT OPTIONS

KSD series Sterilisers

DOOR WITH VIEWING WINDOW

Cat No.	Description
W-56	Door with viewing window, for 56 litre sterilisers
W-112	Door with viewing window, for 112 litre sterilisers
W-240	Door with viewing window, for 240 litre sterilisers
W-400	Door with viewing window, for 400 litre sterilisers
W-750	Door with viewing window, for 750 litre sterilisers

WIRE SHELVES

Cat No.	Description
WS-56	Wire shelf, max 10 kg load, for 56 litre sterilisers
WS-112	Wire shelf, max 10 kg load, for 112 litre sterilisers
WS-240	Wire shelf, max 10 kg load, for 240 litre sterilisers
WS-400	Wire shelf, max 10 kg load, for 400 litre sterilisers
WS-750	Wire shelf, max 10 kg load, for 750 litre sterilisers

PERFORATED SHELVES

Cat No.	Description
SP-56	Perforated shelf, max 10 kg load, for 56 litre sterilisers
SP-112	Perforated shelf, max 10 kg load, for 112 litre sterilisers
SP-240	Perforated shelf, max 10 kg load, for 240 litre sterilisers
SP-400	Perforated shelf, max 10 kg load, for 400 litre sterilisers
SP-750	Perforated shelf, max 10 kg load, for 750 litre sterilisers

STERILISING PIPETTE CANS AND BOXES

Cat No.	Description
6301	Sterilising Can, Petri Dish, aluminium
6501	Sterilising Can, Petri Dish, stainless steel
6001	Sterilising Can, Pipette, round, aluminium, 407mm
6002	Sterilising Can, Pipette, round, aluminium, 457mm
6199	Sterilising Can, Pipette, round, stainless steel, 230mm
6201	Sterilising Can, Pipette, round, stainless steel, 407mm
6202	Sterilising Can, Pipette, round, stainless steel, 457mm
6700	Sterilising Can, Pipette, box, aluminium, 215mm
6701	Sterilising Can, Pipette, box, aluminium, 295mm
6702	Sterilising Can, Pipette, box, aluminium, 345mm
6703	Sterilising Can, Pipette, box, aluminium, 450mm
6704	Sterilising Can, Pipette, box, aluminium, 495mm
6700/SS	Sterilising Can, Pipette, box, stainless steel, 210mm
6701/SS	Sterilising Can, Pipette, box, stainless steel, 290mm
6702/SS	Sterilising Can, Pipette, box, stainless steel, 340mm
6703/SS	Sterilising Can, Pipette, box, stainless steel, 430mm
6704/SS	Sterilising Can, Pipette, box, stainless steel, 490mm
6705/SS	Sterilising Can, Pipette, box, stainless steel, 300mm
6706/SS	Sterilising Can, Pipette, box, stainless steel, 400mm

MISCELLANEOUS

Cat No.	Description
HEPA-1	HEPA air filter for air inlet
OT-3.1	Over-temperature protection 3.1
ODC-1	Open door counter
EP-5	Additional PT100 temperature sensor for remote measurement
DA-1	Audible door alarm

ADDITIONAL ACCESSORIES ARE AVAILABLE INCLUDING ACCESS PORTS CASTORS, TABLES AND COMMUNICATION.
ASK FOR DETAILS OR REFER TO www.nickelelectro.co.uk FOR MORE INFOMATION.

S T E A M S T E R I L I S E R S

KS series, Sterilisers, Steam

This Koch Steriliser is a laboratory Steriliser, using steam to sterilise small unwrapped instruments which displaces air passively from the chamber and its load by steam generated within the steriliser.

Inside the unit it is fitted with two removable shelves with looped handles making for easy retrieval and ease of loading/unloading.

The lid is designed to ensure condensed steam runs back into the chamber and can be removed using insulated lifting handles.

For safe steaming the water level is governed by a reservoir on the side which requires connection to a regulated water supply to maintaining boiling and safe water levels. The reservoir provides a visual indication of the waterlevel in the steriliser.

Cat. No.	KS1	KS2
Capacity, litres	35 *l*	60 *l*
Internal Dims	300w x 302d x 500h mm	400w x 400d x 500h mm
Overall Dims	329w x 329d x 690h mm	431w x 431d x 690h mm
Shelf size	288w x 288d mm	380w x 380d mm
1st shelf working height	202mm	202mm
2nd shelf working height	190mm	190mm
Shelves fitted	2	2
Watts	1000W	1000W
Voltage	230V	230V

1. A European standard for benchtop steam sterilisers classifies benchtop steam steriliser cycles according to the types of load they are intended to process.
2. This steriliser is known as a 'Type N' cycle. Being the simplest type and economical to operate and maintain.
3. It is is referred to as a Koch Steamer in guidance notes.
4. Suitable for Load type 'Non-wrapped solid items.' Not to be used for hollow devices or wrapped loads.

THE *Clifton* RANGE - 3 YEAR WARRANTY

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 manufacuring and where it is produced compost, re-use or recycle.
* Packing the Clifton range in EPI approved plastic bags, which are degradable or biodegradable.
* Being fully aware of environmental legislation.

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 or control panel.

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

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 Cliton 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 and check its operating sensitivity is within specification.

Digital controlled equipment is checked at two temperatures over its working range against a UKAS calibrated reference device.

Quality System

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

Certificate No. Q09820

Future Development

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

NE030 series of Centrifuges

UNIVERSAL ROTOR - ANGLE HEAD

Rotor Cat. No. R030-1

Tube	angle 55˚				
Max speed	5000rpm				
Tube capacity	15ml	12ml	10ml	7ml	5ml
Max number of tubes	8	8	8	8	8
Tube adaptor Cat. No.	-	-	T030-5 ■	T030-1 ▭	T030-2 ■▭
Tube dims	ø17x120mm	ø17x100mm	ø17x100mm	ø17x100mm	ø17x75mm
Max radius	100mm	100mm	100mm	98mm	85mm
Max RCF	2800g	2800g	2800g	2740g	2375g

UNIVERSAL ROTOR - ANGLE HEAD

Rotor Cat. No. R030-2

Tube	angle 55˚				
Max speed	5000rpm				
Tube capacity	15ml	12ml	10ml	7ml	5ml
Max number of tubes	6	12	12	12	12
Tube adaptor Cat. No.	-	-	T030-6 ■	T030-3 ▭	T030-4 ■▭
Tube dims	ø16x120mm	ø16x100mm	ø16x100mm	ø12x100mm	ø12x75mm
Max radius	100mm	100mm	100mm	98mm	85mm
Max RCF	2800g	2800g	2800g	2740g	2375g

HIGH SPEED ROTOR - ANGLE HEAD ROTOR

Rotor Cat. No. R030-3

Tube	angle 45˚			
Max speed	13000rpm			
Tube capacity	0.25ml	1.5ml	-	-
Max number of tubes	24	24	-	-
Tube dims	ø6x30mm	ø11x40mm	-	-
Max radius	65mm	80mm		
Max RCF	12280g	15120g		

HIGH SPEED - HAEMATOCRIT ROTOR

Rotor Cat. No. R030-4

Max speed	13000rpm
Tube capacity	24 glass tubes
Tube dims	ø1.2x75mm
Max radius	92mm
Max RCF	17380g

N.B. Rotors can be autoclaved

Welcome To 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 controlled 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.

We also operate an in-house toolmaking division, which guarantees flexibility in design, rapid production and the continuity of our manufacturing process.

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

ACCESSORIES

NE010 series of Centrifuges

UNIVERSAL ROTOR - ANGLE HEAD				
Rotor Cat. No. R010-1				
Max speed	2800rpm			
Tube capacity	15ml > 12ml	7ml	5ml	3ml
Max number of tubes	4	4	4	4
Tube adaptor Cat. No.	-	-	T010-1 ■	T010-1 ■
Tube dims ●	ø17x110mm	ø13x110mm	ø13x95mm	ø10x95mm
Max radius	110mm	110mm	100mm	100mm
Max RCF	1000g	1000g	880g	880g
Adaptor	-	-	green	grey

UNIVERSAL ROTOR - ANGLE HEAD				
Rotor Cat. No. R010-2				
Max speed	2800rpm			
Tube capacity	15ml > 12ml	7ml	5ml	3ml
Max number of tubes	8	8	8	8
Tube adaptor Cat. No.	-	-	T010-1 ■	T010-1 ■
Tube dims ●	ø17x110mm	ø13x110mm	ø13x95mm	ø10x95mm
Max radius	123mm	123mm	115mm	115mm
Max RCF	1100g	1100g	1000g	1000g
Adaptor	-	-	green	grey

UNIVERSAL ROTOR - SWING OUT	
Rotor Cat. No. R010-3	
Max speed	2800rpm
Tube capacity	50ml
Max number of tubes	2
Tube dims ●	ø30x120mm
Max radius	135mm
Max RCF	1200g

● **Maximum Tube Dimension for Capped or Uncapped Tubes**

N.B. R010 series accesories not suitable for NE 010G

CENTRIFUGES

MICRO NE000
TARGA NE010
INTERLOCK NE010
INTERLOCK, ANALOGUE NE020
INTERLOCK, DIGITAL NE030

CENTRIFUGES

NE000 series, Micro

A compact personal Micro Centrifuge designed for micro tubes or PCR strips for simple and quick spins.

Using reliable and proven motor technology providing a smooth and quiet operating compact micro centrifuge. With a small footprint and easy method of rotor removal for cleaning or fitting accessory rotors. It comes supplied with rotor as standard which accepts 0.5 and or 1.5ml micro tubes.

Features Include:

- Lid interlock whilst rotor is energised
- Quiet and smooth operation
- Speed control variable up to 8000rpm
- Dynamic braking
- Ideal for quick spin downs
- Easy to use
- Suitable for micro filter cell separations and HPLC samples
- Durable chassis
- Non slip feet for stability and safety

NE030 series, Interlock, Digital

Featuring a highly specified centrifuge which is suitable for daily use at an affordable price.

A bench top centrifuge with wipe clean control panel, touch pad controls and digital display, broad speed range and in-built safety monitoring system. Featuring "active lid cooling" making it suitable for biological separations and sampling which can suffer heat damage. The active cooling draws fresh air in from outside and expels warm air from the rotor assembly through the back of the lid. Supplied without a rotor, enabling the right head to be chosen for the application, from micro to conical tubes.

With safety features such as automatic rotor imbalance alarm and rotor recognition limiting the maximum permissible speed.

Easy to use with digital display of speed, acceleration, braking and time settings. In use the centrifuge has the added convenience of an audible alarm at the end of the timed period.

Features Include:

- Easy to read digital display
- Brake and acceleration control
- Touch button controls
- Speed and time setting
- Wipe clean chemical resistant control panel
- Active cooling system to reduce thermal shock
- Powder painted body providing a durable finish

Cat. No.	NE 000G/I
Operation	Rotor activated on speed selection
Max speed	2000 - 8000rpm
Rotor type	Angle head
Tube Capacity	0.5 and 1.5ml micro tubes
Max number tubes	6 each size
Max RCF	4000g
Overall, dims	Lid closed 175w x 220d x 140hmm
	Lid open 175w x 220d x 320hmm
Voltage	100 - 230V

ACCESSORIES

ANGLE HEAD	

Rotor Cat. No. R000-1	
Max speed	8000rpm
Tube capacity	1.5ml
Max number of tubes	12

Rotor Cat. No. R000-2	
Max speed	8000rpm
Tube capacity	PCR strip
Max number	2 strips

Cat. No.	NE 030GT/I
Operation	Timer
Max speed	500 - 13000rpm
Rotor type	Angle head ▪
Timer	6 - 60mins
Braking/acceleration	1 - 9 levels
Overall, dims	Lid closed 275w x 330d x 240hmm
	Lid open 275w x 330d x 670hmm
Rating	400W
Voltage	230V, 50-60Hz

▪ Accessory rotor - see page 11

Refer to accessories for
Tube Capacity
Max number tubes
Tube Dims
Max radius
Max RCF

CENTRIFUGES

NE020 series, Interlock, Analogue

This centrifuge is ideal for clinical applications and is supplied with a fixed angle head rotor for test tubes.

Durable design with safety lid interlock

Cat. No.	NE 020GT/I
Operation	Timer
Max speed	500 - 3500rpm
Rotor type	Angle head●
Tube Capacity	15ml
Max number tubes	6
Tube dims	ø17 x 120mm
Max radius	120mm
Max RCF	1300g
Timer	0 - 30mins
Overall, dims	Lid closed 340w x 290d x 225hmm
	Lid open 361w x 435d x 515hmm
Rating	100W
Voltage	230V, 50Hz

● No accessory rotors available

NE010 series, Targa

The Targa Centrifuge is designed specifically for the education market being a low cost, low energy product.

Constructed with a durable steel body for safety with four-place swing out rotor complete with removable buckets.

Cat. No.	NE 010G
Operation	Rotor activated push button
Max speed	2800rpm
Rotor type	Swing out●
Tube Capacity	15ml
Max number tubes	4
Tube dims	ø17 x 100mm
	ø13 x 75mm with green adaptors
	ø10 x 75mm with grey adaptors
Max radius	130mm
Max RCF	1100g
Overall, dims	Lid closed 361w x 400d x 320hmm
	Lid open 361w x 415d x 720hmm
Rating	100W
Voltage	100 - 230V

● No accessory rotors available

CENTRIFUGES

NE010 series, Interlock

This range consists of two models constructed with a steel body with four-place swing out rotor complete with removable aluminum buckets. Each version has safety interlock, which prevents the lid being opened until the rotor is at rest.

An additional safety feature ensures that in the case of power failure the lid remains in the locked position. The product can only be operated if the lid is correctly closed and locked in position.

Features Include:

- Control panel has a series of indicator lamps
  - for rotor on, lid locked and rotor run down

- Maintaining finger pressure on the push button operates the centrifuge and locks the lid in position
- Releasing finger pressure de-energies the rotor, but the lid remains locked until the rotor is at rest

Features Include:

- Control panel has a series of indicator lamps
  - for rotor on, lid locked and rotor run down

- Timer allows variable rotor operation up to 30 mins
  - push button activates timer, illuminated
  - lid remains locked until rotor is at rest

Cat. No.	NE 010G/I		Accessory - Options ■
Operation	Rotor activated push button		-
Max speed	2800rpm		-
Rotor type	Swing out ▲		Angle Heads
Tube Capacity	15ml		3 > 50ml
Max number tubes	4		2 > 8
Max Tube dims	ø17 x 105mm ▲ ●		Tube dimensions: range extended for capped tubes.
	ø13 x 95mm with green adaptors ▲ ●		
	ø10 x 95mm with grey adaptors ▲ ●		
Max radius	135mm		See page 10
Max RCF	1200g		See page 10
Timer	-		-
Overall, dims	Lid closed 361w x 400d x 320hmm		-
	Lid open 361w x 415d x 720hmm		-
Rating	100W		-
Voltage	100 - 230V		-

■ Accessory rotors - see page 10   ● Uncapped Tubes   ▲ Supplied with Centrifuge

Cat. No.	NE 010GT/I		Accessory - Options ■
Operation	Timer		-
Max speed	2800rpm		-
Rotor type	Swing out ▲		Angle Heads
Tube Capacity	15ml		3 > 50ml
Max number tubes	4		2 > 8
Max Tube dims	ø17 x 105mm ▲ ●		Tube dimensions: range extended for capped tubes.
	ø13 x 95mm with green adaptors ▲ ●		
	ø10 x 95mm with grey adaptors ▲ ●		
Max radius	135mm		See page 10
Max RCF	1200g		See page 10
Timer	0 - 30mins		-
Overall, dims	Lid closed 361w x 400d x 320hmm		-
	Lid open 361w x 415d x 720hmm		-
Rating	100W		-
Voltage	100 - 230V		-

■ Accessory rotors - see page 10   ● Uncapped Tubes   ▲ Supplied with Centrifuge

CENTRIFUGES

NE000 series, Micro

A compact personal Micro Centrifuge designed for micro tubes or PCR strips for simple and quick spins.

Using reliable and proven motor technology providing a smooth and quiet operating compact micro centrifuge. With a small footprint and easy method of rotor removal for cleaning or fitting accessory rotors. It comes supplied with rotor as standard which accepts 0.5 and or 1.5ml micro tubes.

Features Include:

- Lid interlock whilst rotor is energised
- Quiet and smooth operation
- Speed control variable up to 8000rpm
- Dynamic braking
- Ideal for quick spin downs
- Easy to use
- Suitable for micro filter cell separations and HPLC samples
- Durable chassis
- Non slip feet for stability and safety

Cat. No.	NE 000G/I
Operation	Rotor activated on speed selection
Max speed	2000 - 8000rpm
Rotor type	Angle head - supplied
Tube Capacity	0.5 and 1.5ml micro tubes
Max number tubes	6 each size
Max RCF	4000g
Overall, dims	Lid closed 175w x 220d x 140hmm
	Lid open 175w x 220d x 320hmm
Voltage	230V

ACCESSORIES

ANGLE HEAD

StockNo.	R000-1
Max speed	8000rpm
Tube capacity	1.5ml
Max number of tubes	12

Stock No.	R000-2
Max speed	8000rpm
Tube capacity	PCR strip
Max number	2 strips

Stock No.	200400SP
Tube capacity	1.5ml Microtube

CENTRIFUGES

NE010series,Targa

The Targa Centrifuge is designed specifically for the education market being a low cost, low energy product.

Constructed with a durable steel body for safety with four-place swing out rotor complete with removable buckets.

Features Include:

- Maintaining finger pressure on the push button operates the centrifuge and locks the lid in position
- The rotor can only be energised when the lid is correctly closed and locked
- A viewing window in the lid enables the rotor motion to be observed
- Releasing finger pressure de-energies the rotor
- Rotor energised warning indicator

- Easy wipe clean bowl with no crevices
- Rotor can be removed for easy cleaning

Cat.No	NE 010G
Operation	Rotor activated push button
Max speed	2800rpm
Rotor type	● Swing out
Tube Capacity	15ml
Max number tubes	4
Tube dims	ø17 x 100mm
	ø13 x 75mm with green adaptors
	ø10 x 75mm with grey adaptors
Max radius	130mm
Max RCF	1100g
Overall, dims	Lid closed 361w x 400d x 320hmm
	Lid open 361w x 415d x 720hmm
Rating	100W
Voltage	230V

● No accessory rotors available

ACCESSORY TUBES NEW 2010

NE 010G

Stock No.	300900 ●
Size	16mm x 95mm
Tube capacity	10ml
Pack	20
Tube material	Polystyrene, clear

Stock No.	400900 ●
Size	16mm x 95mm
Tube capacity	10ml
Pack	20
Tube material	Polypropylene

● Tubes suitable for Rotor indicated.

CENTRIFUGES

NE010 series, Interlock

This range consists of two models constructed with a steel body with four-place swing out rotor complete with removable aluminum buckets. Each version has safety interlock, which prevents the lid being opened until the rotor is at rest.

An additional safety feature ensures that in the case of power failure the lid remains in the locked position. The product can only be operated if the lid is correctly closed and locked in position.

Features Include:

- Control panel has a series of indicator lamps
  - for rotor on, lid locked and rotor run down

- Maintaining finger pressure on the push button operates the centrifuge and locks the lid in position
- Releasing finger pressure de-energies the rotor, but the lid remains locked until the rotor is at rest

Cat. No.	NE 010G/I
Operation	Rotor activated push button
Max speed	2800rpm
■ Rotor type	▲ Swing out - supplied
Tube Capacity	15ml
Max number tubes	4
Max Tube dims	ø17 x 105mm
	ø13 x 95mm with green adaptors
	ø10 x 95mm with grey adaptors
Max radius	135mm
Max RCF	1200g
Timer	-
Overall, dims	Lid closed 361w x 400d x 320hmm
	Lid open 361w x 415d x 720hmm
Rating	100W
Voltage	230V

• Control panel has a series of
  indicator lamps
  - for rotor on, lid locked and
    rotor run down

• Timer allows variable rotor operation
  up to 30 mins
  - push button activates timer, illuminated
  - lid remains locked until rotor is at rest

Cat. No.	NE 010GT/I
Operation	Timer
Max speed	2800rpm
■ Rotor type	▲ Swingout - supplied
Tube Capacity	15ml
Max number tubes	4
Max Tube dims	ø17 x 105mm
	ø13 x 95mm with green adaptors
	ø10 x 95mm with grey adaptors
Max radius	135mm
Max RCF	1200g
Timer	0 - 30mins
Overall, dims	Lid closed 361w x 400d x 320hmm
	Lid open 361w x 415d x 720hmm
Rating	100W
Voltage	230V

■ Accessory rotors - see page 8

ACCESSORY TUBES   NEW2010

NE 010G/I and NE 010GT/I

Stock No.	300705 ▲ ■
Size	16mm x 100mm
For Rotors	Swing out, R010-1, R010-2
Tube material	Polystyrene, clear

Stock No.	400705 ▲ ■
Size	16mm x 100mm
For Rotors	Swing out, R010-1, R010-2
Tube material	Polypropylene

Stock No.	307202 ▲ ■
Cap	Push on
Leakproof	Yes
Pack	20
Suitable for tubes	300705, 400705

Stock No.	429946 ■
Tube capacity	15ml Conical, capped
For Rotors	R010-1, R010-2
Tube material	Polypropylene

Stock No.	429926 ■
Tube capacity	50ml Conical, capped
For Rotors	R010-3
Tube material	Polypropylene

▲ Tubes suitable for Rotor indicated.
■ Tubes suitable for accessory Rotors - page 8.

NE010G/I and NE 010GT/I

UNIVERSAL ROTOR - ANGLE HEAD

Rotor Cat. No. R010-1

Max speed	2800rpm			
Tube capacity	15ml > 12ml	7ml	5ml	3ml
Max number of tubes	4	4	4	4
Tube adaptor Cat. No.	-	-	T010-1 ■	T010-1 ■
Tube dims †	ø17x110mm	ø13x110mm	ø13x95mm	ø10x95mm
Max radius	110mm	110mm	100mm	100mm
Max RCF	1000g	1000g	880g	880g
Adaptor	-	-	green	grey

UNIVERSAL ROTOR - ANGLE HEAD

Rotor Cat. No. R010-2

Max speed	2800rpm			
Tube capacity	15ml > 12ml	7ml	5ml	3ml
Max number of tubes	8	8	8	8
Tube adaptor Cat. No.	-	-	T010-1 ■	T010-1 ■
Tube dims	ø17x110mm	ø13x110mm	ø13x95mm	ø10x95mm
Max radius	123mm	123mm	115mm	115mm
Max RCF	1100g	1100g	1000g	1000g
Adaptor	-	-	green	grey

UNIVERSAL ROTOR - SWING OUT

Rotor Cat. No. R010-3

Max speed	2800rpm
Tube capacity	50ml
Max number of tubes	2
Tube dims	ø30x120mm
Max radius	135mm
Max RCF	1200g

† **Maximum Tube Dimension for Capped or Uncapped Tubes**

N.B. R010 series accesories not suitable for NE 010G

CENTRIFUGES

NE020 series, Interlock Analogue

This centrifuge is ideal for many broad applications and supplied with a fixed angle head rotor for test tubes.

Durable design with lid safety interlock.

Features Include :

- Variable rotor speed and timer settings using analogue dial.
- Selected rotor speed constantly monitored and maintained.
- Electronic timer
- Safety lid interlock
- Easy to use
  - *set time and speed*
  - *push button to start or stop process*
- Warning indicators for rotation and lid unlocked

Cat. No.	NE 020GT/I
Operation	Timer
Max speed	500 - 3500rpm
Rotor type	● Angle head - supplied
Timer	0 - 30mins, with HOLD
Tube capacity	15ml x 6 off max.
Max radius/RCF	120mm 1300g
Overall, dims	Lid closed 340w x 290d x 225hmm
Rating	100W
Votage	230V, 50-60Hz

ACCESSORY TUBES NEW2010

NE 020GT/I

Stock No.	300705 ●
Size	16mm x 100mm
Tube capacity	10ml
Pack	20
Tube material	Polystyrene, clear
Stock No.	**400705 ●**
Size	16mm x 100mm
Tube capacity	10ml
Pack	20
Tube material	Polypropylene
Stock No.	**307202**
Cap	Push on
Leakproof	Yes
Pack	20
Suitable for tubes	300705, 400705

● Tubes suitable for Rotor indicated.

CENTRIFUGES

NE030 series, Interlock, Digital

Featuring a highly specified centrifuge which is suitable for daily use at an affordable price.

A bench top centrifuge with wipe clean control panel, touch pad controls and digital display, broad speed range and in-built safety monitoring system. Featuring "active lid cooling" making it suitable for biological separations and sampling which can suffer heat damage. The active cooling draws fresh air in from outside and expels warm air from the rotor assembly through the back of the lid. Supplied without a rotor, enabling the right head to be chosen for the application, from micro to conical tubes.

With safety features such as automatic rotor imbalance alarm and rotor recognition limiting the maximum permissible speed.

Easy to use with digital display of speed, acceleration, braking and time settings. In use the centrifuge has the added convenience of an audible alarm at the end of the timed period.

Features Include :

- Easy to read digital display
- Brake and acceleration control
- Touch button controls
- Speed and time setting
- Wipe clean chemical resistant control panel
- Active cooling system to reduce thermal shock
- Powder painted body providing a durable finish

ACCESSORY TUBES NEW 2010

Stock No.	300705
Size	16mm x 100mm
For Rotors	R030-1, R030-2
Tube material	Polystyrene, clear

Stock No.	400705
Size	16mm x 100mm
For Rotors	R030-1, R030-2
Tube material	Polypropylene

Stock No.	307202
Cap	Push on
Suitable for Tubes	300705, 400705

Stock No.	429910
Size	15ml Conical tube, capped
For Rotors	R030-1, R030-2
Tube material	Polypropylene

Stock No.	200400SP
Tube capacity	1.5ml Microtube
For Rotor	R030-3

Cat. No.	NE 030GT/I
Operation	Timer
Max speed	500 - 13000rpm
Rotor type	Angle head
Timer	6 - 60mins
Braking/acceleration	1 - 9 levels
Overall, dims	Lid closed 275w x 330d x 240hmm
	Lid open 275w x 330d x 670hmm
Rating	400W
Voltage	230V, 50-60Hz

THE *Clifton* RANGE - 3 YEAR WARRANTY

CENTRIFUGES
ACCESSORIES

NE030 series

UNIVERSAL ROTOR - ANGLE HEAD

Rotor Cat. No. R030-1

Tube	angle 55°				
Max speed	5000rpm				
Tube capacity	15ml	12ml	10ml	7ml	5ml
Max number of tubes	8	8	8	8	8
Tube adaptor Cat. No.	-	-	T030-5	T030-1	T030-2
Tube dims	ø17x120mm	ø17x100mm	ø17x100mm	ø17x100mm	ø17x75mm
Max radius	100mm	100mm	100mm	98mm	85mm
Max RCF	2800g	2800g	2800g	2740g	2375g

UNIVERSAL ROTOR - ANGLE HEAD

Rotor Cat. No. R030-2

Tube	angle 55°				
Max speed	5000rpm				
Tube capacity	15ml	12ml	10ml	7ml	5ml
Max number of tubes	6	12	12	12	12
Tube adaptor Cat. No.	-	-	T030-6	T030-3	T030-4
Tube dims	ø16x120mm	ø16x100mm	ø16x100mm	ø12x100mm	ø12x75mm
Max radius	100mm	100mm	100mm	98mm	85mm
Max RCF	2800g	2800g	2800g	2740g	2375g

HIGH SPEED ROTOR - ANGLE HEAD ROTOR

Rotor Cat. No. R030-3

Tube	angle 45°			
Max speed	13000rpm			
Tube capacity	0.25ml	1.5ml	-	-
Max number of tubes	24	24	-	-
Tube dims	ø6x30mm	ø11x40mm	-	-
Max radius	65mm	80mm	-	-
Max RCF	12280g	15120g		

HIGH SPEED - HAEMATOCRIT ROTOR

Rotor Cat. No. R030-4

Max speed	13000rpm
Tube capacity	24 glass tubes
Tube dims	ø1.2x75mm
Max radius	92mm
Max RCF	17380g

N.B. Rotors can be autoclaved

NE040 series, Refrigerated NEW 2010

This Refrigerated Centrifuge is suitable for use in medical, industrial and scientific applications using accessory angle head rotors for either tubes, microtubes, pcr tubes and haematocrit tubes.

The maximum rotational speed of 16,200 rpm produces a centrifugal force of 25,000g using a quiet brushless induction motor.

For safe running and use it features an electronic control with a wide number of programming options with built–in error detection preventing incorrect values from being accidentally entered. Up to 10 programs can be saved whilst last program run remains in memory for convenient re-use, even after power off.

Features Include :

- Easy to read digital display cooling temperature, rotor speed and time.

- Brake and acceleration control

- Touch pad and dial setting

- Speed setting either in RPM or RCF

- Refrigerated cooling system able to maintain 0°C even when rotor is running maximum speed.

- 'Fast cool' function 20°C to 4°C in 20 minutes

- 'Quick run' function, push and hold

- Quiet induction motor

- Automatic rotor recognition for safe running speeds

- Rotors can be autoclaved

- Powder painted body providing a durable finish

- Narrow/deep design maximises benchtop space.

ACCESSORY TUBES NEW 2010

Stock No.	300705
Size	16mm x 100mm
For Rotors	R030-6
Tube material	Polystyrene, clear
Stock No.	**400705**
Size	16mm x 100mm
For Rotors	R030-6
Tube material	Polypropylene
Stock No.	**307202**
Cap	Push on
Suitable for Tubes	300705, 400705
Stock No.	**429910**
Size	15ml Conical tube, capped
For Rotor	R040-6
Tube material	Polypropylene
Stock No.	**200400SP**
Tube capacity	1.5ml Microtube
For Rotor	R040-1, R040-2

Cat. No.	NE 040GTIR
Operation	0-99min Timer and Cooling 0°C
Max speed	500 - 16200rpm
Rotor type	Angle head
Timer	0 - 99mins, with HOLD
Braking/acceleration	1 - 9 levels
Cooling control	-9°C to 40°C [20°C to 4°C in 20mins]
Overall, dims	Lid closed 282w x 665d x 360hmm
Rating	900W
Voltage	230V, 50-60Hz

CENTRIFUGES
ACCESSORIES

NE040 series, Refrigerated NEW 2010

HIGH SPEED - ANGLE HEAD ROTORS

Rotor Cat. No.	R040-1	R040-2
Max speed	16200rpm	14000rpm
Tube capacity	2.0ml	2.0ml
Max number of tubes	24	30
Acceleration	16 sec to max speed	15 sec to max speed
Braking	15 sec from max speed	14 sec from max speed
Max radius	86mm	98mm
Max RCF	25000g	21475g

Rotor Cat. No.	R040-5	R040-6
Max speed	5000rpm	5000rpm
Tube capacity	5ml ø12x82mm	10ml ø16x105mm
Max number of tubes	16	12
Acceleration	15 sec to max speed	15 sec to max speed
Braking	14 sec from max speed	14 sec from max speed
Max radius	105mm	115mm
Max RCF	2930g	3200g

HIGH SPEED - HAEMATOCRIT ROTOR WITH READER

Rotor Cat. No.	R040-3
Max speed	14000rpm
Tube capacity	24 glass tubes
Tube dims	ø1.6x75mm
Max radius	92mm
Max RCF	20160g

HIGH SPEED - PCR ROTOR

Rotor Cat. No.	R040-4
Max speed	14000rpm
Tube capacity	6 x 8 PCR strips
Tube dims	-
Max radius	92mm
Max RCF	24000g

N.B. Rotors can be autoclaved

The essence of the Chill Bucket.
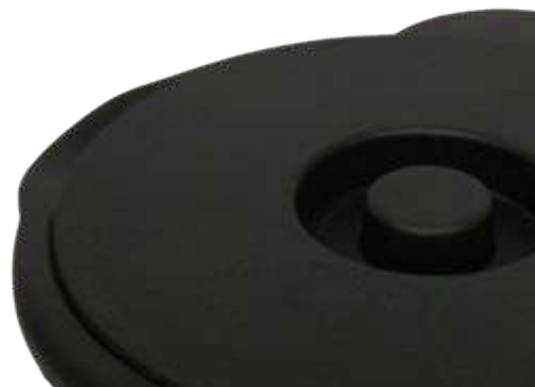
PRODUCTS AVAILABLE

- CHILL BUCKET™ with Beads
  BUCB-1 Chill Bucket, two Chill
  Packs, and a Bead Bag with 2 L Beads.

WATERLESS SOLUTIONS
THAT PROTECT YOUR LAB WORK

The Chill Bucket™ makes it easy to run your experiments without risking contamination from wet ice. Now you can cool everything ice-free - Lab Armor Beads power the new Chill Bucket. From 4 °C to -20 °C, the Chill Bucket delivers up to 4 hours of constant cooling on one ice pack or with a handful of dry ice pellets. Every Chill Bucket Kit includes a durable polyeurethane

laboratory bucket and lid, two gel packs, and a mesh sack filled with 2 liters of metallic thermal beads. Essentially, you get a completely reinvented ice bucket. The Chill Bucket™ gives you amazing new ways to cool samples while keeping them dry and contaminanation-free. Its so cool, you'll never use ice again. We promise.

LabΛRMOR™

So smart. **So cool.**

IN THE BOX

CHILL BUCKET WITH LID

TWO CHILL PACKS

BEAD BAG WITH 2 L BEADS

CHILL BUCKET

* FOUR LITER CAPACITY
* POLYURETHANE CONSTRUCTION
* DURABLE & LIGHTWEIGHT
* SHAPED TO BALANCE IN ONE ARM.
* MOLDED SIDE KNOBS
* INCLUDES LID
* CONDENSATION FREE
* HAND WASH WITH MILD
  DETERGENT, TOWEL DRY
* H 7.0 X W 10.5 X D 7.0"
  (H 17.8 X W 26.7 X D 17.8cm)

DRY BEADS ARE A BETTER SOLUTION THAN WET ICE

Vessels stay dry and in place. Keep samples organized. Avoid water puddles and float-away tubes.

Get greater temperature flexibility. Use Chill Packs or dry ice. Use ambient or cold beads.

Save on energy-consuming ice machines. The Chill Bucket can replace ice wherever ice is used.

CHILL PACKS

* DURABLE RUBBERMAID GEL PACK
* LASTS FOR HOURS
* REUSABLE; FREEZE AND REUSE
* NON-TOXIC

HERE'S HOW IT WORKS

Cool the Bead Bag and Chill Packs in your refrigerator or freezer. Then assemble the Chill Bucket - Chill Packs on bottom. Use the bucket and Chill Packs at 0-8 °C or substitute the Chill Packs with dry ice for -20 °C temperatures, or you can even create you own custom temperature range by starting with beads at ambient or cooled to 4 °C, - 20 °C, or   80°C.

PERFORMANCE SPECIFICATIONS

The Chill Bucket can maintain cold temperatures for 4 or more hours with one Chill Pack.

If you need up to 8 or more hours of cold, simply add a second Chill Pack to the bucket.

1 Chill Pack
2 Chill Packs
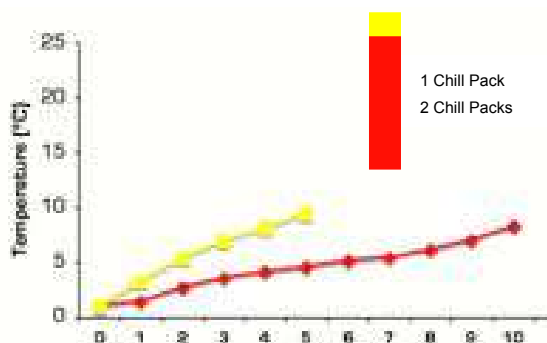
BEAD BAG

* DURABLE NYLON MESH FABRIC
* SEE THRU FOR VISIBILITY
* WASHABLE
* MILDEW AND ROT RESISTANT
  DRAWSTRING CLOSURE
  H 17.25 X W 12.5 X D 12.25"
  (H 44 X W 32 X D 31 cm)

BATH ARMOR™
FULL METAL

Then use around the Lab

The new Walkabout Scoop Tray is clever. It's a quarter the size of a traditional lab bucket. Making it easy to use under extraction hoods or in tight benchtop spaces. With its superior insulative properties, it keeps your samples and reagents at temperature after removing them from the bead bath, Chill Bucket™, or the refrigerator. It lets you feel good about taking your time.

Beads can help reduce temperature fluctuations in your air-filled lab equipment. In your refrigerator. In your incubator. In your oven. Never mind about racks. They don't protect your samples. You can place your vessels into warm or cold beads and always find them at the perfect temperature. The beads resist changes in air temperature, so it's easy to trust the integrity of your samples, no matter how many times your co-workers opened the refrigerator's or incubator's doors.

THE *Clifton* RANGE

Bead Bath. No water. Avoid risks from water-borne microbes. Keep your reagents warm, clean, and dry. ▶

StayTemp Trays. Keep samples at constant °C despite fluctuations in surrounding air temp in the oven or incubator. ▶
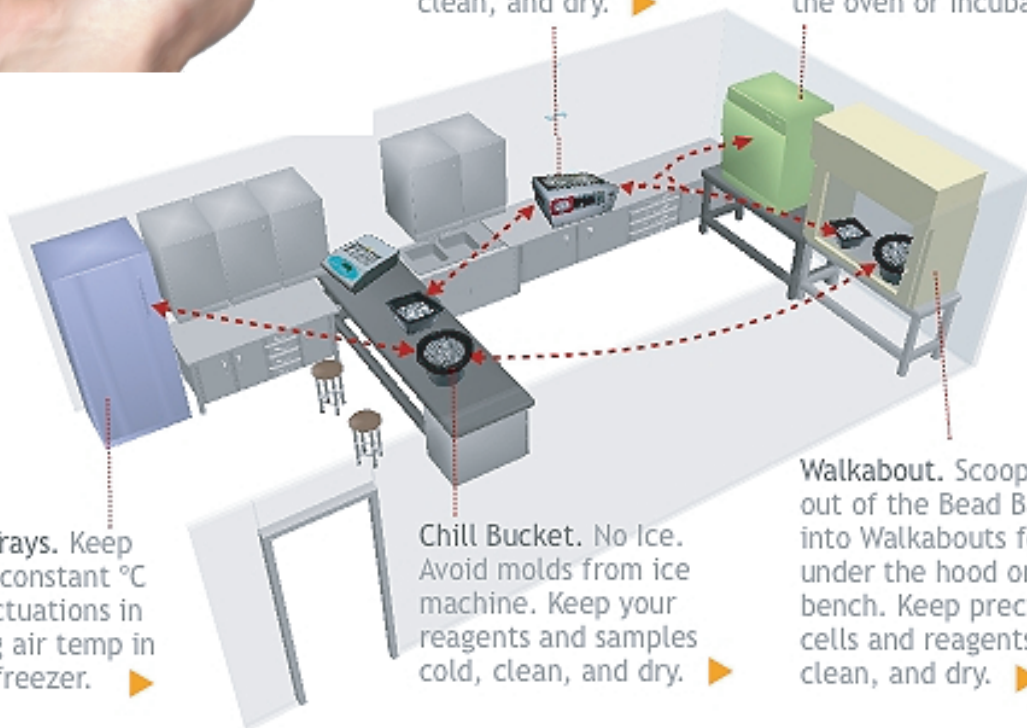
StayTemp Trays. Keep samples at constant °C despite fluctuations in surrounding air temp in the frig or freezer. ▶

Chill Bucket. No Ice. Avoid molds from ice machine. Keep your reagents and samples cold, clean, and dry. ▶

Walkabout. Scoop beads out of the Bead Bath and into Walkabouts for use under the hood or on the bench. Keep precious cells and reagents warm, clean, and dry. ▶

STIRRED BATHS

THERMOSTATIC	NE4-T
DIGITAL	NE4-D
DIGITAL CLEAR TANKS	NE4-D/CT
DEEP CHAMBER	NE4-25D
IMMERSION COOLERS	DC

CIRCULATING BATHS

DIGITAL	NE4-P
DIGITAL	NE4-HT
CHILLOBATHS	NE7

BATHS
# STIRRED

NE4- T series, thermostat control

Stirred Clifton water baths are designed for immersion of flasks/bottles/racks in a stable temperature environment

This entry level thermostatically controlled analogue Thermostirrer is housed in a durable corrosion resistant stainless steel body. Immersed components are corrosion resistant. The Thermostirrer features a safety cut-out float switch, illuminated on/off switch, low liquid, heater indications. The Thermostirrer is supplied with a stainless steel mounting bridge to fit the selected tank. Each bath consists of a 304 spec stainless steel tank contained within a sturdy outer case with chemical resistant paint finish and is complete with a stainless steel shelf, designed for good temperature stability.

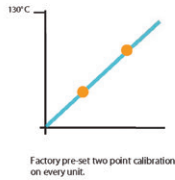Anti-bacterial Protection active Ag+ ions

Cat No	NE4-8T	NE4-14T
Capacity, litres	8 l	14 l
Working dims	129w x 298d x 150h mm	219w x 298d x 150h mm
Overall dims	271w x 332d x 170h mm	361w x 332d x 170h mm
Heater, Watts	1250W	1250W
Voltage	230V	230V

1. The Thermostirrer is available separately as NE4-T which can be mounted on a suitable vessel using accessory NE4-MB mount bracket - See page 13.
2. Above 60° C or below room temperatures it is recommended that to achieve optimum performance the bath should be covered with lid or spheres - page 13.
3. If using accessory racks please use SL4 lids.

Temperature range

Features Include:

* Sensitivity: ±0.2°C.
* Uniformity: ±0.05°C.
* Temperature range: ambient +5°C - 99°C.
* T hermostatic control - easy to use.
* Totally unobstructed, crevice free, stainless steel tank.
* P owerful stirring within tank - for stable temperature control
* Safety cut-out float switch - low liquid level protection
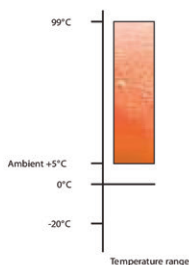
NE4-22T	NE4-28T
22 l	28 l
395w x 298d x 150h mm	395w x 298d x 200h mm
537w x 332d x 170h mm	537w x 332d x 240h mm
1250W	1250W
230V	230V

BATHS

STIRRED

NE4-D series, digital PID control

Stirred Clifton water baths are designed for immersion of flasks/bottles/racks in a highly stable temperature environment throughout the water bath. Available in a wide range of sizes suiting a variety of applications.

This range of digital PID controlled Thermostirrers, housed in a durable corrosion resistant stainless steel body. Immersed components are corrosion resistant. The Thermostirrer features a safety cut-out float switch, illuminated on/off switch, heater, mains and over-temperature indications. The Thermostirrer is supplied with a stainless steel mounting bridge to fit the selected tank. Each bath consists of a 304 spec stainless steel tank contained within a sturdy outer case with chemical resistant anti-bacterial paint finish and is complete with a stainless steel shelf, all designed for good temperature stability.

Auto set temperature alarms
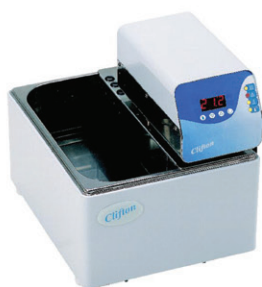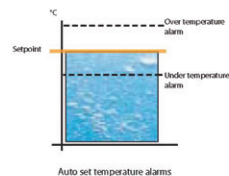
Cat No	NE4-8D	NE4-14D
Capacity , litres	8 l	14 l
Working dims	129w x 298d x 150h mm	219w x 298d x 150h mm
Overall dims	271w x 332d x 170h mm	361w x 332d x 170h mm
Heater, Watts	1250W	1250W
Over temp. alarm	+4°C, warning message, heater cut off, indicator.	+4°C, warning message, heater cut off, indicator.
Voltage	230V	230V

1. The Thermostirrer is available separately as NE4-D which can be mounted on a suitable vessel using accessory NE4-MB mount bracket - See page 13.
2. for operation at temperatures below ambient an accessory cooling system DC1-300 or more powerful DC2-300 for larger tanks or rapid cooling - See page 14.
3. Above 60° C or below room temperatures it is recommended that to achieve optimum performance the bath should be covered with lid or spheres - page 13.
4. Painted body and splash proof controls feature Anti-bacterial protection, a hygenic coating which actively inhibits bacterial growth.
5. If using accessory racks please use SL4 lids.
6. A larger size of water bath is available (NE4-38D, NE5-56D).

Features Include:

* Sensitivity ±0.1°C.
* Uniformity ±0.01°C.
* Temperature range: ambient +5°C - 99°C.
* Accessory cooling: ambient to -20°C.
* Clear 3 digit display: 0.1°C (-20 - 99°C).
* Precision control
  - In normal use 'Adaptive PID'.
  - Changeable conditions or liquids

* Powerful stirring within tank
  - Excellent temperature control.
* Durable in use
  - Bath body zinc coated steel, for corrosion protection, powder coated exterior with a chemical resistant anti-bacterial paint.
  - Stainless steel tank, corrosion resistant and easy to clean, crevice free.
  - Thermostirrer body corrosion resistant stainless steel, with splash proof controls.
* Safety cut-out float switch
  - Low liquid level protection
* Removable stainless steel shelf supplied
* Auto setting Under and Over temperature alarm
* Timer
  - Variable, 00hrs.01mins - 99hrs.59mins
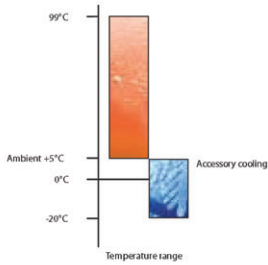
99°C

Ambient +5°C

0°C

-20°C

Accessory cooling

Temperature range

130°C

Factory pre-set two point calibration on every unit.

NE4-22D	NE4-28D
22 l	28 l
395w x 298d x 150h mm	395w x 298d x 200h mm
537w x 332d x 170h mm	537w x 332d x 240h mm
1250W	1250W
+4°C, warning message, heater cut off, indicator.	+4°C, warning message, heater cut off, indicator.
230V	230V

BATHS

STIRRED

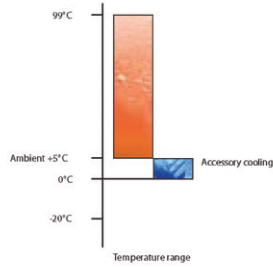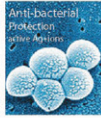### NE4-D/CT series, digital thermostatic control - acrylic tank

Stirred Clifton water baths are designed for immersion of flasks/bottles/racks in a highly stable temperature environment throughout the water bath. Available in a wide range of sizes suiting a variety of applications.

The sturdy clear acrylic tank allows observation of samples, complete with stainless steel shelf all designed for good water circulation and water temperature stability.

Supplied with a stainless steel bridge to mount the thermostirrer to the tank.

Anti-bacterial Protection active Ag+ions

Temperature range

Factory pre-set two point calibration on every unit.

Auto set temperature alarms
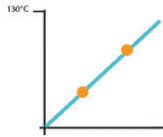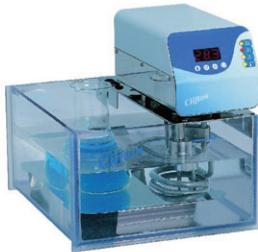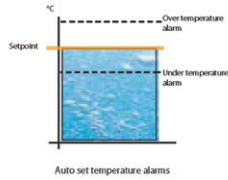
Cat No	NE4-8D/CT	NE4-14D/CT
Capacity, litres	8 l	14 l
Working dims	130w x 303d x 150h mm	214w x 303d x 150h mm
Overall dims	272w x 318d x 165h mm	370w x 318d x 165h mm
Heater, Watts	1250W	1250W
Over temp. alarm	+ 4°C warning message, heater cut off, audible.	+4°C warning message, heater cut off, audible.
Voltage	230V	230V

1. For operation at temperatures below ambient an accessory cooling system DC1-300 is required - See page 14
2. Above 60°C or below room temperature it is recommended that to achieve optimum performance the bath should be covered with SL4 lid or polypropylene spheres - see accessories page 9
3. Painted body and splash proof controls feature Anti-bacterial protection, a hygenic coating which actively inhibits bacterial growth.

BATHS

ACCESSORIES

NE4 series of stirred water baths

Features Include:

* Sensitivity ±0.1°C.

* Uniformity ±0.01°C.

* Temperature range: ambient +5°C - 99°C.

* Accessory cooling: ambient to 0°C.

* Clear 3 digit display: 0.1°C (0 - 99°C).

* Powerful stirring within tank
  - Excellent PID temperature control

* Safety cut-out float switch
  - Low liquid level protection

* Auto setting Under and Over temperature alarm.

* Lids optional extra
  - Recommended above 60°C or below ambient

* Splash proof controls

	NE4-22D/CT
	22 l
	385w x 303d x 150h mm
	543w x 318d x 165h mm
	1250W
	+4°C warning message, heater cut off, audible.
	230V

LIDS

Cat. No.	Description
SL4-8	Gabled lid, stainless steel, for 8 litre baths
SL4-14	Gabled lid, stainless steel, for 14 litre baths
SL4-22	Gabled lid, stainless steel, for 22 and 28 litre baths
SL4-38	Gabled lid, stainless steel, for 38 litre baths
LD4-8	Flat lid, 8 litre baths.
LD4-14	Flat lid, 14 litre baths.
LD4-22	Flat lid, 22/28 litre baths.
LD4-38	Flat lid, 38 litre baths.

RAISED SHELVES

Allows immersion depth of samples to be varied.

RS4-14	For 14 litre baths.	RS4-38	For 38 litre baths.
RS4-22	For 22/28 litre baths.		

RACKS

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

Max number of racks per bath					
Bath size	8 litre	14 litre	22/28 litre	38 litre	56 litre
No. racks	1	2	5	7	10

INSULATED HOSES

HS-1	Push fit and lock insulated hose 1m length x 6mm dia
HS-2	Push fit and lock insulated hose 2m length x 6mm dia

MISCELLANEOUS

TC-1	Thermometer clip with bent stem spirit filled
	thermometer . Scale: 0 -100°C.
NE4-CC	Cooling coil - water fed - background cooling.
DC1-300	Immersion cooler: operates to -20°C See page 14
DC2-300	Immersion cooler: more powerful cooling to -20°C
BX0616	Draining syphon
NE4-MB	Mounting bracket allows controllers to be mounted
	on a suitable separate vessel. Max tank wall thickness
	30mm.

CAL	Calibration Record

SPHERES, POLYPROPYLENE

Provides a floating lid on water baths to minimise evaporation and allows easy immersion/removal of flasks etc (maximum temperature 100°C). Number of packs required providing a single layer:

Bath size	No. of packs	Bath size	No. of packs
8/14 litre	1 Pack	56 litre	8 Packs
22/28 litre	2 Packs	38 litre	5 Packs
Cat. No.	BP0368		Pk qty 200

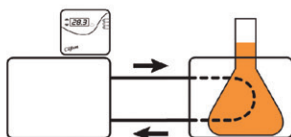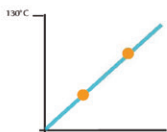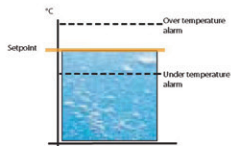# CIRCULATORS

NE4-P series, water Circulators

A range of water baths for external circulation of temperature controlled water in a closed circuit.

Digital PID controlled Thermocirculator with timer is housed in a durable stainless steel case. Immersed components are corrosion resistant. The Thermocirculator features a safety cut-out float, illuminated mains, heater and alarm temperature indications. The Thermocirculator is supplied assembled to a stainless steel mounting bridge which features push-fit and lock fittings for inlet and outlet accessory hoses for external water circulation. Each bath consists of a 304 spec stainless steel tank contained within a sturdy outer case with chemical resistant anti-bacterial paint finish and is complete with a stainless steel shelf providing good water temperature stability.
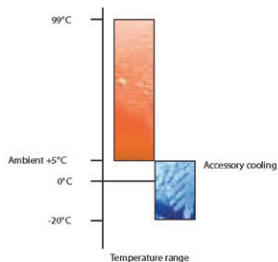
Cat No	NE4-8P	NE4-14P
Capacity , litres	8l	14l
Working, dims	129w x 298d x 150h mm	219w x 298d x 150h mm
Overall, dims	271w x 332d x 170h mm	361w x 332d x 170h mm
Heater, Watts	1250W	1250W
Over temp. alarm	+4°C, warning message, heater cut off, indicator.	+4°C, warning message, heater cut off, indicator.
Under temp. alarm	-4°C, warning message, indicator.	-4°C, warning message, indicator.
Pump capacity l/min	10	10
Pump pressure	1.5m head/150mbar	1.5m head/150mbar
Voltage	230V	230V

1. The Thermocirculator is available separately as NE4-P which can be mounted on a suitable vessel using accessory NE4-MB mount bracket - See page 13.
2. For operation at temperatures below ambient an accessory cooling system DC1-300 or more powerful DC2-300 for larger tanks or rapid cooling - See page 14.
3. Above 60° C or below room temperatures it is recommended that to achieve optimum performance the bath should be covered with lid or spheres - page 13.
4. Painted body and splash proof controls feature Anti-bacterial protection, a hygenic coating which actively inhibits bacterial growth.
5. If using accessory racks please use SL4 lids.
6. A larger size of water bath is available (NE4-56P) - fitted with 2000W heater.

Auto set temperature alarms

Factory pre-set two point calibration on every unit.

Capable of external circulation

Features Include:

* Sensitivity ±0.1°C.
* Uniformity ±0.01°C.
* Temperature range: ambient +5°C - 99°C.
* Accessory cooling: ambient to -20°C.
* Clear 3 digit display: 0.1°C (-20 - 99°C).
* Precision control
  - In normal use 'Adaptive PID'.
  - Changeable conditions or liquids
* Powerful circulation pump - closed loop
  - Convenient push-fit and lock fittings.
  - Secure external water circulation.
* Sturdy construction and Stainless steel tank.
* Safety cut-out float switch
  - Low liquid level protection.
* Auto setting Under and Over temperature alarm.
* Timer
  - Variable, 00hrs.01mins - 99hrs.59mins

NE4-22P	NE4-28P
22l	28l
395w x 298d x 150h mm	395w x 298d x 200h mm
537w x 332d x 170h mm	537w x 332d x 240h mm
1250W	1250W
+4°C, warning message, heater cut off, indicator.	+4°C, warning message, heater cut off, indicator.
-4°C, warning message, indicator.	-4°C, warning message, indicator.
10	10
1.5m head/150mbar	1.5m head/150mbar
230V	230V

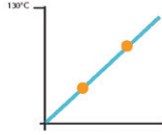High quality products at affordable prices

11

B IR CU LA TO rS
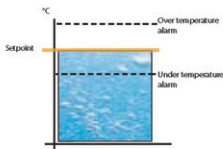
NE4-HT series,
water and oil Circulators

A range of water baths for external circulation of temperature controlled water and oils in a closed circuit.

Digital PID controlled Thermocirculator with timer all housed in a durable stainless steel case. Immersed components are corrosion resistant. The Thermocirculator features a safety cut-out float, illuminated mains, heater, and alarm indications. The Thermocirculator is supplied assembled to a stainless steel mounting bridge which features push-fit and lock fittings for inlet and outlet accessory hoses for external water and oil circulation. Each bath consists of a 304 spec stainless steel tank contained within a sturdy outer case with chemical resistant anti-bacterial paint finish, complete with a stainless steel shelf providing good temperature stability.

Anti-bacterial Protection active Agents

Accessory cooling

Temperature range

Capable of external circulation

Factory pre-set two point calibration on every unit.

Auto set temperature alarms
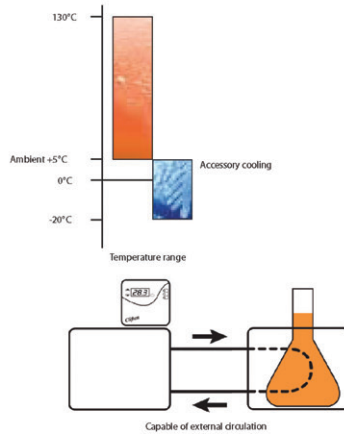
Cat No	NE4-8HT	NE4-14HT
Capacity , litres	8l	14l
Working, dims	129w x 298d x 150h mm	219w x 298d x 150h mm
Overall, dims	271w x 332d x 170h mm	361w x 332d x 170h mm
Heater, Watts	1250W	1250W
Over temp. alarm	+4°C, warning message, heater cut off , indicator.	+4°C, warning message, heater cut off, indicator.
Under temp. alarm	-4°C, warning message, indicator.	-4°C, warning message, indicator.
Pump capacity l/min	10	10
Pump pressure	1.5m head/150mbar	1.5m head/150mbar
Voltage	230V	230V

The Thermocirculator is available separately as NE4-HT which can be mounted on a suitable vessel using accessory NE4-MB.
For operation at temperatures below ambient an accessory cooling system DC1-300 is required - See page 14
Above 60° C or below room temperature it is recommended that to achieve optimum performance the bath should be covered with a lid or polypropylene spheres - see accessories page 13
If using accessory racks please use SL4 lids

BATHS

ACCESSORIES

NE4 series of circulating water baths

Features Include:

* Sensitivity ±0.1°C.

* Uniformity ±0.01°C.

* Temperature range: ambient +5°C - 130°C.

* Accessory cooling: ambient to -20°C.

* Clear 3 digit display: 0.1°C (-20°C - 99°C).

* Precision control
  - In normal use 'Adaptive PID'.
  - Changeable conditions or liquids

* Powerful circulation pump - closed loop
  - Convenient push-fit and lock fittings.
  - Secure external water circulation.

* Sturdy construction and Stainless steel tank.

* Safety cut-out float switch
  - Low liquid level protection

* Auto setting Under and Over temperature alarm.

* Timer
  - Variable, 00hrs.01mins - 99hrs.59mins

* Adjustable over temperature safety device
  - Safety experiment protector

NE4-22HT

22l
395w x 298d x 150h mm
537w x 332d x 170h mm
1250W
+4°C, warning message, heater cut off, indicator.
-4°C, warning message, indicator.
10
1.5m head/150mbar
230V

LIDS

Cat. No.	Description
SL4-8	Gabled lid, stainless steel, for 8 litre baths
SL4-14	Gabled lid, stainless steel, for 14 litre baths
SL4-22	Gabled lid, stainless steel, for 22 and 28 litre baths

Cat. No.	Description
LD4-8	Flat lid, for 8 litre baths.
LD4-14	Flat lid, for 14 litre baths.
LD4-22	Flat lid, for 22/28 litre baths.

RAISED SHELVES

Allows immersion depth of samples to be varied.

RS4-14	For 14 litre baths.
RS4-22	For 22/28 litre baths.

RACKS

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

Max number of racks per bath				
Bath size	8 litre	14 litre	22/28 litre	56 litre
No. racks	1	2	5	10

INSULATED HOSES

HS-1	Push fit and lock insulated hose 1m length x 6mm dia
HS-2	Push fit and lock insulated hose 2m length x 6mm dia

MISCELLANEOUS

TC-1	Thermometer clip with bent stem spirit filled thermometer . Scale: 0 -100°C.
NE4-CC	Cooling coil - water fed - background cooling.
DC1-300	Immersion cooler: operates to -20°C See page 14
DC2-300	Immersion cooler: more powerful cooling to -20°C
BX0616	Draining syphon
NE4-MB	Mounting bracket allows controllers to be mounted on a suitable separate vessel. Max tank wall thickness 30mm.

CAL	Calibration Record

SPHERES, POLYPROPYLENE

Provides a floating lid on water baths to minimise evaporation and allows easy immersion/removal of flasks etc (maximum temperature 100°C). Number of packs required providing a single layer:

Bath size	No. of packs	Bath size	No. of packs
8/14 litre	1 Pack	56 litre	8 Packs
22/28 litre	2 Packs		
Cat. No.	BP0368		Pk qty 200

DEEP CHAMBER BATHS

This deep chamber bath is suitable for Gerber testing and Plasma thawing applications where tall water volumes are required.

The digital PID temperature controlled Thermostirrer is housed in a durable corrosion resistant stainless steel body. Immersed components are corrosion resistant. The Thermostirrer features a safety cut-out float switch, illuminated on/off switch, heater, mains and over-temperature indications. The Thermostirrer is supplied with a stainless steel mounting bridge to fit the selected tank. The chamber consists of a 304 spec stainless steel tank contained within a sturdy painted outer case and is complete with a stainless steel shelf, all designed for good temperature stability.

Cat No	NE4-25D
Capacity, litres	25 l
Internal dims	389w x 235d x 330h mm
Overall dims	440w x 265d x 370h mm
Heater, Watts	1250W
Over temp. alarm	+4°C, warning message, heater cut off, indicator.
Sensitivity	±0.1°C
Uniformity	±0.1°C
Voltage	230V

ACCESSORIES

6880	12 hole stainless steel Butyrometer rack
	max. 3 racks per bath
ET0564	Thermometer
SA01293	Plasma bag clips - pair
	max. 4 pair per bath

IMMERSION COOLER

This refrigeration cooler has no temperature control, as it is designed to be used in conjunction with a stirred or circulating water bath, where its immersion coil is specially designed to fit into rear access hole behind the Thermostirrer without sacrificing the working area. The immersion cooler runs continuously with the bath providing temperature control.

Features Include:

* Stainless steel immersion coil - corrosion resistant
* Replaces wasteful use of cold water cooling
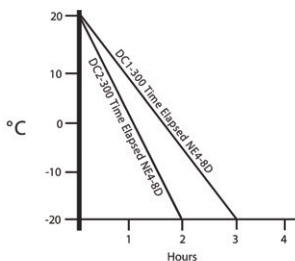
Cat No	DC1-300	DC2-300
Length of hose	900mm	
Diameter cooling coil	65mm	
Overall dims mm	345w 445d 265h	345w 465d 315h

Cooling capacity W		
+10°C	800 W	1400 W
0°C	580 W	1000 W
-10°C	400 W	700 W
-20°C	250 W	450 W
Refrigerant	R134a	
Voltage	230V	

BIR CULATORS

NE7 series
ChilloBaths

This Chiller Circulator range of water baths are specially designed for circulating temperature controlled liquids maintaining temperature in analytical equipment, heat removal or immersion of samples.

The ChilloBath consists of a stainless steel tank fitted above a cooling system with a Thermocirculator immersed into tank. All immersed components are corrosion resistant. The Thermocirculator features a safety cutout float switch - low liquid level protection, an adjustable over temperature safety device, heater, timer and alarm indications, PID temperature control and timer .

The Circulator features an advanced PID temperature controller which can be used in either of the following ways, single point temperature control and process control with two temperatures and a time setting.

The Thermocirculator is supplied assembled to a stainless steel mounting bridge which features 'push-fit and lock fittings' for secure external liquid circulation. The bath consists of a 304 spec stainless steel tank and heat exchange coil for optimal cooling with a stainless steel shelf all giving good temperature stability .

Supplied with flat lift-off lid with insulated handle which can be substituted with accessory SL4 Gable Lid for immersion of taller samples in the bath.

Temperature range

Accessory cooling
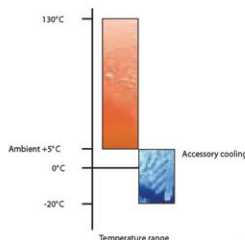
Features Include:

* Sensitivity ±0.1°C
* Uniformity ±0.01°C
* Temperature range: -20 - 130°C
* Digital PID control
* Clear 3 digit display
* Display resolution: 0.1°C (-20°C - 99°C)
* Precision control
* Powerful circulation pump - closed loop
* Convenient push-fit and lock fittings - for secure external water circulation
* Stainless steel tank
* Safety cut-out float switch - low liquid level protection
* Refrigeration condenser easily cleaned

Cat. No .	NE7-8
Capacity , litres	8l
Temperature range	-20 - 130°C
Working volume litres	6
Temperature sensitivity	±0.1°C @0°C
Temperature uniformity	±0.01°C @0°C
Effective bath opening	129w x 298d mm
Overall, dims	451w x 332d x 805h mm
Working, dims	129w x 298d x 150h mm
Cooling capacity W	
+20°C	1000
0°C	640
-10°C	440
-20°C	279
Refrigerant	R134a
Drain, Fitted	Yes
Over temp. alarm	+4°C warning message, heater cut off Indication
Under temp. alarm	-4°C with indication
Pump capacity l/min	10
Pump pressure	1.5m head
Heater, W atts	1250
Voltage	230V

1. It is recommended that to achieve optimum performance the bath should be covered.
2. A full range of accessories are available, ask for details or refer to www.nickel-electro.co.uk.
3. Push-fit and lock fittings suitable for 6mm O/D tubing.

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 manufacuring and where it is produced compost, re-use or recycle.
* Packing the Clifton range in EPI approved plastic bags, which are degradable or biodegradable.
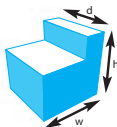* Being fully aware of environmental legislation.

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 or control panel.

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

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 Cliton 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 and check its operating sensitivity is within specification.

Digital controlled equipment is checked at two temperatures over its working range against a UKAS calibrated reference device.

Quality System

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

Certificate No. Q09820

Future Development

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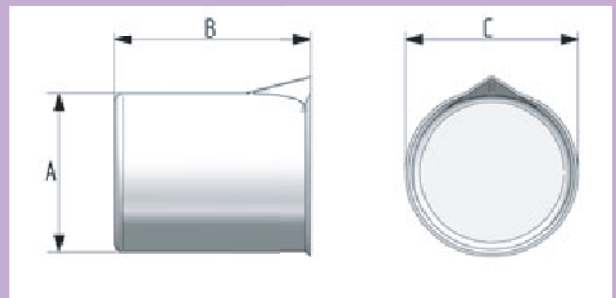
METALWARE

B E A K E R S
O N E   P I E C E   C R E V I C E   F R E E
H E A V Y   D U T Y   S P O U T E D

The METALWARE RANGE

BEAKERS

Part Number	Material	Capacity	Diameter A	Height B
101	Internally PTFE Coated Stainless Steel	200ml	60mm	75mm
103	Internally PTFE Coated Stainless Steel	550ml	75mm	125mm
105	Internally PTFE Coated Stainless Steel	1250ml	100mm	165mm
201	Stainless Steel	200ml	60mm	75mm
202	Stainless Steel	350ml	65mm	115mm
203	Stainless Steel	550ml	75mm	125mm
204	Stainless Steel	700ml	75mm	165mm
205	Stainless Steel	1250ml	100mm	165mm
206	Stainless Steel	1000ml	110mm	135mm
207	Stainless Steel	2000ml	125mm	180mm
208	Stainless Steel	2500ml	150mm	160mm
209	Stainless Steel	5000ml	185mm	220mm
402	Aluminium	100ml	50.4mm	57mm
404	Aluminium	250ml	69.4mm	76mm
407	Aluminium	500ml	84.5mm	103mm
410	Aluminium	1000ml	102mm	132mm
412	Aluminium	2000ml	126mm	156mm
415	Aluminium	5000ml	177mm	206mm

The METALWARE RANGE

BOWLS
ONE PIECE CREVICE FREE
SPOUTED

BOWLS

Part Number	Material	Capacity	Diameter A	Depth B
715	Nickel	50ml	60mm	30mm
716	Nickel	80ml	70mm	30mm
717	Nickel	90ml	80mm	40mm
718	Nickel	250ml	100mm	40mm
747	Aluminium	90ml	80mm	40mm
796	Stainless Steel	80ml	70mm	30mm
798	Stainless Steel	250ml	100mm	40mm

The METALWARE RANGE

CRUCIBLES

ONE PIECE
HIGH QUALITY AND PURITY
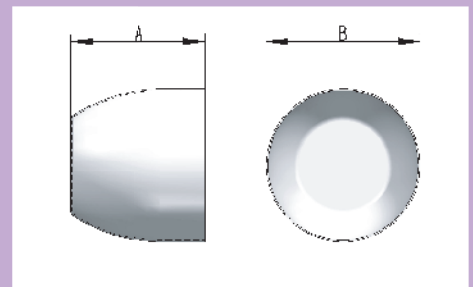
CRUCIBLES - NICKEL

Part Number	Material	Capacity	Diameter B	Depth A
1	0.5mm Thick Nickel	5ml	20mm	25mm
2	0.5mm Thick Nickel	10ml	25mm	30mm
3	0.5mm Thick Nickel	15ml	30mm	30mm
4	0.5mm Thick Nickel	25ml	35mm	35mm
5	0.5mm Thick Nickel	30ml	40mm	40mm
6	0.5mm Thick Nickel	50ml	45mm	45mm
7	0.5mm Thick Nickel	70ml	50mm	50mm
8	0.5mm Thick Nickel	130ml	60mm	60mm
10	0.5mm Thick Nickel	270ml	80mm	80mm
13	1.0mm Thick Nickel	10ml	25mm	30mm
14	1.0mm Thick Nickel	15ml	30mm	30mm
15	1.0mm Thick Nickel	25ml	35mm	35mm
16	1.0mm Thick Nickel	30ml	40mm	40mm
17	1.0mm Thick Nickel	50ml	45mm	45mm
18	1.0mm Thick Nickel	70ml	50mm	50mm
19	1.0mm Thick Nickel	130ml	60mm	60mm
21	1.0mm Thick Nickel	270ml	80mm	80mm
22	1.0mm Thick Nickel	600ml	100mm	90mm
25	1.5mm Thick Nickel	15ml	30mm	30mm
27	1.5mm Thick Nickel	30ml	40mm	40mm
28	1.5mm Thick Nickel	50ml	45mm	45mm
37	2.0mm Thick Nickel	30ml	40mm	40mm
38	2.0mm Thick Nickel	50ml	45mm	45mm
39	2.0mm Thick Nickel	70ml	50mm	50mm
40	2.0mm Thick Nickel	130ml	60mm	60mm

CRUCIBLES - ZIRCONIUM

Part Number	Material	Capacity	Diameter B	Depth A
300	1.0mm Zirconium	10ml	25mm	25mm
301	1.0mm Zirconium	15ml	30mm	25mm
302	1.0mm Zirconium	25ml	35mm	35mm
303	1.0mm Zirconium	30ml	38mm	38mm
304	1.0mm Zirconium	35ml	40mm	40mm
305	1.0mm Zirconium	40ml	45mm	38mm
306	1.0mm Zirconium	45ml	45mm	39mm
307	1.0mm Zirconium	50ml	45mm	40mm
308	1.0mm Zirconium	60ml	45mm	45mm
309	1.0mm Zirconium	70ml	48mm	45mm

CRUCIBLES - STAINLESS STEEL

Part Number	Material	Capacity	Diameter B	Depth A
123	0.7mm Stainless St.	15ml	30mm	30mm
124	0.7mm Stainless St.	25ml	35mm	35mm
125	0.7mm Stainless St.	30ml	40mm	40mm
126	0.7mm Stainless St.	50ml	45mm	45mm
128	0.7mm Stainless St.	70ml	50mm	50mm

CRUCIBLE LIDS

ONE PIECE
HIGH QUALITY AND PURITY
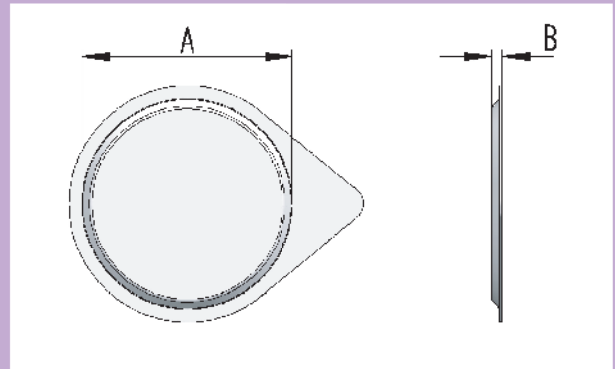
CRUCIBLE LIDS - NICKEL

Part Number	Material	Diameter A
44	0.5mm Thick Nickel	20mm
45	0.5mm Thick Nickel	25mm
46	0.5mm Thick Nickel	30mm
47	0.5mm Thick Nickel	35mm
48	0.5mm Thick Nickel	40mm
49	0.5mm Thick Nickel	45mm
50	0.5mm Thick Nickel	50mm
51	0.5mm Thick Nickel	60mm
53	0.5mm Thick Nickel	80mm

CRUCIBLE LIDS - ZIRCONIUM

Part Number	Material	Diameter A
320	1.0mm Thick Zirconium	25mm
321	1.0mm Thick Zirconium	30mm
322	1.0mm Thick Zirconium	35mm
323	1.0mm Thick Zirconium	38mm
324	1.0mm Thick Zirconium	40mm
326	1.0mm Thick Zirconium	45mm
329	1.0mm Thick Zirconium	48mm

CRUCIBLE LIDS - STAINLESS STEEL

Part Number	Material	Diameter A
163	0.7mm Thick Stainless Steel	30mm
164	0.7mm Thick Stainless Steel	35mm
165	0.7mm Thick Stainless Steel	40mm
167	0.7mm Thick Stainless Steel	50mm

S A M P L E
D I P P E R S

S T A I N L E S S   S T E E L
S P O U T E D

The METALWARE RANGE
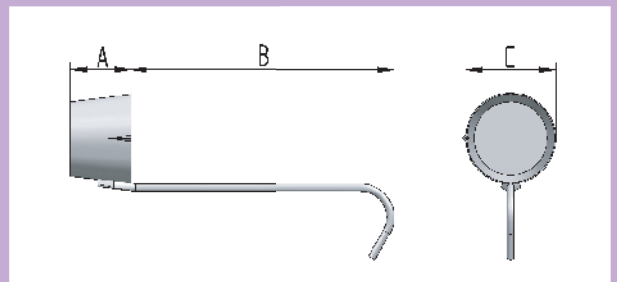
SAMPLE DIPPERS

Part Number	Material	Height A	Length B	Diameter C
5092	Stainless Steel	25mm	300mm	24mm
5082	Stainless Steel	35mm	381mm	45mm
5062	Stainless Steel	42mm	381mm	60mm
5042	Stainless Steel	70mm	508mm	65mm
5052	Stainless Steel	42mm	150mm	60mm
5072	Stainless Steel	60mm	381mm	90mm

D I S H E S

O N E P I E C E
H I G H Q U A L I T Y A N D P U R I T Y
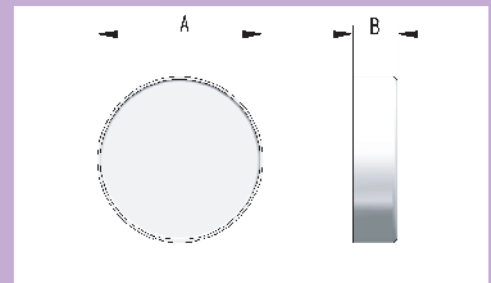
DISHES/BASINS - NICKEL

Part Number	Material	Diameter A	Depth B
502	Nickel	55mm	19mm
503	Nickel	60mm	16mm
504	Nickel	70mm	19mm
505	Nickel	75mm	25mm
506	Nickel	85mm	30mm
508	Nickel	90mm	16mm

DISHES/BASINS - ALUMINIUM

Part Number	Material	Diameter A	Depth B
601	Aluminium	55mm	10mm
602	Aluminium	55mm	19mm
603	Aluminium	60mm	16mm
604	Aluminium	70mm	19mm
605	Aluminium	75mm	25mm
606	Aluminium	85mm	30mm
608	Aluminium	90mm	16mm

DISHES/BASINS - STAINLESS STEEL

Part Number	Material	Diameter A	Depth B
672	Stainless Steel	75mm	25mm

D I S H   L I D S

ONE PIECE
HIGH QUALITY AND PURITY
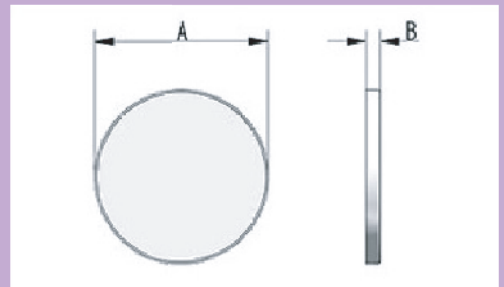
DISH LIDS - NICKEL

Part Number	Material	Diameter A	Depth B
541	Nickel	55mm	5mm
543	Nickel	60mm	5mm
544	Nickel	70mm	5mm
545	Nickel	75mm	5mm
546	Nickel	85mm	5mm
548	Nickel	90mm	5mm
541A	Nickel with Knob	55mm	5mm
543A	Nickel with Knob	60mm	5mm
544A	Nickel with Knob	70mm	5mm
545A	Nickel with Knob	75mm	5mm
546A	Nickel with Knob	85mm	5mm
548A	Nickel with Knob	90mm	5mm

DISH LIDS - ALUMINIUM

Part Number	Material	Diameter A	Depth B
640	Aluminium	55mm	5mm
642	Aluminium	60mm	5mm
643	Aluminium	70mm	5mm
644	Aluminium	75mm	5mm
646	Aluminium	90mm	5mm
642A	Aluminium with Knob	60mm	5mm
644A	Aluminium with Knob	75mm	5mm

DISH LIDS - STAINLESS STEEL

Part Number	Material	Diameter A	Depth B
688	Stainless Steel	75mm	5mm
688A	Stainless Steel with Knob	75mm	5mm

DISSECTING DISHES

ONE PIECE CREVICE FREE
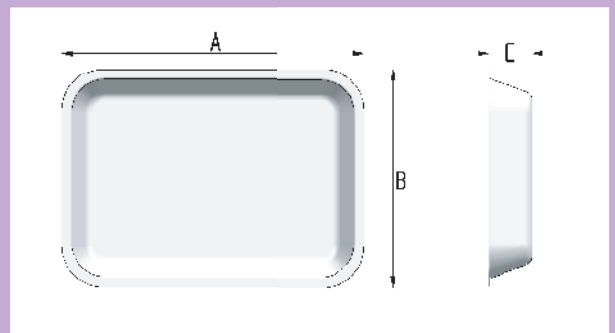
DISSECTING DISHES

Part Number	Material	Length A	Width B	Depth C
626	Aluminium	360mm	260mm	50mm
695	Stainless Steel	310mm	220mm	45mm
697	Stainless Steel	450mm	300mm	50mm
698	Stainless Steel	500mm	350mm	50mm

The METALWARE RANGE

FORCEPS
QUALITY LAB SPEC
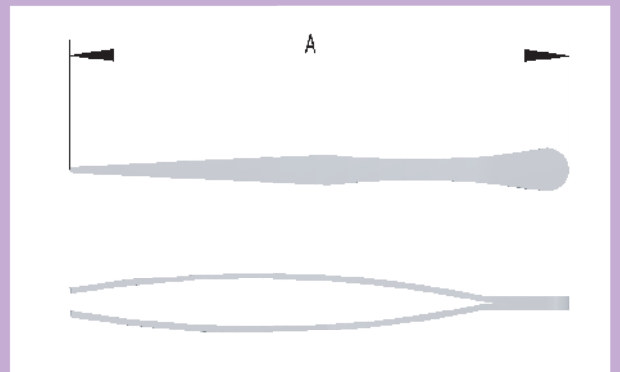
FORCEPS - STRAIGHT WITH GUIDE PIN

Part Numbe	Material	Length A
7101	Stainless Steel - Sharp Ends	115mm
7102	Stainless Steel - Sharp Ends	130mm
7104	Stainless Steel - Sharp Ends	160mm
7201	Stainless Steel PTFE Coated - Sharp Ends	115mm
7202	Stainless Steel PTFE Coated - Sharp Ends	130mm
7204	Stainless Steel PTFE Coated - Sharp Ends	160mm
7111	Stainless Steel - Blunt Ends	115mm
7112	Stainless Steel - Blunt Ends	130mm
7114	Stainless Steel - Blunt Ends	160mm
7117	Stainless Steel - Blunt Ends	300mm
7211	Stainless Steel PTFE Coated - Blunt Ends	115mm
7212	Stainless Steel PTFE Coated - Blunt Ends	130mm
7214	Stainless Steel PTFE Coated - Blunt Ends	160mm

The METALWARE RANGE

F U N N E L S
CREVICE FREE
HEAVY DUTY FLUTED
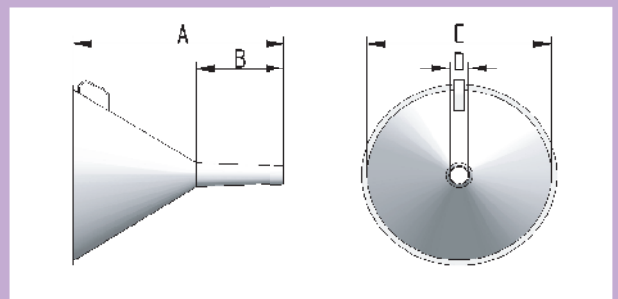
FUNNELS

Part Number	Material	Length A	Diameter C	Flute B
FUNSS80H	Stainless Steel	110mm	80mm	50mm flute
FUNSS100H	Stainless Steel	120mm	90mm	60mm flute
FUNSS120H	Stainless Steel	125mm	100mm	60mm flute
FUNSS150H	Stainless Steel	180mm	145mm	85mm flute
FUNSS200H	Stainless Steel	210mm	180mm	85mm flute

J U G S

CREVICE FREE AND SPOUTED
FLARED BASE FOR STABILITY
GRADUATED
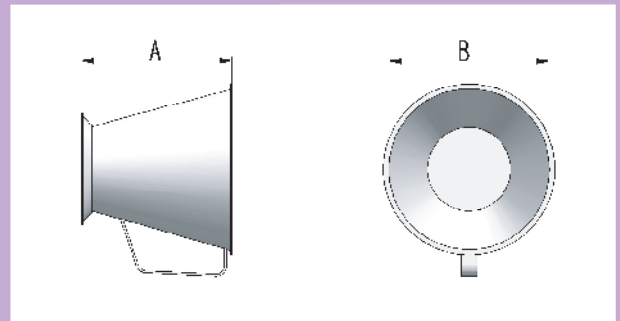
JUGS GRADUATED AND TAPERED WITH HANDLE

Part Number	Material	Capacity	Diameter B	Height A
JUGS0500H	Stainless Steel - increments of 100ml	500ml	90mm	135mm
JUGS1000H	Stainless Steel - increments of 250ml	1000ml	115mm	155mm
JUGS2000H	Stainless Steel - increments of 250ml	2000ml	150mm	215mm

z R A C K

MULTI-HOLE
TEST TUBE RACK
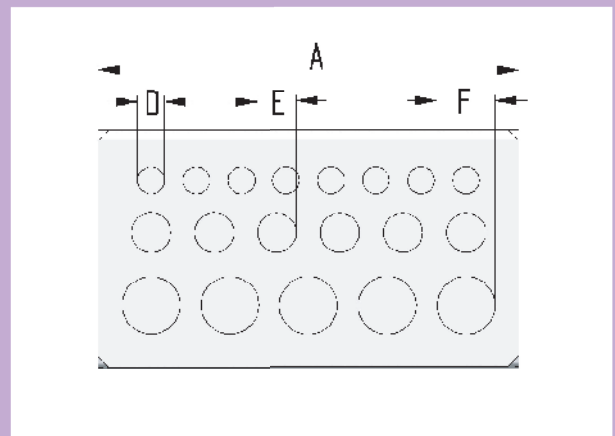
RACKS

Part Number	Description	Width	Length A	Height
6877	Aluminium Z Rack	114mm	203mm	76mm

A: Overall Length
D: 8 x 13mm Diameter Holes
E: 6 x 19mm Diameter Holes
F: 5 x 28mm Diameter Holes

The METALWARE RANGE

T E S T
T U B E S
R A C K S

S T A I N L E S S   S T E E L
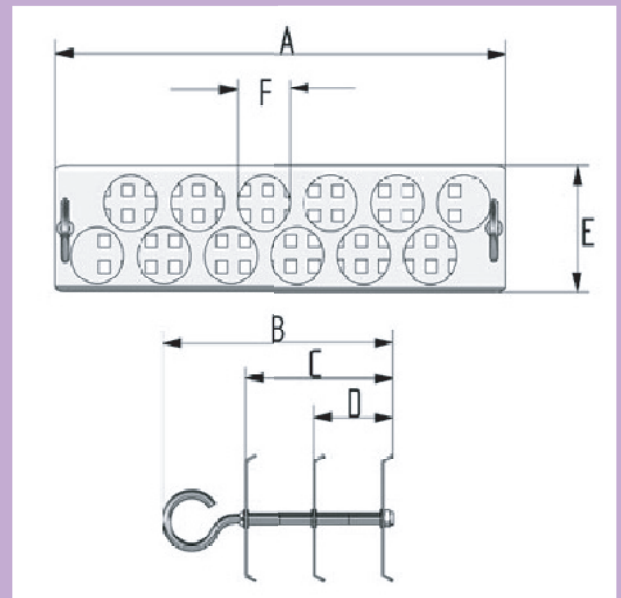
A: Overall Length 270mm
B: Height 138mm
C: Top Shelf 86mm
D: Middle Shelf 45mm
E: Overall Width 70mm

TEST TUBE RACKS

Part Number	Material	No/Holes	Diameter F
6870	Stainless Steel	26	17mm
6871	Stainless Steel	16	26mm
6872	Stainless Steel	36	13mm
6873	Stainless Steel	18	19mm
6900	Stainless Steel	12	32mm

R E T O R T
B A S E S
& R O D S
H E A V Y   D U T Y
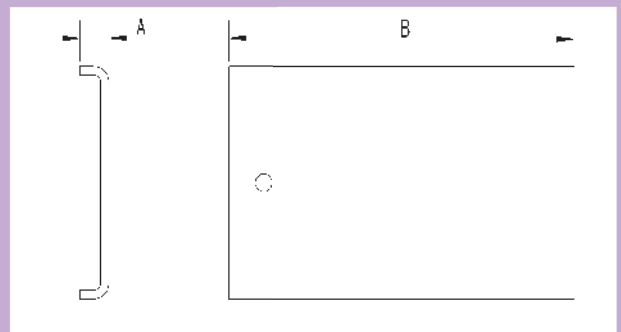
RETORT BASES

Part Number	Material	Length B	Width	Threaded
6890	Painted	160mm	100mm	M10 x 1.5mm
6891	Painted	200mm	125mm	M10 x 1.5mm
6892	Painted	250mm	160mm	M10 x 1.5mm
6893	Painted	315mm	200mm	M10 x 1.5mm
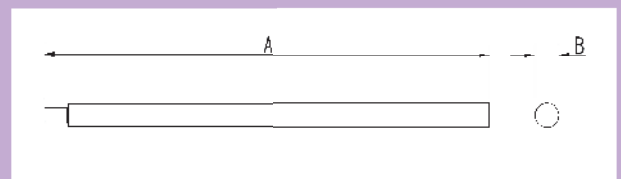
RETORT RODS

Part Number	Material	Length A	Diameter B	Threaded
8634	Mild Steel	500mm	10mm	M10 x 1.5mm
8631	Mild Steel	600mm	12.5mm	M10 x 1.5mm
8632	Mild Steel	750mm	12.5mm	M10 x 1.5mm
8633	Mild Steel	1000mm	12.5mm	M10 x 1.5mm
8624	Stainless Stee	500mm	10mm	M10 x 1.5mm
8614	Aluminium	500mm	10mm	M10 x 1.5mm
8611	Aluminium	600mm	12.5mm	M10 x 1.5mm

S C O O P S
R O U N D
B O T T O M
S T A I N L E S S   S T E E L

SCOOPS - ROUND BOTTOM

Part Number	Material	Length A	Depth B	Width C
4020	Stainless Steel	70mm	10mm	30mm
4021	Stainless Steel	90mm	10mm	30mm
4022	Stainless Steel	105mm	10mm	30mm
4023	Stainless Steel	120mm	10mm	30mm

SCOOPS
CYLINDRICAL
STAINLESS STEEL
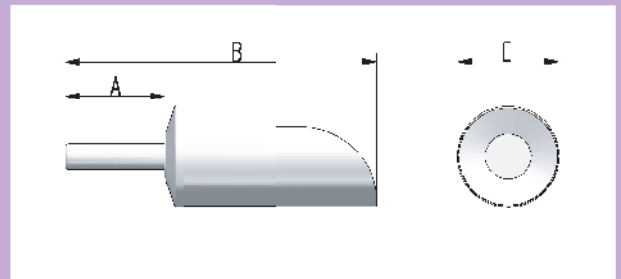
SCOOPS - CYLINDRICAL

Part Number	Material/Volume	Length A	Length B	Diameter C
9010	Stainless Steel/100ml	80mm	190mm	50mm
9020	Stainless Steel/250ml	100mm	260mm	75mm
9030	Stainless Steel/500ml	100mm	325mm	105mm
9040	Stainless Steel/1000ml	100mm	340mm	115mm

SCOOPS
CYLINDRICAL
SEAMLESS
STAINLESS STEEL
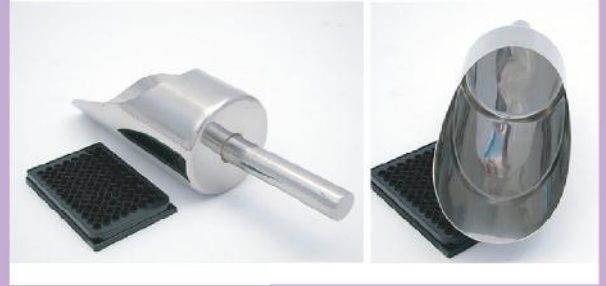
The METALWARE RANGE
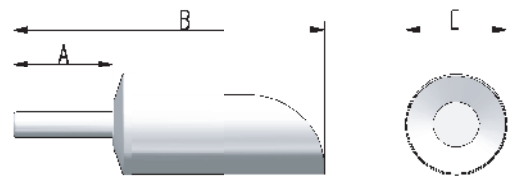
SCOOPS - CYLINDRICAL

Part Number	Material/Volume	Length A	Length B	Diameter C
9015	Stainless Steel Seamless/150ml	100mm	220mm	50mm
9035	Stainless Steel Seamless/500ml	120mm	285mm	75mm
9050	Stainless Steel Seamless/1000ml	120mm	350mm	100mm
9060	Stainless Steel Seamless/1500ml	135mm	370mm	120mm
9070	Stainless Steel Seamless/4000ml	120mm	360mm	180mm

S O I L
S I E V E S
M E S H E S

The METALWARE RANGE
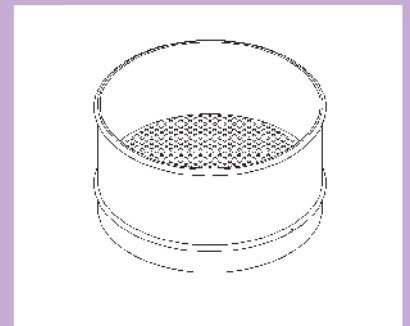
SOIL SIEVES

Part Number	Material	Pan Dia A	Pan Height B	Bdy Hght C
9130	Aluminium Body with Stainless Steel Mesh 10;20;30;40;60;80;100;120;250 Meshes	100mm	45mm	45mm

Mesh Body	Aperture	Wire dia.
10	2mm	0.56mm
20	900 microns	0.375mm
30	600 microns	0.28mm
40	400 microns	0.236mm
60	250 microns	0.17mm
80	200 microns	0.132mm
100	140 microns	0.112mm
120	125 microns	0.09mm
150	100 microns	0.071mm
250	63 microns	0.04mm

SPATULAS CHATTAWAY

HIGH QUALITY AND PURITY
MICRO, LIGHT AND MEDIUM WEIGHTS
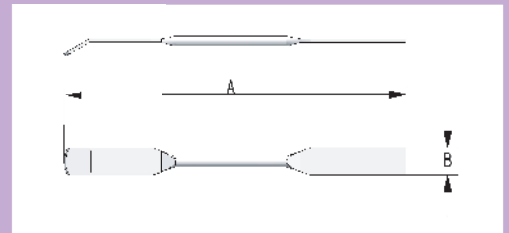
SPATULAS - CHATTAWAY - NICKEL

Part Number	Material	Length A	Width B	Weight
2201	Nickel	100mm	8mm	Light
2202	Nickel	130mm	8mm	Light
2203	Nickel	150mm	8mm	Light
2205	Nickel	200mm	8mm	Light
2210	Nickel	100mm	10mm	Medium
2211	Nickel	130mm	10mm	Medium
2212	Nickel	150mm	10mm	Medium
2213	Nickel	180mm	10mm	Medium
2214	Nickel	200mm	10mm	Medium
2215	Nickel	230mm	10mm	Medium
2216	Nickel	270mm	10mm	Medium
2250	Nickel	100mm	4mm	Micro
2251	Nickel	130mm	4mm	Micro
2252	Nickel	150mm	4mm	Micro
2253	Nickel	180mm	4mm	Micro
2254	Nickel	200mm	4mm	Micro

SPATULAS - CHATTAWAY - STAINLESS STEEL

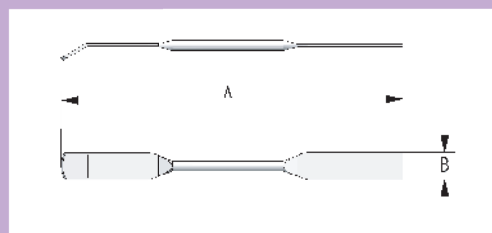| Part Number	Material	Length A	Width B	Weight
2301	Stainless Steel	100mm	8mm	Light
2302	Stainless Steel	130mm	8mm	Light
2303	Stainless Steel	150mm	8mm	Light
2305	Stainless Steel	200mm	8mm	Light
2310	Stainless Steel	100mm	10mm	Medium
2311	Stainless Steel	130mm	10mm	Medium
2312	Stainless Steel	150mm	10mm	Medium
2313	Stainless Steel	180mm	10mm	Medium
2314	Stainless Steel	200mm	10mm	Medium
2315	Stainless Steel	230mm	10mm	Medium
2317	Stainless Steel	305mm	10mm	Medium
2318	Stainless Steel	350mm	10mm	Medium
2350	Stainless Steel	100mm	4mm	Micro
2351	Stainless Steel	130mm	4mm	Micro
2352	Stainless Steel	150mm	4mm	Micro
2353	Stainless Steel	180mm	4mm	Micro
2354	Stainless Steel	200mm	4mm	Micro

The METALWARE RANGE

SPATULAS CHATTAWAY PTFE

NON STICK SURFACE
MICRO, LIGHT AND MEDIUM WEIGHTS

SPATULAS - CHATTAWAY

Part Number	Material	Length A	Width B	Weight
2403	Stainless Steel PTFE Coated	150mm	8mm	Light
2405	Stainless Steel PTFE Coated	200mm	8mm	Light
2410	Stainless Steel PTFE Coated	100mm	10mm	Medium
2412	Stainless Steel PTFE Coated	150mm	10mm	Medium
2413	Stainless Steel PTFE Coated	180mm	10mm	Medium
2414	Stainless Steel PTFE Coated	200mm	10mm	Medium
2415	Stainless Steel PTFE Coated	230mm	10mm	Medium
2418	Stainless Steel PTFE Coated	350mm	10mm	Medium
2450	Stainless Steel PTFE Coated	100mm	4mm	Micro
2452	Stainless Steel PTFE Coated	150mm	4mm	Micro
2454	Stainless Steel PTFE Coated	200mm	4mm	Micro

The METALWARE RANGE

SPATULAS
COMBUSTION
SPOON

SPECIALIST APPLICATIONS

SPATULAS - SPOON

Part Number	Material	Length
6855	Stainless Steel - Combustion	220mm

9570

9571

S P A T U L A S
H A Y M A N
S P E C I A L I S T   A P P L I C A T I O N S
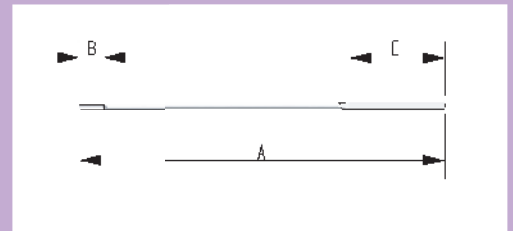
9570
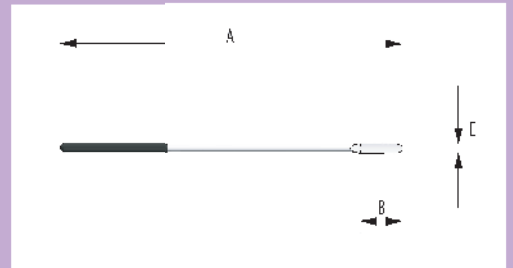
9571

SPATULAS - HAYMAN

Part Number	Style/Material	Length A	Blade B	Size C
9570	Hayman Spatula Curved Half Moon End	165mm	13mm	40mm
9571	Hayman Spatula Spoon end	165mm	20mm	6mm

S P A T U L A S
N M R
S P E C I A L I S T   A P P L I C A T I O N S
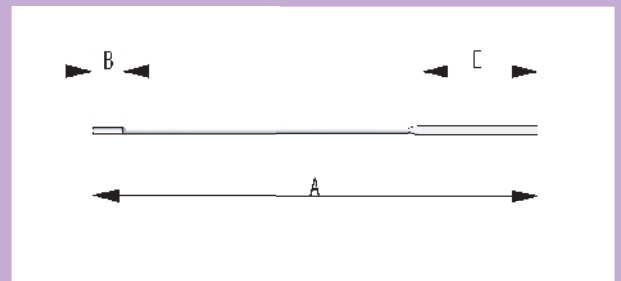
SPATULAS - MISCELLANEOUS

Part Number	Style/Material	Length A	Blade B	Blade C
9575	NMR/Stainless Steel	250mm	13mm	40mm
9576	NMR/Stainless Steel, Coated PTFE End	250mm	13mm	40mm

S P A T U L A S
N U F F I E L D
S P E C I A L I S T   A P P L I C A T I O N S

SPATULAS - NUFFIELD

Part Number	Style/Material	Length
6850	Nuffield/Stainless Steel	140mm
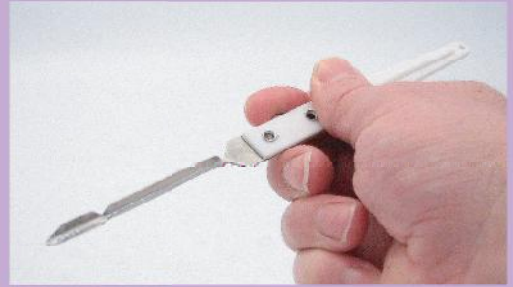
9572

9573

The METALWARE RANGE

SPATULAS
QUAVERETTE
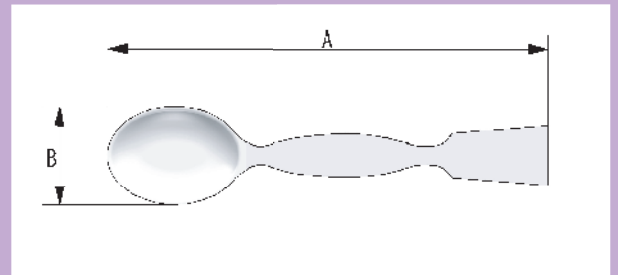## SPECIALIST APPLICATIONS

SPATULAS - MISCELLANEOUS

Part Number	Style/Material	Length
9572	Quaverette Vibrating	210mm
9573	Quaver Vibrating	175mm

S P A T U L A S
S P O O N

HIGH QUALITY AND PURITY

SPATULAS - SPOON - NICKEL

Part Number	Material	Length	Diameter B	Capacity
2001	Nickel	120mm	20mm	2ml
2002	Nickel	150mm	20mm	2ml
2003	Nickel	180mm	20mm	2ml
2004	Nickel	210mm	20mm	2ml

SPATULAS - SPOON - STAINLESS STEEL

Part Number	Material	Length	Diameter B	Capacity
2010	Stainless Steel	120mm	20mm	2ml
2011	Stainless Steel	150mm	20mm	2ml
2012	Stainless Steel	180mm	20mm	2ml
2013	Stainless Steel	210mm	20mm	2ml
2110	Stainless Steel PTFE Coated	120mm	20mm	2ml
2111	Stainless Steel PTFE Coated	150mm	20mm	2ml
2113	Stainless Steel PTFE Coated	210mm	20mm	2ml

SPATULAS
SPOON
MICRO
HIGH QUALITY AND PURITY
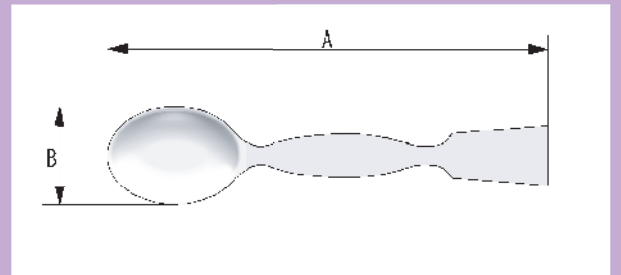
SPATULAS - SPOON

Part Number	Material	Length	Diameter B	Capacity
8064	Nickel - Micro	100mm	8mm	0.2ml
8065	Nickel - Micro	150mm	8mm	0.2ml
8044	Stainless Steel - Micro	100mm	8mm	0.2ml
8045	Stainless Steel - Micro	150mm	8mm	0.2ml
8144	Stainless Steel PTFE Coated - Micro	100mm	8mm	0.2ml
8145	Stainless Steel PTFE Coated - Micro	150mm	8mm	0.2ml

S P A T U L A S
S P O O N
O F F   S E T
H I G H   Q U A L I T Y   A N D   P U R I T Y

SPATULAS - SPOON

Part Number	Material	Length
8205	Stainless Steel - Offset	190mm
8206	Stainless Steel - Offset - long reach	300mm

Spoon = 20 x 25mm.
Spoon end = 17mm offset.
Centre barrel diameter 8mm.
Scraper end = 12mm.

S P A T U L A S
T A P E R
B L A D E
HIGH QUALITY AND PURITY
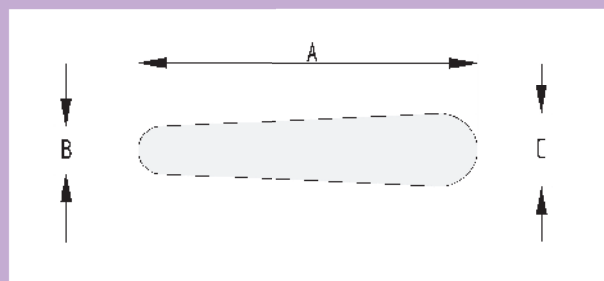
SPATULAS - FLAT TAPER BLADES - NICKEL

Part Number	Material	Length	Width B	Width C
2102	Nickel	90mm	15mm	25mm
2103	Nickel	120mm	15mm	25mm
2104	Nickel	150mm	18mm	30mm
2105	Nickel	180mm	20mm	35mm

SPATULAS - FLAT TAPER BLADES - STAINLESS STEEL

Part Number	Material	Length	Width B	Width C
2121	Stainless Steel	90mm	15mm	25mm
2122	Stainless Steel	120mm	15mm	25mm
2123	Stainless Steel	150mm	18mm	30mm

S P A T U L A S
T R O U G H
S P E C I A L I S T   A P P L I C A T I O N S
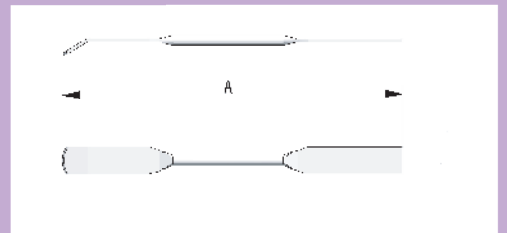
Trough blade measurement 8mm wide x 50mm long x 1.5mm deep.

SPATULAS – MISCELLANEOUS

Part Number	Style/Material	Length A
8202	Trough/Stainless Steel	150mm
8302	Trough/Stainless Steel PTFE Coated	150mm

The METALWARE RANGE

S P A T U L A S
T R U L L A
S P E C I A L I S T   A P P L I C A T I O N S

SPATULAS - TRULLA

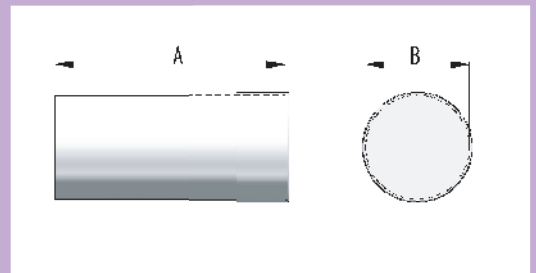| Part Number	Style/Material	Length A
9370	Trulla/Stainless Steel	175mm
9470	Trulla/Stainless Steel PTFE Coated	175mm

STERILIZING PETRI DISH CANS

HIGH QUALITY AND DURABLE

STERILIZING CAN - PETRI DISH

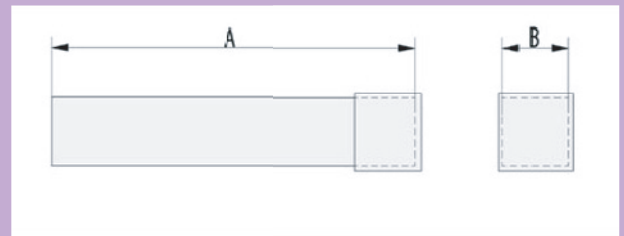| Part Number	Material	Length A	Diameter B
6301	Aluminium	254mm	115mm
6501	Stainless Steel	254mm	115mm

STERILIZING PIPPETTE BOXES

DURABLE
ANTI-ROLL DESIGN

STERILIZING BOXES - ALUMINIUM

Part Number	Material	Length A	Square B
6700	Aluminium	215mm	70mm
6701	Aluminium	295mm	70mm
6702	Aluminium	345mm	70mm
6703	Aluminium	450mm	70mm
6704	Aluminium	495mm	70mm

STERILIZING BOXES - STAINLESS STEEL

Part Number	Material	Length A	Square B
6700/SS	Stainless Steel	210mm	70mm
6701/SS	Stainless Steel	290mm	70mm
6702/SS	Stainless Steel	340mm	70mm
6703/SS	Stainless Steel	430mm	70mm
6704/SS	Stainless Steel	490mm	70mm
6705/SS	Stainless Steel	300mm	50mm
6706/SS	Stainless Steel	400mm	70mm

STERILIZING PIPPETTE CANS

DURABLE, LONG LIFE CANS
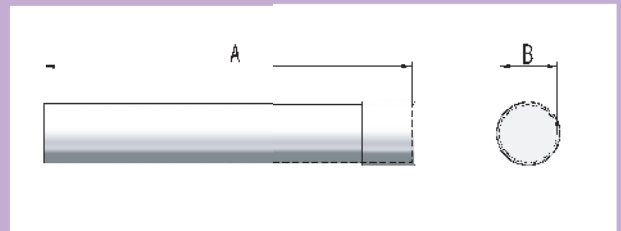
STERILIZING CAN - PIPETTE - ALUMINIUM

Part Number	Material	Length A	Diameter B
6001	Aluminium	407mm	64mm
6002	Aluminium	457mm	64mm

STERILIZING CAN - PIPETTE - STAINLESS STEEL

Part Number	Material	Length A	Diameter B
6199	Stainless Steel	230mm	64mm
6201	Stainless Steel	407mm	64mm
6202	Stainless Steel	457mm	64mm

TONGS
STRAIGHT
DURABLE QUALITY
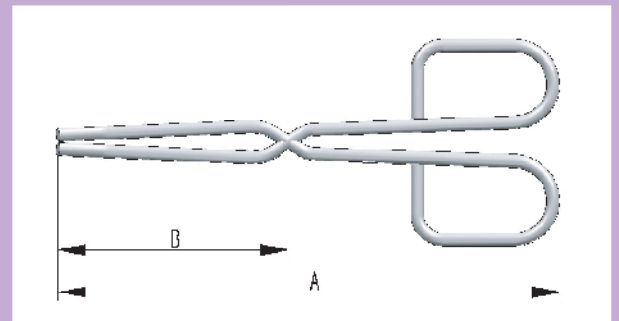
TONGS - STRAIGHT

Part Number	Material	Length A	Length B
3020	Nickel	150mm	72mm
3021	Nickel	200mm	95mm
3030	Stainless Steel	150mm	72mm
3130	Stainless Steel PTFE Coated	150mm	72mm
3031	Stainless Steel	210mm	105mm
3131	Stainless Steel PTFE Coated	210mm	105mm
3033	Stainless Steel	320mm	130mm
3036	Stainless Steel	508mm	130mm
3040	Mild Steel	160mm	75mm
3041	Mild Steel	210mm	110mm
3044	Mild Steel	410mm	130mm

T O N G S
B O W
D U R A B L E   Q U A L I T Y
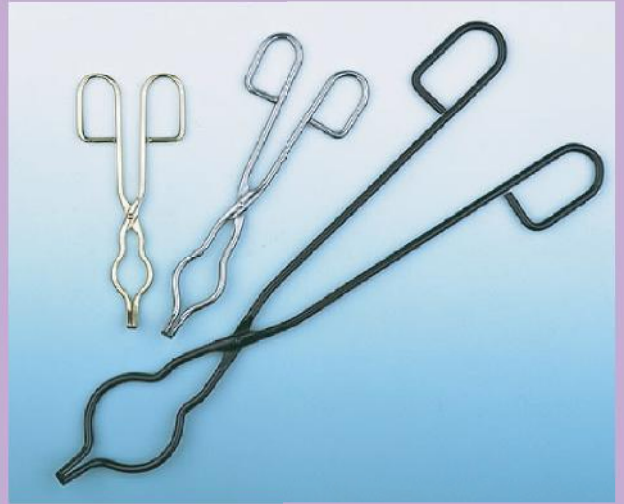
The METALWARE RANGE
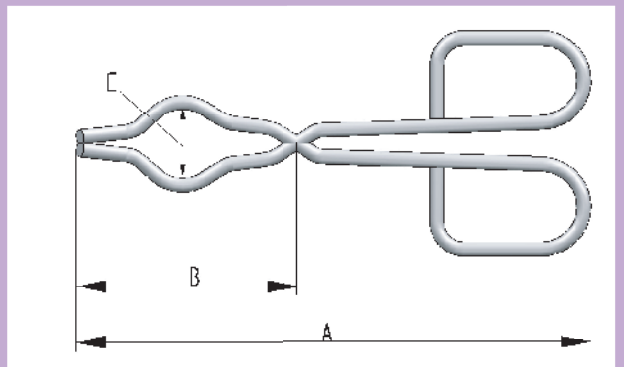
TONGS - BOW

Part Number	Material	Length A	Length B	Width C
3050	Nickel	152mm	72mm	18mm
3051	Nickel	203mm	90mm	25mm
3060	Stainless Steel	152mm	72mm	18mm
3160	Stainless Steel PTFE Coated	152mm	72mm	18mm
3061	Stainless Steel	203mm	90mm	25mm
3161	Stainless Steel PTFE Coated	203mm	90mm	25mm
3063	Stainless Steel	310mm	140mm	50mm
3064	Stainless Steel	410mm	140mm	50mm
3066	Stainless Steel	508mm	140mm	50mm
3070	Mild Steel	152mm	72mm	18mm
3071	Mild Steel	203mm	90mm	25mm
3073	Mild Steel	310mm	140mm	50mm
3074	Mild Steel	410mm	140mm	50mm

TONGS
SPECIALIST APPLICATIONS

TONGS - SPECIAL PURPOSE

Part Number	Material	Length A
7002	Stainless Steel - Flask Tongs	235mm
7005	Stainless Steel - Beaker Tongs	356mm

TRIPODS
STAINLESS STEEL
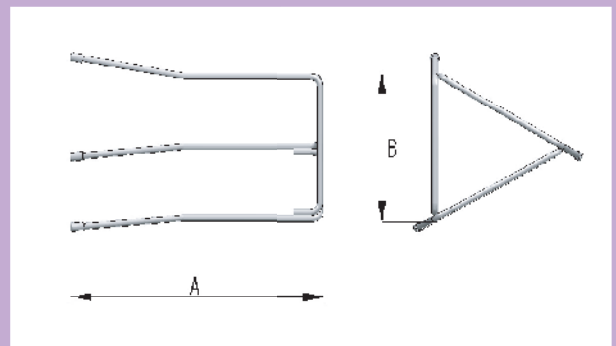
TRIPODS

Part Number	Material	Height A	Side B
TR1	Stainless Steel/Plastic Feet	150mm	120mm
TR2	Stainless Steel/Plastic Feet	210mm	120mm
TR3	Stainless Steel/Plastic Feet	210mm	150mm
TR5	Stainless Steel/Plastic Feet	260mm	150mm

Nickel

Commercially pure or low-alloy nickel has characteristics that are useful in several fields, notably chemical processing. Nickel is highly resistant to various reducing chemicals and is unexcelled in resistance to caustic alkalis. Nickel 201 is a commercially pure nickel with high thermal conductivity.

Nickel 201

Nickel 201 is commercially pure (99.6%) wrought nickel and a low carbon version of Nickel 200. It has good mechanical properties and excellent resistance to many corrosive environments. Other useful features: high thermal and electrical conductivities, low gas content and low vapour pressure. The corrosion resistance makes it particularly useful for maintaining product purity in the handling of foods, liquids, synthetic fibers, and caustic alkali's.

High-temperature and Corrosion Resistance properties

Nickel 201 has the excellent corrosion resistance characteristic of Nickel 200. Because it is a low-carbon material (0.02% max.), Nickel 201 is not subject to embrittlement by intergranularly precipitated carbon or graphite when held at temperatures of 315° to 760°C for extended times, provided carbonaceous materials are not in contact with it. It is, therefore, preferred to Nickel 200 in all cases where temperatures exceed 315°C. Nickel 201 is ideal for laboratory crucibles which are capable of withstanding oxidizing furnace atmospheres up to 1100°C. Above 300°C its mechanical properties change: tensile strength falls, elongation grows making for example a crucible more malleable when handling or when heated by a direct flame. This can lead to a change in the profile/shape of a crucible. The material is subject to intergranular embrittlement by sulphur compounds at temperatures above 315°C.

Water

The resistance of Nickel 201 to corrosion by distilled and natural waters is excellent since resistant to water containing hydrogen sulphide or carbon dioxide. Nickel 201 gives excellent service in seawater.

Acids

Sulphuric

Nickel 201 can be used with Sulphuric acid at low or moderate temperatures.

Hydrochloric

According to the data available, Nickel 201 may be used in hydrochloric acid in concentrations up to 30%, at room temperature. Increasing temperature will accelerate corrosion. If oxidizing salts are present in any but very small amounts, corrosion will be increased. At less than 0.5% concentration, the material can be used satisfactorily up to 150°-205°C.

Hydrofluoric

Nickel 201 has excellent resistance to anhydrous hydrofluoric acid even at elevated temperatures. In aqueous solutions, however, service is usually limited

Nickel contd.

to below 80°C. Even at room temperature, 60-65% commercial-grade acid has been found to severely corrode Nickel 201.

Phosphoric

Nickel 201 is resistant to phosphoric acid.

Nitric

Nickel 201 should not be used in nitric acid.

Organic

In general, Nickel 201 has excellent resistance to organic acids of all concentrations.

Alkali's

The outstanding corrosion resistance characteristic of Nickel 201 is its resistance to caustic soda and other Alkali's. (Ammonium hydroxide is an exception. Nickel 201 is not attacked by anhydrous ammonia or ammonium hydroxide in concentrations of 1%. Stronger concentrations can cause rapid attack.)

In caustic soda, Nickel 201 has excellent resistance to all concentrations up to and including the molten state. Below 50%, rates are negligible, even in boiling solutions. As concentration and temperature increase, corrosion rates increase very slowly. The chief factor contributing to the outstanding performance of Nickel 201 in highly concentrated caustic soda is a black protective film that forms during exposure. This film – nickel oxide – results in a marked decrease in corrosion rates over long exposure under most conditions. Because the presence of chlorates in caustic increases corrosion rates significantly, every effort should be made to remove as much of them as possible. Results of tests in sodium hydroxide solutions of varying concentrations produces a typical thin black oxide film, found on some of the samples in the tests at boiling temperature. Oxidizable sulphur compounds are also harmful, but, by adding sodium peroxide to change them to sulfates, their effect can be minimized.

Salts

The metal is not subject to stress-corrosion cracking in any of the chloride salts and has excellent resistance to all of the non-oxidizing halides. Oxidizing acid chlorides such as ferric, cupric and mercuric are very corrosive and should be used in low concentrations. Stannic chloride is less strongly oxidizing, and dilute solutions at atmospheric temperature are resisted. The maximum safe limit in oxidizing alkaline chlorides is 500 ppm available chlorine for continuous exposure. In bleaching, sodium silicate (1.4 specific gravity) can be used as an inhibitor to corrosion; as little as 0.5ml/liter of bleach has been found to be effective. Some very reactive and corrosive chlorides – phosphorus oxychloride, phosphorus trichloride, nitrosyl chloride, benzyl chloride and benzoyl chloride – are commonly contained in Nickel 201. It has excellent resistance to neutral and alkaline salt solutions.

Nickel contd.

Fluorine and chlorine

In comparison with other commercial metals and alloys, Nickel 201 has outstanding resistance to dry fluorine. Nickel 201 is the most practical for service in chlorine or hydrogen chloride at elevated temperatures.

Zirconium

Many regard Zirconium as a rare metal yet it is not uncommon but an exotic material. Zirconium, however, has many rare, even unique, qualities such as its remarkable corrosion resistance, being used extensively in the chemical processing industry. Zirconium will withstand a range of caustics and acids to a greater degree than any other commonly used metal and stands in a class by itself.

Cleaning Zirconium crucibles

Hydrofluoric acid is the only cleaning agent that should not be used to clean zirconium crucibles.

Applications for Zirconium Crucibles

Zirconium crucibles are suitable for several applications in the analytical chemistry.

• Sodium Peroxide Fusions - used with refractory or high-silica materials such as chromate, magnetite, illmenite, retile, silicon, silicon carbide, and certain alloys and steels. An excellent general flux for almost any material.

• Sodium Carbonate Fusions - decomposes most silicates of aluminum, calcium, chromium, nickel; also halides of silver; and sulphates of barium and lead.

• Lithium Salt Fusions - flux for oxide and silicate materials when sodium and potassium need to be determined or when large amounts of sodium would interfere with x-ray fluorescence or atomic absorption procedures.

Fusions in Zirconium Crucibles

Fusions are best made in the reducing flame of the burner where there is little or no attack or oxidation of the crucible - regardless of the sample material or flux mixture.

In making fusions, the sample is mixed with 4 to 10 times its weight of flux and placed over a bed of flux in the crucible. The burner set-up should be under a fume-hood and positioned under a Tripod [Stock No. TR1,TR2,TR3 or TR5]. Initially, the crucible and contents should be gently introduced over the flame, moving it in and out as melting commences. When molten, the heat can be raised and the contents 'swirled' to keep the sample off the bottom - use any of Stainless Steel tongs [Stock No.3030 > 3066] to handle the crucible and accomplish the swirling action, which should be continued throughout the fusion process. When molten it either becomes clear/homogeneous, or a very bright red, the fusion is now complete. The fused mass can be allowed to solidify in the crucible. The crucible and contents can then be placed in a beaker covered with water and the suitable solvent added to remove the fused mass from the crucible. Any material adhered to crucible can be dissolved out with more solvent. Under these conditions only a few milligrams of zirconium will be introduced into the sample. If this trace needs removing it can be accomplished by using strong acid solutions (HCl, H2SO4).

Zirconium contd.

Fluxes which can be used in Zirconium Crucibles

Listed below are fluxes that can be used to reduce melting points along with some applications that are normally troublesome.

• Sodium Peroxide - use with refractory materials such as chromite, magnetite, illmenite, rutile, silicon, silicon carbide, certain alloys and steels, etc., an excellent general flux for most any material. Two precautions to be taken when fusing chromite or other material high in chrome. When these materials are fused with peroxide, the chrome is oxidized to chromate which will tend to leave a yellow film on the inside of the crucible which will be unnoticed until the crucible has been removed from the subsequent dissolving operation, rinsed and dried.

This can be prevented by adding a few milliliters of hydrogen peroxide to the acid solvent (H_2SO_4) while the crucible is still immersed. The peroxide in acid reduces chromate to chromic chrome which goes readily into solution. The excess peroxide can be eliminated by boiling. Chrome can then be determined by the usual persulfate oxidation followed by a reduction titration.

Peroxide fusions of silicon carbide and other finely pulverized metals and alloys are another matter. These materials tend to react violently at very low temperatures with oxidizing fluxes and will often burn right through iron or nickel crucibles on their first use. However, these can be safely fused in zirconium if the sample is first mixed with about 4 to 6 times its weight of powdered anhydrous sodium carbonate; (0.25gram sample is usually more than enough) then add about twice the sample weight of sodium peroxide and mix.

The crucible and contents are then gently moved toward a fairly cool flame and moved cautiously in and out of the flame until melting around the edges begins.

It must not be put in the flame and held there unless all spattering, if any, has ceased. When the mixture appears to be melted and quiet, the temperature can be increased and fusion continued as usual. The fusion should be kept swirling and finished at a red heat.

• Sodium Carbonate: Melting Point approximately 850°C. Decomposes most silicates of aluminum, calcium, chromium nickel, etc.; also halides of silver, and sulfates of barium and lead.

• Potassium Carbonate: Melting Point approximately 910°C. Acts the same as sodium carbonate and can be mixed with it.

• Sodium and Potassium Carbonate: mixture acts as either one alone but melts at a lower temperature than either one alone.

• (Na, K) carbonates plus oxidizing agent: (KNO_3, $KClO_3$, Na_2O_2, MgO, ZnO): Used on sulphide ores of arsenic, antimony, iron, nickel, molybdenum, etc.
• Sodium Hydroxide: Melting Point approximately 320°C. Basic flux for oxidized ores of tin, zinc, antimony, etc.
• Potassium Hydroxide: Melting Point approximately 360°C.
• Sodium Chloride: Melting Point approximately 800°C. Neutral flux. Can be used as a cover for fusion mixtures.

Zirconium contd.

• Potassium Nitrate: Melting Point approximately 340°C. Powerful oxidizing agent and basic flux. Used as a mixture with carbonates.

• Sodium Nitrate: Melting Point approximately 320°C. Acts same as potassium nitrate.

• Lithium metaborate: Melting Point approximately 840°C. Flux for various oxide and silicate materials when sodium and potassium need to be determined.

• Lithium Carbonate: Melting Point approximately 620°C.

• Lithium Hydroxide: Melting Point approximately 450°C. Can be added to other fluxes to help lower melting points.

• Lithium Fluoride: Melting Point approximately 870°C. Added to (Na, K) carbonates.

• Calcium Carbonate - Ammonium Chloride: A sintering flux used to make soluble alkalis for analysis of sodium and potassium.

• Sodium Borate (Borax glass): Melting Point approximately 740°C. Used with (Na, K) carbonates to give a lower melting flux for refractory silicates and oxides of aluminum, iron, nickel, etc.

This list of fluxes can be used in any combination in zirconium crucibles so long as the fusions are made in the reducing flame of the gas burner or in a furnace equipped to provide an inert atmosphere such as argon or maybe helium. Nitrogen might be used if the fusion time at high temperature was relatively short, but not recommended and will embrittle zirconium after exposure for long periods of time that may shorten the useful life of the crucible.

An additional benefit can be obtained by combining two or more sodium or potassium salts (carbonates, peroxides, hydroxides); or two or more lithium salts (borates, peroxides, carbonates, hydroxides). Using this procedure, the melting temperature of the fusion can often be lowered to a temperature below that at which any of the fluxes alone would melt. This lower melting point also results in an easier-to-pour melt, a faster fusion process and an increase to the useful life of the zirconium crucible.

Zirconium crucibles and covers, and other laboratory ware are an excellent alternative to the very expensive noble metals e.g platinum and fragile glass, porcelain and quartz ware for making peroxide and similar fusions in preparing samples for chemical analysis.

While prolonged exposure to air at temperatures of more than 750°C can have a negative effect on zirconium, this can be reduced by either: using cooler reduced portion of the flame, or enveloping the crucible in an inert atmosphere.
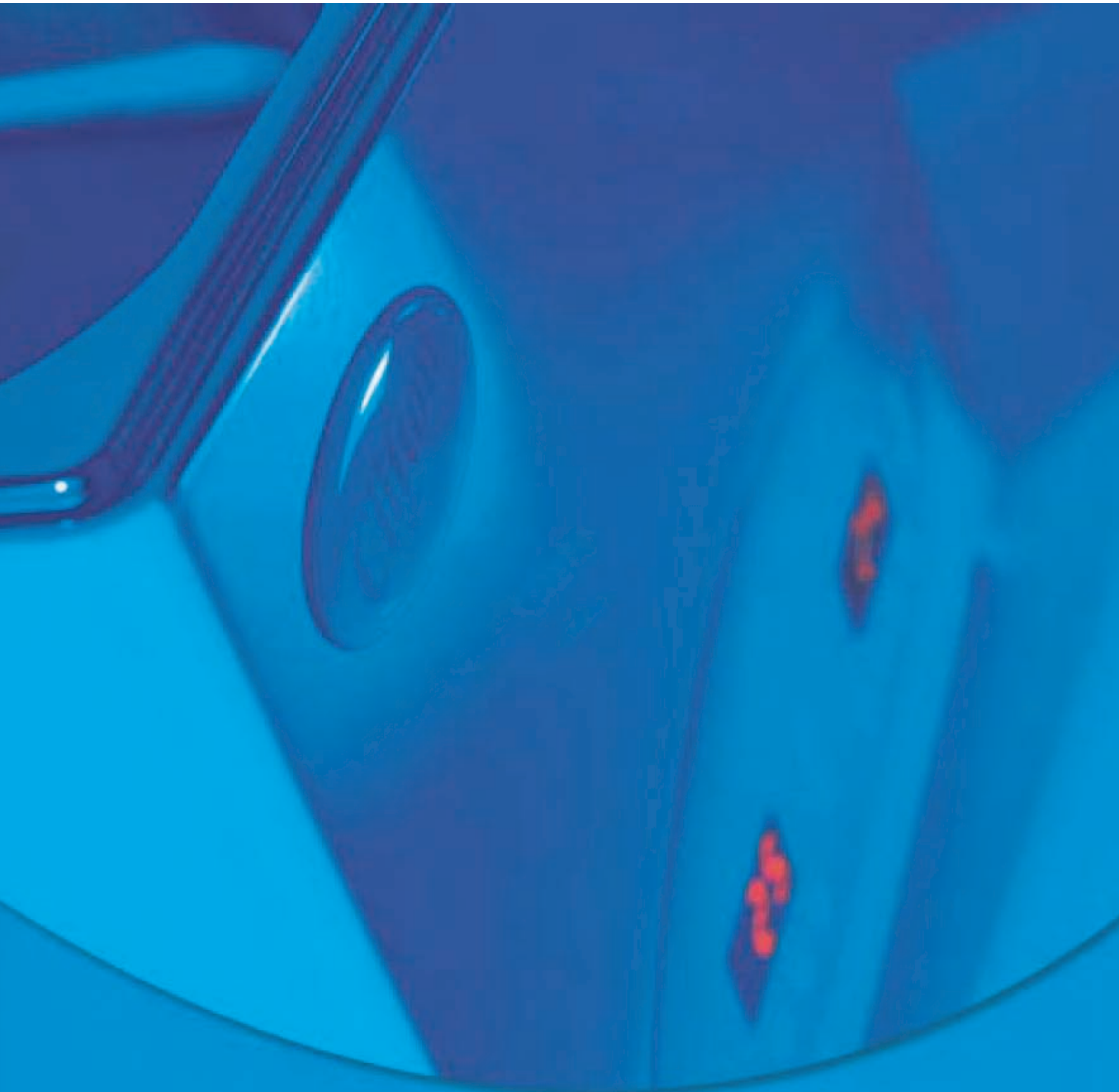
UNSTIRRED BATHS

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

BATHS
BOILING

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.	-	-

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

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

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

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*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	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 l
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.

UNSTIRRED BATHS

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
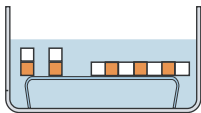
* Traditional style water bath

- 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.

UNSTIRRED BATHS

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: ±0.5℃
* Uniformity: ±0.5℃
* Range: ambient +5℃ - 99℃
* 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
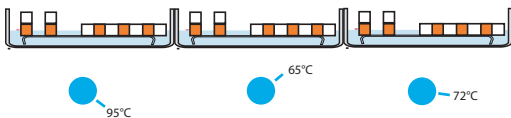
65℃

95℃

72℃

- 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℃ 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.

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. 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, hygenic 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.

Anti-bacterial Protection active Ag+ions

Features Include:

* Temperature
  - range: ambient +5°C - 100°C [3]
  - thermostatic control
  - sensitivity: ±0.25°C
  - uniformity: ±0.1°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.

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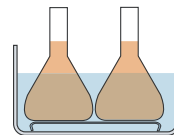
Clifton Low height shelf needs less water for same work.

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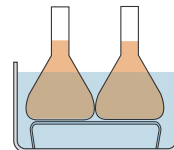
Conventional shelf height.

NE1-56

UNSTIRRED BATHS

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, hygenic coating which actively inhibits bacterial growth.

Anti-bacterial Protection active Ag+ions
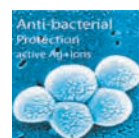
Features Include:

* Temperature
  - range: ambient +5°C - 99°C
  - digital PID adaptive control
  - LED display: 0.1°C resolution
  - sensitivity: ±0.2°C
  - uniformity: ±0.1°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
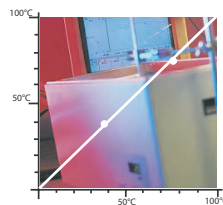
* Lids recommended above 60°C
  - to save energy[1] and optimum bath performance

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 anitbacterial 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, hygenic coating which actively inhibits bacterial growth.
2. Gated drain tap featured on NE3-8DT, NE3-14DT and NE3-28DT for convenience.

NE3-28DT

28 litre

500w x 300d x 200h mm

538w x 332d x 290h mm

1500W

120V or 230V models

Features Include

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

* Timer, options
  - no timer
  - run back timer at set temperature [12]
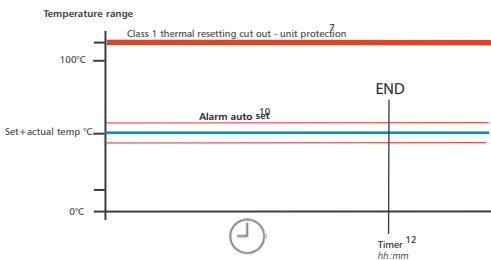 - delay start and dwell at set temperature [13]

Run back timer at set temperature.

Temperature range

Class 1 thermal resetting cut out - unit protection [7]

100°C

END

Alarm auto set [10]

Set+actual temp °C

0°C

Timer [12]
hh:mm

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

Temperature range

Class 1 thermal resetting cut out - unit protection [7]

100°C

Unstable [11]
sensor
"error" message

37°C

Unstable condition
triggers alarm [10]

Alarm auto set [10]

Set+actual temp °C

0°C

Current
time setting
hh:mm
e.g. 17:00 = 5.00pm

Delay [13]
start setting
hh:mm
e.g. 07:30 = 7.30am start
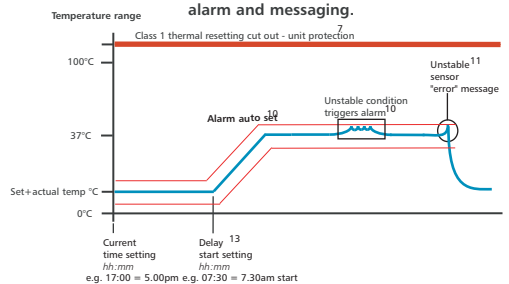
UNSTIRRED BATHS

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	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.

THE *Clifton* RANGE - 3 YEAR WARRANTY

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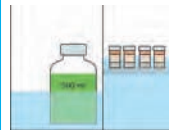
Duobath - large bottle/flask immersed to correct depth and no risk to smaller media.

Temperatures

Single bath - applications for keeping bottles of media molten and incubating culture samples will need TWO baths.
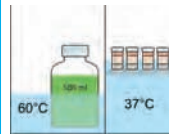
Duobath - two tanks at 2 different temperatures with added convenience for routine work to be conducted in one place in one bath.

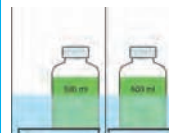Cross contamination of temperature from 60°C tank to 37°C tank = +0.1°C

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
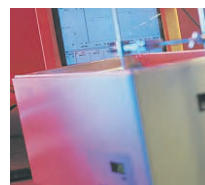
CAL

NE1B, NE1 and NE2-D series

GATED TAP FOR DRAIN

Cat No.	Description
BX0953	Drain Tap

BX0953

LAB ARMOR™

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

ACCESSORIES

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.

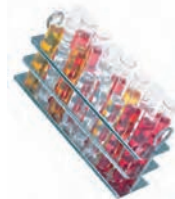| Cat No.	Description
LD-4	Flat lid, stainless steel, for 2 and 4 litre baths
LD-8	Flat lid, stainless steel, for 8 and 10 litre baths
LD-14	Flat lid, stainless steel, for 5 and 14 litre baths
LD-22	Flat lid, stainless steel, for 9/22/28 litre baths
LD-56	Flat lid, stainless steel, for 56 litre baths
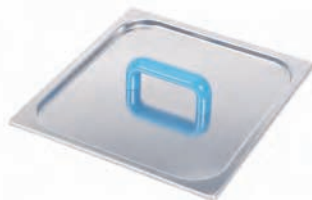
LD-14

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

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

6871

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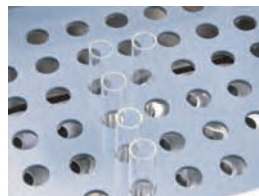
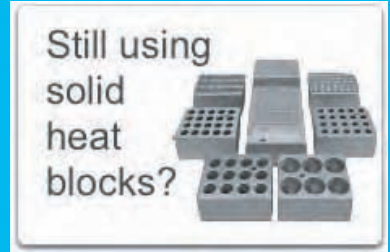| Cat No.	C18-4	C18-8	C18-14
Fits Water baths	4 litre	8 litre	14 litre
Tube, diameter	18mm	18mm	18mm
Capacity, holes	28	44	68
Clifton water bath models	NE1-4, NE1-4/4/4, NE2-4D, NE3-4DT, NE2D-4/4, NE2D-4/8, NE2D-4/22	NE1-8, NE2-8D, NE3-8DT, NE2D-4/8	NE1-14, NE2-14D, NE3-14DT

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

1. 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.
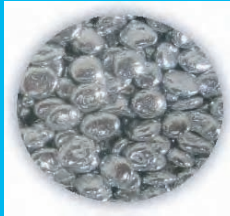   - Maximum recommended temperature 70°C.

BATH ARMOR™
FULL METAL

Still using water?

Still using solid heat blocks?

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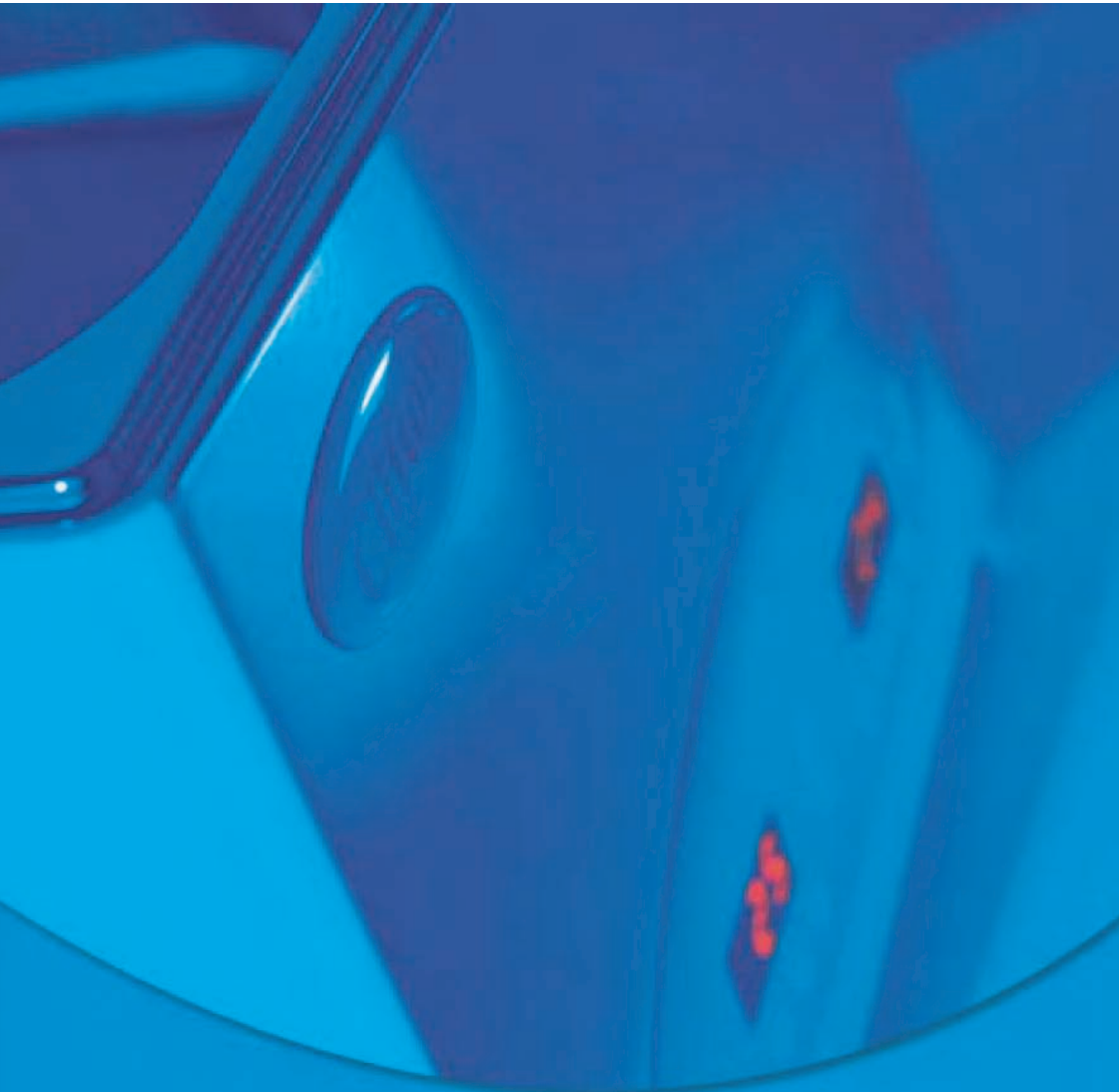
Blockheaters
* One pile suits all tube sizes.
* Replaces pre-drilled blocks.
* More convenient to use.
* Thermally efficient.
* Accepts any size and shape vessels.
* Washes and sterilizes easily.

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

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.
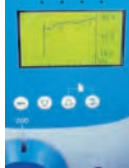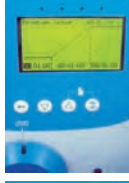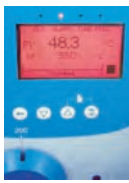
Cat No.	NE5-10D
Temperature	
Set point display/resolution Actual display/resolution	Digital LCD / 0.1°C Digital LCD / 0.1°C
Range	(min 20°C) ambient +5°C to 99°C
Sensitivity @ 45°C	± 0.1°C
Uniformity @ 45°C	± 0.1°C
+4°C High alarm	Heating off, red indicator and display [10]
-4°C Low alarm	Red indicator and display [10]
Diagnostics	Continuous with messaging and service screen[11]
Timer option	
Display/resolution	Timer messaging/hh:mm:ss
Settings	00h:00m:01s upto 99h:99m:99s [13, 9, 12]
Timer options	Delay start/Ramp/Dwell timers [13, 9, 12]
Shaking	
Stroke length Speed	Fixed 20mm 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
General	
Overall dimensions	449w x 332d x 290h mm
Drain, outlet	No
Heater, Watts	800W
Safety	Thermal resetting cut-out [7]
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.
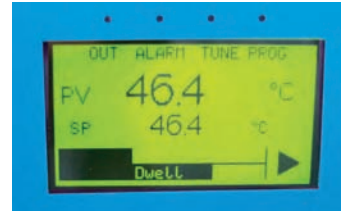
Operation mode

* Temperature control only
* Program options delay start [13], ramp timer [9] and dwell at set temperature with timer [12].

| NE5-28D |
|---|
| Digital LCD / 0.1℃ |
| Digital LCD / 0.1℃ |
| (min 20℃) ambient +5℃ to 99℃ |
| ±0.1℃ |
| ±0.1℃ |
| Heating off, red indicator and display [10] |
| Red indicator and display [10] |
| Continuous with messaging and service screen [11] |
| |
| Timer messaging/hh:mm:ss |
| 00h:00m:01s upto 99h:99m:99s [13, 9, 12] |
| Delay start/Ramp/Dwell timers [13, 9, 12] |
| |
| 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 [7] |
| 230V |

Temperature control only
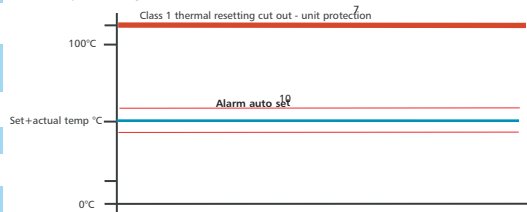
Timer options: delay start timer, ramp timer and dwell temperature with timer. And showing alarm and messa
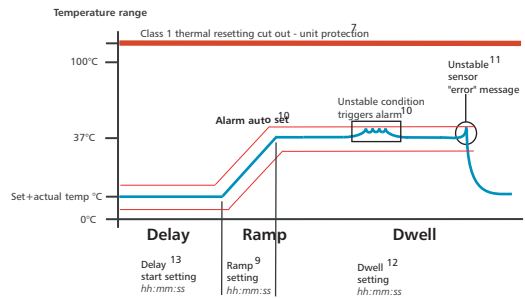
NE5 series, Shaking

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 ℃ - 99℃
Sensitivity @ 45℃	± 0.2℃
Uniformity @ 45℃	± 0.1℃
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 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 accomodate accessories.
3. Painted body and controls features Antibacterial protection, hygenic coating which actively inhibits bacterial growth.
4. Accessory glassware for illustration purposes only.

BATHS ACCESSORIES

NE5 Shaker series accessories

The NE5-28 and NE5-28D are supplied complete with a trolley platform to accomodate 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.

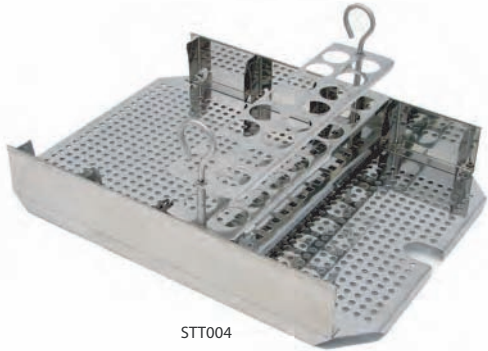| Cat. No.	Description
SFT0025	39 x 25ml flask clip tray
SFT0050	32 x 50ml flask clip tray
SFT0100	18 x 100ml flask clip tray
SFT0250	12 x 250 ml flask clip tray
SFT0500	8 x 500 ml flask clip tray
SFT1000	5 x 1000ml flask clip tray
SFT2000	2 x 2000ml flask clip tray
SFT9000	Universal spring tray - a 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.

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.

STT004

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 Tap
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

clifton

ULTRASONIC
BATHS
SW series ULTRASONICBATHS

ULTRASONIC BATHS

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 l	3 l	6 l
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

* 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 alakaline.

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 manufacuring 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
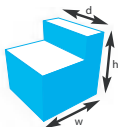
Engineered & Built in Great Britain

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 Cliton 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 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 tomorrows laboratory is equipped with innovative, well-designed and reliable equipment.