



THE *Clifton* RANGE

**DuoBaths
NE2D Series**



Always maintain adequate water/oil levels.
Periodically check there is sufficient water/oil in the bath at all times.

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About this Manual

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

Please ensure that each chamber has fluid in it before switching on the product.

General Notes

Please observe the following safety precautions:

1. **Fill the tank with water prior to connection to power supply.**
2. Connect only to a power supply with the corresponding voltage to that specified on the rating label positioned on the rear of the unit.
3. Ensure the power supply has a safety earth (ground) terminal.
4. Ensure the mains switch and power supply connector are accessible during use.
5. The mains supply cord fitted to this products is a heat resistant type and should be replaced by an equivalent type.
6. Do not block ventilation slots during use and follow installation instructions.
7. Always follow good laboratory practice by ensuring substances being heated present no risk of a hazard (explosion, implosion or release of toxic or flammable gases) or that these have been addressed. When heating substances where liberation of gases occurs suitable extraction should be used.
8. Use only liquids specified in this Instruction Manual within their specified temperature range. If the alarm lamp is illuminated the liquid temperature may be above its recommended maximum.
9. Use caution when topping up or draining the tank as the liquid in the tank may be very hot or cold.
10. Drain before moving the bath. Allow the liquid to cool to 40°C before draining.
11. In the event of the over or under temperature alarm being illuminated do not touch the liquid as it may be very hot or cold.
12. Recommend using a Lid above 60°C. Take care when lifting the lid - steam and hot vapours can cause scalding.
13. Always use the display or a thermometer to check the temperature - do not touch liquid.
14. If this product is not used in accordance with these instructions, then basic safety protection afforded by the water bath may be affected.
15. Before using any cleaning or decontamination method except those recommended, check with your distributor that the proposed method will not damage the equipment.

Amendments

Issue 1	April	1999	Initial issue instruction book.
Issue 2	September	2001	Revised, NE1 discontinued + layout update
Issue 3	August	2002	Update content
Issue 4	March	2004	Product redesign
Issue 5	October	2005	Note: both tanks filled if only 1 is used.
Issue 6	July	2006	OPT function, turn tank OFF when not in use.
Issue 7	October	2006	Disinfection/sterilisation and temp. terms.
Issue 8	June	2010	2010 model K30.

Symbols



HOT SURFACES

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



CAUTION

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



PROTECTIVE EARTH OR GROUND TERMINAL

Protective earth conductor terminal.

Location

The surface on which the product is to be located should be smooth, level and sturdy. Use in a ventilated room. Ambient room temperature 5°C to 40°C. Maximum humidity 80% for temperature 31°C decreasing to 50% at 40°C. Product is designed for laboratory use.

Unpacking

Remove the product from its packaging. Any damage to the product notify your dealer immediately. Retain packaging over warranty period. Contents consist of a bath, stainless steel false base, power lead and instruction manual.

Assembly

Place the false base inside the bath. Fit the power lead into the socket at rear.

Safety



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

Power Supply Lead and Connection to Electrical Supply

Fit the power lead by plugging it into rear of the water bath and then to mains supply.



Before connecting the product to the electrical supply, check the information on the rating label is compatible.
IF IN DOUBT CONSULT AN ELECTRICIAN. THE PRODUCT MUST BE EARTHED! Where the mains supply or plug connection differs refer to local regulations or qualified electrician.

Liquid Level



Minimum liquid level - must cover the top of the false base by 40mm

Maximum liquid level - must not exceed the ridge in the tank.
Always ensure the product is disconnected from the electrical supply when emptying and filling.

Suitable Liquids

Operating temperatures from ambient +5°C to 99°C, for general use we recommend:

- **Distilled water.**
- **Heat transfer liquid** [The LB range is formulated for temperatures from -45°C to 90°C and provides complete protection from freezing and algae growth and safeguards against corrosion. See accessories for the full range available].
- **Silicone oils** [up to 10 centistokes]. Silicone oils [11 to 50 centistokes, please note unit will operate outside temperature control specifications].



Above 60°C or below room temperature it is recommended that to achieve optimum performance the bath should be covered with SL1 lid or polypropylene spheres.

If the bath fails to maintain water temperature or heat up, please check to ensure that there is sufficient water/oil in the bath.

We recommend this is checked periodically when in use.

NE2D Series

Front View



Clifton “Low” and “high” height shelf is provided in smallest tank.

Red LED display of actual or set bath liquid temperature or time - each tank.

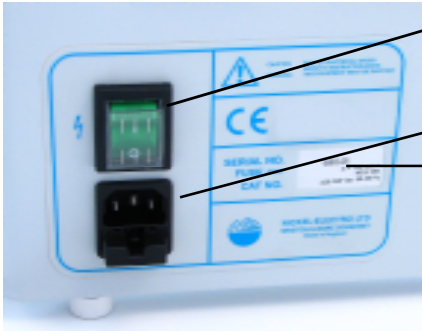
Indicators: heating, temperature alarm, timer and set temperature - each tank.

Keyboard: function, up and down arrow adjustment, run buttons.

Splash proof controls, all over smooth wipe clean surfaces.

Drain outlet for accessory tap:
22 litre size tanks.

Rear View



Mains power switch “I” ON, “O” OFF.

IEC connector, for power supply lead and plug. Fuse draw fitted underneath.

Serial number and electrical supply details.

Operating Instructions

Switching ON and OFF: Switching ON - the unit may be turned ON (I) at the mains switch located **at the rear**. When ON (I) the switch is illuminated and unit performs a self test where all segments of the 3 digit LED display and indicators illuminate.

Switching OFF: the unit may be turned OFF(O) at the mains switch located at the rear. All current temperature and time values remain in memory.

Keyboard Description



FUNCTION

- Press once "SP1" is displayed, temperature setting.
- Press twice "t" is displayed, timer setting.



DOWN ARROW

- Used to decrease a value. Hold continuously to scroll.
- When pressed for more than 1.5 seconds, "SP1" is displayed.



UP ARROW

- Used to increase a value. Hold continuously to scroll.



RUN

- When pressed for more than 1.5 seconds will activate/deactivate timer function.
- Used to turn off buzzer.

LED Indicators



HEATING INDICATOR

When LED is illuminated bath is being heated.



OVER AND UNDER TEMPERATURE ALARM INDICATOR

LED is illuminated when bath temperature is either 4°C above or 4°C below set temperature.



TIMER INDICATOR

- Continuous illumination indicates timer is set.
- Flashing illumination indicates timer is running back/counting down.



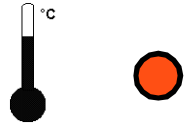
SET TEMPERATURE INDICATOR

- Continuous illumination indicates set point is shown on display.

Setting Temperature



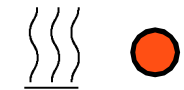
1. Press and hold the down arrow for more than 1.5 seconds or press the function button to display "SP1" the set temperature.



The 'set temperature' indicator will illuminate.



2. Use up and down arrow keys to select required temperature.



3. After setting temperature the display flashes between "SP1" and set temperature and will revert to show actual liquid temperature. Heater indicator will illuminate.

4. The over and under temperature alarm is automatically set 4°C above and 4°C below set temperature. If the actual temperature rises or falls beyond this value the audible alarm and indicator are automatically activated.

5. The Clifton Food range bath is now set and will heat and control the liquid at set temperature.

Setting Time



1. Repeatedly press FUNCTION button until "t" appears on the display. It will then alternate between showing "t" and time - displayed as hh.mm.



2. Press either up or down arrow to select desired number of hours:minutes.
- Minimum time setting is 0 hours and 01 minutes - displayed as 00.01.
- Maximum time setting is 99 hours and 59 minutes - displayed as 99.59.



3. Once the desired time is entered press function button to confirm. Display reverts to actual liquid temperature.

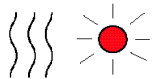
Timer Operation



1. To start timer press and hold RUN button for more than 1.5 seconds.



2. Heating indicator will illuminate continuously while liquid temperature is being raised to set point.



3. Heating indicator will flash when set temperature has been reached and is being maintained.



4. The timer indicator starts to flash showing the timer is running.



5. To view time remaining, press UP ARROW button, "t" appears and time remaining is displayed as h:mm.



6. An audible beeping and "End" message indicates timed period has finished. Press RUN button to deactivate buzzer and clear "End" message.

Under Temperature Alarm - Automatically Set

The under temperature alarm is automatically set 4°C below set point. When in alarm condition the 'over and under temperature' alarm indicator illuminates and actual bath temperature is shown. Once water temperature has risen above alarm setting then indicator clears and actual bath temperature is displayed.



Always investigate the cause of the Under Temperature Alarm.

Over Temperature Alarm - Automatically Set

The over temperature alarm is automatically set 4°C above set point. When in alarm condition the 'over and under temperature' alarm indicator illuminates and actual bath temperature is shown. All heating is switched off. Once water temperature has fallen below alarm setting then indicator clears and actual bath temperature is displayed.

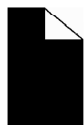


Always investigate the cause of the Over Temperature Alarm.

Immobilising a Tank when not in use

We recommend that both chambers have liquid in them in case the bath is inadvertently switched on when dry - otherwise this will damage the concealed heaters. It is possible to immobilise one of the controllers.

Press and hold both the



and



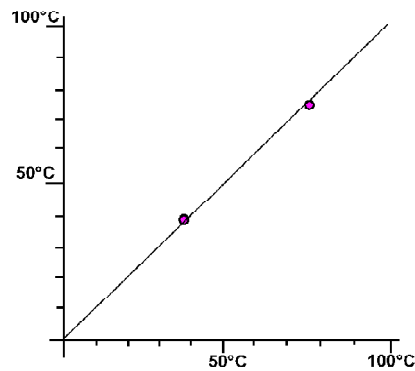
for 3 seconds.

"Stby" will appear on the display and it will remain in this state. All heating and control in this tank is immobilised.

To reinstate control in the tank, repeat above.

Explanation of Temperature control terms

Temperature calibration



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

Accuracy

We do not provide, claim or assure any form of accuracy. Accuracy is defined as "the ability of a measurement to match the actual value of the quantity being measured". For accuracy we recommend using a calibrated reference probe at the actual set point temperature and where necessary, adjust the set point accordingly.

Sensitivity

For an explanation of sensitivity consider a unstirred digital water bath, the PID temperature control system measures and displays the actual temperature of the water and then compares it with the 'set point' temperature. It automatically calculates and adjusts the required quantity of heat into the bath to make the measured temperature equal to the set temperature. As with any process there is a time delay between measuring the temperature and the heat entering the water, which causes minor fluctuations in the temperature of the bath.

Heat is also distributed in an unstirred bath by convection and conduction and there are heat losses from the surface of the liquid which can cause temperature losses. These losses and heat distribution produce small fluctuations in temperature across the water in the bath.

These small temperature fluctuations at any one point are defined as "sensitivity" and vary between an upper and lower limit, however occasionally a larger variation can be observed. Sensitivity as stated in DIN 58966 is the temperature difference between the upper and lower temperature level over 100 cycles after removing the largest 25% of readings.

We determine sensitivity by recording the actual upper and lower temperatures of the bath using temperature loggers and is stated as plus or minus one half of the measured value.

Uniformity

Uniformity is calculated by measuring the temperature in opposing ends of the water bath and is the difference between the mean temperatures at these two points and stated as plus or minus half this value.

Cleaning



Important - please follow these instructions to avoid possible damage to the unit, otherwise affecting its performance and warranty. Always disconnect the product from the electrical supply before cleaning.

Cleaning External Painted Surfaces featuring “Anti-bacterial Paint Finish”

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



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

All painted surfaces on Clifton range products features an “Anti-bacterial paint finish” identified with this authenticating logo on the unit.

This “Anti-bacterial paint finish” inhibits the growth of bacteria. It has been tested by independent specialist test houses such as the Law Laboratories (in the UK) using internationally recognized test methods and proven to be effective versus a wide range of bacteria species including Escherichia coli and Staphylococcus aureus (MRSA).



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

In a laboratory environment it makes this one less source of contamination, contributing to essential clean working practices. A benefit of such a paint finish can lead to a reduction in cleaning schedules because surfaces are more protected and improves protection between cleaning. Unlike detergents “Anti-bacterial paint finish” does not offer an instantaneous action, but is intended for long-term general protection against bacterial growth.

Moisture on the painted surface is necessary for the bacterium to absorb the agent and be affected by it. The coating is therefore less active in very dry conditions, but dependent upon relative humidity, moisture in the atmosphere maintains activity. Areas where moisture is trapped are also areas that normally are difficult to clean and where bacteria proliferate but these areas are most active for the anti-bacterial coating improving the defence against bacterial growth.

Cleaning the Stainless Steel Tank

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

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

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

Descaling the Stainless Steel Tank

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

Rinse thoroughly afterwards.

Decontamination of Equipment

Clifton laboratory equipment can be decontaminated after spillage or contact with potentially HIV and Hepatitis infected blood samples during analysis using following recommended rapid disinfectants.

Virucidal Disinfectant

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

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



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

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

Disinfectant/Sterilant

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

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

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



For more detailed information relating to how PeraSafe should be used with access to test reports www.relyon.dupont.com

3 Year Warranty

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

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

Out of Warranty

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

End of Life



This symbol indicates that this product should not be disposed of with your waste. Instead, dispose waste electrical equipment by handing it over to a designated collection point for the recycling of waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, in UK please contact Service Department, rest Europe contact your Distributor.

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

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

In excess of 85% of this product range can be easily re-cycled economically.

Portable Appliance Testing

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



DO NOT PAT TEST THE BATH UNLESS IT CONTAINS WATER.

THIS EQUIPMENT MUST NOT BE FLASH TESTED!

ACCESSORIES

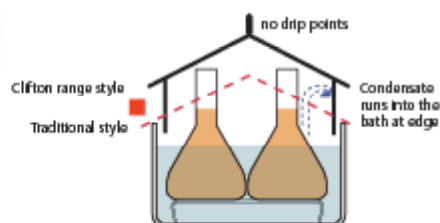
NE1B, NE1, NE2-D and Duo series unstirred water baths

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 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



NE1 and NE2-D series unstirred water baths

HINGED GABLE LIDS

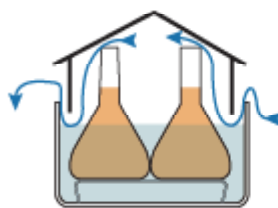
The use of a lid helps **reduce evaporation**, assists in keeping samples free from contamination and **saves energy**.

- * 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 litre baths
GL1-14	Gabled lid, for 14 litre baths
GL1-22	Gabled lid, for 22/28 litre baths

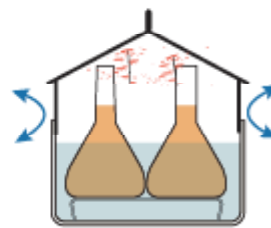


Natural air flow maintained during incubation, without sacrificing water temperature stability, with the added benefit of minimising micro-biological cross contamination.



Clifton range style

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



Traditional style

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

STAINLESS STEEL RING SET LIDS

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

SLR1-4	2 x 105mm holes for 4 litre baths
SLR1-8	4 x 83mm holes for 8 litre baths
SLR1-14	4 x 105mm holes for 5/14 litre baths
SLR2-14	6 x 83mm holes for 5/14 litre baths
SLR1-22	6 x 105mm holes for 9/22/28 litre baths



SLR1-14

BATHS

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

SPHERES, POLYPROPYLENE

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



Bath Size	No. of packs required		
2/4 litres	1 pack	9/22/28 litre	4 packs
8/14 litre	2 packs	56 litre	8 packs
Cat No.	Sphere dia.	Pk qty	
BP0368	20 mm	200	

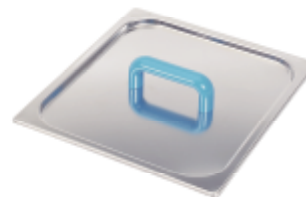


NE2-8D shown with BP0368 polypropylene spheres

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 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.

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

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

Max number of racks per bath					
Bath size	2/4 litre	8 litre	5/14 litre	9/22/28 litre	56 litre
No. racks	1	2	4	6	12



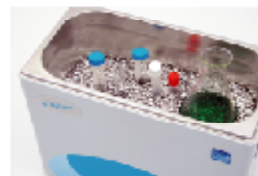
6871

MISCELLANEOUS

CAL	Calibration Record
BX0616	Drain Syphon
BX0953	Drain Tap
ST-1	Raise and Lower Sterilizing Tray for NE1B-1B
SA01409	Pair of Guide Rail assemblies for ST-1.
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
BA-5	Lab Armor™ replacement for water in water baths, 4 litres 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.



CAL



BA-5 in NE2-4D

Fitting Accessories for NE2D Series

GRP Gable Lids

Position the lid over the bath and lower into place.

The lids are designed to fit snugly so that condensate runs into the bath.

Stainless Steel Gable Lids

Position the lid over the bath and lower into place.

These lids have no drip points, provide full working height across the bath when fitted and have a ventilation gap.

For "H" suffix lids place the lid onto the bath with the hinges hanging over the rear of the water bath aligning with threaded bushes. Insert two screws provided into each hinge and tighten screws. The lid can be raised and lowered using the handle on the side.

Stainless Steel Flat Lids

Position the lid over the bath and lower into place.

Stainless Steel Flat Lids with Concentric Rings

Position the lid over the bath and lower into place. Each set of rings can be used to vary the diameter of aperture to accommodate different sizes of vessels of evaporating dishes and glassware, including round-bottom flasks.

Stainless Steel Test Tube Racks

Place the loaded test tube rack into the bath on top of either the stainless steel perforated shelf or the raised shelf.

Note: 4 Litre = 1 Rack, 8 Litre = 2 Racks, 14 Litre = 4 Racks, 22 and 28 Litre = 6 Racks

Heat Transfer Fluid

Use as a 'neat' liquid solution for best results.

Thermometer Clip

This can be positioned anywhere on the perimeter of the bath by clipping over the edge. The thermometer then lies flush with the top edge of the bath to prevent accidental damage.

Draining Syphon

Allows the easy and quick emptying of any water bath. Water temperature must be below 45°C before emptying can commence.

Drain Tap

A drain tap outlet is featured on the 22, 28 and 56 litre sizes. Make sure the bath is empty, hold the outer nut, then using a socket/allen key undo the threaded insert. Once removed and still holding the outer nut, screw in the accessory drain tap into position and pinch tight.

Polypropylene Spheres

Place on top of the water/oil to provide a floating lid reducing evaporation and insulating the bath reducing heat losses. The range of Unstirred water baths: 4 litre bath requires 1 pack; 8 litre bath requires 2 pack; 14 litre 2 packs and 9, 22 and 28 litre requires 4 packs.

Spares/Service Diagram

3rd ANGLE PROJECTION DO NOT SCALE REMOVE ALL SHARP CORNERS AND EDGES U.O.S ALL DIMENSIONS IN mm IF IN DOUBT ASK

PART	NE2-4D	NE2-8D	NE2-14D	NE2-22D	NE2-28D	NE2-56D
1	SA01534	SA01535	SA01536	SA01537	SA01538	SA01522
2	EX0893	EX0893	EX0893	EX0893	EX0893	EX0893
3	—	—	—	—	—	EE0825
4	EE0562	EE0859	EE0825	EE0826	EE0826	EE0826
5	—	—	—	—	EX0812	EX0550
6	EX0854	EX0854	EX0854	EX0854	—	—
7	EF0095	EF0094	EF0094	EF0632	—	—
8	EX0512	EX0512	EX0512	EX0512	EX0512	EX0512
9	EX0869	EX0869	EX0869	EX0869	EX0869	EX0869
10	ET0835	ET0835	ET0835	ET0835	ET0835	ET0835

BEND ALLOWANCE U.O.S. =
 BRAKE PRESS BLADE USED U.O.S. =
 BRAKE PRESS 'V' USED U.O.S. =

DESCRIPTION	DIGITAL WATERBATH	TOLERANCES U.O.S	NICKEL-ELECTRO LTD. Manufacturing of Laboratory, Medical and Clinical Equipment Clifton Crescent, Wotton-under-Edge, Northampton NN24 9R, England Telephone: 01203 426001 Email: sales@nickel-electro.co.uk Website: www.nickel-electro.co.uk
QF050/24/9/02	MATERIAL	HOLE DIA. +0.2 mm	
	FINISH	HOLE CTRS +/- 0.25 mm GENERAL +/- 0.50 mm	

DRN	MJC	1	25/06/2004	LR	MJC
DATE	04/11/2002	ISSUE	DATE	REV	SUN
SCALE	NTS	SHEET 1 OF 1			
DRG No.	NE2'S				



UNSTIRRED BATHS

NE2D series, Duobaths

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

Apainted 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-B/8.

DUOBATH Series

High quality products at affordable prices



Benefits of Duobaths:

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



NE2D-8/22

NE2D-4/22	NE2D-8/22
4l + 2l	8l + 2l
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 - 9.9° C	ambient +5° C - 9.9° 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/flask 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 motion 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.



EC Declaration of Conformity

We herewith confirm the following product

NE2D Unstirred Waterbath Range

Conforms with the requirements outlined by following European Directives.

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

We confirm the declaration

NICKEL-ELECTRO Ltd.

Manufacturers of laboratory, medical and clinical equipment.

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North Somerset, BS24 9BL, United Kingdom.

Tel: +44 (0)1934 626691

Fax: +44 (0)1934 630300

Email: clifton@nickel-electro.co.uk

www.nickel-electro.co.uk



Conforms with the requirements of following Standards

BS EN 61010:1

BS EN 61010:2.010

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

BS EN 61326

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

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





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