NE8S DIGITAL LAB INCUBATORS

NE8-15S	NE8-160S
NE8-32S	NE8-240S
NE8-56S	NE8-400S
NE8-112S	NE8-750S

Clifton Range®

Crafted with precision, made for excellence

Dear Customer

The Clifton Range® is part of Nickel-Electro Ltd a family firm based in Weston-Super-Mare which was incorporated as a limited company in 1941 but its roots can be traced back to 1935 when the business first started. Now in its 3rd generation of family members, the company prides itself on being a strongly established, independent British manufacturer.

Thank you for purchasing this piece of Clifton Range® temperature control equipment. To get the best performance from your equipment and for your own safety please read these instructions carefully before use.

GENERAL NOTES

1. This product is designed for laboratory use only. Always follow good laboratory practice.
2. The mains supply cord fitted to this product is heat resistant and should be replaced with an equivalent type by a qualified electrician.
3. Ensure that the power supply has a safety earth (ground) terminal.
4. Ensure that the mains switch and power supply connector are accessible during use.
5. Before using any cleaning or decontamination method please refer to the Maintenance and Cleaning section to ensure the proposed method will not damage the unit.
6. Connect only to a power supply with the corresponding voltage to that specified on the rating label positioned on the rear of the unit.
7. Do not block ventilation slots during use and always follow installation instructions.

SAFETY DO'S AND DONT'S

DO NOT:

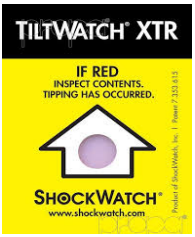
1. Block ventilation slots during use.
2. Use metal instruments or scouring agents to clean the interior of the incubator.
3. Install the instrument outside, in damp environments or areas which can be flooded.
4. Install the instrument near flammable or volatile substances, acids or in corrosive environments.
5. Store inflammable or volatile substances inside the instrument, touch live parts of the instrument, operate the instrument with damp hands, place vessels containing fluids on the instrument, climb or place any objects on the instrument.
6. Do not use without appropriate training.

DO:

1. Ensure the mains switch and power supply connector are accessible during use.
2. Disconnect from the power supply before moving the instrument.
3. Ensure that the mains supply cord fitted is replaced with an equivalent type if damaged.
4. Follow the installation instructions.
5. Follow the operating and maintenance instructions. If the instrument is not used in accordance with these instructions then basic safety protection offered by the equipment may be affected.
6. Always follow good laboratory practice.

UNPACKING AND HANDLING

Your new incubator will arrive on a pallet and should be unpacked carefully observing the following points:



Please check the Shockwatch label to ensure the package has not been tipped during transit. If the label indicates damage please contact either Nickel Electro Ltd or your Distributor immediately.

DO NOT LIFT USING THE DOOR OR DOOR HANDLE

Carefully remove the product from its packaging observing manual handling guidelines.

All units up to 112 litres we recommend two people for lifting. Lift from the base of the unit. For larger units, we recommend using an installation team.

SAFETY

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

POWER LEAD AND CONNECTION TO ELECTRICAL SUPPLY

Check the electrical supply is compatible with the rating label.
IF IN DOUBT CONSULT AN ELECTRICIAN. THE PRODUCT MUST BE EARTHED!
Where the mains supply or plug connection differs refer to local regulations or consult an electrician.

POSITIONING AND LEVELLING

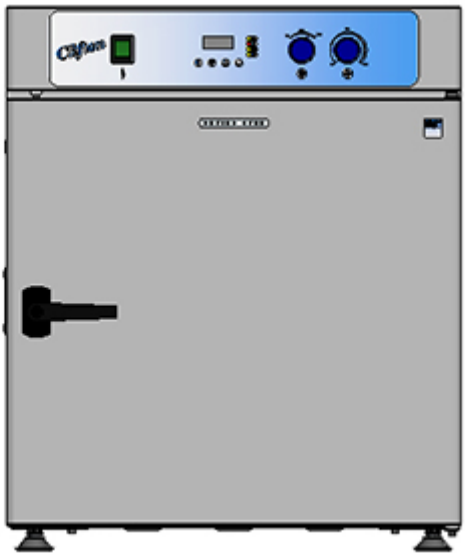
1. The instrument should be placed on a level hard surface in a dry airy place with low relative air humidity (maximum 60% RH, no condensation). The ambient temperature should be +10˚C to +28˚C.
2. The instrument should not be placed in direct sunlight or near energy/heat sources.
3. The instrument has not been designed to work in highly dusty environments.
4. Once the instrument has been positioned it needs levelling. Adjust the feet/castors (model dependant) accordingly. Use a spirit level to inspect.
5. The instrument should be placed at least 100mm away from the wall on all sides and rear.
6. The instrument should have a 300mm gap between the top of the unit and the ceiling.
7. The instrument must not be built in.
8. Power cord at rear to be kept away from the exhaust flap. Exhaust flap will be hot in use do not touch.

BEFORE SWITCHING ON...

1. The wire racks are supplied wrapped with their runners inside the chamber.
2. Remove the racks and runners before switching the incubator on.
3. Install the runners into the slots provided at 20mm vertical intervals in the wall of the chamber. Ensure wire racks are positioned horizontally and securely before loading.
4. For the NE8-15S the loading weight must not exceed 10kg per shelf, for all larger models weight must not exceed 20kg per shelf.
5. Ensure vessels or objects being heated are evenly spread across the wire shelf for even airflow and heating. Do not position samples near the sidewalls or door of the chamber - recommend a 50mm gap for consistency.

Please note: during the first few days of use it is normal for odours to persist as the components are commissioned. Use in a well ventilated area.

GUIDE TO FEATURES AND CONTROLS



Illuminated mains switch

Controller

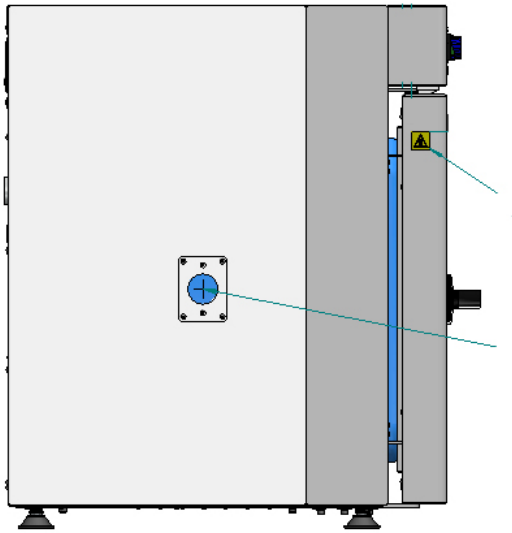
Exhaust air flap dial

Fan speed dial

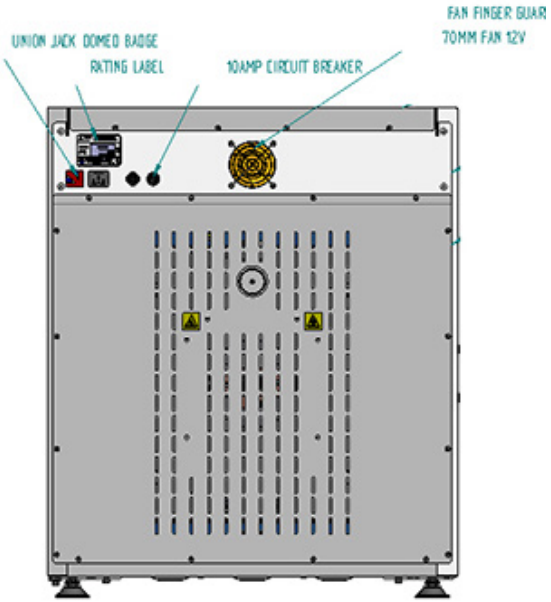
Lockable door
(2 keys supplied)

Adjustable feet/castors
(model dependant)

SIDE VIEW



REAR VIEW


UNION JACK DOMED BADGE
RATING LABEL
10AMP CIRCUIT BREAKER
FAN FINGER GUAR
70MM FAN 12V

CONTROLLER AND INDICATORS

FUNCTION KEY - short press *:
1 - t.Enp (temperature)
2 - SP1 (set temperature)
3 - Act.t (actual real time)
4- Str.t (start time)
4 - Go (alternates No and Yes when unit has Run)
* if longer press PASS and/or 0 is displayed this is a factory/admin setting - display will return to normal shortly if no other key is pressed

DOWN ARROW KEY usage - press:
1 - adjust value (down increments)
2 - SP1 value

UP ARROW KEY usage - press:
1 - adjust value (up increments)
- H (power) *
- S (soak value) *
- P (program number) *
* for reference only displayed while in run mode

RUN KEY usage -
Press and hold for 3 seconds only to return to temperature display
Press and hold 5/6 secs to start timer and/or cancel timer

LED flashes to indicate heater activity

LED lights to indicate alarm condition

LED flashes to indicate rising to SP1
LED solid to indicate timer running

OPERATING INSTRUCTIONS

Switch the incubator ON using the power switch on the front. The switch is illuminated and the unit performs a self test. All segments of the 3 digit LED display and indicators illuminate. The display will then show actual chamber temperature. Switch OFF using the same power switch. All current temperature and times remain in memory when you have finished using the Incubator.

SETTING CHAMBER OPERATING TEMPERATURE

Press to display 'tEnP'.

Use DOWN and UP arrows to select required temperature.

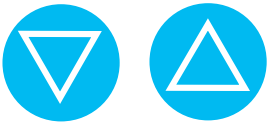
Display flashes between 'tEnP' and set temperature.

Press to confirm temperature. Display will revert to actual chamber temperature naturally.
* Press and hold RUN key for 3 seconds to return to temperature display.

The Incubator is now set and will heat and control the chamber at set temperature.

SETTING TEMPERATURE AND TIME PROGRAM

Press key twice to display 'SP1'.



Use DOWN and UP arrows to select required temperature.

Display flashes between 'SP1' and set temperature.

Press to confirm temperature.
Display will show 't1'.

Use DOWN and UP arrows to select required time (hh:mm).
Display flashes between 't1' and set time.

Press to confirm temperature. Display will revert to actual chamber temperature naturally.
* Press and hold RUN key for 3 seconds to return to temperature display.

NOTE: you may wish to set Operating Temperature 'tEnP" at same value as SP1 after completing Temperature and Timed program. Samples being incubated will be held at temperature. Where samples require positive or negative heating after Timed period then adjust 'tEnP' temperature accordingly.

STARTING A TEMPERATURE AND TIME PROGRAM

Press and hold for 6 seconds.

The Incubator program heats the chamber to temperature. Indicator blinks during heating control.

The Incubator program timer blinks during chamber heating. The indicator illuminates solid when timer is activated.

Timer finished display alternates 'P.End' and chamber temperature. Audible buzzer will indicate timed period has ended. Allow alarm to sound for the full 1 minute before ending the program. Chamber temperature will now revert to operating temperature 'tEnP'.

Press to P.End message.

VIEW TIME REMAINING DURING TEMPERATURE AND TIME PROGRAM

Press UP arrow 3 times until 'PH:mm' displayed and time remaining.

CANCEL TEMPERATURE AND TIME PROGRAM

Press and HOLD run key for 6 seconds.

The Incubator program timer is extinguished.

SETTING TIME AND TEMPERATURE WITH DELAY START

1. Set temperature control SP1:
- Press the FUNCTION key twice. Display shows SP1.
- Use UP and DOWN arrow keys to select the desired temperature.
- Press FUNCTION key to confirm settings.

2. Set the timer t1:
- Press FUNCTION key three times. Display shows t1.
- Use UP and DOWN arrow keys to select the desired timer period. Time is set in hours and minutes (hh:mm).
- Press FUNCTION key to confirm settings.

3. Display will flash Act.t:
- Set actual time in real time using 24 hour clock format (hh:mm).
- Press FUNCTION key to confirm settings.

4. Display will flash Str.t:
- Set start time in real time using 24 hour clock format.
- Press FUNCTION key to confirm settings.

5. Display will flash Go and alternate no:
- Use the UP ARROW key to change to yEs.
- Press FUNCTION key to confirm.
- Press and hold RUN key for 3 seconds to return to chamber temperature.

6. When display shows actual chamber temperature, press and hold the RUN key for 5/6 seconds, display will flash d.Str to indicate delayed start program is running.

7. Display will flash between chamber temperature and time remaining until the Delayed Start Program commences. Program will start automatically when start time is reached. Timer LED will light to indicate when timer program is running.

FAN SPEED AND EXHAUST AIR FLAP

FAN SPEED
0% OFF TO 100% FULLY ON

EXHAUST AIR FLAP
0% CLOSED TO 100% FULLY OPEN

The exhaust air flap allows air flow movement, drawing air into the incubator from underneath into the chamber and venting through the rear. The change in air flow is adjustable from closed to fully open and in doing so chamber temperature variation can be experienced. The fan speed can also vary the air flow and mixes the air within the chamber for consistency. Use the blue dials on the front of the unit to adjust the % rates of exhaust air and fan speed to achieve the desired results.

OVER TEMPERATURE PROTECTION

The incubator is fitted with an over temperature thermostat to protect the chamber from exceeding its maximum temperature.

During use the stainless steel chamber will tarnish from a bright polish to yellow/orange/brown colour depending on the operating temperatures used. This is normal and does not affect the incubators operation.

OVER/UNDER TEMPERATURE ALARM

The under/over temperature alarm is automatically set 5˚C below/above set temperature. When in alarm condition the "under/over temperature alarm" warning indicator illuminates and actual incubator temperature is shown. All heating is switched off. Once chamber temperature has risen above/fallen below alarm setting then the indicator clears and actual incubator temperature is displayed.

POWER INTERRUPT DURING TIMER MODE

If the power is interrupted during the timer mode, the display shows "P.OFF" when resumed. To clear press and hold the RUN key until display reverts to actual temperature. Timer mode will then continue. To deactivate the timer press and hold the RUN key.

OPEN DOOR FUNCTIONS

1. If the Door is opened during the timer running, the timer will pause and commence when the door is shut and temperature has reached near SP1.

2. A warning chime will sound if the door is left open after 3 minutes. Close the door to stop.

3. Heating stops when the door is open. Heating will resume when the door is closed.

SIDE ACCESS PORT

Perforated flap in access port allows external probe to be fitted easily.

CARE AND MAINTENANCE

Please ensure that the washing agent and sanitizing agent are BSI accredited and approved by the H&S department for use on laboratory equipment and stainless steel within your laboratory.

DISCONNECT FROM THE POWER SUPPLY PRIOR TO CLEANING

Cleaning the Exterior of the Incubator

1. The housing of the Incubator and control panel should be cleaned at least once a week (depending on working conditions) using a small quantity of mild detergent applied using a soft cloth.
2. The base of the drying chamber can become discoloured over time due to the location of the heaters. This is completely normal and does not effect the performance of the drying oven.
3. Electrical parts should not be in contact with either water or detergent.

When Incubator Not In Use:

1. Remove all objects from the drying chamber.
2. Disconnect the incubator from the main power supply.
3. Clean and dry the heating chamber.
4. Leave the door open to avoid smells.
5. Store in temperature between 0˚C and 50˚C and a maximum relative humidity of 70%.

EXTERIOR ANTI BACTERIAL PAINTED SURFACES

The incubator should be cleaned at regular intervals by wiping external surfaces with a cloth or sponge soaked in warm water with a mild detergent. DO NOT USE STRONG SOLVENTS OR SOLUTIONS CONTAINING CHLORINATED HYDROCARBONS, ESTERS, KETONES OR ABRASIVE CLEANERS AS THIS MAY DAMAGE THE BUILT IN ANTI BACTERIAL PROPERTIES.

The "anti-bacterial" paint finish inhibits the growth of bacteria. It has been tested by independent specialist houses using internationally recognised test methods and proven to be effective against a wide range if bacteria including Escherichia Coli and Staphylococcus Aureus (MRSA).

We recognise hygienic coatings are part of a controlled approach to a cleaner working environment. Within the paint formulation is an active ingredient with proven anti-bacterial properties which is maintained throughout its life span. In a laboratory environment this is one less source of contamination. Unlike detergents the 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 although moisture in the atmosphere will maintain some activity. Areas where moisture is trapped are difficult to clean and allow bacteria to proliferate but these areas are most active for the anti-bacterial coating improving defence against bacterial growth.

WARRANTY TERMS AND CONDITIONS

1. Nickel Electro Ltd warrants to the Customer that the product purchased is free from defects in materials and workmanship.
2. Provided the terms of payment are duly complied with, Nickel Electro Ltd undertakes to remedy any original defects arising from faulty materials or workmanship, in any goods manufactured/supplied by Nickel Electro Ltd, which under proper and normal conditions of use, may develop within a period of two years from the date of delivery.
3. In the case of components which by their nature of application have an unpredictable life, this guarantee shall only be to the extend of the guarantee given by the manufacturers of these articles.
4. Nickel Electro Ltd will accept no liability, where in the opinion of the company the defect has been caused by damage due to the Customers failure to follow operating instructions, correct installation, wear and tear, or damage due to the use of spare parts other than those spare parts of Nickel Electro Ltd or which are recommended by Nickel Electro Ltd, the defect has been caused by alterations or repairs being undertaken by a person(s) other than an authorised representative of Nickel Electro Ltd.
5. Any damage claim must be in writing, and give the serial number and description of the goods, order number and date of delivery, and will not apply where any names or serial numbers or other information which may be attached to or inscribed upon the goods have been removed, covered up or defaced in any way.
6. Any goods or parts thereof, which may require repair or replacement, shall be repaired or replaced (at the discretion of Nickel Electro Ltd) at the works of Nickel Electro Ltd. The product to be repaired shall be delivered carriage paid back to Nickel Electro Ltd by the customer at the Customer's risk and expense. Any such goods or parts will be delivered by Nickel Electro Ltd to the Customer free within the United Kingdom but if required to be borne by the Customer. All faulty parts removed from the equipment will become Nickel Electro Ltd's property. Any other repairs or work by Nickel Electro Ltd will be carried out under the terms and conditions for specialist engineers currently in force.
7. In the event of replacement with a new or reconditioned model, the replacement unit will continue the warranty period of the original equipment.
8. If any goods or parts thereof are returned unnecessarily all cost involved, including a charge for inspection, handling and the return carriage must be paid by the sender. In no circumstances shall any of the goods be returned to Nickel Electro Ltd without its prior written consent.
9. Please retain the original packaging over the warranty period.

NON WARRANTY INFORMATION

Spare parts shall be made available for a period of 3 years after a piece of equipment is discontinued.

Common Spare Parts

Description	Part Number	Quantity
Controller	EX1349	1 off
Solid State Relay	EX1035	1 off
Switch	ES0241	1 off
Fanned Motor	EM1344	1 off 15S, 32S, 56S, 112S, 160S and 240S
		3 off 400S and 2 off 750S
Power Entry Module	EX1151	1 off 15S, 32S, 56S, 112S, 160S and 240S
3A Circuit Breaker	EX1161	2 off NE8-15S and NE8-32S
5A Circuit Breaker	EX1212	2 off 112S, 160S and 240S
10A Circuit Breaker	EX0812	2 off 400S and 750S
Heater Assembly 400W	SA02223	1 off 32S and 56S
Tubular Heater 1000W	EE1341	1 off 240S
		2 off 400S
		2 off 750S
Silicone Door Kit	Please enquire for further details	

PORTABLE APPLIANCE TESTING

These tests should be conducted by a qualified person.

DO NOT Flash Test!!

DECLARATION OF CONFORMITY	
We herewith confirm the following product: NE8S Digtal Lab Incubators	
Conforms with the requirements outlined by the following European Directives:	Conforms with the requirements outlined in the following United Kingdom Directives:
Low Voltage Directive 2014/35/EU	Electromagnetic Compatibility Regulations 2016
EMC Directive 2014/30/EU	Electrical Equipment (Safety) Regulations 2016
RoHS Directive 2011/65/EU	RoHS Directive 2011/65/EU

Conforms with the requirements of the following standards:	
BS EN 61010-1: 2010	Safety requirements for electrical equipment for measurement, control and laboratory use
BS EN 61010-2-010: 2020	
BS EN 61326-1: 2013	Electrical equipment for measurement, control and laboratory use - EMC requirements

Designed and manufactured in the United Kingdom by:
Nickel Electro Limited Oldmixon Crescent Weston super Mare North Somerset BS24 9BL United Kingdom t 01934 626691 f 01934 630300 e info@nickel-electro.co.uk

FINAL INSPECTION AND ELECTRICAL SAFETY TEST REPORT

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NICKEL - ELECTRO LTD.

Manufacturers of the Clifton Range