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TARGA CENTRIFUGE

*Clifton Range*<sup>®</sup>

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High quality products at affordable prices

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. If this product is not used in accordance with these instructions then basic safety protection may be affected.
3. The mains supply cord fitted to this product is heat resistant and should be replaced with an equivalent type.
4. Ensure that the power supply has a safety earth (ground) terminal.
5. Ensure that the mains switch and power supply connector are accessible during use.
6. Before using any cleaning or decontamination method please refer to the Care, Maintenance and Cleaning section to ensure the proposed method will not damage the unit.
7. Connect only to a power supply with the corresponding voltage to that specified on the rating label positioned on the side of the unit.
8. The Centrifuge must be installed on a flat stable horizontal surface.
9. Only the rotor originally supplied must be used. Otherwise warranty and safety will be compromised.
10. The emergency door open function should only be used when the door key is disabled.
11. Before operating the Centrifuge please ensure the rotor is securely fastened.

## LOCATION

The product must be placed on a smooth, level and sturdy work surface. Use in a ventilated room. Suitable for use in ambient temperatures 5°C to 40°C with a maximum humidity 80% (temperature 31°C) decreasing to 50% (temperature 40°C).

## UNPACKING

Remove the product from its packaging and retain over the warranty period. Contents consist of:

- Targa Centrifuge
- 6 x 15ml Rotor
- Emergency door opening tool
- Rotor locking tool
- Power lead
- Instruction manual

## 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.

## OPERATING INSTRUCTIONS

1. Fit the power lead into the socket at the rear.
2. Switch the centrifuge on using the mains switch on the right side of the unit.
3. To open the door, touch the DOOR key. Door LED will illuminate to indicate the door is open, when door is closed LED is off.

### Rotor Coupling:

4. Before coupling a rotor, clean the shaft and chamber with a soft dry cloth.
5. Mount the rotor onto the motor shaft.
6. Use the washer over the centre hole and fix into place using the rotor locking nut.
7. To tighten rotate the tool clockwise, to loosen rotate the tool anticlockwise.
8. Load the 15ml sleeves into every hole.

### Positioning Sample Tubes

9. Use only appropriate centrifuge tubes.
10. DO NOT exceed the speed limit of the tubes maximum g force.
11. Tubes should be filled to 70-80% capacity for safety. DO NOT overfill.
12. Tubes should be placed in the rotor in pairs positioned symmetrically. If necessary use a water blank to counter balance the unpaired sample.
13. The centrifuge features an Imbalance Cut Off safety function. Should this occur rebalance the rotor.

### Control Panel

<u>RPM</u> RCF	For automatic conversion between RPM and RCF and to set the speed.
TIME	Set time: upto 99 minutes 59 seconds (00:continuous).
<u>START</u> STOP	Start and stop operation.
PROG	Save a set of values or recall a saved program.
DOOR	Open the instrument door.

## Setting the RPM: Maximum RPM/RCF: 4000RPM/2700 x g

Speed setting units: 10 or 100rpm Speed setting units: 1 or 10rcf

1. Touch the RPM/RCF key once to activate RPM mode or twice to activate RCF mode.
2. Use the UP and DOWN arrow keys to input value.
3. Touch RPM/RCF key to save.

## Setting Timer Function

Time setting unit: 1 or 10min/1 or 10 sec

1. Touch the TIME key once to activate minutes and twice to activate seconds.
2. Use the UP and DOWN arrow keys to set the SECONDS.
3. Touch TIME key to save.

## Start/Stop

1. When all parameters are set or recalled program selected touch the START/STOP key.
2. During running the START LED is illuminated.
3. Touch the START/STOP key if you wish to stop the operation.

## Program Saving and Recalling

### SAVING

1. Set the parameters as per the steps above.
2. Touch the PROG key for longer than 3 seconds to save your preferred values. PROG LED is illuminated and SEC Save is turned on.
3. Use the UP and DOWN arrows keys to input the program number. Upto 10 programs can be saved (00 to 10).
4. Touch PROG key to save. If key is not pressed within 5 seconds, setting mode is cleared.

### RECALLING

1. To recall a saved program touch the PROG key briefly. MIN Call is turned on.
2. Use the UP and DOWN arrow keys to select the required program number.
3. Touch PROG key once. Display will show saved values.
4. Press START/STOP to commence operation.

## EMERGENCY DOOR OPENING

The door can be unlocked manually using the Emergency Door Open Function. Locate the emergency door opening hole on the left side of the centrifuge. Insert the Emergency Door Lock Tool into the hole and push to release.



Manual opening of the door should only be performed when spinning has completely stopped. Otherwise harmful damage can occur to both operator and/or samples.

## BASIC CLEANING

The centrifuge should be emptied at the end of each day, then for exterior, interior surfaces:

• WASH • RINSE • DRY • SANITIZE •

Exterior: Clean with a soft dry cloth. If necessary use a neutral detergent. Dry completely after cleaning.

Interior: Ensure the chamber is dry after each use. Keep the shaft clean to avoid a rotor imbalance. In the event of contamination use a neutral cleaning agent.

Rotor: Use a neutral detergent for any contamination. Ensure the rotor is dry after use.

## POWER FAILURE

In the event of power failure the lid can be released quickly as follows - please ensure the rotor has stopped before attempting to open the lid:

- Insert the Emergency Door Opening Tool into the hole located on the left hand side of the centrifuge and push .
- The door will release.

When power resumes, gently close the lid manually and resume running the centrifuge.

## PORTABLE APPLIANCE TESTING

These tests should be conducted by a qualified person.



DO NOT PAT test the boiling bath unless it contains water.

DO NOT Flash Test!!

## 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 three 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.

## TROUBLE SHOOTING AND ERROR CODES

The following error codes may be displayed to indicate an issue:

Error 1	Motor	If the speed does not reach 200rpm within 2 seconds from the motor operating this message may appear: - Check whether the motor is working normally - If the message remains please contact our Service Dept.
Error 2	Door Open	- This message may appear if the door is opened while running or an error is detected in the door sensor: - Check the door latch. Remove any debris which may have collected. - If the message remains please contact our Service Dept.
Error 3	Motor Overheating	- If the motor overheats: - Turn the power supply off and allow to cool. - Turn the power back on. - If the message remains please contact our Service Dept.
Error 4	Low Voltage	- If the power input is at least 10% lower than the recommended power, this message will appear: - Turn off the power supply and check the voltage value.
Error 5	High Voltage	- If the power output is at least 10% higher than the recommended power, this message will appear: - Turn off the power supply and check the voltage value.



Error 6	Overspeed	<ul style="list-style-type: none"> <li>- If the centrifuge spins faster than allowed (1000rpm higher than the set speed):</li> <li>- Turn the power supply off and on again.</li> <li>- If the message remains please contact our Service Dept.</li> </ul>
Error 7	System	If a software bug is found and this message is displayed please contact our Service Dept.
Error 8	Imbalance	<ul style="list-style-type: none"> <li>- Check the balance of the rotor, referring to Operation Instructions.</li> <li>- Turn power off and on again.</li> <li>- If the message remains please contact our Service Dept.</li> </ul>
Error 9	RPM Sensor	- Rotor recognition. Only use a compatible rotor.



## EC Declaration of Conformity

We herewith confirm the following product:

TARGA CENTRIFUGE

Conforms with the requirements outlined by the following European Directives:

EN 61010-1(2001)	Safety requirements for electrical equipment for measurement control and laboratory use - Part 1 - General requirements
EN 61010-2-020(2006)	Safety requirements for electrical equipment for measurement, control and laboratory use. Part 2 - Particular requirements for laboratory centrifuges
EN 61326-1-(2006)	Electrical equipment for measurement control and laboratory use - EMC requirements
EN 55011 (2007)	Industrial, scientific and medical (ISM) radio-frequency equipment, Radio disturbance characteristics, Limits and methods of measurement

Following the provisions of Directives:

2004/108/EC	Directive 2004/108/EC relating to Electro-magnetic Compatibility
2006/95/EC	Directive 2006/95/EC relating to electrical equipment designed for use within certain voltage limits
2011/65/EU	Directive 2011/65/EU of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

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# FINAL INSPECTION AND ELECTRICAL SAFETY TEST REPORT

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