

A photograph of a Clifton Unstirred Bath, a piece of laboratory equipment. A glass flask containing a blue liquid is placed on the bath. The bath has a digital display showing '10' and a red indicator light. The Clifton logo and 'UNSTIRRED BATH' are visible on the top left of the device.

Clifton
UNSTIRRED BATH

MIXERS

MS series MAGNETIC STIRRERS

CH series CERASTIRS™

CM series VORTEX MIXERS

RM series ROTARY MIXERS

Clifton Range®



NICKEL - ELECTRO LTD.
Manufacturers of the Clifton Range



Welcome to the *Clifton Range* from Nickel-Electro Ltd

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.

The company's original name back in 1935 was Nick-El-Ectro and upon incorporation in 1941 changed to Nick-El-Electro. In 1964 the company name was finally settled as Nickel-Electro, a much easier name to pronounce!

Continuous investment in the latest manufacturing and information technology means that the company can remain competitive and innovative with new products and designs.

Over the years Nickel-Electro has developed into a leading manufacturer of laboratory consumables and equipment. The company has extensive knowledge and expertise in manufacturing highly accurate temperature control equipment for the scientific market.

The Clifton brand takes its name from The Clifton Suspension Bridge in Bristol, which was designed and built by the famous Victorian engineer Isambard Kingdom Brunel and is recognized as engineering excellence.

Melvin Dickson

Managing Director





MIXERS

MS series MAGNETIC STIRRERS

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MAGNETIC STIRRERS

MSH series, Aluminium Hob

These popular Clifton® aluminium hotplate stirrers are designed for general laboratory requirements and are available in three styles - MSH-1 analogue, MSH-1D digital or the triple place MSH-3.

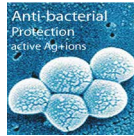
Featuring a robust aluminium heating surface, with good heat transfer, the plate can be precisely controlled, spillages are directed away from the controls and user. Smooth start up and changes in stirring speed ensure that the follower increases or decreases its mixing speed without detaching.



Series	Analogue	Digital
230V 50Hz version	MSH-1	MSH-1D
230V 60Hz version	-	MSH-1D
120V 60Hz version	-	-
Heater, Watts	700W	700W
Max. plate temp	325°C	300°C. With Remote Probe max 200°C
Temp control	Analogue	Digital. With remote probe $\pm 0.5^\circ\text{C}$
Heating plate size	160 x 160mm	160 x 160mm
Heated area	160 x 160mm	160 x 160mm
Stirring speed	100 - 1500rpm	200 - 1300rpm
Overall size	190w x 300d x 110h mm	190w x 300d x 110h mm

1. All models supplied with PTFE coated stirring bars.

2. Painted body features Anti-bacterial protection, hygienic coating which actively inhibits bacterial growth.



Features Include:

MSH-1 and MSH-3 analogue

- * Easy clean and spillages directed away from controls
- * Durable heating surface
- * Over temperature protection
- * Smooth start stirring
- * Maximum stirring volume 15 litres
- * Economically priced, robust design
- * Spill proof design, IP 32
- * M10 Fixings for retort scaffolding
- * 2 PTFE coated stirring bars
- * "Hot" warning indicator will flash when hob temperature is above 50°C, even when hob is turned off

MSH-1D digital, additional features

- * Digital setting and control temperature and stirring speed
- * Set and actual temperature 1°C
- * Auto setting over temperature alarm +20°C above set point, disables heating
- * PTFE coated remote probe for immersion into flasks, for direct temperature control up to 200°C, also detachable for direct hob temperature control
- * Set and actual stirring speed displayed



Triple place

MSH-3

-

-

3 x 700W

325°C

Analogue

160 x 160mm [3 places]

160 x 160mm [3 places]

100 - 1500rpm

600w x 300d x 110h mm

ACCESSORIES

Cat. No. Description

8614 Retort rod

BX0446 Magnetic followers 20mm

BX0447 Magnetic followers 40mm

MIXERS

Cerastirs™ CH series, Ceramic Hob

These popular Clifton® ceramic hotplate stirrers are designed for general laboratory requirements and are available in three styles - Cerastir™ CH-1 series - analogue, Cerastir^{dig} CHS-1 series - digital or the larger analogue Cerastir™ CHS-2.

Using a ceramic glass heating surface resistant to most chemicals, the plate can be precisely controlled, spillages are directed away from the controls and user. Smooth start up and changes in stirring speed ensure that the follower increases or decreases its mixing speed without detaching.



Series	Analogue	Digital
230V 50Hz version	CH-1E	CHS-1E
230V 60Hz version	CH-1E60	CHS-1E
120V 60Hz version	CH-1A	CHS-1A
Heater, Watts	500W	500W
Max ceramic plate temp	450°C	450°C. With Remote Probe max 200°C
Temp control	Analogue	Remote probe $\pm 0.5^\circ\text{C}$
Ceramic plate size	160 x 160mm	160 x 160mm
Heated area	120 x 120mm	120 x 120mm
Stirring speed	100 - 1500rpm	200 - 1300rpm
Overall size	190w x 300d x 110h mm	190w x 300d x 110h mm

1. All models supplied with PTFE coated stirring bars.
2. Painted body features Anti-bacterial protection, hygienic coating which actively inhibits bacterial growth

Features Include:

Cerastir™ CH-1 and Cerastir⁺ CHS-2

- * Easy clean ceramic top and chemical resistant
- * Rapid warm up times
- * Over temperature protection
- * Smooth start stirring up to maximum speed 1500rpm
- * Maximum stirring volume 15 litres
- * Economically priced, robust design
- * Spill proof design, IP 32
- * Fixings for retort rod/scaffolding
- * 2 PTFE coated stirring bars
- * "Hot" warning indicator flashes when hob temperature is above 50°C, even when hob is turned off

Cerastir^{dig} CHS-1

- * Digital setting and control temperature and stirring speed
- * Set and actual temperature resolution 1°C
- * Auto setting over temperature alarm +20°C above set point, disables heating
- * PTFE coated probe for immersion into flasks, temperature control up to 200°C or detachable for direct hob control
- * Set and actual stirring speed displayed



CERASTIR⁺

CHS-2E

-

-

1200W

450°C

Analogue

300 x 300mm

200 x 200mm

100 - 1500rpm

300w x 365d x 105h mm

ACCESSORIES

Cat. No. Description

8614 Retort rod

BX0446 Magnetic followers 20mm

BX0447 Magnetic followers 40mm

VORTEXERS

CM Series, Cyclone Vortex Mixer

For rapid and efficient mixing, the Cyclone is far superior to hand shaking. The Cyclone creates a vortex in the tube, which gives the highly effective mixing action.

Contamination from stirring rods and stoppers is eliminated and different samples may be subjected to the same degree of mixing, thus improving repeatability of results. Fitted with an automatic press start operation providing instant action the moment the tube is pressed into the rubber cup. This feature is particularly useful where repetitive mixing is undertaken.



Cat. No	CM-1
Speed	200 - 2800rpm
Orbit	7mm
Overall, dims	150w x 175d x 150h mm
Rating, Watts	75W
Voltage	230V, 50Hz

Features Include:

- * Variable speed control, with the advantages of controlled mixing over a wide speed range
- * Operates at slow speed for gentle mixing necessary in many applications, where damage to cell structure is to be avoided
- * May be set for continuous running at the chosen speed or on demand by inserting the tube into the cup
- * Skirted rubber cup prevents liquid entering the mixer casing
- * Will accept vessels up to 25mm diameter
- * Excellent stability is achieved through a combination of weight and non-slip feet

ACCESSORIES for CM-1

Cat. No.	Description
RSA-1/CM	Retort Stand Assembly, with mixing clamp arm, holds tubes in place for mixing. Ideal for capping open tubes. Also useful for long term or frequent tube mixing, no hand vibration or fatigue.



BP0373	Spare Rubber Cup
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VORTEXERS

CM Series, Cyclone+ Vortex Mixer

The Cyclone+ is designed for tube, microplate, flask and microtube mixing using accessory platforms which can be quickly interchangeable.

Variable speed control, with the advantages of controlled mixing over a speed range.

Cyclone+ shown with its accessories below.



Features Include:

- * Unique design accessory platform, which can be autoclaved
- * Where accessory platforms are fitted the unit is designed to operate at lower speeds for gentle mixing reducing damage to cell structures
- * Two modes of operation set for continuous running or press start operation suitable for use with accessory tube mixing cup

Cat. No	CM-2
Speed	200 - 2800rpm
Maximum Platform speed	200 - 1000rpm
Orbit	4mm
Overall, dims	150w x 175d x 150h mm
Rating, Watts	75W
Voltage	230V

ACCESSORIES for CM-2

Cat. No.	Description
C1	Platform including 2 off 25ml flask clips
C2	Platform for skirted microplates. (48,96 or 154 well)
C3	Platform for 1.5ml microcentrifuge tubes x 20
C4	Mixing cup for single tube mixing
C5	Platform for 96 well unskirted microplates

ROTARY MIXERS

RM Series

The Clifton® range of tube rotators are available as fixed or variable speed models with a broad range of optional accessory heads available for mixing micro tubes, tubes or flasks.

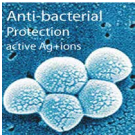
The angle of mixing is fully adjustable and suitable for continuous or intermittent mixing.

Benchtop or wall mountable, saving space.

Can be used inside Laboratory Incubators up to 60°C or in cold rooms at a minimum of 4°C.

Features Include:

- * Angle of mixing head fully adjustable from vertical to horizontal
- * The range of accessories can also be autoclaved and allow for easy loading and tube removal



Cat. No	RM-1	RM-2
Speed	30rpm	Variable 5-30rpm
Overall, dims	210w x 250d x 200h mm	210w x 250d x 200h mm
Voltage	230V	230V

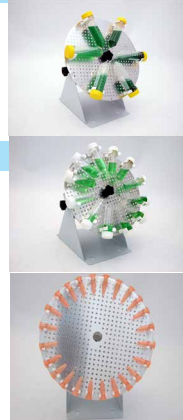
1. Rotary Mixer image is shown with a selection accessory mixing discs.
2. Painted body features Anti-bacterial protection, hygienic coating which actively inhibits bacterial growth.

ACCESSORIES

for RM series

Tube mixing, End to End

Cat. No.	Description
RMD006	Disc complete with 6 clips for tube diameters 27-30mm
RMD012	Disc complete with 12 clips for tube diameters 15-17mm
RMD024	Disc complete with 24 clips for tube diameters 8-11mm

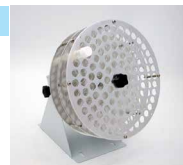


Carousel, Tube mixing, End to End

RMD024-3	3 tier disc assembly complete with 24 clips for each disc - tube diameters 8-11mm
RMD012-3	3 tier disc assembly complete with 12 clips for each disc - tube diameters 15-17mm

Carousel, Tumbling Mixing

RMD016	Carousel for tubes up to 16mm diameter
RMD025	Carousel for tubes up to 25mm diameter



Flask Mixing

RMD-1	Rotary mixer disc
FC0025	25ml flask clip
FC0050	50ml flask clip
FC0100	100ml flask clip
FC0250	250ml flask clip



Service and Support

A UK manufacturer Nickel-Electro Ltd provides comprehensive product support and aftercare service.

If you wish to return a Clifton® Mixer for servicing we have a fully trained and equipped service department. Please clearly print your contact details and include with your return.

Investing in the Future

We recognise the importance of investing in new technology, and have an on going programme of investment in the latest manufacturing equipment and information systems.

A wide Range of Products for a wide range of Markets

We produce laboratory equipment for a variety of market sectors. These include hospitals, secondary and higher education, the food and dairy industry, veterinarians, pharmaceutical companies, industry and quality control laboratories.

World-wide Reputation

Upholding the traditions of high quality British products, Nickel-Electro Ltd exports across the globe, with major markets in Europe, the Middle East, Africa and Australasia.

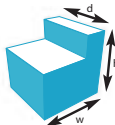
Anti-bacterial surfaces

Anti-bacterial finishes inhibit the growth of bacteria. It has been tested by independent specialist test houses such as 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



Trademarks

NE logo and Clifton range are registered trade marks of Nickel-Electro Limited.

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 Clifton 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 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 environment and all products are CE compliant.



Environmental Policy

We recognise our responsibility towards the environment and fully aware of legislation, have a policy of re-use, recycle and waste minimisation.



NICKEL-ELECTRO LTD

Manufacturer of the Clifton Range.

Manufacturer of the Metalware Range.

Manufacturer of laboratory, medical and clinical equipment.

Oldmixon Crescent, Weston-super-Mare,
North Somerset, BS24 9BL, United Kingdom.

Tel: +44 (0)1934 626691

Fax: +44 (0)1934 630300

Email: sales@nickel-electro.co.uk

Website: www.nickel-electro.co.uk

Your local distributor: