

REFLUX UNIT for use with RS600 REACTION STATION.

ATS10353

INSTRUCTION BOOK.

Please take your time to read this Instructions book in order to understand the safe and correct

It is recommended the Responsible Body for use of this equipment reads this Instruction book and ensures the user(s) are suitably trained in its operation.

Section 1.	Introduction.	Page 3
Section 2.	Symbols and using this Instruction book.	Page 4
Section 3.	Safety Information.	Page 5
Section 4.	Unpacking and Contents.	Page 7
Section 5.	Installation.	Page 8
Section 6.	Environmental protection.	Page 9
Section 7.	Production Operation.	Page 10
Section 8.	Technical Specifications.	Page 14
Section 9.	Maintenance	Page 15
Section 10.	Customer Support	Page 16
Section 11.	Parts and Accessories.	Page 17
Section 12.	Notes.	Page 19
Section 13.	EC Declaration of Conformity	Page 20
Appendix 'A'	Decontamination Certificate	Page 18

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In the interest of continued development Bibby Scientific Limited reserve the right to alter or modify the design and /or assembly process of their products without prior notification.

This product is manufactured in Great Britain by Electrothermal, part of the Bibby Scientific Group of companies.

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1. INTRODUCTION.

- 1.1. This Reflux unit has been designed for use with Bibby Scientific RS600 MKII Reaction Station. As chilled water is pumped around the Reflux unit, specimen reaction losses due to vaporisation are reduced as the cool side walls of the reflux unit return vapour and condensation back into specimen.
- 1.2. This product is supplied with height adjustable legs to accommodate the various glass ware options available for use with the RS600 Reaction Station. The legs are designed to sit over the support posts protruding vertical from the outer case of the RS600 product.
- 1.3. Six outlet and one input gas entering positions are provided on the top surface of the Reflux unit for use with Reflux caps ATS10142.
- 1.4. Constructed from aluminium this product is robust enough to withstand the rigors of the modern laboratory.

2. SYMBOLS AND USING THIS INSTRUCTION BOOK.

- 2.1. Throughout this Instruction book the following symbols are shown to identify conditions which pose a hazard to the user or to identify actions that should be observed. These symbols are also shown on the product, or its packaging. When a symbol is shown next to a paragraph or statement it is recommended the user takes particular note of that instruction in order to prevent damage to the equipment or to prevent injury to one's self or other people.

The Responsible Body and the Operator should read and be familiar with this Instruction book in order to preserve the protection afforded by the equipment.

To prevent injury or equipment damage it is the manufacturer's recommendation that all persons using this equipment are suitably trained before use.

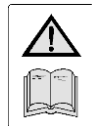
2.2. Symbols Defined



Caution, risk of danger. See note or adjacent symbol.



Do not dispose of product in normal domestic waste.



Refer to Instruction book.



Bio Chemical Hazard. Caution required. Will require decontamination.



Recyclable Packing Material



Caution / risk of electric shock.

Note:-(The Reflux unit doesn't require electricity for operation. However the parent RS600 product does).

3. SAFETY INFORMATION.

This product has been designed for safe operation when used as detailed in accordance with the Manufacturer's instructions.

NOTE: Failure to use this equipment in accordance with the manufactures operating instructions may compromise your basic safety protection afforded by the equipment and may invalidate the warranty / guarantee. The warranty / guarantee does not cover damaged caused by faulty installation or misuse of the equipment



To prevent a risk of fire or electric shock, **DO NOT** open your *product* case without authorisation. Only Qualified Service Personnel should attempt to repair this product.



Replace fuses only with the type as listed in section, 'Technical Specifications and Parts and Accessories' (See fuse type and rating).



Ensure the Mains Power Supply conforms to rating found on the data plate located on the right hand side of this product.



Never Operate this equipment without connection to earth / ground. Ensure the mains supply voltage is correctly earthed / grounded in accordance with current area legislation.

3.1. General Safe Operating Practice.



Always follow good laboratory practice when using this equipment. Give due recognition to your company's safety and legislative health & safety procedures and all associated legislation applicable to your areas of operation. Check laboratory procedures for substances being heated and ensure all hazards (e.g. explosion, implosion or the release of toxic or flammable gases) that might arise have been suitably addressed before proceeding. When heating certain substances the liberation of hazardous gases may require the use of a fume cupboard or other means of extraction.



Do not position the product so that it is difficult to disconnect from the mains supply.



Do not touch the heating block or any glass vessel whilst in use.



Do not lean or stretch over equipment, glassware and fixings when in use.



Do not immerse unit in water or fluids.



Do not spill substances onto the heating block. If spillage does occur, disconnect unit from mains supply and follow instructions as detailed in Maintenance. (Section 9).



Do not cover this product whilst in use. **Do not** block or obstruct ventilation slots / airways.



Do not leave equipment switched on without a charged flask(s).



It is not recommended to leave any heating apparatus unattended during operation.



Only use Original Equipment manufactures spares and accessories. Ref Section 11.



This equipment will generate magnet fields. Keep all metal objects and magnetic data devices (e.g. credit cards) away from the stirrer unit.



The equipment is not spark, flame or explosion proof and has not been designed for use in hazardous areas in terms of BSEN 60079-14:1997. Keep flammable, low flash point substances away from the apparatus.

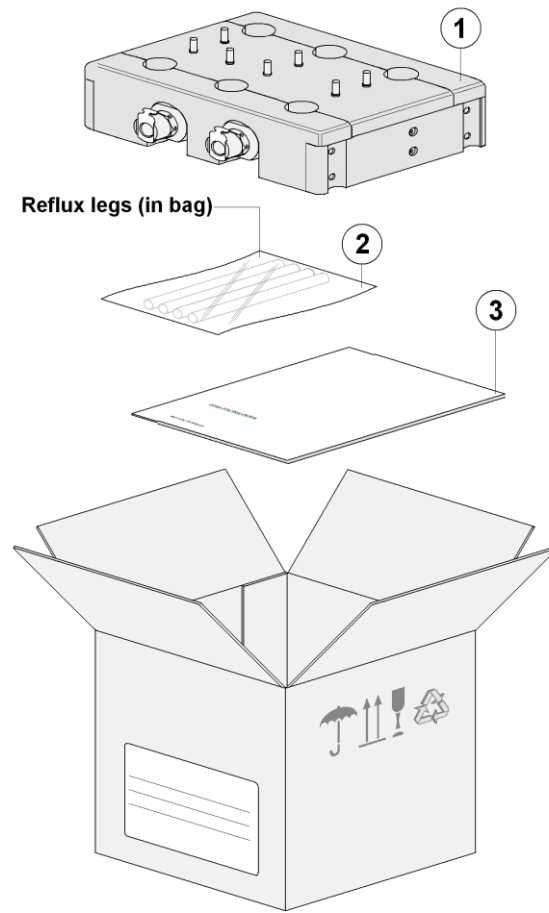


Do not operate or handle any part of the product with wet hands.



Keep the Mains cord and moulded IEC plug and lead set away from the heating surface.

4. UNPACKING AND CONTENTS.



Item	Description	Qty
1	Reflux Product	1
2	Support legs and support blocks	4
3	Instruction Book.	1

<p>For future reference please record your products Serial and Model Numbers.</p>	<p>Serial Number</p>	<p>Unit Model/Cat Number</p>
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5. INSTALLATION.


When installing any accessory who host unit uses electricity please observe the following.

RS600 and Reflux Installation.

5.1. Electrical safety and installation.

5.1.1. The RS600 and Reflux unit has been designed to be used safely under the following conditions:-



- Indoor use.
- Altitude up to 2000 meters.
- Temperatures between 5°C and 40°C.
- Maximum relative humidity 80% for temperatures up to 31°C decreasing linearly to 50% relative humidity at 40°C.
- Mains supply voltage fluctuations up to $\pm 10\%$ of the nominal voltage.
- Transient over voltages typically present on the mains supply.
- Applicable rated pollution degree 2.

5.2.  This equipment must be earthed / grounded to a fixed earth / grounded mains socket outlet. The mains supply is to earthed / grounded in accordance with current legislation.

5.3. Ensure only the correct rated mains input fuses are fitted. (Where applicable ensure the correct Mains cord and moulded IEC plug and lead set fuse if fitted). See Technical Specification Section 8 of this Instruction book.

5.4. Check the voltage on the data label of this product. Ensure the rating conforms to your local supply.


5.5. It is recommended this product be connected to a mains supply source which incorporated a RCD or GFCI device.

5.6.   **Do not install this product or accessories on a surface which may become wet or flooded. Condensation may form on the side of the Reflux unit and drip onto the work surface.**

5.7. The RS600 unit must be wired as follows.



Green / Yellow	or	Green	=	Earth / Ground
Blue	or	White	=	Neutral
Brown	or	Black	=	Live / line hot.

5.8.  Install equipment is used on a clean, dry, non-combustible, solid work surface with at least 300mm suitable clearance all around from other equipment / objects.

6. ENVIRONMENTAL PROTECTION.

- 6.1. Maximum consideration has been given to environmental issues within the design and manufacturing process without compromising end product performance and value.



- 6.2. Packaging materials have been selected such that they may be sorted for recycling.



- 6.3. At the end of your product and accessories life, it must not be discarded as domestic waste. Ref: EU Directive 2002/96/EC on Waste Electrical and Electronic Equipment Directive (WEEE). Please contact your distributor / supplier for further information. For end users outside of the EU consult applicable regulations.

- 6.4. This product should only be dismantled for recycling by an authorised recycling company.

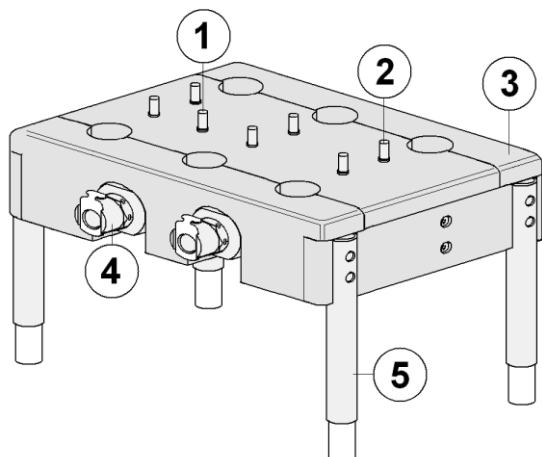


This product and accessories must be accompanied by a completed Decontamination Certificate prior to any disposal. Copies of the Certificate are available from your distributor of Bibby Scientific products, or you may copy and enlarge from 'Appendix A' of this instruction book.

Bibby Scientific's Electrothermal branded product range is registered with the Environment Agency under the name of as Electrothermal Engineering Limited as being a producer of WEEE (Waste Electrical and Electronic Equipment) through b2b Compliance, an authorised waste collection compliance scheme.

7. PRODUCT OPERATION.

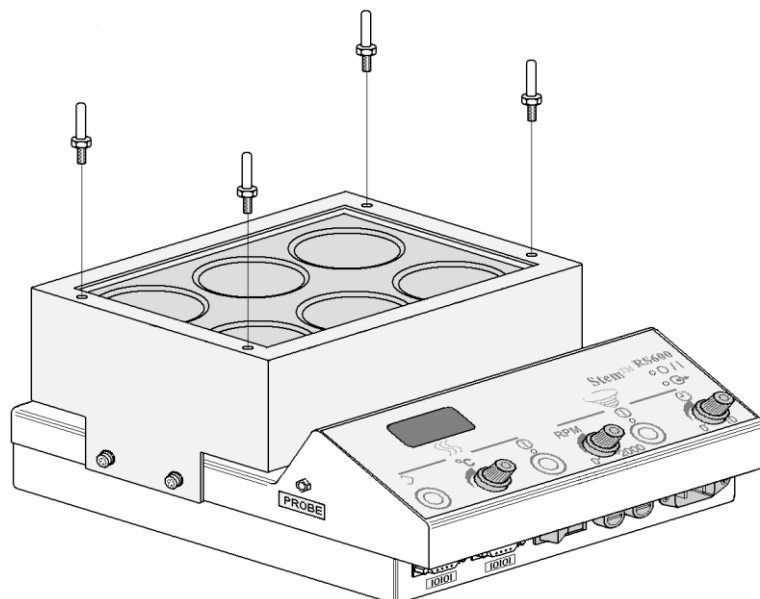
7.1. The illustration below shows the Reflux units main components.



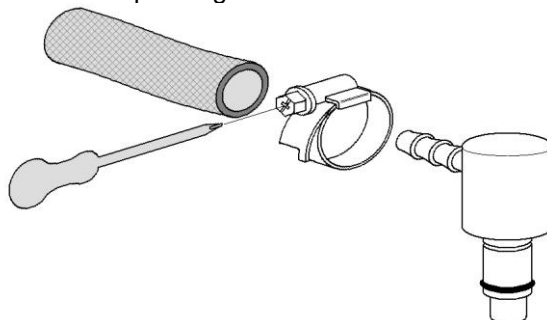
Item	Description	Qty
1	Input Gas nozzle	1
2	Output Gas nozzle	6
3	Removable magnetic block for vessel retention.	2
4	Coolant in / out quick release ports.	2
5	Extendable leg	4

7.2. Screw fasten the four leg support pillars (supplied with your reflux unit) into the outer case of your RS600 Reaction Station

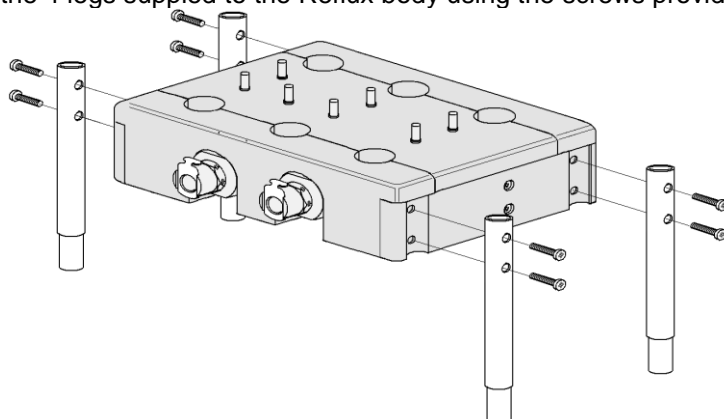
Note: Some older RS600 may not have the screw hole facility. If in doubt please contact your supplier.



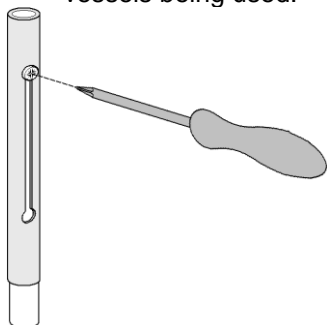
7.3. Firmly attach the 'Quick release bars' to your chiller hoses ensuring a leak free connection. Use Jubilee Clips to tighten hoses to bars.



7.4. Fasten the 4 legs supplied to the Reflux body using the screws provided.



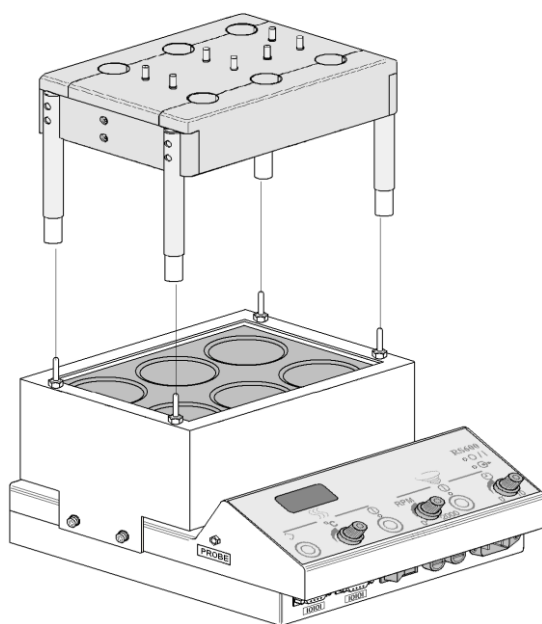
7.5. If required, adjust the height of the leg to accommodate the height of the glass vessels being used.



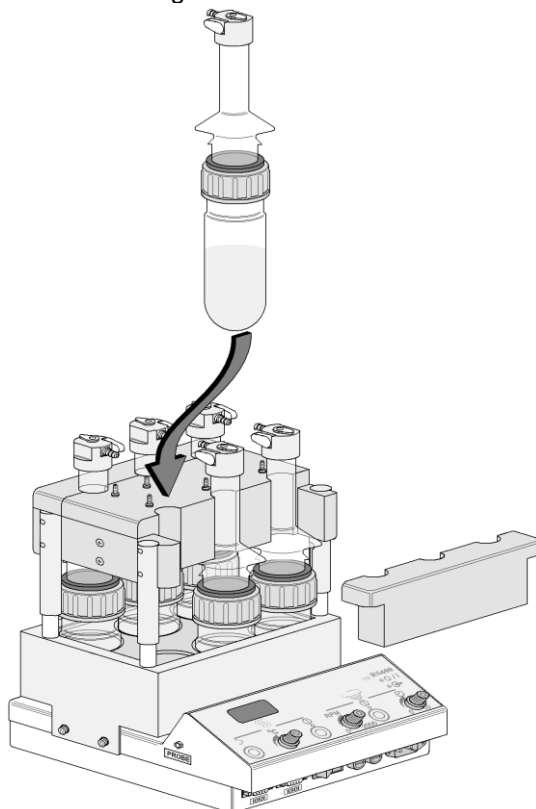
- Loosen the head of the screw.
- Select the required leg height.
- Retighten the screw head in the desired position.

Note: The upper slot location is for glass vessels of 50 and 100ml capacity. The lower slot location is for glass vessels 250ml in capacity.

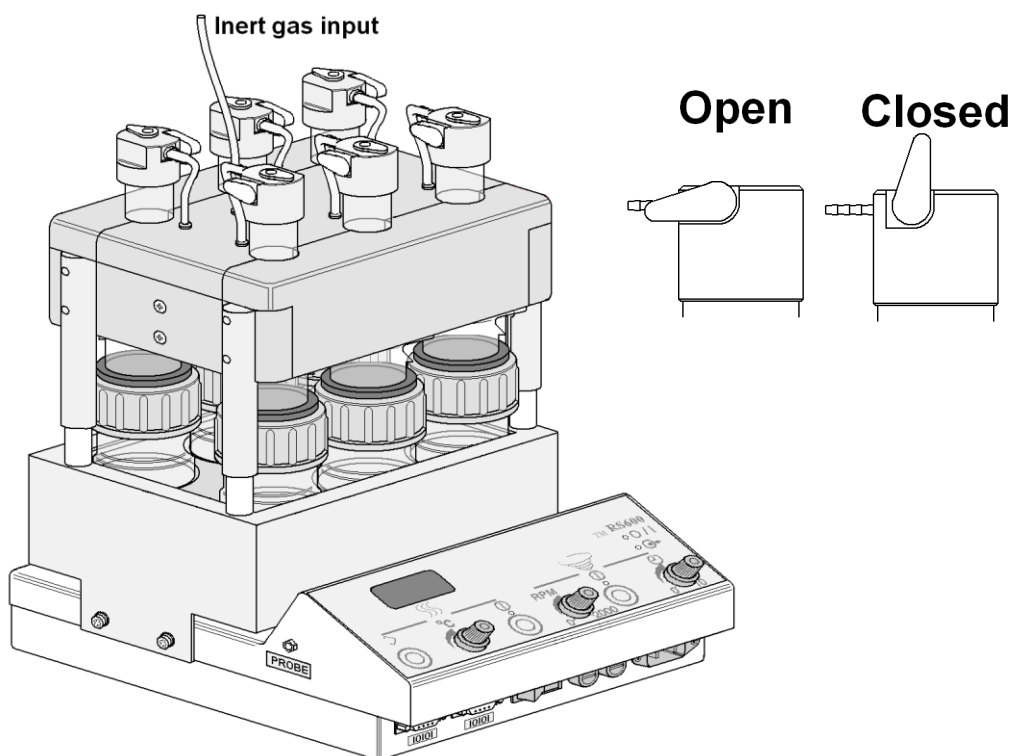
7.6. **Ensure the power to the RS600 Reaction Station is turned off.** Place the reflux unit on top of the RS600 ensuring the coolant in/out quick release ports are facing the back of the RS600. Ensure the Reflux legs sit over the pillars protruding from the RS600 case.



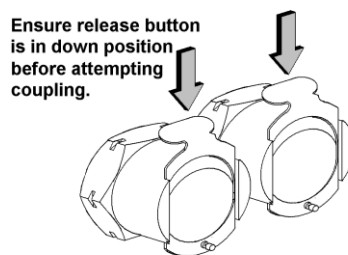
- 7.7. In an upward movement lift out the magnetically attached blocks and place charged glass vessels containing stir bars into the wells of the RS600.



- 7.8. **(Inerting facility Optional).** If required connect up the gas purge output pipe positions to the respective reflux caps in each reaction position. Connect the input purge pipe to your gas supply. Purging of the sample is turned on or off by rotation of the reflux cap tap handle.



- 7.9. Connect the chilled coolant supply hose to the input / output quick release ports on the rear of the reflux unit. The connection is made by inserting the quick release into the elbow joint coupling. Ensure the release button is in the down position before attempting to make the coupling.



Note:- To remove the the chiller hose barbs connectors press down on the release buttons of the valves.

- 7.10. Turn on the chiller fluid supply. Allow 15 minutes for the reflux unit to cool before commencing operation.

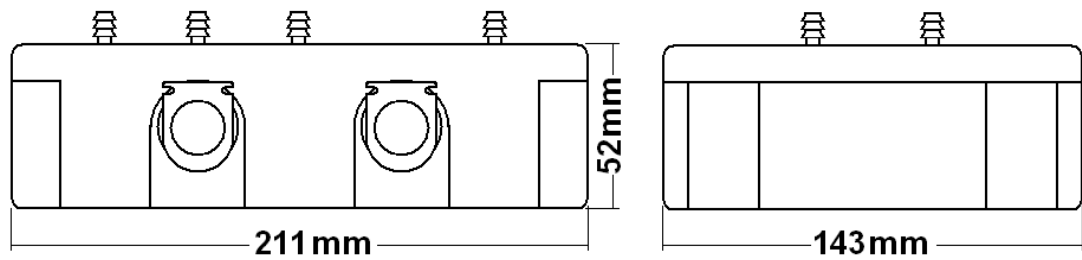
Note:- At temperatures below the dew point approximately 5°C condensation will form on metal parts of the reflux unit.

8. TECHNICAL SPECIFICATIONS.

Maximum chilled coolant supply pressure.	3 Bar / 43 PSI
Recommended coolant fluid	Chilled water.
Recommended chilled coolant temperature $\pm 2^{\circ}\text{C}$.	5°C .
Recommended coolant supply pipe internal bore.	10mm

The Ingress protection rating for this product is classified as IPX2.

Dimensions.



Weight. TBA.

9. MAINTENANCE.



Maintenance should only be carried out under the direction of the Responsible Body, by a competent electrician. Failure to do so may result in damage to the product and in extreme cases be a danger to the end user.

With proper care in operation this equipment has been designed to give many years of reliable service. Contamination or general misuse will reduce the effective life of this product and may cause a hazard.

Routine cleaning of the equipment should be undertaken using a clean cloth.

DO NOT USE SOLVENTS FOR CLEANING ANY PART OF THIS EQUIPMENT.

9.1. Spillage and Decontamination.

In the event of spillage switch off and unplug this product from the mains electrical supply. Wipe off all excess liquid from the reaction block and surrounding area using an absorbent soft cloth. Allow sufficient time for any ingressed liquid to evaporate before commencing with use.

If in doubt please consult Customer Support. Refer to section 10.



If the equipment has been exposed to contamination, the Responsible Body is responsible for carrying out appropriate decontamination. If hazardous material has been spilt on or inside the equipment, decontamination should only be undertaken under the control of the Responsible Body with due recognition of possible hazards. Before using any cleaning or decontamination method, the Responsible Body should check with the manufacturer the proposed method will not damage the equipment.

Prior to further use, the Responsible Body shall check the electrical safety of the unit. Only if all safety requirements are met can the unit be used again. The above procedure is intended as a guide. Should spillage occur with a toxic or hazardous fluid then special precautions may be necessary.

Decontamination Certificate.

Note: In the event of this equipment or any part of the unit becoming damaged, or requiring service, the item(s) should be returned to the manufacturer for repair accompanied by a decontamination certificate. **Copies of the Certificate are available from Distributor/Manufacturer. Appendix A of this instructions book may be copied and enlarged.**

At the end of life, this product must be accompanied by a Decontamination Certificate. See section 6.3 and 6.4

10. CUSTOMER SUPPORT.

For help and support in using this product, please contact Customer Services at the following address.

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For the America's and Canada, contact:

Techne Incorporated, 3 Terri Lane,
Suite 10 Burlington, NJ 08016 USA.

Toll free:800-225-9243Tel: 609-589-2560

Fax: 609-589-2571

Email: [**labproducts@techneusa.com**](mailto:labproducts@techneusa.com)

Http www.techneusa.com

- General enquiries :
[**info@bibby-scientific.com**](mailto:info@bibby-scientific.com)
- Order enquiries :
[**sales@bibby-scientific.com**](mailto:sales@bibby-scientific.com)
- Technical support :
[**electrothermalhelp@bibby-scientific.com**](mailto:electrothermalhelp@bibby-scientific.com)
- [**www.electrothermal.com**](http://www.electrothermal.com)

11. PARTS AND ACCESSORIES.

M7681	Quick release insert Elbow ¼ " BSPT 2 per.
145214/2	Gas purge tube. Pack.

APPENDIX 'A'. DECONTAMINATION CERTIFICATE.

Bibby Scientific Limited. Beacon Road, Stone, Staffordshire ST15 0SA. Great Britain Tel: +44(0)1785 812121. Fax: +44(0)1785 810405 E-mail: electrothermalhelp@bibby-scientific.com		
<p><u>DECONTAMINATION CLEARANCE CERTIFICATE</u></p> <p>For the Inspection, Repair or Return of Medical, Laboratory or Industrial Equipment.</p> <p>Prior to a Service Engineer working on equipment that has been in an environment where substances hazardous to health may have been used, you are requested to provide the following information:</p>		
<p>CUSTOMER DETAILS</p> <p>Company:-</p> <p>Department:-</p> <p>Contact Name:-</p> <p>Tel No:-</p> <p>Fax No:-</p> <p>Address:-</p> <p>Post Code:-</p>		
<p><u>Product Description</u></p> <p>Model No:-</p> <p>Serial No:-</p>		
<p>Has the equipment been exposed to any of the following, Please answer all questions by deleting YES/NO as applicable and by providing details in section 2 below.</p>		
A. Blood, body fluids, Pathological specimens	YES/NO	Provide details if YES
B. Biodegradable material that could become a hazard	YES/NO	Provide details if YES
C. Other biohazard	YES/NO	Provide details if YES
D. Chemical or substances hazardous to health	YES/NO	Provide details if YES
E. Radioactive substances State name(s) and quantities of isotopes and checks made for residual activity	YES/NO	Provide details if YES
F. Other hazards	YES/NO	Provide details if YES
<p>2. Please provide details of any hazard present as indicated above. Include details of names and quantities of agents as appropriate:-</p>		
<p>3. Your method of decontamination (please describe):-</p>		
<p>4. Are there likely to be any areas of residual contamination (please specify)</p>		
<p>I declare that the above information is true and complete to the best of my knowledge and belief.</p>		
Authorised signature:- Title/Position:- For and behalf of:-	Name (please print):- Date:-	

12. NOTES.

13. EC DECLARATION OF CONFORMITY.

CE marked products and associated accessories covered by this Instruction book conform to the essential requirements of the following directives:

EMC Directive.
Low Voltage Directive.

A full copy of the EC Declaration / Conformity document can be obtained from the manufacture at the email address : info@bibby-scientific.com



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