

# Bright

Instruments

## 9150 CRYOSTAT



# Contents

<b>1. INTRODUCTION</b>	6	<b>2.6 Menu Screen</b>	13	<b>ACCESSORIES</b>	22
<b>1.1 Receipt of product</b>	6	2.6.1 Temperature Trend Screen	14	<b>SPARES &amp; ACCESSORIES</b>	23
1.1.1 Site requirements	6	<b>2.7 Fitting a Knife</b>	15	<b>REFERENCES &amp; DRAWINGS</b>	<b>24</b>
1.1.2 Unloading	6	2.7.1 Knife options	15	<b>FIGURE 1. CABINET</b>	25
1.1.3 Receipt	7	<b>2.8 Fitting a Specimen Plate</b>	16	<b>FIGURE 2. MICROTOME</b>	26
1.1.4 Unpacking	7	2.8.1 Specimen Plate options	16	<b>FIGURE 3. ANTI-ROLL SET-UP</b>	27
1.1.5 Settling	7	<b>2.9 Anti-roll assembly</b>	17		
<b>1.2 Setting up</b>	7	<b>2.10 Quick start</b>	18		
1.2.1 Microtome Installation	7	<b>3. CARE AND MAINTENANCE</b>	20		
1.2.2 Connections	7	<b>3.1 Daily care</b>	20		
<b>1.3 Safety</b>	7	<b>3.2 Solid Microtome Knives</b>	20		
<b>2. OPERATING INSTRUCTIONS</b>	8	<b>3.3 Defrosting</b>	20		
<b>2.1 HMI Overview</b>	8	<b>3.4 Decontamination</b>	20		
<b>2.2 Main Screen</b>	9	<b>3.5 In Hot climates</b>	21		
<b>2.3 Manual Screen</b>	10	<b>3.6 Servicing and Repairs</b>	21		
<b>2.4 Set-up Screen</b>	11	3.6.1 UK	21		
<b>2.5 Help Screen</b>	12	3.6.2 Rest of the world	21		

## **PATENT CASES**

<b>COUNTRY</b>	<b>APPLICATION NUMBER</b>
Brazil	1120200174831
Canada	3092440
China	201980028882
Europe	19707067
United Kingdom	1803310
India	202017041934
Japan	2020545696
USA	16975640



## SAFETY WARNINGS

Low temperatures are present in this equipment. Extreme care should be taken.

DO NOT let bare skin come into contact with metal surfaces.

Extremely sharp knives/blades.

Use correct tools for removal and insertion of knives/blades.

DO NOT leave knives/blades laying around.

Place knives/blades not in use, into box/wallet provided.

Operators should wear suitable clothing such as close-fitting clothing and use personal protective equipment such as safety gloves and glasses at all times.

The protective devices on the instrument must not be removed or modified in any way.

Only connect the instrument to a grounded power socket.

Care and attention should be given when opening and closing the window, ensuring the window is closed or open completely and is not slammed shut.

## Safety Information

### CONSUMER PROTECTION

The Consumer Protection Act 1987 Part 1, refers to Product Liability. This legislation was issued as a direct result of an EC Directive to all member states and has been in force with effect from 01 March 1988.

Bright Instrument Company Limited, ever mindful of the need to ensure that their products are not subject to misuse and/or incorrect handling, have made it their aim to communicate any possible dangers to their customers.

Whilst Bright Instrument Company Limited markets products manufactured to the highest safety standards, it is in the interest of the purchaser that they are aware of the resultant dangers of misuse and/or incorrect handling of these products.

Your attention is therefore drawn to the following precautions:

## Electrical

Warnings - A warning notice is fixed to the instrument stating that it should be disconnected from the power supply before removing the panels. This warning should be strictly observed.

Earthing (Grounding) - A protective earth terminal is fitted, and must be used in all two wire installations.

## Microtome Knives & Blades

Microtome knives can be hazardous in the laboratory. Personnel should be made aware of the dangers and observe the following warnings:

Do not leave knives lying around. Place knives that are not in use in their boxes.

Do not carry knives unless secure in the box provided.

Do not clean the knife along its length. Wipe from the back edge of the cutting edge.

Remember that even used knives are dangerous – they are still sharp and may have been used to cut potentially infectious specimens.

Dispose of used knives with the same care as other sharp objects. On no account should used knives be placed in waste bins.

# 1. Introduction

Bright instruments have been specialising in the development and production of cryostats for over 50 years.

This bespoke cryostat is based on our 9400 cryostat and has been adapted to cut 150 x 150 x 100mm specimens and to fit into a confined area.

The Control panel is the central point of control for the unit, allowing the user to easily customise settings such as temperature, thickness, batch quantities and switch between single and continuous cutting modes.

This is an extremely versatile machine and is suitable for use in sectors such as:

- Medical
- Histology
- Research
- Life Science
- Automotive
- Forestry
- Material Analysis

## 1.1 RECEIPT OF PRODUCT

This instrument received a final test and inspection prior to dispatch from the factory. The following instructions are given for the re-assembly of the instrument, adjustments and its correct use. If the instrument is received before preparations for installation are completed. It should be stored in a clean, dry place and not exposed to dirty or damp conditions.

### 1.1.1 SITE REQUIREMENTS

- Relative humidity of 60% and non-condensing.
- Recommended to be installed in an air conditioned room with the temperature set between +5°C & +22°C. (Un-maintained room temperatures may impact negatively on performance.
- The floor surface should have sufficient load capacity and rigidity for the weight of the instrument.
- The unit should be positioned on a level floor.
- The Cryochamber should not be sited under an air conditioning unit.

- The instrument is designed for indoor use only.
- The instrument must be connected to a grounded socket, only use the cable provided. Never use an extension lead.
- The power supply plug must be easily accessible.
- Avoid vibrations and direct exposure to sunlight and heavy temperature fluctuations.

### 1.1.2 UNLOADING

During unloading operations and handling, avoid tilting the unit and any abrupt manoeuvres.

When unloading, to avoid injury to the head and limbs (hands, feet) operators must wear the following protective clothing with the CE mark: helmet, leather gloves and shoes with a reinforced tip.



Safety  
Helmet must  
be worn



Protective  
Gloves must  
be worn



Protective  
Footwear  
must be worn

### 1.1.3 RECEIPT

Immediately upon receipt of the instrument, perform a careful examination for evidence of damage encountered in transit. If any damage is found or suspected, notify both the carrier and Bright Instrument Company Limited immediately.

### 1.1.4 UNPACKING

All packaging must be carefully removed and parts checked against the enclosed packing list. If any damage or discrepancy is noted, please inform our agent/distributor or Bright Instrument Company Limited immediately.

### 1.1.5 SETTling

During transit the oil in the compressor will have been subject to movement, so it is important to let the cryostat settle before switching on. We recommend the instrument is left standing for at least eight hours (preferably overnight) before switching on.

Moving the instrument around on its castors, e.g. from one laboratory to another, will not affect the compressor oil.

## 1.2 SETTING UP

Leave a gap of at least 100mm on either side of the unit, this is necessary to ensure adequate ventilation. Ensure that the instrument has been positioned away from direct, hot sunlight and is in a location completely free from draughts.

The unit is mounted on four castors (two lockable). All wheels are accompanied by an adjustable foot to compensate for any uneven flooring where the unit is set up.

### 1.2.1 MICROTOME INSTALLATION

The installation and removal of the Microtome should only be carried out by a qualified Bright engineer. The Microtome is positioned in the Cryochamber during shipment. Before operation, please remove all packaging around the microtome.

### 1.2.2 CONNECTIONS

The unit requires connection to:

Single phase 110v

60hz

Connections:

Brown positive (live)

Blue negative (neutral)

Green / yellow (ground/earth)

20amp fuse

## 1.3 SAFETY

The instructions for use include important information relating to the safe operating practices of the instrument. It is recommended that routine maintenance is carried out and instructions are followed carefully prior to each start up.

The safety measures installed to this instrument constitute the basis for accident prevention. Operating the instrument safely is the responsibility of the user and company.

## 2. Operating instructions

### 2.1 HMI OVERVIEW





## 2.2 MAIN SCREEN

The diagram illustrates the main screen of a machine, showing two modes: Manual mode (top right) and Automatic mode (bottom center).

**Main screen Manual mode (top right):**

- Mode: Single Repeat (toggle switch)
- TEMP' 25.5 °C SETPOINT -15.0 (light is yellow)
- AUTO CYCLE SET 50 ACT= 16
- X -0 Y 48.050
- 50 μ (Section Thickness display)
- FAULT RESET (button)
- LIGHT (button)
- DISABLE MANUAL (button)

**Main screen Automatic mode (bottom center):**

- Mode: Single Repeat (toggle switch)
- TEMP' 21.6 °C SETPOINT -22.0 (light is white)
- AUTO CYCLE SET 50 ACT= 16
- X -0 Y 48.050
- 50 μ (Section Thickness display)
- FAULT RESET (button)
- LIGHT (button)

**Labels and Callouts:**

- Main screen Manual mode (points to the top right screen)
- Main screen Automatic mode (points to the bottom center screen)
- Chamber temperature display (points to TEMP' 21.6 °C)
- Chamber target temperature (points to SETPOINT -22.0)
- Set Batch quantity (points to AUTO CYCLE SET 50)
- Cuts completed in Batch (points to ACT= 16)
- Table position values (points to X -0 Y 48.050)
- Table position visualisation, the box represents the stroke the red arrow travels around the box when the table is moving (points to the X and Y coordinates)
- Section Thickness display (points to 50 μ)
- Single/Continuous mode toggle switch (points to the Mode Single Repeat switch)
- Light turns white when machine has reached set temperature (points to the white temperature light)
- Fault reset (points to the FAULT RESET button)
- Light switch (points to the LIGHT button)
- Disables Manual mode to allow Automatic operation (points to the DISABLE MANUAL button)

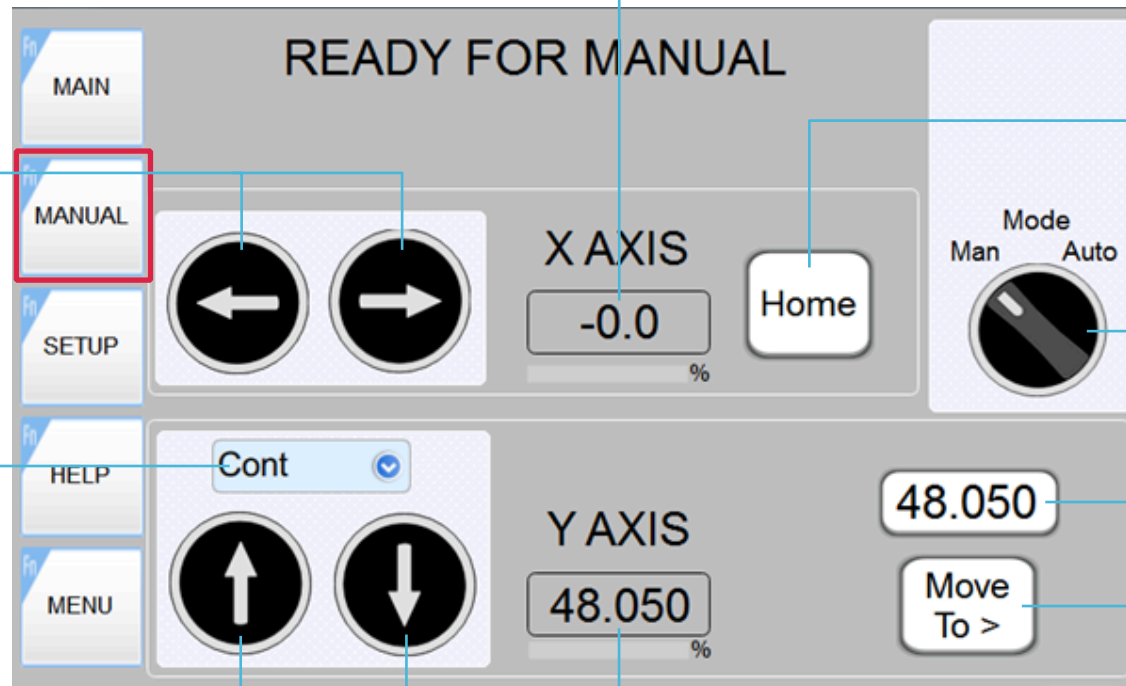
**Notes:**

- Note: To start an automatic cycle the physical START button needs to be pressed and held for a second.
- Note: Automatic operation will only work when on this screen.

## 2.3 MANUAL SCREEN

X axis Position

Directional movement along X axis



Moves X axis to "Home Position" (+0.0)  
Will display as Datum when Axis require Datum

Disable/Enable Manual mode

These values allow the user to select the travel distance for each press of any of the directional buttons, "Cont" stands for Continuous mode where movement occurs for as long as the button is pressed

Click here to set Y position (+0.0 is at lowest position)

Click here move to set Y position.

Directional movement along Y axis

Y axis Position

## 2.4 SET-UP SCREEN

**Note:** The Zonal control allows you to set up different stroke speeds to speed up sectioning. The Stroke length up to cutting window is the distance between the home position to where the specimen reaches the blade edge, the specimen will travel the cutting window length at the set speed.

The screenshot shows the 'READY FOR MANUAL' setup screen with the following parameters and callouts:

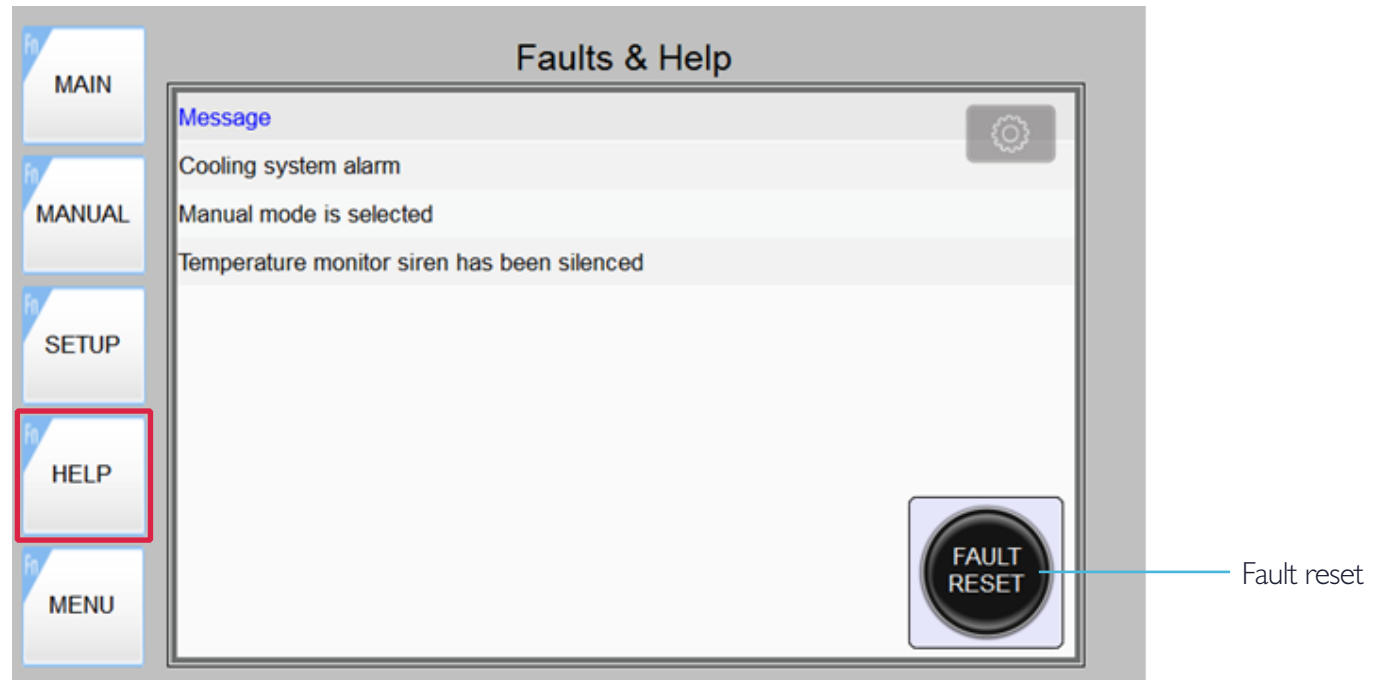
- MAIN** (button)
- MANUAL** (button)
- SETUP** (button, highlighted with a red box)
- HELP** (button)
- MENU** (button)
- READY FOR MANUAL** (status text)
- TEMPERATURE SETPOINT**  °C (with a yellow sun icon)
- QUANTITY** (header)
- SET**  **ACT=**  **< ZERO** (button)
- 25 mm** (Zonal control Cutting window length)
- 15 mm** (Zonal control Stroke length up to cutting window)
- 20 mm/s** (Zonal control Cutting window speed)
- 50 μ** (Set cut thickness)

Callouts and their corresponding parameters:

- Set target temperature Chamber (points to -22.0 °C)
- Set Batch quantity (points to the SETUP button)
- Batch count (points to ACT= 16)
- Zero the Batch count (points to < ZERO button)
- Zonal control Cutting window length (points to 25 mm)
- Zonal control Stroke length up to cutting window (points to 15 mm)
- Zonal control Cutting window speed (points to 20 mm/s)
- Set cut thickness (points to 50 μ)

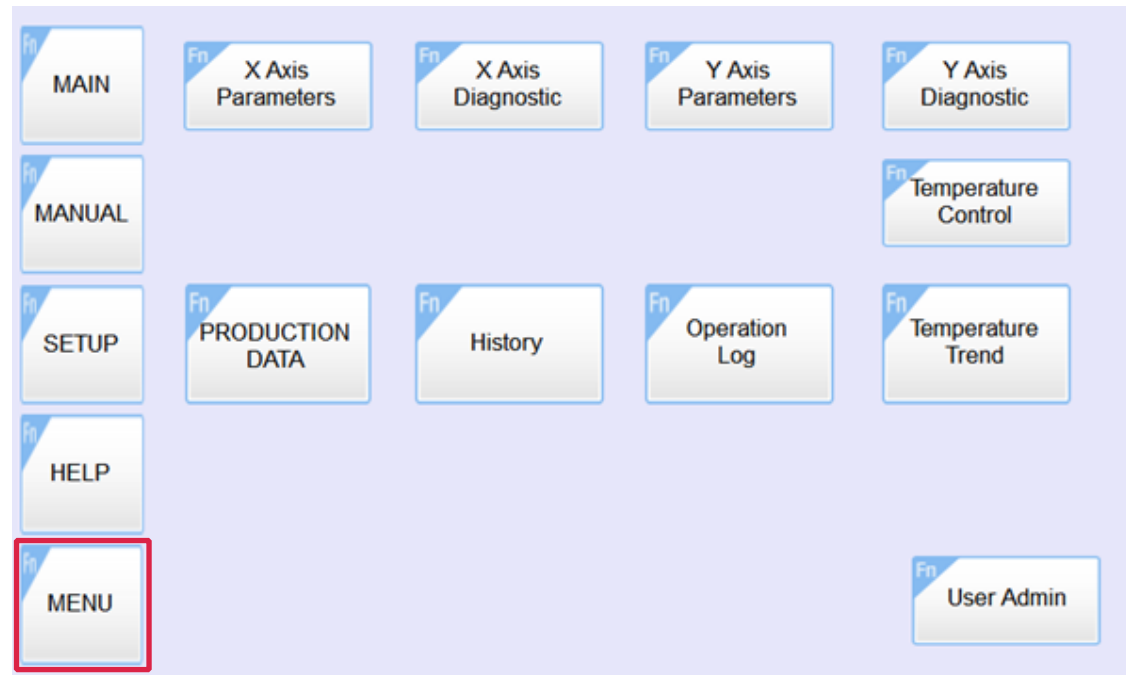
Note: Here any faults/status updates are displayed. To reset any faults press "Fault reset" button.

## 2.5 HELP SCREEN



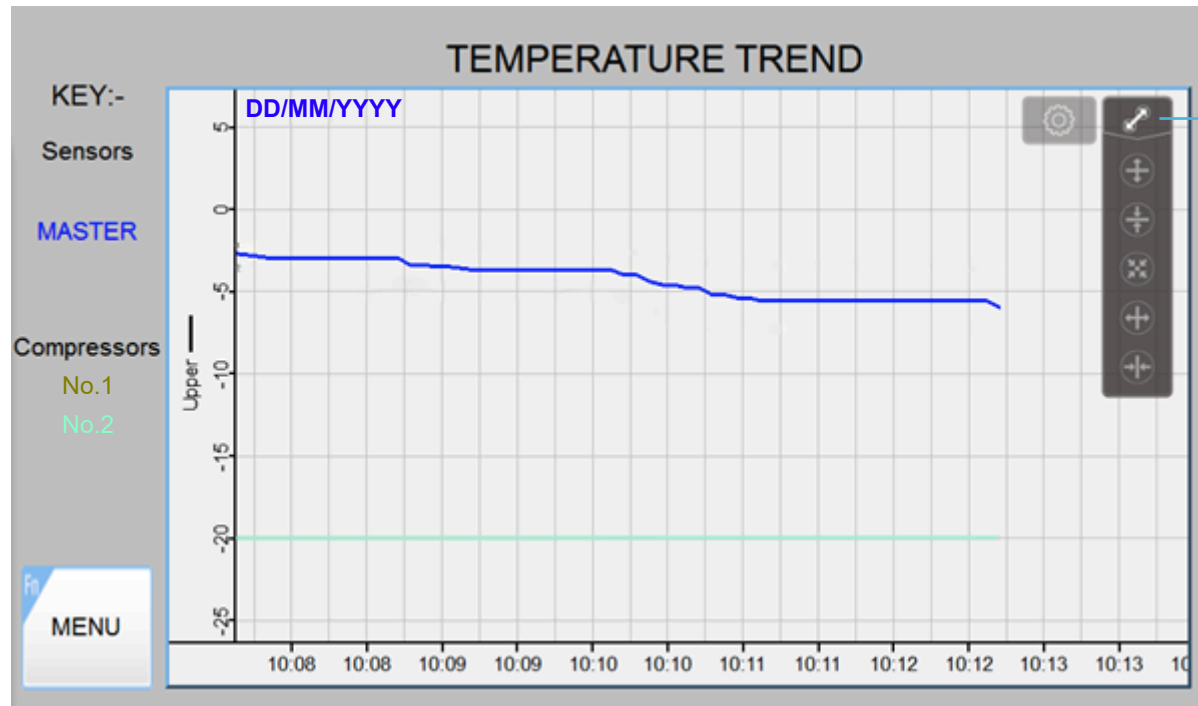
## 2.6 MENU SCREEN

Note: Is for the Top level user/  
service engineer to access the  
diagnostics and master settings.  
(Some data can only be changed  
by users with a certain level of  
password access).



## 2.6.1 TEMPERATURE TREND SCREEN

Here a graph is displayed logging the temperatures over time.



Graph view settings

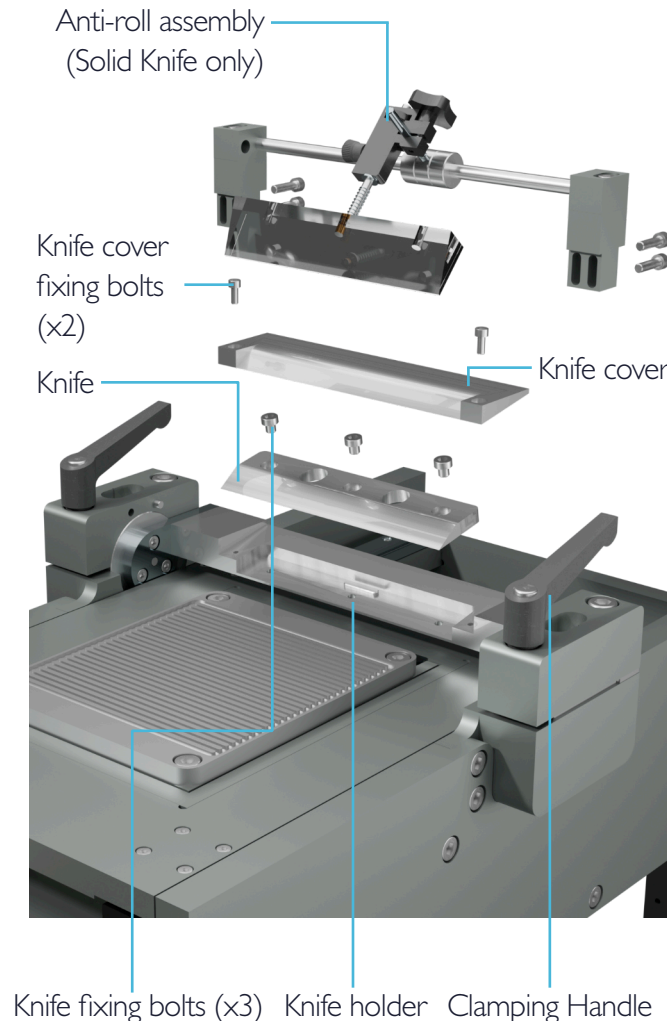
# Operating Instructions Cont.

## 2.7 FITTING A KNIFE

- Loosen both Clamping handles and set knife holder to its shallowest angle (10°).
- Remove all parts that go onto the knife holder, leaving it clear to fit a new knife.
- Carefully place knife into the cutout in the holder and firmly secure with the Knife fixing bolts.
- Fit the Knife cover over knife and secure with its fixing bolts.
- If using solid knife you can now fit the Anti-roll assembly (Optional).
- Set the blade to the correct angle (Solid 10°-12°, Feather blade 10°-12°) then re-tighten the Clamping handles to secure.

**Note:** To remove the knife, remove all parts in reverse order that they are assembled in the steps above.

**Note:** To replace a feather blade, the Feather blade knife holder does not have to be removed as per the step by step instructions on this page. The feather blade is held by four clamping bolts.



## 2.7.1 KNIFE OPTIONS

We currently offer the following knife options:

Solid  
160mm (246-094)



Feather Blade  
Feather Blade holder (246-092)



Feather Blade holder Low  
profile (246-092)



**Note:** Solid and Feather blade options require different knife cover's.

Solid Blade Cover (246-486)

Feather Blade Cover (246-489)

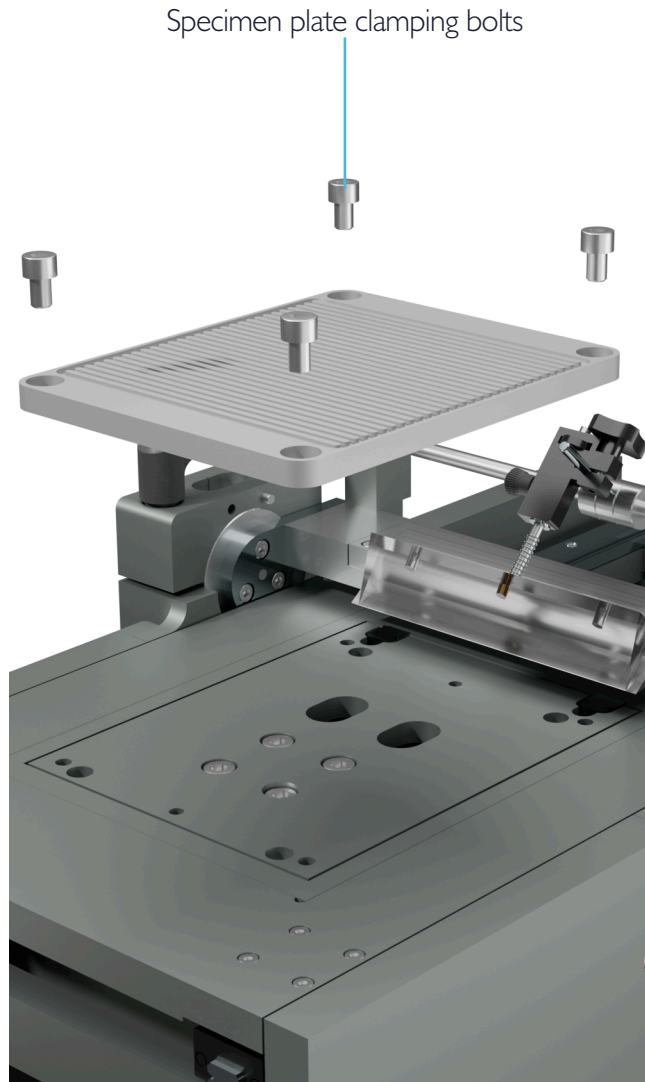
**Caution:** Care needs to be taken when handling knives as they are heavy and very sharp.

# Operating Instructions Cont.

## 2.8 FITTING A SPECIMEN PLATE

- a. If knife is fitted, be vigilant of the blade edge.
- b. Using the touch screen in manual mode raise the stage to the highest position.
- c. Wait until the motors inhibited light is illuminated before putting hands near machine.
- d. Check that the underneath of the object holder and the top of the stage are scrupulously clean.
- e. Position the object holder onto the stage holder and bolt down.
- f. Once specimen plate has cooled down the specimen can now be mounted to the plate (This step can be skipped if specimen and stage were already externally prepared).
- g. Again, in manual mode, lower the object holder as so the top of the specimen is just lower than the bottom of the knife edge.
- h. Start trimming the specimen until a suitable starting position is reached.
- i. The removal instructions are very similar to those above for fitting the object holder. Always be aware of the blade edge.

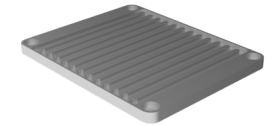
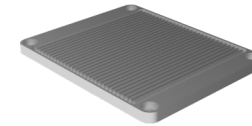
**Caution:** It is recommended to fit the Specimen plate before the knife is fitted to the microtome. If knife is fitted be vigilant of the blade edge.



## 2.8.1 SPECIMEN PLATE OPTIONS

Specimen plate  
150mm x 150mm (252-421)

Specimen plate Coarse  
150mm x 150mm (252-422)





# Operating Instructions Cont.

## 2.9 ANTI-ROLL ASSEMBLY

The Anti-roll plate is a device for ensuring that tissue sections pass down the blade face without curling, so that they can be collected flat.

The setting up of the Anti-roll plate is second only in importance to the quality of the blade edge in obtaining high quality sections.

For best results use the Anti-roll system with a Solid blade.

### Step 1: Preparation

- Clamp a frozen specimen (or embedding compound alone) into the microtome.
- Install a sharp microtome knife, setting the appropriate clearance angle for that particular knife.
- Trim the specimen or embedding medium until a suitable block face is made. Go on to step 2.

### Step 2: Setting the Anti-Roll Plate

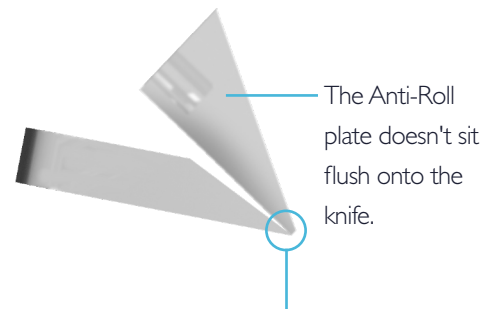
To ensure optimum sectioning performance the Anti-roll plate must be kept clean from grease and dirt. To clean the anti-roll plate carefully apply a small amount of methylated spirits or ethanol to both the upper and lower surfaces using a clean, dry, soft paper towel.

- Place the Anti-roll plate against the knife to see

where the plate edge is positioned in relation to the blade edge, the plate edge should be positioned approximately 1mm behind the knife edge, if this not the case, use the stem adjustment knob to re-position (See Fig 3).

**Note:** If the edge of the Anti-Roll plate is in-front of the edge of the knife, lift it from the knife to adjust. Dragging the Anti-Roll plate backwards over the knife edge could result in damage to both.

- Check the underside of the plate is at an angle slightly greater than parallel with the facet of the blade, somewhere between 10°-15°. To adjust the angle loosen the Height adjustment lock to change the angle between the bottom face of the plate and the blade by moving the Anti-roll assembly along the stem.



Start with roll plate point below the point of the knife and advance it forward while sectioning until sections slide underneath plate.

- Place the Anti-roll plate back against the knife and start to cut sections. If the plates edge is too far back in relation to the knife edge the sections will curl up on the tip of the knife.

- Slowly turn the Anti-roll adjusting knob while cutting sections to move the plate edge closer to the knives. When the plate reaches the correct position, the sections will start to slide under the plate.

- Tighten the Anti-roll adjustment lock then flip the plate away from the knife. Now flip the plate back into position. When cutting is resumed, sections should go under the plate as before, i.e. the plate has aligned itself. If not, make adjustments where necessary.

**Note:** Ensure the Roll-plate and knife edge are parallel.

**Note:** Your Anti-roll plate may vary from the design shown, but the set-up procedure remains the same.

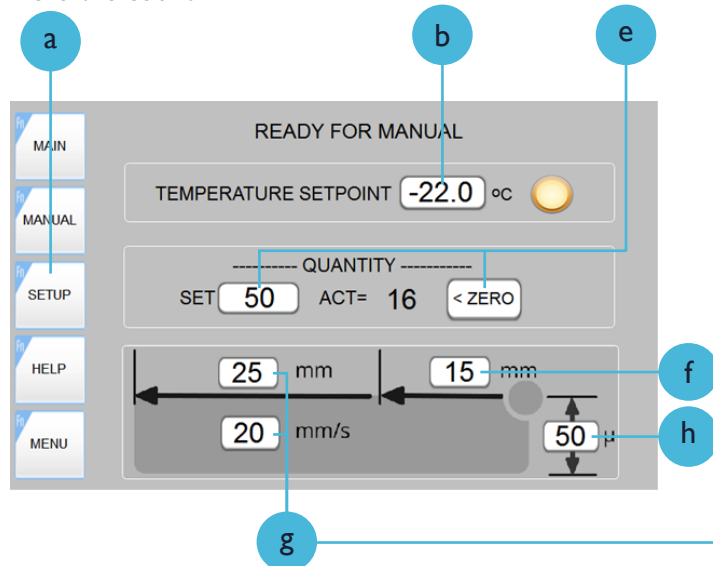
# Operating Instructions Cont.

## 2.10 QUICK START

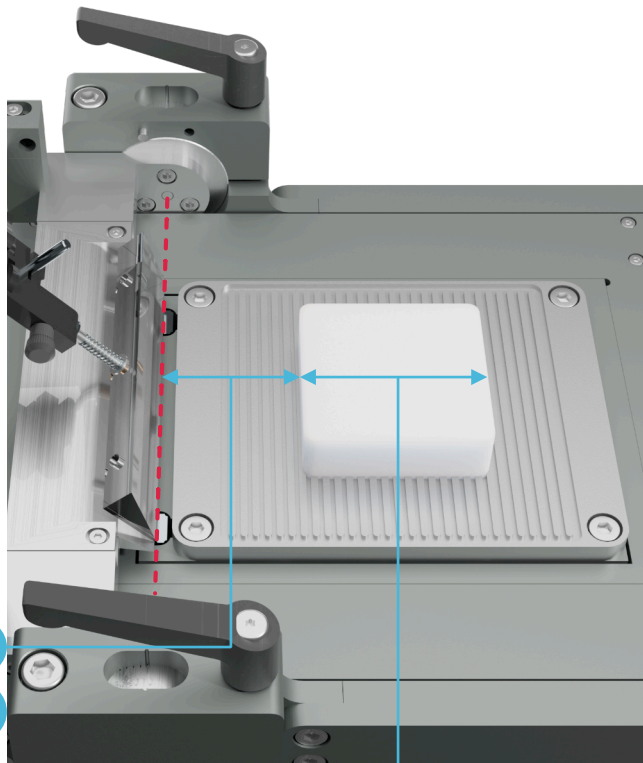
- Go to the SETUP screen.
- Set the target chamber temperature and wait for the chamber to reach its setpoint.
- Ensure the Motor Inhibited indicator light is illuminated to safely perform the next step.
- Fit specimen plate and specimen.

**Note:** Specimen can be mounted to the plate in situ or in another freezer. Blade should not be fitted at this step.

- Still on the SETUP screen, Set batch count, and Zero the count.



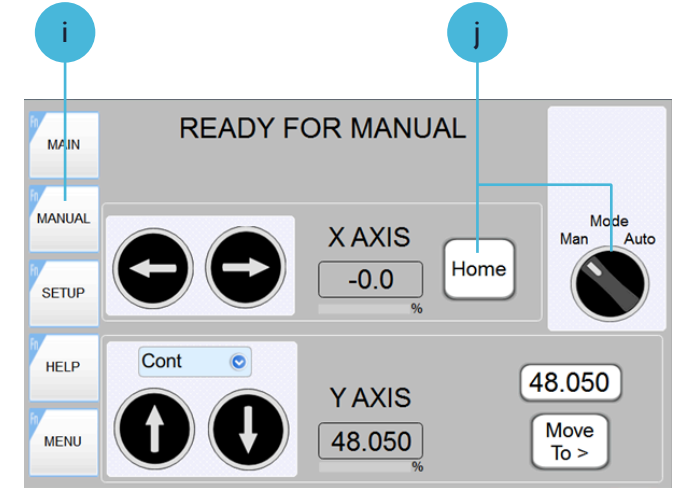
- Using a ruler, estimate the stroke length between the knife's edge and just before the specimen. This measurement should leave the knife short of the specimen so the machine can then change from rapid speed to the set cutting speed. If knife is not fitted you can use the knife holders pivot point that is marked with a pink dotted line in the image.



- Again using a ruler, estimate the specimen length, add a little travel after to ensure the knife clears the back of the specimen before ending the stroke.
- Set the desired trimming thickness.
- Go to the MANUAL screen.
- Ensure the X Axis is in the home position (-0.0) by ensuring the mode is set to Manual then pressing the Datum/Home button.

**Note:** Ensure the Motor Inhibited indicator light is off, if its on press the Physical START button.

**Note:** If there are still issues go onto the HELP screen to check if there are any faults to clear.



## Operating Instructions Cont.

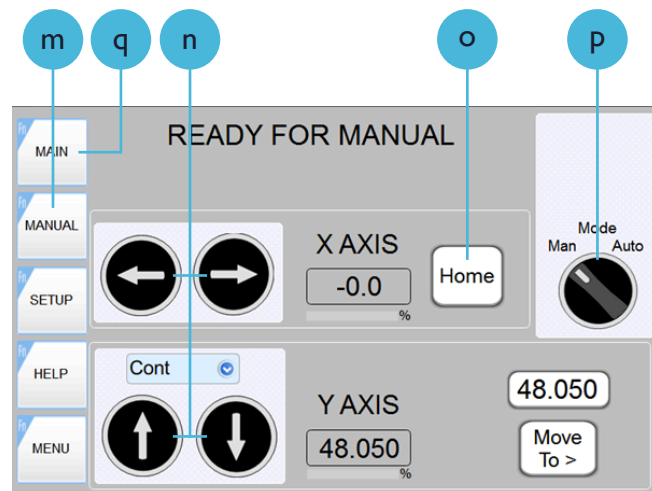
k. Ensure the Motor Inhibited indicator light is illuminated to safely perform the next step.

l. Fit the blade.

m. Go to the MANUAL screen.

n. Using the arrow buttons, move specimen close to knife edge then lower specimen so it only just clears underneath the knife edge.

**Note:** Ensure the Motor Inhibited indicator light is off when pressing the button by pressing the Physical START button.



o. Return the stage to the home position.

p. Switch to Auto mode

q. Go to the MAIN screen and begin trimming the specimen by pressing the Physical START button.

**Note:** In Auto mode the Physical START button will need to be pressed and held down for a second to start the cycle.

r. If the batch limit is met before the specimen is sufficiently trimmed, Zero the batch count on the SETUP screen as in step f. If on the other hand the specimen is sufficiently trimmed before the batch count is reached press the physical CYCLE STOP button to stop the machine after its next cut.

s. Once the Specimen is trimmed sufficiently, the sectioning thickness and speeds can be set to their sectioning values, before running a batch of cuts.

## 3. Care and Maintenance

### 3.1 DAILY CARE

Routine daily care consists of removing sectioning debris from the working area and brushing debris & frost from the knife.

### 3.2 SOLID MICROTOME KNIVES

Great care must be exercised when handling knives:

- Knives must be stored in their boxes when not in use.
- Particular care must be taken during cleaning and knife sharpening.

Conventional microtome knives are usually made from carbon steel and will corrode in moist conditions.

Whenever the cryostat chamber is allowed to warm up above freezing point (e.g. during a full defrost) the knife should be removed, warmed up, cleaned and/or decontaminated, oiled and then stored in its box in a dry place.

The Solid knife normally supplied with the cryostat can be sharpened on a conventional knife sharpening machine. Alternatively, Bright Instrument Co Ltd offer a knife sharpening service.

### 3.3 DEFROSTING

It will be necessary to periodically defrost the entire cryostat to carry out cleaning and/or other procedures.

To do this, power off the unit. Remove any drain plugs at the base of the tank to allow any liquid to drain away. A hairdryer may be used to help speed up this process.

**Note:** Before turning the refrigeration back on please ensure the microtome and it's slides are completely dry as any ice build-up could negatively affect performance.

### 3.4 DECONTAMINATION

If decontamination is required carry out the standard procedures as practised in your laboratory. It is the responsibility of the customer to use a decontamination procedure appropriate to their work.

The following decontamination method is as recommended in the 'Code of Practise for the Prevention of Infection in Clinical Laboratories and Post-mortem Rooms', ISBN 0 11 320464 7.

- a. Bring the cryostat to room temperature.
- b. Place 50-100ml of formalin BP in a flat dish inside the chamber. Close the window.
- c. Leave for at least 24 hours, preferably 48 hours.
- d. Open the window and place a beaker containing 10ml of ammonia SG.880 in the chamber. Close the window.
- e. Leave for one hour. The cryostat is now decontaminated.

For further information regarding alternative decontamination procedures please refer to 'Safe Working and the Prevention of Infection in Clinical Laboratories', ISBN 0 11 885446 1.

# Care and Maintenance Cont.

## 3.5 IN HOT CLIMATES

We recommend our machines to be used in climate controlled rooms with a constant temperature within +5°C & +22°C. Un-maintained room temperatures may impact negatively on performance.

We advise closing all lids when machine is not in use to reduce the amount of warm external air mixing with the cool air inside the chamber.

## 3.6 SERVICING AND REPAIRS

In the event of a breakdown a qualified person should be called.

If a service visit is required, the cryostat should be defrosted, decontaminated, cleaned thoroughly and left switched off in preparation for that visit, unless otherwise advised by the engineer. Failure to carry out this action will result in the service visit being cancelled and could incur further call-out charges. A completed decontamination certificate must be left with the cryostat and work will not commence until the engineer has seen a completed certificate.

If the cryostat or any part of it is returned to the distributor or manufacturer, it must be decontaminated and cleaned thoroughly. A completed decontamination certificate must be either sent in advance or attached to the outside of the packaging of the returned goods.

Work on the returned goods will not proceed until the decontamination certificate has been received. Should no decontamination certificate be received, or the cryostat or any part of it be received in a condition that Bright Instrument Co Ltd consider to be a potential biological hazard, the cryostat/part will be returned, un-repaired at the customer's expense.

### 3.6.1 UK

For customers in the UK, Bright Instrument Co Ltd offer a comprehensive range of after sales services that include extended warranties and a full range of service contracts. For further information or for any refrigeration, electrical or mechanical problems contact Bright Instrument Co Ltd direct providing the following information:

- Serial Number (see ID plate on rear panel)
- Nature of fault

### 3.6.2 REST OF THE WORLD

Refrigeration problems are likely to be rare and will normally be dealt with by a local refrigeration specialist. For electrical and mechanical problems contact your local distributor of Bright products providing the following information:

- Serial Number (see ID plate on rear panel)
- Nature of fault

# Accessories

## Spares & Accessories

### SPECIMEN PLATES

Code	Description
252-421*	150mm x 150mm Specimen plate
252-422*	150mm x 150mm Specimen plate Coarse
57948	Spare Specimen plate bolts low profile (Pack of 10)

### KNIVES & BLADES

Code	Description
246-094	Hardened steel knife 160mm v2 in a box
246-486	Solid knife cover v2
246-092	Feather blade knife holder v2 in a box
246-093	Feather blade knife holder low profile v2 in a box
246-489	Feather blade cover v2
54328	Feather blades (Pack of 10) (Compatible with 246-092)
50241	Feather blades low profile (Pack of 50) (Compatible with 246-093)
57938	Spare Knife fixing bolts (Pack of 10)
57939	Spare Knife cover fixing bolts (Pack of 10)
57940	Spare Feather blade clamping bolts (Pack of 10)

### ANTI-ROLL PLATES

Code	Description
54285	50mm Anti-roll plate
54321	120mm Anti-roll plate
54322	150mm Anti-roll plate

### ANCILLARY ITEMS

Code	Description
57808	Anti static brush 12mm
57344	Knife cleaning brush
53581	Bright Cryo-M-Bed 120ml carton of 6 bottles
53581-1	Bright Cryo-M-Bed 120ml bottle
57713	Bright Cryospray 134 300ml aerosol can, carton of 12 cans
57713-1	Bright Cryospray 134 300ml aerosol can
57491	Low temperature oil, 200ml bottle
57491-1	Low temperature oil, 4.54 litre bottle

\*Custom part made only for this machine.

# References & Drawings



# Figure 1. Cabinet

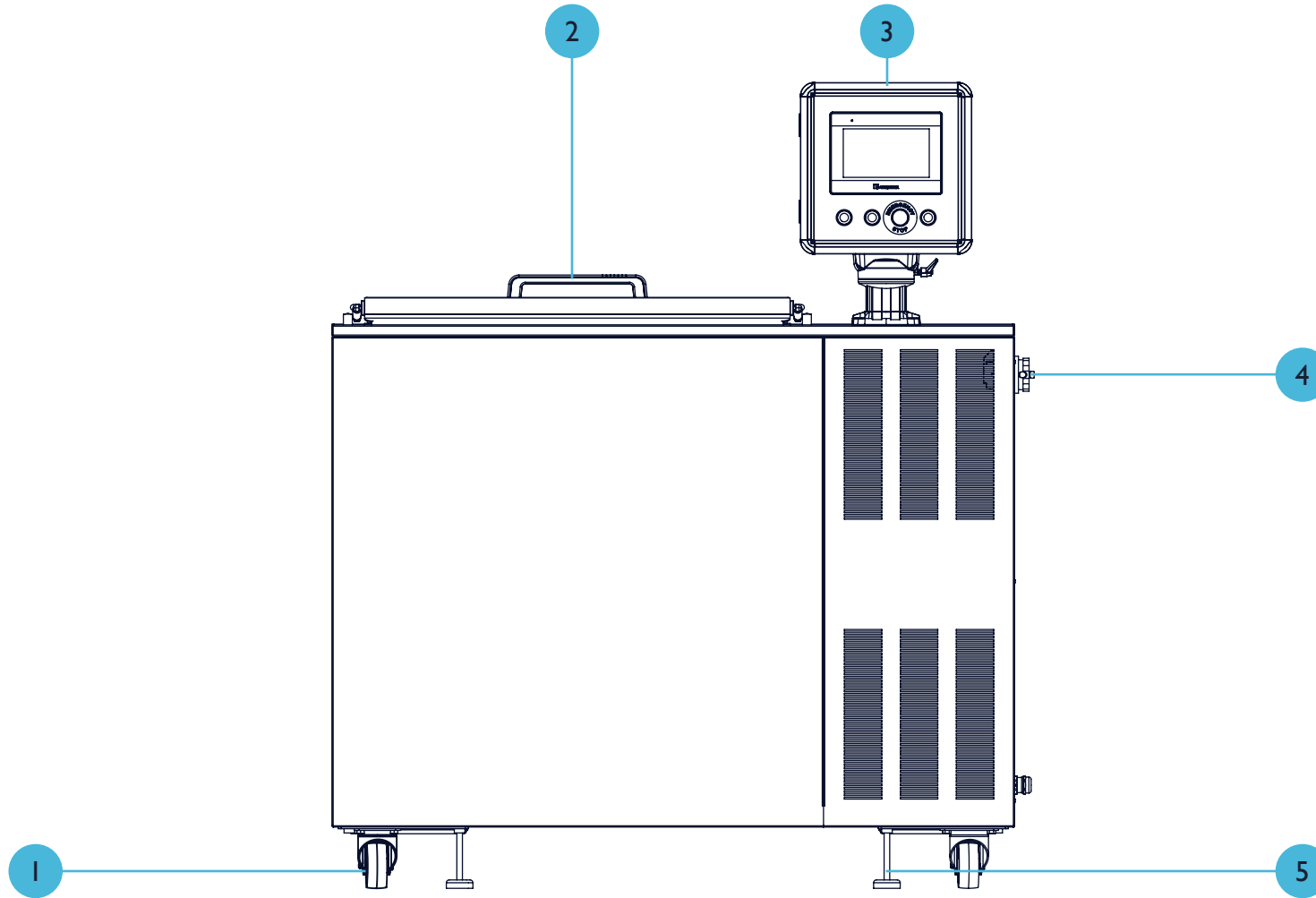
1. Lockable castor (Front only)

2. Window

3. HMI

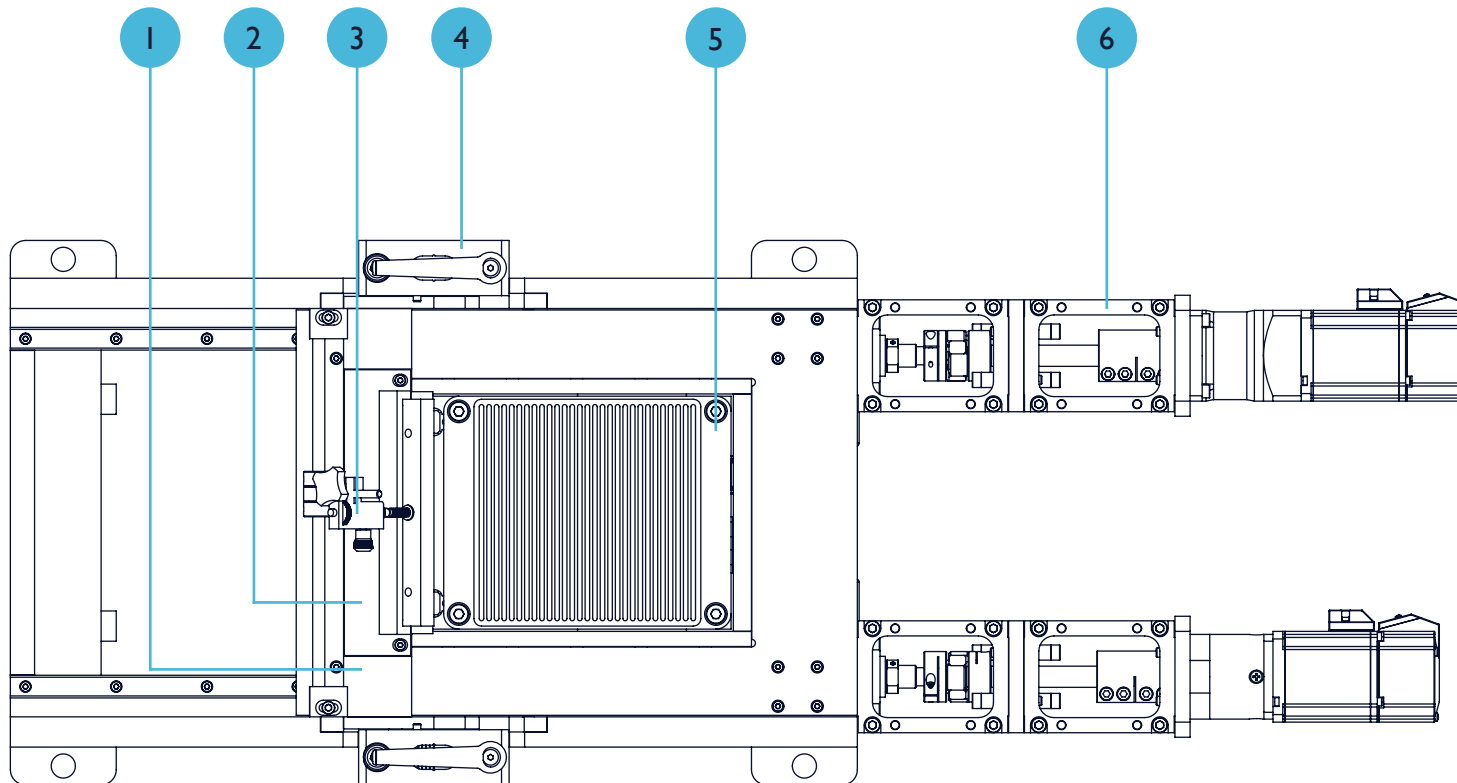
4. Isolator switch

5. Adjustable levelling foot



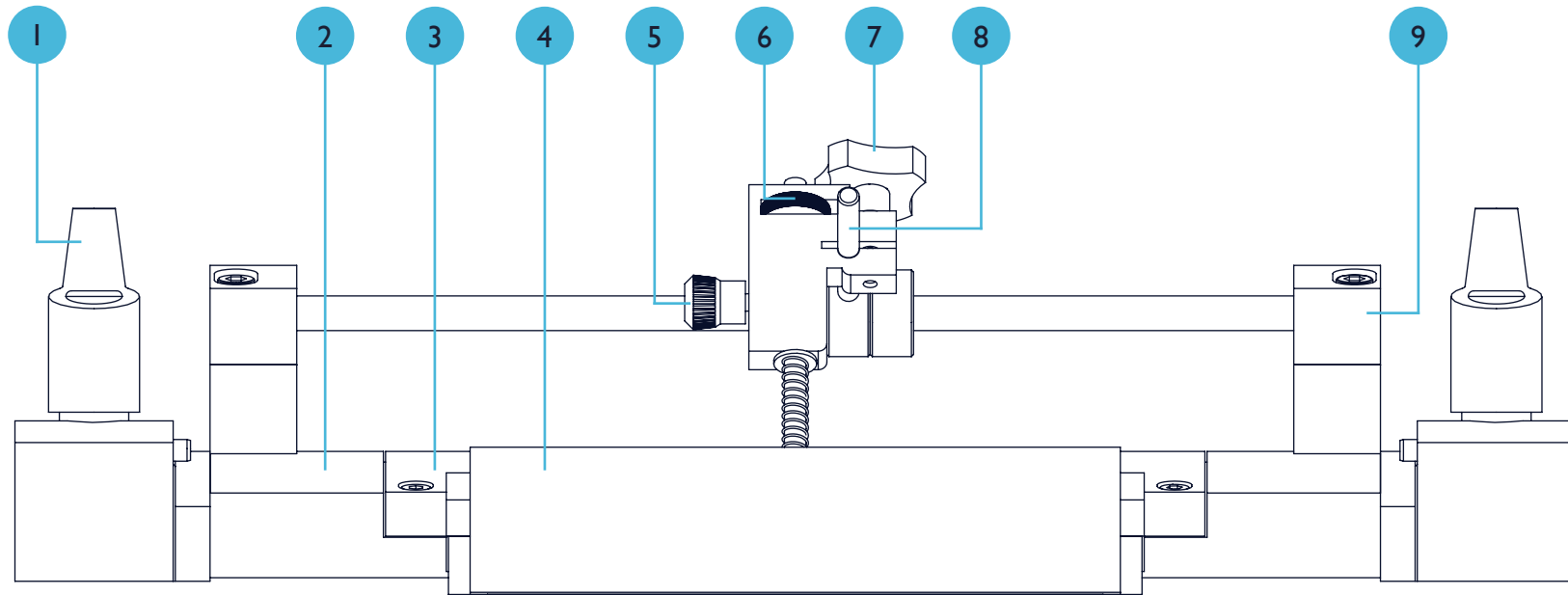
## Figure 2. Microtome

1. Knife holder
2. Knife cover
3. Anti-Roll assembly
4. Knife block
5. Specimen holder
6. Motor arm



# Figure 3. Anti-Roll Set-up

- 1. Clamping handle
- 2. Knife holder
- 3. Knife cover
- 4. Anti-Roll plate
- 5. Stem lock
- 6. Stem adjustment knob
- 7. Height adjustment lock
- 8. Height adjustment stem
- 9. Anti-Roll post



# HEALTH AND SAFETY AT WORK ACT DECONTAMINATION CERTIFICATE

Customer input

Any product which is to be returned to Bright Instrument Company Limited or serviced on site, must be cleaned and decontaminated in the appropriate manner. This certificate, duly completed, must be either sent in advance (fixed to the outer packing containing the product), or handed to the service engineer.

Packages will not be opened nor servicing commenced until the Company or service engineer have received a satisfactory certificate. Should returned goods be considered a hazard by the Company, they will be returned immediately to the customer at his/her expense.

**NB:** Microtome knives must be in boxes.

Name:  Date:

Signed:

\* Such equipment must not be returned without the written agreement of Bright Instrument Company Limited.

Name:	<input type="text"/>	Address:	<input type="text"/>
Position:	<input type="text"/>		
Department:	<input type="text"/>	Postcode:	<input type="text"/>
Company:	<input type="text"/>	Telephone:	<input type="text"/>
Serial No.	<input type="text"/>	Email:	<input type="text"/>
Product No.	<input type="text"/>	Order No.	<input type="text"/>
Description:	<input type="text"/>		
Mark Box A if applicable. Otherwise complete all parts of B, providing further information as requested or appropriate.	A. This equipment has not been in contact with unfixed biological samples.		A: <input type="text"/>
	B. This equipment has been exposed internally or externally to hazardous materials as indicated below:		B: <input type="text"/>
Blood, body fluids, pathological samples?	Yes/No: <input type="text"/>	Other biohazards?	Yes/No: <input type="text"/>
Chemicals/substances hazardous to health?	Yes/No: <input type="text"/>	Other hazards?	Yes/No: <input type="text"/>
Further Details:	<input type="text"/>		
This equipment has been cleaned and decontaminated:			Yes/No: <input type="text"/>
If Yes, what method?		If No*, why not?	
Further Details:	<input type="text"/>		
The equipment has been prepared to ensure safe handling/transportation.			Yes/No: <input type="text"/>

# Quality Survey Report

Customer input

Our watchword is **QUALITY**. In our continuing endeavour to improve the quality and performance of our processes and products, we would welcome any initial comments on the following aspects of our service and products. As you have only just received the product we do not feel that you could assess the actual workings of the instrument accurately, so we will follow up in approximately six months with a Customer Feedback – Voice of the Customer questionnaire. If, of course, you have any comments to make prior to receiving the questionnaire, please feel free to contact us.

Please return this form for the attention of the QA Manager.

Name:		Address:	
Company:			
Department:		Postcode:	
Serial No.		Telephone:	

PURCHASING: Did the purchasing process run smoothly with respect to our involvement? e.g. correct advice, lead times, payment arrangements etc.	
DELIVERY: Was the instrument in a satisfactory condition on arrival?	
INSTALLATION: Did we install the instrument? If so was adequate pre-use instruction given?	
PURCHASING: Did you receive an operating manual? Do you believe it is comprehensive enough for your use?	
SAFETY: Any comments?	
MISCELLANEOUS: Any other aspect you would like to comment on, e.g. appearance, first impressions etc.	

Date:

Name:

Signed:

Agent / Distributor info:

**Bright**  
Instruments

Bright Instrument Co Ltd,  
Burnett House,  
Lakeview Court,  
Ermine Business Park,  
Huntingdon,  
Cambridgeshire,  
PE29 6UA

United Kingdom

+44 (0) 808 168 9697  
[brightinstruments.com](http://brightinstruments.com)

Member of:

 **MADE IN BRITAIN**®