

# 3000 Clini-RF Rapid Freezer Specification



 **MADE IN BRITAIN**

**Bright**  
Instruments

## Introduction

The Bright Clini-RF is a small, free standing, top opening, and ultra low temperature freezer. Its function is to rapidly freeze tissue specimens ready for cryotomy or for storage. Inside the Clini-RF are two cylindrical chambers, the upper chamber is held at  $-40^{\circ}\text{C}$  and the lower at  $-80^{\circ}\text{C}$ .

The lower chamber can be filled with 3M's Novec HFE-7100, into which specimens can be immersed. Alternatively, an aluminium block can be incorporated into which a specimen holder or chuck can be fitted. The upper chamber is used as a short term storage area for specimens after they have been initially frozen in the lower chamber.

A seven day timer can be fitted to the Clini-RF and is available as an accessory. This means that during the hours when the Clini-RF is not being used it can be run in a 'standby' mode with both the upper and lower chambers running at  $-40^{\circ}\text{C}$ , thus saving power. At the start of the working day it can be switched to its normal operating mode and the lower chamber can be brought down to  $-80^{\circ}\text{C}$ .



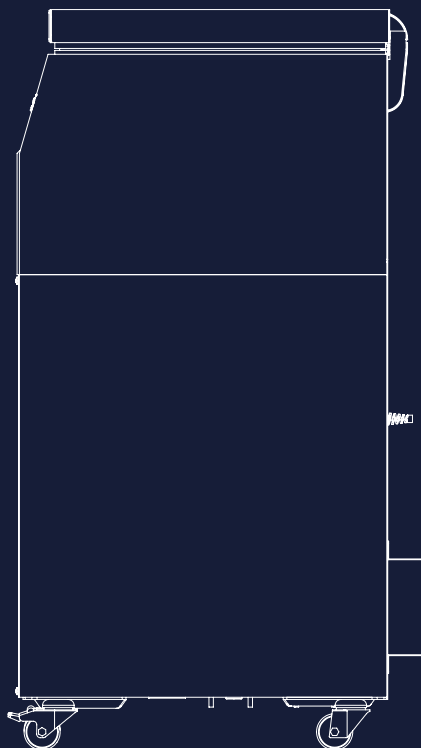
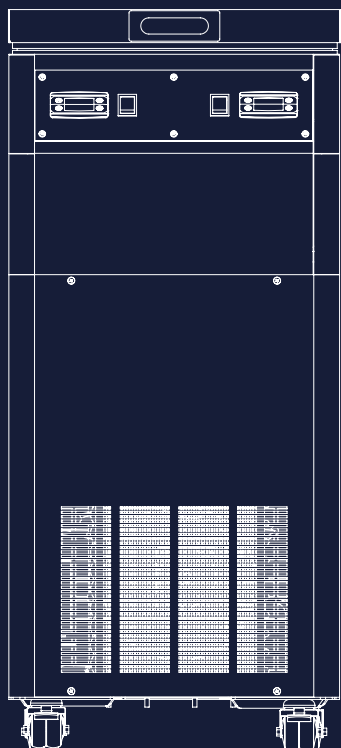
The lower chamber is pictured here containing the aluminium block for quick freezing.

## Features and Benefits

- Replaces liquid nitrogen freezing systems
- Replaces carbon dioxide freezing systems of all types
- Offers a distinct improvement in laboratory safety
- Easy to use, therefore little operator training
- Upper chamber available for storage at  $-40^{\circ}\text{C}$
- Hold 3M's Novec Engineered Fluid HFR-7100 for immersion of specimens Typical tissue cooling rate of  $0.5^{\circ}\text{C}/\text{s}$

### Standard accessories include:

- Cryo-M-Bed
- Cooling block removal tool
- Allen key
- Spare set of fuses
- Operating manual



## Specification

|  |   |
|--|---|
| <b>Compressor type</b>   | 1 x 15cc displacement (primary)<br>1 x 12cc displacement (secondary)  |
| <b>Refrigerant</b>   | Ozone friendly HFC refrigerants<br>R404a (primary)<br>R23 (secondary)   |
| <b>Cooling power</b>   | 300 watts<br>Main freezer at -40°C<br>Rapid freezer at -70°C  |
| <b>Lowest set temperature</b>                                      | Main freezer -43°C (preset)<br>Rapid freezer -83°C  |
| <b>Main freezer to -35°C</b>                                       | 60 minutes  |
| <b>Rapid freezer to -80°C (Liquid bath or solid freezer block)</b> | 50 minutes (Main freezer at -40°C)  |
| <b>Fixed freezer block (optional) to -80°C</b>                     | Less than 30 minutes (Main freezer at -40°C)  |
| <b>Safety Features</b>   | Handle designed to ensure maximum distance away from knife edge. Knife guards cover full width of knife                               |
| <b>Total power consumption</b>                                     | 1100 watts  |
| <b>Dimensions</b>  | Cabinet:<br>H1000 x W450 x D500mm<br>Freezer dimensions:<br>Diameter 275 x D136mm<br>Rapid freezer dimensions:<br>Diameter 95 x D95mm |
| <b>Packing</b>   | Packed weight: 85kg<br>Unpacked weight: 113kg   |

Weights vary according to specification of instrument

# 3000 Clini-RF Rapid Freezer

Order List 2020

| PRODUCT  |  |
|--|--|
| Code   | Description  |
| <b>ULTRA LOW TEMPERATURE RAPID FREEZERS</b>    |  |
| 3000-001                                       | <b>Clini-RF Rapid Freezer for 220/240V AC, 50/60Hz</b><br>Complete with:<br>• Rapid freezer tank to -80°C.<br>• -30°C freezer area for short term storage of specimens.<br>• Removeable block.<br>• Object holder adaptor.<br>Standard accessories include:<br>• Cryo-M-Bed embedding compound.<br>• Cooling block removal tool.<br>• Allen Key.<br>• Spare set of fuses.<br>• Operating manual. |
| 3000-002                                       | <b>Clini-RF Rapid Freezer for 110/115V AC, 50/60Hz</b><br>Same features & accessories as 3000-001  |
| /T   | <b>Clini-RF Rapid Freezer Timer (optional feature)</b><br>For all models of the Clini-RF, 7 day timing facility, complete with operating instructions.   |
| /VTC   | <b>Clini-RF Rapid Freezer Variable Temperature Control (optional feature)</b><br>For all models of the Clini-RF, variable temperature control for temperatures above -80°C.  |
| 57807  | <b>Stainless Steel Beaker</b>  |
| 57807-1  | <b>Stainless Steel Metal Strainer with lid</b><br>Recommended for use with 3M's Novec 7100   |
| <b>CRYOSTAGE - REFRIGERATED FREEZING STAGE</b> |  |
| 8000-208-01                                    | <b>Cryostage Freezing Stage for 220/240V AC, 50/60Hz</b><br>Complete with:<br>• 130 x 90mm stage.<br>• Freezing to -30°C.<br>• Heater for easy removal of specimen debris.<br>Standard accessories include:<br>• Cryo-M-Bed embedding compound.<br>• Spare set of fuses.<br>• Operating manual.  |
| 8000-208-02                                    | <b>Cryostage Freezing Stage for 110/115V AC, 50/60Hz</b><br>Same features & accessories as 8000-208-01   |

| PRODUCT  |  |
|--|--|
| Code   | Description  |
| <b>SOLID STATE FREEZER WITH PELTIER DEVICE</b> |  |
| 53024-01                                       | <b>Solid State Freezer for 220/240V AC, 50/60Hz</b><br>Complete with:<br>• 40 x 40mm stage.<br>• Freezing to -25°C<br>• Temperature control is by current limit to Peltier device.<br>• Safety cut-out to detect low water pressure.<br>Standard accessories include:<br>• Cryo-M-Bed embedding compound.<br>• Cooling block removal tool.<br>• Allen Key.<br>• Spare set of fuses.<br>• Operating manual. |
| 53024-02                                       | <b>Solid State Freezer for 110/115V AC, 50/60Hz</b><br>Same features & accessories as 53024-01   |
| 200-012  | <b>Solid State Filters</b>   |
| 231-001  | <b>Cooling Water Re-circulator (for Solid State Freezer (240v 50/60Hz only)).</b><br>Removes the reliance on close proximity to a sink and water supply while preventing water loss and is subsequently environmentally friendly.  |

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**MADE IN BRITAIN** 

\*Included in standard order | \*\*Not included in overseas orders. VAT not included - E & OE  
 Valid from 1 January 2019

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 Instruments

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