Cabinet Blast Chillers and Freezers
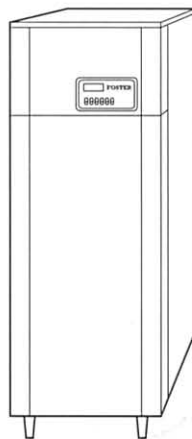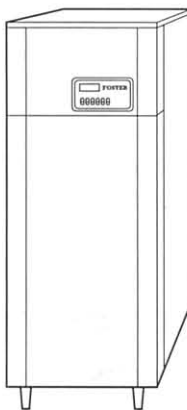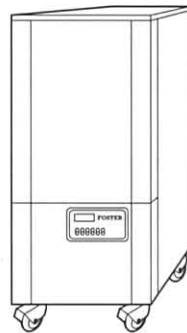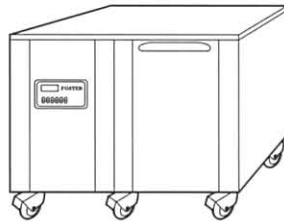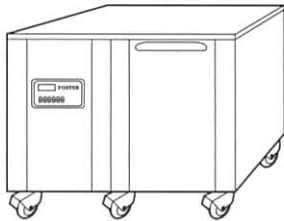
POSITIONING/ UNPACKING

Positioning

> **IMPORTANT:**
>
> Ensure a minimum clearance of 6" (150mm) above cabinets and adequate ventilation for efficient operation.
>
> Where possible, ensure that cabinet is not adjacent to a heat source.

Unpacking

The cabinet is mounted on a pallet and shrink-wrapped. Keys and wiring diagram are supplied in a clear pocket stuck to the front of the cabinet. Carefully remove the shrink-wrapping. Make sure that any sharp instrument used does not damage the cabinet.

Remove protective plastic film from cabinet body. For clean removal, carefully run a sharp blade along joints and edges. Remove quality stickers and plastic cover strip from the black door trims.

Removal of pallet

Remove fittings from inside the cabinet.

Carefully lay the cabinet on its back on suitable blocks of wood.

Remove the pallet by unscrewing the securing bolts **A**. Fit the castors or legs as appropriate into the vacated bolt holes.

In the case of cabinets fitted with castors fit the lockable castors to the front.

This should not be attempted without assistance.
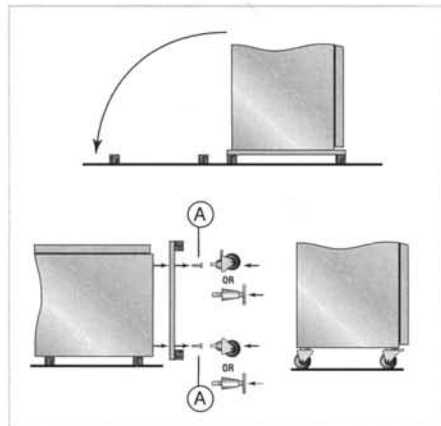
LEGS/CASTORS

These are boxed with the shelves and shelf supports inside the cabinet.

Castors

These models are normally fitted with 75mm swivelling castors. The front castors are lockable. NB. ENSURE THAT THE CASTORS ARE SECURELY TIGHTENED ON INSTALLATION.

Check the level of the cabinet with a spirit level. If the cabinet is not level the door may not close correctly.

Cabinet levels may be adjusted by inserting spacer washers between the appropriate castor and the base of the counter. **A**
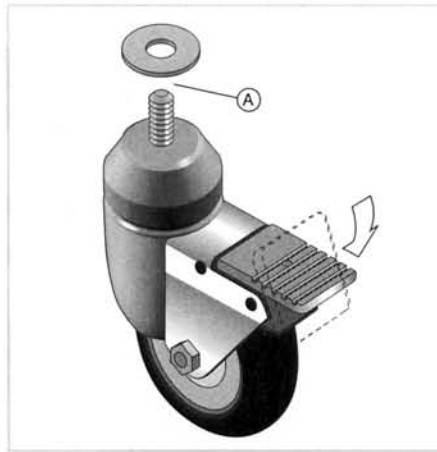
Legs

Some cabinets are fitted with legs (adjustable from 110mm to 150mm in height).

Achieve cabinet levels by adjusting the foot at the end of the leg. **B**

UNIT COMPARTMENT COVER

Removal

The unit compartment cover is slotted into position. To remove pull forward to release from spring clips.

Drawings show 'T' model, 'U' model and Counter model with spring clip detail and positions each side.
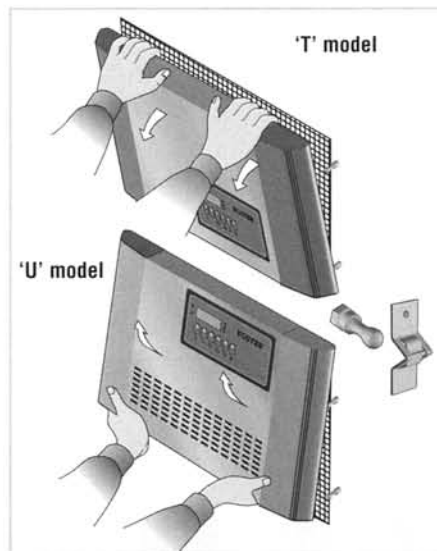
DOORS

Removal

Narrow site access may require door removal. On 'T' models it is necessary to remove the unit compartment cover to gain access to the top door hinge.

a) Remove unit compartment cover as stated.
b) Remove the locknut from the bottom hinge bracket. (See ① below)
c) Remove the threaded pin from the top hinge bracket. (See ② below)
d) The door is then free to be pulled clear of the top hinge bracket along the line of the groove in the hinge pin bush **A** and then lifted clear of the bottom hinge bracket. (See ③ below)

Counter door hinge
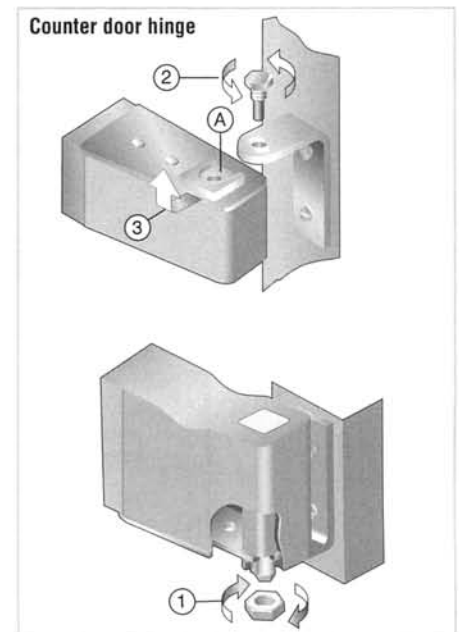
COUNTERS

Removal

Unscrew the two screws holding the bottom hinge bracket. **A**

This will allow the door to be pulled away from the hinge pin in the top hinge bracket. **B**
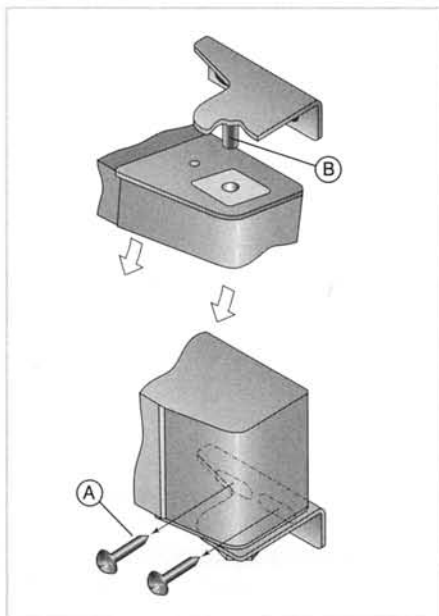
SHELVING

Removable shelf support uprights

To remove unscrew retaining studs at top and bottom of upright, this will allow the vertical support to be lifted away.

The retaining studs are held in position in the vertical support by means of a collar and groove arrangement shown at **A**.

A sharp tug on the stud will disengage it from the collar so that it and the end plug **B** can be removed if necessary ie. for cleaning purposes.

NB. BEFORE REPLACING VERTICAL SUPPORTS AND/OR TRAYSLIDES, TRAYS AND SHELVES, WIPE THE CABINET WITH A CLEANER APPROVED FOR FOOD CONTACT SURFACES.

ENSURE THE RETAINING STUDS IN THE VERTICAL SUPPORTS ARE TIGHT.

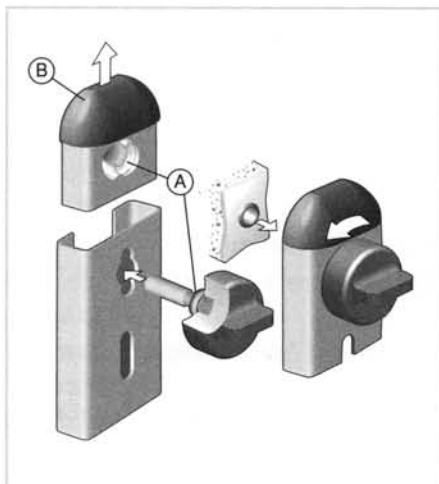### Shelf/Tray Supports

To fit trayslides insert the bottom projection into the vertical support and twist the trayslide with an upward motion to engage the top projection.

Ensure the trayslides are parallel and level after fitting.

SWITCHING ON

NB. IF CABINET HAS BEEN LAID ON ITS BACK DURING INSTALLATION DO **NOT** SWITCH ON IMMEDIATELY (LEAVE IN UPRIGHT POSITION FOR AT LEAST 30 MINUTES).

Before loading:

Wipe the cabinet interior with a cleaner approved for food contact surfaces before loading food.

WARNING

ELECTRICITY AT WORK REGULATIONS 1989 (UK)

Before commencing any testing on this appliance for conformity with the requirements Electricity at Work Regulations refer to supply dealer for guidance on testing.

Some equipment is furnished with low voltage electronic components which may be irreparably damaged if incorrect testing is applied. Foster Refrigerator (UK) Ltd undertakes no responsibility from failures resulting from inappropriate testing.

CLEANING/ MAINTENANCE

NB. BEFORE INTERNAL CLEANING, SWITCH OFF POWER SUPPLY.

WARNING:

High alkaline cleaning agents or those containing bleaches, acids and chlorines are very harmful to stainless steel. Corrosion and pitting may result from their accidental or deliberate application.

If any of these liquids should come in contact with your refrigerator during general kitchen cleaning, wipe down the affected area IMMEDIATELY with mild soapy water and rub dry.

Never use wire wool or scouring powders on stainless steel or aluminium surfaces.

Stubborn staining of steel surfaces can be removed with a non-abrasive cream cleaner or, in extreme cases, gentle rubbing with 'Scotchbrite' in the direction of the grain.

IMPORTANT: CLEANING INSTRUCTIONS

Cared for correctly, stainless steel has the ability to resist corrosion and pitting for many years.

We recommend daily cleaning with:

a. a spray cleaner or bactericide approved for stainless steel surfaces.

b. hot soapy water followed by wiping down with lint free towelling.

Always clean with the grain of the metal.

These methods are also suitable for aluminium surfaces.

NB. DO NOT USE AMMONIA-BASED CLEANERS ON ALUMINIUM.

Internal surfaces: Remove all contents and fittings at least once a month for thorough cleaning of shelves, floor and walls, using a mild disinfectant. Dry all surfaces and allow cabinet to reach storage temperature before reloading. Check guards are secure.

NB. ALL FOODSTUFFS MUST BE STORED IN BACK UP STORE DURING THE CLEANING PERIOD.

Any spillages must be wiped clean immediately.

Drain lines and internal drip trays (when fitted): Check monthly and remove any obstructions, flush out with warm water and wipe dry.

Condenser (sited in unit compartment): Check monthly and keep dust free with stiff (not wire) brush. NB. SWITCH OFF POWER BEFORE DOING THIS.

Door gaskets: Clean monthly and replace if not sealing correctly. This is a good time to check operation of mullion heaters (cabinets below 0°C). Door surround should be warm and ice free.

Castors: Check monthly to ensure secure fixing.

HAZARDS

Hot pipes and fans in the unit compartment constitute a hazard. Keep guarded at all times.

Do not touch interior with warm damp hands – skin can 'freeze' to metal.

Safeguard children when discarding an old cabinet by breaking off door latches, locks and hinges.

Protect the ozone: refrigerant gases should be reclaimed for safe disposal at time of major service work or scrapping of old cabinet.

OPERATIONAL FAILURE

Before calling in a service engineer check:

- Power failure (power may be off at source).
- Plug may be loose or pins bent preventing contact.
- Blown fuses.
- Low voltage in line.

When requesting a service call quote serial no. (E-) and model no. from silver label fitted to the inside liner wall.

USER OPERATION GUIDELINES

The Blast Chiller/Freezer Temperature Controller maintains and displays a counter/cabinet air temperature for a time period necessary to chill or freeze the stored product. The Controller also carries out automatic defrosting and performs various alarm functions.

1. Fascia Indicators and Keys
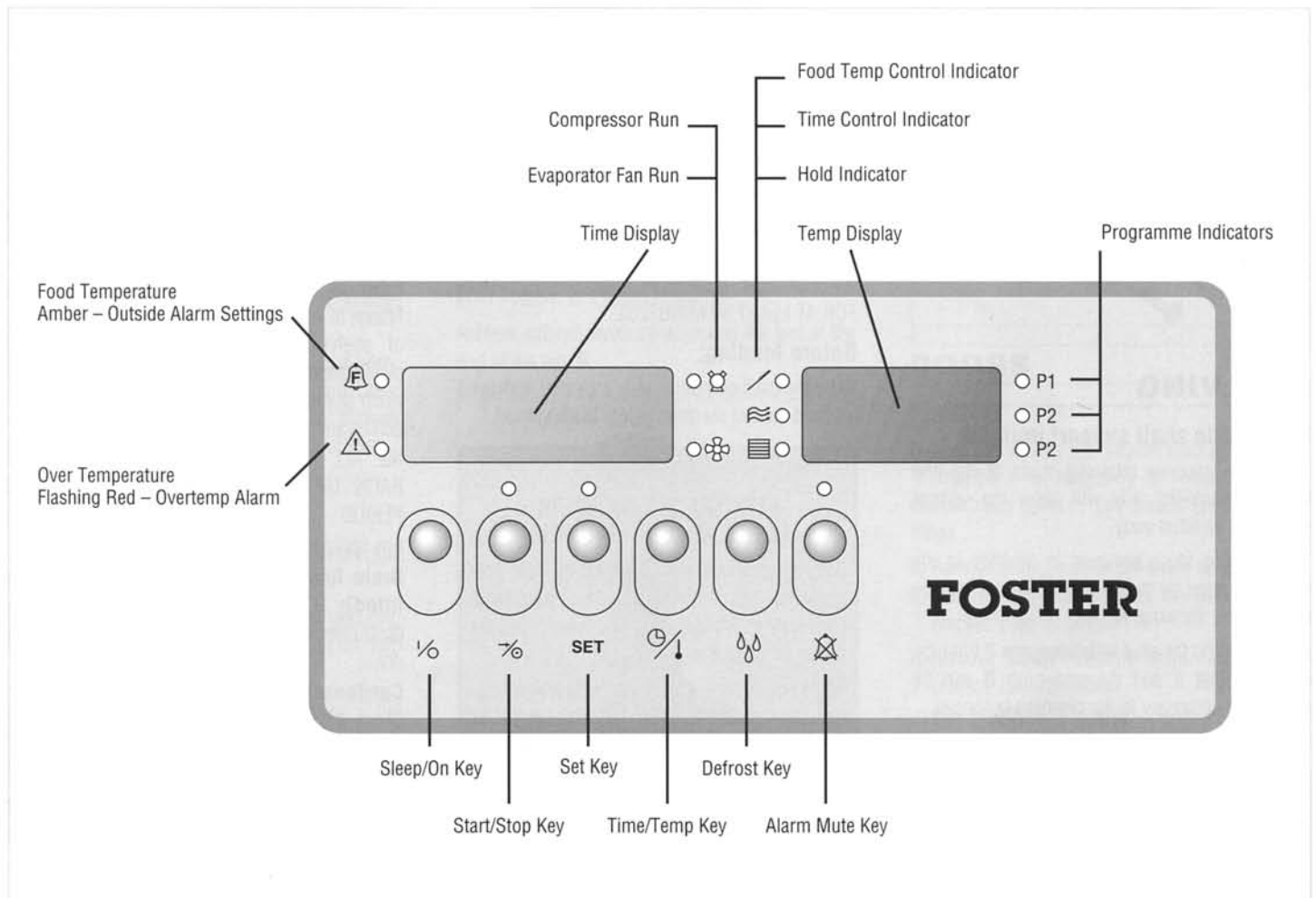
1.1 Indicators

Temp Display – Normally indicates Food Probe Temperature during a Food Temperature Control Programme or Air Temperature during a Time Control Programme.

Time Display – Normally indicates Elapsed Cooling Time during a Food Temperature Control Programme or Remaining Cooling Time during a Time Control Programme

Food Temperature Indicator – Illuminated amber if the temperature of the stored product falls outside preset alarm limits. Extinguished when the stored product temperature falls back within alarm limits. The Temperature Controller calculates the temperature of the stored product during the Hold Phase through monitoring internal air temperature.

Overtemperature Indicator – Flashing red in the event of the internal air temperature exceeding the preset Overtemperature Alarm Setting. The Controller Alarm output will also go high.

Compressor Run Indicator – Illuminated green while the compressor is running. Compressor will cycle on and off to maintain desired internal air temperature. Compressor will stop if door is left open for longer than one minute.

Evaporator Fan Run Indicator – Illuminated green while the evaporator fan is running. Evaporator fans will stop while the door is open.

Food Temperature Control Indicator – Illuminated green if a Food Temperature Control Programme is selected.

Time Control Indicator – Illuminated green if a Time Control Programme is selected.

Hold Indicator – Illuminated green during the Hold Phase.

P1, P2 or P3 Indicator – Illuminated green to display the current selected programme.

Run Indicator – Indicator above ' ⤸ ' key, illuminated green while a programme is initiated.

Programming Indicator –	Indicator above 'SET' key, illuminated green while a programme is initiated.
Hold Alarm Indicator –	Indicator above ' ⤫ ' key, illuminated green after the Hold Alarm is muted.

1.2 Fascia Keys

|		
Sleep/On Key (⅟○)	–	Switches the Controller between 'sleep' and 'on states.
Start/Stop Key (⤸)	–	Initiates or terminates a selected cooling programme.
Set Key (SET)	–	Used to enter programming sequence and acknowledge programme settings.
Time/Temp Key (⊙⅟)	–	Used to alter time or temperature values during programming sequence.
Alarm Mute Key (⤫)	–	Used to mute the audible Hold Alarm permanently or the Food Temperature Alarm for a period of ten minutes.

2. Temperature Controller Operation
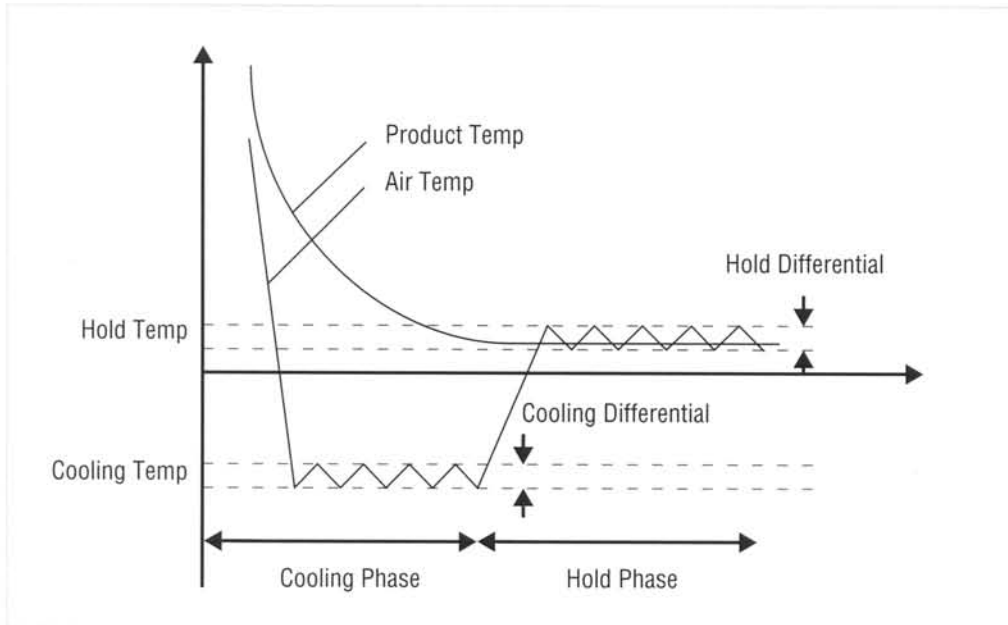
When a preset programme is initiated, the controller will enter the Cooling Phase and cause the air temperature within the counter/cabinet to fall dramatically in order to rapidly chill or freeze the stored product. The duration of the Cooling Phase may be controlled in two ways, through actual product temperature measurement using the food probe or by setting a fixed Cooling Time. Upon completion of the Cooling Phase the controller will enter the Hold Phase and the air temperature within the counter/cabinet will rise in order to prevent further chilling or freezing and hold the product at the desired storage temperature.

The controller will perform automatic defrosting, after every four hours of operation. Defrosting of the evaporator coil will occur for a period of ten minutes or until the coil has reached a temperature of +30°C after which moisture from the coil is allowed to drain away for a further five minutes. During this period *dEF* will be shown in the Temp display. Following this period the refrigeration cycle will recommence and *rEC* (Recovery) will be shown in the Temp display for a period of one minute or until the evaporator coil cools to 0°C at which point the evaporator fans will also re-start. The Temp display will now revert to showing air temperature.

Defrosting may be initiated manually by holding down the ' ⁰ₐ⁰ ' key and pressing the ' ⅞ ' key.

See Operation Flowchart.

2.1 Alarm Functions

The Food Temperature and Hold alarms may be cancelled by operation of the fascia panel Alarm Mute key. The internal overtemperature alarm can only be cancelled by resetting the Controller or removing the cause of the alarm.

Hold Alarm

The controller alarm output will sound on entry to the Hold Phase to indicate completion of the Chill Phase. The Hold Alarm will stay on for two minutes. Alternatively, the Hold Alarm may be muted by operation of the ' ⊠ ' key.

Food Temperature

The controller will calculate the temperature of the stored product during the Hold Phase through monitoring internal air temperature. Should the calculated stored product temperature fall outside the preset alarm limits, the Food Temperature LED will illuminate amber and the alarm will sound. Should the stored product temperature fall back within the limits, the Food Temperature LED will extinguish and the alarm will cease. The Food Temperature Alarm may be temporarily cancelled by operation of the ' ⊠ ' key. This will mute the alarm for a period of ten minutes. If after the ten minute period, the calculated food temperature is still outside the preset alarm limits, the alarm will sound once again.

Internal Overtemperature Alarm

Should the internal temperature of the counter/cabinet rise above +80°C, possibly due to a defrost heater malfunction, the Overtemperature Alarm LED will flash red and the alarm output will sound. Also at this point, all other outputs will fall low (condensing unit, evaporator fans and defrost). The controller will remain in an Overtemperature Alarm state until the cause of the alarm is removed ie. until the counter/cabinet internal temperature falls below +80°C or power is disconnected from the Blast Chiller Controller.

2.2 Additional Features

Surface Protection

To minimise surface damage to delicate products, the Surface Protection function raises the Air Temperature during the latter part of the Cooling Phase. The Air Temperature during the Cooling Phase while Surface Protection is active, rises to −2°C.

Under a Cooling Time Control Programme, Surface Protection becomes active after 70% of the preset cooling time has elapsed.

Under a Food Temperature Control Programme, Surface Protection becomes active when +5°C, measured by the food probe is reached.

Surface Protection cannot be selected if the Programme Settings – Food Temperature, Cooling Air Temperature or Hold Air Temperature are below −15°C.

Cooling Programme Extension

During the Hold Phase following a Cooling Time Control Programme, the controller can be caused to re-enter the Cooling Phase for a further ten minutes. Programme Extension can be initiated by holding down the 'SET' key and pressing the ' ⅗↓ ' key.

3. Programme Setting

Power must be applied to counter/cabinet and the rocker switch on the rear of the controller should be in the 'on' position.

Seven bars '---- ---' will be displayed in the Time and Temp displays while the Controller is in the sleep state. Pressing the I/O key will cause the Controller to switch 'on'. Programme time will be shown in the Time Display and Air Temperature will be shown in the Temp Display.

See Programme Setting Flowchart (above).

Note:

Where the mains lead is not supplied complete with mains plug, a means of all pole disconnection MUST be included in the mains supply cord.

Start

Controller switched on.
Time Display showing Cooling Time
Temp Display showing Air Temp

Correct Programme? — **No** →

Select Programme by holding SET key and pressing ◔ key

P1, P2 or P3 Indicator illuminates

Yes

To initiate programme press ⏻ key

Controller enters the Cooling Phase of selected programme. Automatic defrosting may occur

Door open? — **Yes** →

Evaporator Fan stops and compressor stops after 1 minute

No

Surface Protection Selected? — **Yes** →

Air temperature rises during latter part of Cooling Phase

No

When preset Cooling Time has elapsed or Food Temp is reached, Controller enters Hold Phase. Hold alarm sounds. Automatic defrosting may occur

Mute Hold Alarm? — **Yes** →

Press ⊠ key. Hold Alarm Indicator illuminates

No

Programme Extension Required? — **Yes** →

Hold SET and press ◔ key. Controller will re-enter Cooling Phase for a further 10 minutes

Only available following a Time Control Programme

No

Manual Defrost Required? — **Yes** →

Hold ♦ key and press the ⏻ key

No

To terminate programme press ⏻ key

End

PROGRAMME SETTING FLOWCHART

Start

Controller switched on.
Time Display showing Cooling Time
Temp Display showing Air Temp

Correct Programme?

No

Yes

Select Programme by holding SET key and pressing ⊘∤ key

P1, P2 or P3 Indicator illuminates

Programming Indicator illuminates and Time Display minutes value flashes

Hold SET key for five seconds

Time   Food Temp or Cooling Time Control?   **Temp**

Time branch	Temp branch
Set Cooling Time minutes using ⊘∤ key	Set Cooling Time minutes to zero using ⊘∤ key
Press SET key — *Time Display hours value flashes*	Press SET key — *Time Display hours value flashes*
Set Cooling Time hours using ⊘∤ key	Set Cooling Time hours to zero using ⊘∤ key
	Press SET key — *Temp Display Food Temp value flashes*
	Set Food Temp using ⊘∤ key

Press SET key

Temp Display Cooling Temp (air) value flashes

Set Cooling Temp (air) using ⊘∤ key

Press SET key

Temp Display Hold Temp (air) value flashes

Set Hold Temp (air) using ⊘∤ key

Press SET key

Temp Display shows SP and Time Display shows on/off

Switch on/off Surface Protection using ⊘∤ key

Press SET key

Both Temp and Time Displays flash as new programme settings are stored. Time Display shows actual Cooling Time and Temp Display shows actual air temp. Programming Indicator extinguishes

End

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Operating Instructions

FOSTER

IMPORTANT:

To the installer
Installation of these units should be carried out by a competent person and the appropriate codes of practice adhered to, thus ensuring safe installation.

To the user
Do not discard this document: it contains important guidelines on loading, cleaning and maintenance and should be kept for reference.

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