Milk Fridge
HR80MF Models

Bit25 Controller & LCD5S Display

English

ISO 9001

ISO 14001

November 2014 Version 1

Contents

Service Manual Information:

The products and all information in this manual are subject to change without prior notice.
We assume by the information given that the person(s) working on these refrigeration units are
fully trained and skilled in all aspects of their workings. Also that they will use the appropriate safety equipment
and take or meet precautions where required.
The service manual does not cover information on every variation of this unit; neither does it cover the
installation or every possible operating or maintenance instruction for the units.

Health & Safety Warnings & Information

Make sure the power supply is turned off before making any electrical repairs.

To minimise shock and fire hazards, please do not plug or unplug the unit with wet hands.

During maintenance and cleaning, please unplug the unit where required.

Care must be taken when handling or working on the unit as sharp edges may cause
personal injury, we recommend the wearing of suitable PPE.

Ensure the correct moving and lifting procedures are used when relocating a unit.

Do NOT use abrasive cleaning products, only those that are recommended. Never scour
any parts of the refrigerator. Scouring pads or chemicals may cause damage by scratching
or dulling polished surface finishes.

Failure to keep the condenser clean may cause premature failure of the motor/compressor
which will NOT be covered under warranty policy.

Do NOT touch the cold surfaces in the freezer compartment. Particularly when hands are
damp or wet, skin may adhere to these extremely cold surfaces and cause frostbite.

Please ensure the appropriate use of safety aids or Personnel Protective Equipment (PPE)
are used for you own safety.

Environmental Management Policy

Product Support and Installation Contractors.

Foster Refrigerator recognises that its activities, products and services can have an adverse impact upon the environment.
The organisation is committed to implementing systems and controls to manage, reduce and eliminate its adverse environmental impacts wherever possible, and has formulated an Environmental Policy outlining our core aims. A copy of the Environmental Policy is available to all contractors and suppliers upon request.
The organisation is committed to working with suppliers and contractors where their activities have the potential to impact upon the environment. To achieve the aims stated in the Environmental Policy we require that all suppliers and contractors operate in compliance with the law and are committed to best practice in environmental management.
Product Support and Installation contractors are required to:

1. Ensure that wherever possible waste is removed from the client's site, where arrangements are in place all waste should be returned to Foster Refrigerator's premises. In certain circumstances waste may be disposed of on the client's site; if permission is given, if the client has arrangements in place for the type of waste.

2. If arranging for the disposal of your waste, handle, store and dispose of it in such a way as to prevent its escape into the environment, harm to human health, and to ensure the compliance with the environmental law. Guidance is available from the Environment Agency on how to comply with the waste management 'duty of care'.

3. The following waste must be stored of separately from other wastes, as they are hazardous to the environment: refrigerants, polyurethane foam, and oils.

4. When arranging for disposal of waste, ensure a waste transfer note or consignment note is completed as appropriate. Ensure that all waste is correctly described on the waste note and include the appropriate six-digit code from the European Waste Catalogue. Your waste contractor or Foster can provide further information if necessary.

5. Ensure that all waste is removed by a registered waste carrier, a carrier in possession of a waste management licence, or a carrier holding an appropriate exemption. Ensure the person receiving the waste at its ultimate destination is in receipt of a waste management licence or valid exemption.

6. Handle and store refrigerants in such a way as to prevent their emission to atmosphere, and ensure they are disposed of safely and in accordance with environmental law.

7. Make arrangements to ensure all staff who handle refrigerants do so at a level of competence consistent with the City Guilds 2079 Handling Refrigerants qualification or equivalent qualification.

8. Ensure all liquid substances are securely stored to prevent leaks and spill, and are not disposed of into storm drains, foul drain, or surface water to soil.

Disposal Requirements
If not disposed of properly all refrigerators have components that can be harmful to the environment.
All old refrigerators must be disposed of by appropriately registered and licensed waste contractors, and in accordance with national laws and regulations.

General Electrical Safety
Foster Refrigerator recommends that the equipment is electrically connected via a Residual Current Device; such as a Residual Current Circuit Breaker (RCCB) type socket, or through a Residual Current Circuit Breaker with Overload Protection (RCBO) supplied circuit.

Controller Operation - BIT25

The controller consists of two pieces, the controller (BIT25) and separate display (LCD5S).
The display is positioned inside the cabinet and the controller at the rear.

LCD5S Display Icons and Switches

Display Indicators & Buttons		Alarms/ Warnings During Normal Operation	
i set	Info/ Set Point Button	*oFF*	Controller in Standby
🌓 ◀◀	Manual Defrost/ Decrease Button	*hi*	Room High Temperature Alarm
▶▶ II°	Manual Activation/ Increase Button	*Lo*	Room Low Temperature Alarm
⏻	Exit/ Standby Button	*E1*	Probe T1 Failure (Air)
❄	Thermostat/ Compressor Output	*ALr*	Generic Alarm
🌀	Fan Output	*dEF*	Defrost In Progress
🔔	Alarm Warning	*Loc*	Keypad Locked
🌓	Defrost Output		

Information Menu Symbols and Reasons			
t1	Instant probe 1 temperature	*tLo*	Minimum probe 1 temperature recorded
thi	Maximum probe 1 temperature recorded	*cnd*	Compressor working weeks **

** Displayed only if ACC > 0

Start Up and Operation

User Functions

Start Sequence
When the unit is first connected to the mains the display will automatically light up and show either *oFF* or the current ambient temperature.

To start or activate when in standby:

> Press and hold the ⏻ button for 5 seconds then release.

Access to the menu and information displayed

> Press and immediately release button **i**

> With button ◀ or ▶ select the data to be displayed

> Press and hold button **i** to display the value

> To exit from the menu, press button ⏻ or wait for 10 seconds.

Set point: Display and modification

> Press button **i** and hold to display the set point.

> By keeping button **i** pressed, use button ◀ or ▶ to set the desired value (adjustment is within the minimum SPL and the maximum SPH limit)

> When button **i** is released, the new value is stored.

Standby

When pressing the ⏻ button for 3 seconds, will allow the controller to be put on a standby or output control to be resumed (with SB = YES only). When on Standby oFF will be displayed.

Keypad Unlock

Press & release **i** then use ▶ to select 'LOC'. Press and hold **i** to change from 'YES' to 'NO'. Leave for 10 seconds or briefly press ⏻ to resume.

Defrost

Automatic Defrost

The cabinet will defrost automatically on a predefined schedule. This setting will also automatically terminate on a predefined schedule.

Manual Defrost. (Freezer Sections only)

To initiate a manual defrost press and hold the defrost button ▷◁ for 2 seconds

Controller Connection Drawing and Dimensions
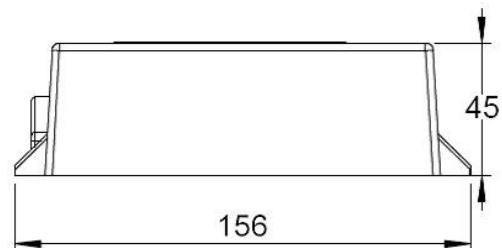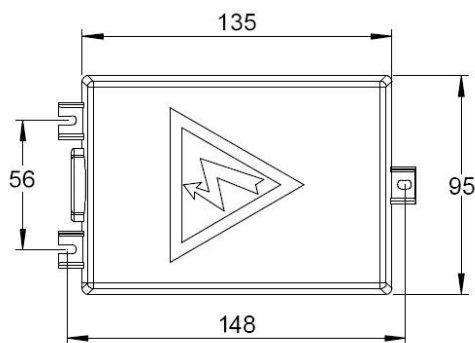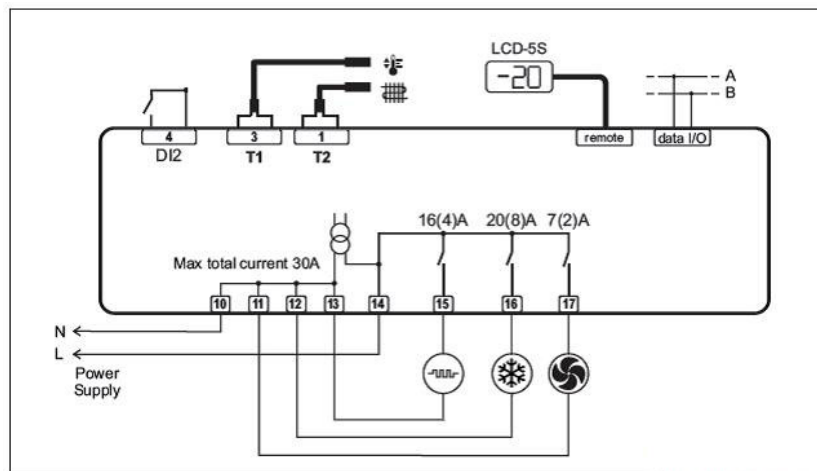
(Dimensions in mm)

Controller Technical Data

Power Supply

BIT25 ... E   230Vac±10%, 50/60Hz, 3W

Relay Output

Compressor

Auxiliary Loads 1   16(4)A 240Vac

Auxiliary Loads 2   7(2)A 240Vac

Input

NTC 10KΩ@25°C

Measurement Range   **Measurement Accuracy**

-50 / -9.9…19.9 /110°C   <0.5°C within the measurement range

Operating Conditions

-10…+50°C; 15%...80%r.H

CE (Reference norms)

20(8)A 240Vac

EN55022 (Class B)

EN50082-1

Configuration Parameters

> To access to the parameter configuration menu, press ⏻ + **i** for 5 seconds

> With button ◀ or ▶ select the parameter to be modified.

> Press button **i** and hold briefly to display the value. On releasing the button the controller will then show the next parameter.

> By keeping button **i** pressed, use button ◀ or ▶ to set the desired value. On releasing the button the controller will store the amended value and then show the next parameter.

> To exit from the setup, press button ⏻ or wait for 30 seconds.

Dark grey highlight denotes a parameter that may not be visible unless another is set to a specific value.
For example:
OS3 will not show unless DI2 = T3

BIT25 Controller Default Parameter Values

Parameter		Range	Description	Default Setting
SPL		-50 … SPH	Minimum limit for 'SP' setting.	1
SPH		SPL … 110°	Maximum limit for 'SP' setting.	3
SP		SPL … SPH	Temperature setpoint to be achieved.	2
C-H		REF or HEA	Refrigeration or Heating control mode.	REF
HYS		1 … 10°	Off / On thermostat differential.	3
CRT		0 … 30 min	Compressor rest time.	2
CT1		0 … 30 min	Thermostat run time with faulty T1 probe. ('CT1' = 0 output with faulty T1 will always be off).	6
CT2		0 … 30 min	Thermostat off time with faulty T1 probe. ('CT2' = '0' & 'CT1' =>'0' output with faulty T1 will always be on).	4
CSD		0 … 30 min	Compressor stop delay after door has been opened. (Only if 'DS' = 'YES').	1
DFM			**Defrost start mode:**	TIM
		NON	Defrost function is disabled (the following parameter will be 'FCM').	
		TIM	Regular time defrost.	
		FRO	Defrost time elapses only in condition of frost accumulation.	
DFM = 'TIM' or 'FRO'	DFT	0 … 99 hours	Time interval between defrosts.	6
	DFB		**Defrost timer clock.**	YES
		YES	Following mains interruption, timer resumes count.	
		NO	Following mains interruption, timer restarts from zero.	
	DLI	-50 … 110°	Defrost end temperature (Only if 'T2' = 'YES').	15
	DTO	1 … 120 min	Maximum defrost duration.	20
	DTY		**Defrost type:**	OFF
		OFF	Timed off cycle defrost (compressor and heater off).	
		ELE	Electric heater defrost (compressor off, heater on).	
		GAS	Hot gas defrost (compressor and heater on).	
	DPD	0 … 240 sec	Evaporator pump down. Timed pause at start of defrost.	0
	DPR	0 ... 20 sec	Defrosting Pressure Reduction. Period between hot gas valve shutting and compressor stopping (only active when 'DTY' = 'GAS').	3
	DRN	0 … 30 min	Drain down period.	2
	DDM		**Defrost display mode:**	DEF
		RT	Real (actual) air temperature.	
		LT	Last temperature display before start of defrost.	
		SP	The current setpoint value.	
		DEF	"DEF"	
	DDY	0 … 60 min	Defrost display delay period. Time 'DDM' is shown following defrost termination.	10
	FID		**Fans in defrost:**	YES
		YES	Fans run during defrost.	
		NO	Fans do not run during defrost.	
	FDD	-50 … 110°	Evaporator fan restart temperature following defrost. (Only if 'T2' = 'YES').	5
	FTO	0 … 120 min	Maximum evaporator fan stop period following defrost (only when 'T2' = 'YES').	3

Parameter		Range	Description	Default Setting
FCM			*Evaporator fan mode during thermostatic control:*	NON
	NON		Fan(s) run continuously (subject to door & defrost).	
	TMP		Temperature based control. When compressor is on, fans are on. When compressor is off, fans run as long as temperature difference Te-Ta > 'FDT'. Fans on again with 'FDH'.	
	TIM		Time based control. When compressor is on, fans are on. When compressor is off, fans in accordance to parameters FT1', 'FT2' and 'FT3'.	
FDT		-12.0 ... 0°	Te-Ta difference for fans to turn off after compressor stopped. (Only if 'T2' = 'YES' and 'FCM' = 'TMP').	-1
FDH		1 ... 12.0 °	Temperature differential for evaporator fan restart. (Only if 'T2' = 'YES' and 'FCM' = 'TMP').	3
FDS		0 ... 120 sec	Minimum evaporator fan stop period (following door opening etc.).	20
FT1		0 ... 180 sec	Fan stop delay after compressor stop.	15
FT2		0 ... 30 min	Timed fan stop following 'FT1'. (With FT2 = '0' the fans remain on all the time).	0
FT3		0 ... 30 min	Timed fan run following 'FT2'. (With 'FT3' = '0' & 'FT2' > '0' the fans remain off all the time).	2
ATM			*Alarm threshold configuration:*	REL
	NON		All temperature alarms are inhibited (the following parameter will be 'ADO').	
	ABS		The value set in 'ALA' & 'AHA' represent actual alarm setpoints.	
	REL		The values set in 'ALR' & 'AHR' are alarm differentials which relate to 'SP' and 'SP' + 'HYS' (the following parameter will be 'ALR').	
ATM = 'ABS'	ALA	-50 … 120°	Low temperature alarm threshold.	-3
	AHA	-50 … 120°	High temperature alarm threshold (the following parameter will be 'ATI').	8
ATM = 'REL'	ALR	-12 … 0°	Low temperature alarm differential. With 'ALR' = '0' the low temperature alarm is excluded).	-5
	AHR	0 … 12°	High temperature alarm differential. (With 'AHR' = '0' the low temperature alarm is excluded).	5
ATM = 'ABS' or 'REL'	AT1		*Alarm probe:*	T1
		T1	Air temperature probe used for alarm detection.	
		T2	Evaporator temperature probe used for alarm detection (if 'T2' = 'YES').	
		T3	Third temperature probe used for alarm detection (if 'DI2' = 'T3').	
	ATD	0 … 120 min	Delay before alarm temperature warning.	90
ADO		0 … 30 min	Delay before door open alarm warning (only when 'DI2' = 'DOR').	8
AHM			*Operation in case of high condenser alarm (if 'DI2' = 'T3' and 'T3' = 'CND'):*	NON
	NON		High condenser temperature alarm inhibited.	
	ALR		Condenser warning - 'HC' displayed, alarm sounds.	
	STP		As 'ALR', with compressor stopped and defrosts suspended.	

Parameter		Range	Description	Default Setting
AHT		-50 … 110°	Condenser alarm temperature (if 'DI2' = 'T3').	65
ACC		'0 … 52 weeks	Condenser cleaning period. (With 'ACC' = '0' condenser cleaning alarm is disabled).	0
IISM			*Switch over method to second parameter set:*	NON
		NON	Second parameter set is excluded (the following parameter will be 'SB').	
		MAN	Second parameter set is activated / deactivated by button 'M'.	
		DI2	Second parameter set activated by 'DI2' input ('DI2' = 'IISM').	
ATM = 'ABS' or 'REL'	IISL	-50 … IISH	Minimum limit for 'IISP' setting.	1
	IISH	IISL … 110°	Maximum limit for 'IISP' setting.	1
	IISP	IISP … IISH	Temperature setpoint to be achieved in 'Mode 2'.	1
	IIHY	1 … 10°	Off / On thermostat differential in 'Mode 2'.	3
	IIFC		*Evaporator fan mode during 'Mode 2' thermostatic control:*	NON
		NON	Fan(s) run continuously.	
		TMP	Temperature based control. When compressor is on, fans are on. When compressor is off, fans run as long as temperature difference Te-Ta > 'FDT'. Fans on again with 'FDH'.	
		TIM	Time based control. When compressor is on, fans are on. When compressor is off, fans in accordance to parameters T1', 'FT2' and 'FT3'.	
	IIDF	0 … 99 hours	Time interval between defrosts in 'Mode 2'.	6
SB			*Standby button operation:*	YES
		YES	Standby button enabled.	
		NO	Standby button disabled.	
DI1			*Configurable digital input operation:*	NON
		NON	Digital input not activated.	
		DOR	Door switch input.	
		ALO	Alarm ('ALr' displayed) when contact opens.	
		ALC	Alarm ('ALr' displayed) when contact closes.	
D12			*Configurable digital input operation:*	NON
		NON	Digital input not activated.	
		DOR	Door switch input.	
		ALO	Alarm ('ALr' displayed) when contact opens.	
		ALC	Alarm ('ALr' displayed) when contact closes.	
		PSP	Allows control via potentiometer.	
		IISM	Operates 2nd parameter set when contact closes.	
		T3	Allows for 3rd temperature probe function.	
DI2 = 'T3'	T3		*T3 probe function (only when 'DI2' = 'T3'):*	DSP
		DSP	T3 probe temperature displayed.	
		CND	Condenser temperature measurement.	
	OS3	-12.5 … 12.5°C	T3 probe temperature offset (only when 'DI2' = 'T3'):	0
DI2 = 'PSP'	PSL	-50 … 70°C	Minimum setpoint adjusted by potentiometer (only when 'DI2' = 'PSP'):	10
	PSR	0.0 … 15.0°C	Range of setpoint (hysteresis) for potentiometer (only when 'DI2' = 'PSP'):.	10

Parameter		Range	Description	Default Setting
DI2 = 'PSP'	POF		***Potentiometer standby enabling operation (only when 'DI2' = 'PSP'):***	YES
		YES	Potentiometer standby enabled (when turned to minimum, controller set to standby).	
		NO	Potentiometer standby disabled.	
	LSM		***Light control mode (if 'OA1' = 'LGT'):***	MAN
		NON	Light Control Mode disabled (always off).	
		MAN	Light output operation is activated / deactivated by button 'M'.	
		D1O	Light output is switched on when door is opened (if 'DI1' = 'DOR').	
		D2O	Light output is switched on when door is opened (if 'DI2' = 'DOR').	
		D2C	Light output is switched off when door is opened (if 'DI2' = 'DOR').	
OA1			***Auxiliary Relay 1 Operation:***	NON
		NON	Output disabled (always off).	
		FAN	Control of evaporator fan.	
		DEF	Control of defrost heater / device (activated when 'DTY' = 'ELE' or 'GAS').	
		LGT	Output enabled for light control.	
		0-1	Contacts open/close with 'Standby'/'On' mode ('SB' = 'YES').	
		ALO	Contacts open when an alarm condition occurs.	
		ALC	Contacts close when an alarm condition occurs.	
			(Relay contacts open when in stand by mode).	
OA2			***Auxiliary Relay 2 Operation:***	FAN
		NON	Output disabled (always off).	
		FAN	Control of evaporator fan.	
		DEF	Control of defrost heater / device (activated when 'DTY' = 'ELE' or 'GAS').	
		LGT	Output enabled for light control.	
		0-1	Contacts open/close with 'Standby'/'On' mode ('SB' = 'YES').	
		ALO	Contacts open when an alarm condition occurs.	
		ALC	Contacts close when an alarm condition occurs.	
			(Relay contacts open when in stand by mode).	
OS1		-12.5 … 12.5°C	Air temperature probe (T1) offset.	0
T2			***T2 probe enabling:***	NO
		YES	T2 probe enabled.	
		NO	T2 probe disabled.	
OS2		-12.5 … 12.5°C	Evaporator temperature probe (T2) offset.	0
TLD		1 … 30 min	Delay for min. ('TLO') and max. ('THI') temperature logging.	10
SCL			***Readout scale:***	2°C
		1°C	Range -50 …. 110°C (0.1°C resolution within -9.9 to +19.9°C)	
		2°C	Range -50 …. 110°C	
		°F	Range -58 …. 180°F	
SIM		0 … 100	Display slowdown.	5
ADR		1…255	BIT25 address for PC communication	1

HR80MF Specific Parameter Values

Parameter	Parameter Description	Controller Default	HR80MF
SPL	Minimum limit for 'SP' setting.	1	2
SPH	Maximum limit for 'SP' setting.	3	5
SP	Temperature setpoint to be achieved.	2	2
C-H	Refrigeration/ heating control mode.	REF	REF
HYS	Off / On thermostat differential.	3	3
CRT	Compressor rest time.	2	2
CT1	Thermostat run time with faulty T1 probe.	6	6
CT2	Thermostat off time with faulty T1 probe.	4	4
CSD	Compressor stop delay after door has been opened.	1	1
DFM	Defrost start mode.	TIM	TIM
DFT	Time interval between defrosts.	6	6
DFB	Defrost timer clock.	YES	YES
DLI	Defrost end temperature	15	15
DTO	Maximum defrost duration.	20	10
DTY	Defrost type.	OFF	OFF
DPD	Evaporator pump down. Timed pause at start of defrost.	0	0
DPR	Defrosting Pressure Reduction (used when 'DTY' = 'GAS' to over-run compressor).	3	3
DRN	Drain down period.	2	3
DDM	Defrost display mode.	DEF	DEF
DDY	Defrost display delay period.	10	10
FID	Fans in defrost.	YES	YES
FDD	Evaporator fan restart temperature following defrost.	5	5
FTO	Maximum evaporator fan stop period following defrost (only when 'T2' = 'YES').	3	3
FCM	Evaporator fan mode during thermostatic control.	NON	NON
FDT	Te-Ta difference for fans to turn off after compressor stopped.	-1	-1
FDH	Temperature differential for evaporator fan restart.	3	3
FDS	Minimum evaporator fan stop period (following door opening etc.)	20	20
FT1	Fan stop delay after compressor stop.	15	15
FT2	Timed fan stop following 'FT1'.	0	0
FT3	Timed fan run following 'FT2'.	2	2
ATM	Alarm threshold configuration.	REL	REL
ALR	Low temperature alarm differential.	-5	-5
AHR	High temperature alarm differential.	5	5
ATI	Alarm probe.	T1	T1
ATD	Delay before alarm temperature warning.	90	90
ADO	Delay before door open alarm warning (only when 'DI2' = 'DOR').	8	8
AHM	Operation in case of high condenser alarm (if 'DI2' = 'T3' and 'T3' = 'CND'):	NON	NON
ACC	Condenser cleaning period.	0	0
IISM	Switch over method to second parameter set.	NON	NON
IISL	Minimum limit for 'IISP' setting.	1	1

Parameter	Description	Controller Default	HR80MF
IISH	Maximum limit for 'IISP' setting.	1	1
IISP	Temperature setpoint to be achieved in 'Mode 2'.	1	1
IIHY	Off / On thermostat differential in 'Mode 2'.	3	3
IIFC	Evaporator fan mode during 'Mode 2' thermostatic control.	NON	NON
IIDF	Time interval between defrosts in 'Mode 2'.	6	6
SB	Standby button operation.	YES	YES
DI1	Configurable digital input 1 operation.	NON	NON
DI2	Configurable digital input 2 operation.	NON	NON
LSM	Light control mode (if 'OA1' = 'LGT').	NON	NON
OA1	Auxiliary Relay 1 Operation.	NON	NON
OA2	Auxiliary Relay 2 Operation.	FAN	FAN
OS1	Air temperature probe (T1) offset.	0	0
T2	T2 probe enabling.	NO	NO
OS2	Evaporator temperature probe (T2) offset.	0	0
TLD	Delay for min. ('TLO') and max. ('THI') temperature logging.	10	10
SCL	Readout scale.	2°C	2°C
SIM	Display slowdown.	5	5
ADR	BIT25 address for PC communication.	1	1

*Yellow highlight denotes a parameter different to that of the default setting

(Parameters sourced from BIT25B0Q3E-2FS Revision13 28.04.2014- Correct at time of print)

Cleaning and Maintenance

Important: Before cleaning, the unit should be put into standby and then the power supply should be turned off at the mains. Please do not plug or unplug the unit with wet hands. Only when cleaning has been completed and the unit is dry should the cabinet be turned back on at the mains.

Suitable P.P.E (Personnel Protective Equipment) should be worn at all times.

Regular Maintenance:

> As and when required remove all product from the unit. Clean exterior and interior surfaces with mild liquid detergent, following the directions on the pack at all times. Rinse surfaces with a damp cloth containing clean water. Never use wire wool, scouring pads/powders or high alkaline cleaning agents i.e bleaches, acids and chlorines as these may cause damage.
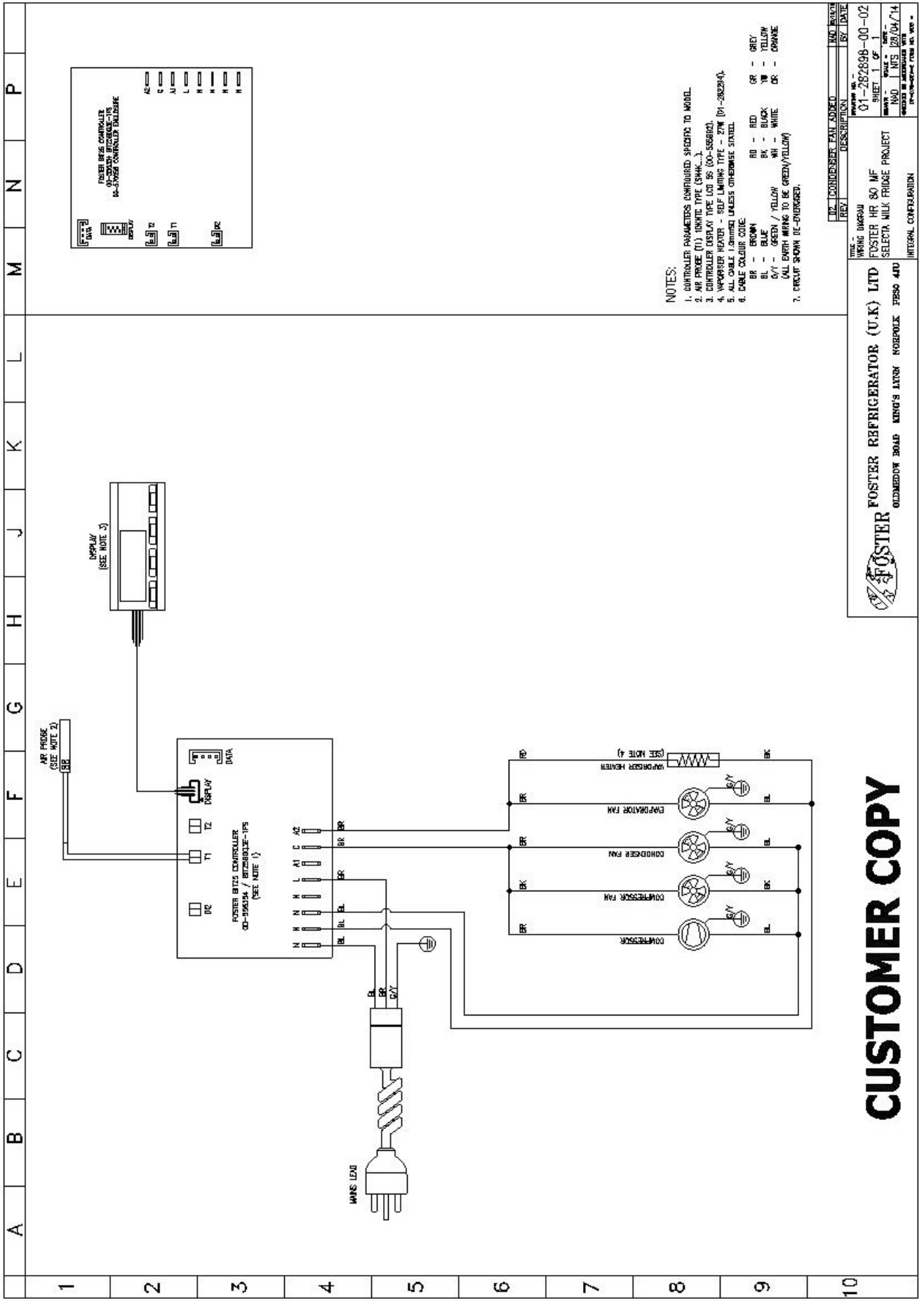
> **Condenser Cleaning:**
This should take place on a regular basis or as and when required (4 to 6 weeks) by a competent/trained personnel.
Use a soft brush or vacuum cleaner to remove dirt/dust. If there are any stubborn grease deposits left on or through the condenser, call your supplier to carry out a full service (this is normally chargeable). Failure to maintain the condenser may invalidate the warranty of the condensing unit and cause premature failure of the motor/compressor.
Do not use a wire brush to clean the condenser. Vacuum or brush the air filter (where fitted).

> All gaskets should be inspected on a regular basis and replaced if damaged. To clean, wipe with a warm damp soapy cloth followed by a clean damp cloth and thoroughly dry.
If gasket replacement is required, start by fitting all the corners of a gaskets into place before working the rest of the length of the gasket into the retainer. Failure to follow this procedure may result in the gasket stretching and fitment not being possible.

FOSTER BR25 CONTROLLER
XD-596194 / BT25801E-1PS
W-370058 CONTROLLER ENCLOSURE

DISPLAY (SEE NOTE 3)

AIR PROBE (SEE NOTE 2)

FOSTER BR25 CONTROLLER
XD-596194 / BT25801E-1PS
(SEE NOTE 1)

MAINS LEAD

VAPORISER HEATER (SEE NOTE 4)
EVAPORATOR FAN
CONDENSER FAN
COMPRESSOR FAN
COMPRESSOR

NOTES:
1. CONTROLLER PARAMETERS CONFIGURED SPECIFIC TO MODEL.
2. AIR PROBE (T1) 10KNTC TYPE (SHHK...).
3. CONTROLLER DISPLAY TYPE LCD SS (00-558802).
4. VAPORISER HEATER - SELF LIMITING TYPE - 27W (01-282204).
5. ALL CABLE 1.0mmsq UNLESS OTHERWISE STATED.
6. CABLE COLOUR CODE.
   BR - - BROWN
   BL - - BLUE
   G/Y - - GREEN / YELLOW
   RD - - RED   GR - - GREY
   BK - - BLACK   YW - - YELLOW
   WH - - WHITE   OR - - ORANGE
   (ALL EARTH WIRING TO BE GREEN/YELLOW)
7. CIRCUIT SHOWN DE-ENERGISED.

FOSTER REFRIGERATOR (U.K) LTD
OLDMEDOW ROAD KING'S LYNN NORFOLK PE30 4JU

TITLE:-
WIRING DIAGRAM
FOSTER HR 80 MF
SELECTA MILK FRIDGE PROJECT
INTEGRAL CONFIGURATION

DRAWING NO.
01-282898-00-02
SHEET 1 OF 1

02 CONDENSER FAN ADDED
REV DESCRIPTION BY DATE

CUSTOMER COPY

Troubleshooting

Problem	Possible Cause	Solution
Compressor will not start	No voltage in socket	Use voltmeter to check
	Electrical conductor or wires may be cut	Use ohmmeter to check for continuity
	Defective electrical component; thermostat, relay, thermal protector etc.	Replace defective component
	Compressor motor has a winding open or shorted	Measure ohmic resistance of main and auxiliary winding using ohmmeter. Compare with correct values
	Compressor stuck	Change compressor
	Temperature control contacts are open	Repair or replace the contacts
	Incorrect wiring	Check wiring diagram and correct
	Fuse blown or circuit breaker tripped	Replace fuse or reset circuit breaker
	Power cord unplugged	Plug in power cord
	Controller set too high	Set controller to lower temperature
	Cabinet in defrost cycle	Wait for defrost cycle to finish
The temperature is too cold	Controller is set at a very cold position	Set to warmer position and check if the compressor stops according to controllers operating range
	Controller does not disconnect the condensing unit	Check the insulation of the Thermostat. If problem persists, change the thermostat
	Control contacts are stuck closed	Change the control. Check amperage load
	Defective or incorrect temperature control	Determine correct control and replace
The temperature is not cold enough	Controller is set at a very warm position	Adjust to colder setting
	Condenser is dirty	Clean condenser
	The refrigerator has been placed at an inadequate location	The unit must not be near stoves, walls that are exposed to the sun, or places that lack sufficient air flow
	Compressor is inefficient or there is a high pressure due to the air in the system	If there is air in the system, purge and recharge
	Iced up evaporator coil	Check temperature control refrigerant charge, and defrost mechanism. Remove all ice manually and start over.
	Restriction in system	Locate exact point of restriction and correct
	Too many door openings	Advise user to decrease if possible
	Excessive heat load placed in cabinet	Advise user not to put in products that are too hot.

The temperature is not cold enough (Continued)	The refrigerator has been overcharged with the refrigerant gas	Check to see if condensation or ice crystals have formed on the suction line. If so, charge with the correct amount of gas
	The refrigerant gas is leaking	Find the location of gas leak in order to seal and replace the defective component. Change the drier. Perform a good vacuum and recharge unit
	The evaporator and/or condenser fans are not working	Check electrical connections and make sure that the fan blade isn't stuck. Replace the fan motor if it doesn't work.
	Blocking air flow	Only approved milk containers should be stored in this unit.
	Fuse blown or circuit breaker tripped	Replace fuse or reset circuit breaker
Electrical Shock	Wires or electrical components are in direct contact with metallic parts	Check for appropriate insulation on the connections of each component
Noise	The refrigerator is not properly levelled	Check if the noise goes away after you level the refrigerator
	The condenser is not fastened correctly. Copper tubing is in contact with metal	While the compressor is working, check to see if metal parts are in contact with one another and/or if the screws that fasten the condenser are tightened
	The evaporator and/or condenser fans are loose	Check if the fans are securely fastened. Also, check if the fan blades are loose, broken or cracked. If so, change the faulty blade
	Compressor has an internal noise	If the noise persists after all other measures have been taken, it may be originating from the compressor.
	Loose part(s)	Locate and tighten loose part(s)
Extreme condensation inside the refrigerator	Controller is set at a very cold position	Set the controller to a warmer position & check to see if compressor stops as should
	The outside environment's relative humidity is very high (over 75%)	This type of occurrence is caused by local climatic conditions and not by the refrigeration unit
	The refrigerator door won't shut completely	Check the door and/or the magnetic gasket. Adjust the door hinges if needed; replace the gasket if broken
	The refrigerator had been placed at an inadequate location	The unit must not be near sources that produce too much heat

Condensing unit runs for long periods of time	Excessive amount of warm product placed in cabinet	Advise user to leave adequate time for products to cool down
	Prolonged door opening or door ajar	Advise user to ensure doors are closed when not in use and to avoid opening doors for long periods of time
	Door gasket(s) not sealing properly	Ensure gaskets are snapped in completely. Remove gasket and wash with soap and water. Check condition of gasket & replace if necessary
	Dirty condenser coil	Clean condenser coil
	Evaporator coil iced over	Unplug unit and allow coil to defrost. Make sure thermostat is not set too cold. Ensure that door gasket(s) are sealing properly. Select manual defrost and ensure system works

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