

Manor

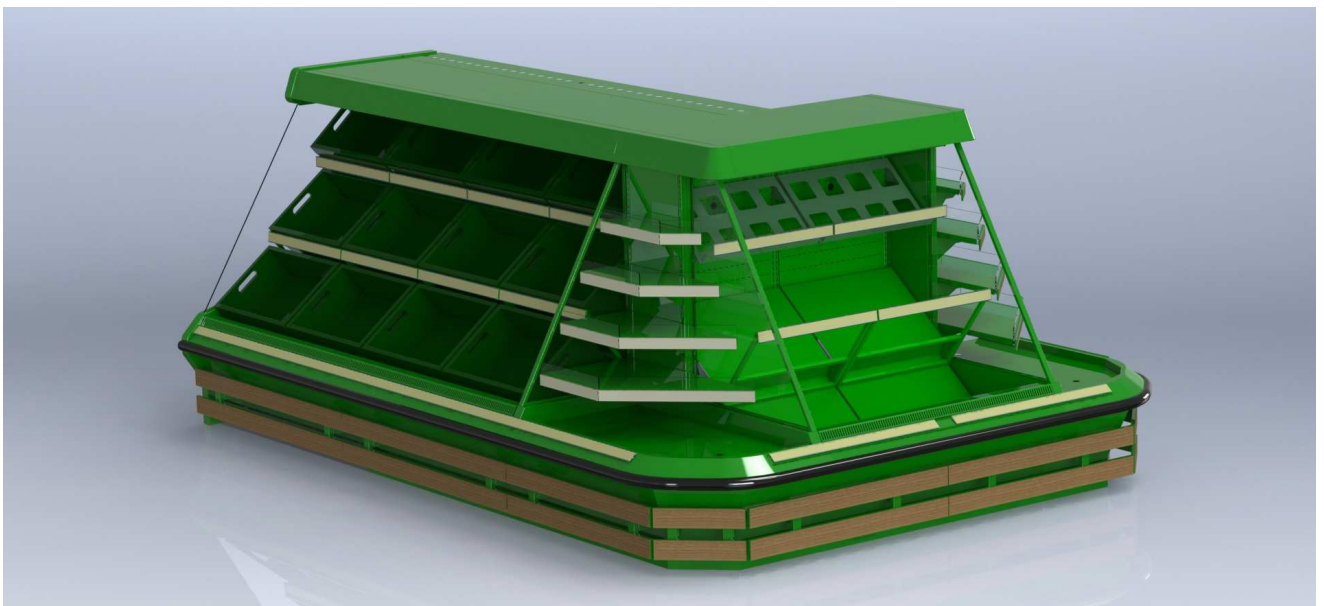
CONCEPTS

Refrigerated display specialists

MCL LHP-i

LOW HEIGHT ENERGY EFFICIENT REFRIGERATED DISPLAY CABINET WITH R290 INTEGRAL
CONDENSING UNIT

RUNNING ON R290 (Propane)



DATA, OPERATION AND MAINTENANCE MANUAL

Please note that all the information contained in this publication was correct at the time of issue, but it may be revised or updated at a later date without prior notice. All images are for illustration purposes only.

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1) DOCUMENT AND CABINET INFORMATION

CABINET TYPE = **Low Height Multi Deck.**

CABINET MODEL NAME = **MCL LHP-i**

REFRIGERANT = **R290 (propane C3H8), class A3 refrigerant**

PRODUCT TEMPERATURE RANGE = **H1 (+10°C / +1°C)**

DEVELOPMENT NUMBER = **DN00075.**

	Issue No	Issue Date	Issued By	Notes
O&M MANUAL ISSUE =	Number One /	28/10/2015 /	GL /	First Issue
O&M MANUAL ISSUE =	Number Two /	30/10/2015 /	GL /	Propane label altered
O&M MANUAL ISSUE =	Number Three /	02/11/2015 /	GL /	Info re R290 & maintenance added. Data label altered

CAUTION



THIS CABINET USES A HYDROCARBON REFRIGERANT (R290 PROPANE) WHICH IS HIGHLY INFLAMMABLE

THE REFRIGERATION SYSTEM SHOULD ONLY BE WORKED ON BY AN FGAS QUALIFIED ENGINEER WHO IS CERTIFIED FOR THE SAFE HANDLING OF HYDROCARBON REFRIGERANTS

IN THE EVENT OF A PROBLEM WITH THIS CABINET, ISOLATE THE ELECTRIC SUPPLY AND FOLLOW YOUR SAFETY TRAINING.

THIS CABINETS REFRIGERATION SYSTEM CONTAINS R290 (PROPANE) GAS. IN THE EVENT OF A GAS LEAK, EVACUATE THE AREA, OPEN ALL DOORS AND WINDOWS, CHECK FOR POCKETS OF TRAPPED REFRIGERANT BEFORE SWITCHING ON ANY ELECTRICAL EQUIPMENT. SWITCH ON ANY AIR VENTILATION OR EXTRACTION.

HYDROCARBON REFRIGERANTS ARE HEAVIER THAN AIR & CAN BECOME TRAPPED IN UNVENTILATED AREAS IN THE EVENT OF A LEAK. PLEASE USE A HYDROCARBON APPROVED LEAK DETECTOR TO CHECK FOR LEAK POINT & BUILD UP OF REFRIGERANT BEFORE COMMENCING ANY WORK ON THE CABINET
PLEASE OBSERVE RELEVANT FETA / I.O.R. CODES OF PRACTICE FOR THE SAFE USE OF HYDROCARBON REFRIGERANTS

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Note

Before installing or operating this cabinet, make sure you read this instruction manual carefully.

This document should be made available to any person who will operate, clean or repair this display cabinet.

Note

Please follow all safety instructions and warning labels at all times.

Note

Please use this display cabinet in strict accordance with its specified purpose, it should be used for the displaying and selling of fresh produce products only.

Note

Before placing any product in this display cabinet, please ensure that both the cabinet and the product are at the correct temperature.

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SAFETY PRECAUTIONS

This cabinet is connected to a single-phase 230-volt electricity supply and contains moving parts. Please ensure that before any internal panels are removed or before any maintenance, service or cleaning work is carried out that the cabinet is turned off and isolated from the incoming electrical supply by switching off & disconnecting the electrical supply – please note a 2 module cabinet has 2 electrical supplies. All maintenance and cleaning carried out on this display cabinet should only be undertaken by suitably trained and qualified personnel.

This display cabinet is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning the use of the appliance by a person responsible for their safety. Children should be supervised at all times to ensure that they do not play with the display cabinet.

At no time should the roof / top of the cabinet be used as a walkway, a working platform or for the storage of equipment or boxes. This applies during both the cabinet's installation and once it is in use by the store. Manor Concepts will not accept responsibility for any damage done to the cabinet as a result of persons working or items being stored on the cabinet's roof / top.

Please note that the maximum shelf and deck tray weight load does not exceed 200 kg/m². Failure to comply with this weight limit could result in permanent and irreparable damage to the cabinet. In extreme cases, excessively over loading the shelves could result in a shelf collapsing and the possible harm to both store employees and store customers alike.

Please ensure that any product placed in this display cabinet for sale is at its correct storage temperature at the time of entry. This cabinet is only designed to hold products at their correct core temperature. If products are placed in the cabinet above their required display temperature this cabinet may not be able to reduce their core temperature back below their intended storage temperature.

When lifting with a fork truck this cabinet should only be lifted from the rear using its transportation pallet. If there are warning signs on the rear of the cabinet concerning the lifting of the cabinet, these should be followed at all times. Manor Concepts will not accept responsibility for any damage done to the cabinet as a result of the cabinet being lifted or moved incorrectly.

Once installed all care should be taken to ensure that the cabinet is not damaged during the rest of the store build or refit. Once again Manor Concepts will not accept responsibility for any damage done to the cabinet following the sign off / completion of the cabinet install.

All warning labels attached to this cabinet should be followed and adhered to at all times. For more information on the cabinet's warning labels please refer to section one of this manual.

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2) CABINETS LABELS.

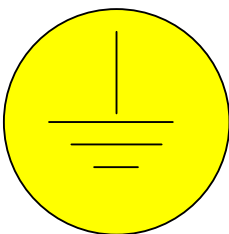


This label is found on all housings that contain a 230v electrical supply. Before removing the lid on the housing isolate the electrical supply to it first.

The electric isolator can be found behind a flap at the left hand end of the cabinet's kick plate.



This label is found on the lid of the electric box. Before removing the electric box lid make sure that the cabinet is isolated from the incoming 230v supply. The cabinet isolator is located at the right hand end of the electric box



This label is found at all the points around the cabinet where an earth cable / strap is located.

If an earth cable is disconnected during either a cabinet repair or clean it must be reconnected before the cabinet is turned back on.

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2) CABINETS LABELS CONTINUED.



Caution
Do not walk

This label can be found on the roof or top of the cabinet.

At no time should the top of the cabinet be used as a walkway or work platform.

The top of the cabinet should not be used for storage.



Do not fork here



If required this label is located at the bottom of the cabinet's rear insulated panel. It is used to highlight an area where the forks from a fork truck should not be used to lift or move the cabinet.

Failing to follow this warning sign could lead to serious damage occurring to the cabinet.



R290

This label is found on the base deck tray, on the compressor, condenser tray & on the outside of the lower front panel.

The label warns that the cabinet contains an inflammable substance & identifies it.

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2) CABINETS LABELS CONTINUED.

Refrigerant R290 (Care 40, Propane)

This unit must not be located in a room or area with a volume less than 37.5m³.

Note: Only engineers who have been trained in the safe handling and use of hydrocarbon (HC) refrigerants should work on this system.

- Work on this system in a well ventilated area or outside.
- Use a local leak detector to indicate if there is hydrocarbon in the air around the system before and during work on the system (place it at low level - HCs are heavier than air).
- Ensure there are no sources of ignition (flames or sparking electrical components) within 3 m (10 feet) of your work area.
- If replacing components, use like for like replacements.
- Take great care when brazing to ensure all HC has been removed from the system.



Use refrigerant grade propane (R290 or CARE 40).

The above label will be found close to both the evaporator & condensing unit, it contains information & procedures relating to the use of R290 (propane) refrigerant

These procedures must be followed at all times.

**Fan Speed
900rpm**

This label is located on the fan tray. It indicates the rotation speed of the fans. Any replacement fans must be programmed to the speed shown on the label.

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3) INTRODUCTION.

The Manor Concepts MCL LHP-i refrigerated display cabinet has been designed, developed and tested to operate in a temperature and humidity controlled environment of less than 25°C and 60% relative humidity. Anything above these stated conditions could have a serious effect on the cabinets ability to maintain its required product core temperature.

At the time of development this refrigerated display cabinet incorporated all of the current retail industries specifications and requirements for the cabinets intended application.

The MCL LHP-i cabinet has been developed to store and display unwrapped fresh fruit, vegetables & salad products. **Pre-packed salads, dressings and protein based products must not be displayed in this cabinet.**

In order to maintain the correct product temperature and the continued operation of the display cabinet, the cabinet controller is pre-programmed with the correct parameters to achieve this. Under normal conditions these settings will not need to be altered. Altering these settings should only be done by suitably qualified technical personnel.

There are many ways in which this display cabinet can be configured for merchandising. However this is not covered by this document, for information on the display profiles and requirements please refer to the stores planograms.

The construction of the MCL LHP-i cabinets consists of a galvanised steel shell, which is then filled with high density polyurethane foam. The injection of the foam into the steel shell is carried out at high pressure to ensure the removal of all air pockets. The end result is an insulated sandwich construction that forms the basic carcass of the cabinet. All the insulated foam used in the construction of these display cabinets from is CFC free.

When the foam has cured the cabinet assembly can begin with the various foam sections being joined together. Next the feet, pilasters, evaporator, steel inner skins and electrical components are added. The end result being a free standing refrigerated display cabinet.

Once completed and before its delivery a cabinet is put through a series of electrical and refrigeration checks including a final leak test & a run test to ensure its integrity and to make sure it meets all of its safety requirements.

Following delivery the cabinets are configured on the sales floor to a drawing supplied by the main contractor. They are then multiplexed together or fitted free standing accordingly.

All the electrical connections required to run the cabinet should be carried out by qualified personnel appointed by the main contractor.

After the completion of the cabinet's installation on the sales floor, the merchandising profiles can be fitted. This should include all shelving, racking and product / system dividers to meet the particular requirements of the store and customer.

The MCL LHP-i is a low height cabinet, which has been designed to be installed as an island. The island could consist of one or two end cabinets and then any number of run cabinets to make up the islands required length. If required insulated end walls can be fitted to the ends of the run cabinets. These can be glazed or solid. **Please note that the two corner sections on the end display cabinets are for ambient product only.**

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4) MCL LHP-i DATA SHEET.

MANOR CONCEPTS	MODEL :-	MCL LHP-i			TECHNICAL DATA	
		R290 (propane)				
		LOW HEIGHT PRODUCE				
	Family :-	VC2				
GENERAL CONDITIONS OF TEST LABORATORY					Date Issued	
<i>REFRIGERANT</i>	<i>TEMPERATURE</i>	<i>RELATIVE HUMIDITY</i>	<i>CROSS AIR SPEED</i>	<i>LAB LIGHTING</i>	5th Nov 2015 / No 2	
R290 (propane)	+25° C	60%	0.2 m/sec	600 lux fluorescent	Duty Method =	N/a

PRODUCT TYPE	PRODUCT TEMPERATURE BAND	DUTY RATINGS				EVAPORATING TEMP.
		KW / HOUR				
		-----	1250mm	-----	2500mm	
PRODUCE @ 25°C / 60% (ISO-3)	1 / +10° C	-----		-----		N/a

Electrical loads at 230V / 50Hz.

MODULATION					
CABINET LENGTH (mm.)		1250		2500	
EC FAN MOTORS (evaporator)	Watts	32		2 x 32	
	Amps	0.32		2 x 0.32	
LED CANOPY LIGHTS SINGLE ROW	Watts	22		2 x 22	
	Amps	0.18		2 x 0.18	
CONDENSATE HEATER	Watts	720		2 x 720	
	Amps	3.13		2 x 3.13	
EC FAN MOTORS (condenser)	Watts	24		2 x 24	
	Amps	0.2		2 x 0.2	
COMPRESSOR (Embraco NEK6217U)	Watts	598		2 x 598	
	Amps	4.09		2 x 4.09	
TOTAL	Amps	7.92		2 x 7.92	

REFRIGERANT CHARGE R290 (propane)	260g		2 x 260g		
--	------	--	----------	--	--

EXPANSION DEVICE	CAPILLARY				

EC FAN MOTORS	Watts	16 Each		16 Each	
	BLADE	integral		integral	
	N° Off	2		4	
Wellington ECR82PX801					

@ ENVIRONMENT		Store Settings	If you should encounter persistent problems with evaporator icing in individual stores the defrost duration should be extended. Please note that this should only be done were problems with ice occur and should not be applied as the norm. If you continue to experience problems then please contact Manor Concepts for further guidance. Please make sure that the correct product temperature is maintained.
SET-UP INFORMATION (preset)		Produce (preset)	
DEFROST TERM.	deg C	12	
DURATION MIN.	minutes	5	
DURATION MAX.	minutes	30	
DRAIN DOWN	minutes	0	
N° OF DEFROSTS IN	24hrs	4	
CABINET CONTROL	deg C	100% AIR OFF	
CUT-IN TEMPERATURE	deg C	8	
CUT-OUT TEMPERATURE	deg C	5	

Please Note That Store Settings Are Based On A Store Environment Of 23° C & 50% RH

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5) MCL LHP-i DATA PLATE

MANOR CONCEPTS LIMITED																																		
62, SUNDERLAND ROAD, SANDY, BEDFORDSHIRE, UK, SG19 1QY :- TELE 01767 222100																																		
This Cabinet Has Been Designed To Work In a Maximum Environment Of 25° C & 60% Relative Humidity (Climate Class 3)																																		
CABINET MODEL / LENGTH	MCL LHP-I (C)	CABINET SERIAL No	MCL ??????????																															
CABINET ELECTRIC SUPPLY	SINGLE PHASE 230v AC 50Hz	WEE No	????????																															
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 25%;">VOLTS</th> <th style="width: 25%;">WATTS</th> <th style="width: 25%;">TOTAL AMPS</th> <th style="width: 25%;">FAN SPEED</th> </tr> </thead> <tbody> <tr> <td>COMPRESSOR</td> <td style="text-align: center;">230v</td> <td style="text-align: center;">1 x 598</td> <td style="text-align: center;">4.09</td> </tr> <tr> <td>EVAPORATOR FANS</td> <td style="text-align: center;">230v</td> <td style="text-align: center;">2 x 16</td> <td style="text-align: center;">0.32</td> </tr> <tr> <td>CONDENSER FANS</td> <td style="text-align: center;">230v</td> <td style="text-align: center;">2 x 24</td> <td style="text-align: center;">0.4</td> </tr> <tr> <td>LED CANOPY LIGHTS</td> <td style="text-align: center;">230v</td> <td style="text-align: center;">1 x 22</td> <td style="text-align: center;">0.18</td> </tr> <tr> <td>ELECTRIC DEFROST HEATER</td> <td style="text-align: center;">230v</td> <td style="text-align: center;">N/A</td> <td style="text-align: center;">N/A</td> </tr> <tr> <td>CONDENSATE HEATER</td> <td style="text-align: center;">230v</td> <td style="text-align: center;">1 x 720</td> <td style="text-align: center;">3.13</td> </tr> <tr> <td>CONTROLS</td> <td style="text-align: center;">230v</td> <td style="text-align: center;">1 x 10</td> <td style="text-align: center;">0.04</td> </tr> </tbody> </table>	VOLTS	WATTS	TOTAL AMPS	FAN SPEED	COMPRESSOR	230v	1 x 598	4.09	EVAPORATOR FANS	230v	2 x 16	0.32	CONDENSER FANS	230v	2 x 24	0.4	LED CANOPY LIGHTS	230v	1 x 22	0.18	ELECTRIC DEFROST HEATER	230v	N/A	N/A	CONDENSATE HEATER	230v	1 x 720	3.13	CONTROLS	230v	1 x 10	0.04	
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TOTAL POWER LOAD	1430 watts	8.16 amps																																
REFRIGERANT TYPE	R290 (Hydrocarbon)	REFRIGERANT CHARGE	260g																															
MAXIMUM SHELF DEPTH	600mm	MAXIMUM SHELF WEIGHT LOAD	200 Kg / m ²																															
DATE OF MANUFACTURE	????????	MANUFACTURED IN	UK																															
SAFE WORKING PRESSURE = 275 PSIG / TEST PRESSURE 350 PSIG			CE																															

C LABEL = SINGLE TRAY ON A 1250mm CABINET

The above MCL LHP-i cabinet data plate is for a 1.25m cabinet. The data plates for the other cabinet lengths in the LHP-i range are available upon request.

The data plate is located at the left hand front corner of the cabinet's condenser tray.

The plate contains information on the cabinet's electricity supply and load.

Maximum allowable system pressure, safe working pressure & test pressure

The type of defrosts the cabinet has been designed to use.

The refrigerant type charged into the cabinet

The evaporator & condenser fan speeds.

The maximum shelf size and weight load.

The cabinet's date and place of manufacture.

System refrigerant gas charge.

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6) INSPECTION.

Upon delivery of the refrigerated display cabinets a check should be made for any external damage, if any is found it should be reported straight away. At the same time a check should be made to make sure that all the loose profiling items sent with the cabinet are correct and accounted for. These should then be stored in a safe and controlled area until they are required. Most on site shortages are caused due to parts either being thrown away with the packaging materials or being damaged due to improper storage.

If fitted all shipping bars should be left fitted to the cabinet until the cabinets final positioning has taken place.

All cabinets and loose items should be stored in a dry environment until installed.

During installation any internal damage should be dealt with and repaired immediately. This will prevent any hold ups in the installation program and insure that the cabinet will be able to operate correctly.

If applicable, upon delivery and during installation all cabinet lighting components should be stored away from the cabinet to prevent breakage and injury to staff or contractors.

7) CABINET LOCATION.

The MCL LHP-i should not be placed anywhere that puts it at risk of getting wet. The cabinet should not be stored or sited where there is a risk of the cabinet being rained on or being under falling water. Every effort should be taken to ensure that no water can enter the cabinet's electric box. The electric box is located under the cabinet at the right hand end of the pull out condenser tray.

The MCL LHP-i contains hydrocarbon refrigerant (R290 propane), which is highly inflammable, in a hermetically sealed refrigeration system. Therefore the cabinet must not be located in an area where there are naked flames, open heating elements or equipment & fixtures with the potential to create sparks

The MCL LHP-i refrigerated display cabinet if possible should not be placed in direct sunlight, or in areas of high temperature i.e. next to ovens or under spotlights that are not of a diachronic type.

The MCL LHP-i cabinets should also be placed where they are not going to be affected by draughts. Strong draughts blowing directly into the cabinet or along its front face will have a serious affect on the cabinet's ability to maintain its required product core temperature.

Draughts can come from open doors and air conditioning grills and vents.

A minimum of 100mm clearance should be left between the rear of a cabinet and a wall.

The 100mm gap is required to allow adequate removal of warm air rejected from condenser.

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8) INSTALLATION.

After the first cabinet has been positioned, if required remove the travel bars and again if required fix the cabinet to the floor, check that the cabinet is level, both left to right and front to back. This will ensure proper drainage of the water generated as a result of the cabinets defrost cycles. Repeat this procedure for all the cabinets being installed.

It is important that the cabinets are positioned on level and even floors. Doing so will assist with the cabinets performance and drainage.

All case multiplex joints must be filled with the sealing strips supplied. It is important that all case joints have a good airtight seal. Failure to ensure an airtight seal could result in the build up of condensation and frost. As a result of condensation and frost there is a risk of water ingress into the cabinet's main structure, this will shorten the cabinet's operational life span and lead to a break down in the insulation properties of the cabinet.

At no time should the top / roof of the cabinet be used as a walkway or for seating, this will apply during the installation of the refrigeration pipe work and the connection of the electrical services. It will also apply during any construction / maintenance work that is carried out on the store building. Also the shelves should not be used as a stepladder or for support. Only approved access and egress methods should be used to avoid possible injury to personnel or damage to the cabinet.

The cabinet is fitted with a drain trap & flexible drainage pipe directing the condensate water into a self-evaporating drip tray.

The drip tray is sized to evaporate condensate water produced during cabinet defrosts & will not hold or evaporate large volumes of water that may enter the drainage system during cleaning processes. It is recommended that for cleaning purposes the condenser tray is pulled fully forward & a receptacle placed below the drain pipe ends to collect extraneous water.

It is important to always ensure that the drains are protected from frost and that there is an air break immediately before the main drain connection, this will prevent both suction on the traps and odours being introduced into the cabinet and the sales area. Upon completion the drains should be checked for both leaks and function.

After the completion of the installation a check should be made to ensure that all removable parts are present and fitted correctly, the failure to fit or fit correctly the removable parts will have an affect on the cabinet's ability to function and maintain the correct product temperature.

It is important that when connecting the cabinet's incoming 230 volt electrical supply that a sufficient amount of cable is left under the cabinet to allow the cabinets condenser tray to be pulled forward the full distance required.

The electrical mains cable (supplied) must be connected to a source located inside an IP67 rated terminal box & away from potential sources of ignition.

Only suitably trained and qualified electricians should carry out any electrical work on this display cabinet.

The void between the backs of cabinets when in island formation is protected by removable mesh infills. These infills will prevent debris from falling between the cabinets & must not be removed except for cleaning after which they must be replaced immediately.

The void is for the exhaust of warm air rejected from the condensing unit under the cabinet. This void must not be blocked, covered or merchandised as this would result in the cabinets refrigeration system being inoperable.

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9) COMMISSIONING.

This cabinet is supplied with pre-set controller settings. In normal circumstances there will be no need for these to be altered.

Re-setting of the controller should only be carried out by a suitably qualified engineer & will only be required should problems occur with the operation of the cabinet.

In the event of problems occurring with cabinet operation please contact Manor Concepts Ltd **before** making any alterations to the cabinet or its settings.

Once fully installed & connected to an electrical supply the cabinet should be switched on & allowed to achieve operating temperature

Only when cabinet is at operating temperature & has been seen to be cycling regularly can product be introduced.

10) CABINET WEIGHT.

No information on the cabinets weight was available at the time of compiling this O&M manual.

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11) MAINTENANCE AND HYGIENE.

In accordance with EN 378-4 Annexe E maintenance & repair requiring the assistance of other skilled personnel should be carried out under the supervision of a person competent in the use of flammable refrigerants. Any person conducting servicing or maintenance on a system or associated parts of the equipment should be competent in according to EN 13313. Persons working on refrigerating systems with flammable refrigerants should be trained to achieve competence in safety aspects of flammable refrigerant handling. This will include the following requirements –

- **Knowledge of legislation, regulations & standards relating to flammable refrigerants**
- **Detailed knowledge of & skill in handling flammable refrigerants, personal protective equipment, refrigerant leak prevention, handling of cylinders, charging, leak detection, recovery & disposal.**

Competent persons should be able to understand & to apply in practice the requirements of EN 378

Regular further training may be necessary to maintain this expertise.

To ensure good hygiene, long life and reliability the cabinet should be cleaned about every six weeks by suitably trained staff. Before any cleaning is carried out ensure that the cabinet is fully de-merchandised and that it is electrically isolated as stated in the current “Electricity At Work Regulations” or as per your company guidelines.

When cleaning a refrigerated display cabinet always wear the correct personal protection equipment (PPE).

The MCL LHP-i cabinet has been designed to make it as maintenance friendly as possible. The cabinet can be taken apart for cleaning without the need for tools. Both the internal and external steel panels can be easily removed giving access to the drain.

Fans, fan plates & coil covers are screwed in place in accordance with machinery directives

Each evaporator fan can be removed by disconnecting the terminals in the fan terminal box & undoing the screws that retain the fan to the fan plate. When cleaning fan motors be careful not to damage the fan blade or alter its pitch, do not allow water to enter a fan motor.

The honeycomb must be removed and cleaned as part of the cabinet cleaning program, this can be done by loosening the thumb screws situated along the length of the honeycomb retainer, when the screws are all loose the retainer can be moved towards the rear of the cabinet, this will allow the honeycomb to be removed with ease. Once removed the honeycomb should be cleaned with warm soapy water only, when cleaning honeycomb always make sure that all the debris is removed from within the straws that make up the honeycomb, if they are not removed they can form a barrier to the air flow through the honeycomb and affect the cabinet performance. Once cleaned the honeycomb should be left to dry before being refitted, if the honeycomb is refitted when it is still wet there is a chance that the moisture will turn to ice and block the honeycomb. To refit the honeycomb use the reverse of the above procedure.

With all the cabinet panels removed the cleaning process can begin. It is very important to make sure that all foreign bodies are removed from the internal air ducts.

Check and clean the cabinet’s evaporator, when cleaning evaporators take care as the fins are very sharp and can cause injury. Make sure that no pipes are rubbing or in contact with a sharp edge.

When the cabinet's profiling has been removed it can be cleaned. This should only be carried out by trained personnel, using only cleaning products approved by their company. Only non-abrasive products should be used to ensure the long life of painted surfaces. Do not use steel wool or sharp tools during this task. When the cleaning process is complete the drain trap should be sucked back again to remove any debris dislodged during cleaning.

While the cabinet is stripped down an appointed service engineer should carry out leak checks on the cabinets refrigeration system. At this point the cabinet should also be electrically tested. Any problems should be resolved before the cabinet is reassembled.

Before the cabinet is turned back on you need to make sure that it is dry, clean and that all its internal parts are present and have been refitted correctly.

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12) ELECTRICAL WIRING DIAGRAM

