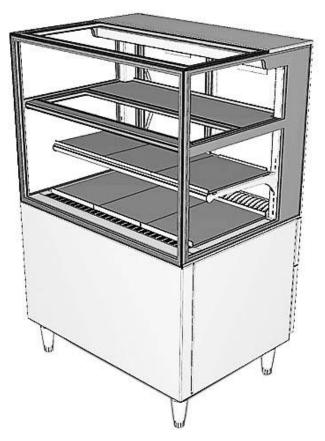


PRODUCT MANUAL 28578 REV N JUL 2024



# CUSTOM

# McDONALD'S MEA INLINE HORIZONTAL SPLIT CABINET REFRIGERATED: R513A



WIDTHS: 600/900mm FIXED FRONT/SLIDING REAR DOORS INTEGRAL REFRIGERATION

# Warnings

Function	This cabinet is not designated as a beverage cabinet. It is intended to display food items, chilled in the lower section and ambient temperature in the upper section.
Caution	Do not store explosive substances, such as aerosol cans with flammable propellant, in this appliance.
Mains Supply Cord	If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons, in order to avoid a hazard.

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# INTRODUCTION

# Welcome

**REFRIGERATED CABINETS - INTRODUCTION** 

Future Products Group (FPG)	Welcome to the world of FPG! Our products are designed and engineered to give you the optimal performance that you deserve with innovative visual merchandising appeal. We are confident that you will be delighted with your state of the art inline food service cabinet, and that it will become a valued appliance in your store.
Guidance and Help	<ul> <li>Any new appliance can seem very complex and confusing at first glance. To ensure you receive the utmost benefit from your new inline cabinet, there are two things you can do.</li> <li>Before operating the cabinet, please read the instruction book carefully and follow its recommendations. The time taken will be well spent. These instructions both general and technical tell you how to install, operate and look after your inline food service cabinet so that you can receive the full benefits that this cabinet has to offer.</li> <li>These instructions cannot, however, cover all eventualities. If you are unsure of any aspect of the installation, instructions or performance of your</li> </ul>
	cabinet, contact your dealer promptly or contact us via email to support@fpgworld.com.

# Warranty

**REFRIGERATED CABINETS - INTRODUCTION** 

Warranty Period	Future Products Group Limited warrants, to the original purchaser of an FPG manufactured food service cabinet, that for TWO YEARS (24 months) from the date of purchase, any defect in workmanship or material resulting in the product malfunctioning while under correct use will be rectified.
	For refrigerated cabinets with integral or near-remote refrigeration the warranty is extended to THREE YEARS (36 months), for refrigeration condenser units. Conditions apply, see Liability Exceptions.
	Liability under this warranty is limited to replacing or repairing a part, without charge.

Continued on next page

# Warranty cont. REFRIGERATED CABINETS - INTRODUCTION

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Liability Exceptions	<ul><li>Liability under this warranty does not include:</li><li>Any loss, damage, or expenses directly or indirectly arising from the use of,</li></ul>	
	or inability to use, the product or from any other cause.	
	<ul> <li>Any part of the cabinet which has been subject to misuse, neglect, alteration, incorrect installation, accident, or damage caused by transportation, use of abrasive or caustic chemicals, flood, fire or acts of God.</li> </ul>	
	<ul> <li>Damage, resulting from failure to have the cabinet regularly serviced by a refrigeration engineer:</li> </ul>	
	<ul> <li>For cabinets with integral or near-remote refrigeration, every three months. NB: You will be required to provide copies of service records in the event of condenser failure.</li> </ul>	
	<ul> <li>For cabinets with remote refrigeration, annually.</li> </ul>	
	<ul> <li>Any damage or malfunction, resulting from the use of non-FPG supplied spare parts.</li> </ul>	
Specific Exclusions	The following are specifically excluded from warranty:	
	<ul> <li>Breakage of glass or plastic components, or the replacement of LED lighting assemblies or gaskets.</li> </ul>	
	<ul> <li>Maladjustment of the electronic refrigeration controller, by an unqualified person.</li> </ul>	
	<ul> <li>For cabinets with integral or near-remote refrigeration, failure resulting from a lack of routine condenser / radiator cleaning.</li> </ul>	
	<ul> <li>Failure to re-assemble the cabinet correctly after cleaning.</li> </ul>	
	Fair wear and tear.	
Assessment	The liability under this warranty is dependent on an assessment by FPG, to determine the defect in workmanship or materials.	
Time Limit	FPG does not guarantee that any service to be performed under this warranty will be carried out within any particular time limit.	
Caution	FPG will not be held responsible for any servicing costs incurred prior to FPG's acceptance of a warranty claim.	



# **OPERATION**

# **Cabinet Layout**

REFRIGERATED CABINETS - OPERATION

Square Series Cabinets	This Square Series cabinet has a refrigerated main section, with an upper ambient temperature section.
	The cabinet has fixed front glass, and rear sliding doors.
	The cabinet is Free Standing, with an integral condenser unit.
	Condensate is piped to an internal ACR unit.
Shelf Lighting	Cabinets are fitted with a top light and lights below each shelf.
	Cabinets are fitted with high efficiency LED lighting.
Shelves	The lower shelf and base trays are made from stainless steel.
	The upper section base is fixed in position.
	It is made from coated PVC, and part double glazed glass.
	This insulates the upper, ambient section from the chilled lower section.

# Controls

**REFRIGERATED CABINETS - OPERATION** 



Temperature Controller



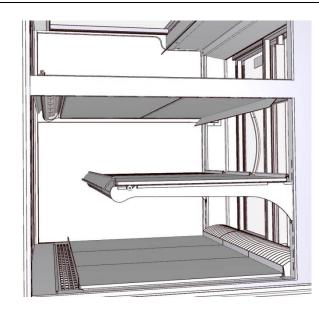
The controller regulates the cabinet temperature and controls the automatic defrost cycles.

The display indicates the cabinet air temperature.

# Preparation

**REFRIGERATED CABINETS - OPERATION** 

Shelf Location and Ticketing



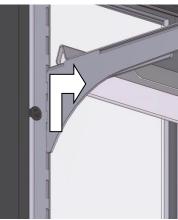
The top base position is fixed.

The lower shelf position is adjustable in height and can easily be moved up or down, to match product size.

The movement is restricted to 50mm, because of the electric cables to the lights. For greater movement contact the manufacturer or supplier for advice, as electrical modifications may be required.

The front and rear edges of the shelves are profiled to carry ticketing/labels.

# Shelf Adjustment



To move the shelf brackets, first remove the shelf trays.

Lift the brackets straight up firmly and then pull the brackets forward, to disengage them from the slots in the support posts.

Insert the brackets into their new position, and push bracket down firmly.

The brackets may be positioned to give two different degrees of slope to the shelf.

Refit the shelf trays and doors.

**N.B.** Make sure brackets are pushed down as far as they can go. Failure to do this may result in shelf collapse, when loaded with product.

Turn on Refrigeration

The refrigeration condenser will run as soon as the cabinet main switch is turned ON, and the cabinet temperature will begin to fall.

The temperature controller is pre-set to maintain the lower section temperature at  $2^{\circ}$  -  $4^{\circ}$  C, and should not need adjustment.

Continued on next page



Load Cabinet	Load the lower section of the cabinet with pre-chilled product.
	The cabinet is designed to maintain the temperature of pre-chilled product at between 2° and 4°C. It is not a refrigerator, and consequently, if warm product is introduced, there could be some delay before the operating temperature falls to the normal operating level.
	The upper, ambient section of the cabinet is not chilled, and must not be used to display perishable items.
Loading Restrictions	It is important to leave adequate free space for the refrigerated air to circulate within the cabinet. A minimum clearance of 40 mm over the products should be maintained below the lower shelf.
	The maximum loading on shelves must not exceed 25kg of evenly distributed products.
	The air grilles at the front and rear of the cabinet must not be covered at all.
Close all Doors	It is important to keep the cabinet doors closed. If doors are not fully closed, an even temperature will not be maintained within the cabinet.

# Routines

**REFRIGERATED CABINETS - OPERATION** 

After Hours	Ideally, cabinets should not be turned off after hours or at night. Products can either be left in the cabinet or placed in night storage. Shut the cabinet doors and turn off the lights. The cabinet will then operate on minimum load, and stay cold, ready for instant operation when next required.
	If the cabinet is turned off, allow it to run for about half an hour before replacing the pre-chilled products.
Cleaning	Since the cabinet needs to be switched off during cleaning operations, it is best to clean it at the end of the working day. The cabinet will then have time to recover its normal operating temperature, before replacing the products.
	Once the cleaning is finished, turn the cabinet on again, turn off the lights and shut the doors. The cabinet will cool down under minimum load and be ready for the next day's use.
-	

# CLEANING

# Cautions

REFRIGERATED CABINETS - CLEANING

Power	ALWAYS TURN THE POWER SUPPLY OFF BEFORE CLEANING.
Water	THIS UNIT IS NOT WATERPROOF. DO NOT USE A WATER JET SPRAY TO CLEAN THE INTERIOR OR EXTERIOR OF THIS CABINET.

# **Procedures**

**REFRIGERATED CABINETS - CLEANING** 

McDonald's Standard Procedures	McDonald's Planned Maintenance, PM cards, sho cleaning procedures.	ould be followed for all regular
Sliding Doors		Sliding glass doors are located by plastic guides at the top and bottom.
		The doors can be removed for cleaning by sliding the door to a central position, placing hands either side of the door, lifting it up and then swinging it out at the bottom.
		When replacing doors, make sure that they are located in the correct slots, top and bottom. The left door should
	be in the inner slots, and the right door in the oute	er slots.

Sliding door tracks should be vacuumed out regularly to keep doors sliding freely.

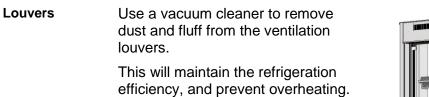
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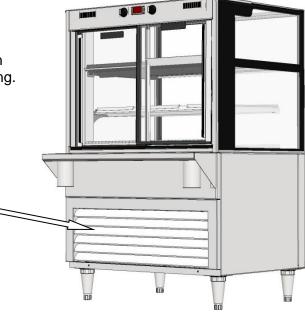


# Procedures cont.

Removable Parts

**REFRIGERATED CABINETS - CLEANING** 







All of the parts shown above can be removed for cleaning with McD APSC. Stainless steel parts **only** may be cleaned in a dishwasher.

Remove the doors, by sliding them to the centre and lifting, to disengage them from the door tracks.

Continued on next page

# Procedures cont.

REFRIGERATED CABINETS - CLEANING

Cleaning the	Remove two screws to release the fan deck and coil cover.
Base Cavity	Sweep out, or use a vacuum cleaner, to remove any debris from the cabinet base cavity. Make sure that the condensate drain hole is clean.
	A Wet-and-Dry vacuum cleaner should be used, since there is likely to be some water in the bottom. Finally, wipe out the bottom with a damp sanitized cloth.
	Do not pour water into the base, or the condensate container will overflow.
Cooling Fins	If there is food lodged in the cooling fins, it is best to use a wet and dry vacuum cleaner to suck out the food. DO NOT attempt to hose food parts from fins.
	<b>Caution:</b> The fins are very sharp. Take extra care when cleaning this area. Do not bend the fins over, as this would restrict the air flow and degrade cabinet performance.
Temperature Probes	Take care not to damage or move the temperature probes, when cleaning the cooling fins. One probe is located on the fan side of the cooling coil, in free air. A second probe is inserted between the fins of the cooling coil on the air exit side.
	Do NOT move the probes.
Condensate Container	The condensate container is only designed to handle cooling-coil defrosting liquid that drains from the well.
	DO NOT fill the well with liquid, or attempt to hose out as condensate container will overflow and leak onto floor.



# Routines

**REFRIGERATED CABINETS - CLEANING** 

# **Schedules** To maintain optimum performance, regular cleaning schedules should be established, as specified in the McDonald's PM card.

Failure to carry out routine cleaning/servicing schedules will void the warranty on the refrigeration equipment.

# Condenser<br/>AssemblyFor efficient refrigeration<br/>performance, the condenser<br/>radiator must be kept clean.<br/>Failure to do this will lead to<br/>a build-up of dust, and<br/>restricted airflow will prevent<br/>the unit from working<br/>properly. The compressor<br/>may overheat and the<br/>cabinet temperature may<br/>rise.Regular vacuuming will

Regular vacuuming will prevent a build-up of dust and fluff, however, three monthly service checks by a refrigeration engineer, which include cleaning the condenser with compressed air, are mandatory.

Be very careful not to bend or damage the soft aluminium fins when vacuuming the radiator. If the fins are flattened, airflow will be restricted and overheating will result.

# INSTALLATION

**Regulations** REFRIGERATED CABINETS - INSTALLATION

Setting Up REFRIGERATED CABINETS - INSTALLATION

Unpacking	Unpack and check unit for damage and report any damage to the carrier and supplier. Report any deficiencies to your supplier. The display cabinet is supplied fully assembled, but shelf trays, inserts and rear shelf are packed separately.	
Level the Cabinet	Using a spirit level, adjust the feet to ensure the cabinet is level from side to side and front to back. (If this is not carried out, water may accumulate in the cabinet well, and uneven temperature distribution could also occur).	
Cabinet Preparation		Remove all protective plastic film, tapes, ties and packers, used to prevent movement during transit. Lift out the deck trays to gain access to the cabinet well. Be sure to replace them as shown.
Shelves trays and Rear Shelf	Assemble the shelf trays and inserts on the supp Fit the rear shelf and inserts, using the key-hole screws.	
Grounding	WARNING: THIS APPLIANCE MUST BE GROUNDED TO EARTH The grounding lead, in the mains cable, must always be connected to earth.	
Power Supply	Before connecting to the power supply, check that the local supply is correct to that shown on the rating plate, located on the rear of the cabinet.	



# **SPECIFICATIONS**

# Mechanical

**REFRIGERATED CABINETS - SPECIFICATIONS** 

	CABINET MODEL	
	IL-MD-600-REF-SQ	IL-MD-900-REF-SQ
Height	1352 (-0+30) mm	1352 (-0+30) mm
Width	600 mm	900 mm
Depth	662 mm (+150mm shelf)	662 mm (+150mm shelf)
Dry Weight	Approx. 110 kg	170 kg
Cabinet Well Material	Stainles	ss steel
Cabinet Colour	Black and natural ar	nodised aluminium.
Top Lighting	Standard	Standard
Shelf Lighting	Standard	Standard
Glass Type	Double glazed	Double glazed
Front Doors	Fixed glass	Fixed glass
Rear Doors	Sliding glass	Sliding glass
Number of Shelves	Two plus base	Two plus base
Ambient Display Area	0.27 m <sup>2</sup>	0.4 m <sup>2</sup>
Chilled Display Area	0.45 m <sup>2</sup> (including base)	0.6 m <sup>2</sup> (including base)
Refrigerant	R513A	R513A
Refrigerant charge	see Rating Label	see Rating Label
Condensate capacity	3 litres	3 litres
Climatic Class & IP All cabinets are suitable for class N climates and have		climates and have an IP X0 ratir

# Electrical

**REFRIGERATED CABINETS - SPECIFICATIONS** 

Γ	CABINET MODEL	
	IL-MD-600-REF-SQ	IL-MD-900-REF-SQ
Voltage	220 - 240 V 50/60 Hz 1ф	220 - 240 V 50/60 Hz 1φ
Power	690 W max	990 W max
Current (max)	3 A	4.3 A
Energy Consumption	TBA kWh/h	0.35 kWh/h
Connection	3 pin plug, 10 A lead	3 pin plug, 10 A lead
Temperature Range	2° - 4° C Lower Section Ambient Upper Section	2° - 4° C Lower Section Ambient Upper Section
Top Lights	1 x LED strip	1 x LED strip
Shelf Lights	2 x LED strips	2 x LED strips

**Controller Settings** REFRIGERATED CABINETS - SPECIFICATIONS

Dixell XR40CX Settings	Parameter	IL-MD-600-SQ	IL-MD-900-SQ	
Set Point	Set	2	2	
Differential	Hy	2	2	
Third Probe Used	P3P	Y	Y	
Anti Short Cycle Delay	AC	0	0	
Comp On Time - Faulty Probe	C0n	4	4	
Comp Off Time - Faulty Probe	C0F	6	6	
Defrost Terminate Temp	dtE	3	3	
Interval Between Defrosts	ldF	4	4	
Display During Defrost	dFd	DEF	DEF	
Maximum Temperature Alarm	ALU	12	12	
Differential For Temp Alarm	AFH	8	8	
Temperature Alarm Delay	Ald	60	60	
Probe For High Temp Alarm	AP2	P3	P3	
High Temp Alarm Set Point	AU2	100	100	
High Discharge Temp Alarm Diff	AH2	25	25	
High Discharge Temp Alarm delay	Ad2	0	0	
High Alarm Delay At Start	dA2	0	0	
Comp Off For High Temp Alarm	AC2	Y	Y	

**Compliance** REFRIGERATED CABINETS - SPECIFICATIONS

Safety Aspects	<ul> <li>This cabinet has been designed to comply with the relevant requirements of the following specifications:</li> <li>IEC 60335-1 Ed 5.2 : Household and similar electrical appliances – Safety-General Requirements.</li> <li>IEC 60335-2-89 Ed 2.2 : Particular requirements for commercial refrigerating appliances with an incorporated or remote refrigerant unit or compressor.</li> </ul>		
Operational Safety	This appliance is not intended for use by young children or infirm persons, unless they have been adequately supervised by a responsible person, to ensure that they can use the appliance safely.		
Young children should be supervised, to ensure that the appliance.			they do not play with the
Performance	The cabinet is HACCP compliant, with the following performance:		
Aspects of Refrigerated	Cabinet Operating Temperature	Average Internal Humidity	Test Conditions
Cabinets	+2° to +4°C	70% RH	25°C Ambient with 60% RH



# Equipment Disposal REFRIGERATED CABINETS - SPECIFICATIONS

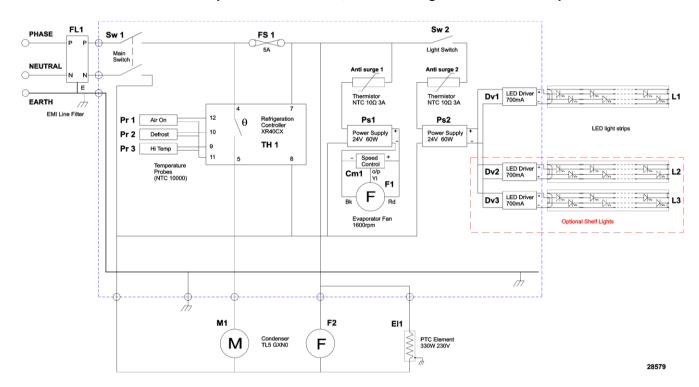
Specialist Disposal	Specialist disposal procedures are required for the safe removal of refrigerant gasses and potentially flammable foam materials. Pentane, Dimethyl Ether, Isobutene, Butane and Propane may be present.	
Hazardous Substances	The cabinet does not contain any of the following, in its construction: Asbestos PCBs (Oils containing polychlorinated biphenyl) Mercury	

# Improvements

REFRIGERATED CABINETS - SPECIFICATIONS

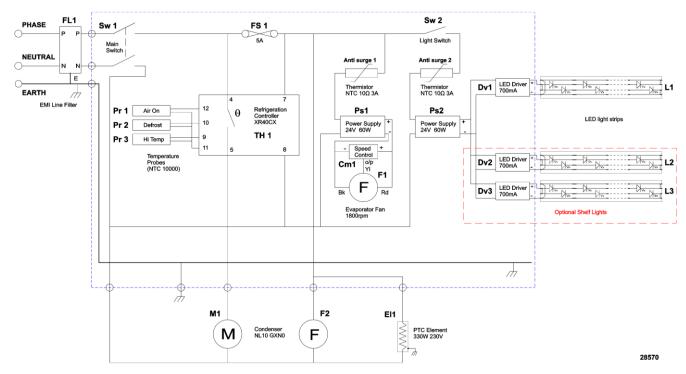
Ongoing Development FPG reserves the right to change specifications and construction, as part of ongoing product improvement.

# **ELECTRICAL CIRCUIT DIAGRAMS**



## Model: IL-MD-600-REF-SQ Square Format Series, 600mm Refrigerated Horizontal Split Cabinet







# SPARE PARTS

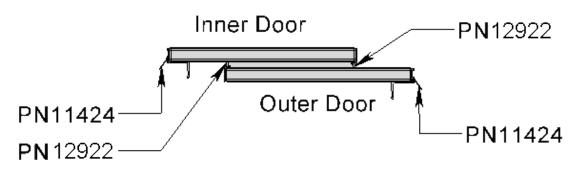
## **Cabinet Serial Number** When ordering spare parts, it is important to quote the Serial Number printed on the label fixed to the control panel. This will enable FPG to trace details of the build specification of your particular cabinet, and hence ensure that spare parts are fully compatible.

# To satisfy warranty conditions, and ensure optimum performance, use only FPG supplied spare parts.

Part Description	FPG Part No.
Main & Light Switch, EGO*	14372
Fuse Link (5A, 250V, Slow Blow)*	13330
Knob (light switch)	14374
Ant-surge Thermistor 10 Ohm 3A*	22354
24V 60W LED power supply*	25473
LED Drivers 700mA (4 x assy)*	69130
Polycarbonate Shelf Light Cover (600 cabinet)	32907
Polycarbonate Shelf Light Cover (900 cabinet)	32908
Polycarbonate Top Light Cover, (600 cabinet)	25222
Polycarbonate Top Light Cover, (900 cabinet)	25223
Top Light Replacement Kit, (600 cabinet)	69862
Top Light Replacement Kit, (900 cabinet)	73158
Divider Shelf Light Replacement Kit, (600 cabinet)	73401
Divider Shelf Light Replacement Kit, (900 cabinet)	73156
Bottom Shelf Light Replacement Kit, (600 cabinet)	69873
Bottom Shelf Light Replacement Kit, (900 cabinet)	69402
Dixell XR40CX digital refrigeration controller*	21219
NTC temperature probe (3 metre)*	31217
Evaporator fan Blauberg 24V dc *	77896
Condenser Unit TL5 GXN0 (600 cabinet)*	24842
Condenser Unit NL10 GXN0 (900 cabinet)* 2173	
ACR PTC Element 330W*	27751

\*Recommended Spare Parts to be carried by Service Provider

# **Door Seals**



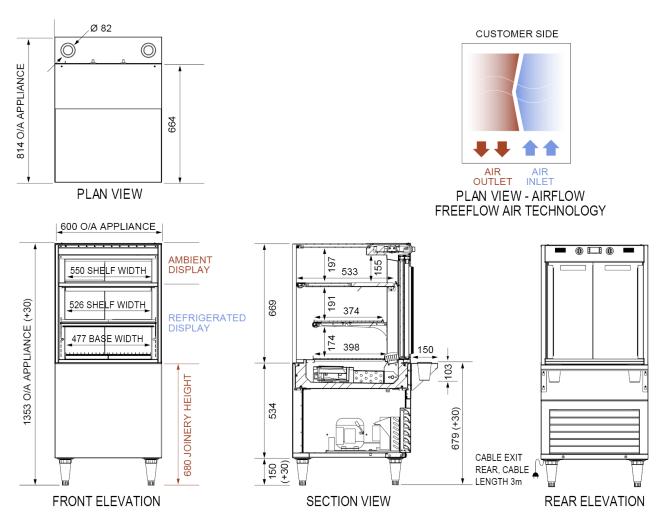
Part Description	FPG Part No.
All glass parts are double glazed	
Handed parts are identified as viewed from the rear of the cabinet	
MD 600/900 LH End Glass Replacement Kit*	75181
MD 600/900 RH End Glass Replacement Kit*	75180
MD 600 Ref Front Glass Replacement Kit*	75142
MD 900 Front Glass Replacement Kit*	75179
MD 600 Ref Top Glass Replacement Kit*	75182
MD 900 Top Glass Replacement Kit*	75183
Shelf Front Air Baffle Panel, (600 cabinet)*	73363
Shelf Front Air Baffle Panel, (900 cabinet)*	73319
Divider shelf glass insert, (600 cabinet)*	27150
Divider shelf glass insert, (900 cabinet)*	26892
Rear Inner Sliding Door, (600 cabinet)*	71909
Rear Inner Sliding Door, (900 cabinet)*	71006
Rear Outer Sliding Door, (600 cabinet)*	71910
Rear Outer Sliding Door, (900 cabinet)*	71007
Slide-in rubber door seal	11424
Qlon door seal	12922
Rear vane flap replacement kit, (600 cabinet)*	75568
Rear vane flap replacement kit, (900 cabinet)*	75567
Plastic Air Grille*	12480
Black Acrylic Base Tray (600 cabinet)	27152
Black Acrylic Shelf Tray (600 cabinet)	29507
Bamboo Base Tray (600 cabinet)	28656
Bamboo Shelf Tray (600 cabinet)	29906
Black Acrylic Base Tray (900 cabinet)	26581
Black Acrylic Shelf Tray (900 cabinet)	29367
Bamboo Base Tray (900 cabinet)	29499
Bamboo Shelf Tray (900 cabinet)	29500
Tumbler/Tong Holder, Stainless Steel 100 x 80mm	30513
Product Manual for Square Format Series Refrigerated Cabinets	28578

\*Recommended Spare Parts to be carried by Service Provider

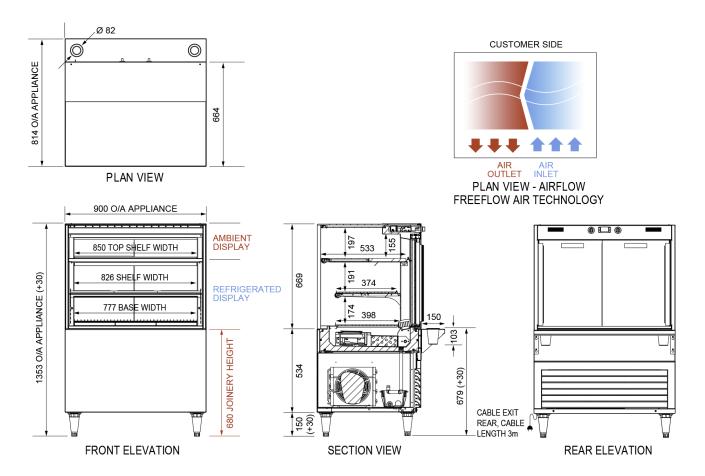


# **MECHANICAL DRAWINGS**

# Model: IL-MD-600-REF-SQ



# Model: IL-MD-900-REF-SQ





Revision Level	Date of Change	Change Details
м	22/02/24	Door seal PN 13677 replaced with PN 12922
IVI	06/06/24	Top and Shelf Light diffuser spares updated
N	11/07/24	Elevation drawings added

# **Revision History**

# PRODUCT MANUAL 28578 REV N JUL 2024

In line with our policy to continually develop, improve and support our products, Future Products Group Ltd reserves the right to change specifications and design without notice.

Have a question? Please email us at: <u>sales&fpgworld.com</u> or visit <u>www.fpgworld.com</u> for full contact details for your region. Worldwide Contact

details: 🗖

