MODELS
IL-7EL-AT/HT

PRODUCT MANUAL 22827

REV T APR 2024

FPG

FPGWORLD.COM

CUSTOM*

7-ELEVEN TOWER CABINETS
FREESTANDING
HEATED & REFRIGERATED: R513A & AMBIENT

WIDTH: 80 mm

HINGED FRONT DOORS

Warnings

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 they do not play with the appliance.
Water	THIS UNIT IS NOT WATERPROOF. DO NOT USE A WATER JET SPRAY TO CLEAN THE INTERIOR OR EXTERIOR OF THIS CABINET.
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.
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

Table of Contents

INTRODUCTION

Welcome

TOWER SERIES 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

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.

- 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.
- These instructions cannot, however, cover all eventualities. If you are unsure of any aspect of the installation, instructions or performance of your cabinet, contact your dealer promptly or contact us via email to support@fpgworld.com.

Warranty

TOWER SERIES 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.

TOWER SERIES CABINETS - INTRODUCTION

Liability Exceptions	Liability under this warranty does not include:
	• Any loss, damage, or expenses directly or indirectly arising from the use of, or inability to use, the product or from any other cause.
	• 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.
	• Damage, resulting from failure to have the cabinet regularly serviced by a refrigeration engineer:
	  ○ 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.
	  ○ For cabinets with remote refrigeration, annually.
	• Any damage or malfunction, resulting from the use of non-FPG supplied spare parts.

Specific Exclusions	The following are specifically excluded from warranty: • Breakage of glass or plastic components, or the replacement of LED lighting assemblies or gaskets. • Maladjustment of the electronic refrigeration controller, by an unqualified person. • For cabinets with integral or near-remote refrigeration, failure resulting from a lack of routine condenser / radiator cleaning. • Failure to re-assemble the cabinet correctly after cleaning. • 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

TOWER SERIES CABINETS - OPERATION

Tower Series Cabinets

The Tower Series cabinets have hinged glass front doors, and closed backs.

The series includes Controlled Ambient and Heated models.

A heated model is available with a pre-heat oven fitted below the heated section.

The controlled ambient cabinets are supplied with integral refrigeration condensers and automatic condensate removal ACR units.

The cabinet lighting and temperature controls are at the top of the cabinet, accessible from the front.

Bins are provided for bags etc.

Lighting

All cabinets are fitted with high efficiency LED lights as standard.

Condenser Units

The controlled ambient cabinet condenser unit is located in the base of the cabinet.

The cabinet has openings to allow adequate ventilation to ensure efficient refrigeration performance.

Articles which could restrict air flow must NOT be placed against the cabinet.

Thermometer

Cabinets have a thermometer under the top pelmet, on the right hand side.

This indicates the internal temperature of the cabinet.

Cabinet Controls

TOWER SERIES CABINETS - OPERATION

Controlled Ambient Cabinet

The controls are mounted on the top of the cabinet. There is a power switch, a light switch and a refrigeration controller.

Refrigeration Controller

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

The display indicates the internal temperature of the display area.

Temperature Controller Adjustment

This controller should only be adjusted by a qualified service technician.

The controller is set up during manufacture of the cabinet, and should not require further adjustment.

The indicated temperature is sensed by a probe in the return air, entering the cooling coil. This is used to control the refrigeration condenser operation, and will be marginally higher than the internal cabinet temperature.

The temperature of the condenser is also monitored, to protect the compressor from damage resulting from blocked radiators etc.

Heated Cabinet

The controls are mounted on the top of the cabinet. There is a power switch, a light switch and a heating controller.

Heating Controller

The controller regulates the temperature of the heated cabinet.

The set temperature can be changed by holding down the left button, and pressing the up or down key as required.

Pre-heat Oven Controls

The controls are on the front panel of the pre-heat oven.

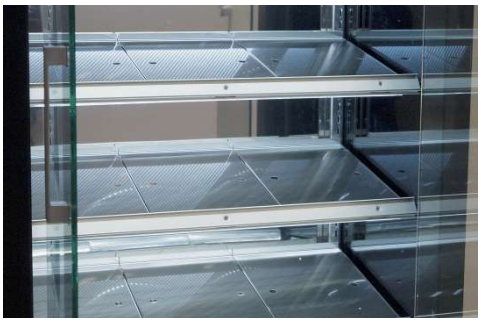
There is a power switch and two illuminated push buttons.

Operating instructions are printed on a label below the lower push button.

Preparation

TOWER SERIES CABINETS - OPERATION

Shelf Location and Ticketing

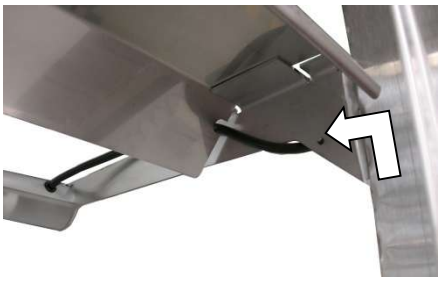


All shelves are adjustable in height and can easily be moved up or down, to match product size.

The permitted movement is restricted to 50mm, because of the electric cables to the lights and air flow considerations.

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

Shelf Adjustment



Using two people, one on each bracket, 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.

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.***

Power Supply

Confirm that the local mains supply conforms to that shown on the cabinet serial number label. Connect the power supply lead to a mains socket.

Refrigeration

On controlled ambient cabinets, the compressor will run as soon as the cabinet main switch is turned on, and the cabinet temperature will be controlled.

The temperature controller is pre-set to maintain the cabinet temperature at 18°C, and should not need adjustment.

Defrost Cycle

Note that the defrost times are set from when the cabinet is first turned on. If they are required at a particular time, you must turn on the cabinet four hours before the first defrost required. The cycles will then occur every four hours, provided that the cabinet is not switched off.

Each defrost cycle terminates as soon as the temperature of the evaporator fins rises to a level indicating that all ice has melted. This active control improves the energy efficiency of the cabinet, and minimises temperature fluctuations.

Do NOT check the cabinet temperature within ½ hour of a de-frost cycle.

Continued on next page

Preparation cont.

Heated Cabinets

On heated display cabinets, the heating elements will run as soon as the cabinet main switch is turned on, and the cabinet temperature will be controlled.

The temperature controller is pre-set to maintain the cabinet temperature at 80°C, but can be adjusted over the range 68°C to 95°C. A minimum setting of 75°C is recommended to maintain food temperature within food safety guidelines.

NOTE Setting the controller to a higher temperature than required will not speed up the heating process. **Set it to the desired temperature.**

Fumes and Odours

Before first use, operate cabinets for a few hours to remove any fumes or odours, which may be present. See Installation section.

Loading Ambient Cabinet

Load the cabinet with ambient temperature products.

The cabinet is designed to maintain the temperature of product at 18°. 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. It is important to leave adequate free space for the cool air to circulate within the cabinet.

A minimum clearance of 40 mm should be maintained below the shelves and the top of the cabinet.

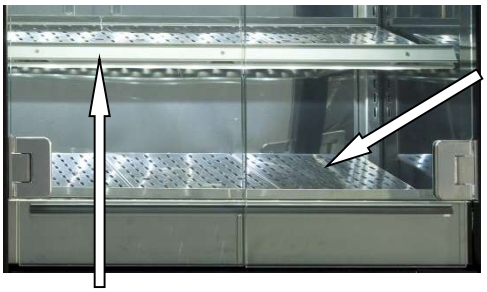
The air grills at the front and rear of the cabinet must not be covered.

Loading Heated Cabinets

Load the heated cabinet with **pre-heated** product, it is designed to maintain the temperature of pre-heated product at 80°C.

It is not an oven, and consequently, if cold product is introduced, there could be a considerable delay before the operating temperature rises to the normal operating level.

Heated Cabinet WARNING: Aluminium Foil



Do NOT place aluminium foil on the base trays. This will disrupt the convection circulation of air, and cause uneven heating.

Blockage of air vents may cause severe overheating of the cabinet base.

To avoid reduced operating life of the LEDs, do not block the air flow between the front ticket strip and the LED mounting bar.

Blockage of air vents may cause severe overheating of the cabinet base, and trip the overheat safety thermostat.

Continued on next page

Preparation cont.

TOWER SERIES CABINETS - OPERATION

Pre-heat Oven

The pre-heat oven is a self-contained unit, usually mounted below the display section of the heated display cabinet.

The oven has an automatic controller, which governs the temperature and duration of pre-heating cycles for chilled products.

A manual-reset over-temperature cut-out is fitted on the back panel.

The oven has its own power supply cable.

Drawers

The oven has two drawers, with removable, perforated trays.

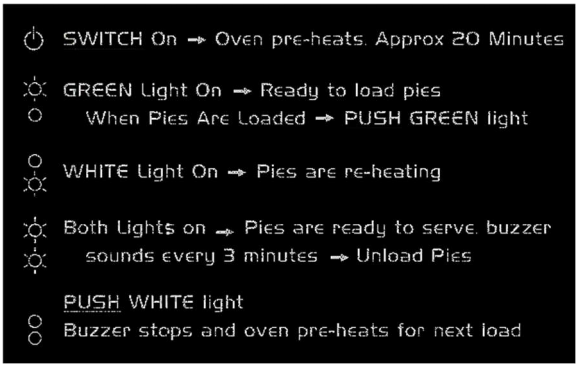
It uses forced hot air circulation, but the trays should not be covered with aluminium foil, as this will cause uneven heating.

Loading the Oven

Place chilled products on the perforated trays in the two drawers.

Do not pack items too tightly, or air circulation will be restricted and uneven heating may result.

Oven Heating Sequence



The oven has an automatic controller, which governs the temperature and duration of pre-heating cycles.

By operating push buttons and observing indicator lamps, the operator is guided to achieve correct pre-heat sequences.

A label on the oven front panel has full operating instructions.

Close all Doors

It is important to keep all cabinet doors closed. If doors are not fully closed, an even temperature will not be maintained within the cabinet.

Leaving the doors open may cause the overheat safety thermostat to trip off.

Turn on Lights

When ready for service, turn on the cabinet lights.

Operating Routines

TOWER SERIES CABINETS - OPERATION

After Hours

If controlled ambient cabinets are not turned off after hours or at night, shut the doors and turn off the lights. The cabinet will then operate on minimum load, and be ready for instant operation when next required.

If cabinets are turned off, to conserve energy, products must be removed and stored at an appropriate temperature.

When turned on again, allow cabinets to run for about half an hour before replacing the products.

Cleaning

Since cabinets need to be switched off during cleaning operations, it is best to clean them at the end of the working day. Cabinets will then have time to recover their normal operating temperature, before replacing the products for the next day's business.

Door Opening

The cabinets are designed to maintain food at the correct temperature with the doors being opened and closed up to 75 times per hour. If the doors are left open for an extended period the temperature will deviate. Once the doors are shut the temperature will take some time to return to the normal operating level. The longer the doors are open the longer the time to restore normal operating temperature.

Pre-heat Ovens

The oven has an automatic controller, which governs the temperature and duration of pre-heating cycles:

- Turn the oven switch on to start a heating cycle.
- **It is important to wait until the green light is ON, before loading products.**
- With the drawers loaded and closed, push the green button to start the product heating cycle.
- The green light will go OFF and the white light will come ON, indicating that the product is being heated.
- When both the green and white lights come ON, and the buzzer sounds, the product is hot enough to be transferred to the display cabinet. The oven temperature will fall to a holding level, to avoid overheating the products.
- Push the white button to mute the buzzer, and start another pre-heat cycle.

  Do not push the white button until products are being removed.
- If no more product requires heating, turn OFF the oven switch.

CLEANING

Cautions

TOWER SERIES CABINETS - CLEANING

Power	**ALWAYS SWITCH THE ELECTRICITY SUPPLY OFF BEFORE CLEANING.**
Water	**CABINETS ARE NOT WATERPROOF. DO NOT USE A WATER JET SPRAY TO CLEAN THE INTERIOR OR EXTERIOR OF CABINETS.**

Exterior

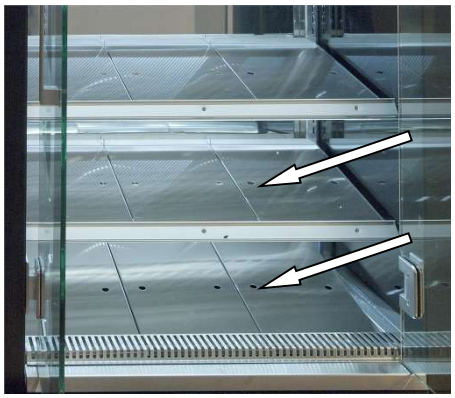
TOWER SERIES CABINETS - CLEANING

Metal Surfaces	Stainless steel or aluminium surfaces should be cleaned with hot soapy water or a good quality metal cleaning compound. DO NOT clean surfaces with abrasive pads or cleaners, as stainless steel and aluminium surfaces will be damaged.
Painted Surfaces	Painted surfaces should be cleaned with hot soapy water. Do not use abrasives or strong solvents, because they will damage the surface.
Glass	All glass should be cleaned using a good quality glass cleaner and a clean cloth. **DO NOT** use abrasive pads or cleaners, because they will damage the surface of the glass.
Doors	The hinged cabinet doors are not readily removable, and should therefore be cleaned in place.
Louvers	Use a vacuum cleaner to remove dust and fluff from all ventilation apertures. This will prevent overheating, and maintain the refrigeration efficiency of controlled ambient cabinets.
Front Bins	 The front bins can be removed from the cabinets, for ease of cleaning. Simply lift the bin insert vertically from the cabinet.

Controlled Ambient Cabinet Interior

TOWER SERIES CABINETS - CLEANING

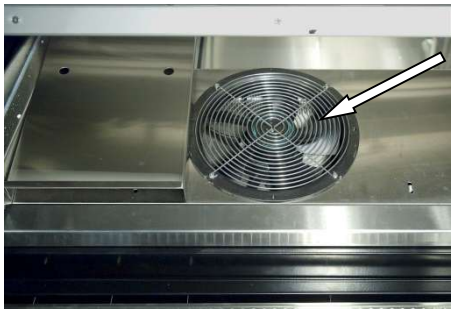
Interior of Refrigerated Cabinet



Using the finger holes, remove the shelf trays and deck trays.

The inside of the cabinet can be cleaned without removing the shelf support brackets.

Clean all brackets and ticketing rails.

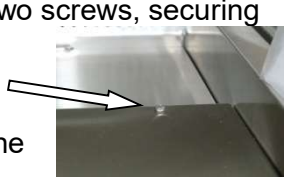


Remove the air louvers.
Sweep out, or use a vacuum cleaner, to remove any debris from the cabinet base cavity. Check the drain hole is clean.

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.

To access the cooling coil for extra cleaning. Remove the two screws, securing the fan deck.



Lift the cover plate off the evaporator coil and disengage it from the chassis.

Cooling Fins

If there is food stuck 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.

Caution: 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.

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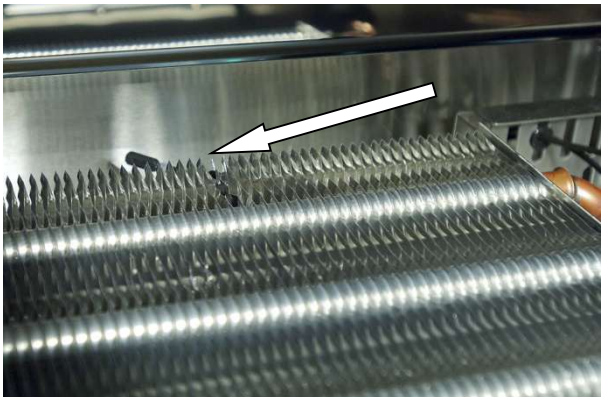
Controlled Ambient Cabinet Interior cont.

TOWER SERIES CABINETS - CLEANING

Temperature Probes



Take care not to damage or move the temperature probes, when cleaning the cooling fins.

The probes are located towards the back of the cabinet, so are not easily accessed.

One probe is inserted between the fins of the cooling coil and the other is in free air.

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.

Trays, Shelves & Air Grills

Stainless steel trays, shelves, grills etc. should be cleaned with hot soapy water. Do not use abrasive pads or cleaners, as these may damage surfaces.

Warning: Dishwasher detergents will damage any anodised aluminium parts.

Re-assembly

Take care to re-assemble panels and covers correctly, as any air gaps can adversely affect air circulation and the cabinet temperature.

Mini Ambient Interior

TOWER SERIES CABINETS - CLEANING

General

In general, cleaning is similar to the Controlled Ambient cabinet, but there is no cooling coil or air circulation fan deck.

Extractor Fan

Keep the extractor fan free of dust and fluff, to ensure correct cabinet operating temperatures.

Heated Cabinet Interior

TOWER SERIES CABINETS - CLEANING

Interior of Heated Cabinet

To clean the interior of the heated cabinet, first open the doors.

Remove the shelf trays and lift out the deck trays.

The inside of the cabinet can be cleaned without removing the shelf support brackets.

Cabinet Well

With the deck trays removed, sweep out or vacuum away any loose debris.

This cabinet is a dry well unit, so the well is not waterproof. Do NOT pour water into the well as it will leak out and damage insulation and electrical wiring.

Trays, Shelves & Air Grills

Stainless steel trays, shelves, grills etc. should be cleaned with hot soapy water, or they can be safely cleaned in a dishwasher.
Do not use abrasive pads or cleaners, as these may damage surfaces.

Warning: Aluminium items will be damaged by dishwasher detergents.

Re-assembly

Take care to re-assemble panels and covers correctly, as any air gaps can adversely affect air circulation and the cabinet temperature.

Pre-heat Oven Interior

TOWER SERIES CABINETS - CLEANING

Drawer Trays

Remove the trays from the drawers for cleaning. Use hot soapy water, or they can be safely cleaned in a dishwasher.

Pre-heat Oven Interior cont.

TOWER SERIES CABINETS - CLEANING

Drawers

The two drawers can be removed completely, by pulling them out fully and lifting upwards.

Fan Guard and Base Tray

Slide out the fan guard and base tray assembly, to check for debris in the well.

Elements

Remove any debris from the elements or well.

Caution:

If the oven was used recently, the elements may be hot.

Cleaning Routines

TOWER SERIES CABINETS - CLEANING

Schedules

To maintain optimum performance, cleaning schedules must be regular and thorough.

Warning

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

Controlled Ambient Condenser Radiator

For efficient refrigeration performance, the condenser radiator must be kept clean. Failure to do this will lead to a build up of dust, and restricted airflow will prevent the unit from working properly. The compressor may overheat and the cabinet temperature may rise.

Remove the lower rear panel of the controlled ambient cabinet to reach the radiator and any air filters. Filter panels should be removed for cleaning, by shaking or vacuuming off dust and fluff, and then washing in warm soapy water.

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.

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.

Inspection

As part of the cleaning routine, the controls, mechanical parts and electrical wiring should be inspected for damage, deterioration or need of adjustment.

Fault Correction

If any small faults are found, have them attended to promptly by a competent serviceman. Don't wait until they cause a complete breakdown.

TROUBLE SHOOTING

Heated Cabinets

FAULT	POSSIBLE CAUSE	REMEDY
Cabinet does not operate/start	The mains isolating switch on the wall, circuit breaker or fuses are off at the power board	Turn isolating switch circuit breaker or fuses on
	Internal fuse has blown	***Have wiring checked and replace fuse (5A Slow Blow)***
	The main switch on the cabinet is OFF	Turn the main switch ON
Cabinet does not reach temperature	One or more doors is open	Close doors and re-test temperature after 30 minutes
	Product blocking air grill	Place product on shelves
	Trays obstructing air flow	Re-position trays on shelves
	Controller needs adjustment	Adjust controller
	Thermostat faulty	***Replace controller***
	An element is blown	***Have the element replaced***
	Temperature probe damaged	***Replace temperature probe***
Cabinet lights and heating stop working, and controller has no display. Main Switch is still illuminated.	Overheat safety thermostat has tripped	Remove any obstruction to airflow. The overheat safety thermostat will reset when sufficiently cooled. Close any doors that were left open.
Cabinet lights not working	The light switch is OFF	Turn light switch ON
	LED power supply has failed	***Replace LED power supply***
	LED strip has failed	***Replace LED assembly***
	Fuse has blown	***Have wiring checked and replace fuse (5A Slow Blow)***

Pre-heat Ovens

FAULT	POSSIBLE CAUSE	REMEDY
Cabinet does not operate/start	The mains isolating switch on the wall, circuit breaker or fuses are off at the power board	Turn isolating switch circuit breaker or fuses on
	Over-temp cut-out tripped off	***Press reset button***
	Internal fuse has blown	***Have wiring checked and replace fuse (10A Slow Blow)***
	The front panel switch is OFF	Switch ON
Products do not reach required temperature	One or more drawers is open	Close drawers
	Foil blocking tray slots	Place product directly on shelves
	Products packed too tightly	Re-position on trays
	Controller needs adjustment	Adjust controller
	Controller faulty	***Replace controller***
	An element is blown	***Replace element***
	Over temp. cut-out failed	***Replace cut-out***
	Temperature sensor damaged	***Replace temperature sensor***
	Circulation fan failed	***Replace fan***
Indicator Lights do not come on	Lamp has failed	***Replace lamp***
	Controller faulty	***Replace controller***

Ambient Cabinets

FAULT	POSSIBLE CAUSE	REMEDY
Cabinet does not operate/start	The mains isolating switch on the wall, circuit breaker or fuses are off at the power board	Turn isolating switch circuit breaker or fuses on
	Internal fuse has blown	***Have wiring checked and replace fuse*** *(5A Slow Blow)*
	The refrigeration switch is in the OFF position	Switch ON
	The condenser has overheated	Check that all radiators and ventilation grills are clean
	The main switch on the cabinet is OFF	Switch ON
Cabinet temperature is incorrect (Controlled temperature type)	One or more doors is open	Close doors and re-test temperature after 30 minutes
	Ventilation grills are blocked	Vacuum or remove blockage
	Product blocking air grill	Place product on shelves
	Evaporator coil fins blocked	Clean coil fins of food etc.
	Trays obstructing air flow	Re-position trays on shelves
	Controller needs adjustment	***Adjust controller***
	Ambient temperature > 25°C	Adjust store air conditioning
	Evaporator coil iced up	***De-ice coil***
	Condenser radiator blocked	***Remove dust and debris***
	Controller faulty	***Replace controller***
	Temperature probe damaged	***Replace temperature probe***
	Fans not operating	***Have fans checked/replaced***
Cabinet temperature is incorrect (Ambient type)	Extractor not operating	***Have fan checked/replaced***
	Ventilation grills are blocked	Vacuum or remove blockage
	No clearance behind cabinet	Pull cabinet away from wall
Cabinet lights not working	The light switch is OFF	Turn light switch ON
	LED power supply has failed	***Replace LED power supply***
	LED strip has failed	***Replace LED assembly***
	Fuse has blown	***Have wiring checked and replace fuse (5A Slow Blow)***

Service Personnel Only The table entries in ***italics*** indicate actions to be taken only by qualified Service Personnel.

INSTALLATION

Regulations

TOWER SERIES CABINETS - INSTALLATION

Compliance with Local Requirements

It is very important that your inline food cabinet is installed correctly and that the operation is correct before use. Installation must comply with local electrical, health & safety and hygiene requirements.

Setting Up

TOWER SERIES CABINETS - INSTALLATION

Unpacking

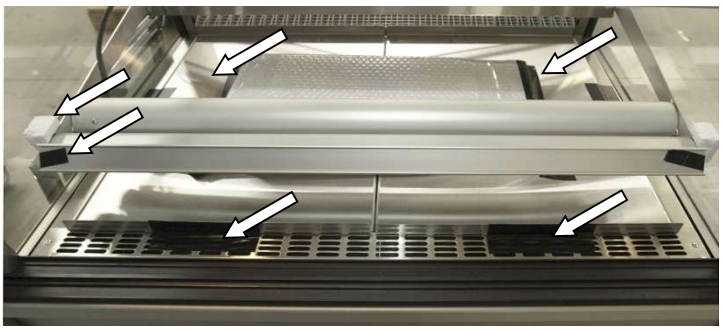
Unpack and check unit for damage and report any damage to the carrier and supplier. Report any deficiencies to your supplier.

The cabinets are supplied fully assembled, with the shelf trays wrapped separately and secured inside the cabinet.

Site Preparation

Position the cabinet in its allocated working position. Use a spirit level 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 of refrigerated cabinets, 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 correctly.

Shelf Trays

Remove the shelf trays from their packing, peel off any protective plastic coating and assemble them on the support members.

Continued on next page

Setting Up cont.

TOWER SERIES CABINETS - INSTALLATION

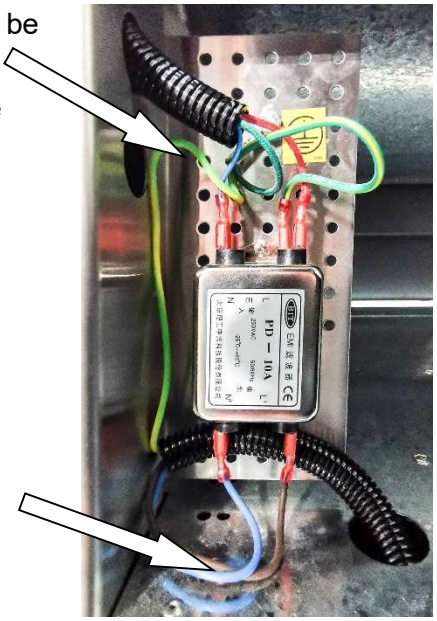
Grounding

WARNING: THIS APPLIANCE MUST BE GROUNDED TO EARTH

The earth lead, in the mains cable, must always be connected to ground.

The earth terminal can also be used to bond the cabinet to a surge grounding conductor or to adjacent equipment.

The incoming phase and neutral leads are connected directly to the EMI line filter, which is located just above the cabinet base.



Isolation

If the cabinet is not connected by a plug and socket, but is hard wired to the mains supply, a means of isolation must be provided.

If a plug and socket are used, they should still be accessible after the cabinet is installed.

Location

TOWER SERIES CABINETS - INSTALLATION

Ventilation

Ventilation openings on refrigerated cabinets must never be obstructed. If obstructed the condenser may overheat and cause an electrical malfunction.

The heated cabinet is designed to meet the HACCP specification with free room air circulation.

Access

The cabinet should be positioned so the operating controls are accessible. The shelves must also be easily reached, for loading and unloading.

Fumes and Odours

Before use, operate heated cabinets for 4 hours, to remove any fumes or odours, which may be present. Open the doors periodically during this period, to allow a change of air. This will avoid possible tainting of food.

SERVICING

Control Gear

TOWER SERIES CABINETS - SERVICING

Location

The electrical control gear for the Heated and Controlled Ambient cabinets is located in the top of the cabinet, and is reached by removing an access panel.

Here will be found a mains fuse and the power supplies for the LED lights.

On the pre-heat oven, the control gear is behind the front panel controls, and is reached by removing an access panel.

Lighting

TOWER SERIES CABINETS - SERVICING

Access to LED Strips

The LED strips are protected with plastic covers. These clip into grooves in the aluminium extrusion.

Remove the plastic cover to access the LED strip.

The top light assembly is similar to the shelf lights, but the correct replacement unit must be used.

LED Strip Replacement

Individual LED modules cannot be replaced. A complete light unit must be used.

Connection is made with a plug and socket. Disengage the supply lead from the faulty unit, and reconnect it to the replacement unit.

Replace the plastic cover.

Continued on next page

Refrigeration

TOWER SERIES CABINETS - SERVICING

Caution

DO NOT attempt to service the refrigeration equipment without isolating the cabinet at the supply switch or by unplugging it from the supply.

Temperature Probes

There are two temperature probes on the cooling coil.

One probe is inserted between the fins and controls the defrost cycle.

The other is in free air, and controls the cabinet temperature.

A third probe is mounted on the condenser discharge pipe.

Condenser Temperature Probe

A temperature probe, connected to the XR40CX refrigeration controller, is mounted on the discharge pipe of the condenser unit, to guard against overheating.

If the set temperature is exceeded, the refrigeration will be shut down to avoid damage.

Condenser Radiator

Remove the access panels from the back of the cabinet to reach the condenser unit.

For efficient refrigeration performance, the condenser radiator must be kept clean.

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.

Continued on next page

Refrigeration cont.

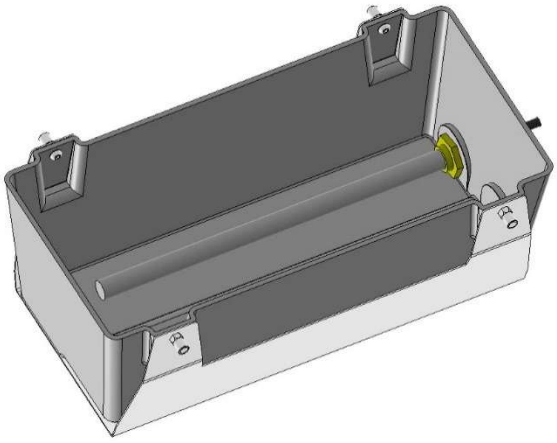
TOWER SERIES CABINETS - SERVICING

Condensate Disposal

The automatic condensate removal, ACR system consists of a water tray and evaporation element.

The element resistance has a positive temperature coefficient, so that the element power is reduced when it is not cooled by condensate water.

The element is replaceable, should it fail.



Ventilation Panels

All ventilation panels should be kept free of dust by regular vacuuming, so that air flow is not restricted.

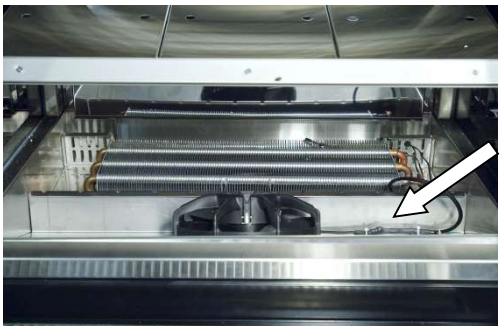
Cabinet Air Circulation Fans

The cabinet air circulation fan is located in the base of the cabinet.

Access is gained by removing the deck trays.

Remove two screws, at the left and right rear of the fan deck, to allow it to be lifted upwards.

Fan Replacement



The fans is hard-wired, so the lead must be cut and re-spliced to the replacement fan.

The joint must be adequately protected, using heat shrink sleeves, to prevent ingress of moisture.

Continued on next page

Refrigeration cont.

TOWER SERIES CABINETS - SERVICING

Temperature Regulator XR40CX

Model XR40CX is a microprocessor based controller.
It is fitted with three NTC probes, the first one for temperature control, the second one, inserted into the evaporator coil, controls the defrost termination temperature, the third one is used to monitor the temperature of the condenser, to indicate a fault condition and interrupt the power supply if the condenser overheats

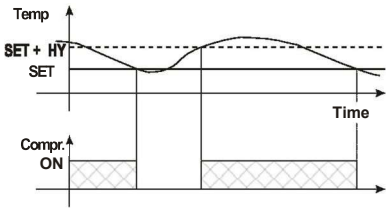
The set-point temperature will be slightly higher than the air temperature inside the cabinet, because the refrigeration compressor is controlled in response to the return-air temperature entering the evaporator cooling coil.

The HOT KEY output allows one to programme the controller by means the HOT KEY programming keyboard.

The instrument is fully configurable through special parameters that can be easily programmed through the keyboard.

XR40CX Compressor Control

The regulation is performed according to the temperature measured by the thermostat probe with a positive differential from the set point: if the temperature increases and reaches set point plus differential the compressor is started and then turned off when the temperature reaches the set point value again.



In case of a fault in the thermostat probe the start and stop of the compressor are timed through parameters **COn** and **COF**.

XR40CX Defrost Control

Parameters are used to control the interval between defrost cycles (IdF), its maximum length (MdF) and two defrost modes: timed or controlled by the evaporator's probe (P2P).

In this cabinet, the start of the defrost cycle is timed, but the cycle will be terminated as soon as the defrost probe reaches the pre-determined temperature.

At the end of defrost dripping time is started, its length is set in the FSt parameter. With FSt =0 the dripping time is disabled

Continued on next page

Refrigeration cont.

TOWER SERIES CABINETS - SERVICING

XR40CX Key Functions

KEY	FUNCTION
SET	To display target set point; in programming mode it selects a parameter or confirm an operation
❄	(DEF) To start a manual defrost
∧	(UP): To see the max. stored temperature; in programming mode it browses the parameter codes or increases the displayed value
∨	(DOWN): To see the min stored temperature; in programming mode it browses the parameter codes or decreases the displayed value
⏻	To switch the instrument off, if onF = oFF. Not enabled
∧ + ∨	To lock & unlock the keyboard
SET + ∨	To enter into programming mode
SET + ∧	To return to the temperature display mode

XR40CX LED Functions

LED	MODE	FUNCTION
❄	ON	Compressor enabled
❄	Flashing	Anti-short cycle delay enabled
❄	ON	Defrost enabled
❄	Flashing	Drip time in progress
(!)	ON	An alarm is occurring
❄	ON	Continuous cycle is running
☀	ON	Energy saving enabled
°C/°F	ON	Measurement unit
°C/°F	Flashing	Programming phase

Continued on next page

Refrigeration cont.

TOWER SERIES CABINETS - SERVICING

XR40CX Min & Max Recorded Temperature	Press and release the ▽ key. **Lo** will be displayed followed by the minimum temperature recorded. Press the ▽ key again or wait 5s to restore the normal display. Press and release the △ key. **Hi** will be displayed followed by the maximum temperature recorded. Press the △ key again or wait 5s to restore the normal display.
XR40CX Reset Max/Min Temperature Memory	Press the **SET** key for more than 3s, while the max. or min. temperature is displayed. (**rSt** message will be displayed) To confirm the operation the **rSt** message starts blinking and the normal temperature will be displayed.
XR40CX Display the Set-point	To show the set-point value, press and immediately release the **SET** key. Press and immediately release the **SET** key or wait for 5 seconds to display the probe temperature again.
XR40CX Change the Set-point	To change the set-point value, press the **SET** key for more than 2 seconds; The value of the set-point will be displayed and the °C or °F LED starts blinking; To change the set value push the △ or ▽ arrows within 10s. To memorise the new set-point value push the **SET** key again or wait 10s.
XR40CX Start a Manual Defrost	To start a manual defrost, press the ❄ (DEF) key for more than 2 seconds.
XR40CX Programming Mode	Enter the Programming mode by pressing the SET + ▽ keys for 3s (the °C or °F LED starts blinking). • Use the △ or ▽ keys to select the required parameter. • Press the SET key to display its value. • Use the △ or ▽ keys to change its value. • Press SET to store the new value and move to the following parameter. To exit Programming mode, press SET + △ or wait 15s without pressing a key. NOTE: the set value is stored even when the procedure is exited by waiting for the time-out to expire.

Continued on next page

Refrigeration cont.

TOWER SERIES CABINETS - SERVICING

XR40CX The Hidden Menu

The hidden menu includes all the parameters of the instrument.

TO ENTER THE HIDDEN MENU

- Enter the Programming mode by pressing the SET+▽ keys for 3s, (the **°C** or **°F** LED starts blinking).
- Release the keys, then press the SET+▽ keys again, for more than 7s. The **Pr2** label will be displayed immediately followed from the **Hy** parameter.

NOW YOU ARE IN THE HIDDEN MENU.

- Select the required parameter.
- Press the SET key to display its value
- Use △ or ▽ to change its value.
- Press SET to store the new value and move to the following parameter.
- To exit: Press SET+△ or wait 15s without pressing a key.

NOTE 1: If no parameter is present in **Pr1**, after 3s the **noP** message is displayed. Keep the keys pushed till the **Pr2** message is displayed.

NOTE 2: The set value is stored even when the procedure is exited by waiting for the time-out period to expire.

TO MOVE A PARAMETER FROM THE HIDDEN MENU TO THE FIRST LEVEL AND VICEVERSA.

Each parameter present in the HIDDEN MENU can be removed or put into "THE FIRST LEVEL" (user level) by pressing SET+▽

In HIDDEN MENU when a parameter is present in the First Level the decimal point is shown.

XR40CX Locking and Unlocking the Keyboard

To lock the keyboard, press the △ +▽ keys for more than 3 s.

The **POF** message will be displayed, followed by the previous temperature display.

If a key is pressed more than 3s the **POF** message will be displayed.

To unlock the keyboard, press the △ +▽ keys for more than 3s, till the **Pon** message is displayed.

Continued on next page

Refrigeration cont.

TOWER SERIES CABINETS - SERVICING

FPG Settings

Note that the following settings are Dixell factory defaults. Refer to the Specification section for the correct FPG settings for your cabinet.

Dixell Default Settings

Label	Name	Range	Default Setting
Set	Set point	LS÷ US	-5.0
Hy	Differential	0,1÷25.5°C/ 1÷ 255°F	2.0
LS	Minimum set point	-50°C÷SET/-58°F÷SET	-50.0
US	Maximum set point	SET÷110°C/ SET ÷ 230°F	110
Ot	Thermostat probe calibration	-12÷12°C /-120÷120°F	0.0
P2P	Evaporator probe presence	n=not present; Y=pres.	Y
OE	Evaporator probe calibration	-12÷12°C /-120÷120°F	0.0
P3P	Third probe presence	n=not present; Y=pres.	n
O3	Third probe calibration	-12÷12°C /-120÷120°F	0
P4P	Fourth probe presence	n=not present; Y=pres.	n
O4	Fourth probe calibration	-12÷12°C /-120÷120°F	0
OdS	Outputs delay at start up	0÷255 min	0
AC	Anti-short cycle delay	0 ÷ 50 min	1
rtr	P1-P2 percentage for regulation	0 ÷ 100 (100=P1 , 0=P2)	100
CCt	Continuous cycle duration	0.0÷24.0h	0.0
CCS	Set point for continuous cycle	(-55.0÷150,0°C) (-67÷302°F)	-5
COn	Compressor ON time with faulty probe	0 ÷ 255 min	15
COF	Compressor OFF time with faulty probe	0 ÷ 255 min	30
CF	Temperature measurement unit	°C ÷ °F	°C
rES	Resolution	in=integer; dE= dec.point	dE
Lod	Probe displayed	P1;P2	P1
rEd2	X-REP display	P1 - P2 - P3 - P4 - SEt - dtr	P1
dLy	Display temperature delay	0 ÷ 20.0 min (10 sec.)	0
dtr	P1-P2 percentage for display	1 ÷ 99	50
tdF	Defrost type	EL=el. heater; in= hot gas	EL
dFP	Probe selection for defrost termination	nP; P1; P2; P3; P4	P2
dtE	Defrost termination temperature	-50 ÷ 50 °C	8
IdF	Interval between defrost cycles	1 ÷ 120 ore	6
MdF	(Maximum) length for defrost	0 ÷ 255 min	30
dSd	Start defrost delay	0÷99min	0
dFd	Displaying during defrost	rt, it, SEt, DEF	it
dAd	MAX display delay after defrost	0 ÷ 255 min	30
Fdt	Draining time	0÷120 min	0
dPo	First defrost after start-up	n=after IdF; y=immed.	n
dAF	Defrost delay after fast freezing	0 ÷ 23h e 50'	0.0
ALc	Temperature alarms configuration	rE= related to set; Ab = absolute	Ab
ALU	MAXIMUM temperature alarm	Set÷110.0°C; Set÷230°F	110
ALL	Minimum temperature alarm	-50.0°C÷Set/ -58°F÷Set	-50.0

Continued on next page

Refrigeration cont.

TOWER SERIES CABINETS - SERVICING

Dixell Default Settings cont.

Label	Name	Range	Default Setting
AFH	Differential for temperat. alarm recovery	(0,1 °C÷25,5°C) (1 °F÷45°F)	1
ALd	Temperature alarm delay	0 ÷ 255 min	15
dAO	Delay of temperature alarm at start up	0 ÷ 23h e 50'	1.3
AP2	Probe for temperat. alarm of condenser	nP; P1; P2; P3; P4	P4
AL2	Condenser for low temperat. alarm	(-55 ÷ 150°C) (-67÷ 302°F)	-40
AU2	Condenser for high temperat. alarm	(-55 ÷ 150°C) (-67÷ 302°F)	110
AH2	Differ. for condenser temp. alar. recovery	[0,1 °C ÷ 25,5°C] [1 °F ÷ 45°F]	5
Ad2	Condenser temperature alarm delay	0 ÷ 254 (min.) , 255=nU	15
dA2	Delay of cond. temper. alarm at start up	0.0 ÷ 23h 50'	1,3
bLL	Compressor OFF for condenser low temperature alarm	n(0) - Y(1)	n
AC2	Compressor OFF for condenser high temperature alarm	n(0) - Y(1)	n
i1P	Digital input polarity	oP=opening; CL=closing	cL
i1F	Digital input configuration	EAL, bAL, PAL, dor; dEF; Htr, AUS	EAL
did	Digital input alarm delay	0÷255min	5
Nps	Number of activation of pressure switch	0 ÷15	15
odc	Compress status when open door	no; Fan; CPr; F_C	no
rrd	Regulation restart with door open alarm	n – y	y
HES	Differential for Energy Saving	(-30°C÷ 30°C) (-54°F÷ 54°F)	0
Adr	Serial address	0÷247	1
PbC	Kind of probe	Ptc; ntc	ntc
onF	on/off key enabling	nu, oFF; ES	nu
dP1	Room probe display	--	--
dP2	Evaporator probe display	--	--
dP3	Third probe display	--	--
dP4	Fourth probe display	--	--
rSE	Set operating value	actual set	--
rEL	Software release	--	--
Ptb	Map code	--	--

XR40CX Hot Key

To program the controller from a Hot Key:

- Turn OFF the instrument.
- Insert a programmed Hot Key into the 5 PIN socket and then turn the Controller ON.
- The parameter list of the Hot Key is automatically downloaded into the Controller memory, the **doL** will blink, followed a by a flashing **End**.
- After 10 seconds the instrument will restart working with the new parameters.
- Remove the Hot Key.

NOTE the message **Err** is displayed if programming fails. In this case turn the unit off and then on again, if you want to restart the download again, or remove the Hot Key to abort the operation.

Continued on next page

XR40CX Alarm Signals

Message	Cause	Outputs
P1	Room probe failure	Compressor output acc. to par. **Con** and **COF**
P2	Evaporator probe failure	Defrost end is timed
P3	Third probe failure	Outputs unchanged
P4	Fourth probe failure	Outputs unchanged
HA	Maximum temperature alarm	Outputs unchanged.
LA	Minimum temperature alarm	Outputs unchanged.
HA2	Condenser high temperature	It depends on the **Ac2** parameter
LA2	Condenser low temperature	It depends on the **bLL** parameter
dA	Door open	Compressor according to rrd
EA	External alarm	Output unchanged.
CA	Serious external alarm (i1 F=bAL)	All outputs OFF.
CA	Pressure switch alarm (i1 F=PAL)	All outputs OFF

XR40CX Alarm Recovery

Probe alarms P1, P2, P3 and P4 start some seconds after the fault in the related probe; they automatically stop some seconds after the probe restarts normal operation. Check connections before replacing the probe.

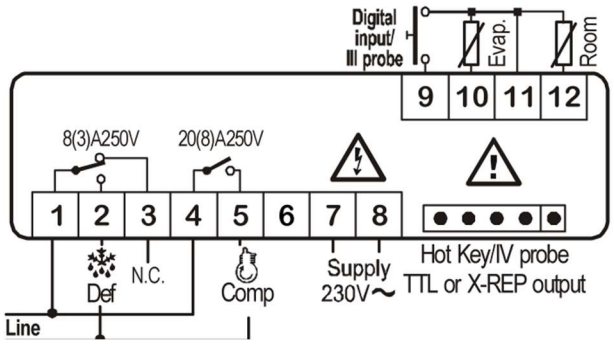
Temperature alarms HA, LA, HA2 and LA2 automatically stop as soon as the temperature returns to normal values.

Alarms EA and CA (with i1 F=bAL) recover as soon as the digital input is disabled. Alarm CA (with i1 F=PAL) recovers only by switching off and on the instrument.

XR40CX Other Messages

Message	Cause
Pon	Keyboard unlocked.
PoF	Keyboard locked
noP	**In programming mode**: none parameter is present in Pr1 **On the display** or in dP2, dP3, dP4: the selected probe is not enabled
noA	No alarm is recorded.

XR40CX Connections



Display Cabinet Heating

TOWER SERIES CABINETS - SERVICING

Caution

DO NOT attempt to replace heating elements without isolating the cabinet at the supply switch or by unplugging it from the mains supply.

Element Replacement

CAUTION: This must only be carried out by a qualified service person.

Remove all base trays to reveal the heating elements.

To access the element terminals, remove the screws securing the cover on the left.

Disconnect the old element, connect the replacement, taking care to replace and refit any insulation material. Fit the new element into the support brackets.

Test

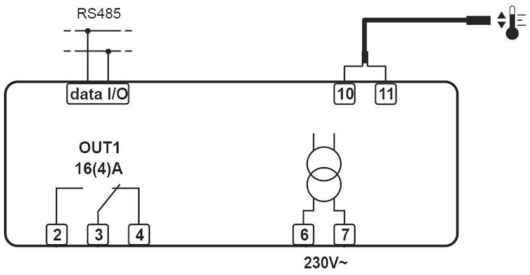
Turn the power on and test the heater operation. If normal operation cannot be restored, by replacing the element, other circuit elements will have to be checked, see Fault Finding.

Temperature Controller

The temperature controller is not a serviceable part, and must be replaced if faulty.

The set temperature can be changed by holding down the left button, and pressing the up or down key as required.

LAE LTR-5 Connections



Temperature Probes

The temperature probes for the controller and thermometer are located at the top of the cabinet, towards the back, on the right.

Continued on next page

Display Cabinet Heating cont.

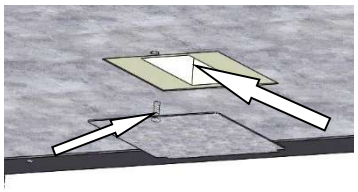
TOWER SERIES CABINETS - SERVICING

Over Temperature Indication

If the cabinet shuts down, and only the Main Switch is illuminated, the over temperature cut-out may have tripped.

If normal operation is not restored after the cut-out is reset, the fuse may have blown. In this case the circuit must be checked for a failed component.

Thermal Cut-out



Remove a single screw to release the cover plate, located on the underside of the bun if a manual-reset cut-out is fitted.

Reset it by pushing in the red button.

Caution

Do not run the cabinet heaters for extended periods, without the base trays and divider bars in position. Directly radiated heat may otherwise damage the lower lights.

Re-assemble

If the element is now working, re-assemble the base trays inside the cabinet.

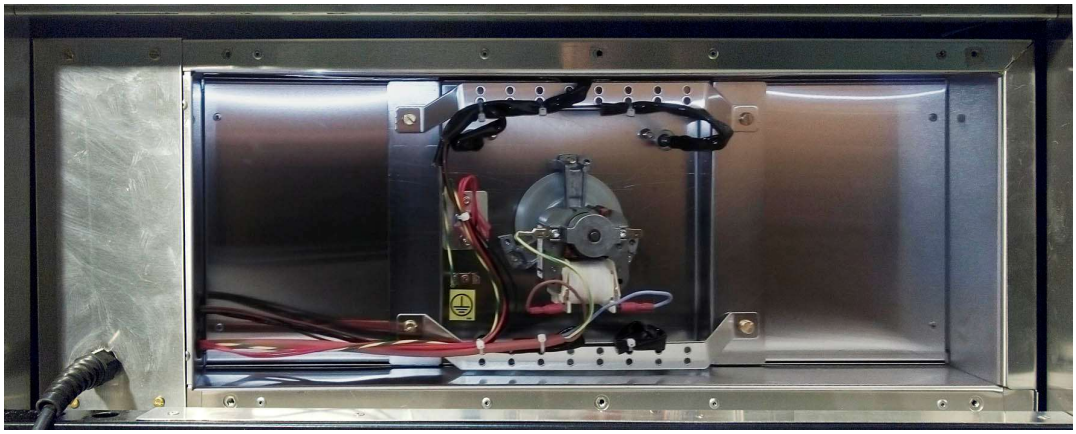
Pre-heat Oven Heating

TOWER SERIES CABINETS - SERVICING

Caution

DO NOT attempt to replace heating elements without isolating the cabinet at the supply switch or by unplugging it from the mains supply.

Connections



Remove the oven back panel to access the element terminals and fan motor. All connections are made with fast-on spade connectors.

Continued on next page

Pre-heat Oven Heating cont.

TOWER SERIES CABINETS - SERVICING

Element Replacement

CAUTION: This must only be carried out by a qualified service person.

Remove the base tray and fan guard to reveal the heating elements.

Disconnect the faulty element, remove the retaining screws, via the rear access panel, and remove the element, complete with its mounting bracket, (base element).

Replace the faulty element and re-connect the spade connectors.

Fan Replacement

The fan motor can be removed and replaced via the rear access panel, after removing the impellor.

Thermal Cut-out

A protective over temperature cut-out is mounted on the panel, beside the fan motor.

Remove the back plate to reset the cut-out, by pressing the red button.

Test

Turn the power on and test the heater operation. If normal operation cannot be restored, by replacing the element, other circuit elements will have to be checked, see Fault Finding.

Control Gear

The oven control gear is accessed via a removable panel on the side of the cabinet. Here will be found the PLC, power supply, power relay etc.

The temperature sensing probe is located in the oven, above the fan.

The programmable controller is a non-repairable item.

For PLC programming information, contact FPG.

FPG
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SPECIFICATIONS

Mechanical

TOWER SERIES CABINETS - SPECIFICATIONS

	CABINET MODEL					
	IL-7EL-AT A008 / 009 / 020	**IL-7EL-AT A004 / 019**	**IL-7EL-HT-A004**	**IL-7EL-HT-A005/6**	**IL-7EL-AT-A014**	**0ven Insert**
Height mm	2060	1095	2060	2060	1813	268
Width mm	800	800	800	800	745	695
Depth mm	773 / 643	600	773	773	600	519
Dry Weight kg	335kg	153kg	288kg	288kg	132kg	32kg
Cabinet Well Material	Stainless Steel					
Cabinet Colour	To customer requirements					
Lighting	LED strip					N/A
Glass Type	Toughened					N/A
Doors	Hinged					Drawers
Number of Shelves	7	3	5	7	5	2
Display Area m^2	1.1	0.9	1.3	1.8	1.2	N/A
Refrigerant	R513A	N/A	N/A	N/A	N/A	N/A
Refrigerant Charge	See Serial No Label	N/A	N/A	N/A	N/A	N/A
Condensate capacity	3 litre	N/A	N/A	N/A	N/A	N/A
Climatic Class & IP	All cabinets are suitable for class N climates and have an IP 22 rating					

Electrical

TOWER SERIES CABINETS - SPECIFICATIONS

	CABINET MODEL					
	IL-7EL-AT A008 / 009 / 020	**IL-7EL-AT A004 / 019**	**IL-7EL-HT-A004**	**IL-7EL-HT-A005/6**	**IL-7EL-AT-A014**	**0ven Insert**
Voltage	220-240V 1Φ					
Power	440W	245W	1455W	1455W	60W	1050W
Current	3.6A	1.1A	6.3A	6.3A	0.3A	4.6A
Connection	3 core cable and plug					
Operating Temp.	18°C	Store ambient	80°C	80°C	Store ambient	120°C (75°C hold)
Max. Temp. Range	16° - 22°C	N/A	68° - 95°C	68° - 95°C	N/A	68°- 140°C
LED lights	6 x strips	4 x strips	6 x strips	8 x strips	2 x strips	N/A

Controller Settings

TOWER SERIES CABINETS - SPECIFICATIONS

Changes from Dixell Defaults

The following table specifies the controller settings which differ from the Dixell default values.

Parameters not listed in this table should remain at the default values specified in the **XR40CX Parameters** listed in the **Servicing** section.

Dixell XR40CX Settings

Description	Parameter	Setting	Unit/Range
Set Point	Set	16	degC
Differential	Hy	2	degC
Third Probe Used	P3P	Y	n, Y
Anti Short Cycle Delay	AC	0	Min
Comp On Time - Faulty Probe	COn	4	Min
Comp Off Time - Faulty Probe	COF	6	Min
Defrost Terminate Temp	dtE	3	degC
Interval Between Defrosts	IdF	4	Hrs
Display During Defrost	dFd	DEF	rt, it, SEt, DEF
Maximum Temperature Alarm	ALU	*110*	degC
Differential For Temp Alarm	AFH	*1*	degC
Temperature Alarm Delay	Ald	*15*	Min
Probe For High Discharge Temp Alarm	AP2	P3	nP, P1, P2, P3, P4
High Discharge Temp Alarm Set Point	AU2	100	degC
High Discharge Temp Alarm Differential	AH2	25	degC
High Discharge Temp Alarm Delay	Ad2	0	Min
High Discharge Temp Alarm At Start	dA2	0	Min
Comp Off For High Discharge Temp Alarm	AC2	Y	n. Y

Parameters shown *thus* are Dixell default settings

Oven PLC Controller CD12-R-24-DC

The controller is factory programmed to achieve the specified pre-heat characteristics.
For information about re-programming the oven controller, contact FPG.

Controller Settings cont.

TOWER SERIES CABINETS - SPECIFICATIONS

LAE LTR-5CSRE Settings

Description	Parameter	Setting	Unit/Range
Readout Scale	SCL	1ºC	degC
Minimum Limit For 1SP Setting	SPL	55	degC
Maximum Setting For 1SP Setting	SPH	95	degC
Set Point	1SP	75	degC
Control Mode	1Y	HY	HY, PID
Thermostat Differential	1HY	-1	degC
Cycle Time	1CT	20	Seconds
Output In Case Of Probe Failure	1PF	Off	ON, OFF
Stand-By Enable	BAU	NON	NON, SBY
Display Slowdown	SIM	0	0 - 100
Probe Offset	OS1	0	degC
LTR-5 Communication Address	ADR	1	1 - 255

Compliance

TOWER SERIES CABINETS - SPECIFICATIONS

Standards

FPG heated, refrigerated, controlled ambient and ambient food display cabinets are designed to meet and exceed:

- International safety standards for electrical appliances: IEC 60335-1, IEC 60335-2-49/89, and the equivalent country-specific standards including AS/NZS, BS EN and UL 471.
- International standards for electromagnetic compatibility/emissions: CISPR 14-1, and the equivalent county-specific standards including AS/NZS CISPR and BS EN 55014-1.
- Essential safety requirements: AS/NZS 3820 and AS/NZS 4417
- Energy efficiency for refrigerated appliances: MEPS (Australia/New Zealand)

Please contact FPG to discuss your requirements for meeting country-specific standards.

Performance Aspects

	Cabinet Operating Temperature	Test Conditions
Heated Cabinet	>65°C	23°C Ambient with 60% RH

Improvements

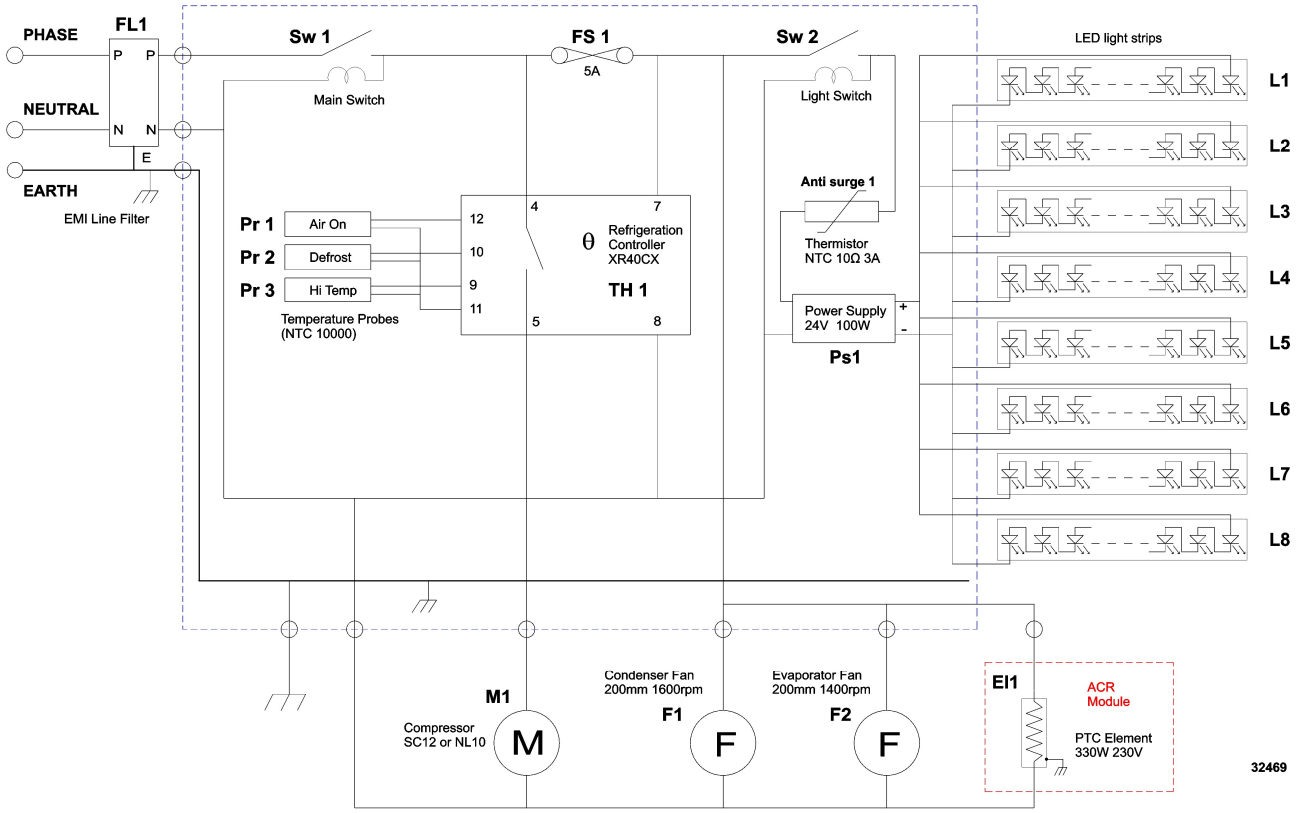
TOWER SERIES CABINETS - SPECIFICATIONS

On-going Development

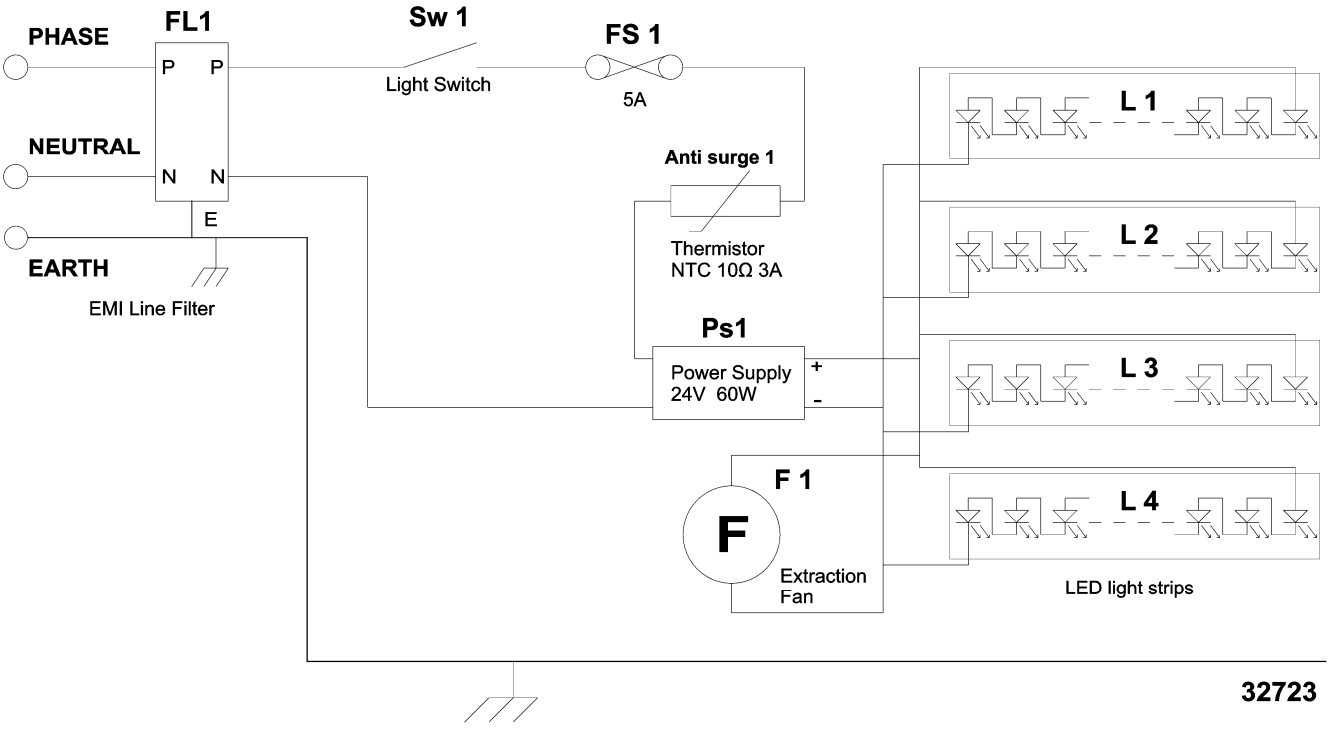
FPG reserves the right to change specifications and construction, as part of on-going product improvement.

ELECTRICAL CIRCUIT DIAGRAMS

Model: IL-7EL-AT-A008 / A009 / A020 **Tower Series, 800mm Controlled Ambient Cabinet**

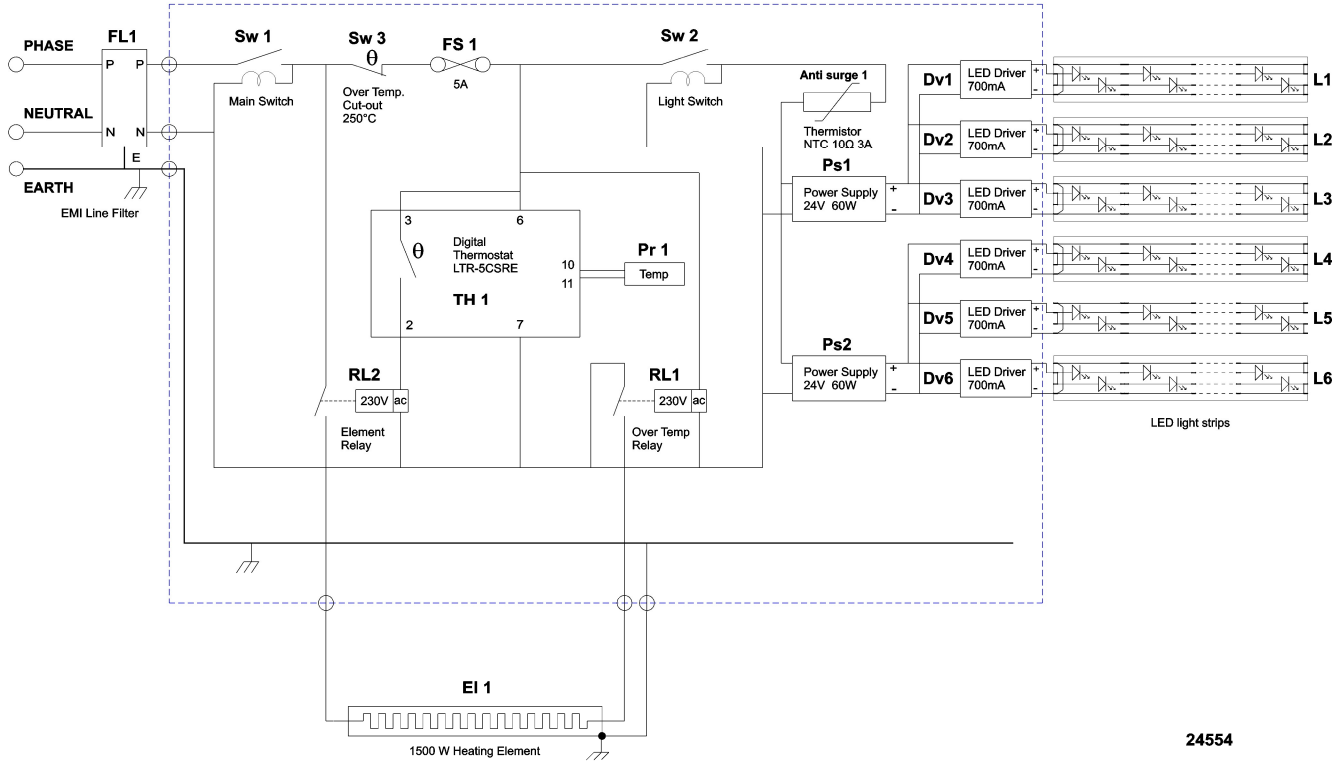


Model: IL-7EL-AT-A004 / A019 **Tower Series, 800mm Mini Ambient Cabinet**

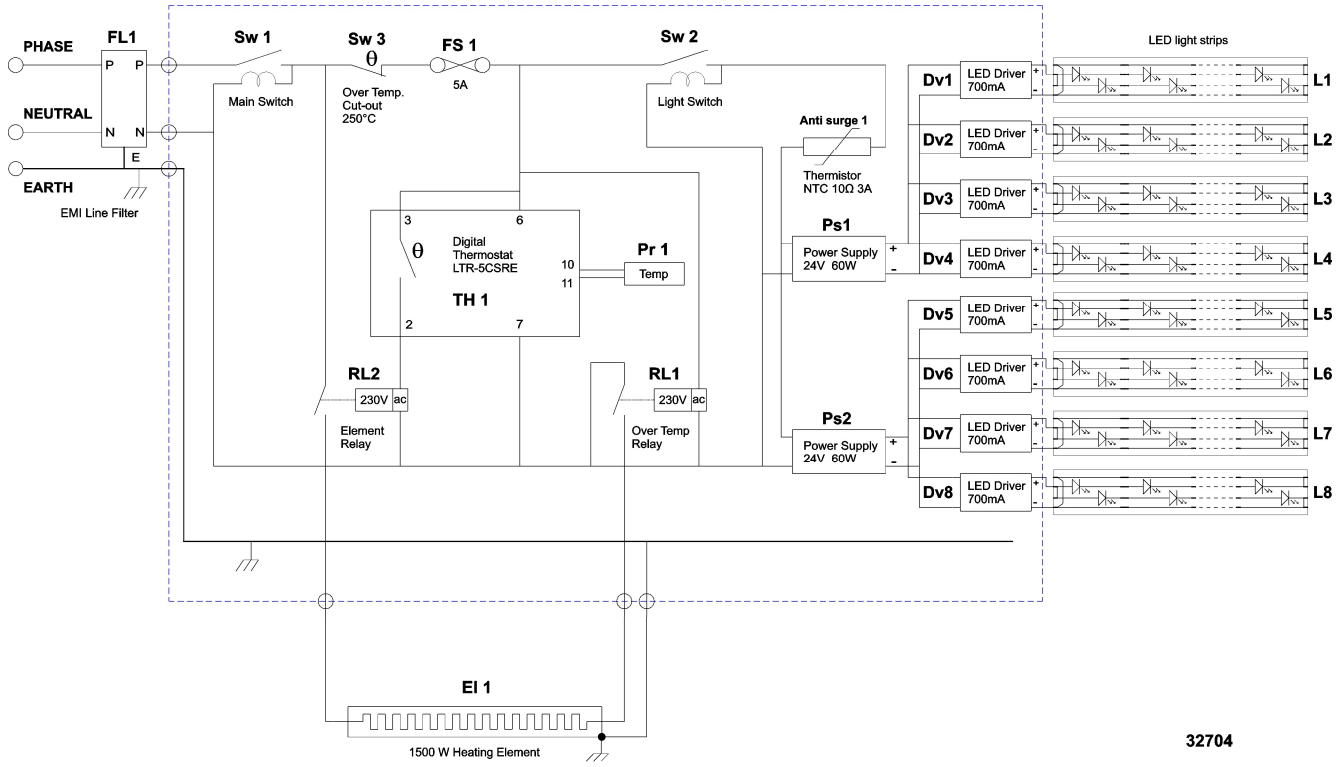


ELECTRICAL CIRCUIT DIAGRAMS, Continued

Model: IL-7EL-HT-A004 **Tower Series, 800mm Heated Cabinet**

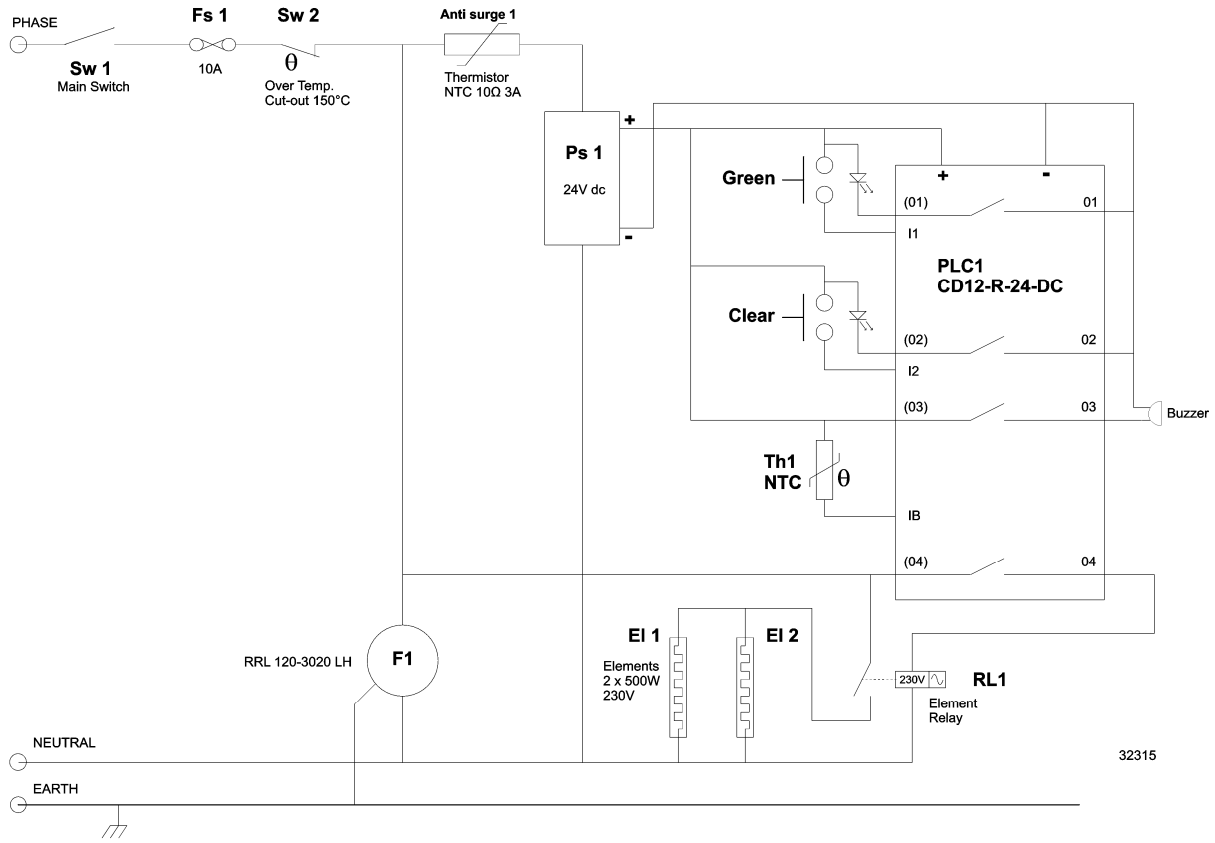


Model: IL-7EL-HT-A005 **Tower Series, 800mm Heated Cabinet**

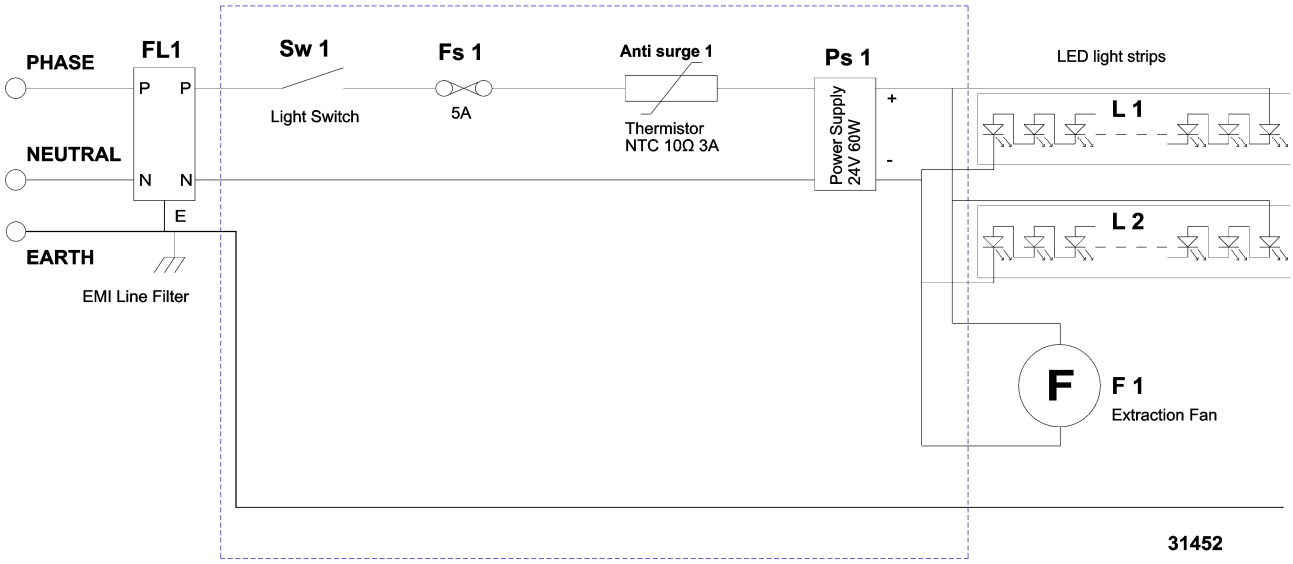


ELECTRICAL CIRCUIT DIAGRAMS, Continued

Pre-heat Oven (assy. 65880) part of IL-7EL-HT-A004 only



Model: IL-7EL-AT-A014-00 **Tower Series, 745mm Ambient Tower**



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.
Switch DPST 16A 250V 150A High Inrush Green Rocker	17287
Light Switch SPST 10A 250V	15811
Green illuminated push button	22864
White illuminated push button	22896
Oven controller CD12-R-24-DC	22904
Temperature sensor for oven controller	32048
Buzzer 24V (pre-heat oven)	32049
Digital Thermostat LTR-5 (heated cabinet)	65414
Probe for digital thermostat	21620
Over-temperature Safety Thermostat 250°C (heated cabinet)	32969
Barrel thermometer (Cold cabinet)	11924
Barrel thermometer (Hot cabinet)	11925
Dixell XR40CX digital refrigeration controller	21219
NTC temperature probe (6 metre)	22293
Fuse Link (5A, 250V, Slow Blow)	13330
Fuse Link (10A, 250V, Normal Blow)	24018
Polycarbonate Light Cover 660mm	65721
Polycarbonate Light Cover 720mm	29404
LED Driver Assy 4 x 700mA	69130
24V 100W LED power supply	30086
Anti-surge thermistor 10 Ohm 3A	22354
Top/Shelf Light Replacement Kit, Ref/Amb	69492
Top Light Replacement Kit, Heated	69883
Shelf Light Replacement Kit, Heated	69710
Cabinet Air Circulation Fan, Unada 200mm 1400rpm	72933
ACR Element 330W 230V PTC	27751
Extraction Fan 24V dc 119mm	30172
Oven Fan Motor assy (includes blade replacement 26020)	76630
Condenser Fan Motor Unada 200mm 1600rpm	72917
Condenser Unit NL10MF	21734

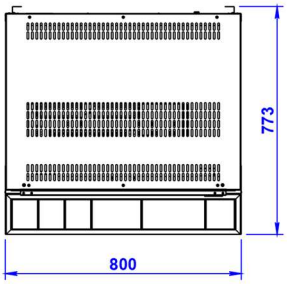
Spare parts continued

Handed Parts All handed parts are as viewed from the front of the cabinet.

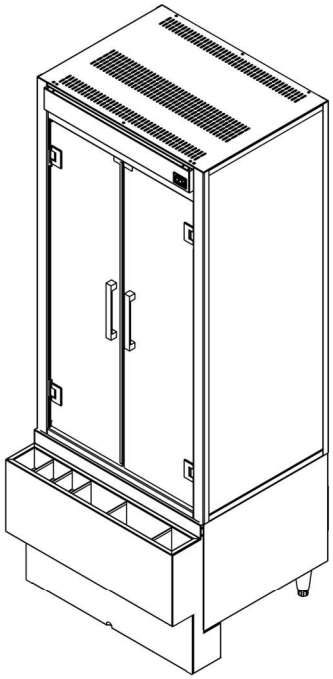
Part Description	FPG Part No.
Heating Element 1500W (cabinet base element)	10686
Heating Element 500W (oven base element)	22818
Heating Element 500W (oven fan element)	22817
Thermal cut-out 150° manual reset (over temp cut-out, oven)	22040
Element / Over Temp relay (oven and cabinet)	16824
Left front door, hot cabinet IL-7EL-HT-A004	65850
Right front door, hot cabinet IL-7EL-HT-A004	65850
Left front door, controlled ambient cabinet IL-7EL-HT-A005/6 ,IL-7EL-AT-A009 / A020	65824
Right front door, controlled ambient cabinet IL-7EL-HT-A005/6 ,IL-7EL-AT-A009 / A020	65824
Left front door, mini ambient cabinet	66344
Right front door, mini ambient cabinet	66345
Magnetic door-catch keeper plate	13383
Door handle	30512
Door hinge	29516
10mm plastic fin seal for 8mm glass doors	29513
Replacement door glass IL-7EL-HT-A004	22532
Replacement door glass IL-7EL-HT-A005, AT-A008 / A009 / A020	22486
Replacement door glass IL-7EL-AT-A004 / A019	27213
Replacement front door glass IL-7EL-AT-A014	31445
Replacement rear door glass IL-7EL-AT-A014	31447
745 Ambient Tower LED Vertical Lighting Assembly 1425mm	76354
745 Ambient Tower RH Front Door Assembly	76348
745 Ambient Tower LH Front Door Assembly	76349
745 Ambient Tower LH Rear Door Assembly	76350
745 Ambient Tower RH Rear Door Assembly	76351
745 Ambient Tower Side Glass	31444
745 Ambient Tower Top Glass	31446
Product Manual for Tower Series Display Cabinets	22827

MECHANICAL DRAWINGS

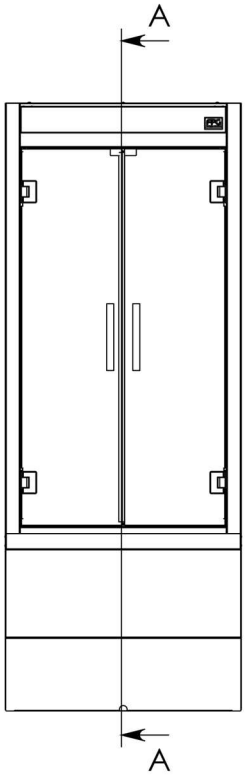
IL-7EL-AT-A008 / A020



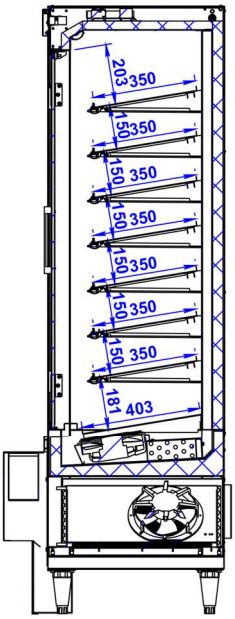
PLAN



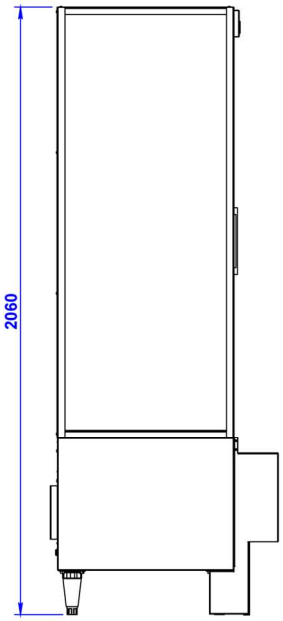
PERSPECTIVE



FRONT ELEVATION

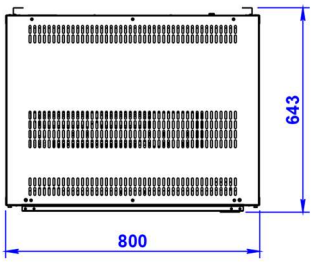


SECTION A-A



SIDE ELEVATION

IL-7EL-AT-A009



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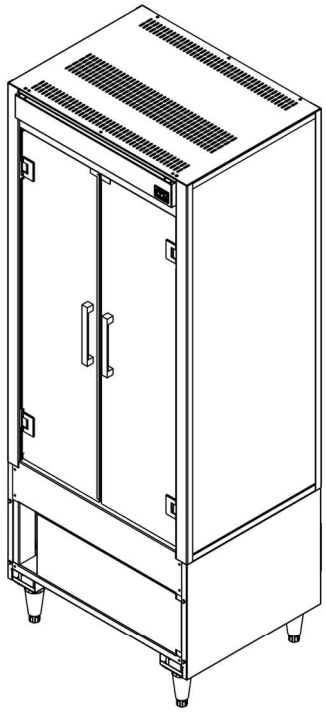
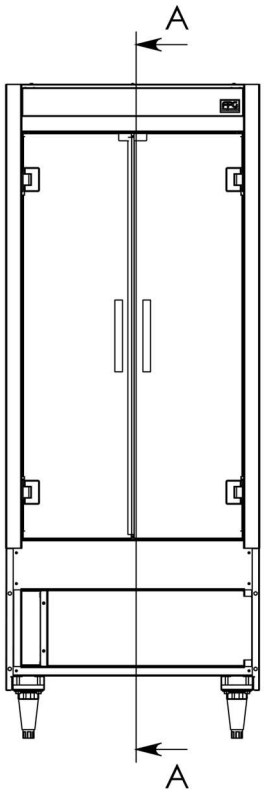


PERSPECTIVE



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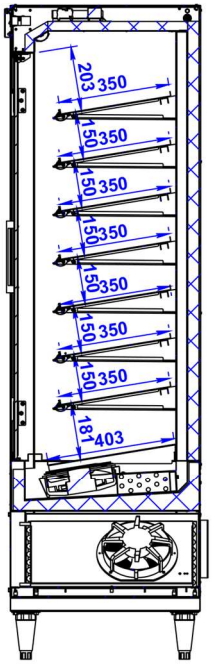
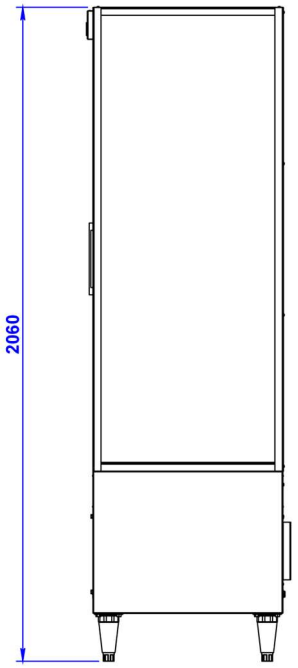
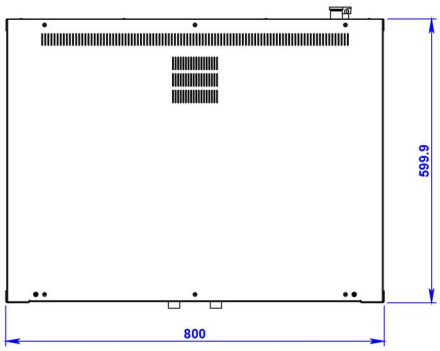


SECTION A-A

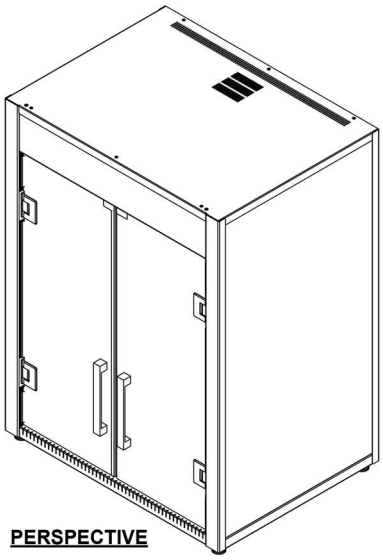


SIDE ELEVATION

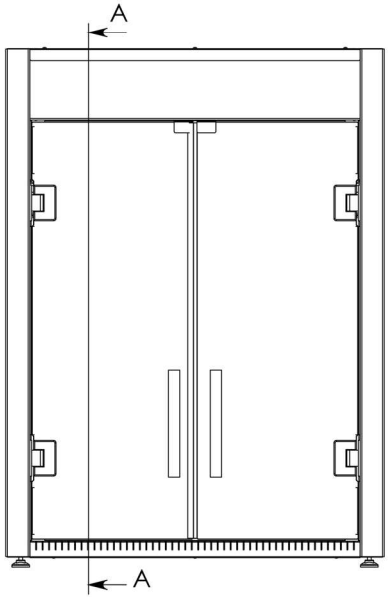
IL-7EL-AT-A004 / A019



PLAN



PERSPECTIVE



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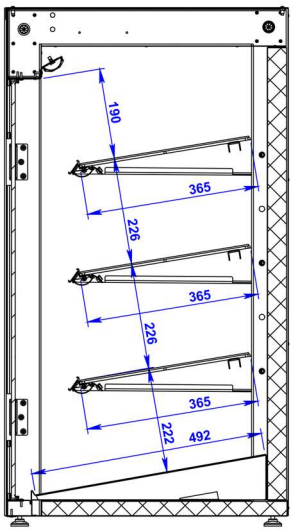
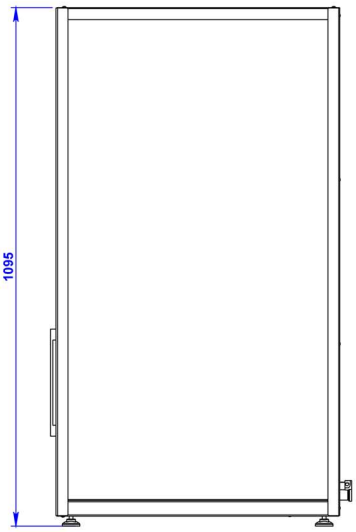
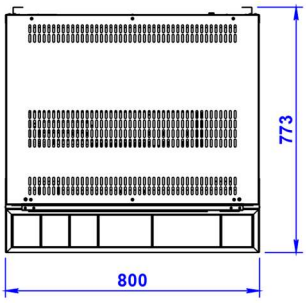


SECTION A-A



SIDE ELEVATION

IL-7EL-HT-A004



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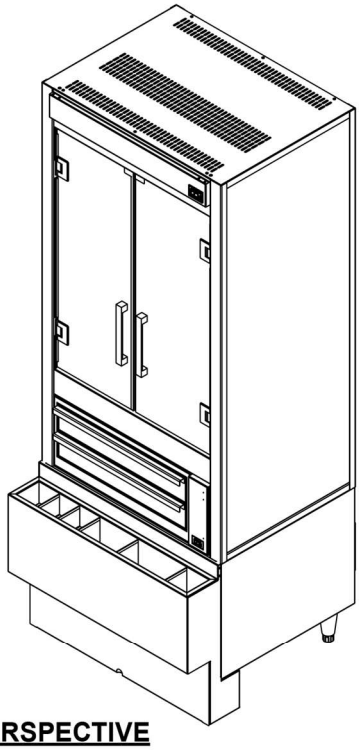
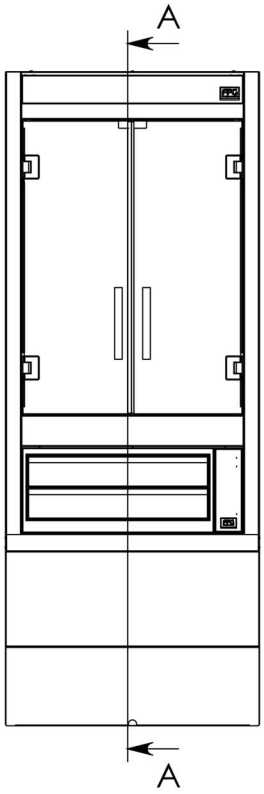


PERSPECTIVE



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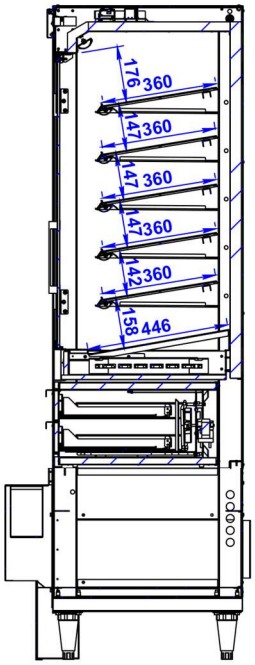
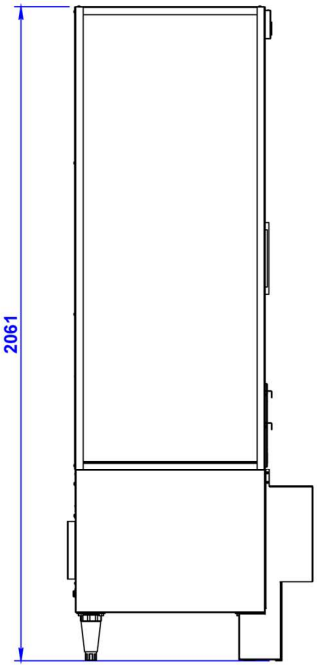
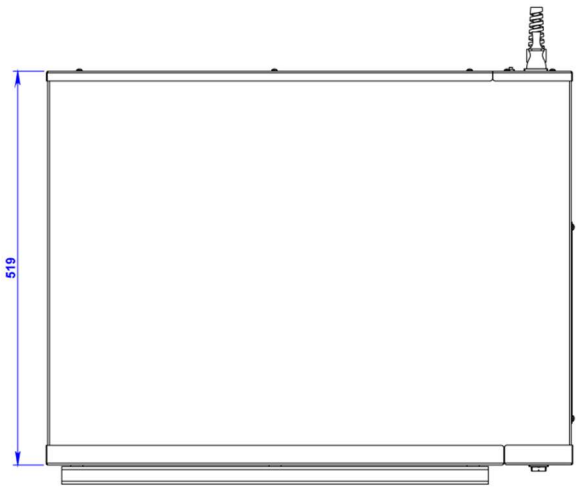


SECTION A-A



SIDE ELEVATION

Pre-heat Oven (assy. 65880) part of IL-7EL-HT-A004 only



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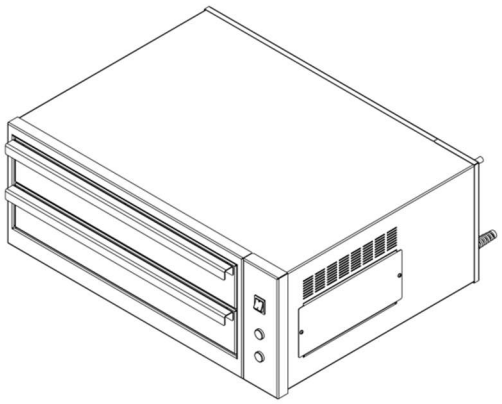

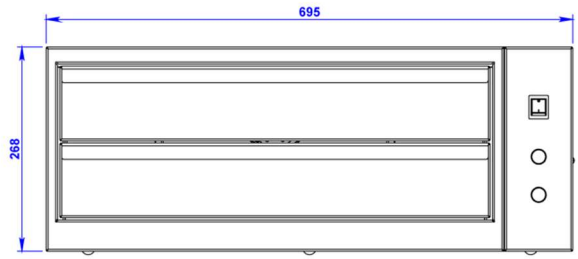

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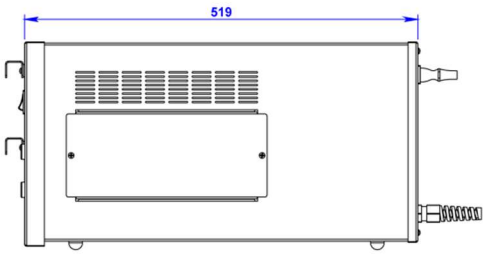
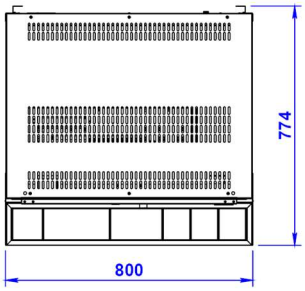
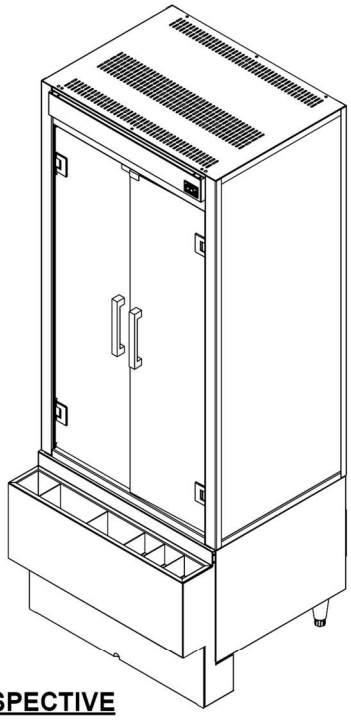


SIDE ELEVATION

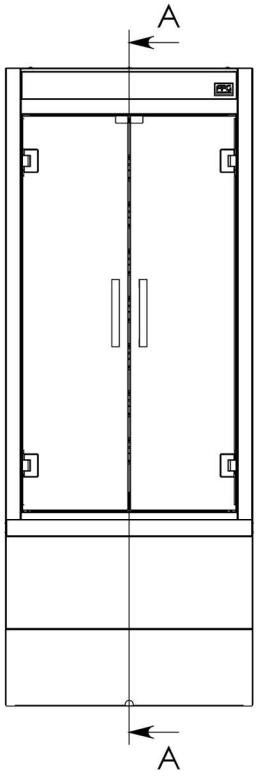
IL-7EL-HT-A005/A006



PLAN



PERSPECTIVE



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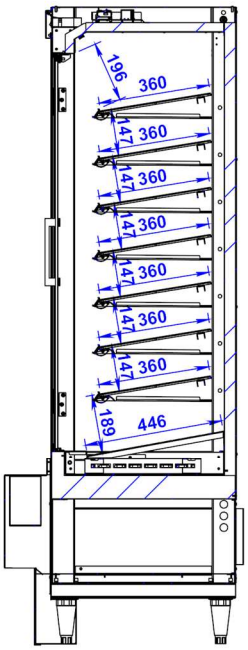
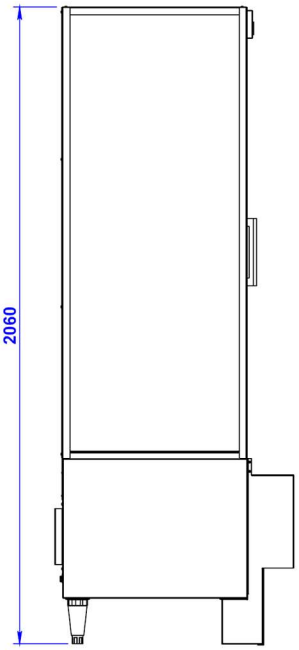
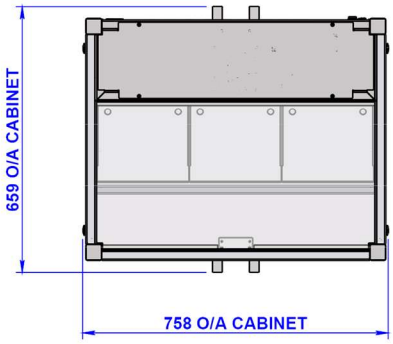


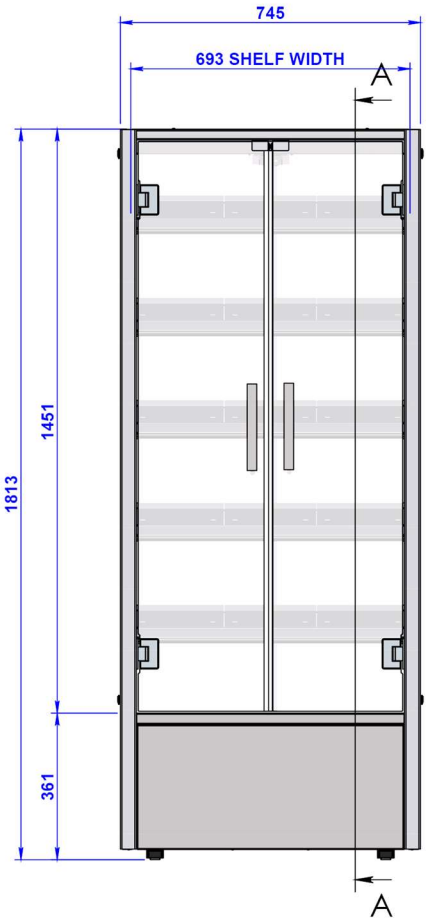
SECTION A-A

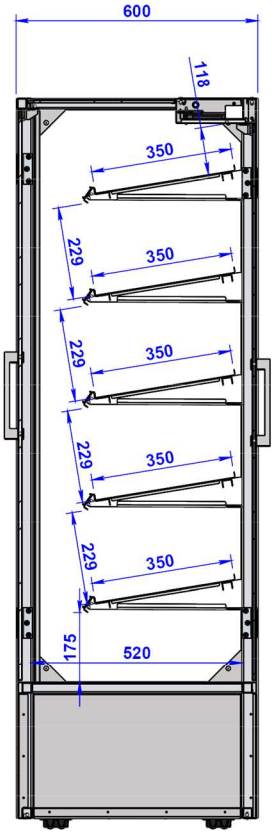


SIDE ELEVATION

IL-7EL-AT-A014 745 Ambient Tower Cabinet







SECTION A-A

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Revision History

Revision Level	Date of Change	Change Details
S	07/06/23	Changed to non-illuminated switch on Mini ambient Tower, circuit 32723
	15/06/23	Over-temp safety thermostat changed from 200°C to 250°C P/N 32969
	12/07/23	Spares P/N changed for LED driver assembly, 4 x 700mA
	17/07/23	Extra spare parts added for glass doors, glass and fittings
T	23/11/23	Over temperature switched Neutral re-routed
	03/04/24	References to A019 and A020 added to circuits, spares and mechanical drawings

PRODUCT MANUAL 22827
REV T APR 202

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:
sales&fpgworld.com or visit www.fpgworld.com for full contact details for your region.

Worldwide contact details: