PRODUCT MANUAL

31693 REV B
NOV 2021

FPG
FPGWORLD.COM

INLINE

BARISTA

FREESTANDING/SQUARE REFRIGERATED

WIDTH: 700mm
FREESTANDING
INTEGRAL REFRIGERATION

INLINE

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

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

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 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

REFRIGERATED CABINETS - INTRODUCTION

Warranty Period

Future Products Group Limited warrants, to the original purchaser of an FPG manufactured food service cabinet, that for ONE YEAR (12 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

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 Features

REFRIGERATED CABINETS - OPERATION

Large Capacity

The drawer has a large storage capacity.

It can be configured for an asortment of product packaging.

Adjustable Guides

The inclined, gravity feed base has removeable roller strips. These ensure that product moves to the front. Fresh product can then be inserted behind.

The products should always be lifted into the access flap section from the front.

Access Flap

The quick access front flap enables easy removal of product, without needing the drawer to be opened.

This avoids interference with the operator space behind the counter.

Controls

REFRIGERATED CABINETS - OPERATION

Control Panels

The control on the front of the cabinet is fitted with:

- A mains Power Switch
- A refrigeration controller

An acrylic flap protects the controls from accidental spills.

Temperature Controller

Only to be adjusted by a qualified service technician.

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

The display indicates the temperature of the returned air, entering the cooling coil, which will be very close to the internal temperature of the cabinet.

The temperature of the condenser unit is also monitored, to avoid damage from malfunctions.

Preparation

REFRIGERATED CABINETS - OPERATION

Load the Drawer

Pull the drawer forward to load it with pre-chilled containers of milk and other products.

Place a selection of products in the easy-access flap section.

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 a considerable delay before the temperature falls to the normal operating level.

Continued on next page

Preparation cont.

REFRIGERATED CABINETS - OPERATION

Power Supply

Ensure that power is connected to the cabinet.

Close the Drawer

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

Use the front flap to access product. Opening it has no effect on product temperature.

When not required, close the flap for best energy efficiency.

Turn on Main Switch

Turn on the main power switch, as shown earlier. The refrigeration condenser, and the evaporator and drawer fans will run.

The temperature controller is pre-set to maintain the drawer temperatures at 2° - 4°C. It should not need adjustment.

Operating Routines

REFRIGERATED CABINETS - OPERATION

After Hours

Ideally, cabinets should not be turned off after hours.

If the cabinet is turned off, move the products to cool storage, and allow the cabinet to run for about half an hour before replacing the pre-chilled products.

Cleaning

It is recommended to clean the cabinet at the end of the working day, since it needs to be shut down for this.

Once the cleaning is finished, turn the cabinet on again and let it cool down before re-loading chilled product.

De-frost Cycle

The cabinet will de-frost automatically every four hours, starting from when the cabinet is first turned on. If defrost is wanted at a particular time, you must turn on the cabinet four hours before the first defrost required.

The cabinet should NOT be temperature tested within ½ hour of a de-frost programme being completed.

If you suspect that the defrost system is not working properly, have it checked by a qualified service person.

Operators must not attempt to adjust the refrigeration controller.

TROUBLE SHOOTING

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
	High temperature detected	Switch cabinet off and on. Clean condenser and radiator
	The power switch on the cabinet is OFF	Turn the power switch ON
	The power switch is faulty	***Have the switch replaced***
Cabinet does not reach correct temperature	The drawer is open	Close drawer and re-test temperature after thirty minutes
	Ventilation grills are blocked	Vacuum or remove blockage
	Evaporator coil fins blocked	Clean coil fins of food etc.
	Thermostat needs adjustment	***Adjust controller***
	Ambient temperature > 25°C	Adjust store air conditioning
	Damaged drawer seal	***Replace drawer seal***
	Evaporator coil iced up	***De-ice coil***
	Condenser radiator blocked	***Remove dust and debris***
	Controller faulty	***Replace controller***
	Temperature probe damaged	***Replace temperature probe***
	Auto defrost faulty	***Have defrost settings checked***
	Fans not operating	***Have fans checked/replaced***
Excess external condensation	Frame heating is not working	***Check/replace power supply***
Drawer hard to open	Debris in runner	Clean drawer runner (see Cleaning)
	Drawer runner damaged	***Have runner replaced***

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

Fault Alarms

REFRIGERATED CABINETS - TROUBLE SHOOTING

Fault Indication	The controller will generate up to 4x different alarms. When a fault is detected the alarm code will alternate with the cabinet temperature on the controller display. The alarm bell icon will remain lit up on the controller display while the alarm is present
Alarm Codes	E29 = Control probe faulty. E27 = Defrost probe faulty. E30 = Condenser probe faulty. A61 = High condenser temperature.
Required Action	Faults E29, E27 & E30 will require a service tech. to investigate and repair the fault. Fault A61 can be cleared by turning the cabinet off and cleaning the condenser pre-filter. If this fault code returns within 24 hours, a service tech should be called to investigate the cause of the problem.

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.

Exterior

REFRIGERATED CABINETS - CLEANING

Plastic and Metal Surfaces	Plastic or stainless steel surfaces should be cleaned with hot soapy water or a good quality glass cleaner. DO NOT clean surfaces with abrasive pads or cleaners as surfaces will be damaged.
Drawer Runners	With the drawer fully open, vacuum or brush away any debris in the runners, located on each side.
Louvers	 Use a vacuum cleaner to remove dust and fluff from the ventilation louvers. This will maintain the refrigeration efficiency, and prevent overheating.
Pre-filter	 The pre-filter should be removed and cleaned regularly. Hinge down the front panel to lift out the filter. Knock off loose dirt and wash the filter in warm soapy water, as required.

Interior

REFRIGERATED CABINETS - CLEANING

Empty the Drawer

Do NOT remove the drawer for routine cleaning.

Open the drawer fully, and remove all products.

Lift Out Plastic Guides

The roller strips just rest on the inclined base tray, and can be lifted out for cleaning.

They can be fitted either way round.

Clean the Baffle Plate

With the flap open, the captive baffle plate can be moved upwards for cleaning.

Sweep out, or use a vacuum cleaner, to remove any debris from inside the drawer.

A Wet-and-Dry vacuum cleaner should be used, since there is likely to be some water in the drawer.

Cleaning Routines

REFRIGERATED CABINETS - CLEANING

Schedules

Regular cleaning schedules are required to maintain optimum performance.

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

Removable Filter

The air pre-filter must be kept clean, to maintain efficient refrigeration performance.

The filter simply lifts out after hinging down the spring-loaded front panel.

Use a vacuum cleaner to remove dust and fluff, and wash if necessary.

Condenser Radiator

For efficient refrigeration performance, the condenser radiator must be kept clean, (see Servicing, Condenser Radiator).

Regular vacuuming will prevent a build-up of dust and fluff, but periodic **cleaning of the fins, by a refrigeration engineer, is 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.

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.

INSTALLATION

Regulations

REFRIGERATED CABINETS - INSTALLATION

Compliance with Local Requirements

It is very important that your 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

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 cabinet is supplied fully assembled.

Positioning the Cabinet

Ensure the cabinet location and any bench cut- outs are made to the precise measurements shown in the Mechanical Drawings.

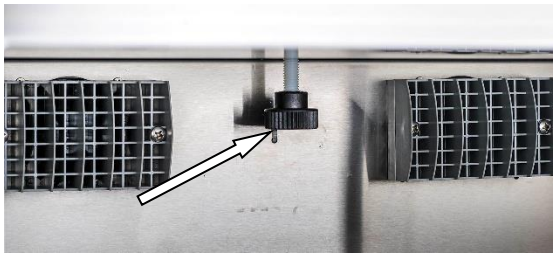
Position the cabinet in its allocated working position. Rollers make it easy to push the cabinet into the bench cavity. Ensure the cabinet is level from side to side and front to back. If the floor is not level, use shims under the rollers. (If this is not carried out, water may accumulate in the cabinet well, and uneven temperature distribution could also occur).

Support Bolt

To ensure stability of the cabinet when the drawer is open, the threaded plastic bolt must be screwed upwards to contact the joinery above the cabinet.

Open or remove the drawer to access the support bolt, which is located at the center-back of the cavity.

Rotate it clockwise until it contacts the joinery, using finger pressure only.



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Setting Up cont.

REFRIGERATED CABINETS - INSTALLATION

Condensate Drain

The condensate drain outlet must be connected to a suitable drain. Exit holes are provided underneath, and on either side and rear of the cabinet.

A P-trap must be included in the piping, to prevent contaminated air from entering the cabinet.

Cabinet Preparation

Remove all tapes, ties and packers, used to prevent movement during transit.

Power Supply and Earthing

The cabinet is supplied with a mains cable and three-pin plug. If the cabinet is to be hard wired, this must only be done by a suitably qualified person.

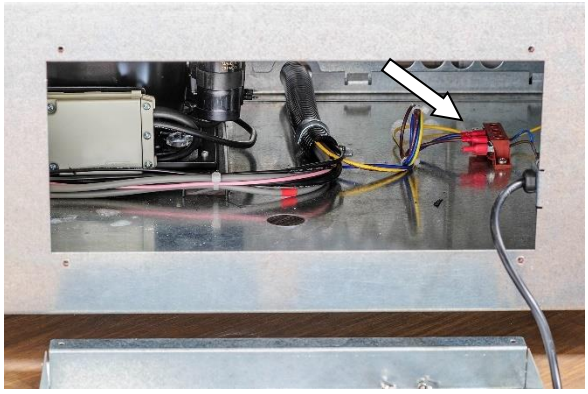
Before connecting to the power supply, check that the local supply is correct to that shown on the rating plate, located on the rear of the cabinet.

Connection Terminals

The connection terminals are located behind the removable back panel.

A slot in the side of the panel allows it to be removed without disturbing the cable clamp.

WARNING-THIS APPLIANCE MUST BE EARTHED/GROUNDED



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.

SERVICING

Control Gear

REFRIGERATED CABINETS - SERVICING

Control Gear Location

All control gear is located in the box behind the mains switch.

Hinge down the spring-loaded front panel to access it.

Remove two screws to release the back panel.

Control Gear Chassis

The chassis houses the connecting blocks for the refrigeration equipment, a fuse for the low power items, and a 24V dc power supply for the anti-condensation heating element.

See the circuit diagram on lid for details.

The mains switch and refrigeration controller are mounted on the front panel.

Heating Element

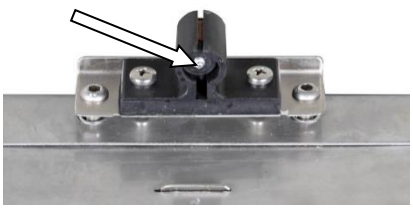
An anti-condensation heating element is fitted inside frame of the cabinet.

The element is made from insulated resistance wire, and should last the life of the cabinet. It is rated at 24V, 26W and is supplied from the 24V dc power supply.

Drawer Catch Adjustment

The male half of the drawer catch can be adjusted by turning the screw shown.

Turn clockwise to increase latch strength.



Refrigeration

REFRIGERATED CABINETS - SERVICING

Caution

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

Removable Filters

The cabinet is fitted with a removable filter, which will catch most of the dust and fluff, before it reaches the condenser radiator.

This are easily removed and should be cleaned regularly.

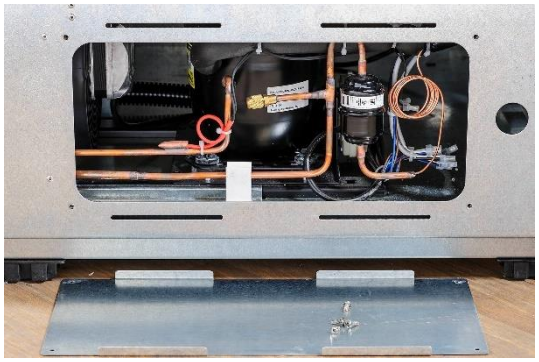
Shake or vacuum off accumulated debris and wash in warm soapy water.

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. Be 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, but three monthly service checks, by a refrigeration engineer, are mandatory. These should include cleaning the condenser radiator using compressed air.

Access to Refrigeration Equipment



Removable panels, on the right and rear of the cabinet, provide further access to the refrigeration equipment.

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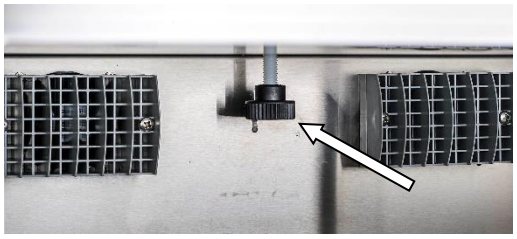
Refrigeration cont.

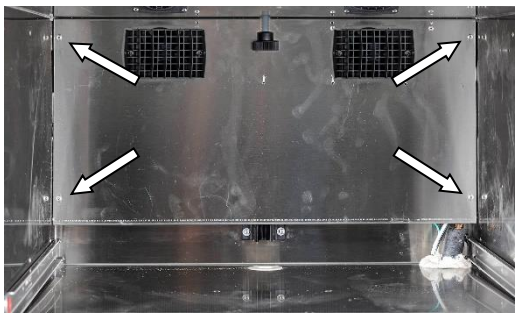
REFRIGERATED CABINETS - SERVICING

Support Bolt



The support bolt must be unscrewed if the cabinet is to be removed from the joinery, or access to the evaporator fans, coil or probes is required.

Evaporator Access

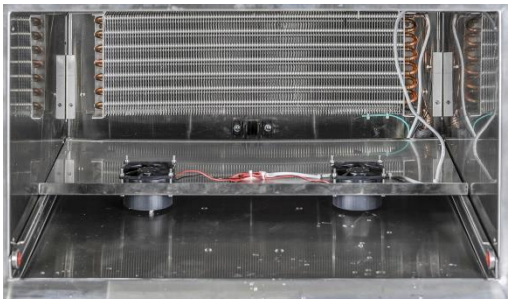


The drawer must be removed to access the evaporator fans, coil and temperature probes.

Pull the drawer fully forward and lift upwards to disengage the runners.

The fan panel is secured with four screws, and can be lowered after pulling the bottom edge forward.

Evaporator Fans



The fans are hard-wired, but the panel can be rested on the runners whilst servicing.

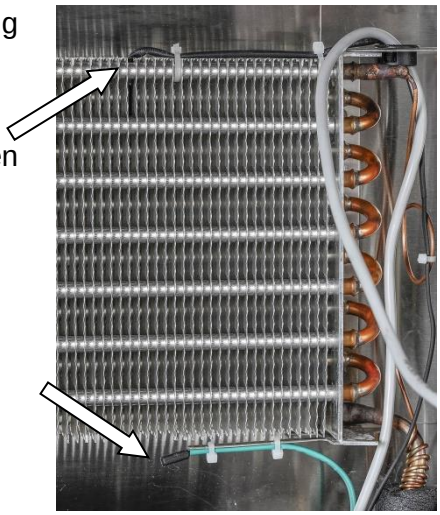
Take care not to trap the cables when replacing the panel.

Temperature Probes

There are two temperature probes on the cooling coil.

The defrost termination probe is located between the fins, at the top of the coil.

The temperature control probe is supported in free air, below the coil. It responds to the return air, (air-on) temperature.



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Refrigeration cont.

REFRIGERATED CABINETS - SERVICING

Temperature Regulator Danfoss ERC 214

Model ERC 214 is a microprocessor-based controller.
It has three NTC probe inputs, the first one for temperature control, the second one, located onto the evaporator, to control the defrost termination temp, and the third one to detect the compressor temperature.

The indicated temperature will be slightly higher than the temperature inside the drawer, because the refrigeration condenser is controlled in response to the temperature of the return air entering the cooling coils.

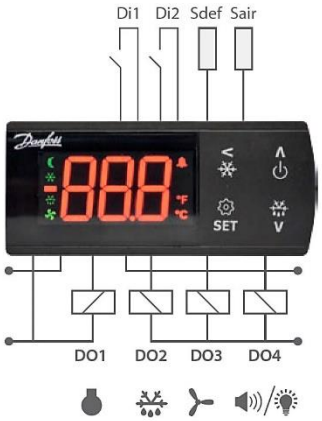
The instrument is fully configurable through special parameters that can be easily programmed through the keyboard.

ERC 214 User Interface

Button function			
∧ ⏻ / ❄ ∨	Press and hold down on startup RESET FACTORY SETTINGS ("FAC" is displayed)		
< ❄	Press for one second: **BACK** Press and hold down: **PULL-DOWN**	∧ ⏻	Press for one second: **UP** Press and hold down: **ON/OFF**
SET	Press for one second: **TEMPERATURE SETPOINT/OK** Press and hold down: **MENU**	❄ ∨	Press for one second: **DOWN** Press and hold down: **DEFROSTING**

Display icons					
☾	Night mode (energy saving)	🌀	Fan on	❄	Defrosting
❄	Compressor on Blinks in pull-down mode	🔔	Alarm activated	°C	Units (°C or °F)

ERC 214 Connections



Please refer to website https://assets.danfoss.com >documents for more information.

ERC 214 Setup

The controller is factory programmed with the settings shown in the Specifications section. Parameters not listed remain at their default settings.

SPECIFICATIONS

Mechanical

REFRIGERATED CABINETS - SPECIFICATIONS

	CABINET MODEL	
	IL-C-DRW-A005	**IL-C-DRW-A005**
Height overall mm	753	846
Width mm	700	700
Depth mm	738	738
Dry Weight kg	115	115
Cabinet Well Material	Stainless Steel	Stainless Steel
Storage Drawers	1	1
Drawer Capacity	24 x 2 litre bottles	24 x 2 litre bottles
Refrigerant	R134a	R134a
Refrigerant Charge	See cabinet rating label	See cabinet rating label
Climatic Class & IP	Cabinets are suitable for class N climates and have an IP 22 rating	

Electrical

REFRIGERATED CABINETS - SPECIFICATIONS

	CABINET MODEL	
	IL-C-DRW-A005	**IL-C-DRW-A005**
Voltage	220-240 V 50 Hz 1ϕ	220-240 V 50 Hz 1ϕ
Maximum Current	1.4A	1.4A
Peak Power	336W	336W
Average Energy Consumption	0.13kWh/h	0.13kWh/h
Connection	Three core cable, with plug	
Drawer Temperature	+2° to +4°C	+2° to +4°C

Controller Settings

REFRIGERATED CABINETS - SPECIFICATIONS

Danfoss ERC 214
Controller
Settings

Parameter	Code	Integral Settings	Units/Range
Predefined Application	o61	AP4	AP1, AP2, AP3, AP4, AP5, AP6
Set Point	r00	2	degC
Differential	r01	2	degC
Main Switch	r12	1	Service
Condenser High Alarm Limit	A37	85	degC
Condenser High Block Limit	A54	90	degC
Defrost Stop Temperature	d02	4	degC
Defrost Interval	d03	4	Hrs
Max Defrost Time	d04	30	Min
Delay of Outputs at Start-up	a01	0	Min
DI1 Configuration	o02	Sc	oFF, Sdc, doo, doA, SCH, rFd, EAL, Pud, Sc
Display At Defrost	o91	d	Air, FrE, d

Compliance

REFRIGERATED CABINETS - SPECIFICATIONS

Standards

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

- International safety standards for electrical appliances: IEC 60335-1, IEC 60335-2-89, 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.

Refrigeration Performance

Cabinet Operating Temperature	Test Conditions	
	Climate Class 4	
+2° to +4°C	30°C Ambient	55% RH

Improvements

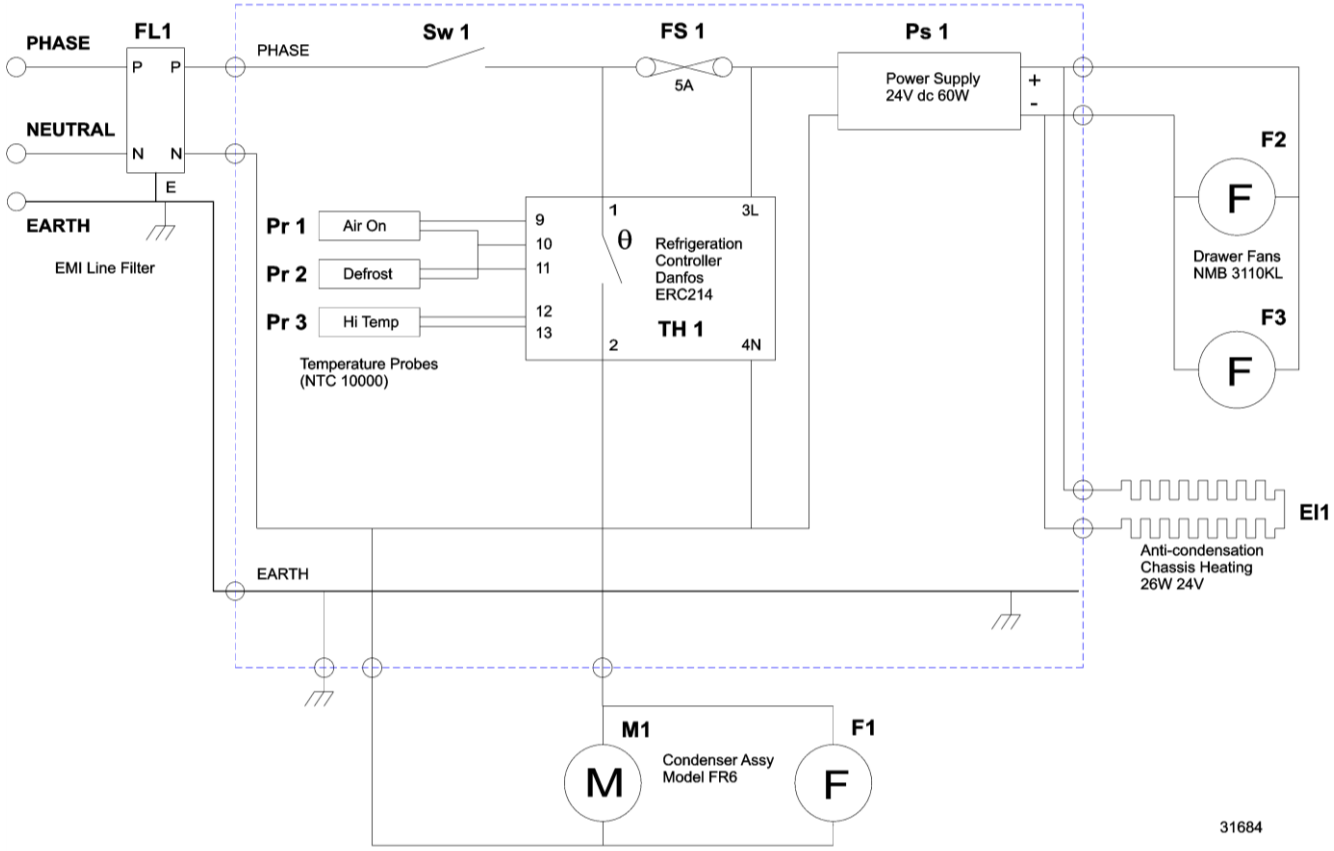
REFRIGERATED CABINETS - SPECIFICATIONS

On-going Development

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

ELECTRICAL CIRCUIT DIAGRAMS

Model: IL-C-DRW-A005 / A006 **Barista Refrigerated**



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.

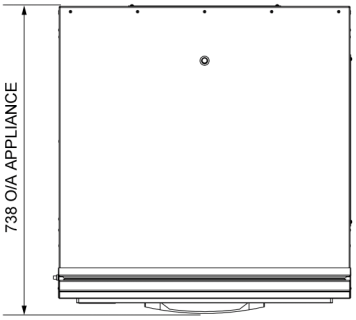
This serial number will enable FPG to trace details of the build specification of your particular cabinet, and hence ensure that spare parts are fully compatible.

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

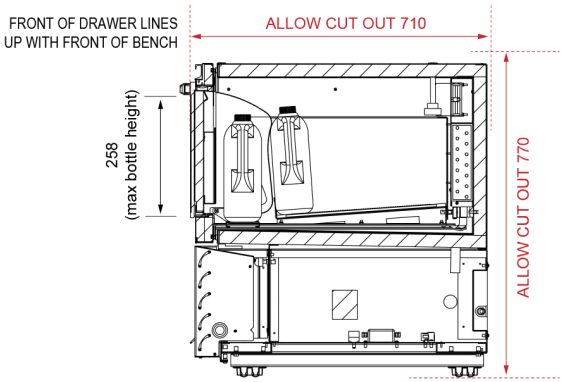
Part Description	FPG Part No.
Switch DPST 16A 250V	23876
EMI Line Filter	30828
Fuse 5A	13330
Power supply, 24V 60W	21613
Danfoss ERC 214 digital refrigeration controller	31183
Red temperature probe	31219
Green temperature probe	31216
Black temperature probe	31217
Drawer Fan, Powerlogic 24V	30171
Condenser unit Danfoss FR6GXN0	20439
Pre-filter	26805
Drawer Gasket black magnetic 412 x 677 mm	30643
Drawer Runners	27081
Drawer Latch	27080
Product Manual for Barista Refrigerated	31693

MECHANICAL DRAWINGS

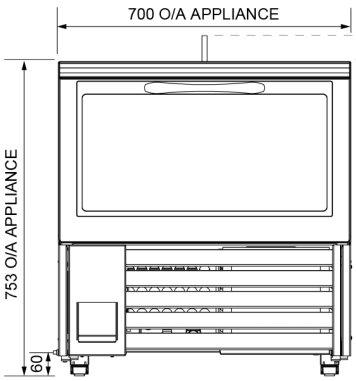
Model: IL-C-DRW-A005



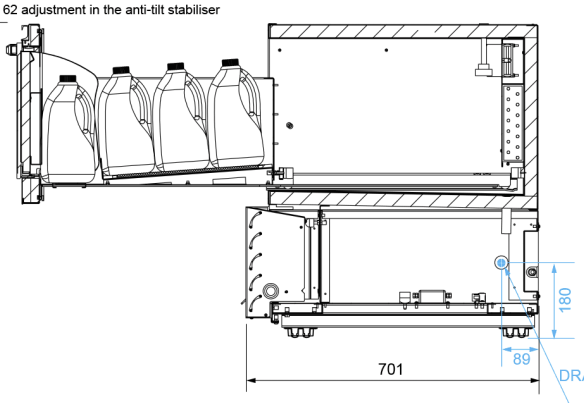
PLAN VIEW



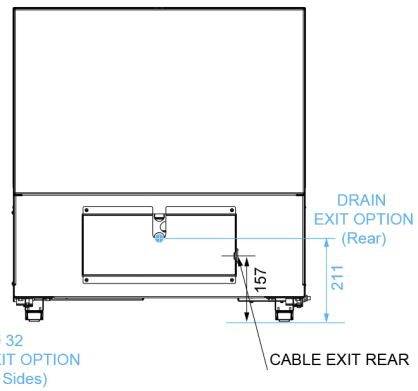
SECTION VIEW
JOINERY CUT OUT



FRONT ELEVATION

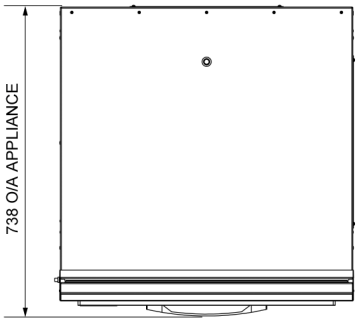


SECTION VIEW

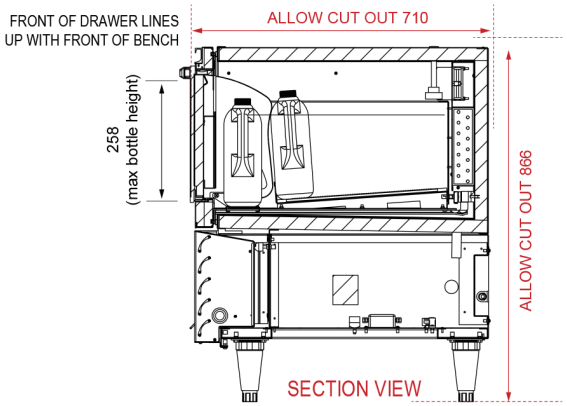


REAR ELEVATION

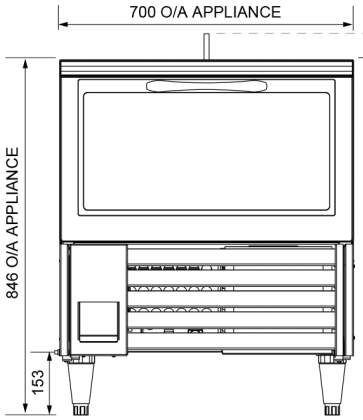
Model: IL-C-DRW-A006



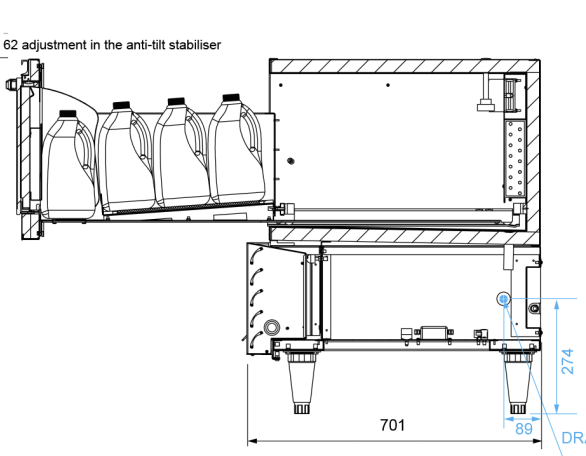
PLAN VIEW



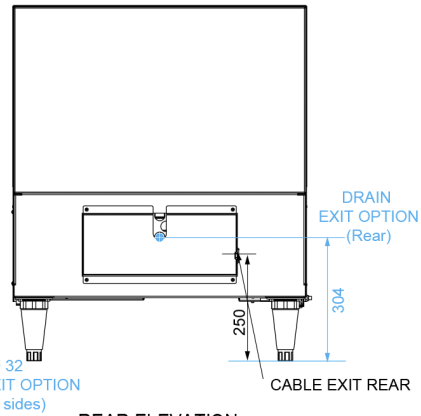
SECTION VIEW
JOINERY CUT OUT



FRONT ELEVATION



SECTION VIEW



REAR ELEVATION

PRODUCT MANUAL
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