

FROST-TECH



Refrigerated Tiered Multideck Displays
Instructions for Use and Installation

PROPER USE

The refrigerated cabinets as described in this operating manual are mainly intended for storing prepacked fresh and processed meats. Delicatessen, snacks (baguettes, sandwiches etc) beverages, prepackaged salads, dairy products, fruit and vegetables.

The siting of Frost-Tech cabinets must be carried out by qualified technical personnel.

Do not load the cabinet with non refrigerated products or use it to cool products.

The product should be loaded in such a way the correct rotation of the product is ensured.

Variation in the configuration of equipment and/or the use of the elements added without the authorisation of Frost-Tech may cause incorrect operation.

In the aforementioned product groups, only prepacked products with the following product temperatures may be stored.

Salad, fruit & vegetables	+5/+10
Dairy products	0/+7
Delicatessen	0/+7
Snacks (e.g. sandwiches)	0/+7
Processed meats	0/+7
Fresh meats	0/+3
Poultry	0/+3

Proper use means only the use as described above, adhering to the specifications on installation, connection, operation and service.

Any other use is regarded as being contrary to specification and is prohibited.

Keeping food at safe temperatures

Stage of food handling	When to check	Recommended Temp.
Delivery	Every time perishable food is delivered	0 - +5 is ideal for refrigerated food, -18 ~ -22 is ideal for frozen food
Storage in refrigerator or cold store. Storage in refrigerated counter or display	Daily, at least	0 ~ +5 is ideal
Deep Freezer	Daily, at least	-18 or below
Defrosting frozen meat or poultry	Whenever food is thawed	0 ~ +5
Cooking	Whenever food is cooked	Minimum core temp of +70 for 2 minutes
Cooling	Whenever food is cooled	+5 or cooler, ideally within 90 minutes
Reheating	Whenever food is reheated	Minimum core temp of +70 for 2 minutes
Hot food on display	Frequently while on display	Minimum core temp of +63
Cold food on display	Frequently while on display	0 ~ +5 is recommended

The chart above gives the temperatures that are generally accepted as good practice together with the recommended period of time involved where appropriate. Keeping food at these temperatures plays a major part in ensuring that food is safe to eat. Do not leave food standing in a room or in sunlight (for instance, in a shop window).

Cooking at +70 or hotter for sufficient time kills most pathogenic bacteria, although some bacterial spores can survive high temperatures. Food must always be cooked thoroughly, right through to the centre of the thickest part.

Remember: *Keep cold foods really cold*
 Keep hot foods really hot

SAFETY REGULATIONS

The plug in refrigerated cabinet as described in the operating manual is designed and manufactured in compliance with the international safety regulations. Like any electrical appliance, it must be handled with all due care, particularly with consideration to ensuring electrical safety.

To ensure safe operation in all service conditions, the following safety precautions must be observed.

- The power plug must be connected in regulation matter and as instructed in the this manual
- Contact your service organisation if you are in any doubt about electrical connection, working or safety of your plug in refrigerated cabinet.
- Remove the cabinet from use if it is not working properly or exhibits any damage. Disconnect the power plug, transfer the merchandise to other cabinets or a cold room and call your local service organisation.
- When disconnecting the power plug, always pull on the plug itself and never the cable.
- Never detach any cover except where specifically instructed in this manual. Doing so might expose live electrical parts.
- If any damage occurs to the power cable, pull the plug to disconnect the cabinet.
- Never use a water hose or high pressure jet to clean the cabinet.
- All work on electrical equipment must be left to a qualified electrician. Safety First!!
- Never connect the cabinet to the power supply if it is damaged (in transit or otherwise) When in doubt contact your service organisation or dealer.

INSTALLATION

Selecting the place of installation.

In selecting the place of installation, ensure that the following instructions are observed, this being vital for proper and trouble free working of the cabinet:

- Do not install the cabinet outdoors
- Do not install the cabinet in the vicinity of heating radiators or other heating sources.
- Do not install the cabinet where it is exposed to direct sunlight (e.g. through windows)
- Avoid the installation of incandescent illumination. Fluorescent lighting is recommended.
- Do not install the cabinet where it is exposed to draughts from air conditioners, ventilators or open doors.
- Do not stack items on top of the unit.
- Keep the air intake and outlet area around the front grill area of the cabinet clear of cartons and other obstacles.
- When installing the cabinet against a wall, make sure the refrigeration unit fan is free to take in the ambient air from the room via the front grill area and blow it off at the back.

Adhere to the minimum specific distance of 80mm

- When installing several cabinets alongside or behind one another, be sure to observe the specific installation plan.

In all installation options, air exit must be unhindered at the back of the refrigerated cabinet to exclude the accumulation of heat. Only then is trouble-free operation guaranteed.

When the cabinet is installed as a stand alone unit against a wall, a minimum distance of 80mm must be maintained between cabinet back and room wall to ensure free air exit on the cabinet back.

REQUIREMENTS FOR ELECTRICAL CONNECTION

The cabinet is connected by inserting the power plug in a socket. The plug is fitted with a 13amp fuse. The cabinet has an ON/OFF switch but we recommend the provision of a remote switch. Ask you electrician.

The socket employed must be properly earthed, firmly installed and protected by a 32amp circuit breaker type C.

Supply voltage and frequency must be in accordance with the data shown on the cabinet type plate. The local utility company's regulations on earth fault protection must be observed. If in doubt, consult a qualified electrician.

The cabinet must not be plugged into a multiple outlet power strip.

Run the power cables so they are protected from risk of damage and there is no risk of tripping.

STARTING

If the cabinet has been tilted sharply whilst being sited or for counting of accessories, it must be left to stand for at least three hours before being started to allow the lubricating oil to settle in the compressor. Failure to do so can cause total destruction of the refrigeration system.

Ensure the means of transporting/positioning used does not damage elements which may exist in the lower part of the equipment.

Start the cabinet only if installed as described.

- Plug power plug in socket
- Switch on

Starting is signalled by the running noise of fans and refrigeration system.

SETTING THE STORAGE TEMPERATURE

The temperature regulation parameters as well as recommended defrost times for each case are based on Frost-Tech experience and on the results obtained in laboratory tests.

Regulation which is different from those recommended may be necessary for reasons of non-standard ambient and/or operating conditions.

The units are delivered with the regulation already factory set.

ADJUSTING THE CONTROLLER

Please refer to the specific instructions included.

AUTOMATIC EVAPORATOR DEFROSTING

Defrosting of the evaporator fins and evaporation of the drip water formed during the defrosting is performed automatically.

During automatic defrosting, the temperature in the display compartment may rise slightly.

Defrost frequency as well as duration and time are factory set. Defrosting is automatic four times a day.

All cabinets have a stainless steel drip tray with an electrical heating element operated by a float switch, and a hot gas pipe running under the tray to evaporate the condensate water.

CLEANING

A general shut down of the units must be carried out every 30 days in order to carry out general cleaning and allow the elimination of any ice build up which might exist. For purposes of hygiene, more frequent cleaning might be necessary.

Make sure that the drain overflows are not obstructed to avoid significant damage being caused.

Turn off power supply to the cabinet by disconnecting the power plug before cleaning.

Do not use any aggressive or abrasive cleaning agents. Never use a water hose or high pressure jet to clean the cabinet.

Cleaning The Outer Casing

Wipe the outer casing with a cotton cloth moistened with lukewarm water.

The glazed parts of the end walls can be cleaned with a commercial brand alcohol based glass cleaner.

Cleaning The Internal Surfaces

Remove the merchandise from the display compartment and transfer it to another storage place.

Do not start cleaning before the internal surfaces have risen to near room temperature.

- Take accessories out of the display compartment
- Unscrew 2 recessed head screws at the return air grill with a screwdriver for recessed head screws
- Pull out return air grill backward of the fixing device

No cleaning water must be allowed to flow into the defrost water drain.

- Moisten cloth with lukewarm water and a little detergent
- Wipe fan wall below the return air grill
- Wipe display compartment with display shelves
- Carefully dry all wiped surfaces with a dry cotton cloth

MAINTENANCE

Maintenance must be carried out by authorised technical personnel.

The positioning and type of the defective elements to be repaired or replaced can be seen in the spare parts drawings.

In order to avoid accidents: where the manipulation and/or replacement of electrical components is to be carried out, always disconnect the units from the electric mains beforehand.

Turn off power supply to the cabinet by disconnecting the power plug before starting any maintenance on the cabinet.

In case of breakdown in the functioning of the unit, the user must carry out the necessary steps to prevent the deterioration of the product. i.e. destocking and removal to operational storage facility.

Cleaning The Condenser Fins

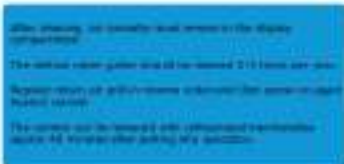
The refrigerated cabinet normally requires no maintenance except for cleaning the condenser fins every two to three months.

- Disconnect the cabinet as described above
- Unscrew 4 recessed head screws with screwdriver for recessed head screws.
- Remove front grill
- Check whether the condenser fins need cleaning

The condenser only needs cleaning when a layer of dust, fluff and the like begins to build up between the fins.

- Clean the fins with a vacuum cleaner and brush attachment or flat nozzle
- Replace the front grill after cleaning
- Put cabinet in operation

Regular cleaning of the condenser is important to save power and avoid unnecessary servicing.



SHUT DOWN

Remove the merchandise from the display compartment and transfer to another storing place.

Unplug power plug or switch off control switch

If the cabinet is to be shut down for any length of time, clean cabinet. When stored in a storage room, cover with a cotton sheet.

Do not use plastic tarpaulins as these may encourage formation of moisture and odours inside the cabinet.

TROUBLESHOOTING

Any trouble occurring might be due to a minor problem that you can correct yourself following the instructions below. Do not try any further action if the pointers given cannot solve the problem!!!

Repairs on the cabinet must be made only by a qualified specialist. Incompetent repair work can cause serious personal danger; contact your service organisation for any repairs needed.

1. Cabinet does not work (no audible running noise or only fan noise audible)

Possible cause	Corrective measure
A) Automatic evaporator defrosting active or thermostat switched off	None: Cooling will automatically switch on again
B) Power plug not connected	Insert plug properly, switch on
C) Fuse blown, power plug or socket defective	Contact your electrician or service organisation
D) Condenser fins dirty	Perform maintenance

2. Storage temperature is too high

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Possible cause	Corrective Measure
A) Automatic defrosting active	Not required, temporary minor temperature rise during defrosting is normal
B) Ambient temperature is too high or thermostat misadjusted	Avoid extreme operating environment. Adjust storage temperature
C) Distance to wall not adhered to	Maintain prescribed minimum distance
D) Lack of air intake due to obstruction of grill	Remove any obstacles in the air intake area
E) Condenser fins dirty	Perform maintenance

3. Storage temperature is too low

Possible Cause	Corrective Measure
A) Maladjustment	Adjust storage temperature in small increments

4. Cabinet lighting failed partly or completely

Possible Cause	Corrective Measure
A) Lighting not switched on	Switch lighting on
B) The light fitting or the starter is defective	Replace light or starter

5. Heavy condensation in display area

Possible Cause	Corrective Measure
Extreme ambient temperature (relative humidity greater than 60%, very high summer temperatures)	Improve operating environment

6. Water under or in front of cabinet

Possible Cause	Corrective Measure
Automatic defrosting defective or extreme operating environment (e.g. relative humidity greater than 60%, very high summer temperatures) causes overflow of drip tray in machine compartment	Wipe water off. If new water forms within the next 48 hours, contact your service organisation

7. Formation of odour in cabinet

Possible Cause	Corrective Measure
Spaces under return air grill dirty	Clean
Drain pipe blocked	Remove blockage

For additional spares support, or if you are unable to locate the information you need, call our experts today



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