

OPERATION MANUAL

FREEZER

ERIDA



freor
thinking green


Table of contents

1.	GENERAL INSTRUCTIONS	4
1.1.	Manufacturer information	4
1.2.	Dimensions	6
1.3.	Packaging and its dismounting.....	7
1.4.	For refrigeration equipment with the refrigerant R290 (propane)	10
1.5.	Refrigerants	10
1.6.	Conditions for use and ambient temperature.....	10
1.7.	Intended use.....	11
1.8.	Unpacking and use	11
1.9.	Requirements for setting down of the freezers	12
2.	UPLOADING LEVEL.....	13
3.	INSTALLATION OF THE ERIDA FREEZER	14
4.	ACCESS TO THE COMPRESSOR IN THE EVENT OF FAILURE.....	21
5.	CONNECTION OF THE POWER SUPPLY	24
6.	GENERAL INSTRUCTIONS FOR OPERATION	24
6.1.	Requirements for proper operation.....	24
6.2.	Operation.....	25
6.3.	Safe operation.....	26
7.	DRAINAGE.....	26
7.1.	Condensate collection systems in the freezers cabinet Erida	26
8.	MAINTENANCE, DEFROSTING, CLEANING	26
8.1.	Maintenance	26
8.2.	Defrosting.....	26
8.3.	Cleaning	27
9.	INSIDE LIGHTING	28
10.	DISPOSAL.....	28
11.	STORAGE	28

12. TRANSPORTATION.....	29
13. TESTING	29
14. ACCESSORIES.....	29
15. TECHNICAL DATA	30
15.1. Electrical layouts.....	30
15.2. Failures and troubleshooting.....	30
16. SYMBOLS	35

1. GENERAL INSTRUCTIONS

1.1. Manufacturer information

Manufacturer, address	FREOR LT, UAB Katiliskiu St. 92, LT - 02212 Vilnius, Lithuania T: +370 5 232 9188	 EN
	Made in Lithuania	

Customer	
Installation date	
Installation place	
Start of the product operation	

[PLACE FOR PRODUCT LABEL]

The freezer cabinet Erida can be identified in accordance with their labelling sticker, which includes technical data. The labelling sticker is attached at the right corner of the freezer ceiling inner cover. The labelling sticker contains the following information: the model, voltage, and the product number. Prior starting any operation of the freezer cabinet it is necessary to inspect this sticker (**Fig. 1**).





FREOR LT, UAB Katiliskiu St. 92 LT-02212 Vilnius, Lithuania freor@freor.com www.freor.com			
Type:			
Serial no:			
Year:			
Product code:			
Rated voltage, [V]: Frequency, [Hz]: Rated current, [A]: Defrost power input, [W]: Anti-condensation heating element power input, [W]: High pressure, [Bar]: Low pressure, [Bar]: Max pressure, [Bar]: Climate class:			
Refrigerant:		GWP:	
Quantity of refrigerant, [kg]:			
CO2 equivalent mass of the F-gas, [t]:			
 MADE IN LITHUANIA			
			

Fig 1. Example of labelling sticker

- The instructions are purposed for maintenance and operation of the freezers Erida. The unit is equipped in accordance with the client specification.
- According to the EU Directive and that of the Republic of Lithuania the refrigeration units are electrical refrigeration machines; therefore, the focus is put on safety during operation.
- The user instruction of the freezer Erida must be kept at the place of operation. It must be available to technical staff, service personnel and repair specialists at any time of the day.

1.2. Dimensions

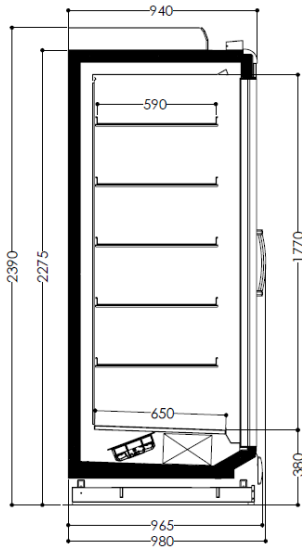


Fig. 2. Dimensions of Erida H

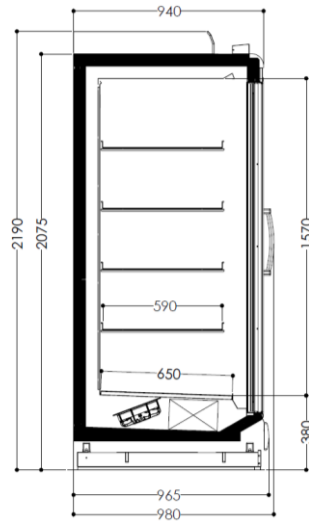


Fig. 3. Dimensions of Erida L

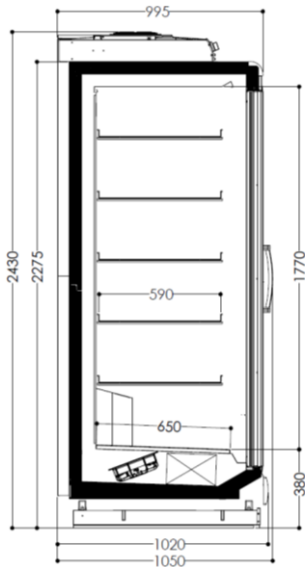


Fig. 4. Dimensions of Erida H Plug-in

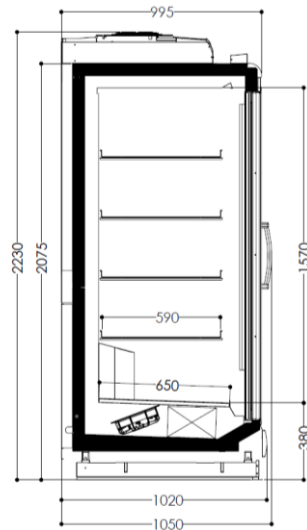


Fig. 5. Dimensions of Erida L Plug-in

1.3. Packaging and its dismounting

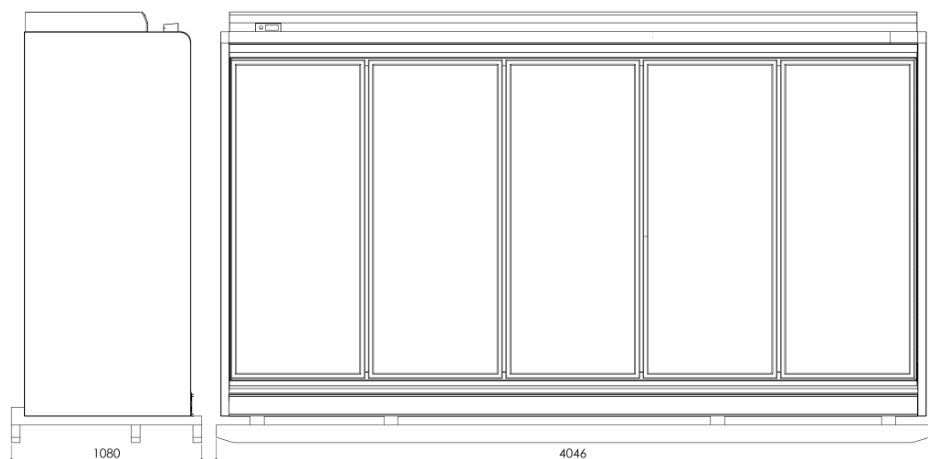


Fig. 6. Package dimensions of Erida 3900

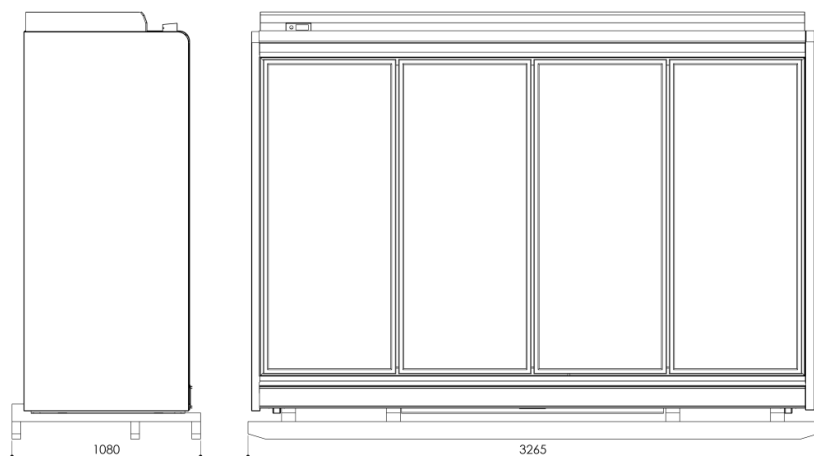


Fig. 7. Package dimensions of Erida 3125

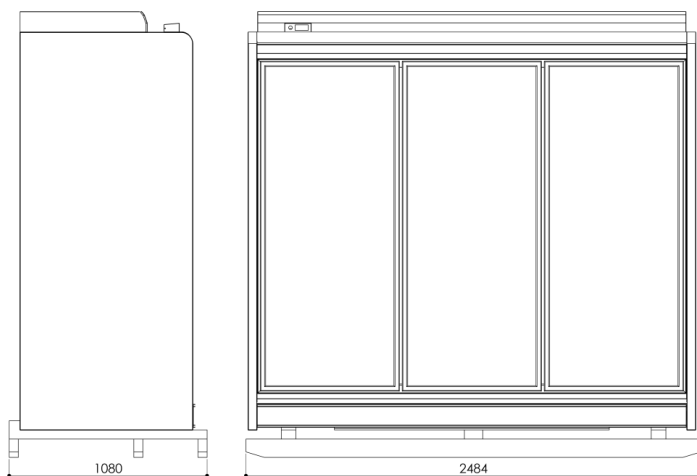


Fig. 8. Package dimensions of Erida 2345

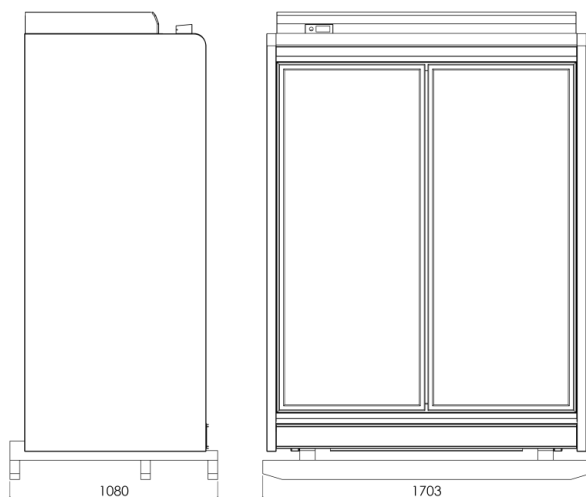


Fig. 9. Package dimensions of Erida 1560



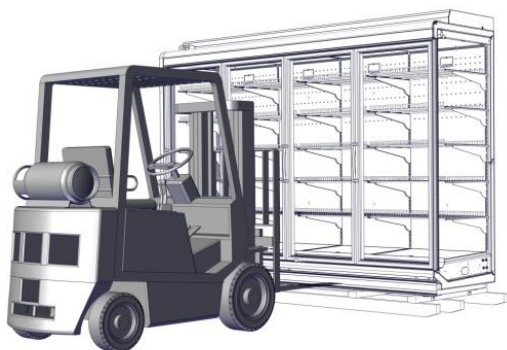
x 2



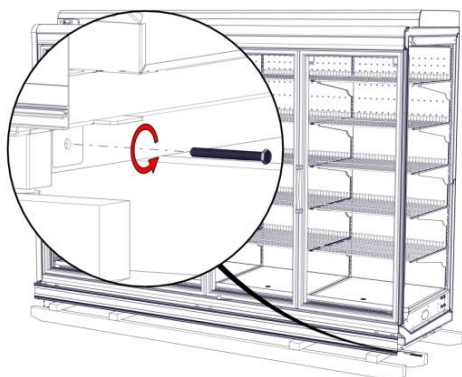
Size 10



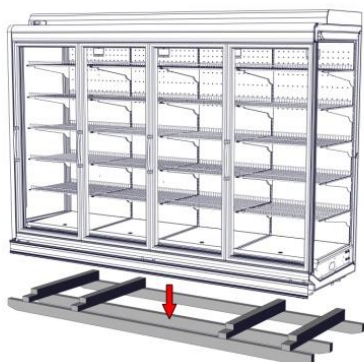
15 min



Unload the freezers;



Unscrew the self-cutting
screw M6x100 ISO 7380;



Remove the unit from the
pallet;

1.4. For refrigeration equipment with the refrigerant R290 (propane)

According to the standard DIN EN 378-1 the refrigerant R290 (propane gas) is assigned to the group of A3 refrigerants (flammable and explosive). Within the limits of certain area, the refrigerant together with the air and respective ignition power (source of ignition) can cause an exothermic reaction.

Ventilation openings at the front and rear sides of the unit must be free. To avoid disturbance of air circulation, make sure to maintain the minimum distance between the bordering walls and other units. Otherwise, in the event of leakage of the refrigeration system, a mixture of flammable gases and air can occur.

Cover the ventilation opening with a protective cover of the unit (accessory) because they overlap. Otherwise, in the event of leakage of the refrigeration system, a mixture of flammable gases and air can occur.

Do not damage the cooling coil of the unit: danger due to the escaped and unexpectedly ignited mixture of gas and air.

Only the manufacturer's approved electrical devices may be used for shelves of food products.

The refrigeration system may be operated only by maintenance personnel authorized and trained by FREOR LT to work with flammable and fluorinated refrigerants.

Opening of the refrigerant circuit and pumping of the refrigerant are allowed only in the well-ventilated rooms or outdoors. Only qualified maintenance personnel who are trained to work with flammable and fluorinated refrigerants may perform the work related to it.

When properly disposing the unit, pay the most attention that the flammable refrigerant R290 (propane) and the thermal insulation material the polyurethane foam would be disposed in a safe and environmentally friendly manner.

1.5. Refrigerants

Non-hazardous and environmentally friendly refrigerants HFC/HFO are used. The specified refrigerants are non-toxic, non-flammable, do not cause any carcinogenic effects and signs of prosoplasia.

1.6. Conditions for use and ambient temperature

The freezer must be operated under suitable ambient conditions (climate class 3):

- Ambient temperature +25°C
- Relative humidity 60%
- Front airflow rate up to 0.2 m/s

Higher temperature can affect operation of the freezer. Excess humidity affects the dew point parameters. Strong front airflow can damage internal circulation of the open freezer.

The freezer is equipped with shelves, the maximum allowable loads of which are specified in the main layout. It is forbidden to exceed the indicated maximum loads. Products may not cover the air circulation channels.

1.7. Intended use

It is forbidden to upload the freezer with warm products with the temperature higher than -15°C (except the portion ice cream).

$\leq -18^{\circ}\text{C}$	Frozen products, except ice cream
$\leq -18^{\circ}\text{C}$	Ice cream prepacked in blocks
$\leq -10^{\circ}\text{C}$	Ice cream, portions

The freezer cabinet Erida must be protected against external mechanical damage. Shelf load may not exceed established norms.

If used for unintended purpose the manufacturer will be exempted from warranty obligations.

1.8. Unpacking and use

To protect the equipment from damage, it may be transported and kept only in the use condition. Before and during unpacking of the device, perform the inspection control to determine possible transportation damage. Pay attention whether there are no unsecured parts, curvatures, scratches, noticeable fluid leaks, etc. Inform immediately FREOR LT sales department or official partner of FREOR LT about possible violations prior starting operation. Prior disposing the packaging material, you should check that there are no unconfirmed functional parts.

1.9. Requirements for setting down of the freezers

When setting down the unit pay attention to the following issues:

- The unit must be aligned horizontally in all directions (depth, length) and stably set down.
- At the place of the setting down, avoid draughts and higher heat. Do not set down the equipment in front of heating radiators, heaters and near air outlets.
- Do not direct the heat sources or spot radiators (such as incandescent lamps) to the unit. Any heat emitted to the unit increases operating costs and may affect the power of the unit.
- Promotional posters that are only in the form of a thin film may be attached to the freezers. Do not attach them on ventilation openings (air grids), temperature indicators, safety instructions and performance data table.

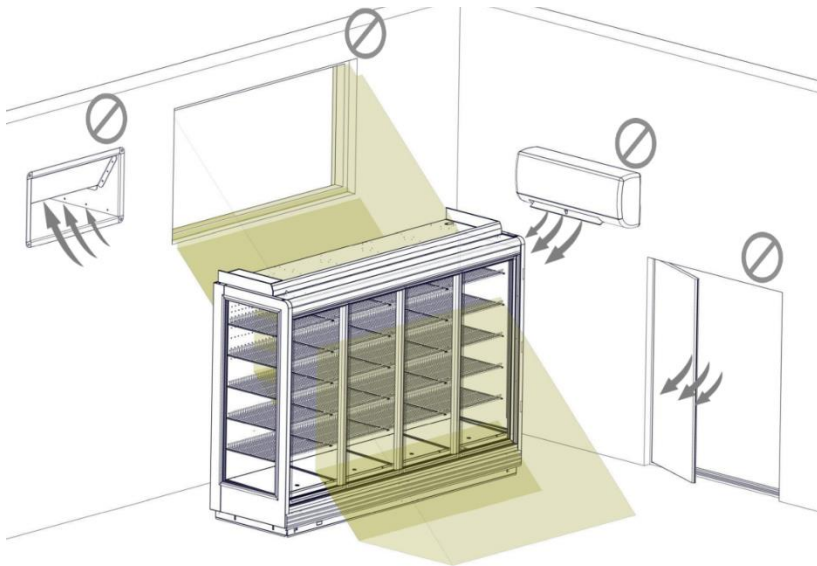


Fig. 10. Unsuitable ambient conditions

2. UPLOADING LEVEL

Erida freezer is equipped with shelves, the maximum allowable loads of which are specified in the main layout (**Fig. 11**). It is forbidden to exceed the indicated maximum loads.

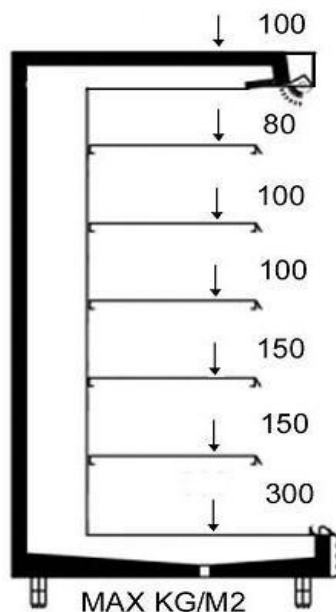


Fig. 11. Example of the principal layout of the uploading level

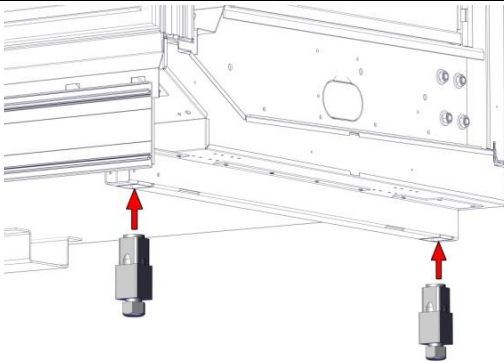
3. INSTALLATION OF THE ERIDA FREEZER



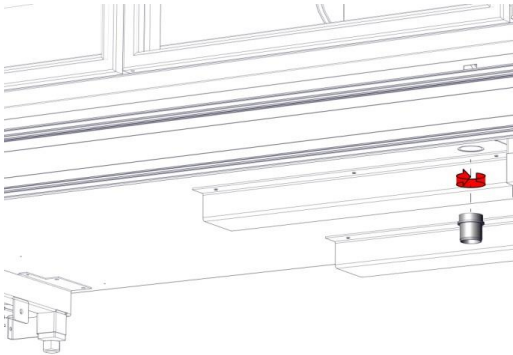
X2



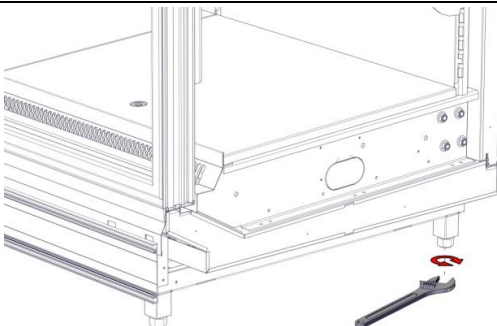
Size: 17, 32



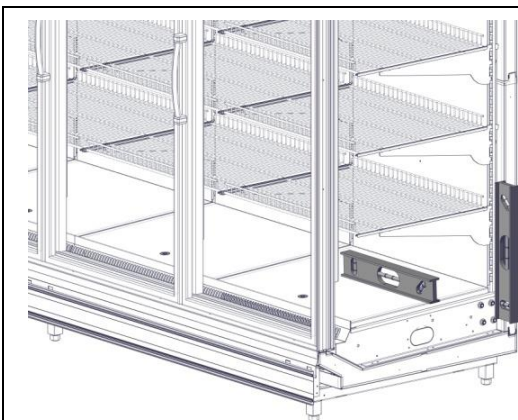
Install plastic legs;



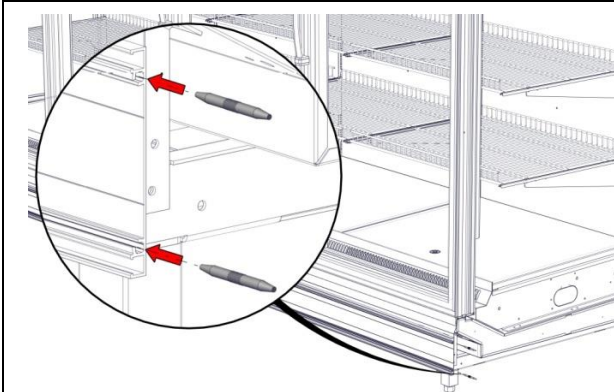
Apply silicone and screw the nozzle into the condensate drainage opening;



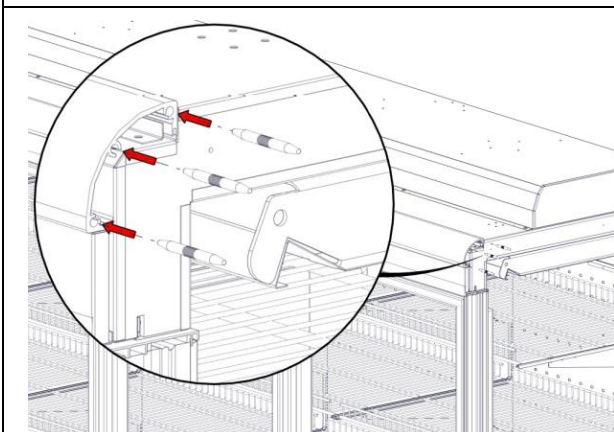
Using the front and rear legs, perform horizontal and vertical pre-adjustment of the freezer. The leg is adjustable in 5 cm;



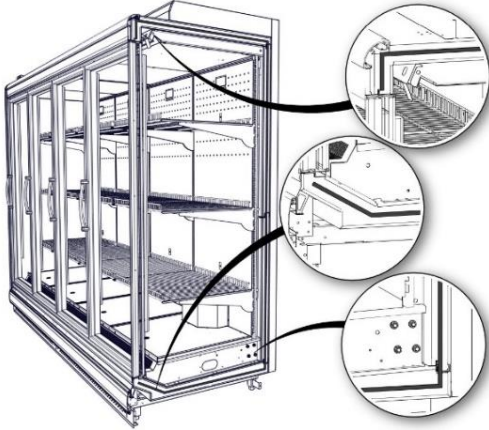
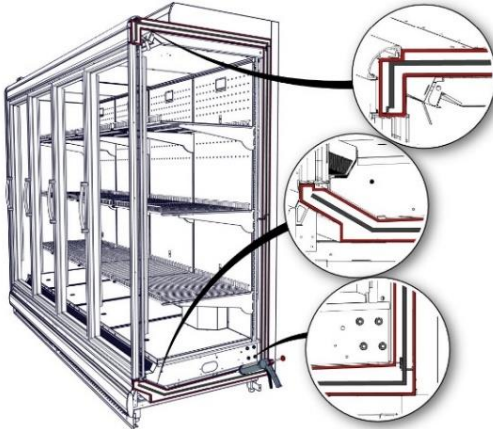
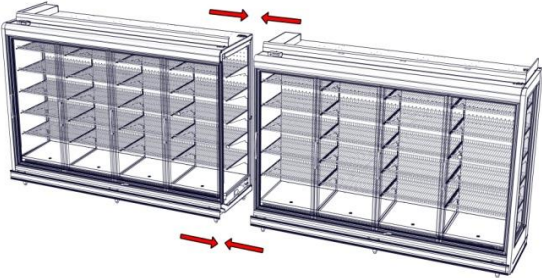
Using the level, perform horizontal and vertical pre-adjustment of the freezers.

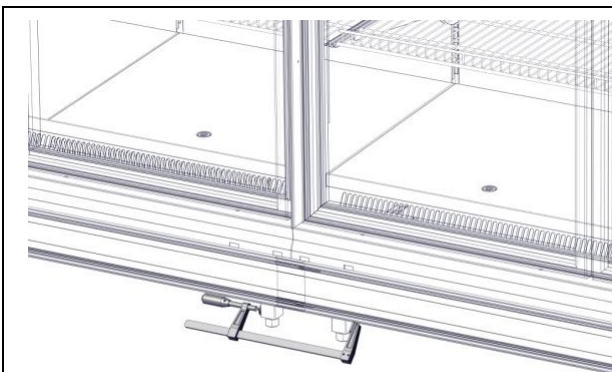


Insert the guides as shown in the figure;

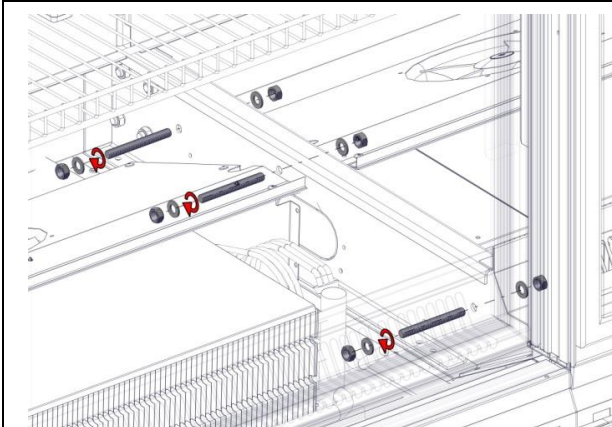


To connect more accurately the top part of the freezer cabinet, insert guides as shown in the figure;

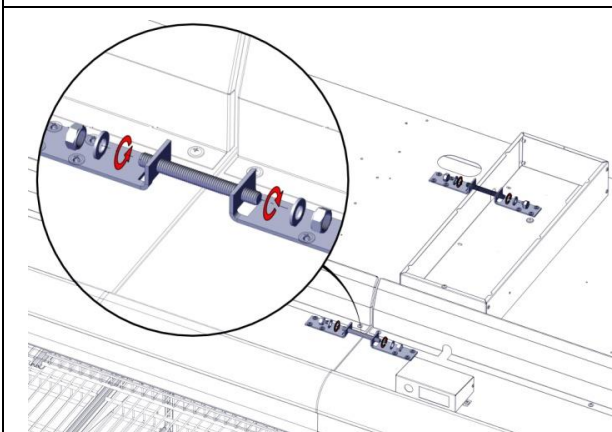
	<p>With the adhesive foam tape, seal connection gaps;</p>
	<p>Apply silicone to seal the junction;</p>
	<p>Perform the final match of the guides and put together the cabinets;</p>



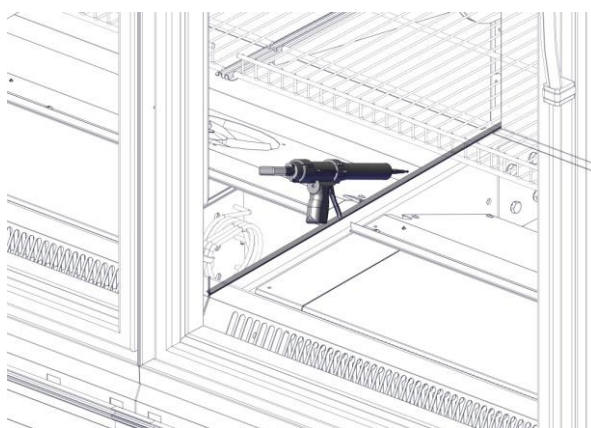
To achieve a more robust connection, compress the cabinet legs;



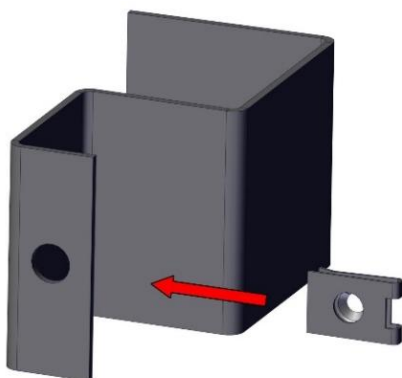
Insert threaded studs with washers into the places at the bottom of freezer cabinet, which are shown in the figure. Tighten them with wrenches. Threaded rod M10x90 ISO 7985;



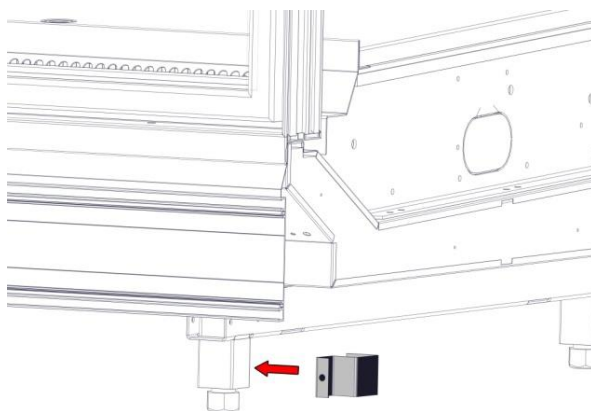
Insert threaded rods with washers into the indicated places on the roof of the display case and tighten them with the wrench. Threaded rod M10x90 ISO 7985;



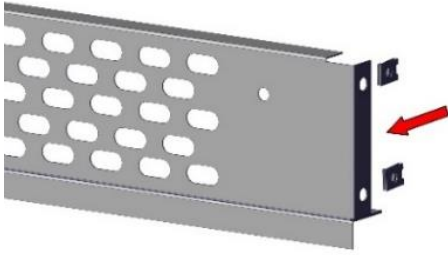
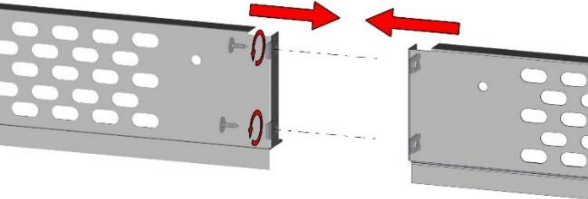
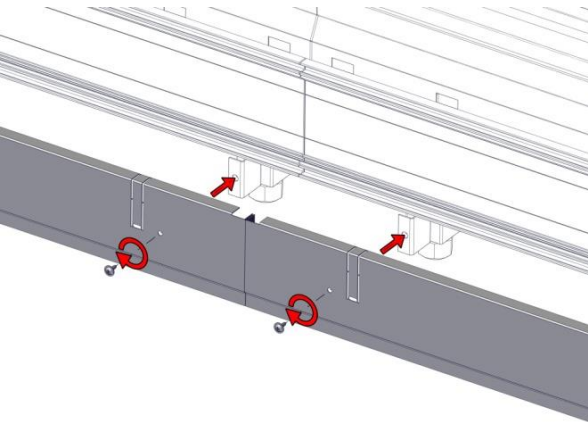
Seal the bottom connection joints with silicone;

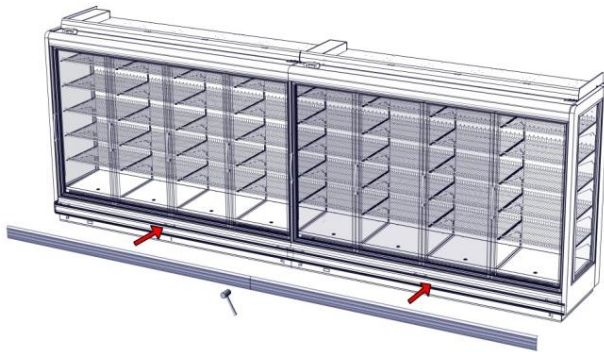


Take the bracket to install the lower dust cover. Insert the threaded staples as shown in the figure;

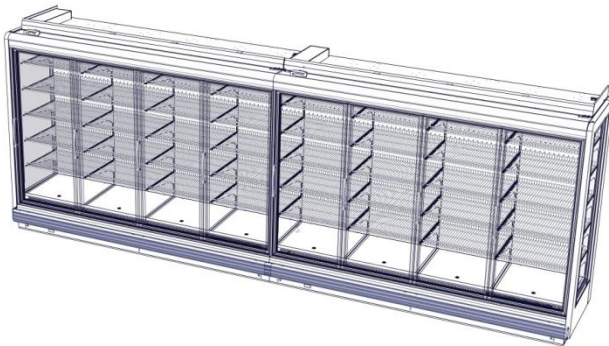


Secure brackets on the legs;

	<p>Secure the threaded staples to the dust cover;</p>
	<p>Connect the dust covers using the self-cutting screws M4x13 ISO 7380;</p>
	<p>Put on the dust covers and fasten them with the self-cutting screws M4x13 ISO 7380;</p>

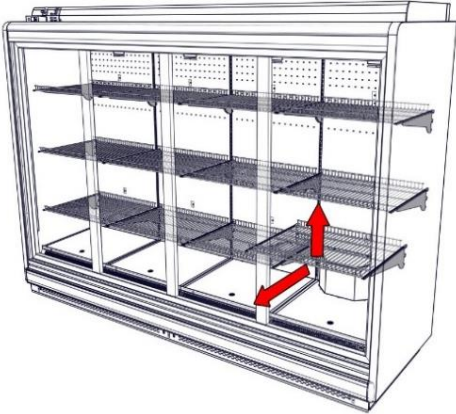
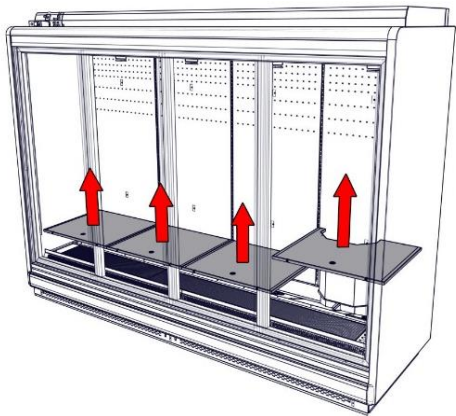
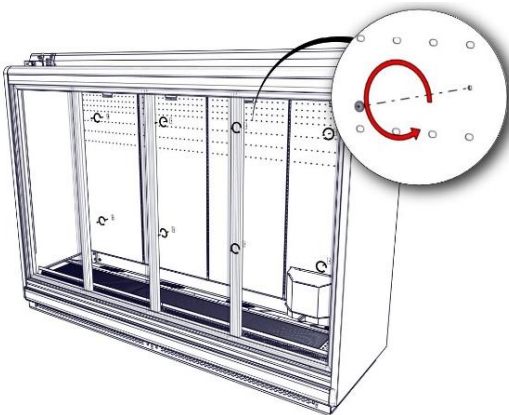


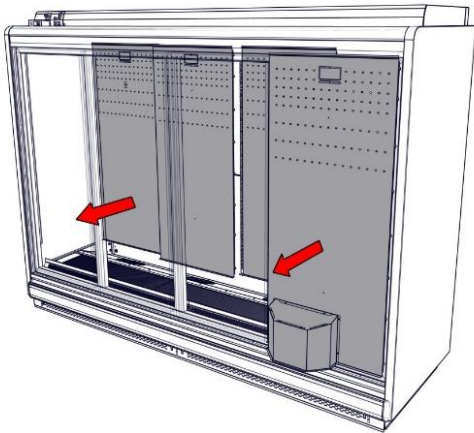
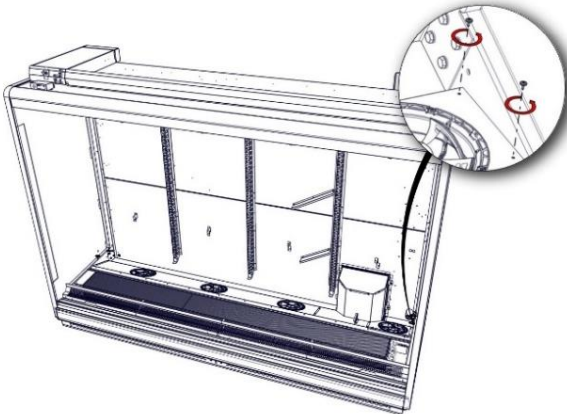
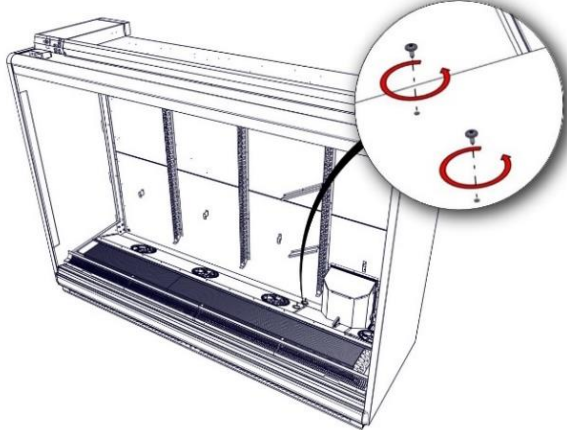
Using a rubber hammer attach the rubber bumper;

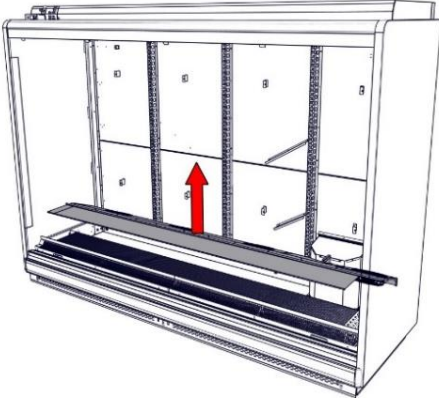
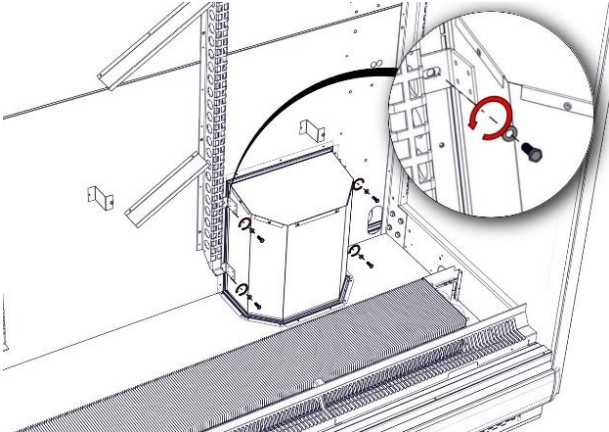
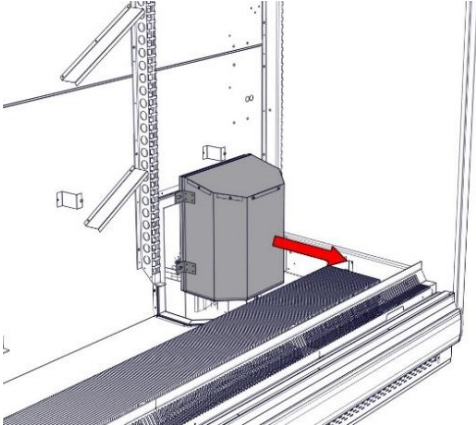


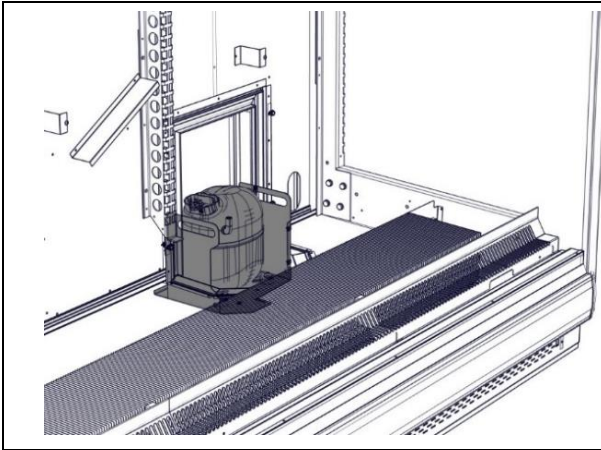
View after installation;

4. ACCESS TO THE COMPRESSOR IN THE EVENT OF FAILURE

	<p>Remove hooked grid shelves;</p>
	<p>Remove bottom shelves;</p>
	<p>Unscrew the self-tapping screw of wall cover;</p>

	<p>Remove the wall covers;</p>
	<p>Unscrew the self-tapping screws, attaching the fan unit tin-plate to the freezer cabinet bottom, on both sides;</p>
	<p>Unscrew the marked self-tapping screws from the fan unit tin-plate;</p>

	<p>Remove the fan unit;</p>
	<p>Unscrew the brackets of the compressor cover;</p>
	<p>Remove the compressor cover;</p>



Upon carrying out of the listed actions, it is possible to replace the compressor without any obstacles. After replacement, new silicone layer must be applied on the cover edges;

5. CONNECTION OF THE POWER SUPPLY

INSTRUCTIONS

It is necessary to regard and follow requirements of the local power supply company in force in the respective region and the nationally valid and applicable standards as well as safety rules!

The network voltage and frequency must match the nominal values indicated on the operating data table of the unit!



The main power supply parameters:

1. Nominal voltage: ~400V/50Hz/3ph
2. Safety shield on electric panel 1x16A

6. GENERAL INSTRUCTIONS FOR OPERATION

6.1. Requirements for proper operation

- A responsible person must be appointed to monitor the functionality of the freezers, to record accidents, to train personnel how to use freezers in accordance with intended use.
- The freezers are intended for display of chilled products but not for their chilling.
- The freezers have to be installed in premises with the ambient temperature up to +25°C and relative humidity up to 60%. Temperature changes impact on performance of the freezers. Excess humidity in the premise can cause occurrence of condensate on cold surfaces of the freezers.

- The freezers must be protected against exposure to sunlight. The minimum distance to the heat-transmitting devices is 3.5 m.
- Airflow of the ventilation systems, in particular warm ones, may not be directed towards the freezers.
- If you notice failure of the freezers, stop its operation. Reload products into the refrigeration storage chamber. Switch off power supply to the freezers.

Some operations can be made by the shop personnel, including:

- Observance of operation of the freezers. Temperature control.
- Replacement of the shelf brackets. Washing and cleaning of components.
- Uploading and loading of products to / from the cabinet. The products must be evenly distributed in the internal space of refrigerated cabinet; it is not recommended to leave free space on the shelves of the freezer or to overload the shelves on one side and underload on the other ones. Product upload may not exceed the indicated load.
- Air circulation openings may not be covered.
- If you notice an unusual operation of the freezers, switch off power supply of the freezers and call the service department.
- If you notice frequent and strong icing of the evaporator, make sure the products are chilled before placing them into the freezers and call the service department for checking of the defrosting elements.
- To save energy during non-business hours of the shop, open freezers should be covered with curtains.

6.2. Operation

- The freezer Erida are installed in the shopping premises at a predefined location.
- The cabinets have to be interconnected in accordance with the **furniture installation manual**.
- Connection of the condensate drainage systems.
- Connection of the glycol circuit in accordance with the **piping installation instructions**.
- Connection of the power supply.
- Setting of the excess heat transfer flow of the freezers. Operating flows are indicated in **the piping installation instruction**.
- Setting of the internal space temperature using the furniture controls.
- The freezers have to be uploaded with chilled products when the set temperature is reached in the internal space.

6.3. Safe operation

The freezer must be installed and operated following manufacturer's instructions and recommendations. Cabinets have to be equipped in such way not to cause any danger to purchasers, servicing personnel and other people in the building. Use of the unit for unintended purpose can pose risk to customers and the staff of shopping premises and affects the functionality of the freezer.

7. DRAINAGE

7.1. Condensate collection systems in the freezers cabinet Erida

Freezer Erida requires condensate drainage. The condensate can be drained to the tub trough the condensate drainage siphon. The tub is equipped with electrical heating elements that evaporate water accumulated in the tub. The tub must be watched out and, in the event of the excess water, it has to be removed from the system. The condensate drainage siphons must be installed strictly horizontally.

Also, condensate drainage can be connected to the common sewerage system. Drainage connection points are indicated in the furniture layouts. It is necessary to check the condensate collection tub and siphon to prevent it from the entry of food remains, sand or larger dust particles.

8. MAINTENANCE, DEFROSTING, CLEANING

8.1. Maintenance

In general, this equipment does not need any maintenance. However, they need defrosting and cleaning as described in further sections.

8.2. Defrosting

Warm ambient air can get into self-service showcases. It is particularly probable when the showcase is without doors, or its door is left open. Due to it, evaporator can frost. Evaporators must be regularly defrosted in accordance with programs set in the control. During the defrosting refrigeration is not run.

Evaporators of high-temperature cabinets can be defrosted using recirculation air flows. Evaporators of medium- and low-temperature can be defrosted using electrical heating elements.

The ventilator operation during defrosting is described in the technical characteristics.

8.3. Cleaning

The freezer has to be regularly cleaned as food products are sensitive to bacteria and microorganisms. Also, the packaging of displayed products may be damaged, liquid products may damage the metal parts of the freezer and small products can enter drainage openings and affect condensate drainage.

Regular maintenance:

- The freezers should be cleaned at least once a week. If needed, when damaged packaging is detected, the cabinets must be cleaned more often.
- During cleaning, the internal space, shelves, interior and exterior plastic and glass parts of the freezers must be thoroughly cleaned as well as the floor at the freezers must be washed.
- Washing of the plastic parts must be performed using warm water and a non-abrasive cleaning agent purposed for plastics.
- Metal components must be cleaned using warm water and a non-aggressive, corrosion-free cleaning agent. After washing, it is necessary to remove any moisture residue and to dry up the surface. Chromed surfaces must be cleaned with special cleaning agents. After cleaning, they must be dried up with a soft cloth that does not leave dust (linen, chamois and cotton).
- Dyed components must be cleaned with liquid cleaning agents without abrasive materials. It is recommended to use special detergents purposed for dyed surfaces. After washing the surfaces must be well dried up. The paint damage can cause metal corrosion at the scratch place.
- Glass parts can be washed using the household window cleaning agents.
- Some units of the furniture are with wooden finish. Wood and surfaces of wooden products must be cleaned dry; also, wood polishers can be used. If necessary, surfaces can be cleaned with a damp cloth and then dried thoroughly.
- During cleaning, moisture cannot get on electrical installations.
- It is necessary to regularly check drainage openings.

Sanitary day

General cleaning of the refrigerated furniture must be performed once in every 4 weeks. The freezer must be cleaned and disinfected to eliminate pathogenic microorganisms.

- Make sure that defrosting is in progress.
- Remove the products from the freezer and temporarily place them in the freezer compartment.
- Disconnect electrical installations.
- Remove the bottom shelves, air circulation grids and evaporator cover.
- Clean the ventilator of freezers from the plaque. Clean foreign bodies from the structures of the evaporator and ventilators.

- Make sure that the drainage openings are not clogged, and condensate drains freely.
- Remove dust, possible residues of food products and the condensate residue from surfaces.
- Disinfect the internal space of the freezers.
- Clean and disinfect detached parts and dry them.
- Assemble the detached components into the structure.
- Switch on power supply to the freezers.
- When temperature in the internal space reaches the one that is specified in the control, return cooled products into the cabinet.

9. INSIDE LIGHTING

Available lighting options:

- The unit with the fluorescent lamp.
- The unit with LED column.

10. DISPOSAL

Used freezers can be restored and reused. If it is necessary to stop completely the operation of the refrigerated cabinet, the following steps must be taken:

- Turning off the power supply.
- Disconnection of the glycol piping.
- Collection of the refrigerant from the freezing coil.
- The main elements of the refrigerated cabinet require specific disposal; therefore, it is necessary to apply to organizations that dispose certain types of materials.

11. STORAGE

If a temporary storage and subsequent use of the freezers are foreseen (during repair of the shopping premise or change of the cabinet operation place), the equipment must be stored in a well-ventilated room with positive temperature. It is forbidden to leave the cabinets outdoors. It is necessary to put on transportation protections or to make other structures protecting the unit against external damage. For protection against dust and debris, it is recommended to cover the freezers with protective envelopes.

12. TRANSPORTATION

The freezers are transported partially dismantled: shelves, side parts and partitions are packed separately. During transportation, all components must be firmly fastened. Before mounting it is necessary to remove all transportation fasteners, screws, and packages. After transportation of the freezers to the facility, carefully inspect the whole equipment and all its components. In the event of violations, it is necessary to capture them (take pictures); it will help the insurance company, the manufacturer, and the customer to establish causes of the violation.

13. TESTING

Each refrigerated cabinet is factory tested. During the testing, the following checks are carried out:

- Hermetic tightness.
- Pressure tests of the freezing coil.
- Checks of electrical installation.
- Load tests.

After the freezers is installed, each showcase and the overall system must be inspected prior their start-up.

14. ACCESSORIES

The equipment is supplied with many special accessories, such as partitions, tabs, price holders, drainage collection tub and evaporation baths, safety bumpers, etc. For more information, please call FREOR LT or sales partner.

15. TECHNICAL DATA

15.1. Electrical layouts

Find inside electric box.

15.2. Failures and troubleshooting



Repair of the internal freezing coil of the showcase, checking of the refrigerant amount and replacement of parts may only be carried out by a specialist qualified to work with F and OAM gases.

Only an electrician with the respective qualification may carry out inspection and repair of electrical installation.

The control informs on faults of the freezer Erida.

Alarm code	buzzer and alarm relay	LED	alarm description	reset	ENABLE ALARM parameters involved
E0	active	ON	probe 1 error= control	automatic	-
E1	not active	ON	probe 2 error= defrost	automatic	d0= 0 / 1 / 4, F0= 1
E2	not active	ON	probe 3 error= condenser/product	automatic	[A4=10/11]
IA	active	ON	external alarm	automatic	[A4 = 1] [+A7]
dOr	active	ON	open door alarm	automatic	[A4=7/8][+A7]
LO	active	ON	low temperature alarm	automatic	[AL] [Ad]
HI	active	ON	high temperature alarm	automatic	[AH] [Ad]
EE	not active	ON	unit parameter error	not possible	-
EF	not active	ON	operating parameter error	manual	-
Ed	not active	ON	defrost ended by timeout	on first defrost ended correctly	[dP] [dt] [d4] [A8]
dF	not active	OFF	defrost running	automatic	[d6=0]
cht	not active	ON	dirty condenser pre-alarm	automatic	[A4=10]
CHt	active	ON	dirty condenser alarm	manual	[A4=10]
EC	not active	ON	clock alarm	by setting the time	if bands are active

Potential reasons:

Error signal	Potential reason	Troubleshooting
High temperature in the internal space of the freezers	Power supply failure (the system does not receive power supply).	Check electrical installations, network, and fuses.
	The temperature of the uploaded products is higher than the temperature in the internal space of the freezers.	Remove warm products from the cabinet and freeze them up to the necessary temperature in the freezer compartments.
	Contamination of the freezing coil. Damage of the tightness of the freezing coil. Failure of the control valve (TRV / ERV). Leakage of the refrigerant.	Call the refrigeration technician / service department.
	Defrosting disorders. Failure of defrosting heating elements. Disorder of the electromagnetic valve functionality. Failure of the defrosting clock. Failure of the control system. Icing of the evaporator. High load in the freezers.	Check loads of the shelves and air circulation flows. Reset factory settings in the control.
	Failure of the fans.	Call the manufacturer or qualified representative.

The freezers is out of order.	Power supply disorders.	Check for the phase matching (in the event of changed phases, one-phase cabinet elements can be operational).
The compressor is out of order.	Refrigeration cycle disorders. Signals of the pressure sensors.	Fluctuations of the electrical network voltage. Contamination of refrigerant filter. Leakage of the refrigerant in the system.

Possible causes

Error signal	Potential reason	Troubleshooting
High temperature in the internal space of the multideck	Power supply failure (the system does not receive power supply).	Check electrical installations, network, and fuses.
	The temperature of the uploaded products is higher than the temperature in the internal space of the multideck.	Remove warm products from the cabinet and freeze them up to the necessary temperature in the freezer compartments.
	Contamination of the freezing coil.	Call the refrigeration technician / service department.
	Damage of the tightness of the freezing coil.	
	Failure of the control valve (TRV / ERV).	
	Leakage of the refrigerant.	Check loads of the shelves and air circulation flows. Reset factory settings in the control.
	Defrosting disorders. Failure of defrosting heating elements. Disorder of the electromagnetic valve functionality. Failure of the defrosting clock. Failure of the control system. Icing of the evaporator. High load in the multideck, unsuitable amount of products.	
	Failure of the fans.	Call the manufacturer or qualified representative.

<p>The multideck is out of order.</p>	<p>Power supply disorders.</p>	<p>Check for the phase matching (in the event of changed phases, one-phase cabinet elements can be operational).</p> <p>Check switches.</p> <p>Check the network.</p>
<p>The compressor is out of order.</p>	<p>Refrigeration cycle disorders.</p> <p>Signals of the pressure sensors.</p>	<p>Fluctuations of the electrical network voltage.</p> <p>Contamination of refrigerant filter.</p> <p>Leakage of the refrigerant in the system.</p>

16. SYMBOLS

Symbol	Meaning	Type
	Qualified specialist	
	Work clothing	
	Protective gloves	
	Brittle surfaces;	
	Wrench	Sizes: 17, 32
	Screwdriver	PZ2
	Rubber hammer	
	Protective goggles	
	Silicone pistol	
	Clamp	



FREOR LT, UAB

Manufacturer of the commercial refrigeration equipment

Katiliskiu St. 92, LT - 02212 Vilnius, Lithuania

T: +370 5 232 9188

E: sales@freor.com

www.freor.com

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