

OPERATION MANUAL

SERVE-OVER

IDA S



freor


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1. GENERAL INFORMATION

1.1. Manufacturer information

Manufacturer, address	FREOR LT, UAB Katiliskiu St. 92, LT - 02212 Vilnius, Lithuania +370 5 232 9188; info@freor.com	
	Made in Lithuania	

Customer	
Installation date	
Installation place	
Start of the product operation	



The commercial refrigeration equipment IDA S is labelled with a technical data sticker. The sticker is attached to the right corner of the inner ceiling. The sticker provides information about the model, voltage, and product code. It is strongly recommended to read the sticker information before starting any work with the refrigeration equipment (**Fig. 1.**).

FREOR LT, UAB Katiliskiu St. 92 LT-02190 Vilnius, Lithuania freor@freor.com, www.freor.com																							
Type:																							
Serial no:																							
Year:																							
Product code:		<table border="1" style="width: 100%; height: 15px;"> <tr> <td style="width: 15%;"></td> <td style="width: 15%;"></td> <td style="width: 15%;"></td> <td style="width: 15%;"></td> <td style="width: 15%;"></td> <td style="width: 15%;"></td> <td style="width: 15%;"></td> <td style="width: 15%;"></td> <td style="width: 15%;"></td> <td style="width: 15%;"></td> <td style="width: 15%;"></td> <td style="width: 15%;"></td> <td style="width: 15%;"></td> <td style="width: 15%;"></td> <td style="width: 15%;"></td> <td style="width: 15%;"></td> <td style="width: 15%;"></td> <td style="width: 15%;"></td> <td style="width: 15%;"></td> <td style="width: 15%;"></td> </tr> </table>																					
Rated voltage, [V]:																							
Frequency [Hz]:																							
Rated current [A]:																							
Nominal power [kW]:																							
Refrigeration line design pressure(PS)[Bar]:																							
Glycol line design pressure [Bar]:																							
Protection class:																							
Operating climate class(TS):																							
Weight [kg]:																							
Refrigerant:		GWP:																					
Quantity of refrigerant [kg]:																							
CO ₂ equivalent mass of the F-gas [t]:																							
 2268 MADE IN LITHUANIA																							

Fig. 1. Example of the sticker

- The intention of this document is to provide information about the maintenance and operation of IDA S.
- In accordance with the EU Directive EN 60335-1 - the refrigeration unit is an electrical refrigeration machine; therefore, the focus is to ensure safety during operation.
- The operation manual of IDA S must be kept at the place of operation. It must be available to technical personnel, service personnel, and repair specialists at any time.

1.2. Dimensions

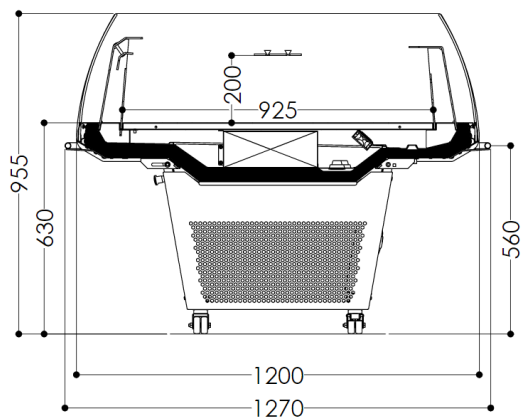


Fig. 2. IDA S

For more information on different-sized refrigeration equipment, please visit our website at www.freor.com.

1.3. Package dimensions

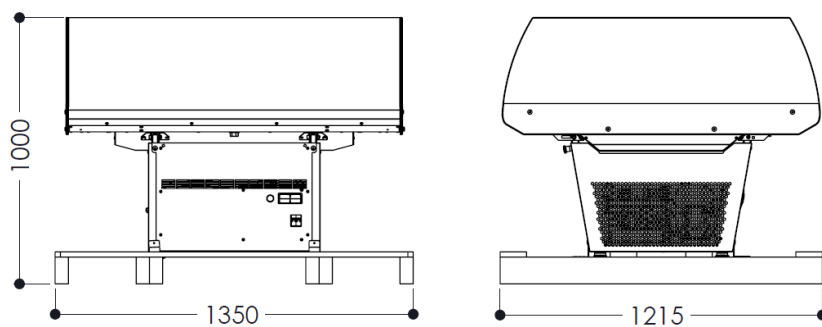


Fig. 3. Dimensions of 1-unit package

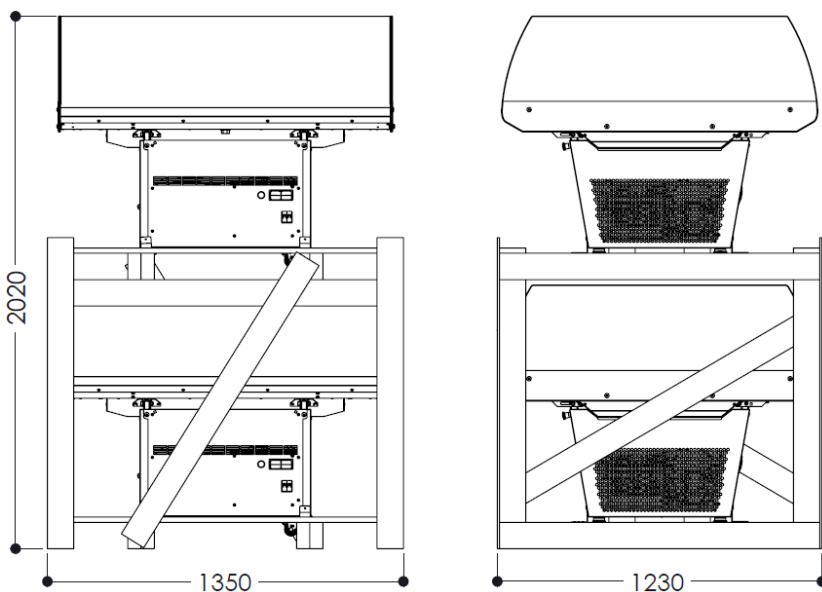


Fig. 4. Dimensions of 2-unit package

2. SAFETY

2.1. Dangers due to misuse



- Only start up and operate the refrigeration equipment once it has been properly set up and installed and has no obvious defects.
- Do not make any technical changes to the refrigeration equipment.
- Do not store any explosive substances in the refrigeration equipment, such as aerosol containers with flammable propellant

gas.

2.2. Safety guidelines of refrigeration equipment operating with propane (R290) refrigerant



Refrigerant R290 (propane gas) is classified as a refrigerant of safety group A3. Based on the refrigerant commonly used in commercial systems, the system design and risk analysis are in accordance with explosion protection regulations (defined by standard EN 378-1 or EN IEC 60335-2-89).

Safety guidelines:

- Keep ignition sources away (heat, sparks, open flames, hot surfaces).
- Use a damp cloth or sponge to clean and remove condensation water. Keep dry materials from electrical parts to avoid electrical shock.
- Before turning on the refrigeration equipment, fill the drain with approx. 2 litres of water.
- It is prohibited to cover any ventilation openings of the unit. A safe minimum distance must be kept (between units) to ensure sufficient air access.
- Do not use any mechanical devices or other means (e.g., ice scrapers) to accelerate the defrosting.
- Do not use steam or high-pressure cleaners for basic cleaning.
- Only install the units in well-ventilated rooms.
- Do not install the units in cellars or lowered rooms.
- Do not damage the refrigerant circuit.
- Do not expose the unit to temperatures above 55°C during transportation and storage.
- Avoid transmitting pulsations and vibrations to the unit.
- Do not allow external forces to act on the unit, e.g., careless handling with a forklift or floor cleaning machine.

- Do not crush or bend pipes.
- Only qualified maintenance personnel may carry out work on the refrigerant circuit.
- Only open the refrigerant circuit and remove the refrigerant in well-ventilated rooms outside store business hours (when customers are not present) or outdoors.
- Disconnect the unit before all maintenance, service, or repair work.
- Disposal of the unit must be performed following Waste & Disposal-Recycling Regulation requirements.

Failure to comply with safety requirements could lead to potential health and safety risks.

2.3. Material damage during a prolonged shutdown

- Operate the unit in a stable operating position (horizontal alignment).
- Operate the unit only on the designated leveling legs.
- Read the installation notes if needed.
- Do not operate the unit above the climate class specified on the technical data sticker.
- Check that the unit is in proper condition. Any damage must be repaired immediately.
- In the event of a power failure, stored products must be inspected by the operating company (temperature check).
- Check the area in which the products are placed for foreign objects. Immediately remove incorrectly stored products.
- Do not set up or store the unit outdoors. To ensure good air circulation, maintain a minimum distance to the surrounding walls and other units.
- Do not attach stickers or films to glass surfaces.
- Do not operate the unit if there is any glass damage (cracks, breaks).

2.4. Personal protective equipment



Use hand protection:

- Protection from heavy equipment parts during transport, unpacking, installation, and disposal.
- Protection from sharp edges when unpacking and during setup and installation.
- Protection from contact with liquid in the event of leakage in the refrigerant circuit.
- Protection from low temperature during loading and cleaning.
- For removing glass parts and splinters in case of glass breakage.

Use eye protection:

- Protection from contact with liquid in the event of leakage in the refrigerant circuit.

Wear protective clothing:

- Wear appropriate clothing (cold protection) when loading the unit with products.

2.5. Electrical voltage



Only qualified staff may carry out work on the electrical system. In the event of fault messages or damage to the refrigeration equipment, contact the maintenance service.

Electrical safety guidelines:

- Do not connect damaged refrigeration equipment or damaged parts (such as connecting cables) to the power supply.
- Check to ensure safety devices are correctly installed and working.
- Do not remove protective devices and covers attached to the unit.
- Note the following before connecting to the power supply:
 - Applicable local electrical safety regulations.
 - Applicable standards and safety instructions.
 - The power supply voltage and frequency must match the specifications on the technical data sticker.
- Only trained operating personnel may disconnect the unit.
- Observe the following safety rules if the unit is damaged during operation or before maintenance:
 - Disconnect the unit (switch off all sources of electrical power).
 - Secure the unit in such a way that it cannot be connected to the power supply and mark it with a safety sign.
- Only qualified staff may replace damaged parts (e.g., connecting cables, lights)
- Do not use extension cords or multiple socket strips.
- Do not use steam or high-pressure cleaners for basic cleaning.
- Do not damage concealed electrical parts. The operator must not drill into the unit or carry out any other work on it.

2.6. Refrigerant circuit



Only qualified staff may carry out work on the refrigerant circuit. In the event of fault messages or damage to the unit, contact the maintenance service.

2.7. Improper installation of hooked shelves

There is a risk of injury due to falling of hooked shelves holding products.

The shelf brackets must snap completely into the openings provided when being attached.

2.8. Opening/closing the doors

Hand or other body parts may become caught in the door hinge or on the handle.

- When opening/closing the doors, do not reach into the opening gap, especially on the hinge side.
- Look out for other people when opening/closing the doors.

2.9. Recommended working conditions and ambient temperature

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

- Ambient temperature must not fall below +16°C and not exceed +25°C (improper temperature can affect the operation of the refrigeration equipment).
- Relative humidity should not exceed 60% (excess humidity can affect the dew point parameters).
- External airflow rates up to 0.2 m/s (strong airflow can harm the internal circulation of the open unit).
- It is forbidden to exceed the maximum allowable loading of the unit shelves.
- Recommended arrangement of the shelves is specified in the main layout.
- It is forbidden to cover air circulation channels (the placement of goods should be logical and consistent).

2.10. Purpose of use

IDA S is intended to be used for the presentation of chilled packaged products. It is not intended for storing products without packaging, such as vegetables. For non-packaged foods, the evaporator on the unit should be chosen with a special coating

suited for such product storage. IDA S provides an average operating temperature (0...+10°C) in the inner space of the unit.

It is forbidden to load the unit with warm goods (temperature of goods lower or higher than the IDA S operating temperature).

The recommended temperature for loaded goods is specified by the standard DIN 10508. The requirements for the temperatures of loaded goods are provided below:

≤+10 °C	Fruits, vegetables, butter, cheese, and cheese products
≤+8 °C	Pasteurized products, sour milk
≤+7 °C	Milk and dairy products, delicacies, ready-made food, snacks, sandwiches, green salad, game, salad with mayonnaise sauce, cooked meat products, eggs and their products, sauces
≤+4 °C	Household poultry, minced meat, and products, rabbit meat, wild hare meat
≤+3 °C	By-products
≤+2 °C	Pre-packed minced meat and fresh fish (on ice)

The manufacturer is not liable for any damages caused by the unintended purpose use of IDA S and is exempted from warranty obligations.

3. MAXIMUM LOAD

IDA S is equipped with a bottom shelf, the maximum allowable load is specified in the main layout. For IDA S 1250 the maximum load **cannot be greater than 135kg/m²**. It is forbidden to exceed the indicated maximum loads. Products cannot be placed higher than the height indication sticker (**Fig. 5**).

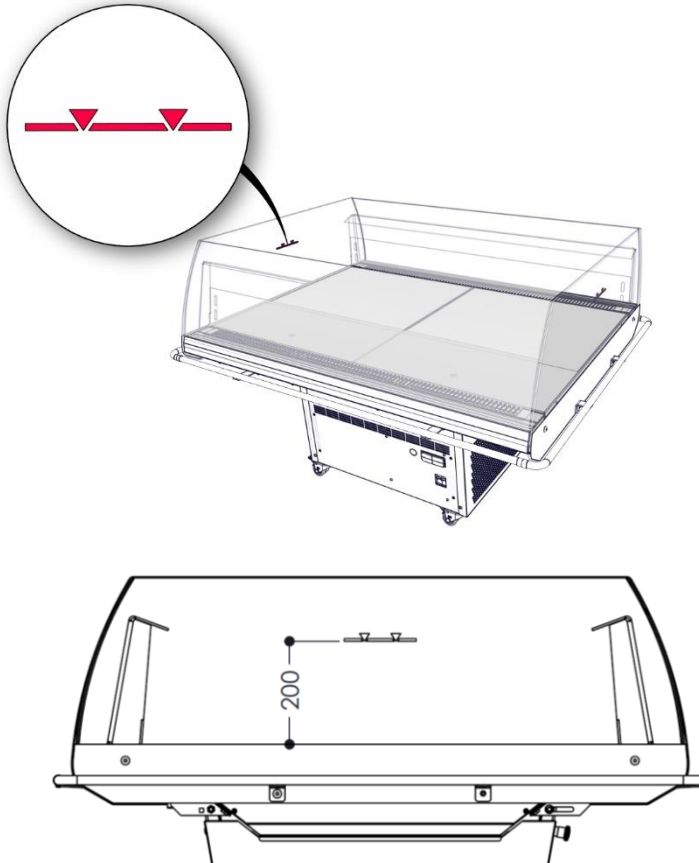


Fig. 5. Products cannot be placed higher than the height indication sticker.

4. UNPACKING



Note the following to prevent any risk of injury to personnel when transporting units with a forklift:

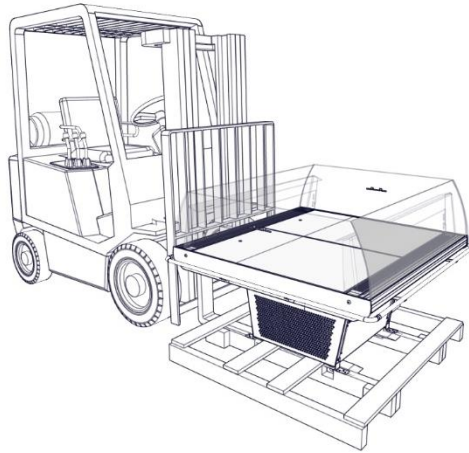
- Observe transport routes for other forklifts.
- Secure transported units.
- Only trained personnel may operate industrial trucks.
- Note the unit's centre of gravity for safe lifting with the forklift. Information is provided on the front and back of the unit packaging.



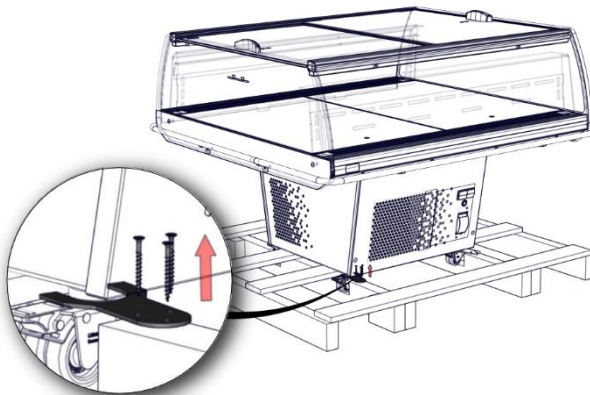
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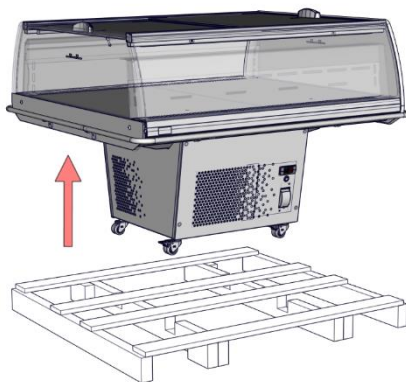
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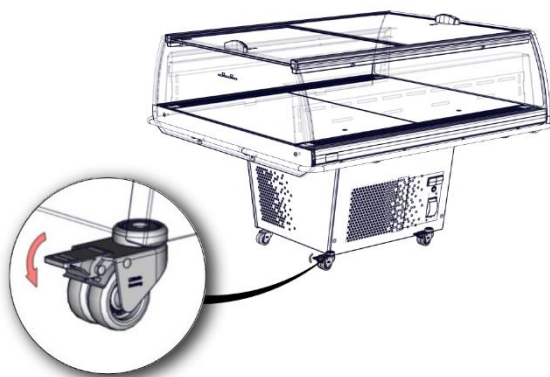
Use appropriate equipment for unit transportation (refer to unit weight and dimension information).



Remove the pallet screws and holders.



Lift the unit and remove the pallet.



Fix castors after installation in position.

5. INSTALLATION

5.1. Requirements for the installation of the unit

Installation of the unit must be performed by qualified personnel following these requirements:



- The unit must be aligned horizontally (both depth and length) and installed in a stable position.
- Set up the unit only on the designated adjustable legs or castors.
- It is forbidden to install the unit close to any heating equipment or any HVAC elements (air outlet, etc.) (**Fig. 6**).
- Keep a sufficient distance around the unit. It must be possible to open the doors without any obstructions.
 - The airflow from the condenser must be able to escape freely from the unit.
 - Superstructures or false ceilings directly on top or around of the unit should only be installed after consultation with the manufacturer.

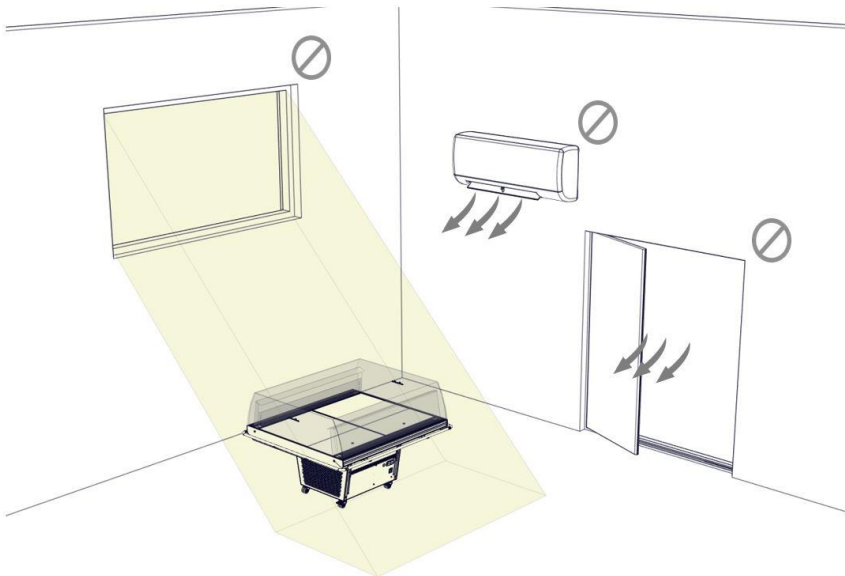


Fig. 6. Example of unsuitable ambient conditions

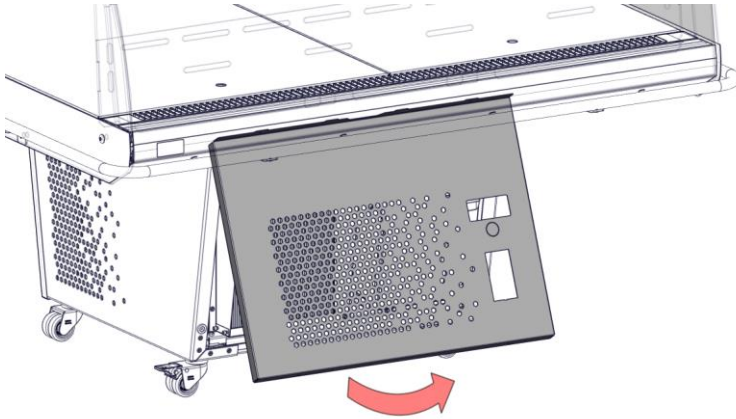
6. MAINTENANCE OF THE COMPRESSOR



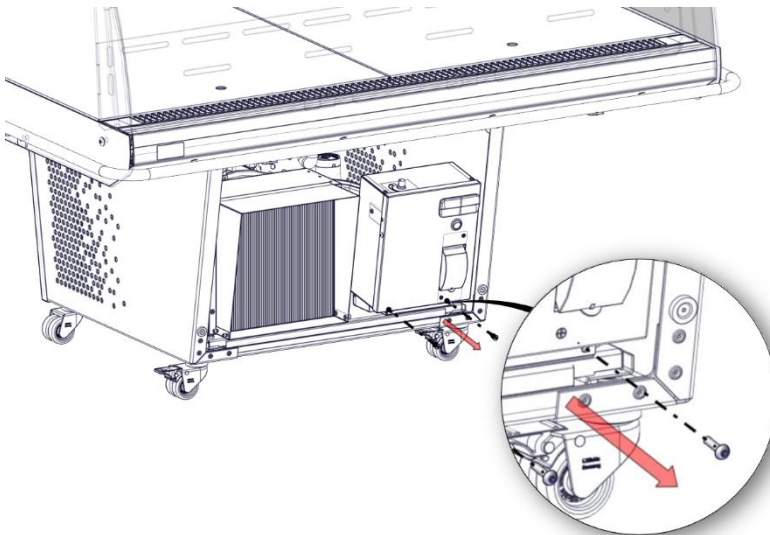
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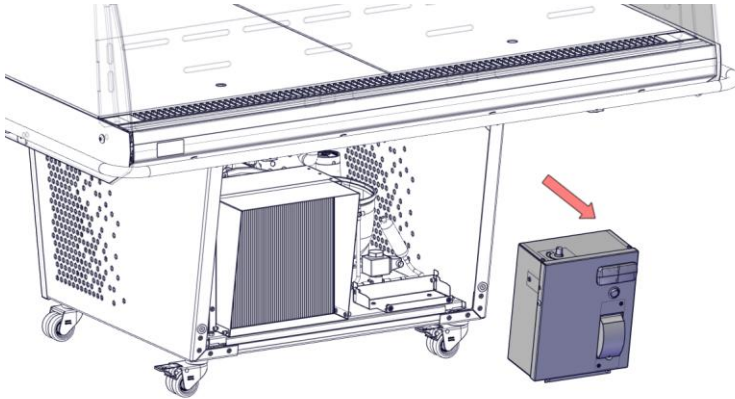
15 min



Remove front and back panels fixed on magnets.

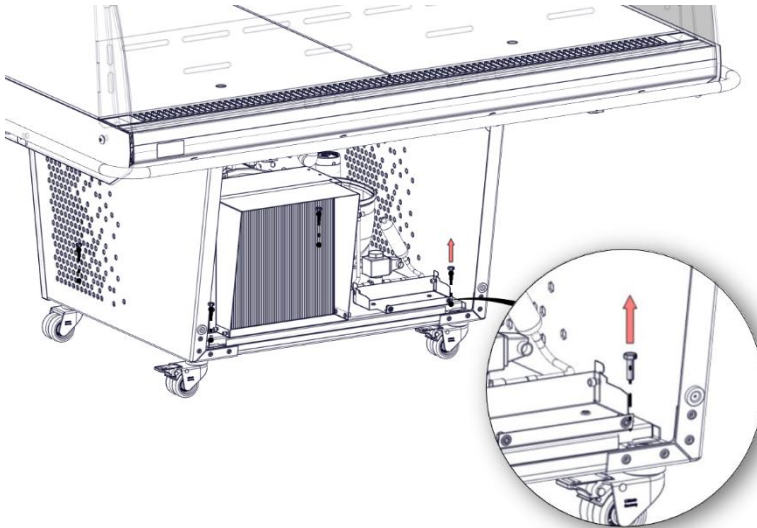


Unscrew 2 bolts under electric box.

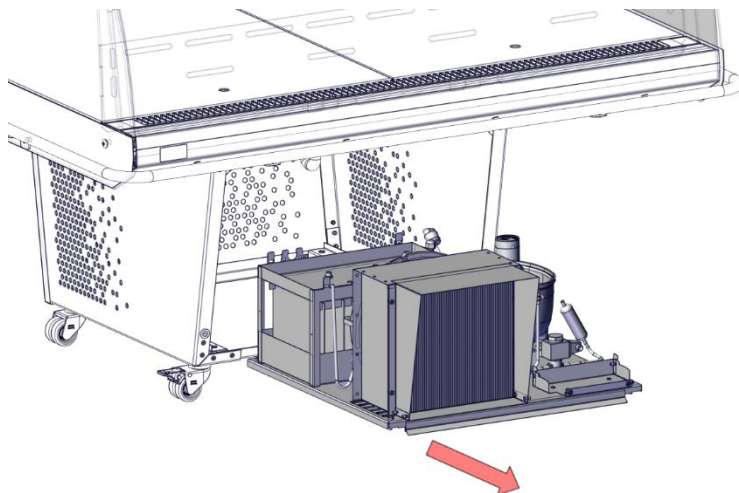


Remove electric box.

Note: Be careful, don't damage the electrical wires.



Unscrew 4 bolts from corners placed on main plate.



Pull out the unit `s base by using the rails to front or back.

Note: Be careful, don't damage the copper pipes.

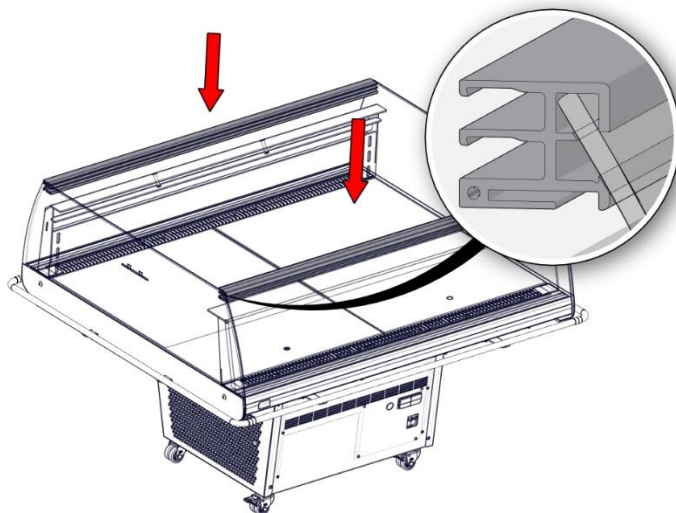
7. ASSEMBLY OF GLASS COVER



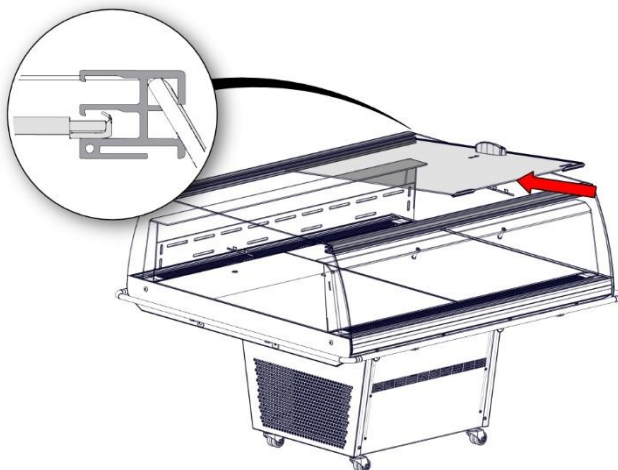
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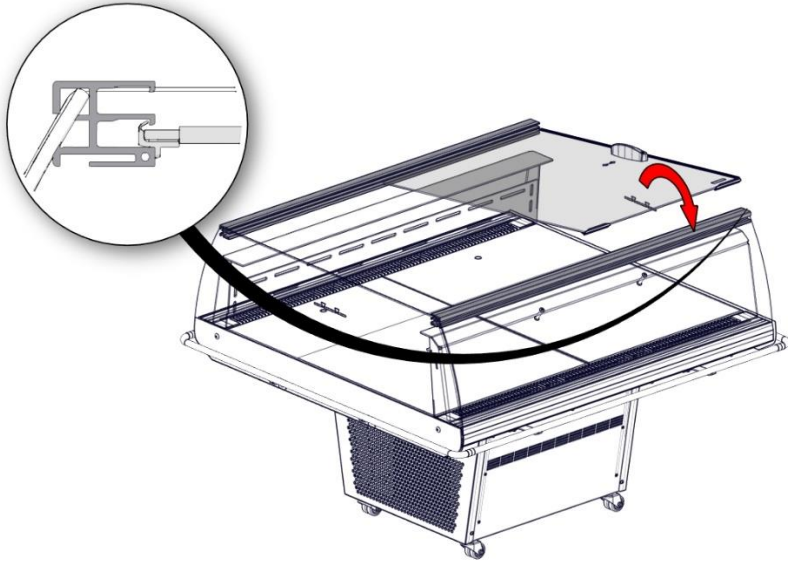
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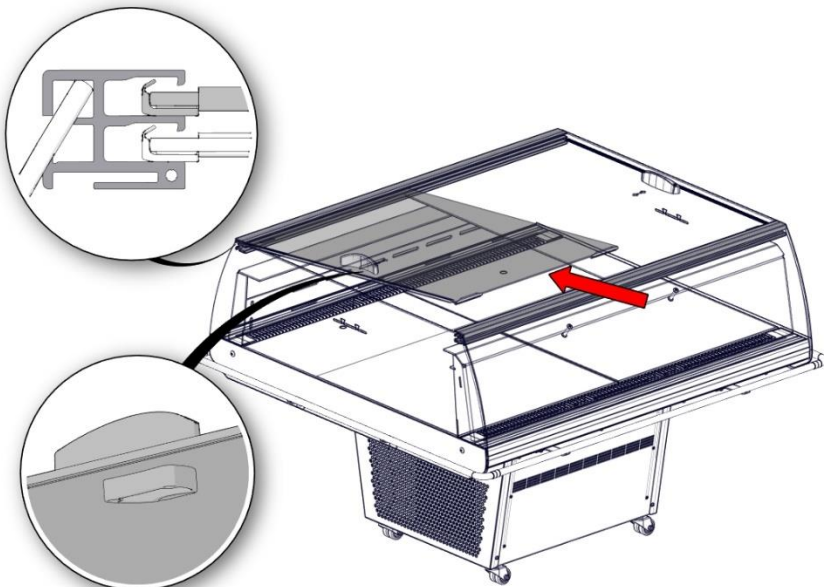
Attach cover rail profiles to the glass.



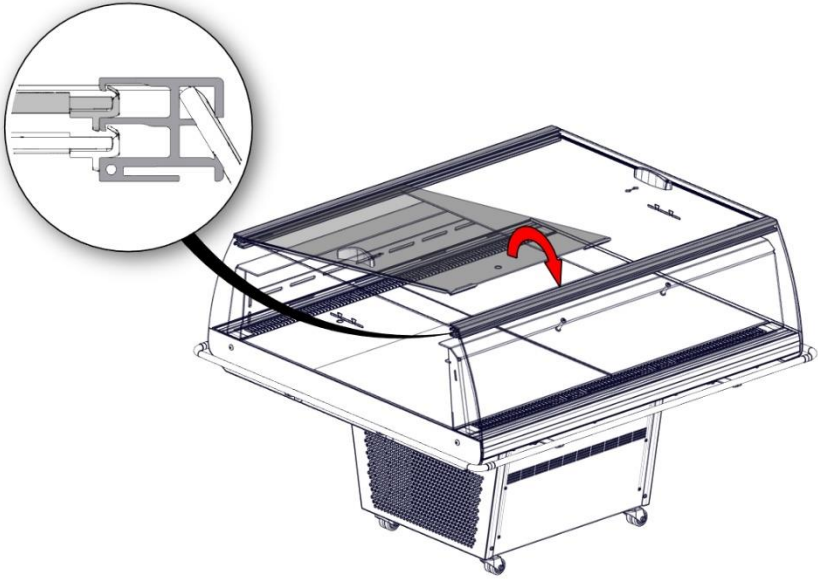
Push first glass (without rubber stopper under the handle) into the lower groove.



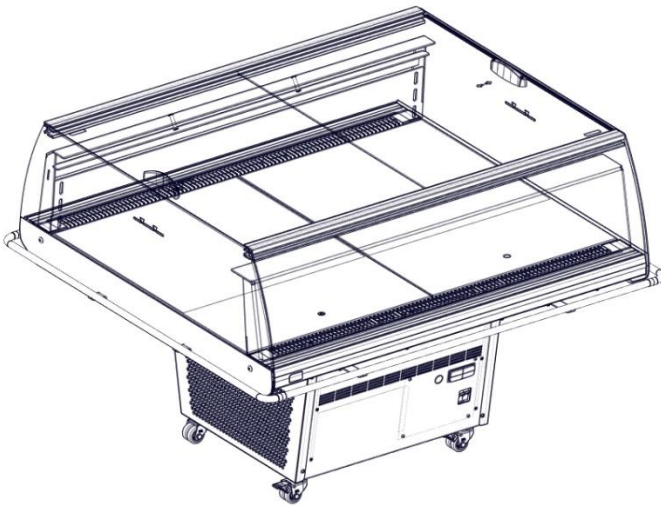
Pull the glass and glass into the lower groove until it is fixed in place.



Push second glass (with rubber stopper under the handle) into the upper groove.



Pull the glass into the upper groove until it is fixed in place.



Glass cover after installation.

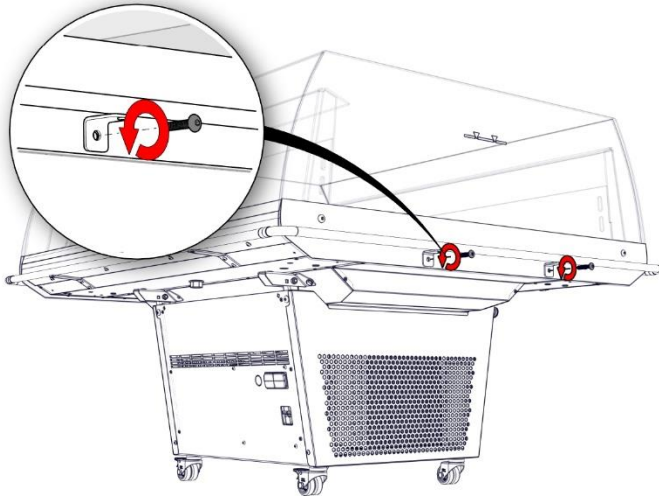
8. REPLACEMENT OF PANORAMIC ENDWALL



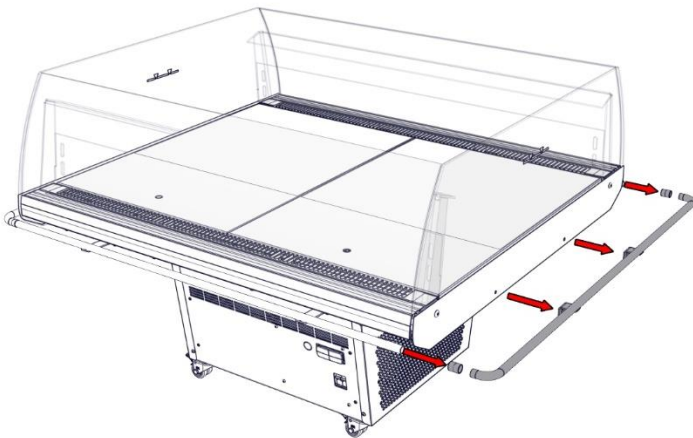
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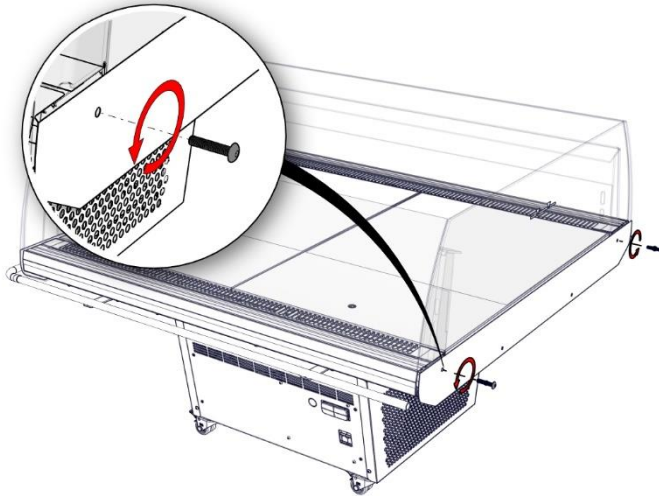
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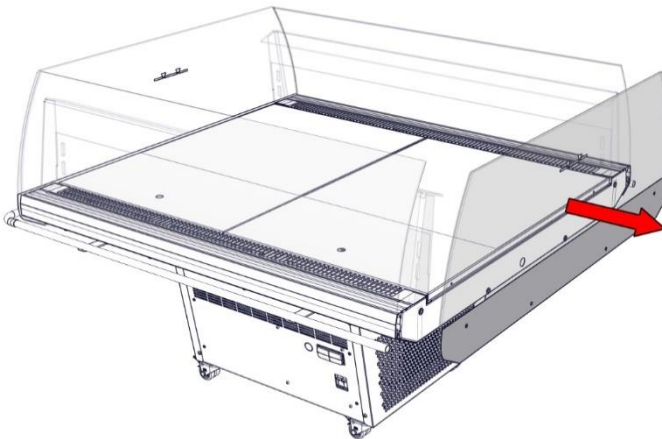
Unscrew the bolts from the side bumper (Optional) brackets.



Remove the side bumper (Optional).



Unscrew the bolts from the panoramic endwall, keep it from falling.



Remove the panoramic endwall from the unit.

9. ELECTRICAL CONNECTION

9.1. Connecting the unit to the power supply



Connection of the unit to the power supply must be carried out only by qualified personnel.

Note the following before connecting the unit:

- Applicable local electrical safety regulations.
- The power supply voltage and frequency must match the specifications on the technical data sticker.
- Do not connect a damaged unit or damaged parts (such as electrical cables) to the power supply.
- Only connect the unit to the main circuit with protective grounding.
- Do not use extension cords or multiple socket strips.

10. DRAINAGE

10.1. Drainage system



The serve-over IDA S is equipped with drainage into the condensate collection tub that is mounted under the serve-over. It is necessary to check the condensate collection tub for any food remains, sand or larger dust particles.

11. MAINTENANCE

11.1. Information on temperatures

Before loading the products into the unit, if the temperature seen on the thermometer is higher than needed, check the temperature settings in the controller. The temperature should be suitable for the display of the products. Recommended temperatures are listed in Chapter 2.10. The actual temperature is shown in the thermometer of the unit. Products can only be loaded into the unit when it has reached its working temperature.

11.2. Defrosting

Depending on the configuration, the unit regularly and automatically cycles defrosting. During the defrosting, the temperature on the thermometer may temporarily be higher than it was set on the controller.

11.3. Cleaning



The unit must be regularly cleaned by trained personnel, as food products are sensitive to bacteria and microorganisms.

Regular cleaning:

- The unit must be cleaned at least once per week. If needed, when contamination is detected, the unit must be cleaned more often.
- The unit's inner space, shelves, interior and exterior plastic, and glass parts of the unit must be thoroughly cleaned, as the floor where the unit is standing must be washed.
- Cleaning of the plastic parts must be performed using warm water and a non-abrasive cleaning agent dedicated for plastics.
- Metal components must be cleaned using warm water and a non-aggressive, corrosion-free cleaning agent. After cleaning, it is necessary to remove any moisture residue and dry the surface. Chromed surfaces must be cleaned with suitable cleaning agents. After cleaning, they must be dried with a soft cloth that does not leave dust.
- Painted components must be cleaned with liquid cleaning agents without abrasive materials. It is recommended to use special detergents purposed for painted surfaces. The surfaces must be well-dried after cleaning. Damaged paint can cause metal corrosion on spots that were scratched during incorrect cleaning.
- Glass parts can be cleaned using household window cleaning agents.

- Some units have a wooden finish. Wood and wooden surface 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.
- Protect electrical installations from moisture during cleaning.
- It is necessary to check the drainage system regularly.
- Washing the unit with high-pressure washers is strictly forbidden.
- Remove the air intake grille and bottom shelves. Clean the bottom.

Deep cleaning:



Deep cleaning of the unit must be performed once every 4 weeks by qualified personnel. The unit must be cleaned and disinfected to eliminate pathogenic microorganisms.

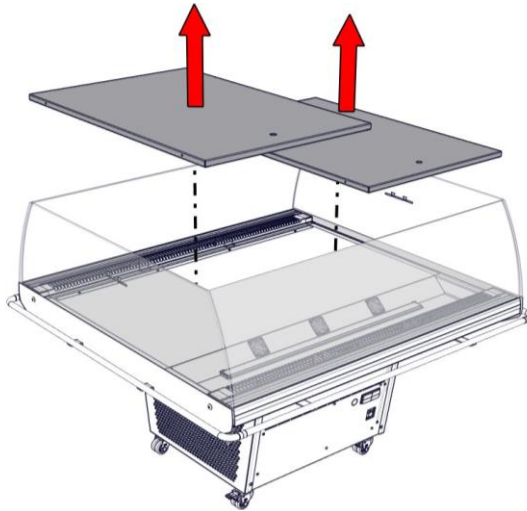
Maintenance table	
Regular cleaning	Once per week
Deep cleaning	Once every 4 weeks
Condenser grill cleaning (direct condensation models only)	Once every 4 months
Refrigerant leakage inspection for propene (R290) units	Once every 6 months
Electrical compartment inspection	Once every 6 months
Refrigerant leakage inspection for remote CO ₂ (R744) and F-gas units	As often as the countries regulations require

- Disconnect electrical appliances.
- Remove the products from the unit and temporarily place them into a cooled storage room.
- Remove the bottom shelves, air circulation grids, and evaporator covers.
- Clean the ventilator of the unit from plaque. Remove foreign bodies from the structures of the evaporator and ventilators.
- Make sure that the drainage openings are not clogged and that the condensate drains freely.
- Remove dust, possible residue of food products, and the condensate residue from surfaces.
- Disinfect the internal space of the unit.
- Clean and disinfect detached parts and dry them.
- Assemble the detached components into the structure.
- Switch the power supply to the unit.

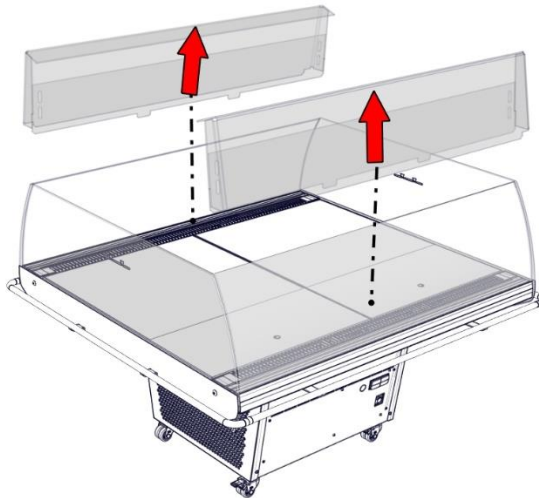
When the temperature in the internal space reaches the one that is specified in the control, bring cooled products back into the unit.



x 2

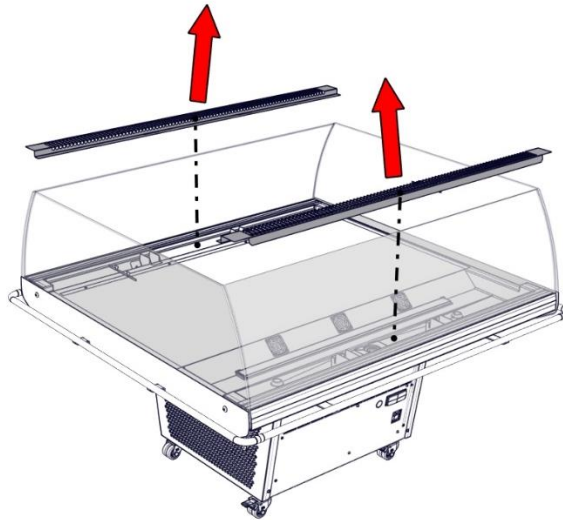


Remove the bottom shelf.

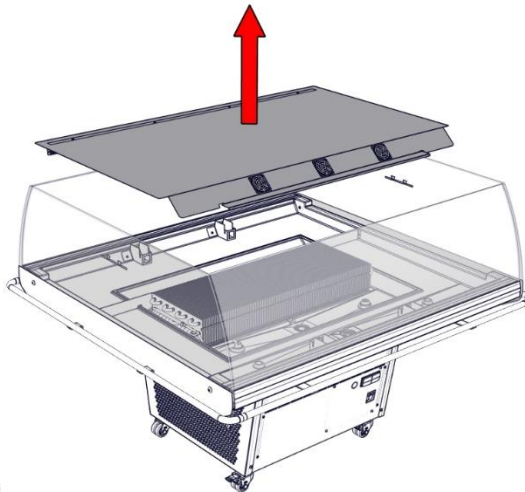


Remove the air duct.

Note: Air ducts are different. Do not change their position.



Remove the air grid.



Remove the fan plate to get access to the evaporator, which can be then cleaned.

Note: Lift fan plate carefully, don't damage the electrical wires.

12. ENERGY SAVING

The unit can be supplied with doors or mechanical night covers. These options are available on request. During non-business hours of the shop, an open unit should be closed with night curtains (if present). Make sure that the product arrangement does not interfere with the curtains. If the cabinet has doors, make sure that the doors are fully closed. It is recommended for the lighting to be turned off whenever they are not needed.

13. DISPOSAL



A used unit can be restored and reused. If it is necessary to completely stop the operation of the refrigeration equipment, the following steps must be taken by qualified personnel:

- Disconnect the power supply.
- Disconnect the glycol piping. **Note: depending on the application**
- Collect the refrigerant from the freezing coil. **Note: depending on the application**
- The elements of the refrigeration equipment require specific disposal; therefore, it is necessary to contact specific organizations that dispose of certain types of materials.

14. STORAGE

If temporary storage and subsequent use of the unit is expected (during repair of the shopping premise or change location of the unit), the equipment must be stored in a well-ventilated room with a temperature higher than 0°C but not more than 55°C. It is forbidden to leave the unit outdoors. It is necessary to put a cover on the unit or make other structures to protect the unit against external damage.

15. TESTING

Each unit 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 units are installed, each unit and the overall system must be inspected before their start-up.

16. ACCESSORIES

A variety of special accessories are available on request, such as: partitions, tabs, price holders, a drainage collection tub, evaporation baths, safety bumpers, etc. For more information, please contact FREOR LT or our sales partners.

17. TECHNICAL DATA

17.1. Electrical layouts

The layouts are in the electrical console.

17.2. Failures and troubleshooting



Repair of the internal cooling circuit of the unit, the refrigerant amount, and replacement of the parts may only be carried out by a specialist qualified to work with F, OAM, or natural refrigerant gases.

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

The description of controller errors can be found in the instructional manual of the controller manufacturer.

18. MEANINGS OF SYMBOLS

Symbol	Meaning
	Qualified specialist
	Work clothing
	Protective gloves
	Brittle surfaces
	Wrench
	Screwdriver
	Rubber hammer
	Protective goggles
	Silicone pistol
	Clamp

Date	Work	Name

Date	Work	Name

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