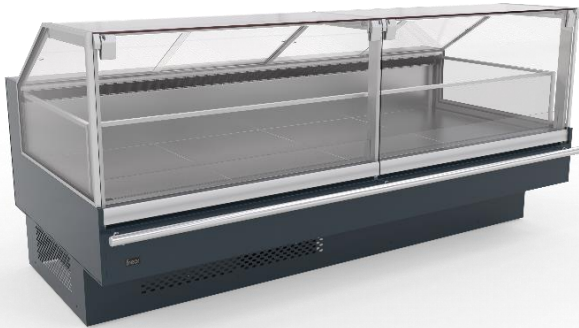


OPERATION MANUAL

SERVE-OVER

# VEGA SPACE QB FREEZER



**freor**  
thinking green


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## 1. GENERAL INFORMATION





### 1.1. Manufacturer information

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

Customer	
Installation date	
Installation place	
Start of the product operation	



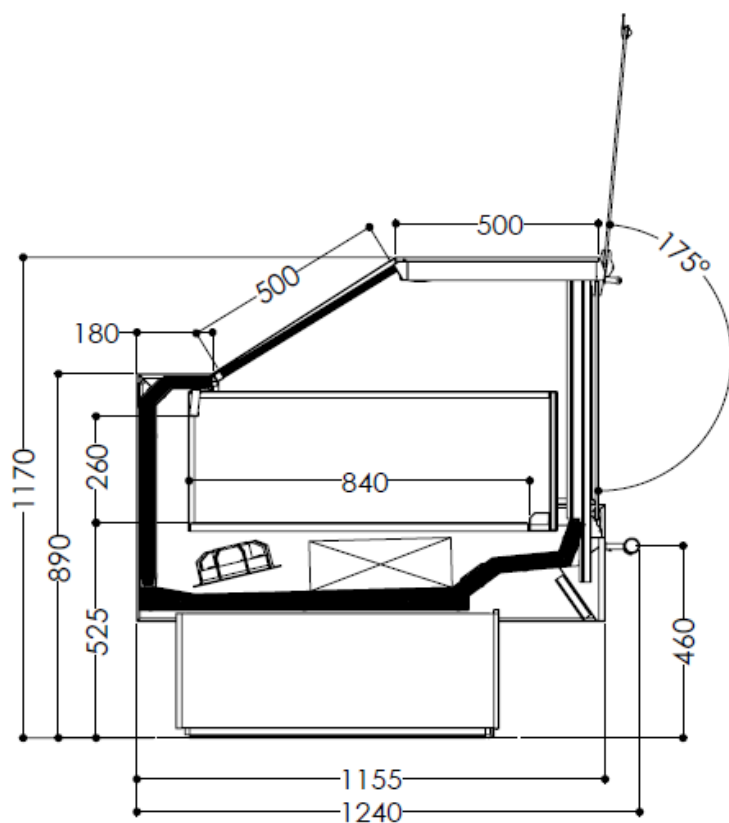
The freezer Vega Space QB Freezer is labelled with technical data sticker. The sticker is attached to back part of refrigeration unit. The sticker provides information about model, voltage, and product code. It is strongly recommended to read sticker information before starting any work with serve-over. **(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 sticker

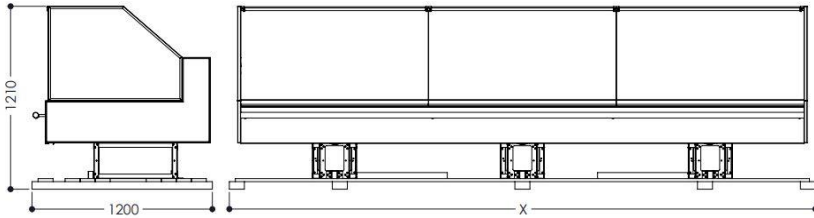
- Intention of this document is to provide information about maintaining and operating of the freezer Vega Space QB Freezer.
- In accordance with the EU Directive - the refrigeration unit is electrical refrigeration machine; therefore, the focus is to ensure safety during operation.
- The operation manual of the freezer Vega Space QB Freezer 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.** Dimensions of Vega Space QB Freezer LU

### 1.3. Package dimensions



**Fig. 4.** Vega Space QB Freezer package dimensions.

Length of serve-over	Length of package (X)
3750 (mm)	3900 (mm)
2500 (mm)	2650 (mm)
1880 (mm)	1880 (mm)
1250 (mm)	1450 (mm)

## 2. SAFETY

### 2.1. Dangers due to misuse

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

### 2.2. R290 refrigeration cabinets safety guidelines

Refrigerant R290 (propane gas) is classified as refrigerants of safety group A3. Based on the refrigerant charges commonly used in commercial systems, the system design and risk analysis are in accordance with explosion protection regulations (defined by standard EN378-1).

### 2.3. Safety guidelines:

- Keep ignition sources away (heat, sparks, open flames, hot surfaces).

- Use a damp cloth or sponge to remove condensation water and for cleaning. Do not use dry clothes or sponges to dry the unit (Risk of electrostatic charge and sparking).
- Before starting-up and restarting, fill the drain with approx. 2 litres of water. Prevents carry-over of refrigerant into drains.
- It is prohibited to cover any ventilation opening of the unit. 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 higher than 70°C during transportation and storage.
- Avoid transmitting pulsations and vibrations to the unit.
- Do not allow external forces to act on the appliance, 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 suck off the refrigerant in well-ventilated rooms outside store business hours (when customers are not present) or outdoors.
- Disconnect the unit prior to all maintenance, service, or repair work.
- Disposal of the unit must be performed following Waste & Disposal-Recycling Regulations requirements.

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

## 2.4. 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.

## 2.5. Material damage during prolonged shutdown

- Operate the appliance in a stable operating position (horizontal alignment).
- Operate the device only on the designated adjustable feet.
- Read the installation notes (see chapters 4, 5 and 6)
- 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 goods are placed for foreign objects. Remove goods stored incorrectly immediately.
- Do not set up or store the unit outdoors. To ensure good air circulation, maintain minimum distances to surrounding walls and other units.
- Do not attach stickers or films to glass surfaces.
- Do not operate the serve-over if there is any glass damage (cracks, breaks).

## **2.6. 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 sharp edges when unpacking and during setup and installation
- Protection from contact with liquid/leaking refrigerant in the event of leakage in the refrigerant circuit.
- Protection from low temperature during loading and cleaning.
- For removing glass parts and glass splinters in the event of glass breakage.

### **Use eye protection:**

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

### **Wear protective clothing:**

- When loading the serve-over with products, wear appropriate clothing (cold protection).

## **2.7. Electrical voltage**

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

### **Electrical safety guidelines:**

- Do not connect a damaged appliance or damaged parts (such as connecting cables) to the power supply.
- Check to ensure safety devices are complete 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 prior to maintenance:
  - Disconnect the unit (switch off all sources of electrical power).
  - Secure the appliance against reconnection.
- 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.

### **2.8. Refrigerant circuit**

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

### **2.9. Opening/closing the doors**

Hand or other body parts may become caught on side of door hinge.

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

### **2.10. Recommended working conditions and ambient temperature**

The freezer has to 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.

### 2.11. Purpose of use

It is forbidden to upload the freezer with warm products with the temperature higher than  $-15\text{ }^{\circ}\text{C}$  (except the portion ice cream).

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

The freezer Vega Space QB Freezer as to 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.

## 3. UNPACKING

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.



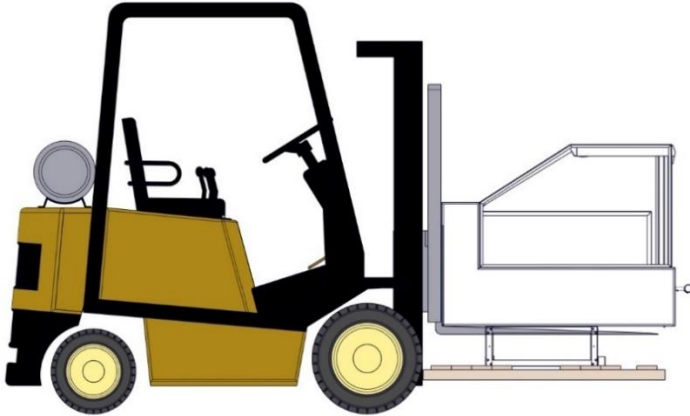
x 2



Size 17

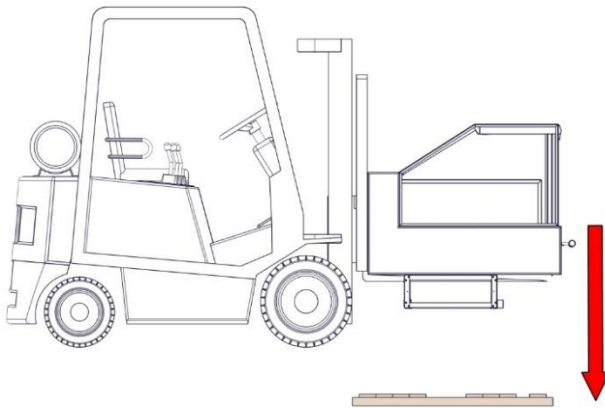


15 min

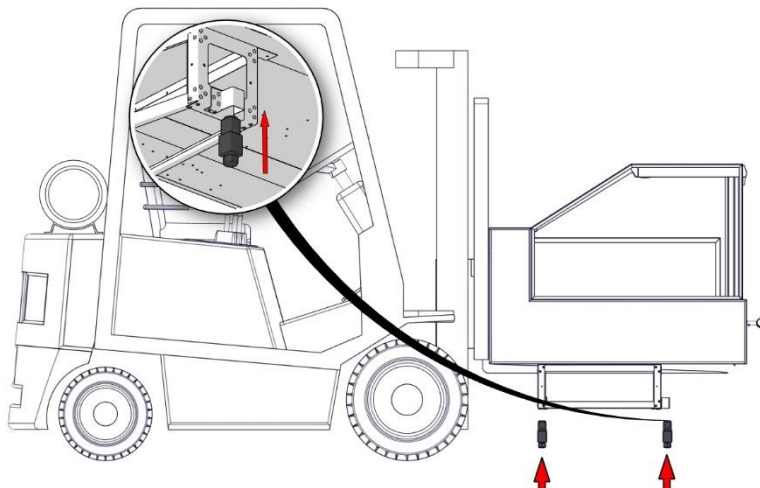


Use appropriate equipment for unit transportation (refer to unit weight and dimension information).

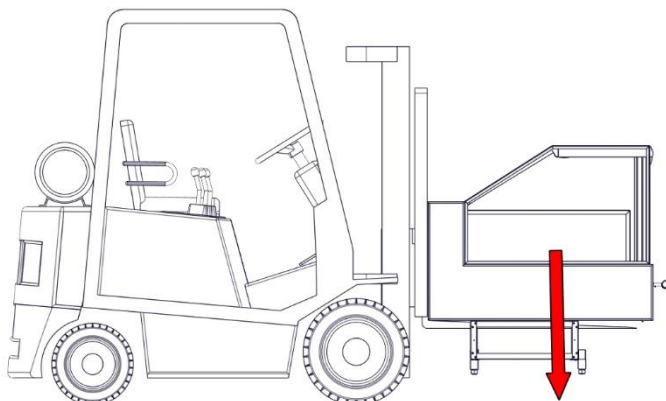
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Lift the serve-over. Remove pallet's screws. Pick up the freezer.



Install the plastic legs.



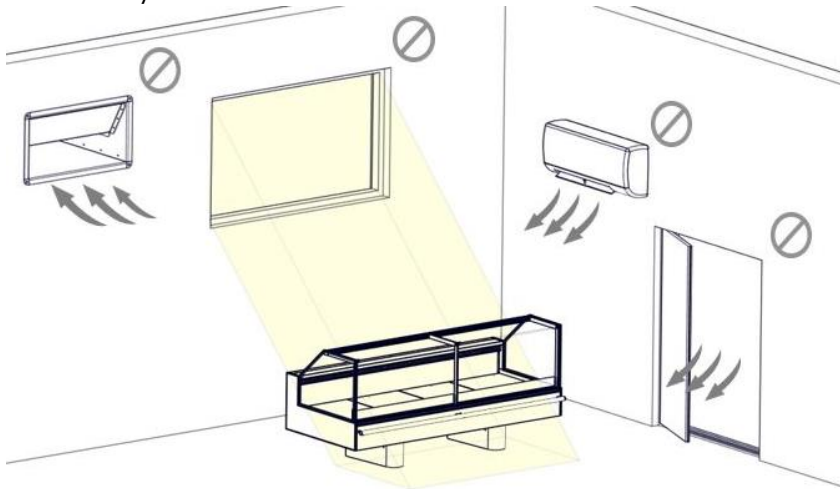
Lower the serve-over.

## 4. INSTALLATION

### 4.1. Requirements for installation the freezer

Installation of the unit must be performed following next requirements:

- The unit must be aligned horizontally (both depth and length) and installed in the stable position.
- Set up the unit only on the designated adjustable legs.
- It is forbidden to install the unit close to any heating equipment or any HVAC elements (air outlet etc.).
- Keep a sufficient distance around the unit. It must be possible to open the doors without any obstructions.



**Fig. 7.** Example of unsuitable ambient conditions

## 4.2. Installation of Vega Space QB Freezer LU



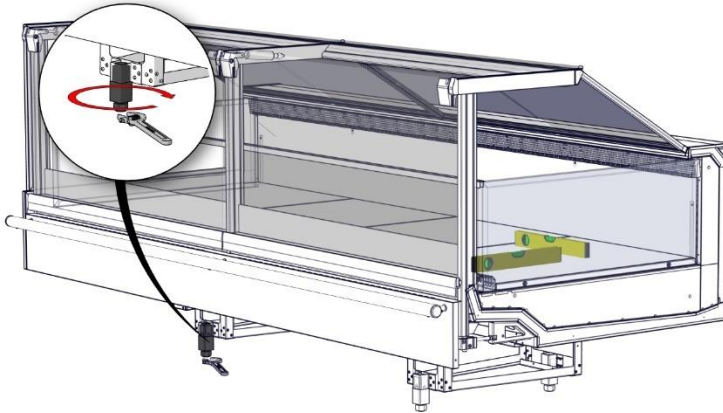
X2



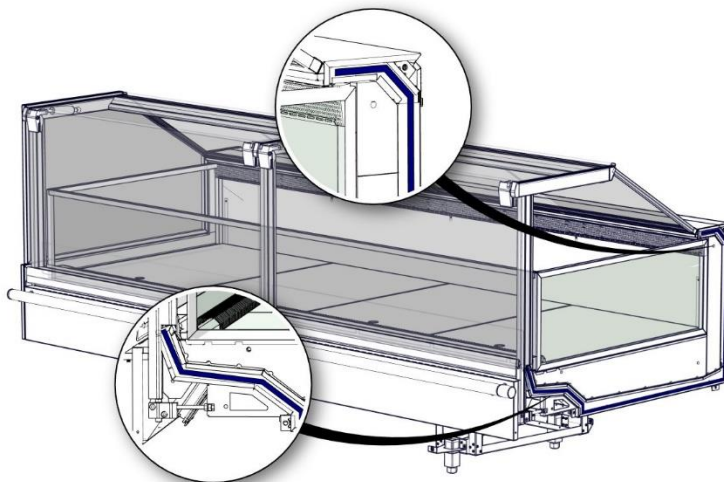
Size 17, 32



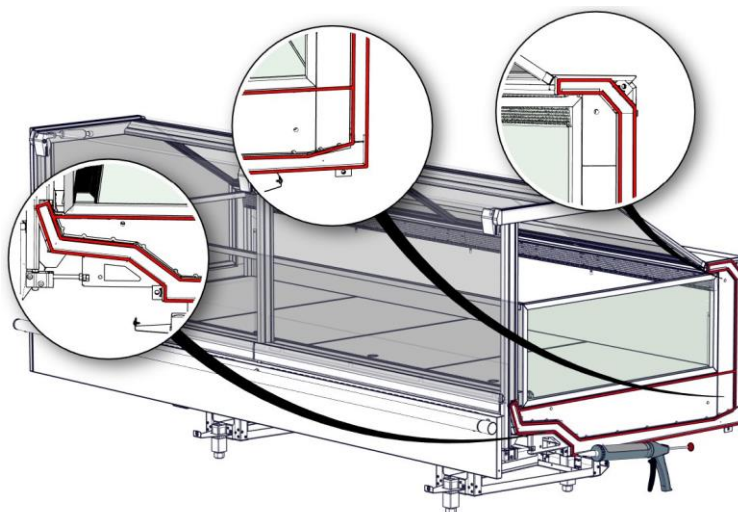
PH2



Using the front and rear legs, perform horizontal and vertical pre-adjustment of the serve-over. The legs are adjustable up to 5 cm.

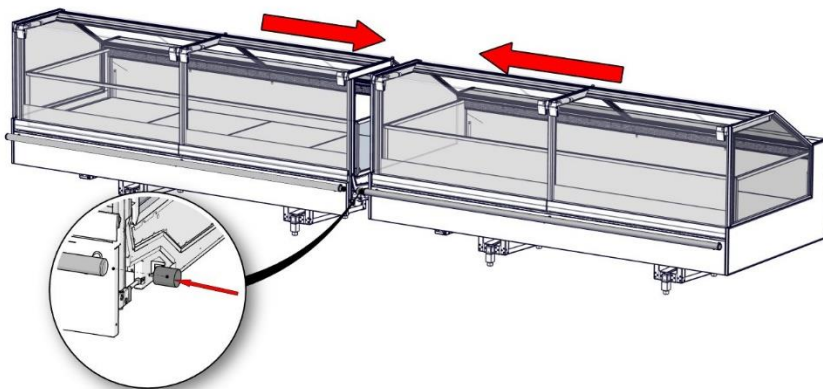


Apply the foam tape around perimeter of connection.

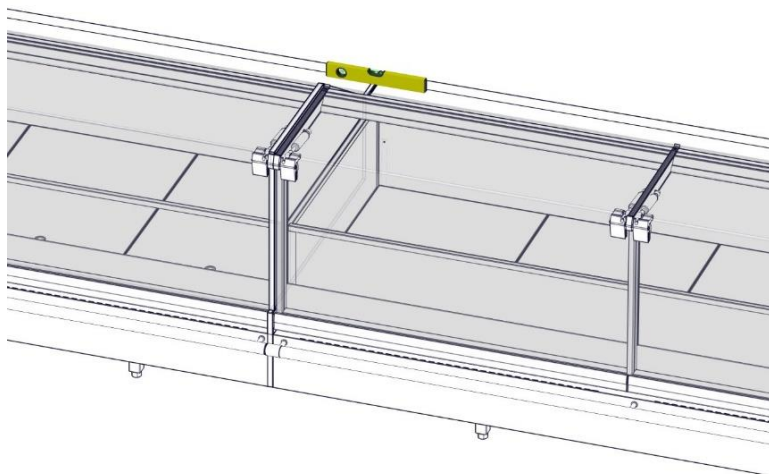


Apply silicone to seal the perimeter of connection.

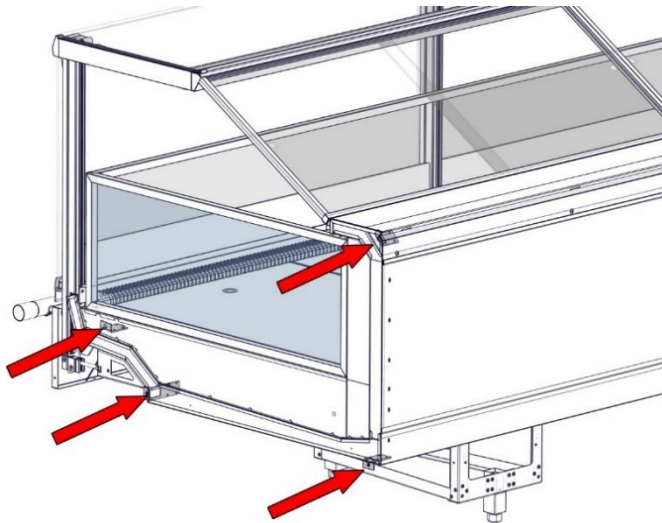




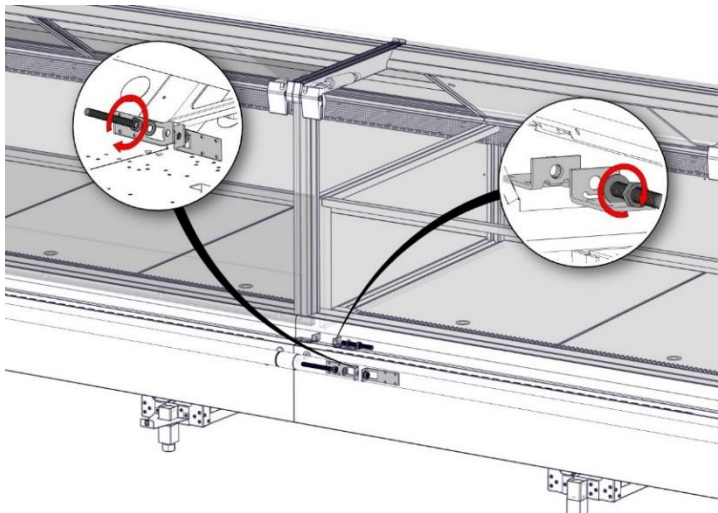
Push the serve-overs together.



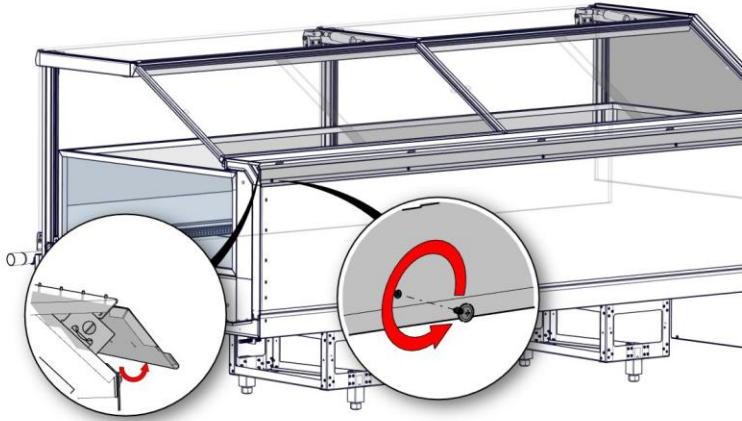
With help of a level, check if both serve-overs are horizontal.



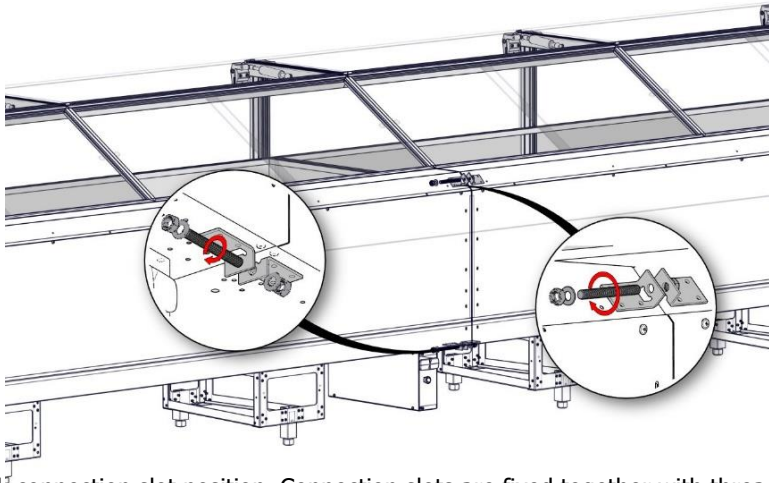
All 4 connection slot positions in the figure.



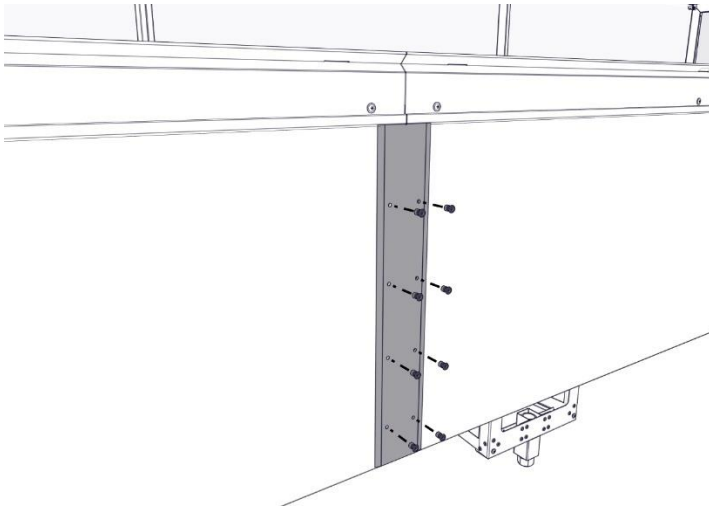
Front connection slot position. Connection slots are fixed together with threaded pins – M10x90 ISO 7985.



Remove the back decoration.



Back connection slot position. Connection slots are fixed together with threaded pins – M10x90 ISO 7985.



River the connection plate on the back of the connection. Rivets D4.8x10.



Example of installed serve-overs.

5. DIFFERENT COVERS INSTALLATION

5.1. Installation of the dust covers (optional)



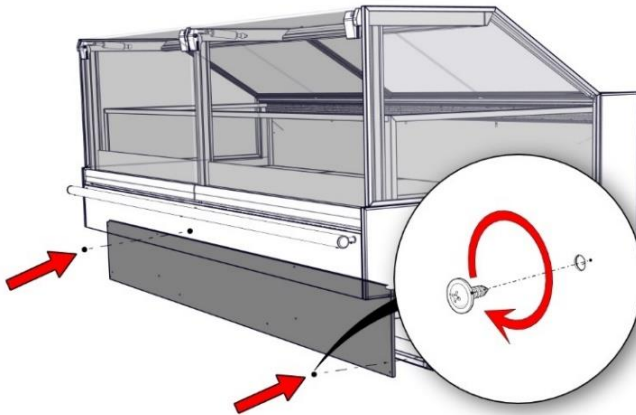
X1



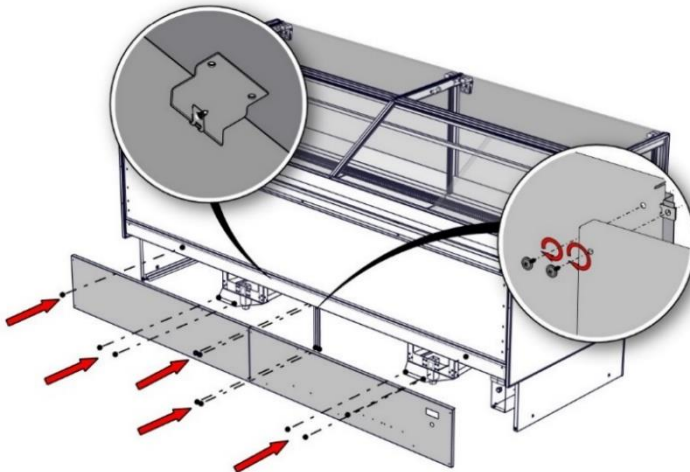
PH2



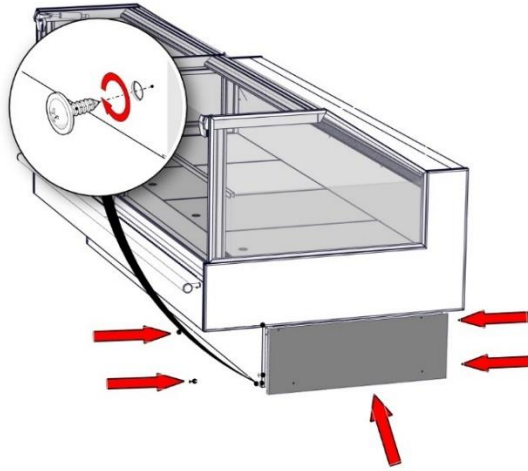
15 min



Fix the front dust cover with self-tapping screws D4,2x13.



Fix the rear dust covers and cover connector with self-tapping screws D4,2x13.



Fix the side dust covers with self-tapping screws D4,2x13.

### 5.2. Installation of the leg panels (optional)



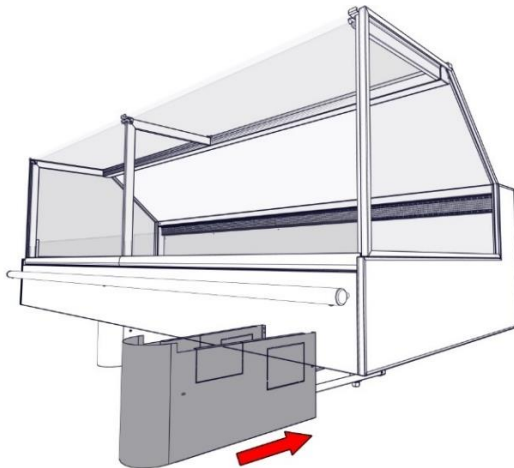
X1



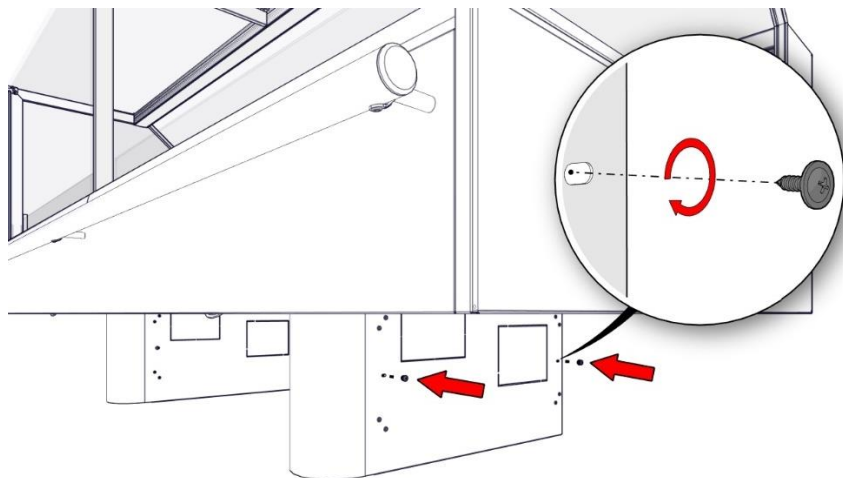
PH2



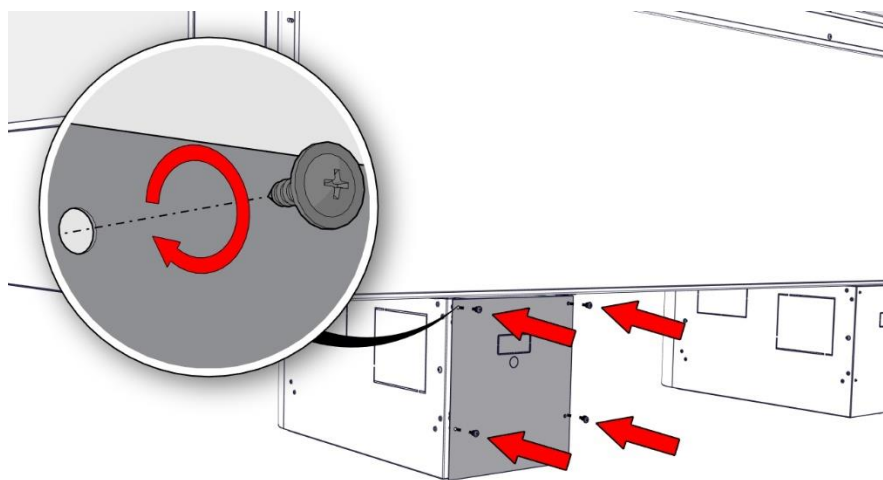
15 min



Attach the front panel to the leg.



Fix the sides of the panel with self-tapping screws D4.2x13.



Fix the back panel with self-tapping screws D4,2x13.



6. GLASS STAND ADJUSTMENT ON VEGA Space QB Freezer LU



X1



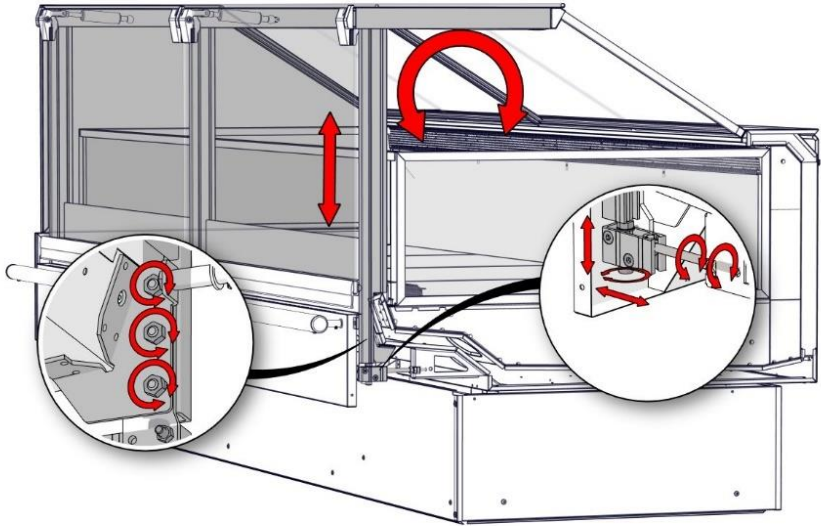
13



Hex 4, 5



15 min



To adjust the angle and the height of the stand, slightly loosen the bolts indicated on the left of figure above. Adjust the stand angle and height by rotating the bolts indicated on the right of figure above. After adjustment, tighten the bolts loosened before.



## ELECTRICAL CONNECTION

### 6.1. Connecting the unit to the power supply

Unit connection to the 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 a mains circuit with protective grounding.
- Do not use extension cords or multiple socket strips.

## 7. DRAINAGE

### 7.1. Drainage system

Freezer Vega Space QB Freezer to be equipped with suitable drainage system. The condensate can be drained to the tub trough the drainage siphon.

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 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 must 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 cleaning:

- 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 serve-over, and temporarily place them in the freezer compartment.
- Disconnect electrical installations.
- Remove the bottom shelves, air circulation grids, and evaporator covers.
- Clean the ventilator of the serve-over from plaque. Remove 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 residue of food products and the condensate residue from surfaces.
- Disinfect the internal space of the serve-over.
- Clean and disinfect detached parts and dry them.
- Assemble the detached components into the structure.
- Switch on the power supply to the serve-over.
- When the temperature in the internal space reaches the one that is specified in the control, bring cooled products back into the cabinet.

## 9. ENERGY SAVING

The serve-over only supplied with a slide door. Cabinet is with slide doors, make sure that the doors are fully closed. During non-business hours of the shop the lighting of the serve-over must be turned off.

## 10. DISPOSAL

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

- Turn off the power supply.
- Disconnect of the glycol piping.
- Collect the refrigerant from the freezing coil.
- The elements of the refrigerated cabinet require specific disposal; therefore, it is necessary to contact organizations that dispose of 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 serve-over are installed, each serve-over and the overall system must be inspected before their start-up.

### 14. ACCESSORIES

Variety of special accessories available on request, such as: partitions, tabs, price holders, a drainage collection tub, evaporation baths, safety bumpers, etc. For more information, please call FREOR LT or sales partner.

### 15. TECHNICAL DATA

#### 15.1. Electrical layouts

The layouts are in the electrical console.

#### 15.2. Failures and troubleshooting



Repair of the internal freezing coil of the showcase, check 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.












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

**Possible causes:**

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

<p>The freezers out of order.</p>	<p>Power supply malfunction.</p>	<p>Check for the phase matching (in the event of changing phases, one-phase cabinet elements can be operational). Check switches. Check the power network.</p>
<p>The compressor is out of order.</p>	<p>Refrigeration cycle malfunction. Signals of the pressure sensors.</p>	<p>Fluctuations of the electrical network voltage. Contamination of refrigerant filter. Leakage of the refrigerant in the system. Call the refrigeration technician/service department.</p>

## 16. MEANINGS OF SYMBOLS

Symbol	Meaning	Type
	Qualified specialist;	
	Work clothing;	
	Protective gloves;	
	Brittle surfaces;	
	Wrench;	Sizes: 13, 17, 32
	Screwdriver;	PH2
	Rubber hammer;	1
	Protective goggles;	
	Silicone pistol;	1
	Clamp;	2
	Hex key;	Size 4, 5



**FREOR LT, UAB**

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