

# ICE CREAM FREEZERS

with flammable refrigerant R290 (propane)

## TYPES:

**ARO-106, ARO-201, ARO-206, ARO-301, ARO-306, ARO-401, ARO-406, ARO-501, ARO-506, ARO-601, ARO-606, ARO-701, ARO-706.**

for climate class 4

## USER MANUAL

### NOTE

Detailed information at [www.byfal.pl](http://www.byfal.pl) under INSTRUCTIONS.



*BYFAL Sp. z.o.o.*

77-132 Niezabyszewo, ul. Perłowa 17  
mobile (+48) 602 793 544  
[www.byfal.pl](http://www.byfal.pl), e-mail: [byfal@byfal.pl](mailto:byfal@byfal.pl)

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## INSTRUCTIONS FOR SAFE USE

- **Before unpacking and installing, please read this user manual and, to ensure safety, strictly adhere to it.**
- The equipment may only be connected to the mains by an authorised person after reading the instructions and only to an outlet with a working protective circuit. Failure to comply with this condition poses a risk of electric shock.
- It is forbidden to make holes in the housing of the equipment, as this risks releasing flammable refrigerant.
- The ventilation holes in the equipment housing must not be obstructed.
- The freezer should be positioned so that the plug is accessible.
- The front wall must also not be obstructed or have thick insulating stickers on it.
- The power cable must not be pinched and must not be stepped on.
- The freezer should be placed in a room with an area of not less than 4 m<sup>2</sup>, above ground level, dry with a temperature of not less than 10°C and away from heat sources (e.g. radiators, sunlight).
- Do not place any objects on the glass cover of the freezer.
- Do not leave equipment on an incline without the wheels braked.
- Installation and maintenance must not be carried out by persons with limited physical or mental capabilities or by minors.
- Glass bottles and utensils, electrical appliances or other objects that may have sharp hard edges may not be placed in the freezer.
- If the freezer malfunctions or if the insulation of the supply cable is damaged, only a person qualified to repair this type of equipment may carry out repairs.
- **Danger !**  
**Attention!** There is combustible propane gas in the system. Risk of explosion or fire.

**Puncturing the inner walls of the enclosure and the outer walls may result in the release of the propane refrigerant R290 (flammable). If such an event occurs then the glazing should not be closed. Unplug the equipment from the**

**power socket. Do not use near open flames or sparking equipment. Transport the freezer outdoors, only there can the products be taken out.**

## INTRODUCTION

ARO ice cream freezers are designed for the direct sale of packaged ice cream and frozen food. The standard version is designed for operation in rooms with Class 4 climatic conditions (ambient temperature from 10 to 30°C, relative humidity up to 75%).

## TECHNICAL DESCRIPTION

ARO ice cream freezers are constructed on the basis of a polyurethane foam-insulated box with a sliding glass cover, made of tempered glass with a low-emission layer. The standard equipment includes baskets for the presentation of goods. The refrigeration system consists of a hermetic compressor, evaporator and condenser built into a box. Temperature regulation is controlled by an electronic or electromechanical controller, depending on the design. The temperature is factory-set at -18°C.

## INSTALLATION - COMMISSIONING OF THE FREEZER

Read this manual before unpacking, assembling and setting up the freezer.

After unpacking, fit the enclosed swivel castors by inserting them into the special “rails” on the underside of the freezer and fix them in place with the enclosed screws. Castors with a brake should be fitted on the side accessible when using the freezer.

**NOTE: During transport and installation, do not tilt the freezer box more than 30° from the vertical to prevent the refrigeration system from becoming oily.**

Standard version freezers cannot be put together “back-to-back”, the minimum distance is 10cm or 20cm from other compartments. The front wall must not be covered with thick heat-insulating stickers or otherwise obstructed.

**NOTE: Blocking the ventilation grilles will void the warranty and fundamentally affect the correct operation of the freezer and the safety of use.**

The interior of the freezer should then be washed according to the instructions in the OPERATION OF THE FREEZER section.

The equipment may only be connected to the mains supply to a socket with a protective circuit “pin”, with protection in accordance with the table below, but not before one hour from the time of completion of the transport and after the absence of visible mechanical damage to the freezer and the power cord. The freezer compressor will start after approximately 5 minutes.

**Programming the temperature setting:**

When the **P** sensor is touched and held for 5 seconds, programming mode is entered. The temperature setpoint appears on the display and an LED lights up next to it. Touching the sensor  $\uparrow$  or  $\downarrow$  accordingly changes the temperature setpoint by 1°C with each touch. The setting will be saved if the **P** sensor is touched again before 5 seconds have elapsed.

## OPERATION OF THE FREEZER

- It is only possible to insert products once the freezing compartment has cooled down completely, i.e. once the temperature of at least -18°C displayed on the freezer control has been reached. This is the optimum food preservation temperature. During freezer operation, the displayed instantaneous temperature may deviate from the set temperature by  $\pm 2^\circ \text{C}$
- The maximum loading level is approximately 2 cm above the top edge of the basket (not the clip).
- Products placed in the chamber should not adhere tightly to the walls of the equipment.

Load capacity of the basket for freezers :

ARO 201 – ARO 406 = 17 KG

ARO 501 – ARO 706 = 20 KG

Proper operation involves adherence to safety rules, care for cleanliness, keeping covers tightly closed, observing the temperature in the chamber and continuity of the electricity supply.

Periodic defrosting should be carried out when the frost layer exceeds an average of 5 mm within the evaporator, as the freezing dynamics are reduced. To do this, disconnect the freezer from the power supply, empty the products and open the glass covers. The defrosting time depends on the temperature in the room where the freezer is located. When the ice has fallen off the walls, it should be removed from the chamber and the water removed from the interior with a sponge or cloth.

**It is forbidden to use other heating devices for defrosting.**

The freezer should be washed after this operation.

Wash the freezer (unplugged) with lukewarm water and dishwashing liquid using a soft sponge or cloth. Wash the inner chamber and outer casing. Particular attention should be paid to the cleanliness of the guides and glass. After washing, wipe down all surfaces and allow to dry completely. It is only possible to load the freezer once the freezing compartment has cooled down.

## REPAIR OF FREEZERS

All freezer repairs should be carried out by manufacturer-certified service providers. In justified cases, instead of a repair, the manufacturer may replace the

equipment with another technically efficient one. In this case, replacement of the equipment is only possible in consultation with the user.

**NOTE: Mechanical damage and damage resulting from improper use, e.g. at temperatures different from those specified for the respective version, are not covered by the warranty.**

**The heating of the freezer box during operation is a natural phenomenon, as there is a condenser under the outer casing.**

### **Summary of basic faults and how to proceed:**

1. Temperature rise in the equipment chamber
  - check the power supply and the operation of the compressor and the fan,
  - check that the condenser is not contaminated (this applies in particular to freezers with a dynamic condenser),
  - check that the fresh load was at the right temperature,
  - check that the ventilation grilles are not obstructed,
  - check that sunlight does not fall directly on the equipment,
  - check that the room temperature does not exceed 30°C,
  - check whether the temperature in the chamber is falling or rising at an interval of about 15-30 min. If the temperature continues to rise, empty the equipment and contact the service department.
2. Glasses move with difficulty
  - check the cleanliness of the guides.
3. Equipment gets frost inside the chamber too quickly
  - check the humidity in the room and the temperature in the chamber.
4. Water appears on the glass
  - check the humidity in the room. At humidity levels above 55%, this is normal and the glass should be wiped down periodically.
5. The equipment makes sounds different from normal compressor and fan operation
  - check that no dirt has got onto the fan blades.

### **Contacting the Byfal Sp. z o.o. service**

Mon-Fri 7.00 a.m.-3.00 p.m.

Tel. (+48) 602 287 325

e-mail: [serwis@byfal.pl](mailto:serwis@byfal.pl)

## **WARRANTY CONDITIONS**

The warranty is valid in the territory of the Republic of Poland with proof of purchase. The manufacturer guarantees the proper functioning of the equipment under the conditions described in the user manual for a period of 24 months from

the date of purchase unless otherwise specified in the sales contract. The provider of the warranty shall only be liable under this warranty if the defect has arisen from causes inherent in the equipment.

The warranty does not cover defects in the equipment which arise after the sale for other reasons, in particular those resulting from:

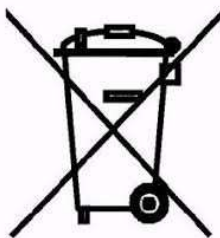
- use the equipment contrary to the instructions and intended use.
- repairs or modifications by persons not authorised by the manufacturer.
- mechanical damage and incorrect voltages in the mains supply.

The warranty also excludes light bulbs and batteries, as well as activities belonging to the normal operating service and maintenance and installation of the equipment.

## DISPOSAL OF THE APPLIANCE

This appliance is marked in accordance with European Directive 2002/96/EC and the *Polish Waste Electrical and Electronic Equipment Act* with the symbol of the crossed-out waste container.

Such labelling indicates that this equipment must not be disposed of with other waste after its useful life. The user is obliged to return it to a disposal and recycling centre for electrical and electronic equipment or to report it to the manufacturer. Collection of waste equipment weighing less than 400 kg will take place within 30 days of notification. Until then, the user is obliged to store the equipment. The equipment must be complete.



## TECHNICAL DATA

Model		<i>ARO-106</i>	<i>ARO-201</i>	<i>ARO-206</i>	<i>ARO-301</i>	<i>ARO-306</i>	<i>ARO-401</i>	<i>ARO-406</i>	<i>ARO-501</i>	<i>ARO-506</i>	<i>ARO-601</i>	<i>ARO-606</i>	<i>ARO-701</i>	<i>ARO-706</i>
Type		sloping	flat	sloping	flat	sloping	flat	sloping	flat	sloping	flat	sloping	flat	sloping
Length	mm	640	810	810	1041	1041	1260	1260	1264	1264	1602	1602	2030	2030
Width	mm	643	643	643	643	643	643	643	713	713	713	713	713	713
Height including wheels	mm	925	875	925	875	925	875	925	875	925	875	925	875	925
Net capacity	dm <sup>3</sup>	100	149	149	212	212	272	272	312	312	420	420	555	555
Power supply	V/Hz	220÷240 50	220÷240 50	220÷240 50	220÷240 50	220÷240 50	220÷240 50	220÷240 50	220÷240 50	220÷240 50	220÷240 50	220÷240 50	220÷240 50	220÷240 50
Number of baskets	pcs.	2	3	3	4	4	5	5	5	5	6	6	8	8
Storage temperature	°C	-18÷-22	-18÷-22	-18÷-22	-18÷-22	-18÷-22	-18÷-22	-18÷-22	-18÷-22	-18÷-22	-18÷-22	-18÷-22	-18÷-22	-18÷-22
Climate classes	-	4	4	4	4	4	4	4	4	4	4	4	4	4
Protection required	A	10	10	10	10	10	10	10	10	10	16	16	16	16

### Protection class I/IP21

The standard version of the freezers is designed for operation in climate class 4, i.e. ambient temperatures of +10÷+30°C and relative humidity of up to 75%. Excessive humidity can cause the water vapour in the air to condense on the glass covers. For more information visit [www.byfal.pl](http://www.byfal.pl)