

*Fresco 3000*

**Cod. 12121543 (24V)  
Condensor "BACK"**

**Cod. 12121577 (24V)  
Condensor "TOP"**

# **OPERATIONS & MAINTENANCE MANUAL**

## General Description

The air-conditioner "**Fresco 3000**" allows optimum thermal conditions to be kept inside the sleeping area of commercial' during day or night **stops**.

The "**Fresco 3000**" is comprised of **2 main units**: the **EVAPORATOR**, installed inside the cab, and the **CONDENSOR**, installed outside.

The "**Fresco 3000**" works when the **ENGINE IS SWITCHED OFF** and is extremely quiet. It can be easily installed on any type of vehicle.

The unit uses **R134a** refrigerant (**ecological refrigerant fluid**).



**Rear (Back) Mount unit**

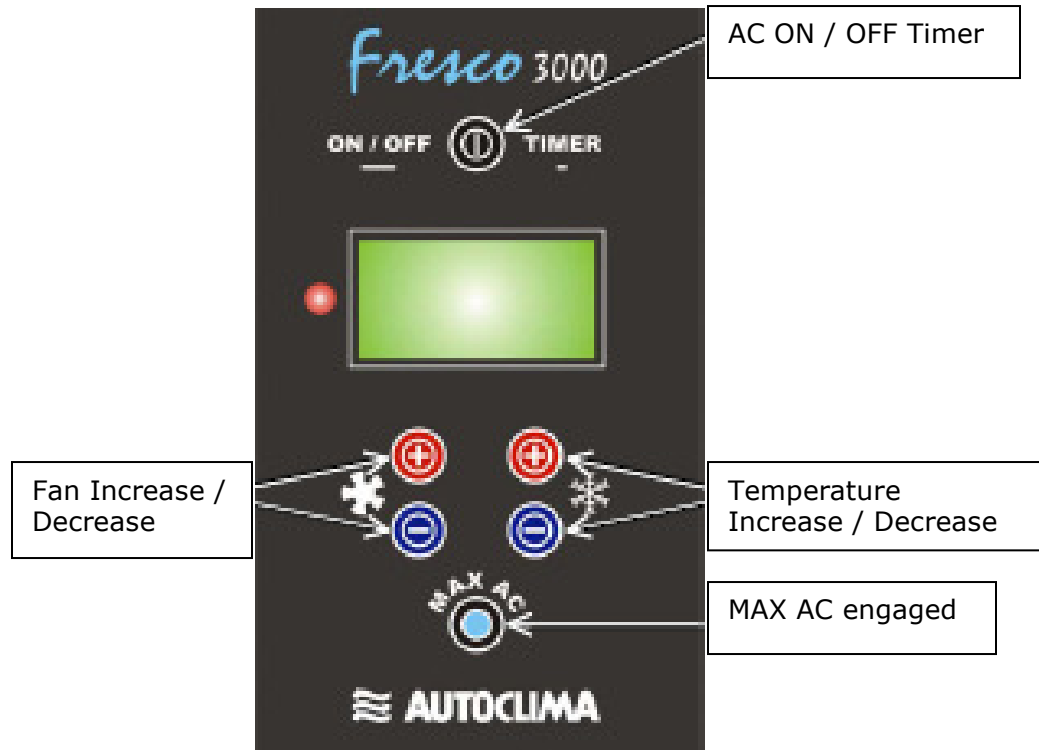
## Technical Data

<b>STANDARD</b>	Supplied Cooling Capacity	650W (2220 BTU/h)
	Power Consumption	7.5A (24V)
<b>MAX</b>	Supplied Cooling Capacity	950W (3245 BTU/h)
	Power Consumption	14.5A (24V)

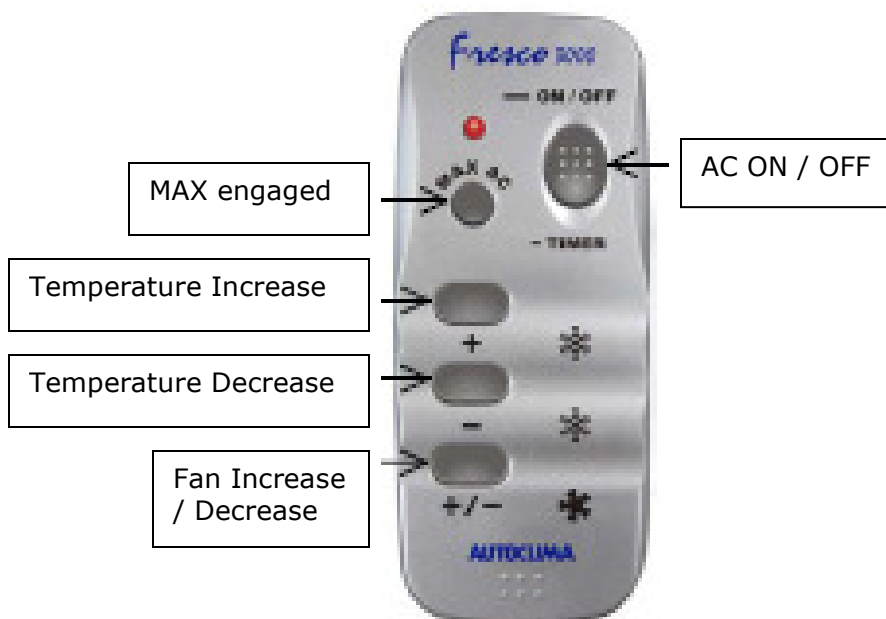
<b>Functioning with Engine OFF</b>
Voltage: 24V DC
Refrigerant: R134a
6 ventilation speeds
Temperature electronic control with digital control panel
Functioning program timer
Low Profile Low Weight Installation
Low maintenance & easy use
Remote Control
Auto-Switch OFF with low battery's voltage (Battery Saver)
Evaporator weight - 5kg
Condensor "Back" weight - 18kg

## System Operation

### Central Control Unit



### Remote Control



## **"FRESCO 3000" CAN BE USED BY ACTIVATING THE AIR-CONDITIONING OR THE FAN FUNCTION ONLY**

### **Conditioning (AC)**

**T<sub>o</sub> : Temperature set by User**

**T<sub>amb</sub> : Ambient temperature detected by probe**

**V<sub>1</sub> : Compressor rotation speed (2500 Rpm)**

**V<sub>2</sub> : Compressor rotation speed (4000 Rpm)**

**The basic operating principles of the central control unit are:**

About 30" after switching on, the **ventilation starts up automatically.**

The AC system can run for a maximum of **6 hours.**

The display always shows the temperature **set by the user (T<sub>o</sub>).**

The temperature which **can be set by the user is between 17°C and 28°C.**

### **ON / OFF – TIMER BUTTON OPERATION**

#### **ON / OFF function:**

When the system is switched OFF, pressing down this button for more than 2 seconds, switches ON the AC system.

If the system is switched ON, pressing down this button for more than 2 seconds, switches OFF the AC system.

#### **Timer function:**

If the system is switched ON, every time the TIMER button is pressed quickly, the system operation time is reduced by 1 hour.

### **MAX AC BUTTON OPERATION (offers maximum performance by the system)**

**When the system is running**, (by default in mode V<sub>1</sub>) press the **MAX AC** button to start rotation speed V<sub>2</sub> of the compressor for **4 consecutive hours** and the **whole snowflake** symbol will **light up** on the display (despite being usually only half lit at V<sub>1</sub>).

Once this function has been activated, press the **MAX AC** button again to return to speed V<sub>1</sub>.

By pressing the **TIMER** button with **MAX AC** engaged, the compressor running time at speed V<sub>2</sub> may diminish from 4 to 1 with steps of 1 hour.

## **Ventilation (FAN)**

If the fan increase or reduction buttons are pressed when the system is switched OFF, only the evaporator fan is activated, with the choice of 6 different speeds, shown on the central control unit display.

To switch OFF the fan, it is necessary to set the value 0 on the central control unit display, using the fan speed reduction button.

## **Save Battery Function (AC / FAN)**

The save-battery function starts when the power **falls below** a value of **21.5V**.

In this case, the system (AC or VENT) shuts down; also deactivating the fan function and the message **E1** appears on the display and the **battery** symbol **lights up**.

When the power returns, for **at least 10 seconds**, to the value of **25V**, the system is automatically reactivated, starting up the condenser fan, followed by the evaporator fan and compressor.








## **Remote Control**

The remote control regulates both the conditioning function and the fan function.

Using the remote control it is possible to:

- **Switch the system ON and OFF**
- **Regulate the temperature**
- **Regulate the fan speed**
- **Engage the MAX AC function**
- **Modify the TIMER function**

## Errors shown on the Display (AC / FAN)

Description	Message	Symbol
<p><b>Battery voltage</b> The battery-saver device has cut in. Voltage has fallen below the value of 21.5V</p>	<b>E1</b>	
<p><b>Fan over current cut-out</b> The condenser or evaporator fan overloads the central control unit above the limit allowed. Possible cause: short circuit or blockage of fan rotation.</p>	<b>E2</b>	
<p><b>Compressor locked</b> The rotor is locked or the pressure inside the cooling circuit is too high.</p>	<b>E3</b>	
<p><b>Minimum compressor rotation speed</b> If the cooling circuit is overloaded, the compressor cannot maintain the minimum rotation speed.</p>	<b>E4</b>	
<p><b>High temperature on the central control unit</b> If the cooling circuit is overloaded or the ambient temperature is high, the central control unit signals this situation.</p>	<b>E5</b>	
<p><b>Communication error</b> There is no communication between the display and the central control unit.</p>	<b>E6</b>	
<p><b>Temperature probe</b> If the probe short circuits or is not connected, the system stops.</p>	<b>E7</b>	
<p><b>Tilt</b> The system shut-down device installed to operate in the event of tilting has cut in. <b>N.B.</b> The device only cuts in if the evaporator is installed transversally to the direction in which the vehicle travels.</p>	<b>E8</b>	

## **Suggestions for Use and Maintenance**

THE "**FRESCO 3000**" AIR-CONDITIONER OPERATES WITH THE ENGINE SWITCHED OFF AND IS EXTREMELY QUIET.

WE RECOMMEND THAT YOU DO NOT USE "**FRESCO 3000**" WHILE THE VEHICLE IS MOVING. IT IS DESIGNED TO OPERATE WHILE THE VEHICLE IS STATIONARY.

IT'S EFFICIENT, SAFE AND ITS POWER CONSUMPTION IS LOW. IT DOESN'T COMPROMISE THE INTEGRITY OF THE VEHICLE'S BATTERIES, AS THE SYSTEM IS INSTALLED WITH LOW VOLTAGE CUT OUT. IT'S HAS A SAVE-BATTERY DEVICE (refer to paragraph on operation).

### **TO IMPROVE THE "FRESCO 3000" CONDITIONER'S EFFICIENCY MIND THE FOLLOWING:**

IF POSSIBLE, BEFORE SWITCHING THE UNIT ON PARK THE VEHICLE IN A SHADED AREA.

SHOULD THE TEMPERATURE INSIDE THE CAB RISE EXCESSIVELY, IT IS RECOMMENDED, **WHILE THE VEHICLE IS STATIONARY**, STARTING UP THE VEHICLE AIR-CONDITIONING SYSTEM TO REDUCE THE HEAT AS QUICKLY AS POSSIBLE.

CLOSE THE CURTAINS WHICH SEPARATE THE SLEEPING AREA FROM THE DRIVING AREA, IN ORDER TO LIMIT THE AREA TO BE COOLED.

DURING NIGHT REST KEEP THE VEHICLE'S WINDOWS CLOSED IN ORDER TO AVOID THE WASTING OF COOL AIR AND THE INPUT OF HOT AND HUMID AIR.

### **THERE IS PRACTICALLY NO NEED FOR THE SYSTEM'S MAINTENANCE**

Avoid keeping the conditioner inactive for a long period of time, but start at least **once a month** even during winter months as the functioning of the unit guarantees the lubrication of components which would dry up if left inactive for too long.

**Periodically** control the condenser battery and, if necessary, clean it with compressed air, being careful not to damage the aluminum rests. It is good to check the functioning of the condenser's electric fan.

When working near heat exchangers, be careful not to get cut with the cutting edges of the winglets.

Insects, floss and other materials may deposit on the winglets, reducing the efficiency of the heat exchanger.

**At the start of each season** inspect every part of the system, including electronic components, to make sure there aren't any abnormal conditions.

While washing the vehicle, make sure you don't direct violent jets of water towards the inside of the condenser unit from the lowest part and through the slits of the electric fan: in case protect the unit with a cover.

**ANY REPAIR OR INTERVENTION FOR THE CHARGING OR COLLECTION OF THE REFRIGERANT MUST BE DEALT WITH AT AN AUTHOURISED WEBASTO INSTALLER AND BY QUALIFIED PERSONNEL.**