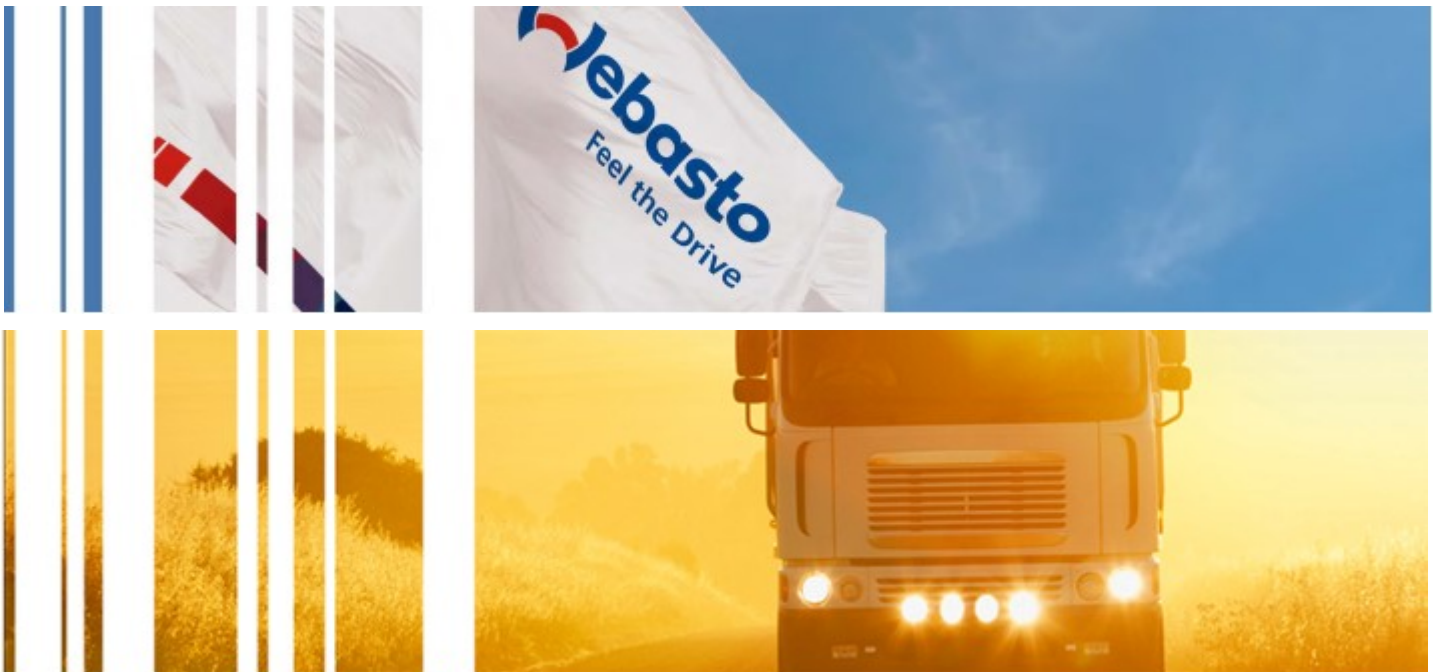


**Webasto Thermo & Comfort Australia**  
**Operations & Maintenance Manual**

**Fresco 3000**



**12121577 - 12V**

**12141543 - 24V**

*Fresco 3000*

# Content

## Service Guide



1. Welcome to Webasto
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# Welcome to Webasto



On behalf of Webasto Thermo & Comfort Australia Pty Ltd. we would like to congratulate you on the purchase of your vehicle. Your vehicle is equipped with Webasto products mentioned in this service guide. Webasto will proudly provide you with the best quality product and excellent service. This service guide will enable you to enjoy the product and guarantee it's safe usage. It is advisable to read our Service Guide in conjunction with the Operational Manual of the Webasto products installed so you may relax and enjoy your new purchase. Webasto is a global market leader for sunroofs, convertible and thermo systems. We are always motivated to have satisfied customers and develop new technology for tomorrows mobile world.

Feel the Drive!

## Authority and Regulatory Bodies

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Webasto Thermo & Comfort Australia is the proud member of the following regulatory bodies to guarantee the best quality of our product and optimal service with the intention of providing reliability and trust in our Company.

1. Motor Vehicle Repair Licence (MVRL 43873)
2. Quality Management System Certification ISO 9001
3. Australian Communications and Media Authority ACMA
4. Department of Health - Register of Industrial Chemical Inducers
5. Truck Association
6. Bus NSW Association

# Webasto General Warranty Policy

Thank you for purchasing a product from us.

## Australian Consumer Law

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

Please note that the warranty is in relation to the product supplied, not the installation. If there is any issue with the installation of a product, you must contact the installer directly. Webasto's Standard Terms & Conditions (copy available at [www.webasto.com.au](http://www.webasto.com.au)) apply to the provision of all products.

## Additional Warranty

In addition to your rights under the Australian Consumer Law, our products also come with a manufacturer's warranty which covers material and manufacturing defects from the date of purchase.

Where we are not the manufacturer but rather are only the supplier, the warranty is directly between you and the manufacturer. If this is the case, the manufacturer's warranty is also attached to this notice or provided with the product itself.

The warranty periods are set out below:

Item	Warranty Period
Sunroof	Three (3) years
All other products (other than sunroofs)	Two (2) years
Parts supplied (not complete product)	One (1) year

# Webasto General Warranty Policy

Cont.

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**The conditions of each warranty are as follows:**

The replacement of components, whether under warranty or not, during the warranty period does not prolong the original warranty period for the component or product.

This warranty does not cover:

- (a) Faults caused by incorrect installation or maintenance, incorrect voltage or connection, lightning, external damage, accidents, moisture or any conditions beyond our control;
- (b) Faults caused by unauthorised repair or other measures carried out or undertaken by any party who is not authorised by us or the manufacturer;
- (c) Transport damages;
- (d) If the serial number is illegible or missing; or
- (e) Costs or inconvenience the product may have caused as a consequence of a defect on the product.
- (f) All replacement parts are covered 1 year parts warranty.

Please ensure that you have your original warranty certificate and a copy of the purchase receipt or this may affect your warranty.

Warranty repairs may only be carried out by contacting:

<p><b>Webasto Thermo &amp; Comfort Australia Pty Ltd</b> <b>423-247 The Boulevard</b> <b>KIRRAWEE NSW 2232 AUSTRALIA</b> Please contact Customer Service on (02) 8536 4800 or Free call 1800 244 494</p>
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## General Description & Technical Data

- The air conditioner **Fresco 3000** allows optimum thermal conditions to be kept inside the sleeper cabin of commercial vehicles during day or night.
- The **Fresco 3000** is comprised of 2 main units: the **EVAPORATOR**, installed inside the cabin and the **CONDENSER**, installed outside.
- The **Fresco 3000** operates when the **ENGINE IS SWITCHED OFF** and is extremely quiet.
- The **Fresco 3000** uses R134a refrigerant (ecological refrigerant fluid).
- 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 has a **SAVE-BATTERY DEVICE**.

### Technical Data:

Unit	Cooling Capacity	Max. total power consumption (A)	Dimensions L x W x H (mm)	Weight (kg)	Nominal voltage (V)	Refrigerant (CFC-free)
12V / 24V	950W 3250 BTU	12V = 28A	Condenser 463 x 187 x 695	18	12V / 24	R134a
		24V = 14.5A	Evaporator 625 x 107 x 260	5		

<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)

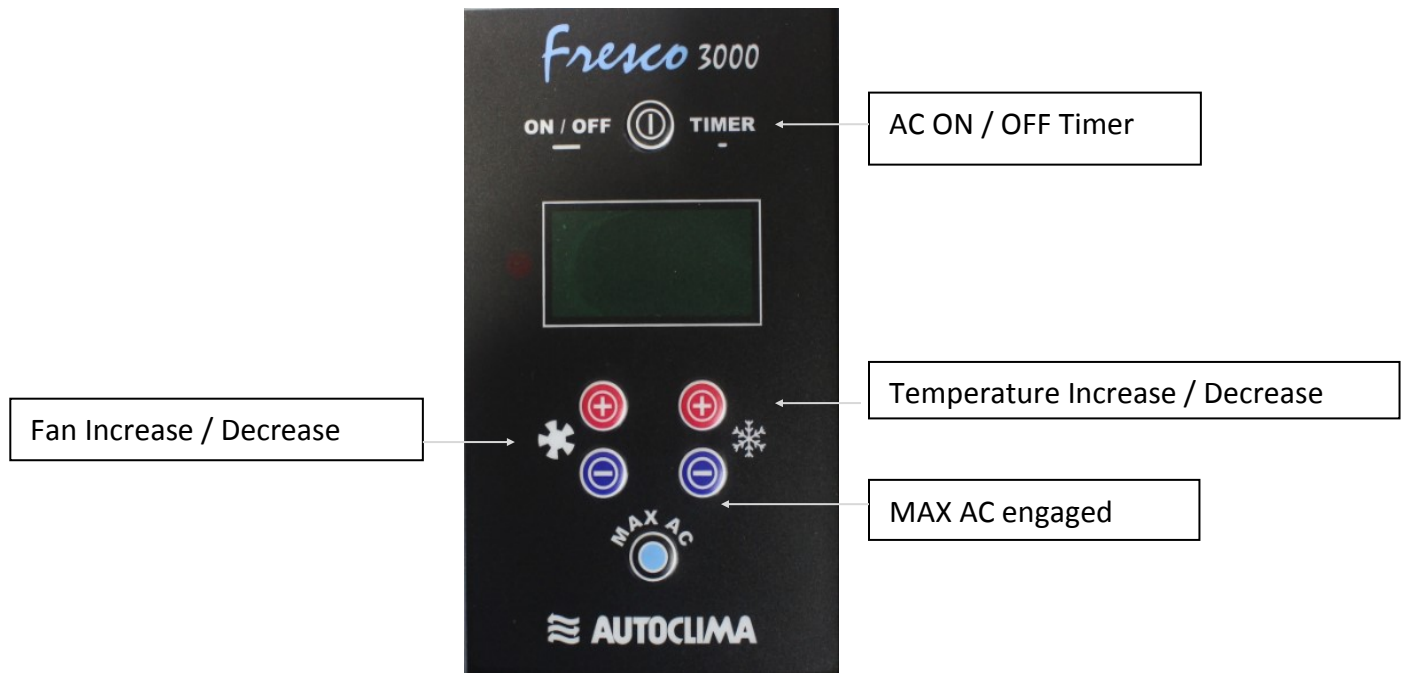
### Functioning with Engine OFF:

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 & Condenser total weight – 23kg

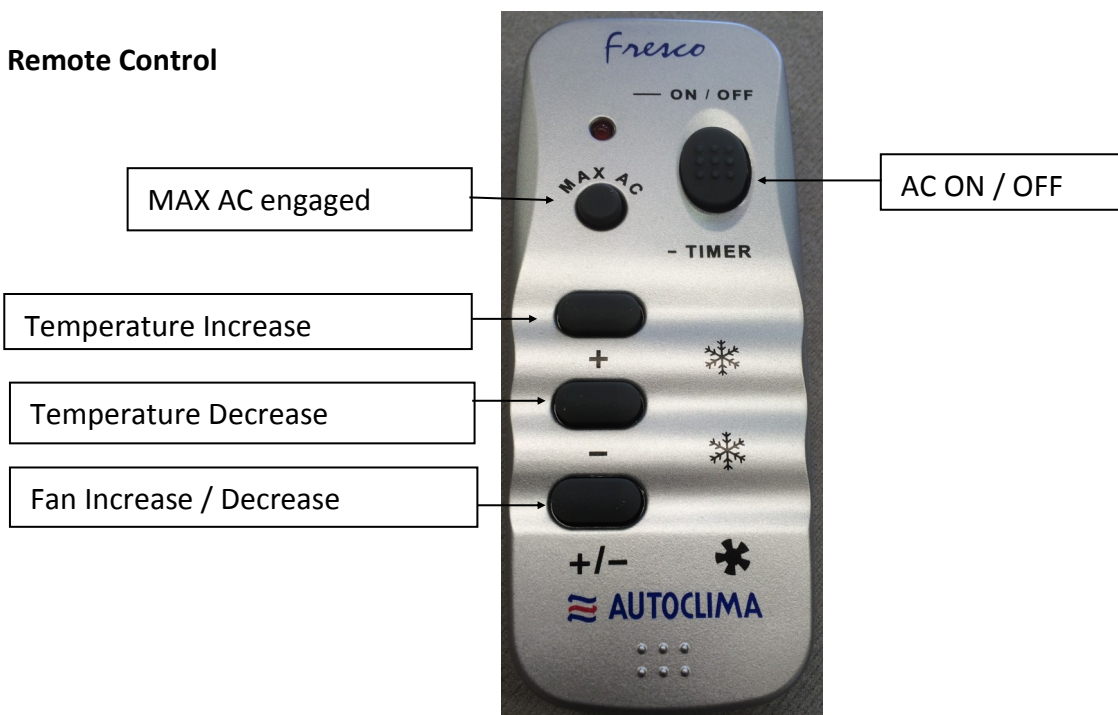
# Operation

## Central Control Unit & Remote Control

### Central Control Unit



### Remote Control



# Operation & Preventive Maintenance

## Function

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

$T_o$ :	Temperature set by User
$T_{amb}$ :	Ambient temperature detected by probe
$V_1$ :	Compressor rotation speed (2500 Rm)
$V_2$ :	Compressor rotation speed (4000 Rpm)

The basic operating principles of the central control unit are:

- Approximately 30 secs after switching on, the ventilation starts up automatically.
- The AC system can run continuously for a maximum of 6 hours.
- The display shows the temperature set by the user ( $T_o$ ).
- The temperature can be set by the user, it is between 17°C and 28°C.

### 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.

#### ON/OFF Timer Operation :

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

# Operation & Preventive Maintenance

## Timer & Ventilation & Battery Voltage Cut Out Functions &

### Remote Control

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#### MAX AC Operation

When the system is running, (by default in mode  $V_1$ ) press the MAX AC button to start rotation speed  $V_2$  of the compressor for 4 consecutive hours and the whole snowflake symbol will light up on the display ( usually only half lit at  $V_1$ ). Once this function has been activated, press the MAX AC button again to return to speed  $V_1$ . By pressing the TIMER button with MAX AC engaged, the compressor running time at speed  $V_2$  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 on the 24V system and 10.5V on the 12V system. 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 24V/12V, 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 air 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**


# Operation & Preventive Maintenance

## Fault Code Description

Failure Symbol	Probable Cause	Remedy
<p><b>E1</b> <b>Low Battery Voltage</b></p> 	<p>Vehicle electrical system voltage Below operating level.</p> <p>Voltage cut out : 24V System 21.5V.</p> <p>Voltage cut out: 12V System 10.5V.</p>	<p>Switch the unit off momentarily and switch on once again.</p> <p>Check all battery voltage. (Above 12.5 V)</p> <p>Check current draw for correct operation. 12V System - 28 amps 24V System - 14 amps</p> <p>Check all electrical connections and plugs. Charge or replace batteries if not in operating conditions.</p> <p>In some instance due to low battery voltage error code E3 appear.</p> <p>Disconnect the power supply to the unit for a few minutes, reconnect and restart the unit.</p>
<p><b>E2</b> <b>Fan Over Current Cut off</b></p> 	<p>The condenser or evaporator fan overloads. Fan short circuit . Obstruction or blockage of the fan rotation.</p>	<p>Check fan for short circuit or discontinuity. Check and clear any obstructions on the fan motor.</p> <p>Replace condenser fan.</p>
<p><b>E3</b> <b>Compressor Locked Out</b></p> 	<p>The compressor rotor is locked, too high head pressure. Insufficient cooling. Blocked drier. Blocked capillary tube.</p>	<p>Connect gauges and check pressures. Low Side : 30 psi Vacuum and re-gas. Vacuum time 1hr / 350g R134a gas. Replace complete condenser.</p>
<p><b>E4</b> <b>Minimum Compressor RPM</b></p> 	<p>High head pressure has caused the overload to the cooling circuit. High head pressure caused low compressor RPM. Insufficient cooling. Blocked filter drier. Blocked capillary tube.</p>	<p>Connect gauges and check pressures. Low Side : 30 psi. Static pressure - 70 psi. Replace Filter Drier. Replace Capillary tube. Vacuum and re-gas. Vacuum time 1hr / 350g R134a gas. Replace complete condenser.</p>

# Operation & Preventive Maintenance

## Fault Code Description, cont.

Failure Symbol	Probable Cause	Remedy
<p><b>E6</b> <b>Communication Error</b></p> 	<p>No communication between the ECU, central control unit or application module. Vehicle electrical system voltage below operating level.</p> <p>Voltage cut out: 24V System 21.5V.</p> <p>Voltage cut out: 12V System 10.5V.</p> <p>Check open circuit or discontinuity on communication cables. Low battery voltage. Low current draw. Check all battery connections (Positive &amp; Negative). In some instance due to low battery voltage error code E1 appears.</p>	<p>Switch the unit off momentarily and switch on once again. Disconnect the power supply to the unit for a few minutes, reconnect and restart the unit. Check all battery voltage. (Above 12.5 V)</p> <p>Check current draw for correct operation.</p> <p>12V System - 28 amps 24V System - 14 amps</p> <p>Check all electrical connections and plugs. Check and replace communications cables. Charge or replace batteries if not in operating conditions. Replace ECU. Replace central compressor unit (24V). Replace application module (12V).</p>
<p><b>E7</b> <b>Temperature Sensor</b></p>	<p>Temperature sensor out of range. Open or short circuit.</p> <p>Check all connection to the ECU. Check battery voltage.</p>	<p>Replace temperature sensor. Replace ECU.</p>
<p><b>E8</b> <b>Tilt Switch</b></p>	<p>Tilt Switch out of range. Short circuit or discontinuity. Check all connections to the ECU. Check battery voltage.</p>	<p>Replace tilt switch. Replace ECU.</p>

# Operation & Preventive Maintenance

## Recommendations



**To improve the FRESCO 3000 air conditioner's efficiency:**

- If possible, before switching the unit ON park the vehicle in a shaded area.
- Should the temperature inside the cabin 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 sleeper cabin 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 cool air escaping and the hot and humid air entering.

### Preventive Maintenance

- We recommend that you do not use FRESCO 3000 while the vehicle is moving. It is designed to operate while the vehicle is stationary.
- At the start of each season inspect every part of the system, including electronic components, to make sure there aren't any abnormal conditions.
- When working near heat exchangers, be careful not to get cut with the cutting edges of the winglets.
- Ensure to run the unit once a month for 1 hour regardless of the season.
- 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. Insects, fluff and other materials may deposit on the winglets may result in reducing the efficiency of the heat exchanger.
- While washing the vehicle, make sure you don't direct jets of water towards the inside of the condenser unit from the lowest part and through the slits of the electric fan.

# Operation & Preventive Maintenance

## Reset Procedure



### Reset Procedure

Disconnect the power supply to the unit for a few minutes. Reconnect and restart the unit.

If the reset does not rectify, contact your nearest Webasto authorized dealer.

### Note:

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

## Webasto Contacts

**Office Phone:** +61 (0) 2 8536 4800

**Free call:** 1800 244 494

[info@webasto.com.au](mailto:info@webasto.com.au)

[www.webasto.com.au](http://www.webasto.com.au)

Note: With the website request [info@webasto.com.au](mailto:info@webasto.com.au) it is advisable to include your telephone number for prompt response.



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