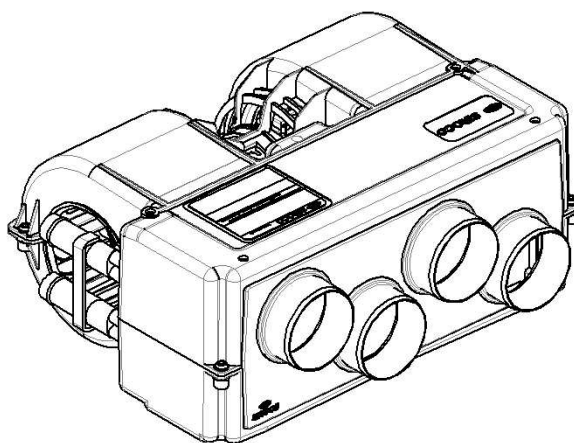
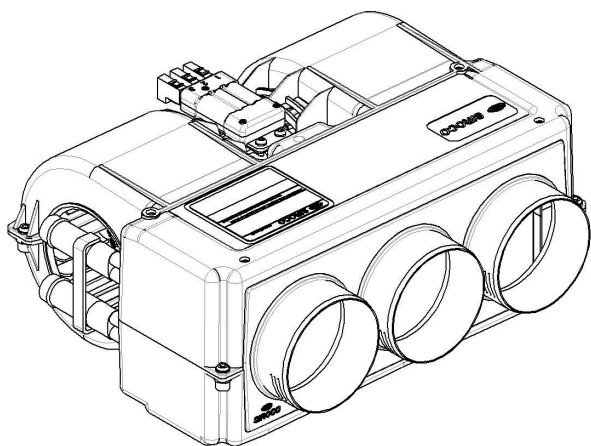
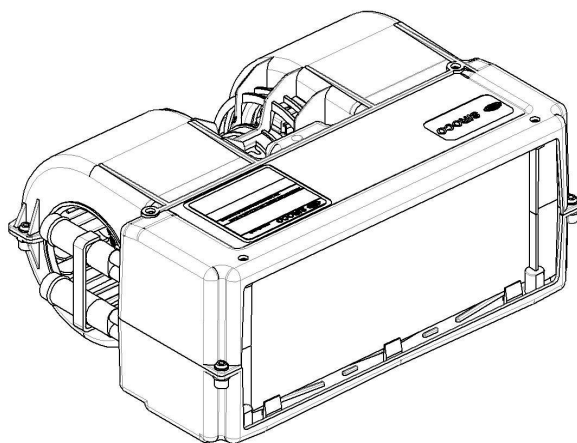




TENERE PERFORMA B-3D-4D-F-G-S

- 1 - Product description
- 2 - Operating principle
- 3 - Mounting recommendations
- 4 - Troubleshooting
- 5 - Safety instructions



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**1 - Product description**

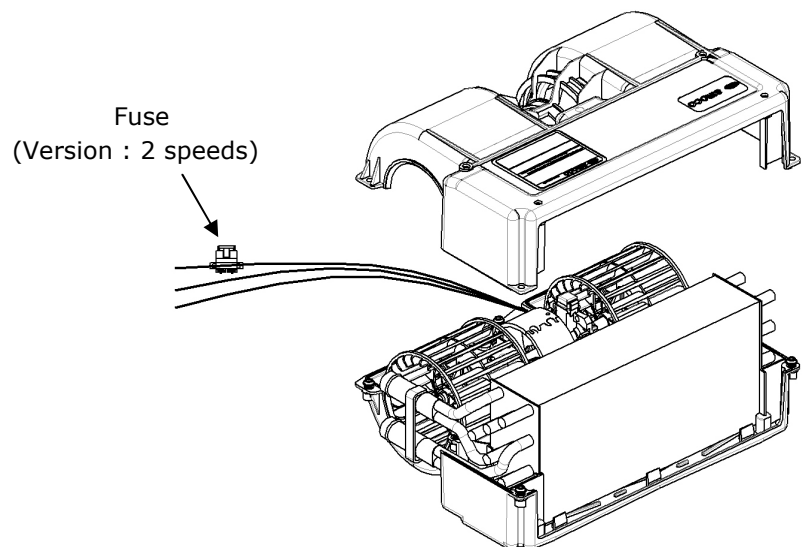
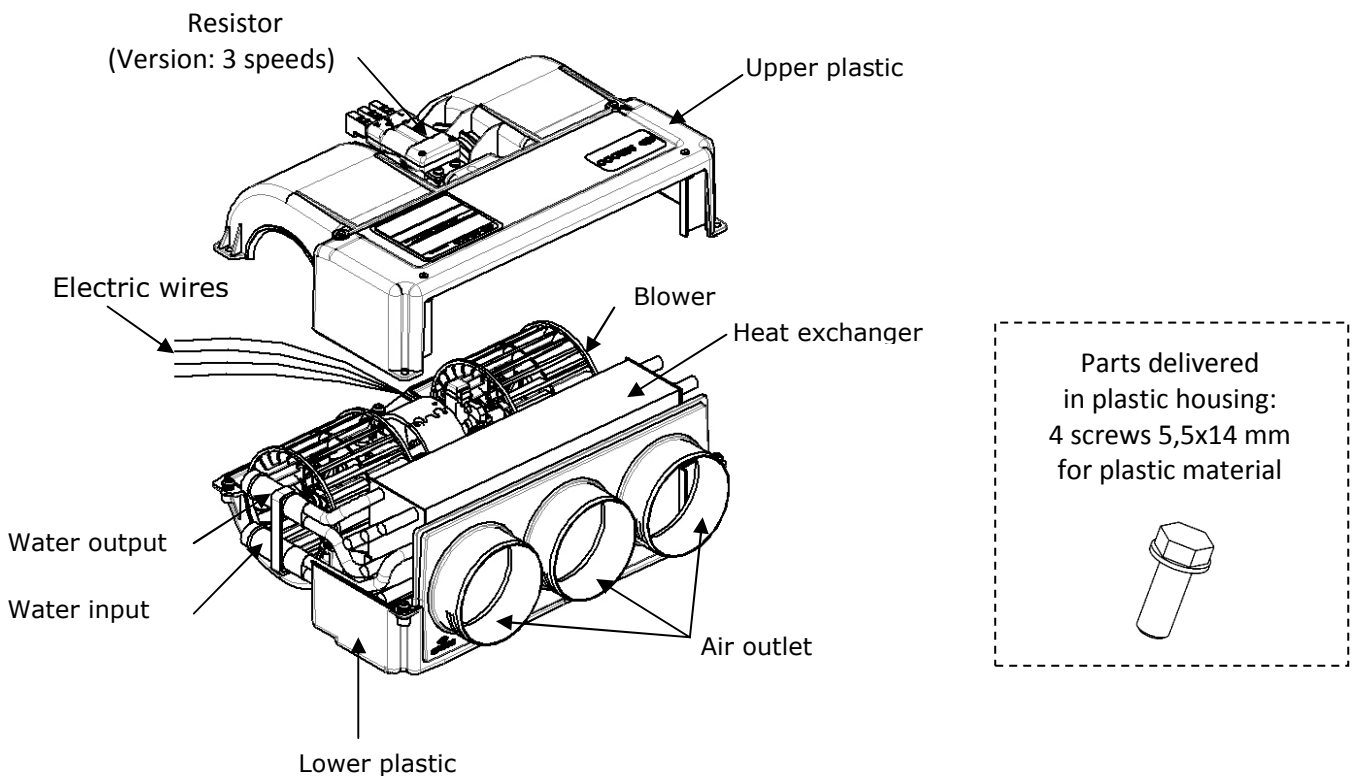
The TENERE PERFORMA is a heater unit integrating into the same case a centrifugal ventilator (motor + wheels) and a heat exchanger. Its plastic parts are made from Polypropylene. The ventilator wheels are driven by an electric DC and permanent magnet motor.

It can operate in 2 or 3 speeds depending on the chosen version: so 3 or 4 electrical wires have to be connected. There is a water input and output, as well as an air inlet on each lateral side and one air outlet on the front. The front panel can receive various accessories depending on the version.

Six fronts with different air outlets: B - 3D - 4D - F - G - S ...

Various versions are available: 2 or 3 speeds ; rated voltage 12V or 24V.

- Connecting copper pipe diameter: Ø12 ; Ø14 or Ø16 mm.





Part numbers, 2 speed version:

Voltage	Ø pipes (mm)	Front panel versions							
		B	4D30	4D40	4D45	4D50	F	G	S
		Reference	Reference	Reference	Reference	Reference	Reference	Reference	Reference
12 V	Ø 14	0160 6000	0160 6430	0160 6440	0160 6446	0160 6450	0160 6704	0160 6604	0160 6200
	Ø 16	0160 6002	0160 6432	0160 6442	0160 6444	0160 6452	0160 6706	0160 6606	0160 6202
24 V	Ø 14	0160 6001	0160 6431	0160 6441	0160 6447	0160 6451	0160 6705	0160 6605	0160 6201
	Ø 16	0160 6003	0160 6433	0160 6443	0160 6445	0160 6453	0160 6707	0160 6607	0160 6203

Voltage	Ø pipes (mm)	Front panel versions						
		3D40	3D45	3D50	3D55	3D60	3D65	3D70
		Reference	Reference	Reference	Reference	Reference	Reference	Reference
12 V	Ø 14	0160 6340	0160 6346	0160 6350	0160 6356	0160 6360	0160 6366	0160 6370
	Ø 16	0160 6342	0160 6344	0160 6352	0160 6354	0160 6362	0160 6364	0160 6372
24 V	Ø 14	0160 6341	0160 6347	0160 6351	0160 6357	0160 6361	0160 6367	0160 6371
	Ø 16	0160 6343	0160 6345	0160 6353	0160 6355	0160 6363	0160 6365	0160 6373

Part numbers, 3 speed version:

Voltage	Ø pipes (mm)	Front panel versions							
		B	4D30	4D40	4D45	4D50	F	G	S
		Reference	Reference	Reference	Reference	Reference	Reference	Reference	Reference
12 V	Ø 14	0160 7000	0160 7430	0160 7440	0160 7446	0160 7450	0160 7704	0160 7604	0160 7200
	Ø 16	0160 7002	0160 7432	0160 7442	0160 7444	0160 7452	0160 7706	0160 7606	0160 7202
24 V	Ø 14	0160 7001	0160 7431	0160 7441	0160 7447	0160 7451	0160 7705	0160 7605	0160 7201
	Ø 16	0160 7003	0160 7433	0160 7443	0160 7445	0160 7453	0160 7707	0160 7607	0160 7203

Voltage	Ø pipes (mm)	Front panel versions						
		3D40	3D45	3D50	3D55	3D60	3D65	3D70
		Reference	Reference	Reference	Reference	Reference	Reference	Reference
12 V	Ø 14	0160 7340	0160 7346	0160 7350	0160 7356	0160 7360	0160 7366	0160 7370
	Ø 16	0160 7342	0160 7344	0160 7352	0160 7354	0160 7362	0160 7364	0160 7372
24 V	Ø 14	0160 7341	0160 7347	0160 7351	0160 7357	0160 7361	0160 7367	0160 7371
	Ø 16	0160 7343	0160 7345	0160 7353	0160 7355	0160 7363	0160 7365	0160 7373

Note : Ø12 and other diameter references on request

2 - Operating principle

The fan blows fresh air through the heat exchanger. Air is warmed up through contact with the heat exchanger.

The outlet front panel evacuates the warm air.

Operating conditions:

The heater has to be in a place presenting a fresh air inlet.

Operating temperature has to be included between -25°C and +80°C.

Cooling fluid has to be antifreeze and anticorrosive for copper and aluminum. Also it has to be officially recognized by vehicle manufacturers.

Technical data:

The values are given for information purposes.

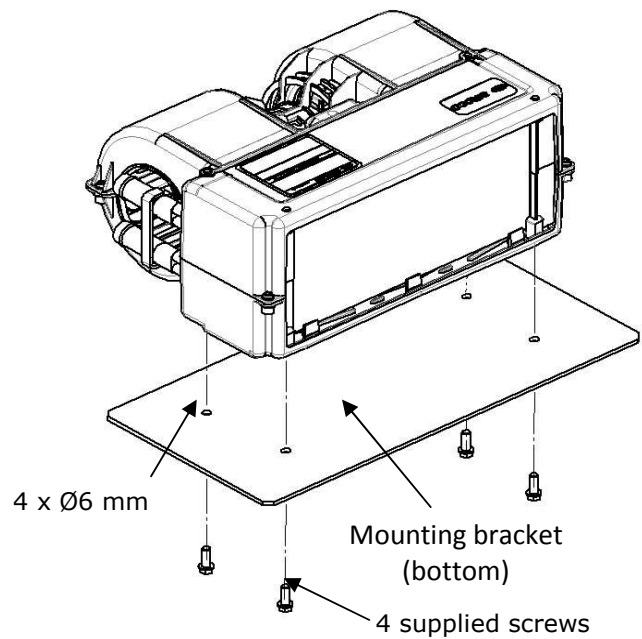
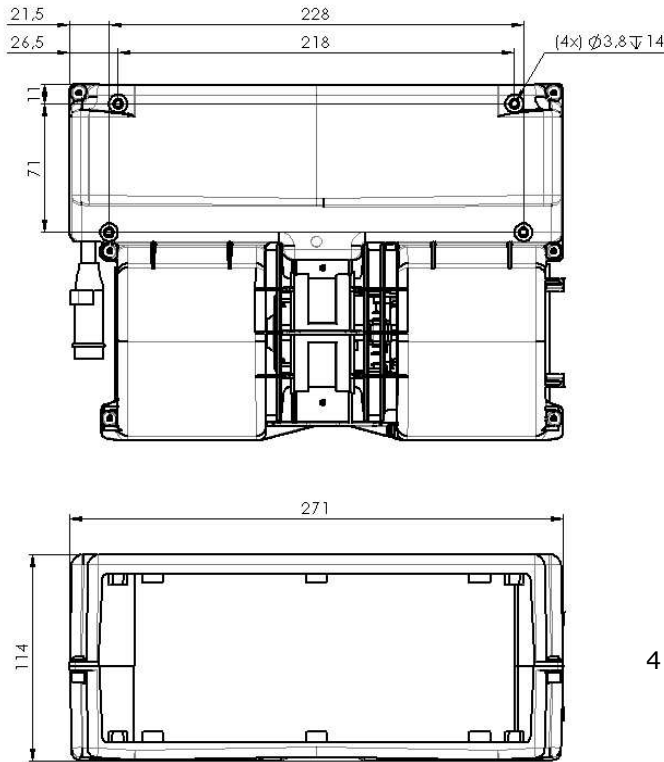
Voltage	Electrical power	Heating capacity
12/24 V	≈ 83,2 W	≈ 6,65 kW

Optimum heating capacity is reached with air inlet temperature of 0°C, nominal air flow of 0,5 m³/h, free ethylene glycol water and water inlet temperature of 100°C.

	Front panel versions					
TENERE PERFORMA	B	3D70	4D50	F	G	S
Weight (2 speeds)	1,9 kg	1,9 kg	1,9 kg	2 kg	2 kg	1,9 kg
Nominal air flow	330 m ³ /h	313 m ³ /h	297 m ³ /h	277 m ³ /h	220 m ³ /h	330 m ³ /h

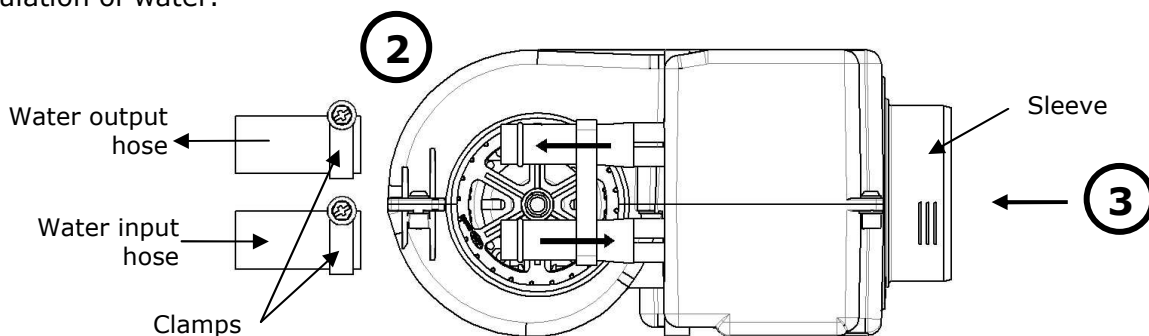
**3 – Mounting recommendations**

- 1** Fix the heater to the bracket by top or by bottom using 4 supplied screws (for plastic material 5,5x14 mm). The recommended tightening torque is 3Nm. Thickness of the mounting bracket: 3mm Max.



Don't drill the heater carcass in order not to damage the internal components!

- 2** Connect water input and output using cooling hoses with corresponding diameter (cf. product part number §1). Use suitable clamps. Respect the preferential direction of circulation of water.



It's recommended to use water hose adapted to the application, see Siroco references :

Ø internal, of the water hose	Part number
Ø 12	0410 0212
Ø 14	0410 0214
Ø 16	0410 0215

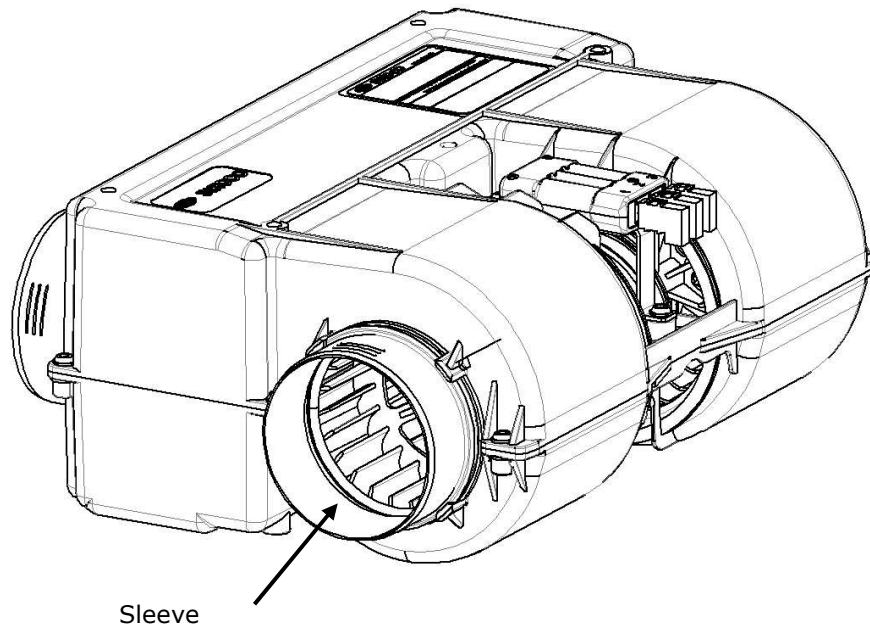
Test the waterproofness of the circuit to prevent water leaks.



- 3** About 3D, 4D versions put the air hose on the sleeves. Make sure to use the suitable clamps to insure the airtightness of the system.

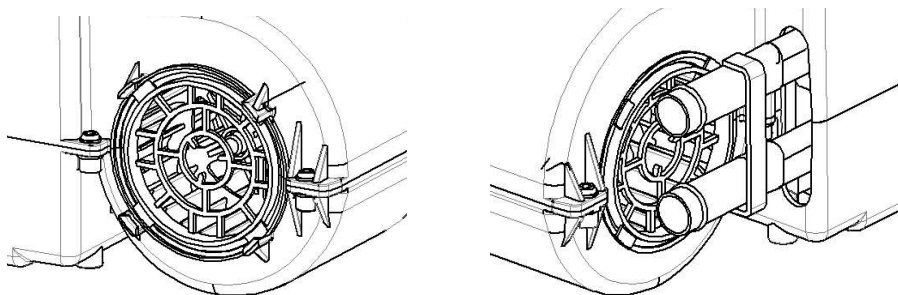
Test the airtightness of the circuit to prevent air leaks.

- 3a Option :**
Possibility to connect a $\varnothing 70$ mm air sleeve on one air inlet : air recycling or fresh air.



Make sure to use the suitable clamps to insure the airtightness of the system.
Test the airtightness of the circuit to prevent air leaks.

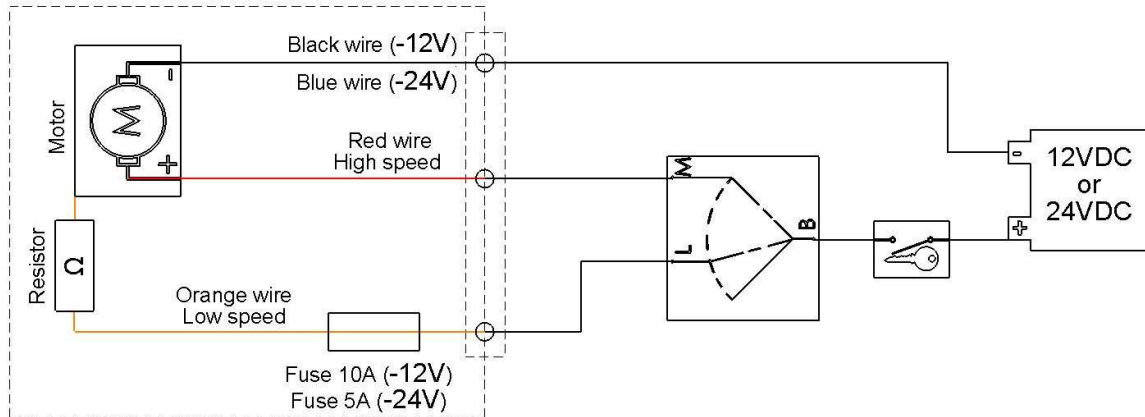
- 3b Option :**
Possibility to connect an air inlet grid for better protection: class of protection IP20



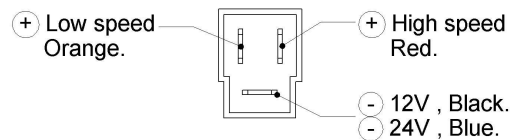


4 Plug the connector respecting the circuit diagram. Use electric wires with at least 1,5 mm² cross-section.

2 speeds :

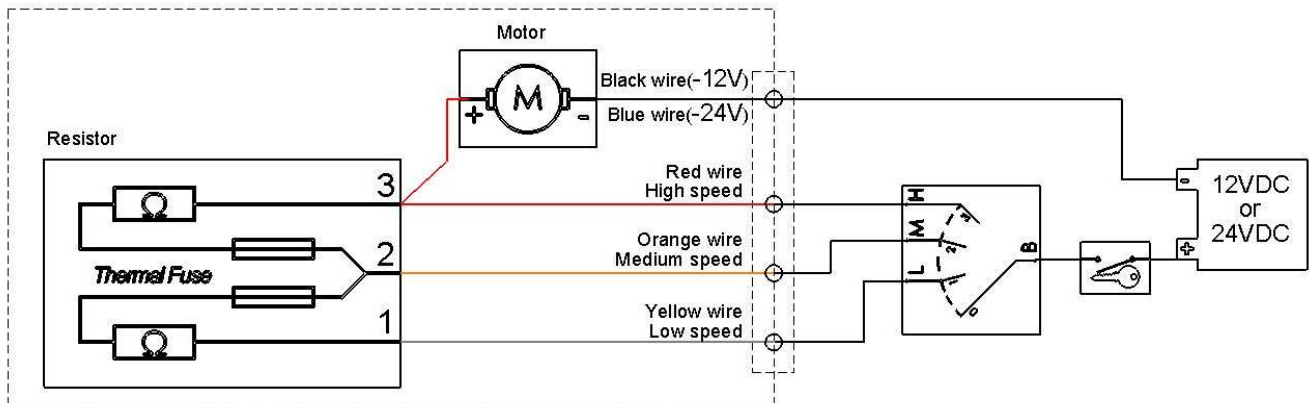


Connector detail, tabs side view

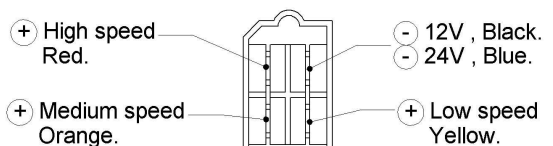


Insulation housing + Tabs, type Fastin-Faston 6,3

3 speeds :



Connector detail, tabs side view



Insulation housing + Tabs, type Fastin-Faston 6,3



4 - Troubleshooting

Defect	Possible cause	Action
The blower does not work.	Defective fuse.	Ensure that the fuse is correctly installed and has the correct rating. Replace it if necessary. Always identify the cause before replacing the defective fuse.
	No power.	Switch On and/or connect the device to the battery. Make sure that electrical connections between the battery and the device are continuous. Read the vehicle operating instructions for more information.
	Electric cables are damaged or torn.	Contact your distributor.
	Blower is blocked.	Rectify cause of blockage, for example, remove an object immobilized in wheels. Otherwise contact your distributor.
	The blower motor is defective.	Contact your distributor.
Ventilation's low and middle speeds don't work.	The resistance group is defective.	Contact your distributor.
The device can't be stopped.	Internal short circuit in the device.	Unplug the device (first of all switch off battery power supply) and contact your distributor.
The heater works only at reduced power.	The voltage isn't suitable.	The voltage of the device and of the vehicle must be the same. Order a device adapted to the on-board voltage of the vehicle.
	The air outlet is closed or plugged.	Open the air vents or clear air outlet.
	The radiator is severely soiled	Contact your distributor.
Air is not warmed	Cooling water still cold	Wait until the engine reaches operating temperature
	Water hoses are twisted or crushed	Replace the water hoses if they are twisted or crushed.
Heating power is insufficient.	The blown airflow is too low.	Refer to the blower's defects.
	Air in heat exchanger	Bleed the circuit.
	The heater is under sized.	Replace the device by a more powerful one. Contact your distributor.



The warranty doesn't cover the products which have been disassembled!



5 - Safety instructions

Please comply with the following instructions for your own safety:

- The product must be installed by a professional.
- The product must operate in a well-ventilated place.
- The product must operate in an environment protected against liquid splashes (water...).
- The product must be used only for the purposes for which it has been designed. Product mustn't be used in improper environment. Please, refer to general sale conditions.
- Before using the product, please make sure that laws and regulations are strictly respected according to the country of use.



For safety reasons (fire hazard), the power supply of the product has to be protected by a specifically dedicated fuse.

- The fuse characteristic is given only as an indication, please verify the specific fuse required for each application.
- Switch off electric power supply before working on the product.
- Be careful, while servicing the device or its connections, the radiator and the coolant can be hot and under pressure.
- Before any intervention, wait for the complete cooling of the device and its connections. Make sure that it is no longer under pressure. Use suitable I.P.E. (Individual protection equipments) such as gloves.
- Do not touch the heat exchanger and its connections when hot water flows through the heat exchanger.
- Do not introduce any object into the blower and the heater carcass.
- Do not place any object that may obstruct air inlets or air outlets.