COOL4U AUTOMOTIVE
MINDEN, AMI JÁRMŰKLÍMA

SW CUBE 12V

indelB

instructions for use

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1.0 - GENERAL INFORMATION AND WARNINGS

⚠	**Carefully read this manual before operating the device.** **Prior to initiating operation it is important to carefully follow the instructions contained in this manual.** **The manufacturer declines all responsibility in case of damage or injury to objects or people caused by operation or variations which are not compliant with the device.**
	Installing and using *"CUBE"* can be performed by anyone who has minimum DIY skill; however, when in doubt, please contact the INDEL B assistance staff or an authorised workshop.
⚠	**Every time *"CUBE"* is moved from one vehicle to another, pay attention to the power supply and to electrical absorption. Pay attention to the section addressing technical features.**
	Use ***"CUBE"*** exclusively for the use intended by the manufacturer and do not perform modifications or changes to the device. INDEL-B will **not** acknowledge warranty on devices which have been changed or modified.
⚠	The device is not designed to operate in potentially explosive environments.
⚠	The device is not designed to operate in saline environments.
	Indications referring to **RIGHT** and **LEFT**, are relative to the vehicle's driver looking towards the direction of motions.
⚠	**BEFORE PERFORMING ANY INSTALLATION OR MAINTENANCE OPERATIONS ON *"CUBE"* , DISCONNECT ALL CONNECTIONS TO THE VEHICLE'S BATTERY AND TO ALL OTHER POWER SOURCES.**
⚠	If the electrical cables have to go through bulkheads with sharp corners, use protective sheaths or piping.
⚠	Firmly secure the electrical cables paying close attention to their path along metal bulkheads able to conduct electricity; furthermore, avoid contact with sharp edges.
⚠	Connect ***"CUBE"*** to the vehicle's power supply protecting the system by using a fuse.
⚠	**Do not insert hands in the ventilation vents and do not place any foreign object into the device.**
⚠	***"CUBE"* weighs 19.5 kg. Take all necessary precautions during handling, installation or use in order to avoid falls, damage or injury.**
⚠	**When the vehicle is moving *"CUBE"* must be secure:** by means of the anchoring system with vehicle's seat belt (if placed on the seat), with the supplied belt or in any other safe manner is placed in other positions.
⚠	**When *"CUBE"* is placed on a seat it must necessarily be secured (also when the vehicle is not moving:** by means of the anchoring system with vehicle's seat belt (if placed on the seat), with the supplied belt or in any other safe manner.
⚠	**When the cabin is overturned *"CUBE"* must necessarily be secured:** by means of the anchoring system with vehicle's seat belt (if placed on the seat), with the supplied belt or in any other safe manner is placed in other positions.
⚠	**When the vehicle is being washed, remove the components of *"CUBE"* secured to the window, to the trap door or in other positions which might allow large amounts of water to enter.**
	Dispose of packaging material as required by standing regulations, separating them for recycling.
	Replacement parts can be ordered at the INDEL-B assistance service.

2.0 - GENERAL DESCRIPTION

"CUBE" is the first parking air conditioner able to **be installed by anyone** and **moved** from one vehicle to another without requiring the intervention of a specialised technician; its DIY nature makes it flexible and cheap.

Under all aspects ***"CUBE"*** is an **air conditioner** and so the ideal companion for any trip and especially for any stop; its features make the day or night rest shift more satisfying and regenerative, thus rendering travel activities safer.

"CUBE" can be used when the vehicle is idle (its ideal use) but also when the vehicle is under way, in order to contribute to the workload of the vehicle's in-built air conditioner.

Besides cooling during hot days ***"CUBE"*** can also warm the air when temperatures become low in the cabin and it is necessary to increase the heat.

Installing ***"CUBE"*** is a relatively simple and non-invasive procedure for the cabin so that the vehicle's appearance is not compromised and the use of the trap door is not lost.

"CUBE" is supplied pre-loaded with **R134a** refrigerant, so it is environment-friendly as well.

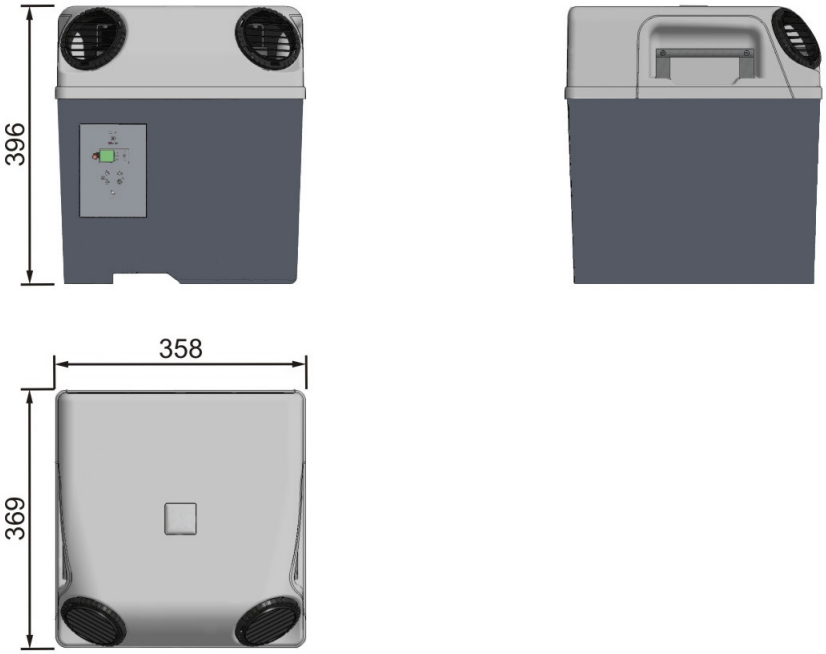
"CUBE" can be placed anywhere according to the driver's requirements, preferably on the passenger's seat (where it can be secured with the seat belt), but it can also be placed in the passenger's foot well, on the central tunnel, on the cot, …

This is *"CUBE"*!

3.0 - SUPPLIED COMPONENTS

	DESCRIPTION	Q.TY	REF.	IMAGE
	Parking air conditioner ***"CUBE"***	1	**A**	
	Flexible tubing	4	**B**	
	Entrance nozzle	8	**C**	
	Entrance nozzle lid	1	**D**	
	Snorkel	1	**E**	
	Window gasket	1	**F**	
	Power wiring	1	**G**	 **G.1** **G.2**
	Remote control	1	**H**	
	1.5 V battery (AAA)	2	**I**	
	Sling	1	**L**	
	Manual	1	**M**	

4.0 - DIMENSIONS



5.0 - TECHNICAL FEATURES

PATENT DEPOSITED

Cold / hot function	**yes**
Cooling power	**950 W (3250 BTU/h)**
Heating power	**300 W**
Power	**12 V cc**
Maximum electrical absorption	**44 amp/hour***
Air flow	**450 m^3/h**
Refrigerant	**R134a**
Quantity of refrigerant	**220 g**
CO2 equivalent	**0,315 t**
Weight	**19,5 kg**
Ventilation speeds	**6 when cooling**
Compressor	**Secop BD350GH**
Battery saver	**yes**
Remote control	**yes**
Timer	**yes**

(*) Above figures taken with ambient temperature at 32°C/89,6 °F and internal temperature of 25°C/77°F

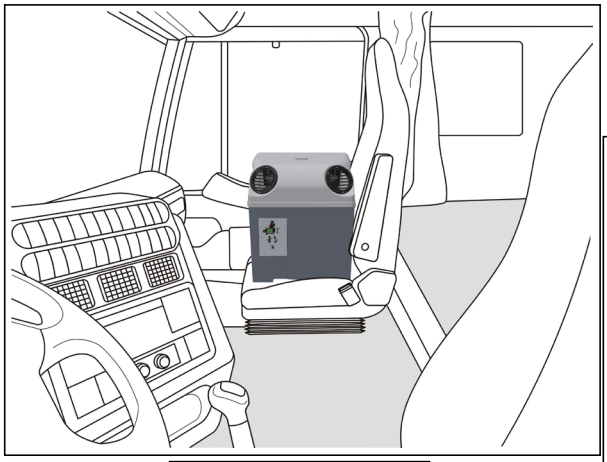
6.0 - OPERATION

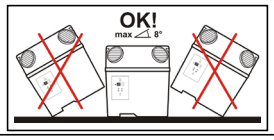
6.1 - POSSIBLE POSITIONS ON VEHICLE

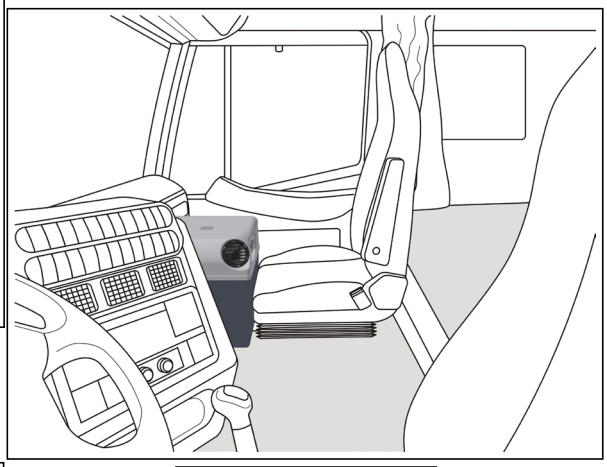
"CUBE" can be placed wherever it is most required, preferably on the passenger's seat (where it can be secured with the seat belt), but it can also be placed in the passenger's foot well, on the central tunnel, on the cot, …

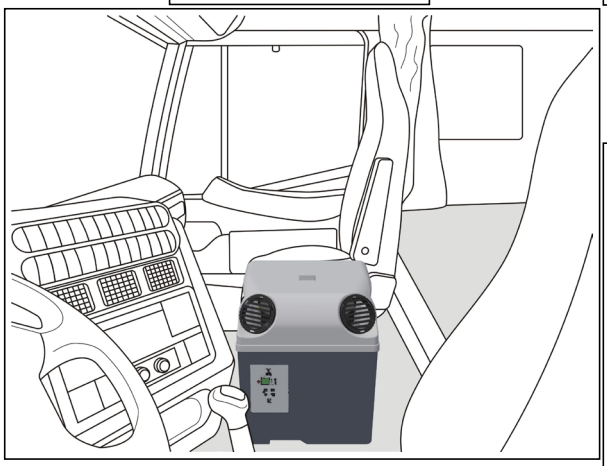
WARNING: it is necessary for it to be placed horizontally (max 8°) and that it is not overturned.

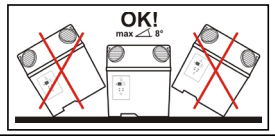
Here are a few examples …

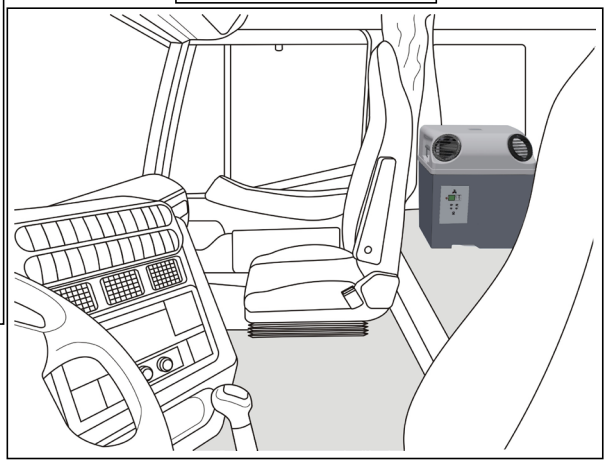












6.2 - SECURING TO SEAT

WARNING: while driving it is **necessary to secure *"CUBE"*** in a stable and safe manner in order to avoid accidental falls and damage to people and things.

If ***"CUBE"*** is placed on the passenger's seat there is a method to secure it by using the vehicle's seat belt.

WARNING: if placed on the seat **it is necessary to secure *"CUBE"*** in a stable and secure manner even if the vehicle is idle

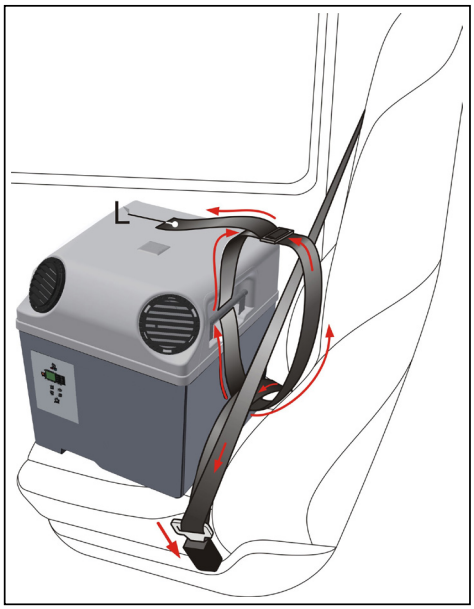
If ***"CUBE"*** is placed in another location, you can use the supplied sling to secure it in the best possible manner.

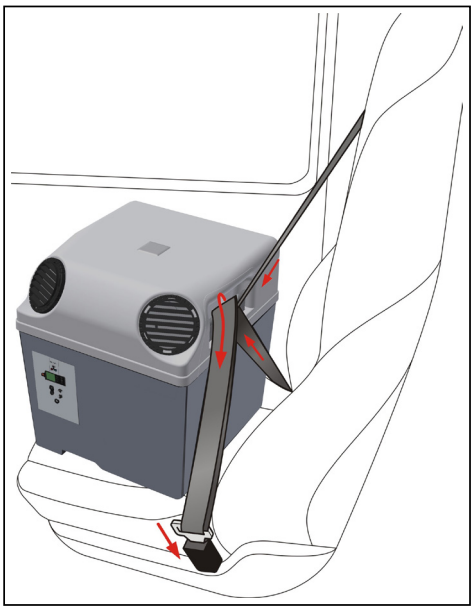
Securing by means of the vehicle's seat belt

1 Place ***"CUBE"*** on the seat (with the exit nozzles set towards the driver).

Solution 1

2 Thread the vehicle's seat belt through ***"CUBE"***'s handle near the seat's backrest: insert it from below, wrap it around the handle and fasten the buckle.





Solution 2

2 In case the buckle cannot be threaded through the handle, employ the following procedure: fasten the seat belt; now thread the supplied sling **(L)** through ***"CUBE"***'s handle, through the seat belt's horizontal and oblique straps and close the ring with the sling's buckle; tighten as much as possible in order to have a secure hold.

6.3 - ELECTRICAL CONNECTIONS

⚠ ***"CUBE"***'s electrical connection is relatively simple; however, when in doubt, please contact the INDEL-B assistance staff or an authorised workshop.

There are three methods for performing the power connections:

- through the utility power outlet, usually used for the coffee machine, kettles, etc (normally an option for the vehicle); if it is present, **make sure that the power is suitable for absorption and, in any case >45A**.

- through power and grounding points which in most vehicles are located in the cabin (normally behind the dashboard on the passenger's side in the relay and fuse section); this solution allows to always be able to use ***"CUBE"***'s power source.

- directly to the vehicle's battery; the advantages of this solutions lie in the fact that it is not necessary to disassemble any component inside the cabin, but there will be an extension lead which will have to feed ***"CUBE"*** in the cabin.

⚠ In case ***"CUBE"*** must be moved from one vehicle to another it is possible, regarding the electrical connections, to use a bridle **(G.1)** so as to not have to remove the one connected to the first vehicle. For this purpose, contact INDEL-B.

Method for connection **to the utility power outlet:**

⚠ **WARNING:** if there is a power outlet, **make sure that the power is suitable for absorption and, in any case >45A**.

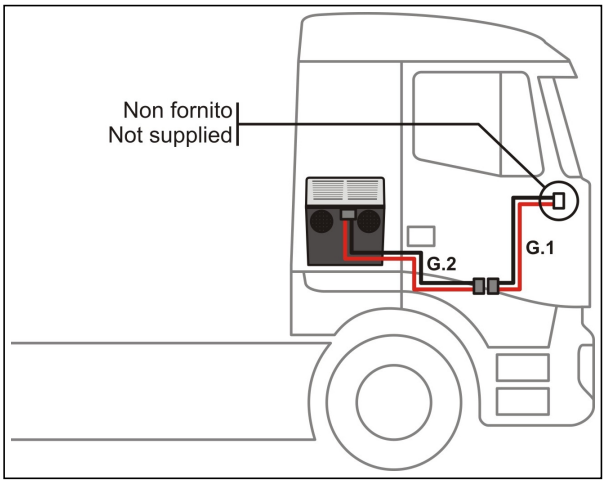
The outlet's counterpart is **not** supplied with ***"CUBE"*** (refer to the vehicle manufacturer's assistance service).

1 Cut and remove the eyelets at the tips of the bridle's red and black wires **(G.1)**.

2 Connect the purchased counterpart to the bridle's red and black wires **(G.1)** in place of the removed eyelets.

2 Connect the bridle's **(G.1)** counterpart to the power outlet.

4 Connect the power lead **(G.2)** to the bridle **(G.1)** and to ***"CUBE"***.

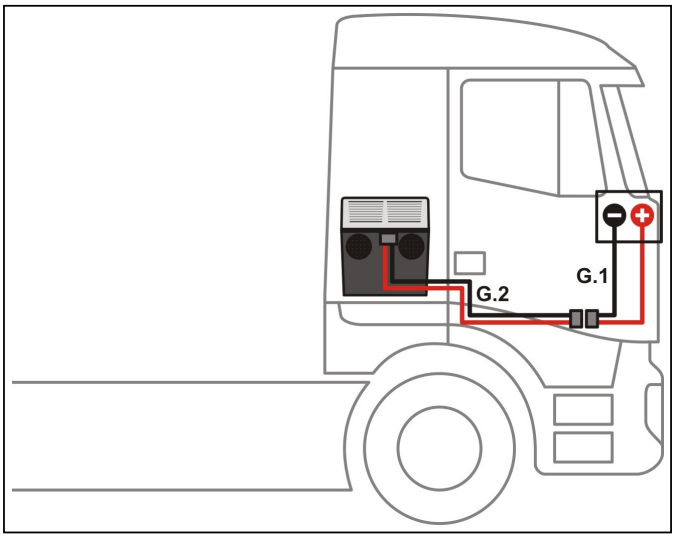


SW CUBE 12V

Method for connection to the **power and grounding points:**

Normally the vehicles have one or more points in which the 12V power is fed directly from the battery; these points are normally used to connect utilities, so that the battery doesn't have to be directly accessed.

They are normally located normally behind the dashboard on the passenger's side in the relay and fuse section and can be readily recognised from the large cables they use.



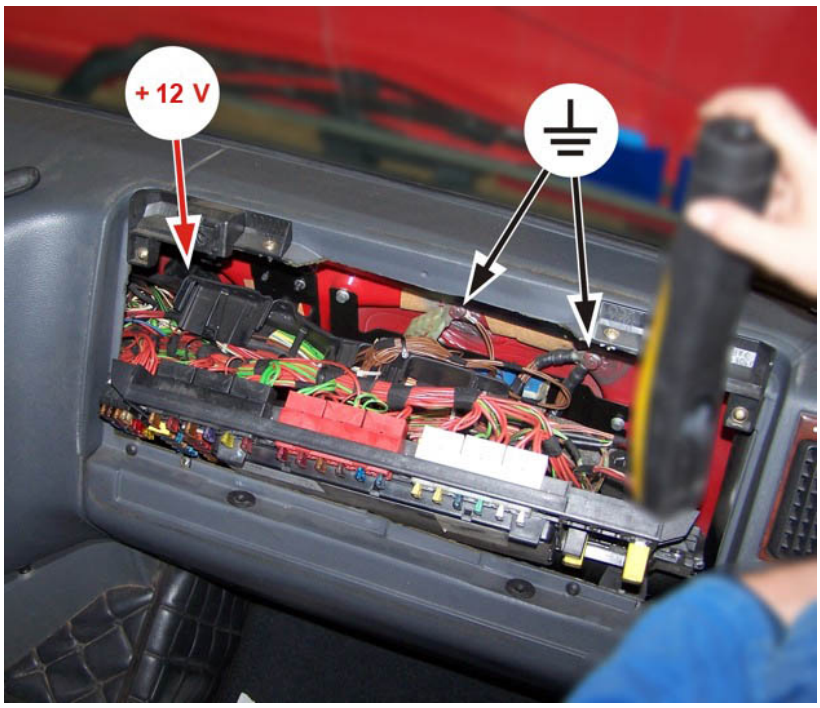
1 Identify the **positive terminal + (red cable)** and the **mass - (black cable)**.

2 Connect the bridle's **(G.1)** power wiring eyelets to the relative terminals **(red wire + / black wire -)**.

3 Slide the bridle **(G.1)** for example behind the dashboard, under the carpet and leave it there.

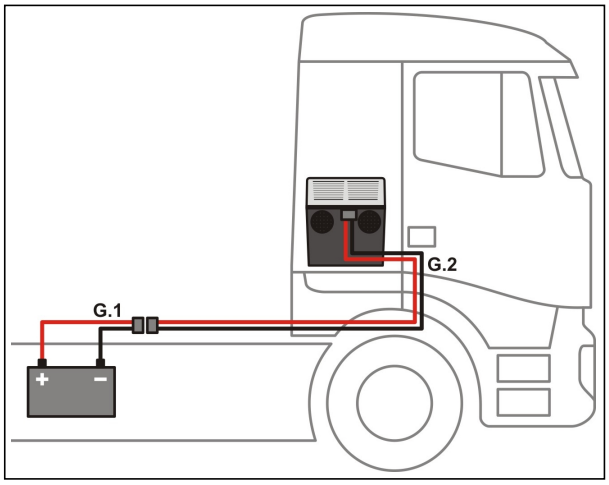
By leaving the bridle permanently connected, you can now have ***"CUBE"***'s power supply at your disposal.

4 Connect the power lead **(G.2)** the bridle **(G.1)** and ***"CUBE"***.



Method for connection **directly to the vehicle's battery:**

1	Identify the battery's **positive terminal +** and **negative terminal**.
2	Connect the bridle's **(G.1)** power wiring eyelets to the relative terminals **(red wire + / black wire -)**. It is advisable to leave the bridle **(G.1)** permanently connected to the battery.
3	If necessary connect the power lead **(G.2)** to the bridle **(G.1)** and to ***"CUBE"***. The user is free to choose the lead's placement **(G.2)** according to his requirements.



6.4 - TUBING

For operation, it is necessary to connect the tubing between ***"CUBE"*** and its various components.

"CUBE"s flexible tubing **(B)** can extend and collapse in order to better suit the user's needs; this allows to place ***"CUBE"*** in the most suitable position.

In placing the tubing it is, however, useful to follow a few simple suggestions in order to obtain the best performance.

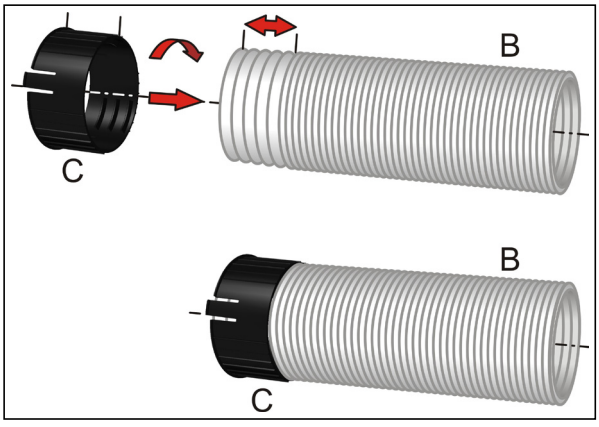
The tubing can be extended or shortened by simply polling them from the ends with your hands; they can also be curved so as to achieve the best path.

In order to secure the tubing to ***"CUBE"*** and to its other components (for example to the snorkel) it is necessary to place the entrance nozzles **(C)** to the ends:

- extend the tubing tip for a length equal to the height of the entrance nozzle;

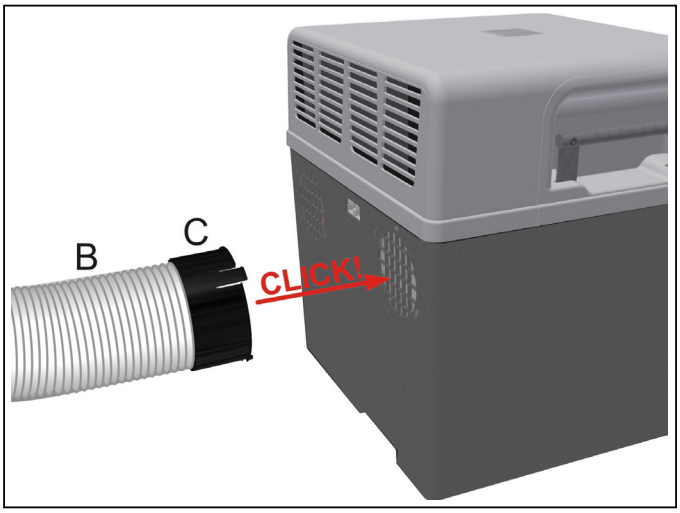
- fit the entrance nozzle to the tubing tip rotating it counter-clockwise (as if you were screwing it on);

- stop when the tubing tip reaches the nozzle's edge.



In order to connect the flexible tubing **(B)** of ***"CUBE"*** it is sufficient to click the nozzles' winglets **(C)** into the grooves of the various components.

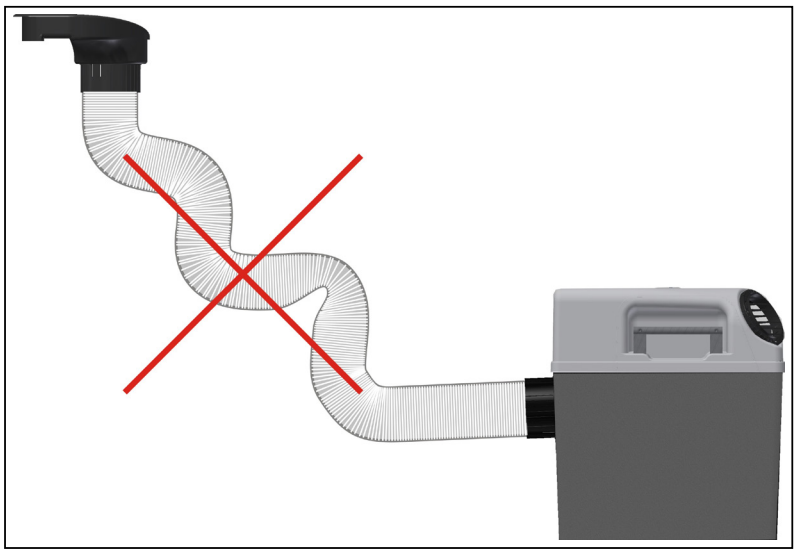
In order to disconnect the tubing, press down on the nozzles' winglets **(C)** and pull back at the same time.



When choosing the path of the tubing it is important to choose the shortest one: in general it is preferable for the tubing to be **short** rather than long.

Also, the number of curves should be the smallest possible and the curving radii should be large: it is preferable to have **few and large curves** rather than many and tight curves; the air passage is eased in this manner.

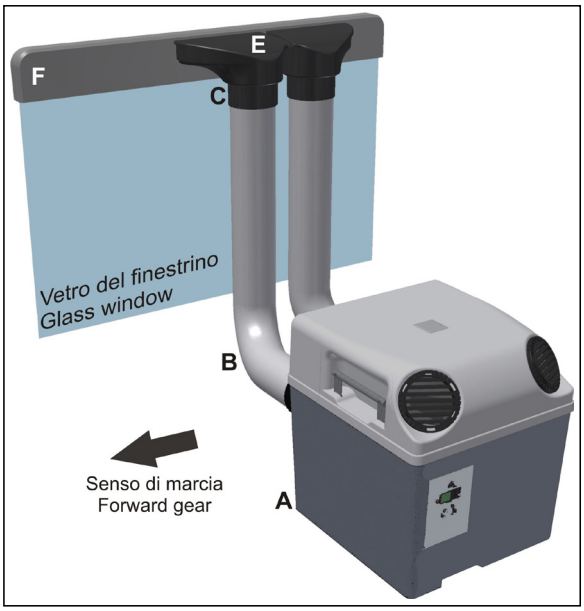
Pay attention so as to not create any **creases or crimped areas**.



6.5 - GASKETS ON WINDOW

In order for ***"CUBE"*** to operate, it is necessary to connect the flexible tubing **(B)**; these should be secured in the back of ***"CUBE"*** and taken to the side window for air Exchange, where they will be secured with a snorkel **(E)** and a gasket **(F)**.

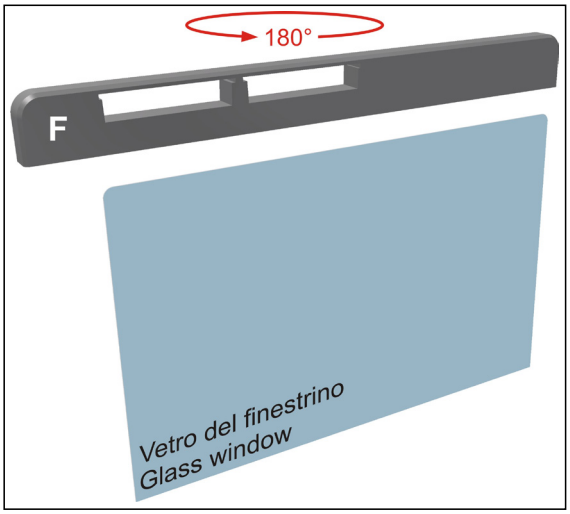
The solution with the tubing secured to the window is standard, but you could also opt for alternative solutions (for example by directing the tubing to the cabin's trap door).

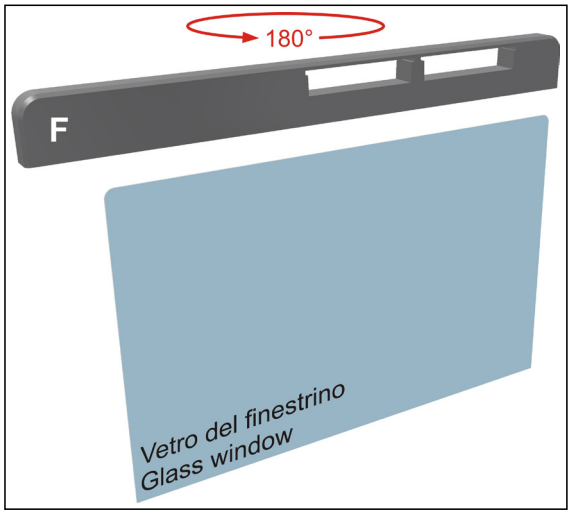


WARNING: **when driving** it is necessary that **visibility of the rear-view mirrors and through the side windows is NOT compromised**. To this end, endeavour to place tubing, snorkel and gaskets in the least obtrusive manner possible; if visibility is compromised **reposition** ***"CUBE"*** and its relative components in a more suitable place.

The gasket **(F)** must be secured to the window; it has two openings for the snorkel **(E)** to which the tubing will be connected **(B)** by means of the nozzles **(C)**.

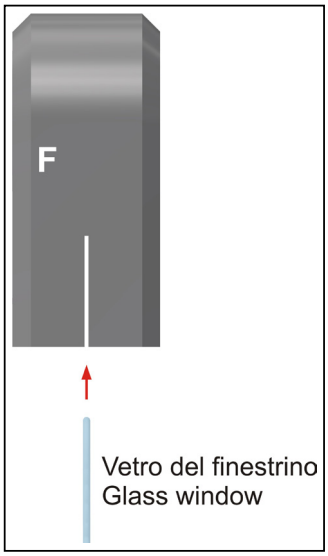
The gasket's two openings are positioned asymmetrically so that (by rotating the gasket 180°) it is possible to position the snorkel (and the tubing) a little forward or a little backwards with respect to the direction of motion.





SW CUBE 12V

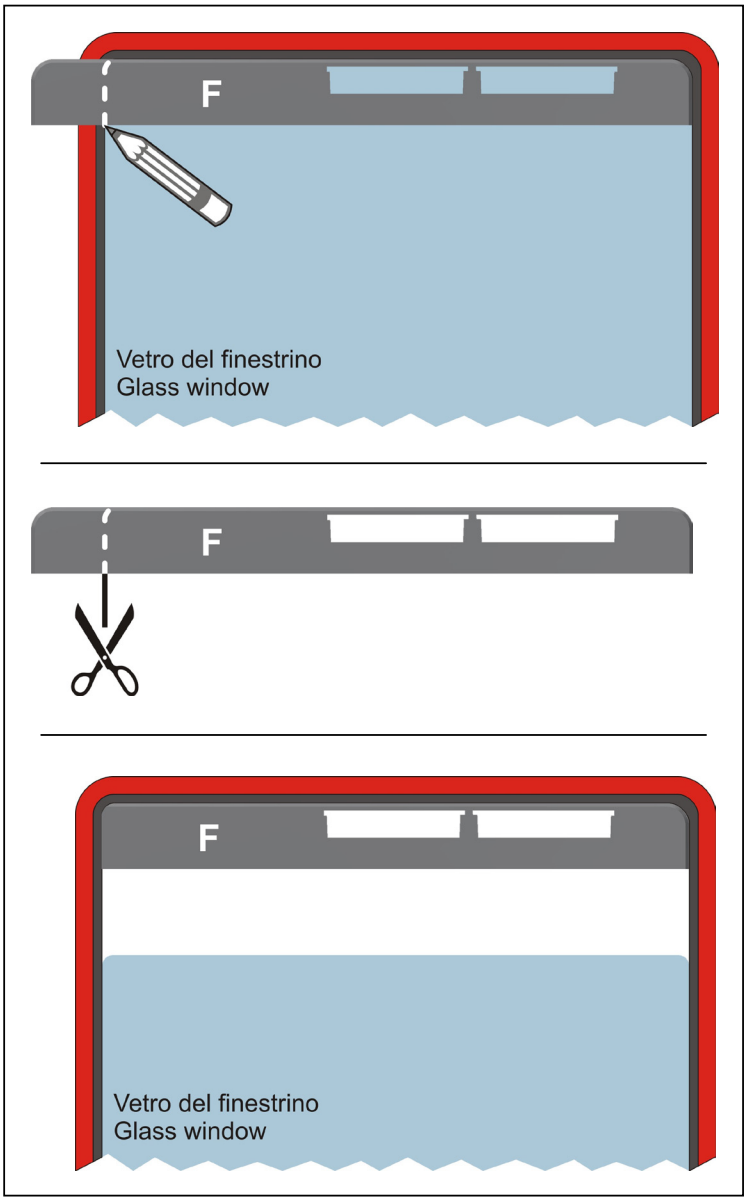
The bottom part of the gasket **(F)** is equipped with a groove along its entire length; this should be locked with the top part of the window glass.



1

Place the gasket **(F)** against the top part of the window glass (taking into account what was mentioned previously), note and cut following the profile of the window itself.

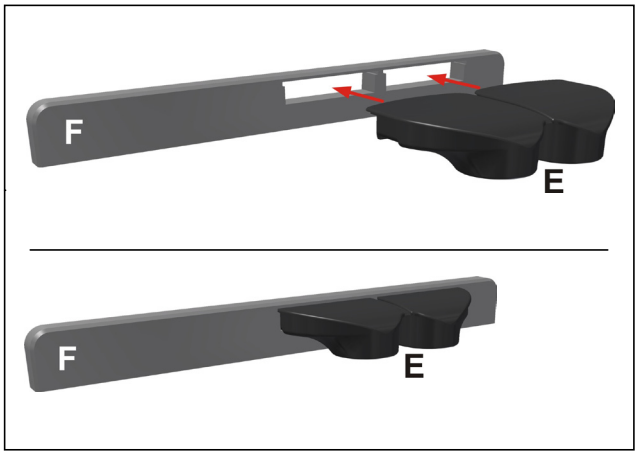
It is advisable to keep the cut parts for possible future uses (for example on another vehicle). It is possible to glue the parts together with suitable glue.



⚠

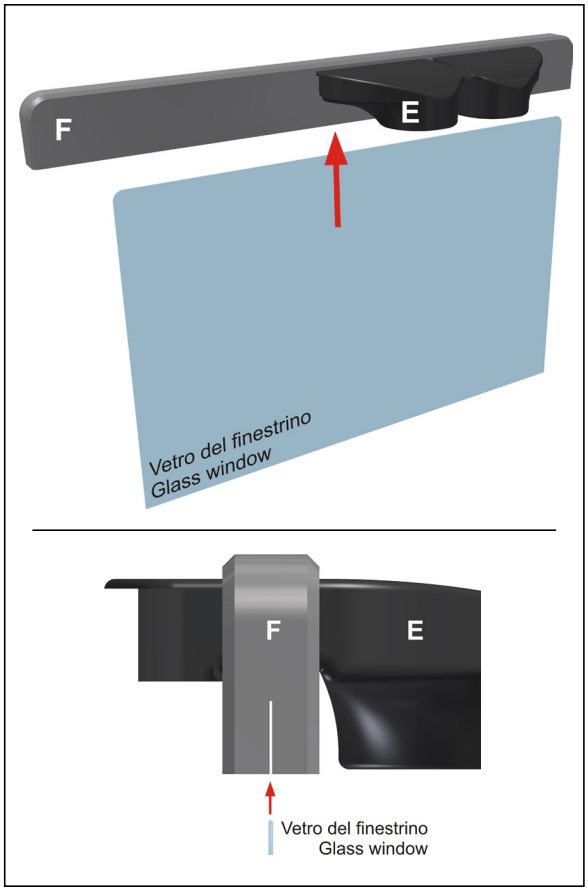
In case ***"CUBE"*** must be moved from one vehicle to another (in case the second vehicle is a different model than the first one) it may be necessary to acquire a new gasket **(F)** to adjust to the profile of the new window. For this, please contact INDEL-B.

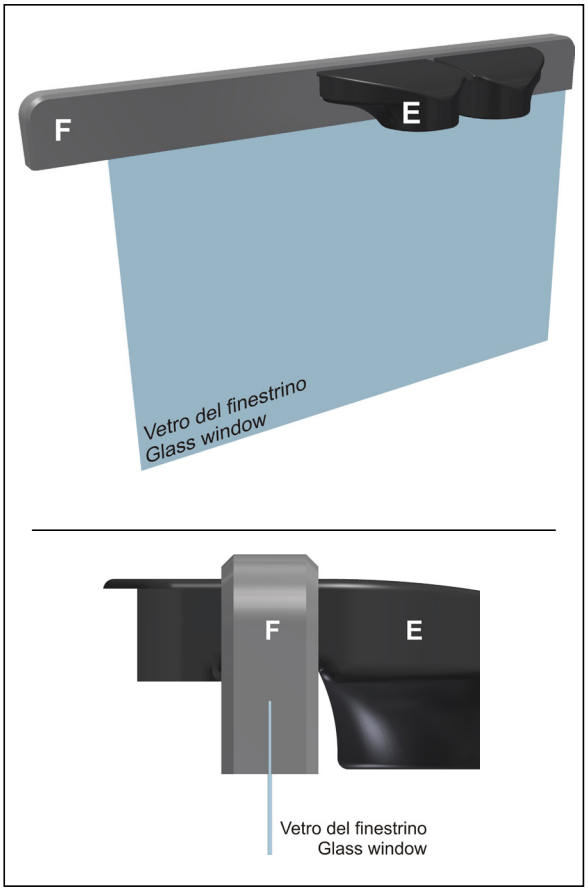
2	Place the snorkel **(E)** on the gasket **(F)** inserting the diffuser nozzle in the gaskets openings.



3	Lower the window glass by about 20 and place gasket **(F)** with snorkel **(E)** on it, placing the glass in the gasket's groove.

4	Lift the window glass until the gasket **(F)** is flush with the window's original gasket.





6.6 - METHOD OF OPERATION (COLD OR HOT)

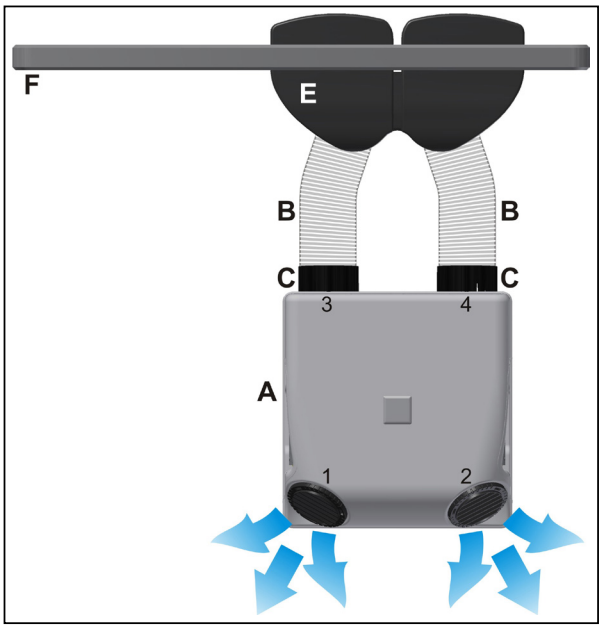
"CUBE" can function in two modes: **COLD** or **HOT**.

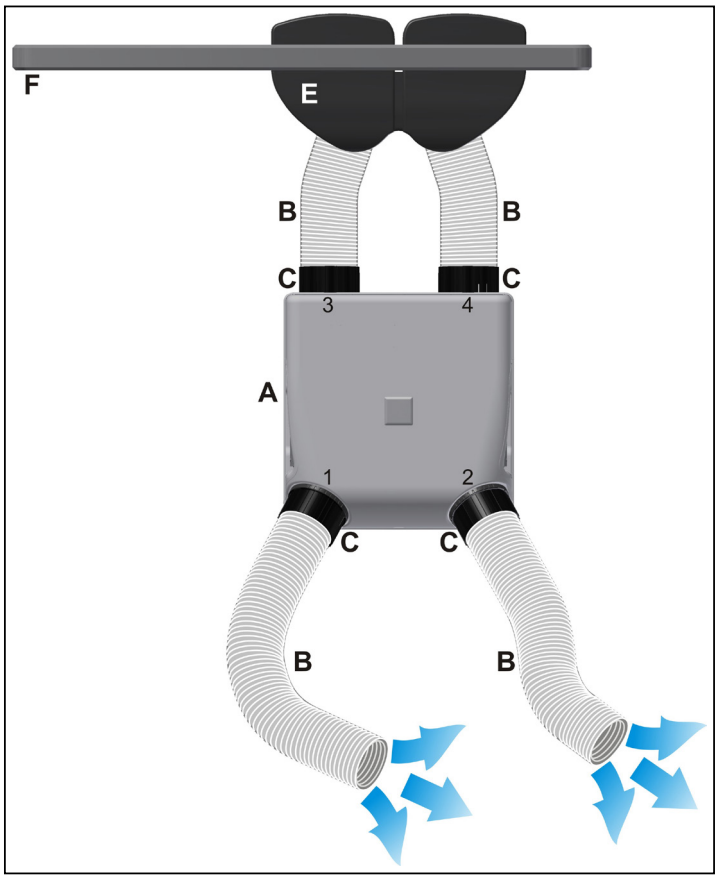
Based the chosen function mode, the tubing must be connected accordingly.

WARNING: it is necessary that all intake and output nozzle of ***"CUBE"*** are maintained free of debris or obstructions; place ***"CUBE"*** where there is enough space around, and not, for example, next to curtains; do not place clothes, rags or any other object which may obstruct the airflow.

COLD MODE: connect the two flexible pieces of tubing **(B)** between ***"CUBE"*** **(openings 3 and 4)** and the snorkel **(E)** by means of the nozzles **(C)** located at the tips of the tubing. **Cool air will exit from openings 1 and 2.**

If you wish to ventilate air remotely, connect the other (1 or 2) supplied pieces of tubing **(B)**, securing them to the air nozzles **(1 and 2)**.

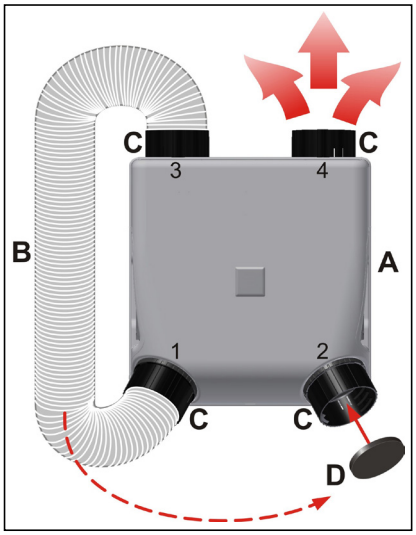


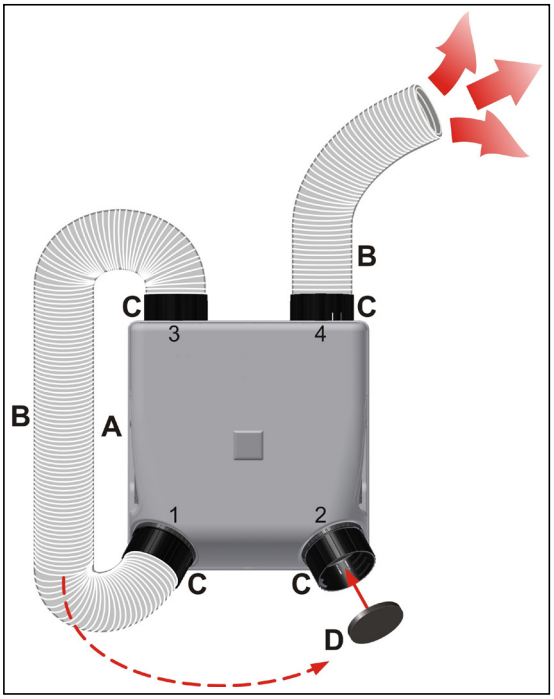


HOT MODE: connect 1 piece of flexible tubing **(B)** between one air output nozzle **(1 or 2)** and opening **3**; the **unused** air output nozzle **(1 or 2)** must be sealed with the supplied lid **(D)** placed in the opening **(C)**. **Warm air will exit from opening 4.**

This mode does not use the snorkel **(E)**.

If you wish to ventilate air remotely, connect another supplied piece of tubing **(B)**, securing it to opening **4**.





7.0 - FUNCTION

Function modes of ***"CUBE"*** can be manually managed from the command panel or remotely by using the remote control.

The remote control manages all main functions, but setting adjustments can be performed only through the control panel.

WARNING: changing the standard settings must be carried out only by qualified personnel. Any change performed without the proper skills may cause damage to ***"CUBE"*** and/or to the vehicle.

7.1 - MAIN FUNCTIONS

<table>
<tr><td rowspan="2">ON – OFF</td><td colspan="2">- A rapid pressure on the button turns “CUBE” on and off.
When the device is on, the display always shows the last set temperature.</td></tr>
<tr><td colspan="2">- A pressure lasting > 1 second toggles between COLD MODE and HOT MODE. The relative icon lights up.
After shut down, when “CUBE” is turned on, the last setting is maintained.
Passage from COLD MODE to HOT MODE and back again is not managed automatically.</td></tr>
<tr><td rowspan="5">MODE</td><td colspan="2">- Every time the button is touched, it cycles between the following modes: MIN, AUTO and MAX. The relative icon lights up.</td></tr>
<tr><td>MIN</td><td>This corresponds the lowest power setting of “CUBE” (lowest performance and lowest compressor speed – the timer is set for a continued function of 6 hours, after which “CUBE” deactivates itself automatically). (The timer can be modified with the P0 parameter- see the “change settings” section).</td></tr>
<tr><td>MAX</td><td>This corresponds to the highest power setting of “CUBE” (highest performance and highest compressor speed - the timer is set for a continued function of 4 hours, after which “CUBE” deactivates itself automatically). (The timer can be modified with the P1 parameter- see the “change settings” section).</td></tr>
<tr><td>AUTO</td><td>The management is automatic (performance and compressor speed are managed automatically based on the temperature required by the user and on the current temperature - the timer is set for a continued function of 6 hours, after which “CUBE” deactivates itself automatically). (The timer can be modified with the P0 parameter- see the “change settings” section).
When in AUTO mode you press one of the VENTILATION buttons, you will pass into MAN mode.</td></tr>
<tr><td colspan="2">- When the device is off, if you press the MODE button, you will activate the DEFERRED ACTIVATION mode and the relative icon will light up: “CUBE” will turn itself on automatically after a certain number of hours have elapsed, shown on the display; the number of hours can be se between 1 and 99 by using the TEMPERATURE (+ / -) buttons.</td></tr>
<tr><td>VENTILATION</td><td colspan="2">- Each pressure (+ / -) corresponds to the increase or decrease of the ventilation speed: you can choose between 6 different levels of ventilation. The display will show the selected level.
- When the device is off, if you press the (+ / -) button, you will activate only the ventilation.</td></tr>
<tr><td>TEMPERATURE</td><td colspan="2">- Ad Each pressure (+ / -) corresponds to the increase or decrease of one degree of temperature: from a minimum value of 17 to a maximum of 32. The display will show the selected temperature.</td></tr>
</table>

7.2 - CHANGING SETTINGS

WARNING: before changing any setting, carefully read the following note.

WARNING: changing the standard settings must be carried out only by qualified personnel. Any change performed without the proper skills may cause damage to ***“CUBE”*** and/or to the vehicle.

In order to access the setting menu, you must press the **(+ / -)** and **(+)** buttons at the same time while the device is off.

In order to scroll between menus use the **(+ / -)** buttons; in order to choose the desired values, use the **(+ / -)** buttons.

The values will be saved after a few moments without touching anything else.

You can exit from the menu by not touching any button.

The following are the menus which can be modified:

P0 - Timer (MIN and AUTO modes)	In MIN and AUTO mode, the system's default setting is **6 hours** of continuous operation. The default value can be changed in this menu. The choice range is between **1** and **99** hours.
P1 - Timer (MAX mode)	In MAX mode, the system's default setting is **4 hours** of continuous operation. The default value can be changed in this menu. The choice range is between **1** and **99** hours.
A2 – Centigrade and Fahrenheit degrees	The system's default setting is **Centigrade degrees**. This menu allows you to change the parameter to **Fahrenheit degrees**.
A3 - Offset	This refers to the temperature difference detected by the probe and the temperature shown on the display. This menu allows you to change this value from **-9°C** to **+9°C** with **1°C** increments.
A4 - Max condenser fan speed	The cooling fan's speed is variable and depends on the operation of the compressor. Its default setting is **100%** of its operational power. Its maximum speed can be reduced (for example if it is too loud) according to the following table. Bold values are its default settings. **WARNING: if the selected speed value is too low, the compressor may overheat and the device may shut itself down (see error table – code *E3* – *E4* – *E5*).**

Level	Percentage
10	**100%**
9	90%
8	80%
7	70%
6	60%
5	50%
4	40%

A5 – Battery saver value	Its default setting is **10.8 Vdc** (Cut-out) and **12 Vdc** (Cut-in). This menu allows to change the values according to the following table. Default values are in bold.

Vm	12Vdc	
	Cut-out	Cut-in
0	9.8	12.5
1	10	
2	10.2	
3	10.4	
4	10.6	
5	10.8	
6	11	
7	11.2	
8	11.4	
9	11.6	

Vm	12Vdc	
	Cut-out	Cut-in
10	9.8	**12**
11	10	
12	10.2	
13	10.4	
14	10.6	
15	10.8	
16	11	
17	11.2	
18	11.4	
19	11.6	

7.3 - ERRORS

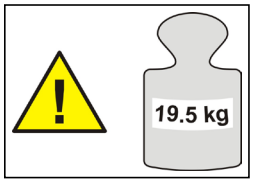
In case of a problem, the device shuts down and the display will show one error message from the following list.

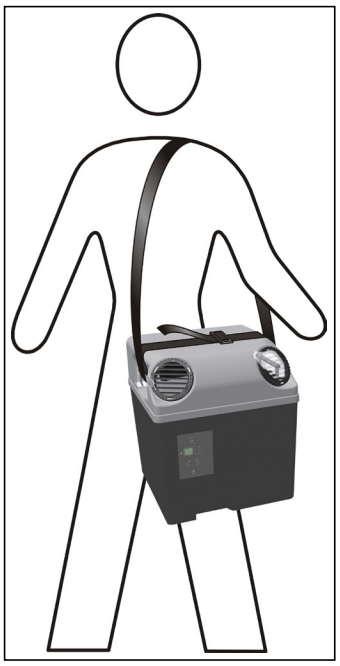
Message	Description	Troubleshooting
E1	**Battery power** (The battery-saver has activated. Power decreased below the set threshold.)	Start the vehicle in order to recharge the battery.
E2	**Power overload from the cooling fan** (The cooling fan overloads the board beyond the allowed limit. Possible cause: short circuit or something is blocking the fan from rotating.)	Take the device to an authorised dealer.
E3	**Blocked compressor** (The rotor is blocked or the pressure in the cooling circuit is too high.)	The presence of *E3* – *E4* – *E5* codes do not indicate a malfunction, but is a normal management procedure for the compressor by the electronic board. Only if the code continues to be displayed contact an authorized dealer.
E4	**Minimum compressor rotation speed** (If the cooling circuit is overloaded, the compressor is unable to maintain minimum rotation speed.)	
E5	**High temperature in the control board** (If the cooling circuit is overloaded or if the surrounding temperature is too high, the control board signals this issue.)	
E6	**Communication error** (No communication between the display and the control board.)	Take the device to an authorised dealer.
E7	**Temperature probe** (If the probe has short circuited or has become disconnected, the device stops working.)	
E9	**Power overload from the condenser fan** (The cooling fan overloads the board beyond the allowed limit. Possible cause: short circuit or something is blocking the fan from rotating.)	

8.0 - TRANSPORTABILITY

"CUBE" is the first parking air conditioner able to **be installed by anyone** and **moved** from one vehicle to another without requiring the intervention of a specialised technician.

In order to ease transport, a sling **(L)** has been included; it must be threaded through the handles and blocked at the proper length tank to the buckle.





Besides moving ***"CUBE"*** from one vehicle to another, it is also necessary to move all accessories comprising the entire system.

It is clear that the window gasket **(F)**, once it has been shake for a certain vehicle, then becomes specific for that vehicle model; for this reason a "gasket kit" has been prepared. For further information, please contact INDEL-B.

The same is true for the wiring **(G)** which, for certain configurations, once it is installed, cannot be easily removed; for this reason a "wiring kit" has been prepared. For further information, please contact INDEL-B.

ONLY FOR SALES WITHIN THE EUROPEAN COMMUNITY (EU)
This remote control is marked according to the European Directive 2012/19 / EU (WEEE) and the ordinance RAEE 49/2014. The symbol on the product indicates that this product should not be treated as household waste. Ensure that this product is not entered as part of the flows of municipal waste but treated as WEEE.