

USER, INSTALLATION AND MAINTENANCE MANUAL

VACUUM MODULES

MODELS: TR20S-T
TR30S-T
TR40S-T



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EC CONFORMITY DECLARATION OF A MACHINE



The manufacturer AERTECNICA. S.P.A with registered office in Via Cerchia di Sant'Egidio 760, 47521 (FC) - ITALY

With reference to: VACUUM MODULE
Series: TRS - T
Models: TR20S-T / TR30S-T - TR40S-T

DECLARES THAT THE VACUUM MODULE
in the state in which it was placed on the market, with the exception of added components and/or operations carried out subsequently by the final user

COMPLIES WITH
The DIRECTIVE 2006/42/EC (Machinery directive) and subsequent amendments and additions.

The Directive 2014/30/UE (Electromagnetic Compatibility Directive) and subsequent amendments and additions.

The Technical File of the central power unit, made by Aertecnica S.p.A., is filed in the SERVER unit of AERTECNICA S.P.A.

The person responsible for the Technical File
is Maurizio Balbo

Declarant
Golinucci Daniele

Cesena, li 24/01/2023

Version translated from the original

 **AERTECNICA**[®]
think clean

GENERAL WARNINGS

CAREFULLY READ THE MANUAL

The installation, user and maintenance manual is an integral and essential part of the Vacuum module and must be read carefully – BEFORE USING THE PRODUCT – as it contains important information concerning operator safety, foreseen operation and the correct maintenance of the central power unit.

WARRANTY

Warranty conditions for the European Union

AERTECNICA ensures the correct operation of the purchased vacuum module for a period of 24 months from the documented date of purchase. If there is no documentation that proves the purchase date (invoice or tax receipt), the 24-month period will refer to the date it was sold by AERTECNICA.

The warranty conditions are in compliance with the EU legislation.

For any dispute, the Court of Forlì-Cesena (ITALY) shall have exclusive jurisdiction and Italian law will apply.

Warranty conditions outside the European Union

For countries outside of the European Union the guarantee shall be borne by the importing company and the warranty conditions are those provided by the law of the country where the product is imported to.

ATTENTION

AERTECNICA reserves the right to modify the product and the related technical documentation without incurring any obligation towards third parties. No part of this manual may be reproduced, copied or distributed in any manner without written authorisation from Aertecnica.

IDENTIFICATION

This user and maintenance manual refers to the following Vacuum modules

SERIES: TRS -T
MOD: TR20S-T
TR30S-T
TR40S-T

MANUFACTURER

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Technical service

The Aertecnica Technical Service Centre can be contacted for all technical problems and if spare parts are needed. For all communications concerning the central power unit, the user should always provide the following data:

model of the central power unit

serial number

year of manufacture

purchase date

MANUAL USE

The instruction manual for use and maintenance is an integral and essential part of the product and must be handed over to the user. It must be kept in a safe place and consulted carefully as all of the warnings provide important instructions for safety during the process of installation, use and maintenance.

The vacuum module must be used only for the purpose it has been designed for. Any other use is considered improper use and is therefore dangerous.

The manufacturer accepts no contractual or extra-contractual liability for damage arising from a wrong installation or operation or from a non-compliance with the manufacturer's instructions.

SAFETY

The operator must accurately comply with the operating instructions shown by the pictograms in order to guarantee the safety of persons and correct operation of the central power unit.



DANGER: this indicates that attention must be paid in order to prevent events that could cause serious accidents that may harm people and their health.



ELECTRICAL DANGER: make sure that the machine is connected by the special cable to a type-approved earth system with efficient plates. The grounding shall be checked by a specialised installer equipped with suitable instruments.



RISK OF CRUSHING: during handling and installation phases of the central power unit, use adequate lifting equipment and check for optimal leveling on the support surface.



DANGER OF DAMAGING THE UNIT: follow the use instructions in order to avoid consequences which may lead to damage of the vacuum module.



INHALATION OF HARMFUL ELEMENTS AND DUST: protect respiratory organs by using protective masks when emptying the dust containers and when replacing the filter cartridge so the collected dust is not inhaled.



SENSIVITY TO DUST: this means that hand protection must be used to prevent any harm to operators who are sensitive to the collected dust.



SAFETY SHOES: use working shoes compulsorily to prevent damage to your feet.

ENVIRONMENT FRIENDLY

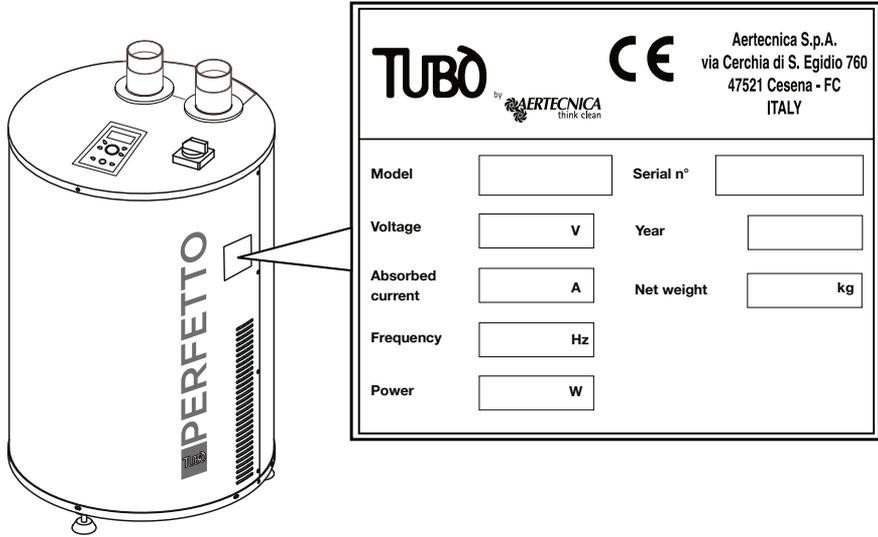
Aertecnica develops eco-compatible technologies that respect the environment. At the end of their life cycle, the materials that make up the central vacuum unit must be disposed of correctly.



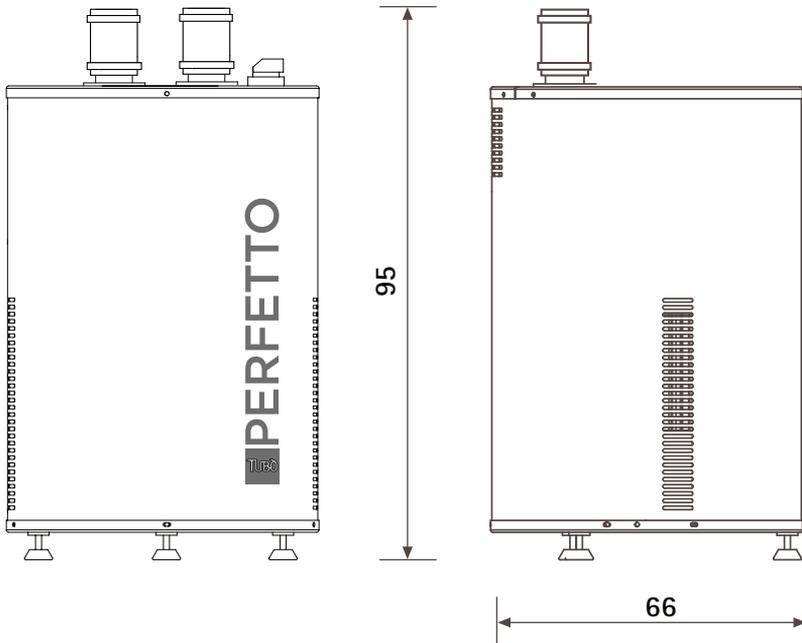
DISPOSAL AND DEMOLITION: the rules that regulate the elimination, disposal and demolition of parts, fluids and polluting substances vary from country to country. It is recommended to obey the rules enforced by the local and national Authorities of the country of use of the product.

IDENTIFICATION PLATE

For these models, the identification plate is located on the body of the vacuum module as shown in the figure.



VACUUM MODELS DIMENSION (in cm)

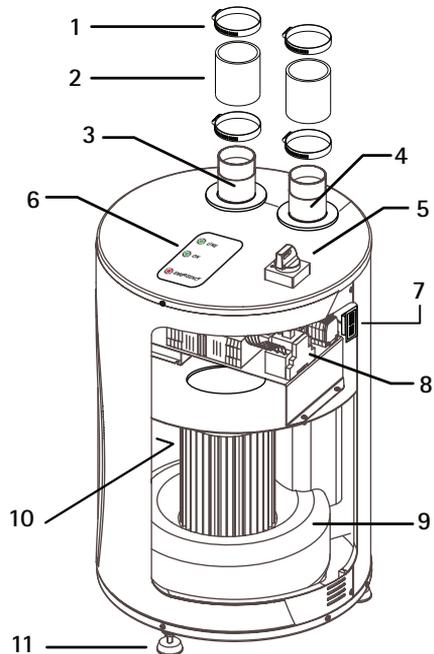


TECHNICAL DATA

Models		TR20S-T	TR30S-T	TR40S-T
Operators at the same time	n°	2	3	4
Inverter		NO	NO	NO
Power supply	Volt (V)	380	380	380
Motor power	Watt (W)	4.000	5.500	7.500
Frequency	Hz	50	50	50
Maximum absorption	A	8	11	15
Motor rpm	rpm	2.900	2.900	2.900
Soft Start		NO	NO	NO
Vacuum Sockets power supply voltage	Volt (V)	12	12	12
Air flow rate	m ³ /h	540	670	780
Maximum vacuum	mbar	441	441	490
Dust inlet diameter	mm	100	100	100
Air exhaustion diameter	mm	100	100	100
Hight	mm	950	950	950
Diameter	mm	660	660	660
Weight	kg	71	85	93
Noise	dB	<70	<73	<74

DESCRIPTION OF PARTS

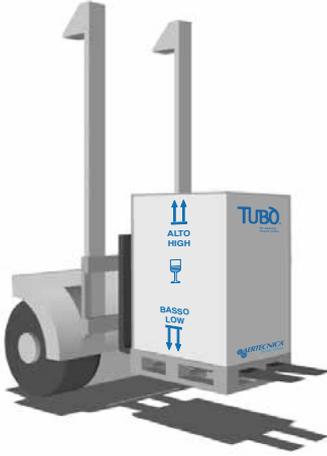
- 1 - Metallic clamps
- 2 - Sleeve
- 3 - Motor air expulsion
- 4 - Motor air inlet
- 5 - ON/OFF switch
- 6 - LED panel
- 7 - Terminal strip
- 8 - Motor protection
- 9 - Sunction turbine
- 10 - Soundproofing sponge
- 11 - Adjustable supporting feet



TRANSPORT

Check the overall mass of the vacuum module shown on the identification plate and use the described means for proper handling.

We recommend that you do not remove the packaging until installation so as to prevent any knocks and damage.



NOTE



Packaging parts of the central power unit are inert solid waste that must be disposed of according to current applicable regulations.

INSTALLATION LOCATION

Leave the indicated free space (in cm) around the unit, to allow cleaning and maintenance by the operator.

The temperature of the installation room must be $0^{\circ} \leq \text{room temperature} \leq 35^{\circ}$

The installation room must be sufficiently illuminated (minimum 200 lux) to allow maintenance work.

The installation room must have an air exchange rate per hour $\geq 0.5 \text{ v/room (volume/room)}$.

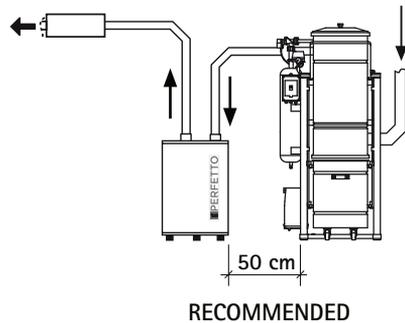
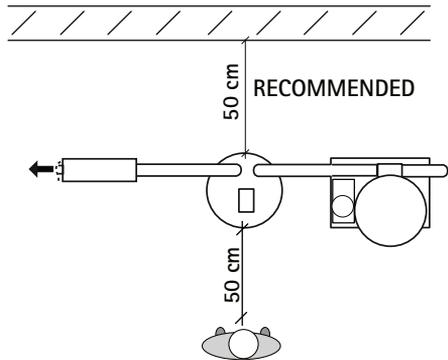
The central power unit must not be placed in an environment classified as ATEX.

POSITIONING

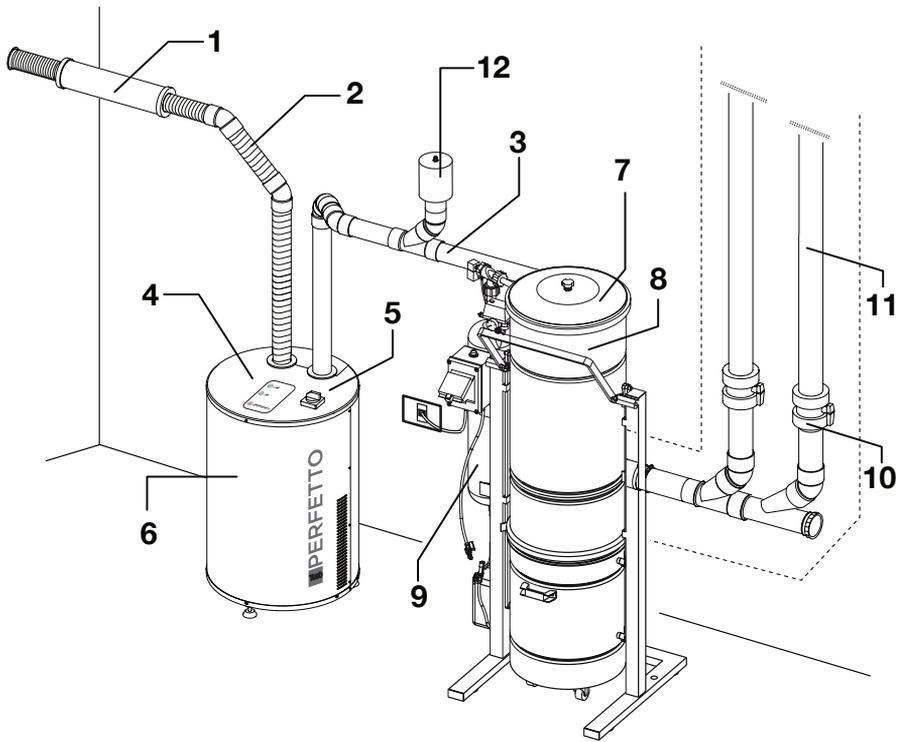
Position the vacuum module according to the operative requirements to allow for the easy connection to the electrical mains. The electrical system shall conform to the technical rules in force.

Check the surface and solidity of the floor, so that the vacuum module has a uniform base, if necessary screwing or unscrewing the three adjustable feet.

Position the vacuum module and the dust separator so that there is a free space around them; this will let the operator move safely around the central power unit.



EXAMPLE OF A VACUUM UNIT WITH 1 VACUUM MODULE



- 1 - metallic silencer
- 2 - metal air expulsion line
- 3 - air inlet
- 4 - Led panel
- 5 - vacuum module main switch
- 6 - **TRS-T** vacuum module
- 7 - dust separator
- 8 - opening/closing level dust container
- 9 - self-cleaning system
- 10 - sphere valves
- 11 - upright dust columns lines
- 12 - check valve

ELECTRICAL CONNECTION



The electrical system of the central power unit must be made by qualified professionals and in accordance with applicable regulations.

The manufacturer assumes no responsibility for malfunction or damage to persons and/ or property resulting from the incorrect connection to the electrical system.

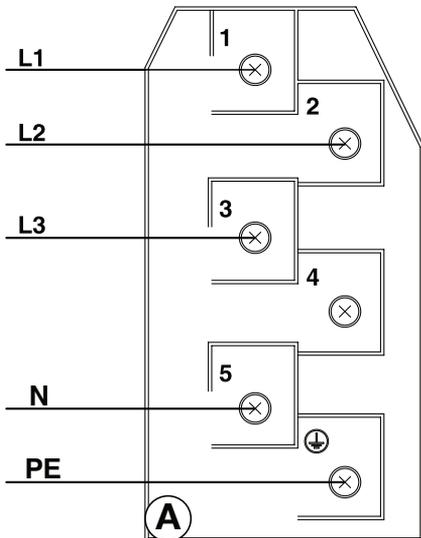
ATTENTION



380V POWER SUPPLY

The vacuum modules must be powered at 380V, using a 5-poles cable sized for the power of the engine.

A - CONNECTION TO THE POWER TERMINAL STRIP



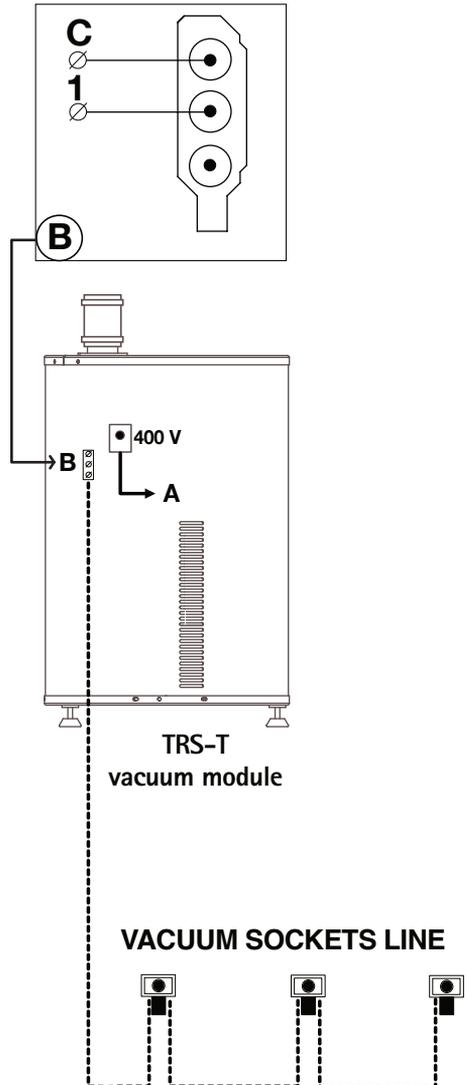
ATTENTION



CIRCUIT BREAKER

The power supply line of the vacuum module must be sectioned by a circuit breaker

B - VACUUM SOCKET ELECTRICAL CONTACT LINE



INTENDED USE

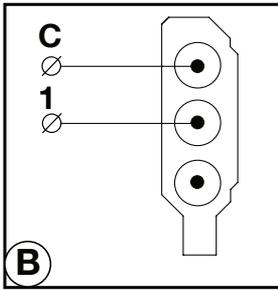
The vacuum module has been designed to be used in conjunction with a dust separator, for use in the Professional and Tertiary sector in connection with one or more Aertecnica dust separators for the suction of dust and small solid bodies.

The vacuum cleaner system can be used by several simultaneous operators based on the characteristics of the central vacuum unit.

STARTING /STOPPING

The central power unit is switched on by closing the contact on the terminal **B** (see drawing).

When the contact opens, the central power unit will turn off and the turbine will slow down until it stops.



UNAUTHORISED USE

- Do not vacuum lit cigarettes, embers or burning material: these materials may cause a fire, damaging the pipes or the power unit.
- Do not vacuum cloths, rags or other textile material: these may occlude the pipes or damage the power unit.
- Do not allow children to play with the vacuum sockets, opening and closing them continuously or inserting toys or solid items of unsuitable dimensions.
- Do not block the air exhaust line.
- Do not block the air sockets used to cool the electric motor.

- Do not use cleaning accessories to vacuum over body parts of people.
- Do not install the power unit in an ATEX classified space according to the European Union regulations.

USER

The user must be in good physical and psychological condition.

The user must always be alert during use of the system in order not to trip on the hose or cleaning accessories connected to the system, and must adopt the same safety measures for every persons present in the room with them.

The user must be over the age of 14 years.

LED PANEL

On the LED panel of the vacuum module there are 3 signals which indicate:



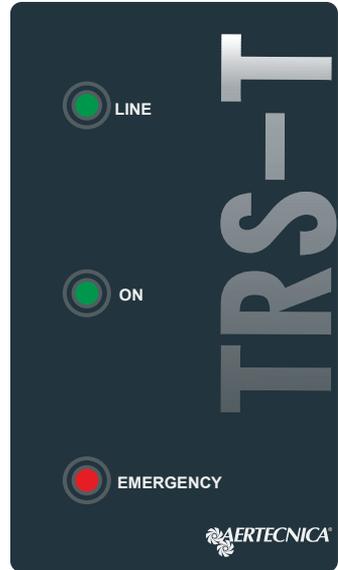
When the LED is on, it indicates that the control unit has power



When the LED is on, it indicates that the control unit is operating



When the LED flashes, the control unit is in temperature lock.
Wait for the engine to cool down until the warning light goes out.



CENTRAL POWER UNIT TEST

The general centralised vacuum system test must be done after the final assembly of all vacuum sockets and compensation valve.

WITH 1 VACUUM MODULE

- 1 - Activate the control unit **with all sockets closed** and use the ammeter to check that the current value indicated is lower than the value on the rating plate.
- 2 - If the current value is higher, adjust the compensation valve by loosening the spring until the rating plate is reached.
- 3 - If the current value is lower, adjust the compensation valve by tightening the spring until the value plate is reached.
- 4 - Insert the maximum number of flexible hoses allowed by the control unit in different points of the system into the vacuum sockets (Example: TR20S-T = 2 flexible hoses) and check that the pressure value read on the vacuum gauge connected to the system is not less than 120 mbar.

If it is lower, check:

- 1 - any leaks on the system
- 2 - Calibration of the compensation valve.

ORDINARY MAINTENANCE

Careful maintenance prolongs the life-time of the central power unit and guarantees better performance.



BEFORE STARTING ANY MAINTENANCE OPERATION, DISCONNECT THE CENTRAL POWER UNIT FROM THE POWER SUPPLY.

The check must be carried out by qualified personnel. Carry out the following checks:

- 1 - check that the ventilation intakes og the suction module are free.
- 2 - check that the air expulsion line and the expulsion grill are free.

VACUUM MODULE DISPOSAL

At the end of its life cycle, the vacuum module must be disposed of in compliance with current applicable regulations.

The following table specifies the material with which the vacuum module is built.

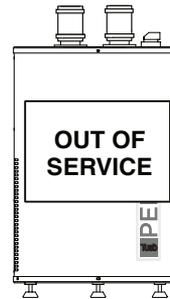
TYPE OF MATERIAL	PRESENCE IN THE VACUUM MODULE	SPECIFICATION	FOR DISPOSAL
Plastic and rubber	cable gland	polyamide	The regulations that govern the disposal and demolition of the vacuum module, its components and the possible polluting material and substances change depending on the country of final use.
	rubber sleeves	SBR/NR rubber	
	sound-absorbing sponges	expanded polyurethane	
	stickers	PVC	
	feet of frame stand	megol synthetic rubber	
Galvanised components	screws and rivets	steel/stainless steel/brass	We recommend that you contact the authorised organisations and agencies and respect the current applicable legal regulations
Windings	wiring	copper	
Electronic components	inverter	electric parts	
	motor	electric parts	
	comand panel	electric parts	
	electronic card	electric parts	
Sheet metal	main body	painted steel	
Packaging	box	cartone	
	pallett	wood	
	bags	polyethyene	
	fixing screws	galvanized steel	

ATTENTION

Variations in normal working conditions (an increased absorbed power, anomalous noise, vibrations) are indications of incorrect functioning. In case of problems, request technical assistance.

OUT OF SERVICE

If the vacuum module is out of service due to failure, repair or for an extended period of inactivity, isolate it from the general power supply, and report the condition OUT OF SERVICE with a notice on the machine.



TROUBLESHOOTING

The table shows generic cases of malfunctions or failures that may occur during the normal life-cycle of the vacuum cleaner unit. Follow the instructions shown.

PROBLEM	CAUSE	ACTION
There is no air intake from all the sockets	Power supply cable disconnected	Connect the power supply cable Determine if there is current on the terminal strip.
	12V socket cable line not connected or incorrectly connected	Connect the 12V socket cable line or check the wiring, see page 11
	The turbine is blocked	Reset the block and reboot the central power unit. If the issue persists call the technical support.
	The dust container is not correctly hooked	Rehook the container correctly.
There is no air intake from one of the sockets	The microswitch or the electric contacts of one of the vacuum sockets is damaged.	Fix or replace the vacuum socket.
	There is clogging in the system	Call a specialised technician.
Low amount of air intake	There is clogging in the system	Call a specialised technician.
	The filter cartridge is saturated	Perform cartridge maintenance.
	A greater number of hoses have been connected to the system compared to the characteristics of the power unit.	The central power unit can be used at the most, by the number of operators indicated in the table
	The dust container gasket is damaged or out of position	Check the gasket position of the dust container.
	The air exhaust line is clogged	Verify that the air exhaust line is free
	The hose is partially obstructed.	Free the obstruction from the hose.
The central power unit always remains activated even with the sockets closed	The microswitch or the electric contacts of one of the vacuum sockets is damaged.	Fix or replace the vacuum socket.
	The 12 volt electric line is damaged.	Please contact the technical support to verify the 12 volt electric line.
The LED line remains off	The main switch of the building is turned off	Turn the main switch back on
	The fuse on the circuit board is burned out	Replace the fuse with an equivalent one; if the problem is not solved, contact technical assistance



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