



V-TUF

ATX SERIES

OPERATOR MANUAL



Please read this manual before using the ATX Series

All Errors & Omissions Excused – Specification May Change Without Notice – Please Refer To www.v-tuf.co.uk For the Latest Version

TABLE OF CONTENTS:

1. INFORMATIVE SECTION

1.1	Foreword	4
1.2	Main parts	7
1.3	Optional parts	8
1.4	Manufacturer's identification data	8
1.5	Identification plate	8
1.6	Permitted Uses	8
1.7	Authorised environmental conditions	9
1.8	Noise level	9
1.9	Technical Data	10
1.10	Warranty	11

2. SAFETY SECTION

2.1	Safety Information	12
2.2	Safety recommendations.....	13
2.3	Safety plates and symbols	16
2.4	Residual risks	17
2.5	Applied Directives	18
2.6	ATEX safety instructions	19

3. HANDLING, UNPACKING AND INSTALLATION SECTION

3.1	Handling	24
3.2	Unpacking	25
3.3	Installation	26

4. OPERATION SECTION

4.1	Description of the controls	27
4.2	Operation cycle	28
4.3	Filter cleaning (only on ATX2000i and ATX4500i)	30
4.4	Filter cleaning (only on ATX4500)	31
4.5	Emptying the container	32
4.6	Inserting and locking the bin	33
4.7	Storage - Decommissioning	33

5. MAINTENANCE SECTION

5.1	Informative notes	24
5.2	General safety regulations	35
5.3	Filter cartridge replacement (ATX2000i and ATX4500i)	37
5.4	Filter replacement (ATX4500)	39
5.5	Motor protection filter cartridges replacement	41
5.6	HEPA Cartridge replacement (if provided)	42
5.7	Troubleshooting	43
5.8	Notes	44

2. PRECAUTIONS



This manual forms an integral part of the vacuum cleaner. Read this manual and the other attachments supplied carefully. Knowledge of the instructions here contained is indispensable for the safe use and maintenance of the vacuum cleaner

IMPORTANT - The V-TUF term and logo in this document refer to and are the property of **Fenco Group Ltd T/A V-TUF**

This document remains the exclusive property of V-TUF. Full or partial reproduction by any means (graphical, electronic, etc.) is prohibited without prior authorisation from the Company Management.

1.1 Foreword

Dear Customer

Thank you for having chosen V-TUF; we hope you will enjoy using your new VV-TUF ATX Z22 series vacuum cleaner

This manual has been drafted in order for our customer to fully appreciate the quality of this machine.

Please read all sections before using the machine for the first time.

It includes information, recommendations and important warnings concerning the use of the vacuum, which will help fully exploit the technical properties of your machine.

Read messages, warnings and indications preceded by the following symbols carefully:



For the safety of people



For the integrity of the vacuum cleaner



For the safeguard of the environment

This manual describes the following models:

ATX2000
ATX2000i
ATX4500
ATX4500i

The vacuum cleaner is equipped with the following filters:

- **ANTISTATIC M FILTER CARTRIDGE (Only on ATX2000i and ATX4500i) (P12256)**
- **ANTISTATIC M FILTER (only on ATX4500) (P11837)**
- **ABSOLUTE FILTER CARTRIDGE (if provided) (P11640)**

The vacuums are classified according to the following dust classes:

L	Low risk – suitable to separate dust with an exposure limit value of $> 1 \text{ mg/m}^3$ on the basis of the occupied volume
----------	---

M	Medium risk - suitable to separate dust with an exposure limit value of $> 0,1 \text{ mg/m}^3$ on the basis of the occupied volume
----------	--

H	High risk – suitable to separate all dusts with all exposure limit values on the basis of the occupied volume, including cancerogenic and pathogenic dusts.
----------	---

This manual provides all the necessary information for the use and maintenance of the vacuum cleaner.

This specific model has undergone strict testing to ensure maximum reliability. Its operation and durability will depend on proper use and maintenance.

This manual is an integral part of the vacuum cleaner and must accompany it at all times, until its demolition.

In the event it is lost or damaged, you can request another copy from Fenco Group Ltd T/A V-TUF

The technical information contained in this manual is exclusive property of V-TUF and must be considered confidential.

Reproduction, even partial, of graphics, text and illustrations is prohibited by law.

Some details shown in the figures in this manual may differ from those on your vacuum; this is because some components may have been removed to ensure maximum illustration clarity.

This manual has been divided into sections for easy consultation and each section has been identified by a specific graphical symbol.

The topics covered in this manual are those expressly required by Machinery Directive 2006/42/EC and the technical data are taken from the technical file archived at V-TUF.

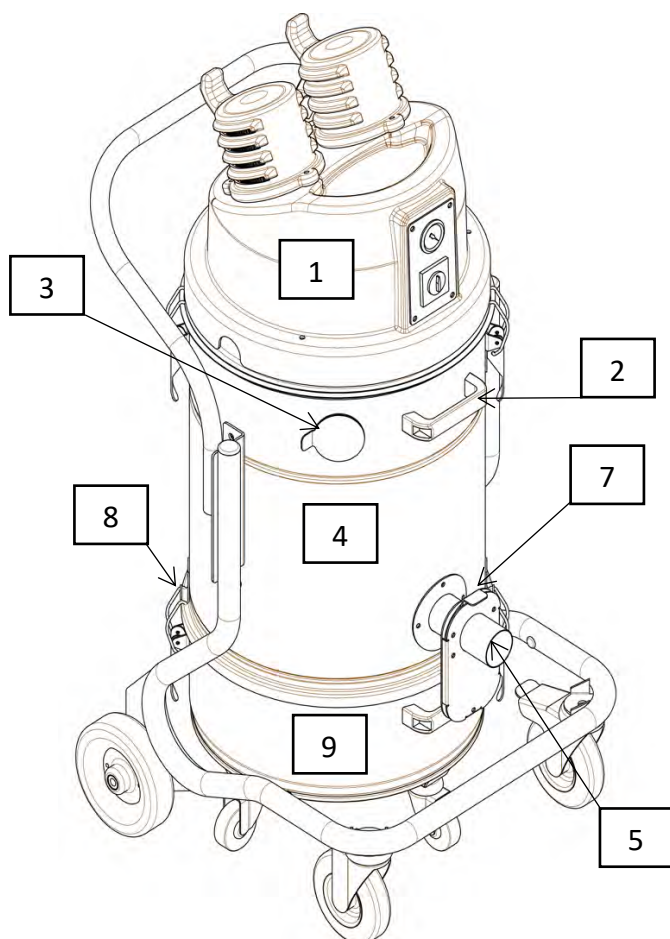
With reference to Regulation 1907/2006/EC (REACH), V-TUF hereby declares that no Substances of Very High Concern - (SVHC) included in the Candidate List, are contained in its products.

This manual should be kept in a place accessible to all personnel in charge with operating and performing maintenance on the vacuum cleaner.

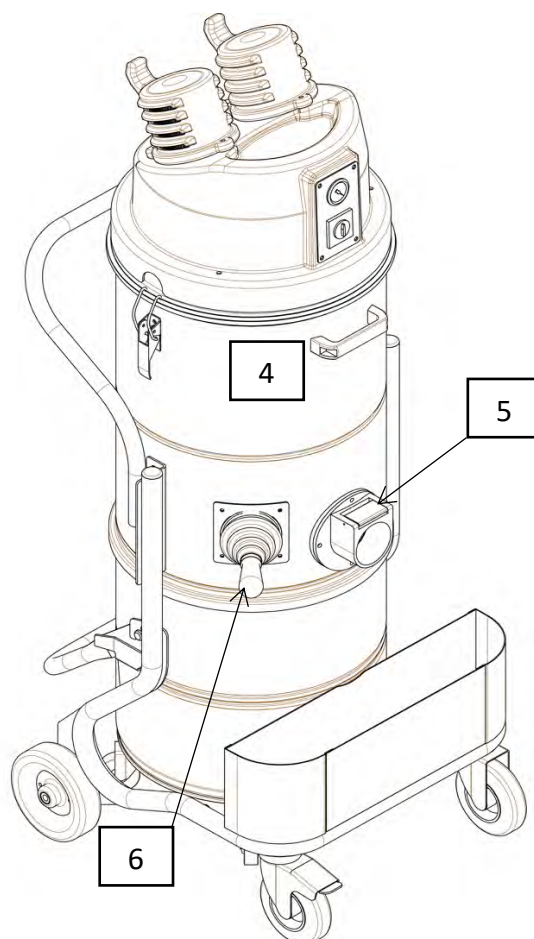


This manual forms an integral part of the vacuum cleaner. Read this manual and the other attachments supplied carefully. Knowledge of the instructions here contained is indispensable for the safe use and maintenance of the vacuum cleaner

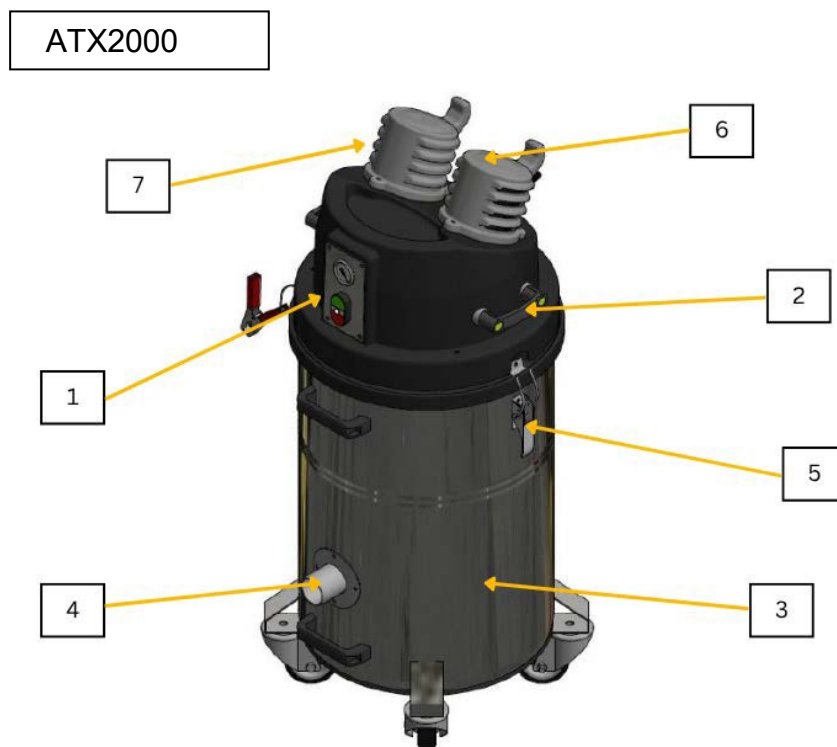
ATX2000i



ATX4500



1. Motor head with on/off commands
2. Handle
3. Semi-automatic Air Jet Cleaning Valve
4. Filter chamber
5. Inlet
6. Manual filter shaker handle
7. Semi-automatic Air Jet Cleaning sliding damper
8. Dust bin hooks
9. Dust/Debris bin



1. Vacuum head with On/Off control
2. Handle
3. Bin
4. Suction nozzle
5. Bin latches
6. Suction cartridge cover
7. Ventilation cartridge cover

1.3 Optional parts

A wide range of optional accessories is available from V-TUF depending on the intended use of the vacuum.

1.4 Manufacturer's identification data

Fenco Group Ltd T/A V-TUF

Till Bridge Lane, Scampton, Lincoln, LN1 2SX.
+44 01522 787978

1.5 Identification plate

The data on the vacuum identification plate must be referred to in any correspondence with the manufacturer or the dealer.

V-TUF®

V-TUF, TILL BRIDGE LANE, SCAMPTON
LINCOLN LN1 2SX UK
www.V-TUF.co.uk

Made in the E.U.

MODEL

ATX2000 110V

SERIAL No.

M24-1259

1.1kW 110V 1~ac 13.7A 50/60Hz

DUST CLASS

M

IP

55

kg

23

YEAR

2024

CE

UKCA

II 3D Ex

htc IIIB T140C Dc

ATEX 2014/34EU

V-TUF®

V-TUF, TILL BRIDGE LANE, SCAMPTON
LINCOLN LN1 2SX UK
www.V-TUF.co.uk

Made in the E.U.

MODEL

ATX4500i-110

SERIAL No.

M24-1260

1.1kW 115V 1~ac 13.7A 50/60Hz

DUST CLASS

M

IP

55

kg

45

YEAR

2024

CE

UKCA

II 3D Ex

htc IIIB T140C Dc

ATEX 2014/34EU

1.6 Permitted Uses

These vacuum cleaners are designed and built according to the 2014/34/EU (ATEX) Directive for an exclusive professional industrial use; either way, for any non-domestic use,

This vacuum cleaner is suitable for the cleaning and the collection of solid materials, only in covered areas. This vacuum cleaner is designed to collect combustible dust and/or dry particles in Zone 222 classified atmospheres with the following limitations:

Minimum Ignition Energy (MIE) of the dust >3mJ

Kst-Value of the dust <300 bas m/s (St1, St2)

The vacuum cleaner was conceived to be used by only one operator.

In accordance with the Directive 1999/92/EC, whenever in the presence of combustible dust and/or flammable gas, it's the responsibility of the employer to carry out the classification of the Zone and to choose a device in the appropriate category (According to the definition given in the 2014/34/EU Directive).

Any other use is considered **IMPROPER**.

1.7 Authorised environmental conditions

To ensure the correct operation, the vacuum cleaner must be kept away from atmospheric agents (rain, hail, snow, fog, dust in suspension, etc.) in an area with a room temperature range between 5° and 45°C and a relative humidity no higher than 70%.

The work environment must be clean and suitably lit.

1.8 Noise level

The phonometric tests performed on this specific vacuum cleaner model demonstrate a sound pressure level of

ATX2000
ATX2000i
ATX4500i
ATX4500

72 dB(A)



WARNING!

Workers exposed to sound pressure levels higher than 85 dB(A) must be protected by suitable personal protection device (PPE) such as certified ear muffs.



Under these conditions, workers must be provided with adequate training and information on risks arising from noise exposure.

1.9 TECHNICAL SPECIFICATION

	U.M.	ATX2000i	ATX2000	ATX4500i	ATX4500
Weight*	[Kg]	38	22	45	
Dimensions**	[mm]	516 x 545 x 1050	987 X 440	516 x 545 x 1303	550 x 620 x 1303
Voltage / Frequency	[V]- [Hz]	110 – 50/60	110/230 – 50/60	230 - 50/60	400 – 50/60
Power	[kW -HP]	1,1 – 1,5	1,1 – 1,5	1,8 - 2,4	
Max. Vacuum	[mBar]	230			
Air Flow	[m³/h]	220			
M Filter Surface	[m²]	3.4	0.6	4.0	1,5
H Filter surface (if provided)	[m²]	2,2			
Noise level	[dB-A]	72			
Bin capacity	[L]	20	45		

(*) weight without packaging - packaging weight = 20 Kg

(**) machine dimensions without packaging

1.10 Warranty

V-TUF guarantees this model of vacuum cleaner for a period of 24 months from the date of purchase, indicated on the receipt at the time of delivery of the product.

The guarantee is null and void in the event that the vacuum is repaired by unauthorised third parties or by using equipment, accessories or components not supplied or not authorised by V-TUF, or if the serial number is removed (during the guarantee period).

For the duration of the guarantee, V-TUF undertakes to repair or replace free of charge parts and components which prove to have manufacturing defects.

Repairs will be exclusively executed at a V-TUF site or in a V-TUF approved Assistance Centre and the machine must be sent free of charge (freight cost at user's charge unless otherwise agreed).

The guarantee does not cover cleaning of working parts.

The purchase invoice must be shown to the authorised technical personnel carrying out the repair and must accompany the vacuum during its shipment.

Defects that are not evidently due to materials or manufacturing will be examined solely at our premises or at a Technical Service Centre of our choosing.

Should the complaint be unjustified, all repair and/or replacement expenses shall be charged to the purchaser.

In any case, the following items are not covered by the guarantee: accidental damage due to transport, negligence, abnormal use, improper use, non-compliance with the instructions contained in this booklet or arising from phenomena that do not depend on normal use/operation of the vacuum.

V-TUF shall not be held liable for any injuries to persons or damage to objects caused by misuse or improper use of the vacuum.



To use the warranty, visit www.V-TUF.com or photocopy the form available on the last page of this manual, fill it in all its parts (in capital letters would be recommended), and send it via fax to V-TUF at the number +44 01522 787978



In the event of doubts, avoid interpreting the information! Call your reseller immediately!

2. SAFETY SECTION

2.1 Safety Information



As per Italian Legislative Decree 81/08 and subsequent modifications, the Safety Manager must train and inform workers about the risks involved with using the vacuum cleaner so that they may be able to avoid injury to themselves and others.

The use of device by people (including children) with limited physical and mental capacities or lacking in experience and knowledge is strictly forbidden, unless they are supervised by a person who is experienced in the use and safe handling of the device.

Children must be supervised to make sure they will not play with the device.

Failure to comply norms, laws or basic safety precautions, may cause accidents during operation, maintenance and repair of the vacuum cleaner. Accidents can frequently be avoided by recognising potentially hazardous situations before they occur. Adequate training is crucial to this end.

V-TUF shall not be held liable for accidents or damage due to the improper use of the vacuum by untrained personnel or to failure to comply, even partially, with the occupational safety standards and intervention procedures contained in this manual.

Safety warnings and precautions are indicated in this manual as well as on the product itself. Operators must pay special attention to these hazard warnings to prevent accidents with serious consequences for themselves and other people.

V-TUF designs and manufactures its equipment and accessories with care, identifying and compensating possible risks related to their use. In the event of equipment, procedures, work methods or techniques not expressly provided for by V-TUF being used, it is crucial to ensure beforehand that there are no dangers for oneself and the others. Nevertheless, V-TUF shall not be held liable.



Use exclusively V-TUF original spare parts.
V-TUF disclaims any liability in case spare parts other than original have been used.

2.2 Safety recommendations



WARNING!

The following information is essential in view of preventing all hazards that may occur while the vacuum cleaner is running. However, they cannot replace the expertise and common sense of operators as an overall framework for the prevention of accidents.

Structural damage, alterations or improper repairs can modify the protective capacity of the vacuum, thereby nullifying this certification and releasing V-TUF from any liability.

Each section lists further safety measures specific to the various functions.

WARNING!

Setting to work – connection to the power supply

- Make sure there is no evident sign of damage to the vacuum cleaner before starting work.
- Before plugging the vacuum cleaner into the electrical mains, make sure the voltage rating indicated on the data plate corresponds to that of the electrical mains.
- Plug the vacuum cleaner into a socket with a correctly installed ground contact/connection. Make sure that the vacuum cleaner is turned off.
- The plugs and connectors of the connection cables must be protected against splashes of water.
- Check that the vacuum cleaner is properly connected to the electrical mains.
- Use the vacuum cleaner only when the cables that connect to the electrical mains are in perfect condition (damaged cables could lead to electric shocks!).
- Regularly check there are no signs of damage, excessive wear, cracks or ageing on the electric cable.

WARNING!

When the vacuum cleaner is operating, do not:

- Crush, pull, damage or tread on the cable that connects to the electrical mains.
- Only disconnect the cable from the electrical mains by removing the plug (do not pull the cable).
- Only replace the electric power cable with one of the same type as the original: H07 RN - F.
The same rule applies if an extension is used.
- The cable must be replaced by the manufacturer's Service Centre staff or by equivalent qualified personnel.

CAUTION!

It is absolutely forbidden;

- For underage and non-trained people to use this vacuum cleaner.
- To connect the vacuum cleaner to mains without suitable earthing.
- To operate the vacuum cleaner outdoors in the presence of atmospheric precipitations.
- To operate the vacuum cleaner without locking the swivelling wheel through the special brake located on it.
- To operate the vacuum cleaner on uneven ground or in non-horizontal positions.
- To operate the vacuum cleaner in corrosive environments.
- To use flexible hoses which are not wholly antistatic (superficial antistatic properties are not accepted). The use of original V-TUF accessories is recommended. Verify electric continuity with an ohmmeter:
 1. Between the inlet and the ending part of the vacuum's accessories: The resistance measured must be inferior to 100M Ω (108 Ω)
 2. Between the bin and the plug (ground pin) with an electric device, or between the bin and the earthing cable (supplied) with compressed air powered devices. The resistance measured must be less than 10 Ω
- To operate the vacuum cleaner in working environments not classified according to the directions given on the device's plate.
- To vacuum the following materials:
 1. Flaming materials (embers, hot ashes, lit cigarettes etc...)
 2. Open flames
 3. Combustible gases
 4. Flammable, combustible or aggressive liquids (gasoline, solvents, acids, alkaline solutions etc...)
 5. Dusts/Substances and/or spontaneously combusting explosive mixtures of them (magnesium or aluminium dusts etc...)
- To tamper with or modify the return valve set up by the manufacturer
- The use of the Semi-automatic Air Jet Cleaning system in the presence of potentially explosive clouds in the atmosphere.
- To carry out maintenance on the vacuum cleaner in ATEX classified areas
- To carry out maintenance on the vacuum cleaner without first having switched the device off and disconnected the plug from the socket.
- To keep foreign materials such as debris, oil, tools or other objects in the bin which could disrupt the functioning and cause harm to people.
- To use flammable or toxic solvents such as gasoline, benzene, ether or alcohol for cleaning.
- To operate the vacuum cleaner without the filtering unit provided for by the manufacturer.

- To operate the vacuum cleaner without safety devices.
- To wear loose or flowing apparel such as ties, scarves, or torn clothing that could get caught on the vacuum cleaner or vacuumed by the device.
- To open the waste bin while the vacuum cleaner is working.
- To open the waste bin in an area which has been classified potentially explosive.
- To use extension leads, plug-in connection devices and adapters.
- To climb on the vacuum cleaner.
- To touch electrical wires, switches, buttons, etc. with wet hands.
- To touch some components which could reach high temperatures (such as the motor's terminal box and the motor housing in particular) while operating the vacuum cleaner.



WARNING!

This vacuum cleaner could contain dust that may be hazardous to your health. The emptying out and maintenance procedures, including removing the dust containers, must be carried out exclusively by specialized personnel wearing suitable safety clothing. Never switch the machine on in the absence of a complete filtering system.

2.3 Safety plates and symbols

Plates with safety symbols and/or messages are applied to the vacuum and its packaging. These pages show their precise location and the nature of the hazard.



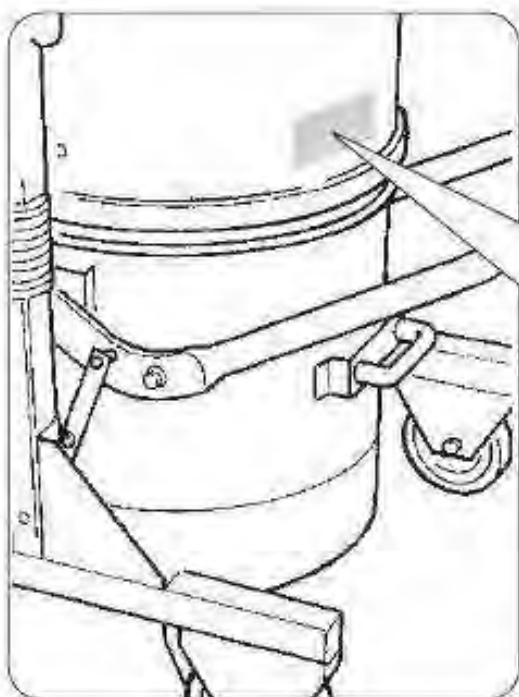
Warning!

Ensure that all safety messages are perfectly legible.

Clean them using a cloth with water and soap. Do not use solvents, naphtha or petrol.

Request replacements for damaged plates from V-TUF.

If a plate is located on a component that is being replaced, make sure to fit the old plate to the new component.



WARNING!

Crushing hazard for the upper limbs during insertion and locking of the dirt container under the vacuum cleaner.

Never place your hands between the vacuum and the dirt container while inserting and locking the later under the vacuum cleaner.

Lock the container by means of the special lever, using BOTH HANDS



Warning!

Read carefully this use and maintenance manual before using the vacuum cleaner or carrying out maintenance operations on it



Read carefully the instructions on the packaging before handling the vacuum cleaner

2.4 Residual risks

V-TUF recommends complying with the instructions, procedures and recommendations in this manual and with the safety standards in force. V-TUF also recommends using suitable personal protective equipment as well as the protection devices integrated in the vacuum.

The residual risks analysed on the vacuum and/or its components could be:

Electrical risks during maintenance due to the requirement to work on live parts

Pursuant to Italian Legislative Decree 81/08 – articles 80 to 87 – it is prohibited to operate on live parts, notwithstanding the exceptions set forth by said Legislative Decree.

Risks associated with incorrect use in presence of explosive and inflammable liquid substances

The vacuum must not be used in environments containing liquid substances or liquids that can evaporate at room temperature, inflammable powders and gas.

Risks related to operation in humid environments

Respect the limitations indicated in this manual, in section 1.5 “Authorised environmental conditions”.

Risk of incorrect interpretation of the safety pictograms

With reference to risk analysis and identification, V-TUF has installed hazard labels on the vacuum, in compliance with the standards concerning graphical symbols.

The user must immediately replace any safety plate rendered illegible due to wear or damage.



Warning!

The removal of safety plates from the vacuum and/or its components and packaging is strictly prohibited.

V-TUF shall not be held liable for the vacuum's safety in the event of failure to comply with this prohibition.

2.5 Applied Directives

The following directives apply to the vacuum cleaner described in this manual:

- 2006/42/EC Machinery Directive
- 2014/30/EU Electromagnetic compatibility directive
- 2011/65/EU - ROHS - Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment
- 2014/35/UE – Low tension directive
- 2014/34/UE – ATEX Directive

The reference standards, including their binding requirements, are managed within the V-TUF Quality Management System and archived by V-TUF.

2.6 ATEX safety instructions



All staff involved in the installation, use and maintenance of the appliance and its components should receive technical training for the tasks to be carried out, particularly for working in areas with a potentially explosive atmosphere. Any changes made to this appliance may invalidate its safety features. Always follow the manufacturer's instructions.



The appliance with II 1/3 D Ex htc IIIC T140°C Da/Dc marking may contain a ZONE 20 inside and can be used in ZONE 22
The appliance with II 1/2 D Ex h tb IIIC T140°C Da/Db marking may contain a ZONE 20 inside and can be used in ZONE 21 and ZONE 22
The zones are defined as follows.

ZONE 20: area in which an explosive atmosphere in the form of a cloud of combustible dust in air is present continuously or for long periods or frequently for

short periods.

ZONE 21: area in which an explosive atmosphere in the form of a cloud of combustible dust in air is likely to occur occasionally in normal operation.

ZONE 22: area in which an explosive atmosphere in the form of a cloud of combustible dust in air is not likely to occur in normal operation but, if it does occur,

will persist for a short period only.

It is forbidden to use the appliance in areas classified as ZONE 0, 1 or 2 due to the presence of gas.



The appliance is only suitable for working with dusts that have no source of ignition.

Combustible dusts with the following characteristics can be handled:

Self-ignition temperature in cloud (MIT)	°C	> 215
Self-ignition temperature in layer (LIT)	°C	> 215
Minimum ignition energy (MIE) at all operating temperatures	mJ	≥ 3

It is forbidden to use the appliance with hybrid, explosive and St3 class dust mixtures, chemically unstable dusts.



The user must ensure that the appliances are used according to their intended use, namely that they are used in ZONES classified as compatible with those for which said appliances are declared suitable by the manufacturer.

The appliance is designed to work in standard environmental conditions:

- Temperature $-15^{\circ}\text{C} \leq T_{\text{amb}} \leq +40^{\circ}\text{C}$.
- Atmospheric pressure $+0.8/1.1$ bar

The temperature of the product handled must not exceed 40°C .



Any electrical or mechanical components to be installed on the appliance must be certified as being of a suitable category for use:

- category 3D (ZONE 22)
- category 2D (ZONE 21)
- category 1D (ZONE 20)

For maintenance or cleaning operations, the user must ensure that the equipment used (vacuum cleaners, portable lamps, etc.) is of a suitable category for the environment:

- category 3D (ZONE 22)
- category 2D (ZONE 21)
- category 1D (ZONE 20)

**INSTALLATION – START-UP**

Before installation and start-up, visually inspect the appliance for any transport damages.

The tools used for installation must comply with EN 1127-1 in relation to the area of use.

As a preliminary operation, provide earthing and check that it works properly. Earthing is visually indicated by a symbol in accordance with European standards.

Carry out the following checks during Start-up: - check that the appliance is correctly earthed and there is equipotential bonding between the various parts of the appliance, particularly the moving parts; - carry out a blank test with sound check (abnormal noise); if there are any problems, stop the appliance and check that the moving parts are assembled correctly; - the electrical wiring must be done by qualified staff and in accordance with the wiring diagram.

While testing and delivering the appliance, appropriate training must be provided to the operator installing, starting and using the appliance under normal conditions.



The user must ensure that the plant in which the appliance is to be installed has been adequately safeguarded against explosion before being started and that the "Explosion protection document" has been prepared as required by ATEX Directive 1999/92/EC (Italian Ministerial Decree 81-2008).



IT IS FORBIDDEN TO INTRODUCE (VACUUM) IGNITION SOURCES FROM OUTSIDE, including those resulting from self-ignition of dust or embers.



If dusts that can give rise to self-ignition are vacuumed, the collection bin must be emptied immediately after each activity. This precaution must also be taken when vacuuming different types of dust, the mixture of which can give rise to exothermic reactions.



A periodic check must be carried out, especially after maintenance operations, of the equipotential bonding conditions between the different metal parts of the appliance, particularly the moving parts and the filter cages.



The installation, assembly and disassembly operations must be carried out on machines switched off and in the absence of a potentially explosive atmosphere.



The installer must check that the process specifications match the appliance characteristics given on the plate (e.g. with reference to the maximum surface temperature).
The appliance must not be used to vacuum material with incompatible product characteristics.



The manuals for the ATEX components fitted on the appliance are enclosed: the user must observe all safety instructions relating to use of these components.



The appliance must be cleaned by the user to prevent the formation of combustible dust.
Do not use compressed air to clean the layers of dust, but use appropriate vacuuming systems for handling potentially explosive dust (ATEX certified vacuum cleaners).



A specially trained operator must always be present when the appliance is being used and must intervene immediately, by stopping the equipment with the emergency button (where applicable) or the emergency disconnect switch, in the event of malfunctions, such as abnormal noise (breakage of components), clogging of the inlet and outlet pipes, breakage of the filter bags, suction of material containing foreign bodies or sources of ignition.



For installation and maintenance of electrical parts (e.g. cables, cable glands and terminals), always follow the guidelines given in EN 60079-14.
When opening junction boxes (for inspections), make sure that the gaskets are in place when closing them again.



The plug is not ATEX certified (or is not supplied): the user must either connect the plug to a socket installed in a SAFE AREA or fit an ATEX plug.



The hoses, suction nozzles and filter bags are antistatic as declared by their respective manufacturers.

It is forbidden to use other types of components.



The building where the appliance is used must have a lightning protection system.



There must not be any sources of ignition close to the appliance, for example:

- flames;
- embers;
- hot surfaces;
- sparks (e.g. from metal cutting);
- stray currents and cathodic protection systems;
- electrical or mechanical equipment that is not ATEX certified;
- electrostatic charges carried by operators or portable equipment;
- radio frequencies (RF) and electromagnetic waves (from 104Hz to 3×10^{11} Hz);
- electromagnetic waves (from 3×10^{11} Hz to 3×10^{15} Hz);
- ionising radiation;
- ultrasound.

3. HANDLING, UNPACKING AND INSTALLATION SECTION

3.1 Handling

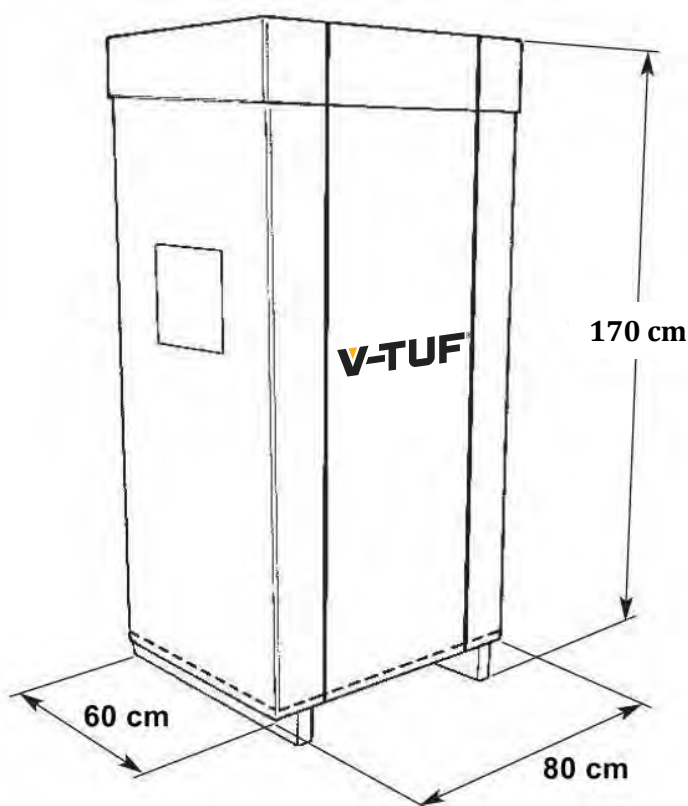


Warning!

The instructions for transporting and unpacking the vacuum correctly are shown on the packaging as well.

The following instructions also indicate the operations to be undertaken should the vacuum need to be re-packed or unpacked after subsequent transportation.

Dimensions of packed vacuum cleaner:



The vacuum cleaner must be lifted and handled exclusively using a forklift having suitable load bearing capacity.

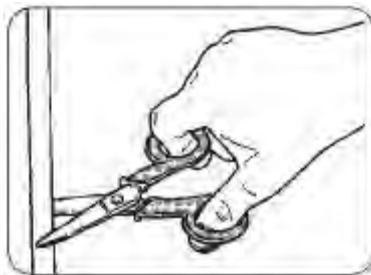
When using a forklift, lift the load 200 mm off the ground and swing backwards.

Always keep the height of the working environment in mind when lifting loads.

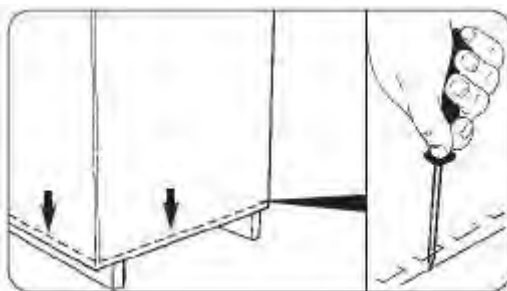
Before starting any movement, ensure that the area is cleared and that there are no moving objects on the packaging. For lifting and handling, apply operating safety laws and normal instructions for fork-lift truck driving.

3.2 Unpacking

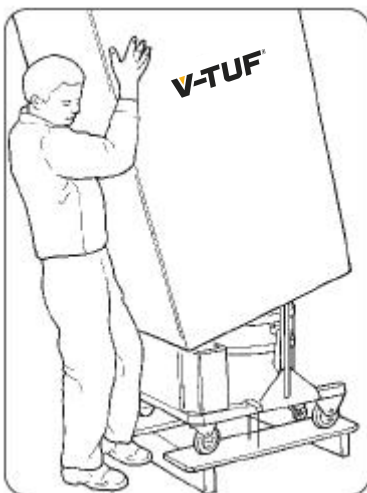
- Cut and unwind the two packaging fixing belts -



- remove the staples that fix the carton packaging to the pallet with the aid of a screwdriver



- remove the carton completely



- Loosen and remove the fastening screws and brackets from both sides



The cardboard packaging can be recycled. To protect the environment, make sure to dispose it off in specialised collection centres

Warning!

Keep the pallet.

In the event of subsequent transport, the vacuum must be secured to the pallet using the same fastening system.

3.3 Installation



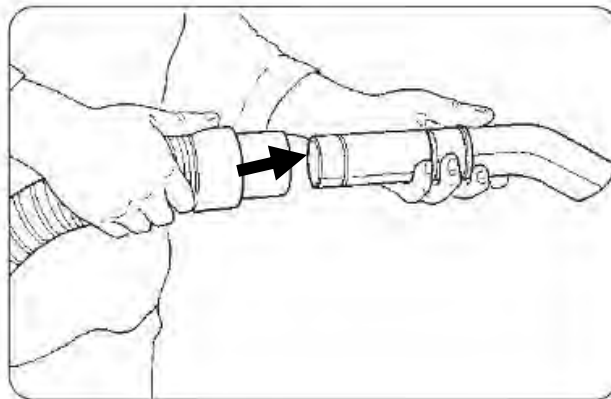
Caution!

Before installing the vacuum, it is important to carry out a thorough preventive visual inspection to identify any damage which may have occurred during transport.

In the event of one or more components being damaged, do not continue with installation, inform V-TUF about the anomaly and agree upon action to be taken.

The vacuum cleaner is already fitted with an appropriate filter intended exclusively to vacuum dry dust or debris.

- Insert the hose equipped with a sleeve in the special suction inlet (Detail N° 5, Chap. 1.2) and make sure it has been securely attached to it
- insert the desired accessory according to the type of extraction on the opposite side of the hose



Note: the flexible tube and the relevant end-pieces and accessories are not included with the STANDARD model. Contact your dealer (or V-TUF) for information regarding the various types of OPTIONALS that can be used on this specific model.

The following operation must be carried out by a qualified electrician.

Ensure that the power supply line corresponds to the voltage and frequency indicated on the identification plate and that it is efficiently earthed.

The vacuum cleaner's electrical current supply socket must be protected by a CE-marked circuit breaker.

Insert the plug (standard supply) into the socket.



Warning!

Do not insert the plug in the power supply socket with wet hands.
Do not use extension leads.

4. OPERATION SECTION

4.1 Description of the controls

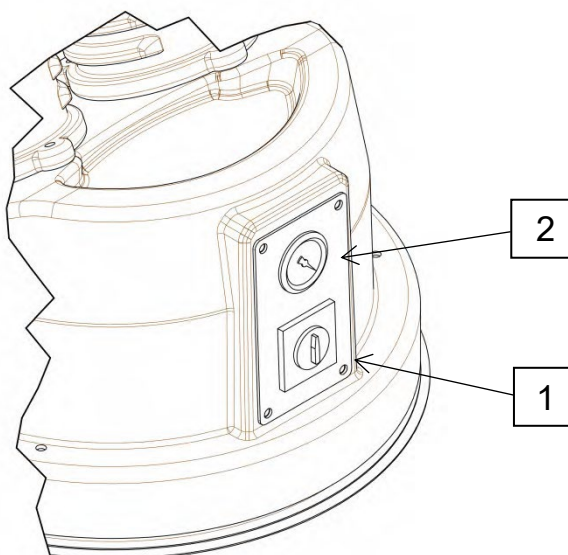


Attention!

The use of the vacuum cleaner is permitted only to authorized personnel who have read the These operating and maintenance instructions.

The user of the appliance and the maintenance technician who carries out the work admitted to the vacuum cleaner, must receive appropriate training, information and training, as required by applicable occupational safety laws and use to the different operations, personal protective equipment (PPE) expected, such as safety footwear, gloves, goggles, mask, etc. The user must

Observe the applicable regulations for vacuumed materials and their disposal.



1. I/O switch: VACUUM CLEANER START/STOP

2. Vacuum gauge

4.2 Operation cycle

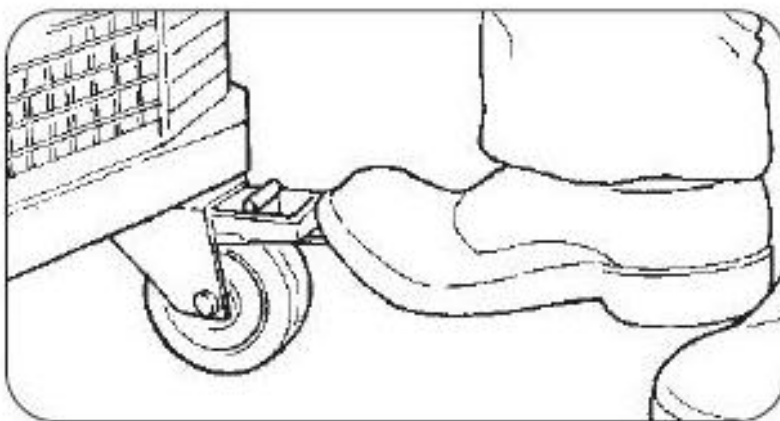
Ensure that the power cord is intact and in perfect state.



Warning!

Before inserting the plug, ensure that the voltage of the power supply line corresponds to that indicated on the vacuum's identification plate.

- Ensure that the power plug is inserted into the socket correctly.
- Make sure the flexible hose is properly inserted and tightened on the special inlet.
- Ensure that the dirt collecting container is in the proper position and locked in place under the vacuum's chamber
- Secure the vacuum cleaner using the brake on the rotating wheel, as shown in the figure.



Hold the end of the flexible hose with the chosen vacuum accessory.

To start using the vacuum cleaner turn the switch (1) to "I",

To interrupt the vacuuming turn the switch (1) to "0".



Caution!

Before turning the vacuum cleaner on again, ensure that the pump has been stopped completely

To move the vacuum cleaner, use the special handles situated on the front part of the machine

On the vacuum cleaner there is a vacuum gauge (2) which indicates vacuum value inside the vacuum cleaner. The vacuum gauge gives the operator an indication of the state of the filter/filters: a vacuum pressure increase indicates an increase in blockage of the filter/s with a reduction in the vacuuming power as a result.



Caution!

During operation, prevent the flexible pipe from rolling up or kinking.



Caution!

Do not use the vacuum cleaner with the filter clogged

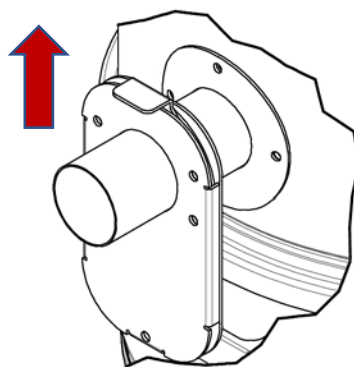
4.3 Filter cleaning (only on ATX2000i and ATX4500i)

To clean the filter cartridge, the vacuum cleaners are equipped with the Semi-automatic Air Jet Cleaning cleaning system.

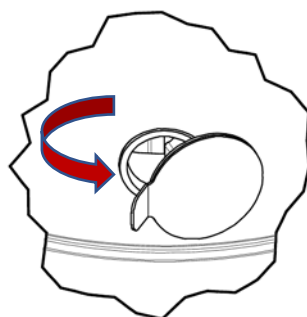
The system works due to the difference in pressure between the internal atmosphere and the external atmosphere leading to the dust becoming detached from the filtering fabric of the cartridge, without needing to switch the vacuum cleaner off.

The system is made up of a disk lid on the filter chamber and a shutter situated on the inlet. Proceed as follows to clean the filter:

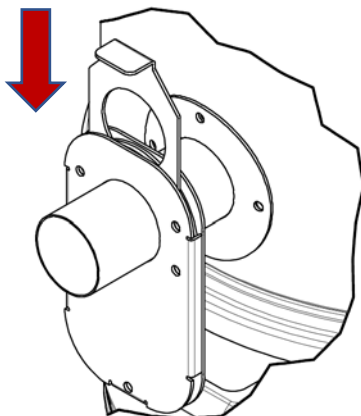
- With the vacuum cleaner turned on, lift the shutter (detail no. 7, chap. 1.2) on the inlet



- Open the Semi-automatic Air Jet Cleaning valve for a few seconds, and repeat this operation a couple more times. For greater efficiency of the cleaning system, switch both motors on



- Lower the shutter (detail no. 7, chap. 1.2) and resume normal use



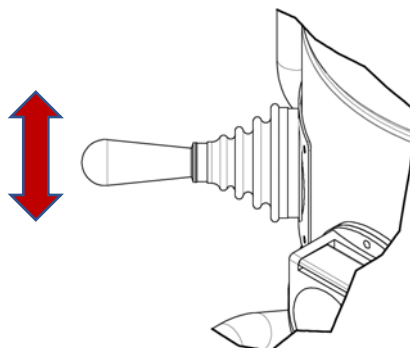
Warning!

The Semi-automatic Air Jet Cleaning cleaning system only works with the vacuum

4.4 Filter cleaning (only on ATX4500)

To clean the filter, proceed as instructed:

- Switch the vacuum off
 - Wait for the pump to come to a complete stop
 - Lift and then forcefully lower the lever to shake the internal filter



4.5 Emptying the container

Depending on the type and quantity of material being vacuumed, it is necessary to check periodically the dirt container to avoid filling it excessively.

Proceed as follows to empty the container:

- Switch the machine off
- As previously mentioned, the vacuum cleaner can be locked using the brake positioned on the rotating wheel
- Unlock the container unhooking the special closing hooks
- Take the container out from below the filter chamber using the special handles



Warning!

If the container weighs more than 15 kg, seek assistance from someone else



Warning!

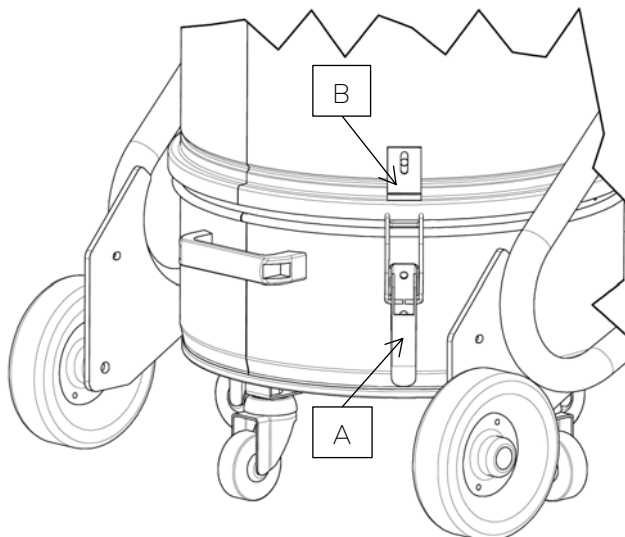
Waste disposal must take place in compliance with the laws in force in the country in which the vacuum cleaner is used - for Italy Legislative Decree 152/2006 and subsequent amendments.

In the event of use with class M and H dusts, these must be conveyed to a special plastic bag

4.6 Inserting and locking the bin

Follow the steps below to insert and lock the bin: - -

- Insert the container under the vacuum, aligning the closing hooks (A) with the corresponding parts (B) located on the filter chamber



- Lift the bin towards the chamber, and lock the closing hooks. If necessary get help from a second person



Warning!
Upper limb crushing hazard!
Never insert your hands between the dirt container and the vacuum cleaner in the locking phase

4.7 Storage - Decommissioning

Remove the filter and clean it, empty the debris collecting container or remove the bag part with the debris and store the vacuum cleaner in a place protected from atmospheric agents with temperatures between 0°and 40°C, covering it with a nylon sheet so as to prevent dust from accumulating.

5. MAINTENANCE SECTION



Warning!

Special vacuum maintenance must be carried out solely by specialised technicians authorised by V-TUF dealer.

5.1 Informative notes

This section describes the checks and routine maintenance operations required to ensure proper vacuum operation.

Maximum reliability and minimum maintenance costs are the result of a planned maintenance and inspection schedule carefully followed throughout the entire lifespan of the vacuum.

Observe the set maintenance intervals and schedule the interventions according to specific requirements in relation with the vacuum production cycle.

Always use perfectly working tools specifically intended for the operation to be carried out; the use of inadequate or inefficient tools can cause severe damages.

Any other intervention required to remove faults or malfunctions must be expressly authorised by the manufacturer.

In these cases, always communicate the vacuum identification data - see para. 1.4 of this manual. For significant repairs, refer to the authorised dealer, whose specialised personnel has the technological expertise in the original factory build and is always available for prompt interventions. For user maintenance operations, the vacuum must be disassembled, cleaned and maintained, where possible, in such a way as to prevent hazards to the maintenance personnel and to third parties.

Suitable precautionary measures include decontamination before dismantling, measures for filtered forced ventilation of the room where the appliance is disassembled, cleaning of the maintenance area and suitable personal protection equipment.

At least once every three months (or more frequently, according to the operating cycle and the conditions of use), the manufacturer or a qualified technician must check the filters, ensuring that they are not damaged; and ensuring proper operation of the control devices.

Should maintenance operations or repairs be carried out, all contaminated objects must be adequately cleaned, placed in waterproof bags and disposed of in compliance with the regulations in force.

5.2 General safety regulations



Warning!

All the operations described above must be carried out with the plug disconnected from the socket.



Place a sign on the vacuum with the message:

"MACHINE UNDER MAINTENANCE
DO NOT START"



Before returning to use, the whole system must be checked according to the starting procedures.

Run a few trial operating cycles after every maintenance operation to ensure proper machine operation.

Failure to observe these precautions can cause serious injury to personnel.

Maintenance operations must be carried out by trained technicians specialised in the following sectors:

- Mechanical maintenance
- Electrical maintenance

It is the Chief Safety Officer's duty to ensure the professionalism and skills of these technicians.

Before starting any maintenance operation, the Chief Safety Officer must:

- Keep unauthorised personnel out of the work area.



- Ensure that the necessary tools are in good conditions and readily available to the maintenance technician.

- Ensure the maintenance technician is equipped with the personal protection equipment required for the specific operation (gloves, goggles, shoes, mask, etc.)

- Make sure the maintenance technician has carefully read the instructions contained in this manual and has perfectly acquired knowledge on the operation of the vacuum and its components.

- Ensure that there is enough light and, if necessary,

Before starting any maintenance operation, the Maintenance technician must:
disconnect all power supplies and put the vacuum cleaner in a safe lock



Warning!

If absolutely necessary operating with the power turned on, pursuant to Italian Legislative Decree 81/08, the maintenance technician must maintain a safe distance, prepare reachable emergency stop buttons and never place hands in the discharge container.

At the end of the procedure and before returning to use, the maintenance technician must check that guards are functioning correctly and the protection devices are intact.
Operations on the motors or on other electrical components must only be carried out by the specially trained electrical maintenance technician authorised by the Chief Safety Officer.



Warning!

After any maintenance work, the Chief Safety Officer is required to check the safety conditions of the vacuum cleaner and of its safety devices.

Before every work shift

- Check that the power cord and the plug are not damaged: replace them immediately if there are any signs of wear, using a cord of the same type (information c/o V-TUF).
This operation is the sole responsibility of an electrician.
- Check the integrity of the safety symbols (pictograms) applied to the vacuum cleaner.
- Check for proper efficiency of the filter/filters
- Check the integrity of the flexible hose and of the accessories to be used.



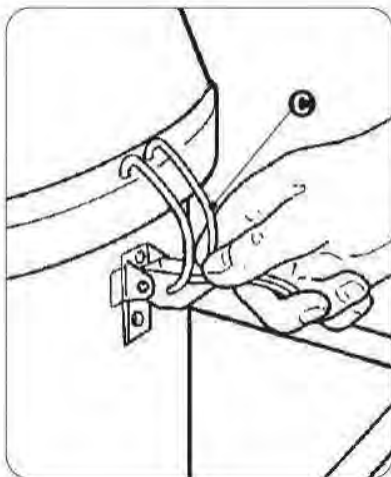
Warning!

The flexible hose, if perforated, reduces the vacuuming power and releases dust into the surrounding environment.

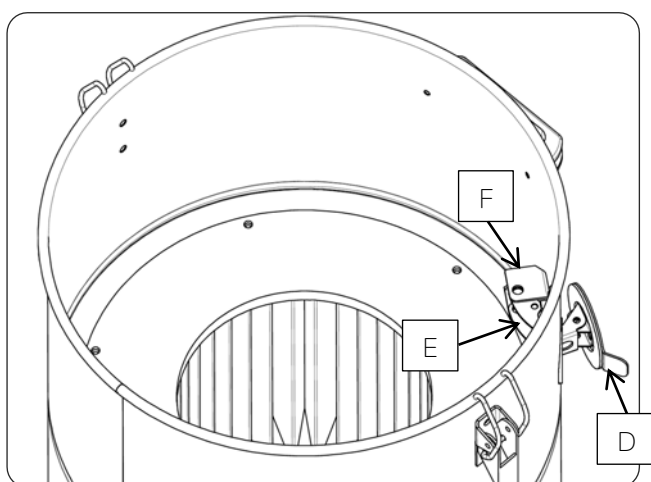
5.3 Filter cartridge replacement (ATX2000i and ATX4500i)

Proceed as follows to replace the filter:

- Switch the vacuum cleaner off
- Disconnect the vacuum cleaner from the electricity supply
- Unlock the closing hooks on both sides



- Remove the head
- Remove the HEPA Filter (if provided)
- With the help of a second person, hold the Semi-automatic Air Jet Cleaning cleaning system disk lid open, take the disk lid (D) fastening screws out, then, remove the fastening screws and the spring (E) at the junction of the Semi-automatic Air Jet Cleaning system and the chamber (F) support.



- Unscrew the fastening bolts of the filter cartridge and pull it out from inside the filter chamber.



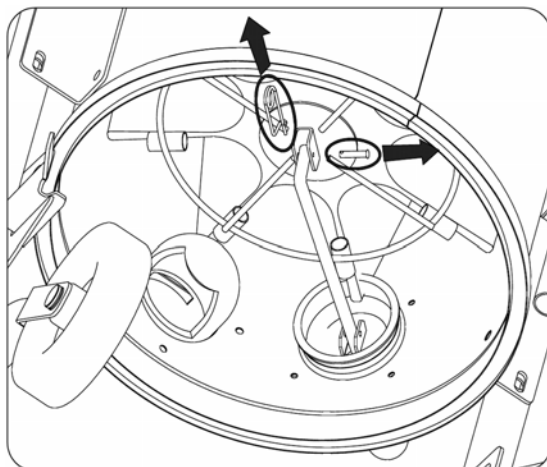
Remove the filter, put it in a plastic bag, seal it and dispose of it according to the legislation in force regarding the type of material extracted

To reassemble the filter, operate in reverse order:

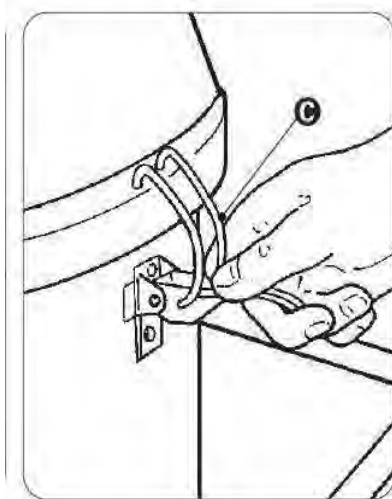
- Insert the new filter to the filter chamber
- Tighten the cartridge fastening screws
- With the help of a second person, apply the junction (E) spring and screws for the Semi-automatic Air Jet Cleaning cleaning system to the filter chamber (F) support and tighten the special nut, then apply the disk lid (D) fastening screws to the cleaning system junction and tighten the appropriate nut.
- Ensure that the Semi-automatic Air Jet Cleaning cleaning system moves correctly once re-assembled
- Position the HEPA Filter (if provided)
- position the head on the filter chamber or on the HEPA Filter (if provided)
- lock the closing hooks
- connect the electricity supply
- switch the vacuum cleaner on and immediately evaluate whether it is working normally

5.4 Filter replacement (ATX4500)

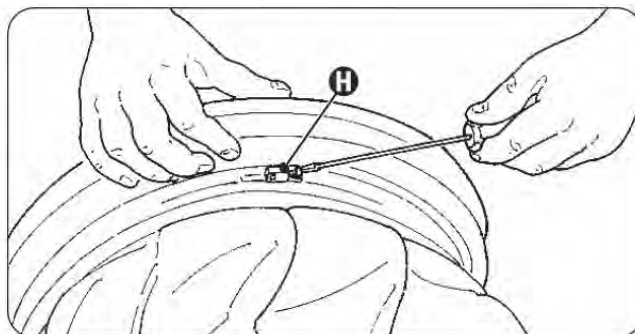
- Proceed as follows to replace the filter:
- Switch the vacuum off by positioning the main switch to "0"
- Disconnect the vacuum cleaner from the power socket
- Remove the container
- From the lower side of the filter chamber, release the clip and remove the retaining pin of the cage from the filter shaking lever



- Unlock on both sides the two closing hooks



- Remove the vacuum cleaner's head
- Remove the HEPA Filter (if provided) - Remove the filter and place all components on a work bench
- Loosen the fastening clamp (H), remove the filter from its support and, using scissors, cut the lower belts that clamp it to the cage

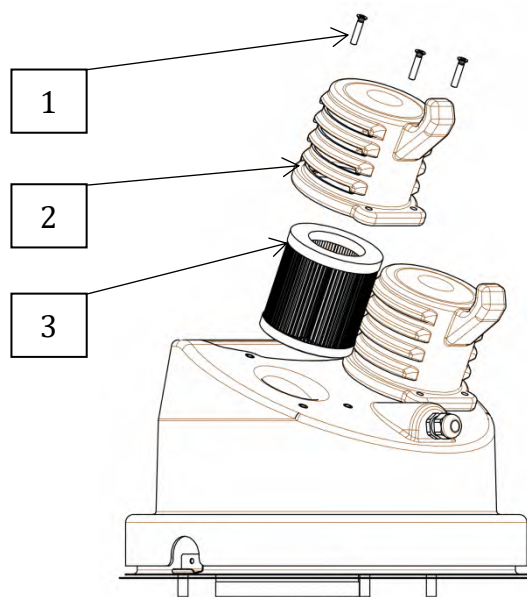


Remove the filter, put it in a plastic bag, seal it and dispose of it according to the legislation in force regarding the type of material extracted

To reassemble the filter, operate in reverse order:

- Insert the new filter in the support ring and lock it by means of the fastening strap (H)
- lock the filter to the cage by tying the special laces on the bottom side
- insert the filter with ring and cage inside the filtering chamber, paying particular attention to align the cage to the filter shaking lever
- insert the lever end into the appropriate seat on the bottom of the cage and then insert the fastening clip - Position the HEPA Filter (if provided)
- position the vacuum cleaner head above the filter chamber or the HEPA filter (if provided)
- lock the closing hooks
- lock the dirt collecting container under the filter chamber
- connect the vacuum cleaner to the mains socket
- turn on the vacuum cleaner, immediately assessing its efficient operation

5.5 Motor protection filter cartridges replacement



1. Fastening screws
2. Filter cover
3. Filter cartridge

Proceed as follows to replace the cartridges:

- Switch the vacuum off
- Disconnect the vacuum cleaner from the power supply line
- Remove the fastening screws from the cover

Once the cartridges have been replaced, position the covers again and tighten the fastening screws



Remove the filter, put it in a plastic bag, seal it and dispose of it according to the legislation in force regarding the type of material collected.

5.6 HEPA Cartridge replacement (if provided)

To replace the HEPA cartridge, operate as follows:

- Switch the vacuum off
- Disconnect the vacuum cleaner from the mains
- Unlock the two hooks closing the HEPA filter unit on both sides from the vacuum cleaner head
- Remove the head
- Unlock the two hooks closing the filter chamber on both sides of the HEPA filter unit
- Remove the HEPA filter, turn it upside down on a work bench, unscrew the fastening screws and remove it



Remove the filter, put it in a plastic bag, seal it and dispose of it according to the legislation in force regarding the type of material collected.

To re-assemble the HEPA cartridges, operate in reverse:

- Position the new HEPA cartridge and tighten the fastening screw provided.
Ensure that it is properly secured
- Reposition the HEPA unit on the filter chamber and lock it with the special closing hooks
- Place the vacuum cleaner's head above the HEPA unit and lock it with the special closing hooks
- connect the vacuum cleaner to the mains
- turn on the vacuum cleaner, immediately assessing its normal operation

EXCLUSIVELY USE FILTERS MANUFACTURED BY V-TUF

5.7 Troubleshooting

FAULT DETECTED	POSSIBLE CAUSE	SOLUTION RECOMMENDED
The vacuum cleaner will not start	- No power supply	<ul style="list-style-type: none"> - Check for the presence of voltage in the socket - Check the condition of the plug and the power cable - Contact V-TUF's technical assistance
Irregular vacuum values	- No power supply	- Run a filter cleaning cycle. If this solution is not effective, replace it.
	- Clogged hose	- Check the hose and clean it.
Excessively noisy motors	- Faulty motor	- Contact V-TUF's technical assistance

NOTES



www.V-TUF.COM