

INSTRUCTION AND MAINTENANCE MANUAL

PUMA SERIES



ORIGINAL INSTRUCTIONS



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1. INFORMATIVE SECTION



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

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

1.1 Foreword

Dear Customer

Thank you for having chosen DEPURECO; we hope you will enjoy using your new DEPURECO PUMA 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:

PUMA 10

PUMA 10 Z22

PUMA 10 Z21

PUMA 12

PUMA 15 Z22

PUMA 15 Z21

PUMA 15

PUMA 18

PUMA 18

PUMA 20

PUMA 20 Z22

PUMA 20 Z21

PUMA 25

PUMA 25 Z22

PUMA 25 Z21

PUMA 30

PUMA 30 Z22

PUMA 30 Z21

PUMA 35

L'aspiratore è equipaggiato con i seguenti filtri:

- FILTRO M**
- FILTRO M TEFLONATO**
- FILTRO M CARTUCCIA SISTEMA CONTROCORRENTE D'ARIA**
- FILTRO M ANTISTATICO**
- FILTRO H ASSOLUTO**

The vacuums are classified according to the following dust classes:

L Low risk - suitable to separate dust with an exposure limit value of > 1 mg/m³ on the basis of the occupied volume

M Medium risk - suitable to separate dust with an exposure limit value of > 0,1 mg/m³ 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 DEPURECO INDUSTRIAL VACUUMS S.r.l. (henceforth shortened to DEPURECO).

The technical information contained in this manual is exclusive property of DEPURECO 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 DEPURECO.

With reference to Regulation 1907/2006/EC (REACH), DEPURECO 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.

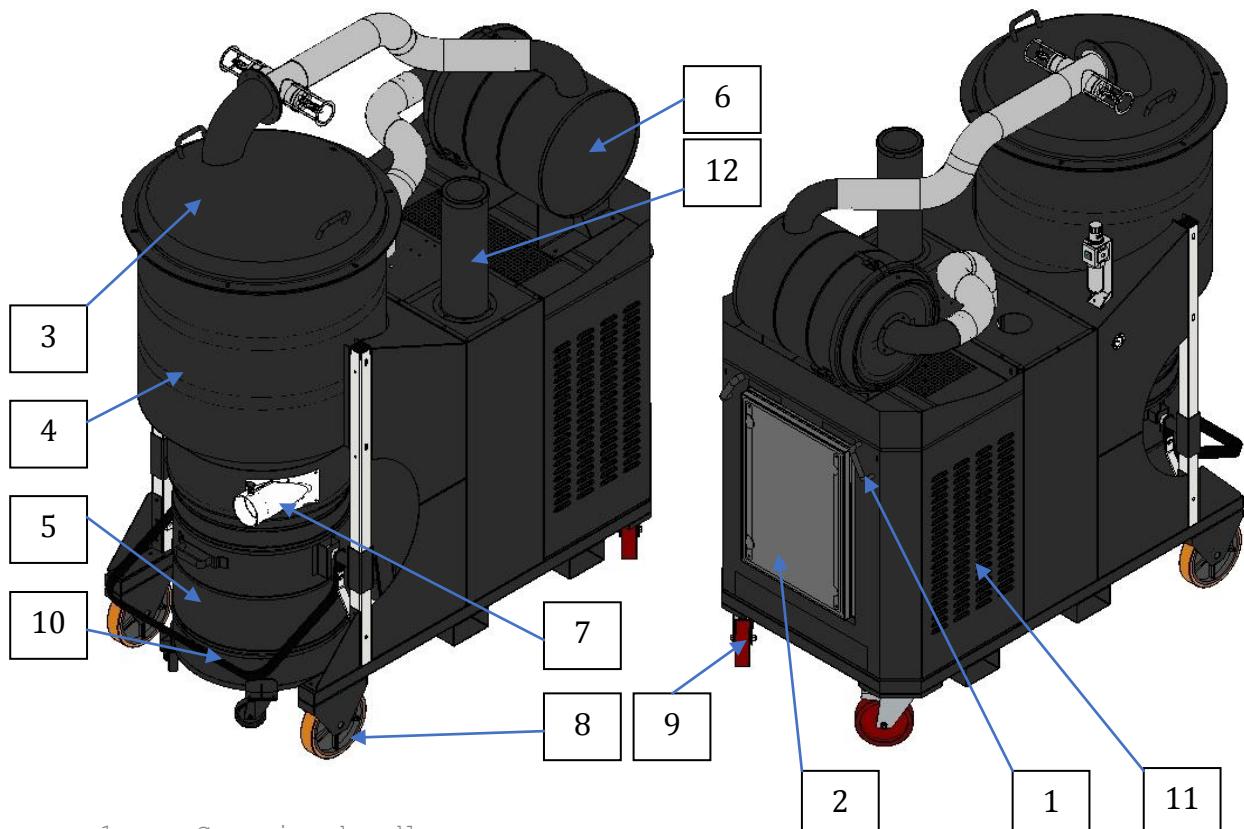
In the event of any dispute arising, the Court of Turin (Italy) shall have jurisdiction



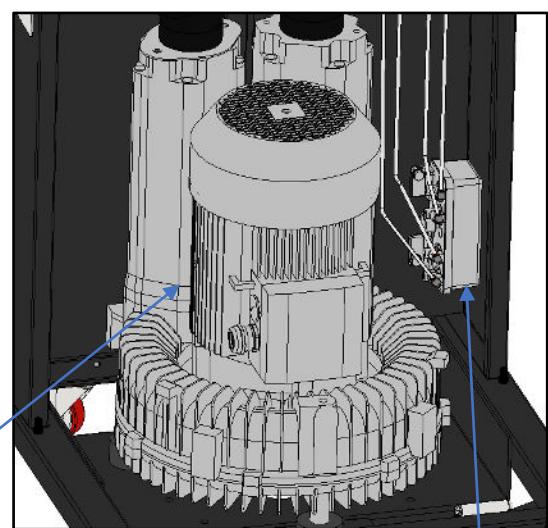
This manual forms an integral part of the vacuum cleaner. Read this manual and the other attachments supplied carefully. Knowledge of the instructions here contained is indispensable for the safe use and maintenance of the vacuum cleaner

1.2 Main parts

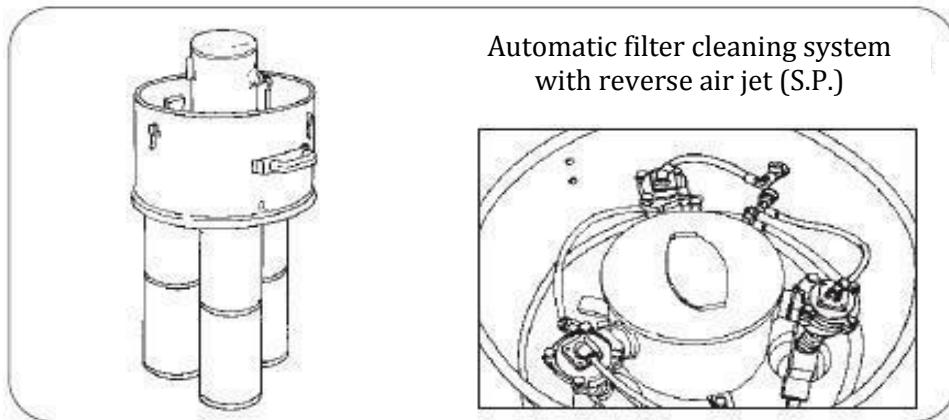
PUMA 30



1. Carrying handles
2. Electrical Panel
3. Cover
4. Filter chamber
5. Bin
6. Washing machine with HEPA filter (if applicable)
7. Suction inlet
8. Fixed wheels
9. Pivoting wheels
10. Handle
11. Pump protection cap
12. Silencer
13. Pump
14. 4 pilots box



1.3 Optional parts



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

1.4 Manufacturer's identification data

DEPURECO INDUSTRIAL VACUUMS S.r.l.

Corso Europa 609 - 10088 Volpiano (TO) - ITALY
phone +39 011 98 59 117 - **fax** +39 011 98 59 326 | VAT NO. 02258610357
 e-mail: depureco@depureco.com - website: www.depureco.com

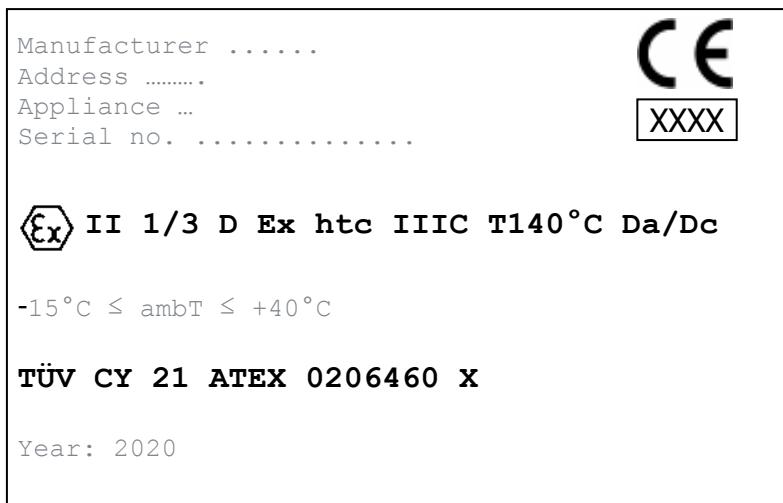
1.5 Identification plate

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



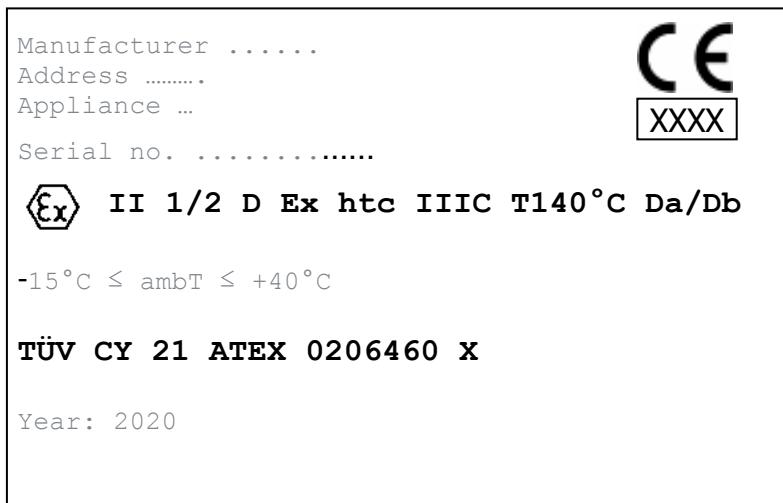
1.6 Atex marking

Marking for appliance suitable to contain an area classified as ZONE 20 indoors and suitable for use in an outdoor area classified as ZONE 22:



Other data (flow rate, etc.)

Marking for appliance suitable to contain an area classified as ZONE 20 indoors and suitable for use in an outdoor area classified as ZONE 21:



ATEX marking data:

CE : CE marking referring to ATEX Directive 2014/34/EU (Dir. 94/9/EC until 04/19/2016)

2261: identification of the body that carried out the check on the product (2261 = TÜV CYPRUS);

Ex : EX hexagon: compliance with ATEX Directive 2014/34/EU (Dir. 94/9/EC until 04/19/2016)

II: Appliance group (I: electrical appliances for mines, II: electrical appliances for surfaces)

1/3D: Category 1/3D, i.e. suitable for use in ZONE 22 and with ZONE 20 indoors

1/2D: Category 1/2D, i.e. suitable for use in ZONE 21 and with ZONE 20 indoors

IIIC: Dust group (any kind of dust, including conductive dust)

T140: Maximum surface temperature

Da/Dc: EPL Da/Dc, i.e. appliance suitable for use in ZONE 22 and with a ZONE 20 indoors

Da/Db: EPL Da/Db, i.e. appliance suitable for use in ZONE 21 and with a ZONE 20 indoors

AmbT: $-15^{\circ}\text{C} \leq \text{ambT} \leq +40^{\circ}\text{C}$

TÜV CY 21 ATEX 0206460 X: ATEX Certificate number (TÜV CY identifies TÜV CYPRUS).

1.7 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 21 and Zone 22 (for atex vacuums only ) classified atmospheres with the following limitations:
Minimum ignition energy (MIE) of dust $> 3\text{mJ}$

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).

Do not use the vacuum cleaner to remove chemically unstable dust
Any other use is considered **IMPROPER**.

1.8 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.

1.9 Noise level

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

PUMA 10 Z22
PUMA 15 Z22
PUMA 18 Z22
PUMA 30 P Z22
PUMA 30 S Z22

74 dB(A)

78 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.

1.10 Technical data

PUMA STD

	UM	PUMA 10	PUMA 12	PUMA 15	PUMA 18	PUMA 20	PUMA 25	PUMA 30	PUMA 35
Weight*	[Kg]	310	340	350	370	/	370	600	760
Weight with FIX base *	[Kg]	340	/	390	/	420	/	/	/
Overall dimensions **	[mm]	850x1550x1980						1050x1950x2300	
Voltage / Frequency	[V] - [Hz]	400 - 50/60							
Power	[kW-HP]	7.5 - 10	8.5 - 12	11 - 15	12.5 - 18	15-20	18.5	20-28	25-34
Maximum depression	[mBar]	310	420	350-480	420	410	320	320-600	450-550
Air flow rate	[m³/h]	730	1050	550-1120	1120	1050	1050	1100-1980	1130-2100
M filter surface area	[m²]	4.5					/	11	
SP cartridges surface area (if applicable)	[m²]	12						18	
H filter surface area (if applicable)	[m²]	11						11	
Noise level	[dB-A]	74						78	
Bin capacity	[L]	175						175	

PUMA ATEX

	U.M.	PUMA 10	PUMA 15	PUMA 20	PUMA 25	PUMA 30
Peso	[Kg]	386	419	425	432	600
Dimensioni di ingombro	[mm]	850 x 1550 x 1980				1050 x 1950 x 2300
Tensione / Frequenza	[V] - [Hz]	400 - 50/60				
Potenza	[kW] - [Hp]	7,5-10	11-15	15-20	18,5	18,5-25
Depressione massima	[mbar]	250 - 270	225	300	320	150
Portata aria	[m³/h]	663 - 720	915	915-1122	1050	1120 - 1185
Superficie filtro M	[cm²]	45000				18000
Superficie cartucce SP (dove previsto)	[cm²]	12000				
Superficie filtro H (dove previsto)	[cm²]	11000				
Rumorosità	[dB-A]	74			78	
Capacità contenitore	[L]	175				

(*) peso della macchina senza imballo - peso dell'imbocco = 25 Kg

(**) dimensioni della macchina senza imballo

1.11 Technical data

DEPURECO 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 DEPURECO, or if the serial number is removed (during the guarantee period).

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

Repairs will be exclusively executed at a DEPURECO site or in a DEPURECO 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.

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

In the event of any dispute arising, the Court of Turin (Italy) shall have jurisdiction.



To use the warranty visit www.depureco.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 Depureco at the number + 39 011 98 59 117



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.

DEPURECO 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.

The safety warnings are indicated by the following symbols:

DEPURECO 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 DEPURECO being used, it is crucial to ensure beforehand that there are no dangers for oneself and the others. Nevertheless, DEPURECO shall not be held liable.



Use exclusively Depureco original spare

Depureco disclaims any liability in case spare parts other than original have been



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 DEPURECO 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 connecting the power outlet, make sure that the ILME socket is positioned properly (for vacuum cleaners fitted with an air counterflow cleaning system). Carry out the connection in a safe area, where there are no explosive atmospheres.

- 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.



Make sure that the earthing clamp is properly connected to a point for which continuity with the earthing system is guaranteed.

- 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 DEPURECO 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 $100M\Omega$ (108Ω)
 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 10Ω
- 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 JETCLEAN 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.



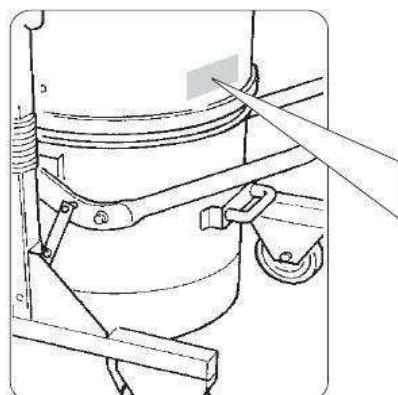
Warning!

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 DEPURECO.

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

DEPURECO recommends complying with the instructions, procedures and recommendations in this manual and with the safety standards in force. DEPURECO 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, DEPURECO 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.

DEPURECO 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 DEPURECO Quality Management System and archived by DEPURECO.



2.6 ATEX safety instructions



Ex Hexagon – ATEX Directive 2014/34/EU

In this manual the Ex hexagon is next to the main safety instructions concerning the risk of explosion.



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

Do not use the vacuum cleaner to remove chemically unstable dust



The user must ensure that the appliances are used according to their intended use, namely that they are employed in ZONES classified as compatible with the zones for which said appliances are declared suitable by the manufacturer. The appliance is designed to work in standard environmental conditions:

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

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, on the equipotential bonding conditions between the different metal parts of the appliance, particularly moving parts and the baskets holding the filter bags.



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 the safety instructions relating to the 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 disconnector 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 the 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 inlets 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*1011Hz);
- electromagnetic waves (from 3x1011Hz to 3x1015Hz);
- ionising radiation;
- ultrasounds.



3. HANDLING, UNPACKING AND INSTALLATION SECTION

4.1 Handling

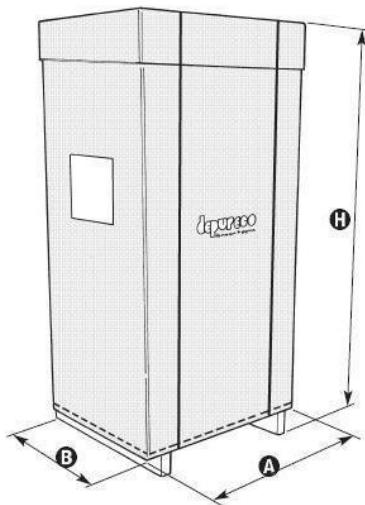


Warning!

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 the packed vacuum cleaner:



	U.M	A	B	H
PUMA 10/15/18/20	cm	90	170	225
PUMA 30/35	cm	100	190	250



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.

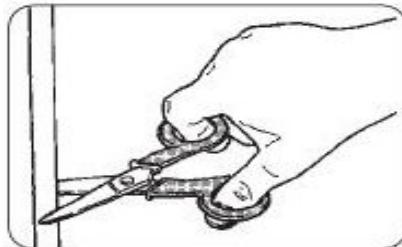
Always keep the height of the working environment in mind when lifting loads.

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.

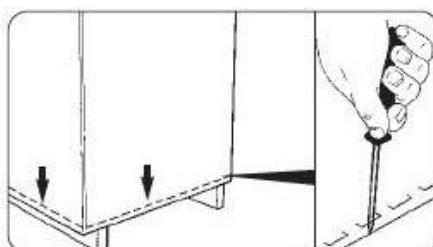


4.2 Unpacking

- Cut and unwind the two packaging fixing belts



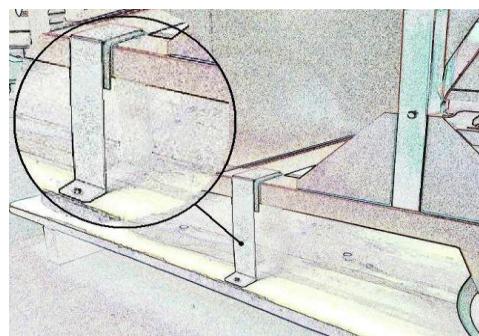
- remove the staples that fix the carton packaging to the pallet with the aid of a screwdriver



- 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.

4.3 Installation



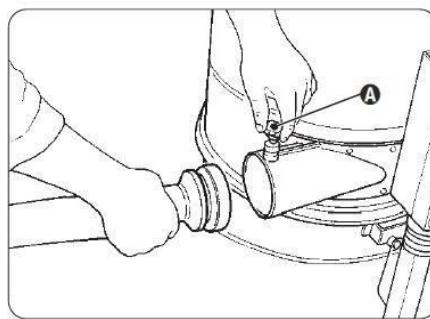
Caution!

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.

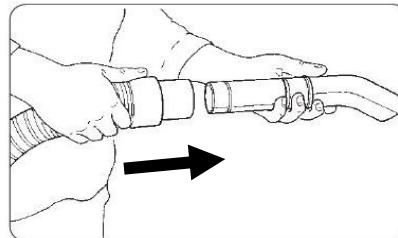
In the event of one or more components being damaged, do not continue with installation, inform DEPURECO about the anomaly and agree upon action to be taken.

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

- Lift the knob (A) and Insert the hose equipped with a sleeve in the special suction inlet
- (Det.n° 8, Section 1.2)



- 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 DEPURECO) 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.

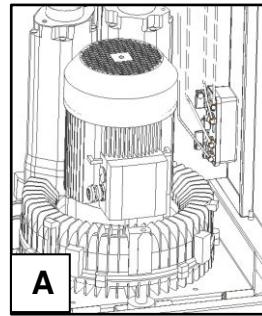


Warning!

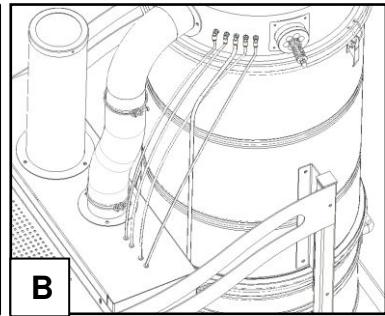
Do not insert the plug in the power supply socket with wet hands.
Do not use extension leads.

Connection to air supply (only for those vacuums with reverse jet cleaning system)

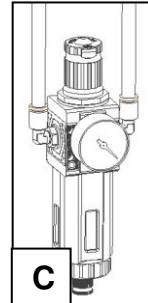
- A Ensure that air hoses are correctly installed on the control box
- B Connect the air supply from box and from the regulating filter to the fittings on the cap
- C ensure the air hoses are correctly connected to the regulating filter
- D Connect the air hoses (four ø6 mm hoses) placed on the cartridges and to the tank (one ø8mm hose)



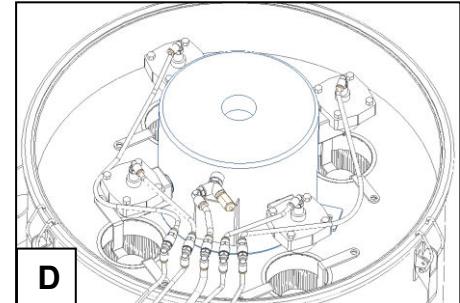
A



B



C



D



4. Work cycle

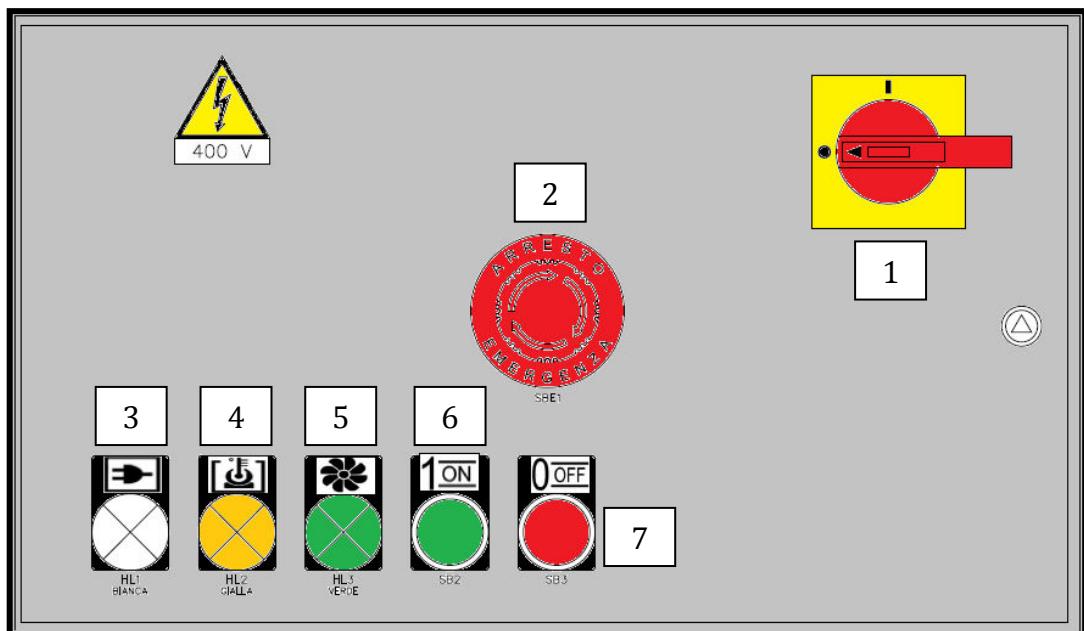
4.1 Work cycle

Make sure the power supply cable is undamaged and in perfect state.



Caution!

Before connecting the power outlet, make sure that the voltage of the power supply line matches the one reported on the data plate of the appliance.



Controls

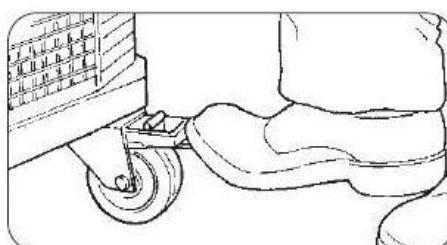
1. I/O disconnector
2. Emergency button
3. White indicator: power on
4. Yellow indicator: circuit breaker tripped
5. Green indicator: vacuum cleaner running
6. Green button: start vacuum cleaner
7. Red button: stop vacuum cleaner

Make sure the power supply plug is inserted properly into the power outlet.

Make sure that the hose is regularly inserted and locked in the appropriate suction inlet.

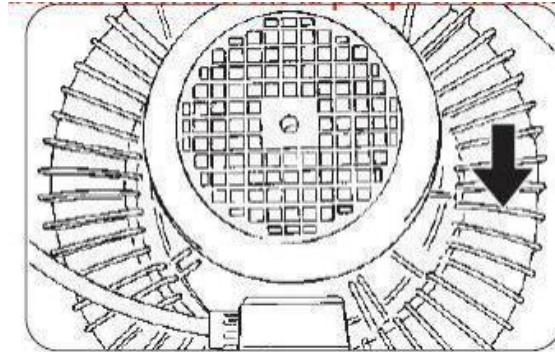
Make sure that the waste bin is regularly in place and locked into place under the chamber of the vacuum cleaner

Lock the vacuum cleaner into place by using the lever on the pivoting wheel





Turn the disconnector from 0 to I [1]
Check that the white power on indicator [3] is on
Press the green button [6] to start vacuuming
Check that the direction of rotation of the pump matches the one indicated by the arrow in the figure



Press the red button [7] to stop the vacuum cleaner
Press the emergency button [2] in the event of an EMERGENCY



Caution!

Do not move the vacuum cleaner while it is in operation.



Warning!

Before turning on the vacuum cleaner again, make sure that the pump has stopped completely.



Caution!

If there is dust coming out of the silencer, it may need to be replaced. In this case, stop the vacuum cleaner immediately and check it.



Warning!

Avoid rolling or bending the hose while vacuuming.

On the shoulder of the vacuum cleaner there is a vacuum gauge that indicates the degree of depression inside the vacuum cleaner. The vacuum gauge informs the operator about the conditions of the filter: an increase in depression indicates an increase in the clogging of the filter, which results in a lower vacuuming power. When the filter is clogged, the vacuum gauge shows the value reported in the following table. In this case, stop the machine and shake the filter.

Model	Clogged filter value	
PUMA 10 Z22	-0.22 bar	-22 kPa
PUMA 15 Z22	-0.22 bar	-22 kPa
PUMA 18 Z22	-0.22 bar	-22 kPa
PUMA 30 P Z22	-0.22 bar	-22 kPa
PUMA 30 S Z22	-0.22 bar	-22 kPa



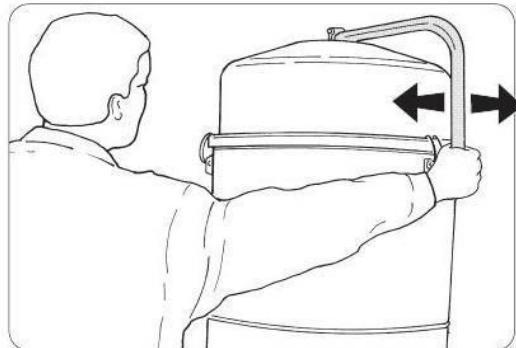
Warning!

Do not use the vacuum cleaner with a clogged filter

To clean the filter, proceed as follows:

Switch the vacuum off by rotating the main switch (7) to "OFF"

- Shake the filter by energetically pushing the lever from right to left as shown in the picture



Warning!

If the vacuum gauge still indicates an irregular vacuum value the flexible hose or the accessory could be clogged. In this case it will be necessary to clean it, removing the cause of the clogging.

Vacuum cleaners with reverse air jet filter cartridge cleaning system (S.P.)

The vacuum cleaner must be connected to the compressed air supply with a maximum pressure of 6 bars to the dedicate regulating filter (see § 3.3 of the manual).

The cleaning of the cartridges will be performed automatically during the vacuuming.



Warning!

If the vacuum cleaner doesn't operate correctly after the cleaning of the filter, it's possible that the filter is clogged and has to be replaced.



4.2 Emptyng the bin



Warning!

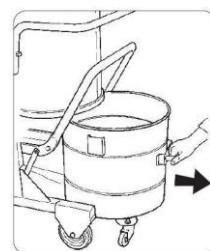
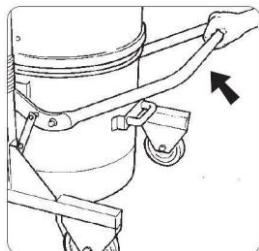
Wear PPE (gloves, dust mask, goggles, etc.) during this operation.

Depending on the type and quantity of material being vacuumed, it is necessary to periodically check

the bin to avoid filling it excessively.

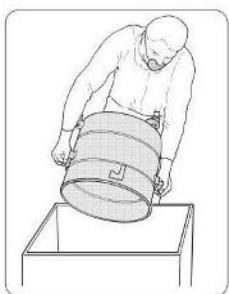
Proceed as follows to empty the container:

- Switch the machine off by switching the main switch (7) to "OFF"
- block the vacuum cleaner by means of the brake located on the swivelling wheel
- unlock the container by lifting the special handle.
- remove the bin by using the handles
- empty the bin in a dedicated container and dispose of the it in
- compliance with the standards for the country of use.



In the case the chosen collecting container is a plastic bag proceed as follows for its replacement:

- After having removed the bag, tie it, dispose of it and insert a new bag in the bin.



Warning!

If the bin or the bag weigh more than 15 Kg, at least two people are needed to empty it.

Disposal must be done in compliance with the existing laws for the country of use Of the vacuum cleaner.

For Italy - Legislative decree 152/2006 and subsequent modifications.

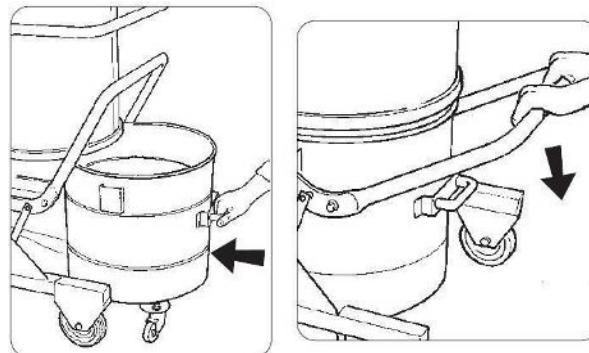




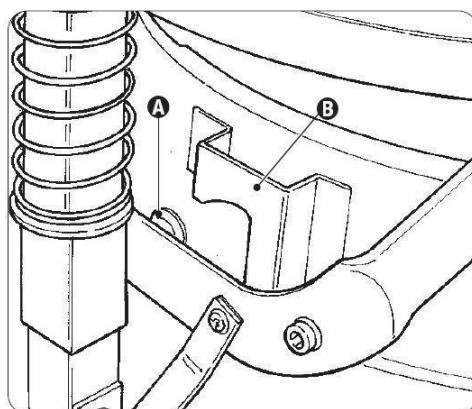
4.3 Insert and lock the bin

Follow the steps below to insert and lock the container:

- place the bin under the vacuum and push the bin lever completely, using two hands.



- The pins (A) must be aligned with the slots (B)



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 latter under the vacuum cleaner.



4.1 Storage – Decommissioning

Remove the filter and clean it; empty the refuse collection container and store the vacuum in a place protected against weather agents with the temperature ranging between 5 and 45 °C and cover it with a nylon tarp to protect it against dust.



5. MAINTENANCE SECTION



Warning!

Special vacuum maintenance must be carried out solely by specialised technicians authorised by the DEPURECO 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 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.

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; the tightness of the air system and 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.



Before starting any maintenance or cleaning operation, wear suitable PPE (protective clothing, goggles and/or gloves, etc.) according to the work to be done.

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 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 Safety Manager's duty to ensure the professionalism and skills of these technicians.

Before starting any maintenance operation, the Safety Manager 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, provide 24 Volt torches.





Before starting any maintenance operation, the Maintenance technician must:

cut off all power supplies and set the vacuum cleaner in safety lock condition



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 Safety Manager.



Warning!

After any maintenance intervention, the Health and Safety Manager 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 DEPURECO). This operation is the sole responsibility of an electrician.
- Check the integrity of the safety symbols (pictograms) applied to the vacuum cleaner.
- Verify the efficiency of the filters by checking the vacuum gauge.
- Check the integrity of the hose and of the accessories to be used.



Warning!

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



5.3 Replacing the filter

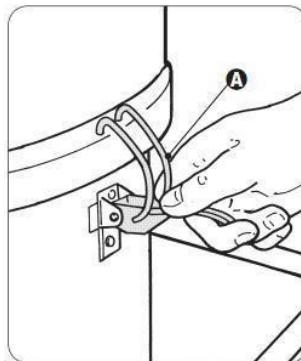


Warning!

Wear appropriate PPE (dust mask, latex gloves, goggles, etc.).

Proceed as follows to replace the filter:

- Switch the vacuum off by positioning the main switch (7) on "OFF"
- Disconnect the vacuum cleaner from the power socket
- Unlock the three locking hooks (A) on both sides



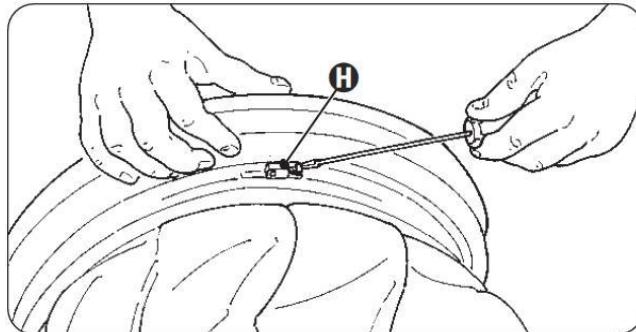
- Disconnect the hose (B) by unscrewing the clamp with a dedicated hex key
- Remove the vacuum's cap (C)
- Extract the filter and place all components on a work bench



- If the vacuum cleaner is equipped with a reverse air jet filter cleaning system (S.P) after having removed the cap (C) it's necessary to disconnect the plug (E) from the socket and then proceed with the removal of the filter



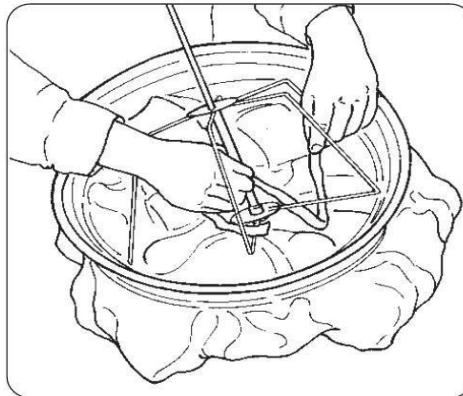
- Loosen the fastening clip (H), remove the filter from its support and, using scissors, cut the lower belts that clamp it to the shaking cage



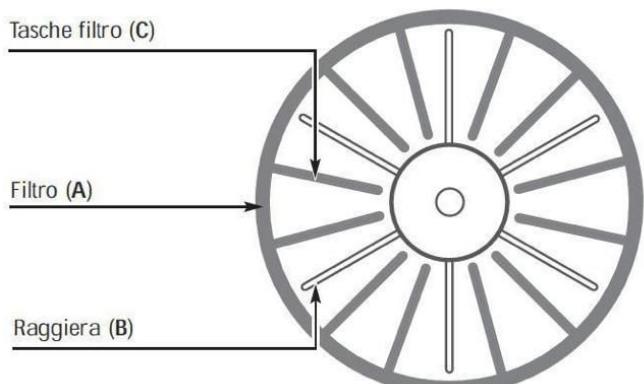
Remove the filter, put it in a plastic bag, seal it and dispose it of according to the current legislation on the type of material extracted

To reassemble the filter, operate in reverse order:

- Insert the new filter in the support ring and lock it by means of the fastening clip (H)



- lock the filter to the cage by tying the special laces on the bottom side
- Assemble the filter (A) inserting into each space of the radial filter support ring (B), two of the filter's pockets (C).





- insert the filter with ring and cage (D) inside the filtering chamber
- Reposition the vacuum cleaner's cap (C),
- Pay attention to the direction of the inlet which must be positioned in the direction of the flexible hose (B)
- Lock the fastening clips (A)
- Connect the hose (B)
- Connect the compressed air supply (A) to the valve's junction
- connect the vacuum cleaner to the mains
- turn on the vacuum cleaner, immediately assessing the regularity of its operation.

5.4 Replacing the cartridges on the S.P. cartridge cleaning system (if provided)

To replace the filter cartridges, proceed as follows:

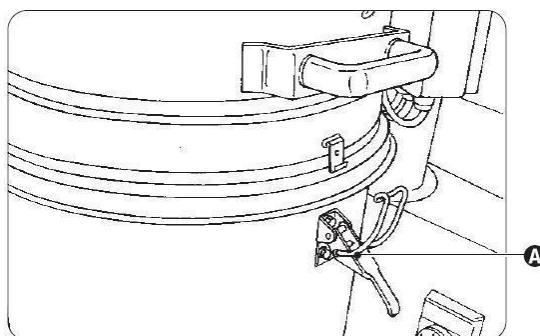
- Switch the machine off by turning the main switch to "OFF"
- Unplug the vacuum
- Disconnect the compressed air from the valve



Warning!

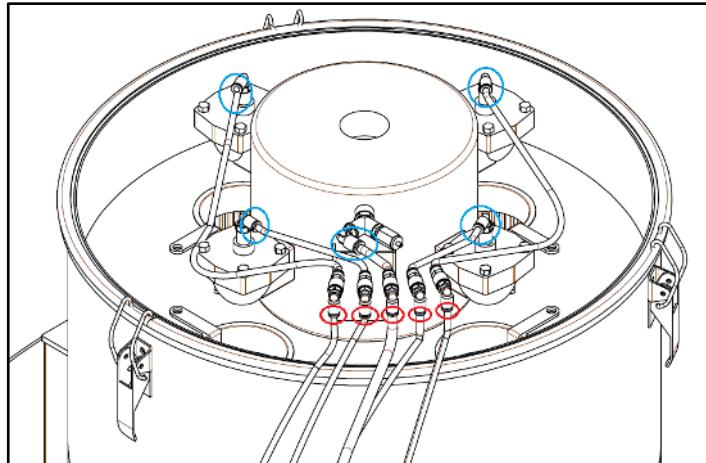
Wear appropriate PPE (dust mask, latex gloves, goggles, etc.).

- Unlock the hooks on both sides (A)

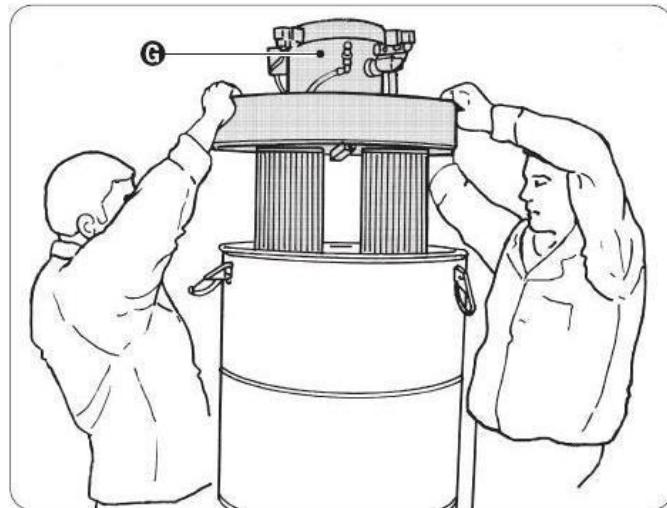


- Disconnect the suction hose from the cap, loosening the dedicated hose clamp
- Disconnect the external air hoses (red ones)
- Slightly lift the cap
- Disconnect the air hoses connected to the valves and to the tank (blue)

- Scollegare i tubi dell'aria collegati alle valvole e serbatoio (blu)

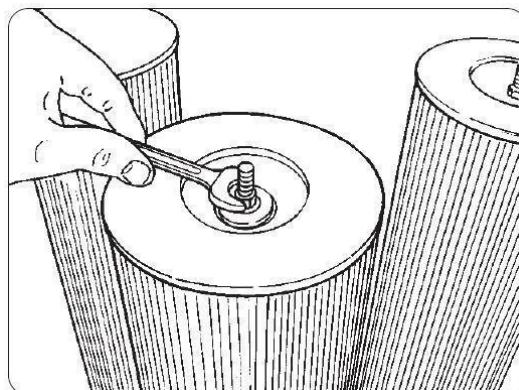


- Remove the vacuum's cap
- Lift the filtering cartridges support (G) and position it upside down on a work bench



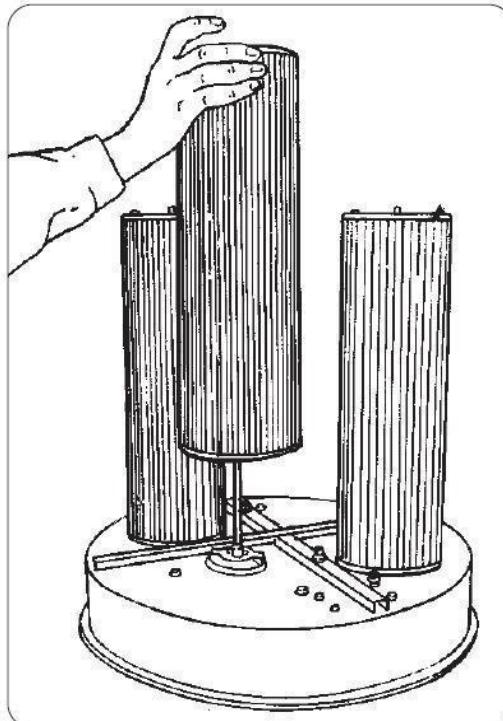
Warning!
Two people are needed to carry out this operation,

- Unscrew and remove the fastening nuts from the base of the cartridges.





- Remove and replace the cartridges.



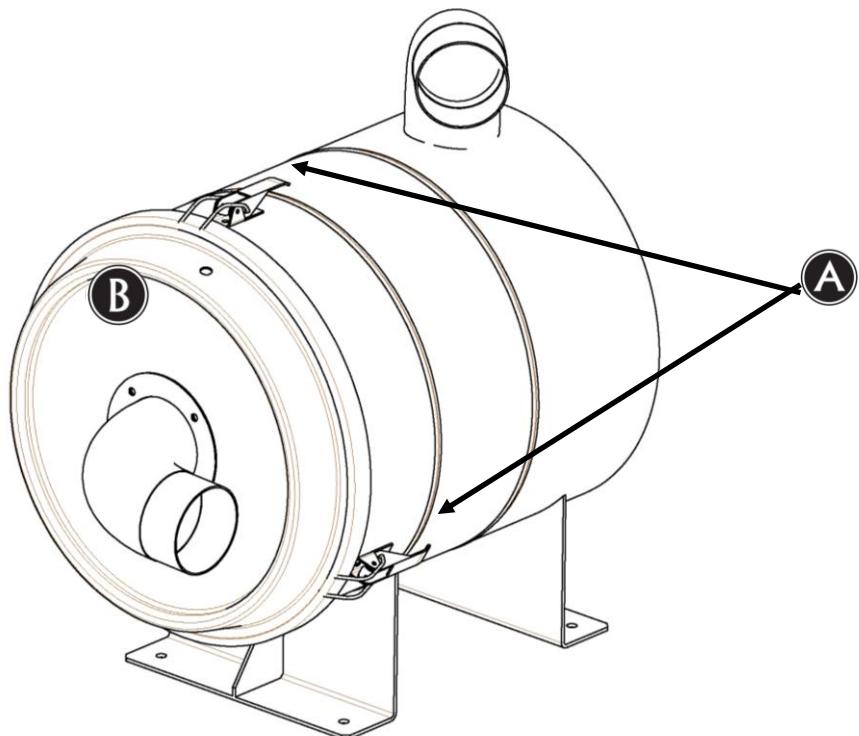
remove the cartridges, put them in a plastic bag, seal it and **dispose it of according to the applicable legislation on** the type of material collected.

To **reassemble the cartridges**, operate in reverse order:

5.5 Replacing the HEPA cartridge (if provided)

To replace the HEPA cartridge proceed as follows:

- Switch the machine off by turning the main switch to "OFF"
- Unplug the vacuum
- Unlock the HEPA unit's three locking hooks (A) - The unit is positioned on the protecting cage of the vacuum cleaner's blower.
- Remove the cap (B)



- Remove the HEPA cartridge by unscrewing the fastening nut.



remove the cartridge, put it in a plastic bag, seal it and **dispose it of according to the applicable legislation on** the type of material collected.

To reassemble the cartridge proceed in reverse order.

- Position the new cartridge inside the unit and secure the fastening nut again
- Reposition the unit's cap (B)
- Lock the unit's three locking hooks (A) and secure the HEPA unit
- Connect the vacuum cleaner to the mains
- Switch the vacuum cleaner on by positioning the main switch to "ON", then check to make sure it works properly.

EXCLUSIVELY USE FILTERS MANUFACTURED BY DEPURECO



5.6 Troubleshooting

ANOMALY	POSSIBLE CAUSE	RECOMMENDED SOLUTION
The vacuum cleaner will not start	- No power supply	<ul style="list-style-type: none">- Verify the presence of voltage in the socket- Verify the integrity of the plug and the power cable- Contact DEPURECO's technical assistance service
The vacuum gauge indicates an irregular vacuum value	- Clogged filter	<ul style="list-style-type: none">- Shake the filter.- Replace it should the cleaning not be enough .
	- Clogged hose	<ul style="list-style-type: none">- Check the hose and clean it
Dust comes out of the vacuum cleaner	- Perforated filter	<ul style="list-style-type: none">- Replace the filter
	- Filter not suitable for the vacuumed material	<ul style="list-style-type: none">- Install a filter which is suitable for the vacuumed material
Excessively noisy motor	- Faulty pump	<ul style="list-style-type: none">- Contact DEPURECO's technical assistance
The yellow "Motor thermal relay" indicator light lights up (FOX 10)	- Overheated motor	<ul style="list-style-type: none">- Rearm the thermal relay as described in paragraph 5.5
The motor stops (FOX 10)	- A sudden power surge may have blown the fuses	<ul style="list-style-type: none">- Replace the fuse as described in paragraph 5.5.



In case of scrapping, to avoid damage to the environment, all components of the vacuum cleaner, must be disposed of responsibly, in appropriate landfills, in compliance with current legislation - for Italy Legislative Decree no. 152/2006 and subsequent amendments. (subsequent modifications and additions).

Before scrapping the machine, the plastic and rubber materials must be separated from the electrical material.

Correct disposal of the product (electrical and electronic equipment waste)

The electrical and electronic parts of this product must be disposed of in compliance with Italian Legislative Decree 151/2005 and subsequent amendments. (Directive 2002/96/EC on WEEE - Waste Electrical and Electronic Equipment)

The parts of the vacuum made of plastic material, aluminium and steel can be recycled in appropriate centres.



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



MAINTENANCE LOG:

INTERVENTION 1:

DATE:

TECHNICAL ASSISTANCE:

TYPE OF INTERVENTION:

INTERVENTION 2:

DATE:

TECHNICAL ASSISTANCE:

TYPE OF INTERVENTION:

INTERVENTION 3:

DATE:

TECHNICAL ASSISTANCE:

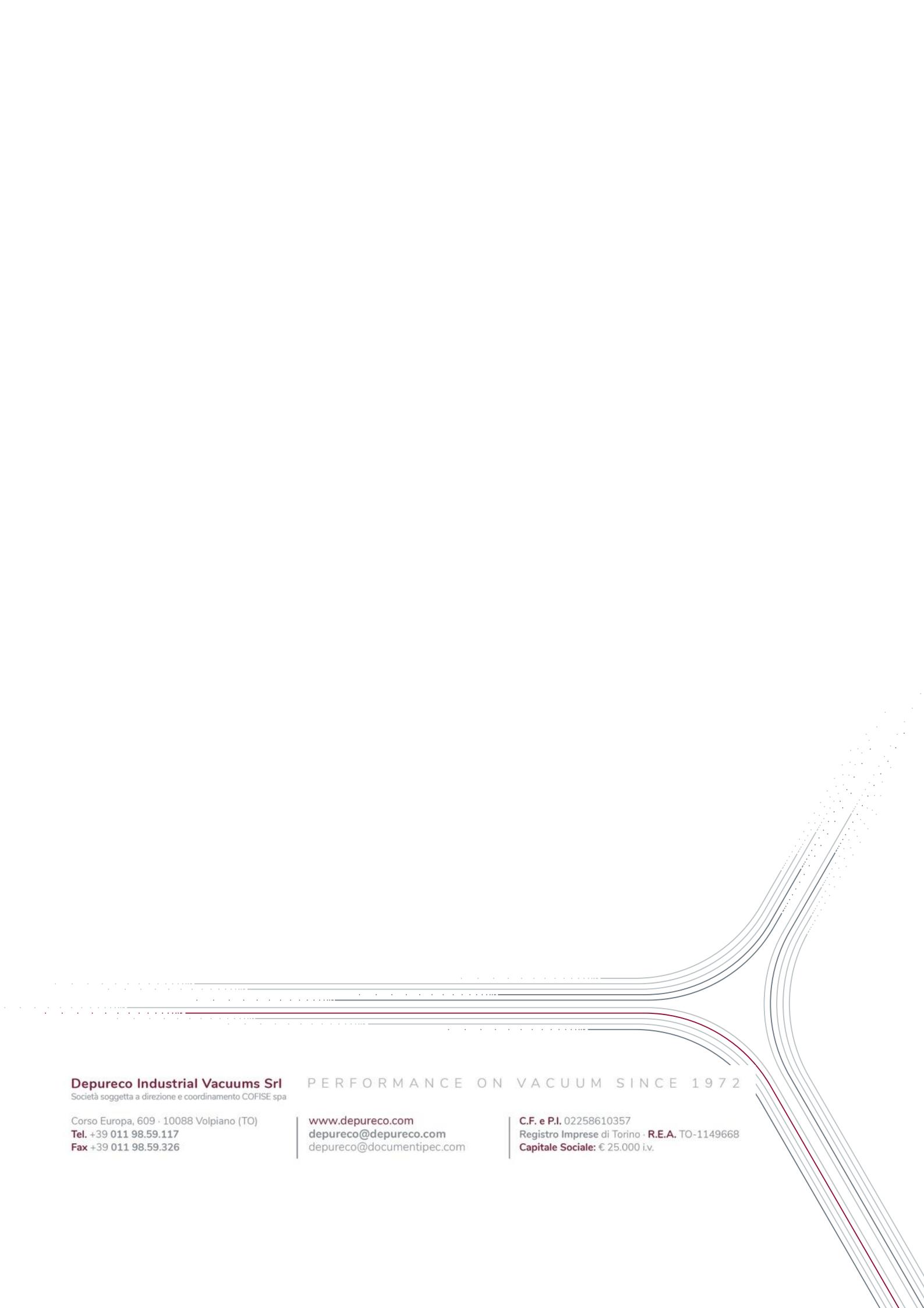
TYPE OF INTERVENTION:

INTERVENTION 4:

DATE:

TECHNICAL ASSISTANCE:

TYPE OF INTERVENTION:



Depureco Industrial Vacuums Srl
Società soggetta a direzione e coordinamento COFISE spa

Corso Europa, 609 · 10088 Volpiano (TO)
Tel. +39 011 98.59.117
Fax +39 011 98.59.326

PERFORMANCE ON VACUUM SINCE 1972

www.depureco.com
depureco@depureco.com
depureco@documentipec.com

C.F. e P.I. 02258610357
Registro Imprese di Torino · **R.E.A.** TO-1149668
Capitale Sociale: € 25.000 i.v.

