

VHS120 L - VHS120 M - VHS120 H

Instructions for use

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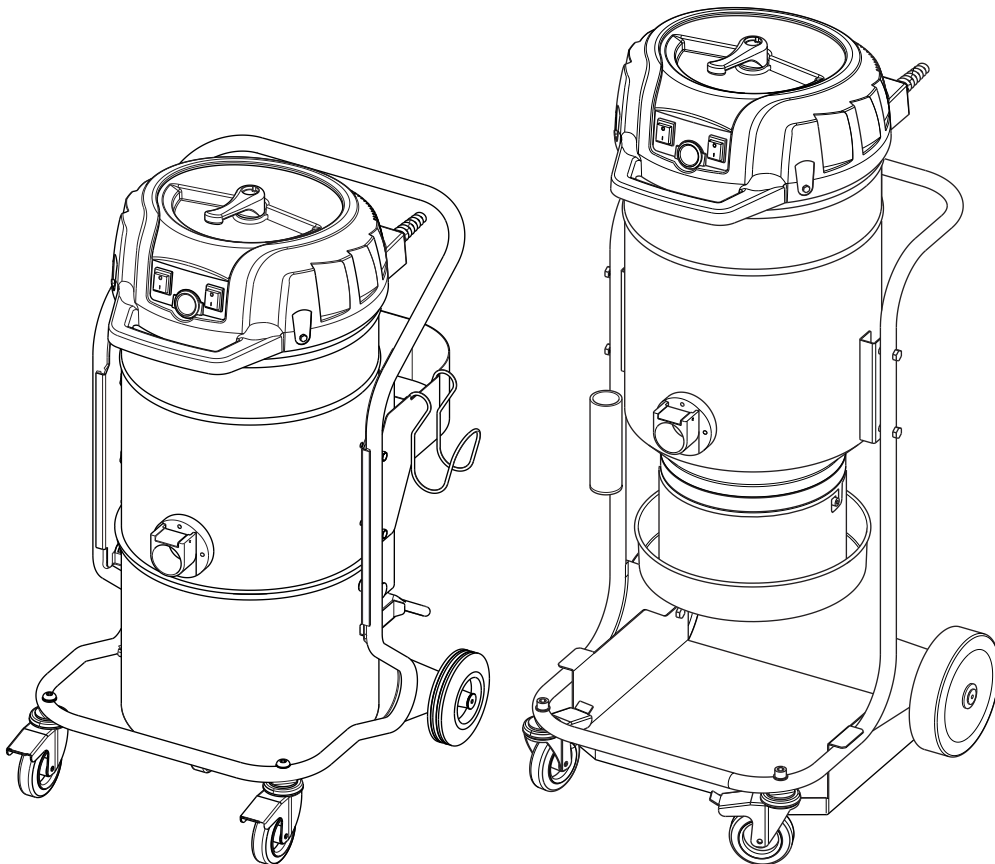


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Instructions for use

Read the operating instructions and comply with the important safety recommendations identified by the word **WARNING!**

Operator's safety



WARNING!



Before starting the vacuum cleaner, it is absolutely essential to read these operating instructions and to keep them on hand for consultation.

The vacuum cleaner can only be used by people who are familiar with the way it works and who have been explicitly authorised and trained for the purpose. Before using the vacuum cleaner, the operators must be informed, instructed and trained on how to work it and for which substances its usage is permitted including the safe method for removing and disposing of the vacuumed material.



WARNING!

The use of vacuum cleaner 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 machine. Children must be supervised to make sure they will not play with the vacuum cleaner.

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General information for using the vacuum cleaner

Use the vacuum cleaner in accordance with the laws in force in the country where it is used.

Besides the operating instructions and the laws in force in the country where the device is used, the technical regulations for ensuring safe and correct operation must also be observed (Legislation concerning environmental and labour safety, i.e. European Union Directive 89/391/EC and successive Directives).

Do not perform any operation that could jeopardize the safety of people, property and the environment.

Comply with the safety indications and prescriptions in this instruction manual.

Proper uses

This vacuum cleaner is suitable for commercial use, in hotels, schools, hospitals, factories, shops, offices and apartment hotels for example, for hire and in any case for purposes other than normal domestic use.

This vacuum cleaner is suitable for cleaning and vacuuming solid materials in indoor and outdoor environments.

- Always leave enough room around the vacuum cleaner to reach the controls easily.

The vacuum cleaner has been designed to be used by one operator only.

This vacuum cleaner consists of an automated vacuum unit, with a filter upstream and a container for collecting the vacuumed material.

Improper Use



WARNING!

The following use of the device is strictly forbidden:

- *Outdoors in case of atmospheric precipitation.*
- *When not used on level horizontal surfaces.*
- *When the filtering unit is not installed.*
- *When the vacuum inlet and/or hose are turned to face parts of the human body.*
- *Use without the cover on the vacuum unit.*
- *When the dust container is not installed.*
- *Use without the guards, protective covers and safety systems installed by the manufacturer.*
- *When the cooling vents are partially or totally clogged.*
- *When the vacuum cleaner is covered with plastic or fabric sheets.*
- *Use with the air outlet partially or totally closed.*
- *When used in narrow areas where there is no fresh air.*
- *Vacuumping liquids with vacuum cleaners not equipped with specific original stopping systems.*
- *Vacuumping the following materials:*
 1. *Burning materials (embers, hot ashes, lit cigarettes, etc.).*
 2. *Naked flames.*
 3. *Combustible gas.*
 4. *Flammable liquids, aggressive fuels (gasoline, solvents, acids, alkaline solutions, etc.).*
 5. *Explosive dust/substances and/or ones liable to ignite in a spontaneous way (such as magnesium or aluminium dusts, etc.).*

NB: *Fraudulent use is not admitted.*

Versions and variations

Versions



WARNING!

Dust classification

Versions for dust harmful to health:

- *classes L, M, H, the vacuum cleaner is suitable for use with hazardous, non-combustible/non-explosive dust in accordance with standard EN 60335-2-69, Annexe AA.*

Check the tolerated dust hazard class on the data plate and on the label on the vacuum cleaner:

- *L (low risk)*
- *M (medium risk)*
- *H (high risk)*

[NOTE]

- *In the case of dust harmful to health, contact the local health and safety authorities, and observe national regulations in force both during use and disposal.*
- *Radioactive substances are not included in the definition of the type of dust harmful to health described above.*

Optional

LIQUIDS

Version L can be equipped with liquid mechanical stop.

EC Declaration of conformity

Every vacuum cleaner comes with a EC Declaration of conformity. See fac-simile in fig. 19.

[NOTE]

The Declaration of conformity is an important document and should be kept in a safe place to be presented to the Authorities on request.

Classification in compliance with standard EN 60335-2-69 – Annexe AA

Vacuum cleaners for dust harmful to health are classified according to different dust classification:

- **L** (low risk) suitable for separating dust with an exposure limit value of over 1 mg/m³, depending on the volume occupied;
- **M** (medium risk) suitable for separating dust with an exposure limit value of no lower than 0.1 mg/m³, depending on the volume occupied;
- **H** (high risk) for separating all dust with an exposure limit value lower than 0.1 mg/m³, depending on the volume occupied, including carcinogenic and pathogenic dusts, such as asbestos.

Dust emissions in the environment

Indicative values of performance:

- Version for dust harmful for the health:
 - L: retains at least 99% of vacuumed particles (see EN 60335-2-69, Annexe AA);
 - M: retains at least 99.9% of vacuumed particles (see EN 60335-2-69, Annexe AA);
 - H: retains at least 99.995% of vacuumed particles (see EN 60335-2-69, Annexe AA).

General recommendations



WARNING!

If an emergency situation occurs:

- ***filter breakage***
- ***fire outbreak***
- ***short-circuit***
- ***motor block***
- ***electric shock***
- ***etc.***

Turn the vacuum cleaner off, unplug it and request assistance from qualified personnel.

[NOTE]

Check the place of work and substances tolerated for the vacuum cleaner suitable for liquids.



WARNING!

The vacuum cleaners must not be used or stored outdoors, or in damp places. Only versions with the level sensor can be used for liquids, if not, they can only be used to vacuum dry materials.



DANGER!

Version for liquids. If foam or liquid leaks out of the vacuum cleaner, turn it off immediately, unplug it and contact qualified personnel for assistance.

Vacuum cleaner description

Vacuum Cleaner Parts and Labels

Figure 1

1. Identification plate which includes:
Model Code, which includes Class (L - M - H), Technical Specifications (see table on page 6), Serial N^o., EC Mark, Year of manufacture, Input voltage.
2. Dust container (VHS120 L).
Longopac[®] bag for collecting vacuumed material (VHS120 M-H).
3. Dust container release lever (VHS120 L).
4. Inlet
5. Inlet plug (VHS120 M - H).
6. Air outlet.
7. Castor locking lever.
8. Handle.
9. Closing band lever.
10. Safety bolt.
11. Mechanical stop for liquids (VHS120 L).
12. Container for liquids (VHS120 L).
13. Inlet of the container for liquids (VHS120 L).
14. Inlet plug when present container for liquids (VHS120 L).
15. Filtration class label.
16. Warning plate.
Draws the operator's attention to the fact that the filter must only be shaken when the vacuum cleaner is turned OFF (see also par. "Primary filter shaker").
17. Plug for connecting the vacuum cleaner to an electrical socket.

This vacuum cleaner creates a strong air flow which is drawn in through the inlet (4, Fig. 1) and blown out through the outlet (6, Fig. 1).

Before turning on the vacuum cleaner, fit the vacuum hose into the inlet and then fit the required tool on to the end part (refer to the manufacturer's accessory catalogue or Service Centre).

The diameters of the authorized hoses are indicated in the Technical data table.


The vacuum cleaner is equipped with a main filter which enables it to be used for the majority of applications. Besides the primary filter, which retains the most common types of dust, the vacuum cleaner can be fitted with a secondary filter (absolute class H) with a higher filtering capacity for fine dusts and dusts that are hazardous to health.

Figure 2

1. Class L label
2. Class M label
3. Class H label

The class H label reads the following.

! WARNING! !



This vacuum cleaner contains dust hazardous for the health. Only authorised personnel wearing suitable personal protective equipment should empty and service the vacuum cleaner, including removing the means used to vacuum the dust. Do not use without the complete filter system in place.

Optional Kits

Please contact the manufacturer's sales network for information on optional kits.

Instructions for installing the optional are included in the conversion kit.



WARNING!

Use only genuine optional kits supplied and authorized by the manufacturer. Optional kits must be installed by qualified Nilfisk personnel.

Accessories

Various accessories are available; refer to the manufacturer's accessory catalogue.



WARNING!

Use only genuine accessories supplied and authorised by the manufacturer.

Packing and unpacking

Dispose of the packing materials in compliance with the laws in force.

Figure 3

MODEL	A mm	B mm	C mm	kg (*)
VHS120 L	700	790	1500	53
VHS120 M	700	790	1500	66
VHS120 H	700	790	1500	68

(*) Weight with packing

Unpacking, moving, use and storage

Operate on flat, horizontal surfaces.

The load-bearing capacity of the surface the vacuum cleaner is placed on must be suitable for bearing its weight).

Setting to work - connection to the power supply



WARNING!

- *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.*
- *Connect the plug 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.*
- *Make sure that connections to the electrical mains and plug are correct.*
- *Use the vacuum cleaners only when the cables that connect to the electricity 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 device 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.*

Extensions

If an extension cable is used, make sure it is suitable for the power input and protection degree of the vacuum cleaner.

Minimum section of extension cables: 2.5 mm²

Maximum length = 20 m

Cable = H07 RN - F



Sockets, plugs, connectors and installation of the extension cable must maintain the IP protection degree of the vacuum cleaner, as indicated on the data plate.



Never spray water on the vacuum cleaner: this could be dangerous for persons and could short circuit the power supply.



The vacuum cleaner's power socket must be protected by a differential circuit-breaker with surge current limitation, that shuts off the power supply when the current discharged to the ground exceeds 30 mA for 30 msec. or an equivalent protection circuit.

Dry applications

[NOTE]

The supplied filters and the bag (if applicable) must be installed correctly.



Comply with the safety regulations governing the vacuumed materials.

Vacuuming of liquids (VHS 120 L)



WARNING!

Comply with the safety regulations governing the vacuumed materials.



WARNING!

- **Make sure the liquid stop device is working correctly before vacuuming liquids.**
- **If foam forms, turn off the vacuum cleaner immediately and empty the container.**
- **Warning: switch off the vacuum cleaner immediately if foam or liquid leaks out.**
- **Regularly clean the liquid level limiting device and check to make sure that there are no signs of damage.**
- **Warning: the dirty liquid collected by the vacuum cleaner must be considered conductive.**



WARNING!



Do not use the vacuum cleaner if the liquid mechanical stop is not installed!
If it's used without the float, the vacuum cleaner may be seriously damaged.



WARNING!

When vacuuming a mix of water and air, take care to avoid overloading the motor of the vacuum unit.

Figure 1

The machine vacuums liquids and deposits them into the container.

When the machine vacuums liquids it must be equipped with liquid mechanical stop (11).

The liquid mechanical stop requires a special container (12) with relevant nozzle (13).

Before starting the vacuum cleaner, close the upper inlet (4) with the relevant plug (14) and fit the vacuum hose in the relevant hose (13), then fit the required tool on to the end part of the hose (Refer to the manufacturer's accessory catalogue or Service Centre).

The liquid mechanical stop (11) stops the vacuuming operation (the vacuuming units remain activated) when the liquid container (12) is full; it is then necessary to turn off the vacuum cleaner and empty the liquid container (12). The vacuum cleaner does not switch off automatically.

Maintenance and repairs



WARNING!



Disconnect the vacuum cleaner from its power source before cleaning, servicing, replacing parts or converting it to another version/variant, the plug must be disconnected from the socket.

- **Carry out only the maintenance operations described in this manual.**
- **Use only original spare parts.**
- **Do not modify the vacuum cleaner in any way.**

Failure to comply with these instructions could jeopardize your safety. Moreover, such action would immediately make the EC declaration of conformity issued with the vacuum cleaner void.



WARNING!



For maintenance procedures not described in this manual, please contact the manufacturer's technical support or sales network.

Technical data					
Parameter	Units	VHS120 L		VHS120 M-H	
Voltage (50 - 60 Hz)	V	110 UK	230 EU / UK	110 UK	230 EU / UK
Power rating	kW	2		2	
Power rating (EN 60335-2-69)	kW	1.5	1.8	1.5	1.8
Max vacuum	hPa - mbar	211 - 211		211 - 211	
Maximum air flow rate (with hose, length: 3 m, diameter: 50 mm)	m ³ /h - L/min'	282 - 4700	312 - 5200	282 - 4700	312 - 5200
Noise level (Lpf) (EN60335-2-69)	dB(A)	74		74	
Protection	IP	44		44	
Insulation	Class	GB		GB	
Longopac® dust bag capacity	L	-		25	
Container capacity	L	37		-	
Inlet (diameter)	mm	50		50	
Allowed hoses	mm Ø	50		50	
Primary filter surface ("L" and "M")	m ²	1.6		1.6	
Upstream absolute "H" filter surface	m ²	1.6		1.6	
Absolute filter efficiency (EN 1822)	%	99.995 (H14)		99.995 (H14)	
Weight ⁽¹⁾	kg - lb	38 - 83.78		51 - 112.44 (M)	53 - 116.84 (H)

Dimensions

Figure 4

Model	VHS120 L	VHS120 M-H
A (mm - in)	570 - 22.44"	630 - 24.80"
B (mm - in)	560 - 22.05"	628 - 24.72"
C (mm - in)	1015 - 39.96"	1300 - 51.18"

(1) Net weight

Storage conditions:
T: -10°C ÷ +40°C
Humidity: 85%

Operating conditions:
Maximum altitude: 800 m
(Up to 2,000 m with reduced performances)
T: -10°C ÷ +40°C
Humidity: 85%

GB

Controls and indicators

Figure 5

1. **Main motor Start/Stop indicator and button**
You can start/stop the main motor with this button. If the indicator is lit, the main motor is ON.
2. **Second motor Start/Stop indicator and button**
You can start/stop the second motor with this button. If the indicator is lit, the second motor is ON.
3. **Vacuum gauge**
4. **Manual filter shaker lever**

Inspections prior to starting

Figure 6

1. Inlet

Before starting, check that:

- The filters are installed;
- The closing band is properly tightened;
- The vacuum hose and tools have been correctly fitted into the inlet (1);
- The liquid mechanical stop (11, Fig. 1) is properly installed inside the liquid container (VHS120 L);
- The Longopac® bag (2, Fig. 1) (VHS120 M-H) is installed.



WARNING!

Lock the castor brakes before starting the vacuum cleaner (2, Fig. 6).



WARNING!

Do not use the device if the filters are faulty.

Starting and stopping the vacuum cleaner

Figure 5

VHS120 L-M-H Versions

- Turn the button (1) to "1" position to start the first motor (indicator light on).
- Turn the button (2) to "1" position to start the second motor (indicator light on).
- Turn the button (1) to "0" position to stop the first motor (indicator light off).
- Turn the button (2) to "0" position to stop the second motor (indicator light off).

Liquid vacuuming stop (VHS120 L)

- When the container is full, the liquid mechanical stop (11, Fig. 1) turns off the vacuuming; the vacuum units remain on.
- Do not leave the vacuum units on after the liquid mechanical stop has tripped, to avoid unnecessary overloading of the motors; turn the vacuum units off by turning the switches (1 and 2) to "0" position.

Operation

Figure 7

Vacuum gauge (2): green zone (3), red zone (1)

When using the vacuum cleaner, check the flow control:

- when the vacuum cleaner is operating, the pointer of the vacuum gauge must remain in the green zone (3) to ensure that the speed of the intake air does not drop below the safety value of 20 m/sec;
- If the pointer is in the red zone (1) it means that the speed of the air in the vacuum hose is less than 20 m/s, and that the vacuum cleaner is not operating in optimal conditions. Shake or replace the filter.
- during normal operation conditions, close the vacuum hose, the pointer of the vacuum gauge must switch from the green zone (3) to the red zone (1).



WARNING!



When the vacuum cleaner is operating, always check that the vacuum gauge pointer remains in the green zone (3). Consult the "Troubleshooting" chapter if faults occur.



WARNING!



The air speed in the suction tube must not be less than 20 m/s. Condition indicated by the vacuum gauge pointer in the green zone (3).



WARNING!



All vacuum cleaners can be used only with hoses whose diameters comply with the specifications in the "Technical Data" table.



WARNING!



Consult the "Troubleshooting" chapter if faults occur.

Primary filter shaker

According to the quantity of vacuumed material, if the vacuum gauge pointer (2, Fig. 7) goes from the green zone (3, Fig. 7) to the red zone (1, Fig. 7), shake the primary filter by turning the lever (4, Fig. 5) clockwise/counterclockwise for at least 5 complete cycles.



Stop the vacuum cleaner before using the filter shaker. Do not shake the filter while the vacuum cleaner is on, as this could damage the filter.

Wait before restarting the vacuum cleaner, to allow the dust to settle. Replace the filter element if the vacuum gauge pointer stays in the red zone (1, Fig. 7) even after the filter has been shaken (see "Primary filter replacement").

Emergency stopping

Turn the buttons (1 and 2 Fig. 5) to "0". The vacuum cleaner stops.



The motors and internal components of the vacuum cleaner will still be electrically powered.

To start the vacuum cleaner again, turn the buttons of each single motor (1 and 2, Fig. 5) to "1".

Emptying the dust container (VHS120 L)



- **Before proceeding with these operations, turn the vacuum cleaner off and disconnect the plug from the power socket.**
- **Check the class of the vacuum cleaner.**

Before emptying the container it is advisable to clean the filter (see "Primary filter shaker").

- Turn off the vacuum cleaner and remove the plug from the socket.
- Release the dust container (2, Fig. 1) with the lever (3, Fig. 1), then remove and empty it.
- Clean the vacuum cleaner as described in the "Maintenance, cleaning and decontamination" paragraph.
- Remove the liquid mechanical stop (11, Fig. 1), if equipped.
- Wash the container with clean water if aggressive substances have been vacuumed.
- Make sure the seal is in perfect condition and correctly positioned:
 - DUST version (1, Fig. 15).
 - LIQUID version (4, Fig. 15).
- Place the container back in position and secure it again.

[NOTE]

After the cleaning session, leave the vacuum cleaner running for at least 60 seconds before turning it off. Avoid switching on/off too frequently.

Emptying the liquid container (VHS120 L)

- The filter element will be wet after liquids have been vacuumed.

A wet filter element can quickly become clogged if the vacuum cleaner is then used to vacuum dry substances.

For this reason, make sure that the filter element is dry or replace it with another one before using the vacuum cleaner for dry materials.

Dust Bag

The vacuum cleaner can be equipped with dust collection bag (*) (Fig. 8).

If the bag is not installed or is installed incorrectly, this could create health risks for persons exposed.

[NOTE]

The Dust Bag requires the use of a specific container and the cap on the side.

Safe Dust Bag

The vacuum cleaner can be equipped with dust collection bag (*) (Fig. 9).

If the bag is not properly installed, it could create health risks for people exposed.

(*) For the codes, see the Recommended Spare Parts table

[NOTE]

The Safe Bag requires the use of a specific container and the cap on the side.

Replacement of dust bags



WARNING!



Before proceeding with these operations, turn off the vacuum cleaner and remove the plug from the power socket.



WARNING!



- *These operations can only be carried out by trained and qualified personnel who must wear adequate clothing, in compliance with the laws in force.*
- *Take care not to raise dust when this operation is carried out. Wear a P3 protective mask.*
- *In case of hazardous and/or harmful dust, use only the bags recommended by the manufacturer (see "Recommended spare parts").*
- *The bag must only be disposed of by qualified personnel and in compliance with the laws in force.*



WARNING!



Installing a paper bag not suitable for the class of dust to be vacuumed, or incorrect installation, can create a health risk for people exposed.

How to replace the Dust Bag

Figure 8

- Close the inlet by using the relevant cap (1).
- Release the dust container.
- Remove the bag and close it with the relevant cap (2) as shown in the figure.
- Insert a new bag, making sure the bag inlet is sealed.
- Place the dust container in the vacuum cleaner.



WARNING!



Use only original Nilfisk bags.

How to replace the Safe Bag

Figure 9

- Remove and put the vacuum hose in a safe and dust-free place.
- Close the inlet by using the relevant cap (1).
- Release the dust container.
- Close the Safe Bag by pulling the "guillotine" seal (2).
- Close the plastic bag hermetically using the relevant band (3).
- Use the sticky tape (4) to close the bottom of the plastic bag.
- Remove the relevant connection (5) of the bag from the inlet.
- Insert a new safe bag, making sure the vacuum inlet is well connected to the bag attachment, to grant the sealing.
- Wrap the plastic bag around the dust container external wall.
- Place the dust container in the vacuum cleaner.



WARNING!



Only use bags suitable for the vacuum cleaner class you are using.



WARNING!



Use only original Nilfisk bags.

How to replace Longopac® bags for hazardous dust (VHS120 M-H)

Figure 10

- Turn the bag full of dust (1, Fig. 10) on itself to obtain a section of coiled bag to be tightened with two clamps (2, Fig. 10).
- Place the two clamps at a distance of 50 mm between them, then with a pair of scissors cut between the two clamps.
- Remove the bag full of dust (1, Fig. 10) and place the new section of Longopac® (3, Fig. 10).

Maintenance, cleaning and decontamination



WARNING!

To guarantee the safety level of the vacuum cleaner, only original spare parts supplied by the manufacturer should be used.



WARNING!

The precautions described below must be taken during all maintenance operations, including cleaning and replacing the primary and absolute filters.



WARNING!

*The maintenance, cleaning and decontamination operations must only be performed with the vacuum cleaner turned off and the plug disconnected from the power socket.
It is absolutely forbidden to perform maintenance with the plug connected to the socket.
Danger of electric shock!*

- If the user is performing the maintenance operations, the vacuum cleaner must be disassembled, cleaned and overhauled as far as reasonably possible without hazards for the maintenance personnel or other people. The suitable precautions include decontamination before disassembling the vacuum cleaner, adequate filtered ventilation of the exhaust air from the room in which it is disassembled, cleaning the maintenance area and suitable personal protection.
- The external parts of the vacuum cleaner must be decontaminated by cleaning and vacuuming methods, dedusted or treated with sealant before being taken out of a hazardous zone.
- All parts of the vacuum cleaner must be considered as contaminated when they are removed from the hazardous zone and appropriate actions must be taken to prevent dust from dispersing.
- When maintenance or repair procedure are carried out, all the contaminated elements that cannot be properly cleaned, must be eliminated.
- These elements must be disposed of in sealed bags in accordance with applicable regulations and local laws on the disposal of such material.
- This procedure must also be followed when the filters are eliminated (primary and absolute filters).
- Compartments that are not dust-tight must be opened with suitable tools (screwdrivers, wrenches, etc.) and thoroughly cleaned.

- A check must be carried out by the manufacturer or the personnel of the same at least once a year. For example: Check the air filters to find out whether the air-tightness of the vacuum cleaner has been impaired in any way and make sure that the electric control panel operates correctly.



WARNING!

In particular, on Class H vacuum cleaners, the filtering efficiency of the vacuum cleaner must be checked at least once a year, or more often if required by national legislation. The test method for checking the filtering efficiency of the vacuum cleaner is indicated in standard EN 60335-2-69, par. 22.AA.201.2. If the test isn't passed, it must be repeated after the class H filter has been changed.



WARNING!

This Class H vacuum cleaner can collect dust hazardous for the health. The procedures for servicing and emptying the vacuum cleaner including removing the dust bag, must only be performed by specialised personnel wearing protective clothing. Do not use without the complete filter system in place.

Main and absolute filter disassembly and replacement



WARNING!

When the vacuum cleaner is used to vacuum hazardous substances, the filters become contaminated, therefore:

- *Work with care and avoid spilling the vacuumed dust and/or material;*
- *place the disassembled and/or replaced filter in a sealed plastic bag;*
- *close the bag hermetically;*
- *dispose of the filter in accordance with the laws in force.*



WARNING!

Filter replacement is a serious matter. The filter must be replaced with one of identical characteristics, filtering surface and category.

Otherwise the vacuum cleaner will not operate correctly.

Before proceeding with these operations, turn the vacuum cleaner off and disconnect the plug from the power socket.

How to replace the primary filter (VHS 120 L)

Figure 11

Before proceeding with these operations, turn off the vacuum cleaner and remove the plug from the power socket.

- Turn off the vacuum cleaner by placing the two buttons on "0" (1 and 2).
- Shake the primary filter by turning the lever (5) clockwise/ counterclockwise for at least 5 complete cycles.
- Release the closing band (7).
- Remove the head (8) and the cage. but do not lift the star filter (9).
- Remove and dispose of the filter according to the laws in force.
- Reset the vacuum cleaner by fastening the new filter on the ring (24) with the metal clamp (25).
- Install the head and the cage in the primary filter by taking care that there is one spoke of the cage every two pockets of the star filter.
- Check the correct position of the shaker handle (26).
- Fasten the closing band.



WARNING!

Take care not to raise dust when this operation is carried out. Wear a P3 mask and other protective clothing plus protective gloves (DPI) suited to the hazardous nature of the dust collected, refer to the laws in force.



WARNING!

Reassemble with care to avoid trapping your hands between the vacuum unit and the container. Use gloves that provide protection against mechanical risks (EN 388) with a level of protection CAT. II.

How to safely replace the primary filter (VHS 120 M-H)



WARNING!



Take care not to raise dust when this operation is carried out. Wear a P3 mask and other protective clothing plus protective gloves (DPI) suited to the hazardous nature of the dust collected, refer to the laws in force.

Figure 11

Before proceeding with these operations, turn off the vacuum cleaner and remove the plug from the power socket.

- Turn off the vacuum cleaner by placing the two buttons on "0" (1 and 2).
- Disconnect the accessory hose from the inlet (3).
- Insert the plug (4) in the inlet.
- Shake the primary filter by turning the lever (5) clockwise/ counterclockwise for at least 5 complete cycles.
- Replace the Longopac® bag as shown in "Replacement of Longopac® bags for hazardous dust (VHS 120 M-H)".
- Unlock the safety bolt (6).
- Release the closing band (7).
- Remove the head (8) and the cage. but do not lift the star filter (9).
- Insert the belt (10) around the filter chamber.
- Place the bag with the elastic band on the filter chamber (11). Tighten the safety belt (12) on the bag, above the band.
- Tuck in the bag along its length. (13)
- Remove the star filter (14) by grasping the ring with the gasket and lift it until it is completely out of the filter chamber (15).
- Turn the bag on itself to obtain a section of coiled bags to be tightened with two clamps (16). Place the two clamps at a distance of 50 mm between them, then cut in-between (16a) as shown in the figure.
- Dispose of the filter (17) according to the laws in force.
- Loosen the belt (18) and carefully move the bag elastic band (19) towards the filter chamber upper edge.
- Insert the second bag (20) over the first bag (21) and tighten the safety belt (22) on the new bag.
- Through the new bag (20) carefully remove the crop of the first bag (21) from the edge of the filter chamber.
- Bring the crop (21) towards the end of the second bag (20).
- Turn the bag (20) on itself to obtain a section of coiled bags and close of the crop (21) at the bottom of the bag (20) by tightening the clamp (23)
- Loosen and remove the belt, carefully remove the bag from the edge of the filter chamber and dispose of it according to the law in force.

If necessary contact the manufacturer's Service Centre.

- Reset the vacuum cleaner by fastening the new filter on the ring (24) with the metal clamp (25).
- Install the head and the cage in the primary filter by taking care that there is one spoke of the cage every two pockets of the star filter.
- Check the correct position of the shaker handle (26).
- Fasten the closing band.
- Tighten the safety bolt (6) again.



Reassemble with care to avoid trapping your hands between the head and the filter chamber. Use gloves that provide protection against mechanical risks (EN 388) with a level of protection CAT. II.

If necessary contact the manufacturer's Service Centre.

How to safely replace the absolute filter



Take care not to raise dust when this operation is carried out. Wear a P3 mask and other protective clothing plus protective gloves (DPI) suited to the hazardous nature of the dust collected, refer to the laws in force.



Do not use the Class H filter again after having removed it from the vacuum cleaner.



Reassemble with care to avoid trapping your hands between the vacuum unit and the container. Use gloves that provide protection against mechanical risks (EN 388) with a level of protection CAT. II.

Figure 12

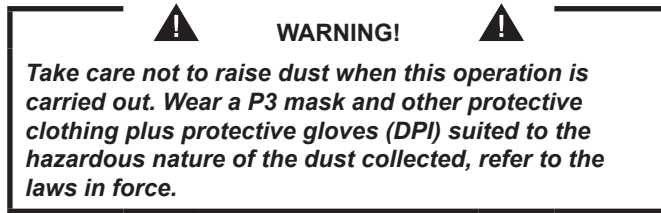
Before proceeding with these operations, turn the machine off and disconnect the plug from the power socket.

- Disconnect the accessory hose from the inlet (1).
- Insert the plug (2) in the inlet.
- Remove the cover (3) from the filter shaker lever and unscrew the nut (4).
- Remove the filter shaker lever (5) from the cage stem. DO NOT APPLY FORCE ON THE HEAD COVER
- Unlock the safety bolt (6).
- Release the closing band (7).
- Remove the head (8) from the cage stem (9), but do not lift the star filter (10).
- Tilt the head (8) and lay it on a suitable surface, in order to not ruin the plastic.
- Unscrew ring (11).
- Remove the disc (12), the iron-rubber washer (13) and the absolute filter (14).
- Place absolute filter (14) in a plastic bag, close the bag hermetically and dispose of the filter in accordance with the laws in force.
- Insert a new absolute filter (14) with the same filtering characteristics as the removed one.
- Install the iron-rubber washer (13) and the disc (12), then tighten the ring nut (11).
- Reinstall the head (8) by inserting it on the cage stem (9).
- Reinstall the filter shaker lever (5) by inserting it into the cage stem (9) and turning it as shown in the figure (26, Fig. 11).
- Lock the lever with the nut (4), then reinstall the cover (3).
- Fasten the closing band (7).
- Tighten the safety bolt (6) again.

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Longopac® replacement (VHS 120 H)

Figure 13



- Prepare the bag holder with the inside part upwards and insert the Longopac inside the groove on it. Pull off the Longopac inner end for at least 250 mm, put the strap around the support as shown in the figure, tighten it by leaving free the excess part of the inner end pulled off previously. Properly arrange the excess Longopac inside the groove (1).
- Pull off the Longopac outer end, turn it down and close it with the proper band (2-3).
- Draw near the bag holder to be placed under the hopper cone, insert the pins into the slots and turn the system to lock it at the upper cylinder (4).
- Pull down the bag closed by the band and lay it on the tray. Then, by means of the 2nd supplied belt, fasten the inner end (250 mm-long), which have been previously removed, above the gasket on the hopper (5).

At the end of a cleaning session

- Turn off the vacuum cleaner and remove the plug from the socket.
- Wind the connection cable.
- Clean the vacuum cleaner as described in the "Maintenance, cleaning and decontamination" paragraph.
- Store the device in a dry place, out of reach of unauthorized people.
- Lock the castor brakes (2, Fig. 6).
- Shut the inlet with the appropriate plug (5, Fig. 1) when the vacuum cleaner is transported or not being used.

Tightness inspection

Hoses check

Make sure the connecting hoses (Fig. 14) are in a good condition and correctly fixed.

If the hoses are damaged, broken or badly connected to the unions, they must be replaced.

When sticky materials are treated, check for possible clogging along the hose, in the inlet and on the baffle plate inside the filtering chamber.

To clean, scrape the inlet (2, Fig. 14) from the outside to remove deposits.

Filter chamber gasket check (VHS 120 L)

Make sure that the container (2 Fig. 15) is tight with the filter chamber (3, Fig. 15). Replace the dust container gasket (1, Fig. 15) or the liquid container gasket (4, Fig. 15) if it is not tight, or if it is torn, cut, etc.

Hopper gasket check (VHS 120 M-H)

Ensure that the Longopac® bag is tight with the gasket (2, Fig. 16). The gasket must be replaced if it is torn, cut, etc...

Clapet gasket check (VHS 120 M-H)

Replace the gasket (1, Fig. 16) if it is not tight, or if it is torn, cut, etc.

Disposing of the vacuum cleaner

Figure 17

Dispose of the vacuum cleaner in compliance with the laws in force.

- **Proper disposal (electric and electronic waste).
(Applicable in the European Union and in countries providing a separate collection system)**

The symbol (Fig. 17), which is present on the product or in its documentation, indicates that the product cannot be disposed of together with other domestic waste at the end of its life cycle.

To prevent damage to the environment or health caused by improper waste disposal, please separate this product from other waste and recycle it responsibly in order to support the sustainable reutilisation of material resources.

This product cannot be disposed of together with other commercial waste.

Wiring diagrams













Figure 18

Item	Type	Description	Q.ty
Q1	4083901850	Switch 2 pole 20A	1
Q2	4083901850	Switch 2 pole 20A	1

Recommended spare parts

The following is a list of spare parts that should be kept ready at hand in order to speed up maintenance operations.

Refer to the manufacturer's spare parts catalogue when ordering spare parts.

	Description	Model	
		Standard	Filter "M"
	Standard filter	4081701390	4081701391
	Oversize star filter with sealed seams	4081701393	
	Filter ring gasket	Z8 17025	
	Filter chamber gasket	4081100183	
	Filter clamp	4084001291	
	Absolute filter	4081701384	
	Dust bag (5 bags)	4084001003	
	Safe bag	4084001013	
	Kit for safe replacement of the filter	4089100953	
	Longopac®	4084000956	
	230V 1000W Motor	4085400024	
	110V 1000W Motor	4085400026	
	Brushes (carbon) for 230V 1000W motors (2 brushes)	40000885	
	Brushes (carbon) for 120V 1000W motors (2 brushes)	40000886	

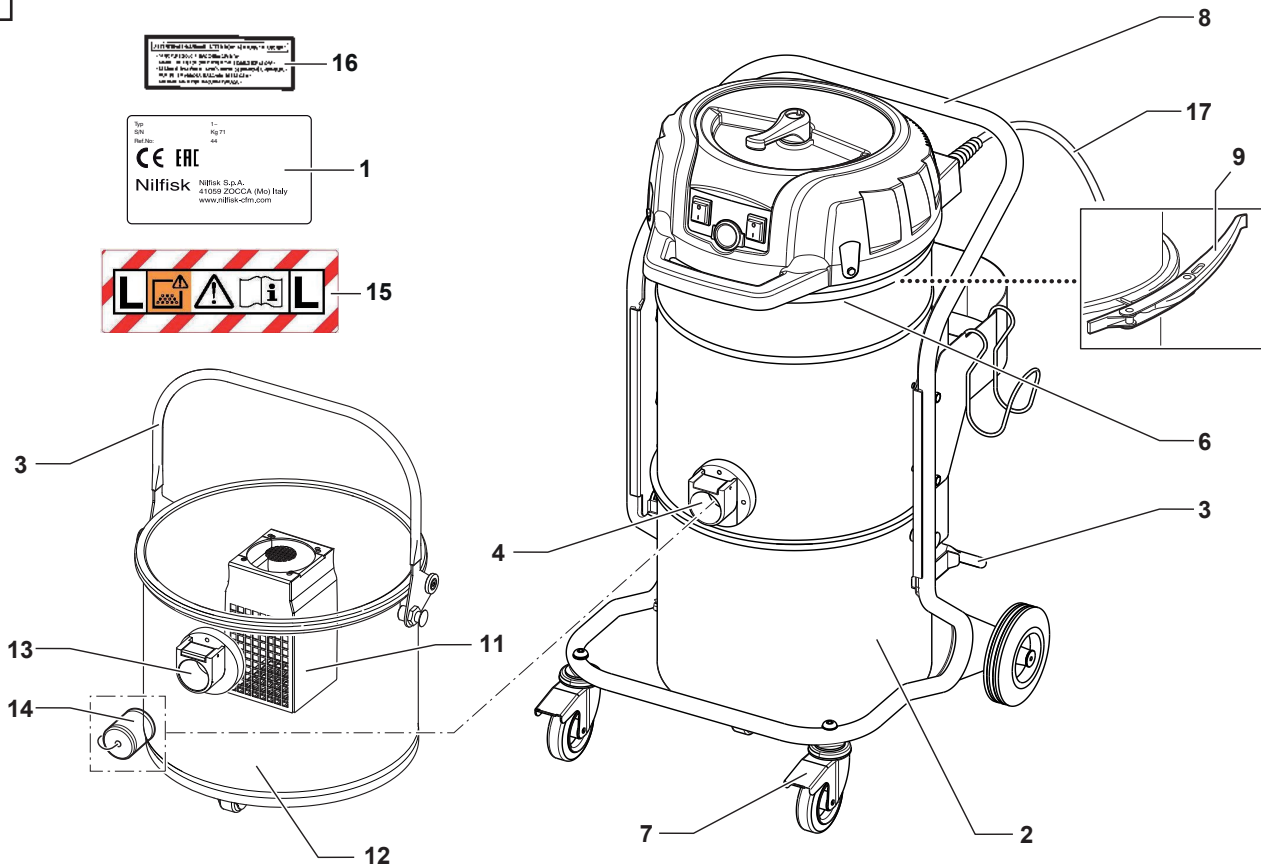
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Troubleshooting

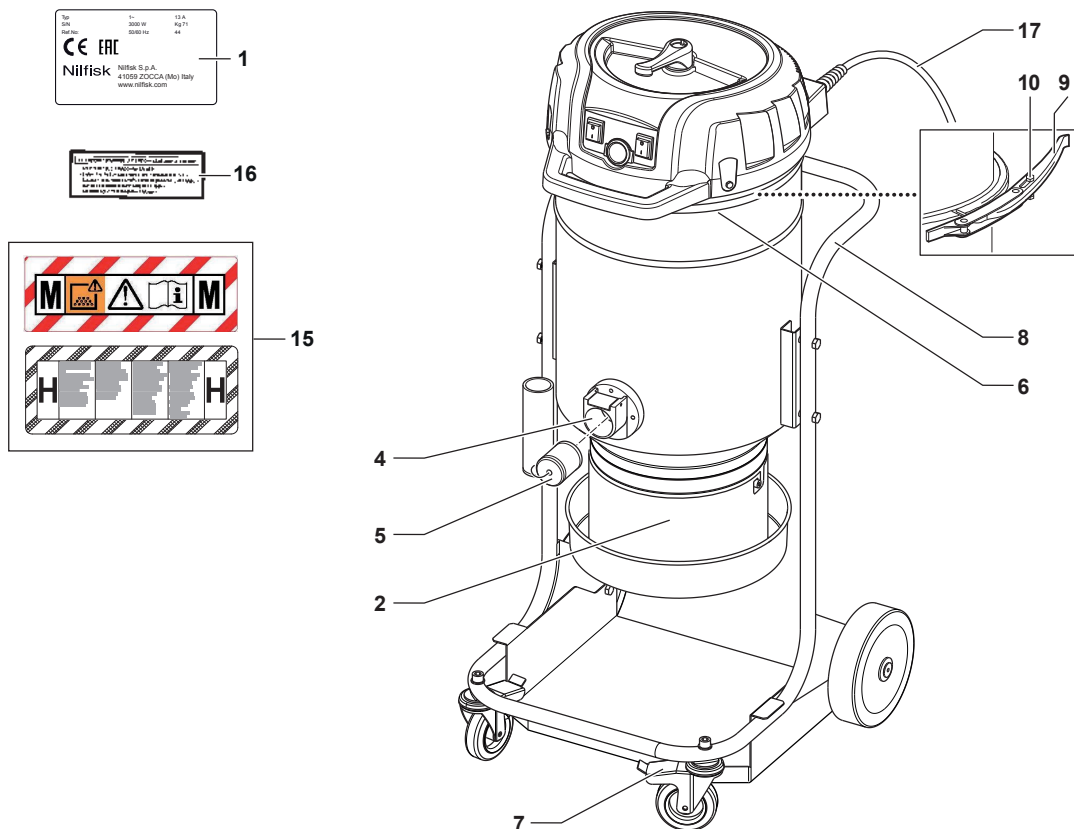
Problem	Cause	Remedy
The vacuum cleaner does not start	Lack of power supply	Check for power at the socket. Check the condition of the socket and the cable. Ask for assistance to be performed by a qualified manufacturer's technician.
The vacuum cleaner revolutions increase	Clogged primary filter	Use the filter shaker (models with manual filter shaker). Replace it if this is not sufficient.
	Clogged vacuum hose	Check the vacuum hose and clean it.
The vacuum unit produces a more acute noise	The liquid mechanical stop has activated (VHS120 L version).	Emptying of the liquid container.
Dust leaks from the vacuum cleaner	The filter is torn	Replace it with another of identical type.
	Inadequate filter	Replace it with another of a suitable category and check.
Noisy motors	Motor brushes (carbon) worn or broken	Remove and replace the (carbon) motor brushes.
Electrostatic current on the vacuum cleaner	Missing or inefficient grounding	Check all ground connections. In particular on the vacuum inlet fitting; replace the hose with an antistatic hose.

1

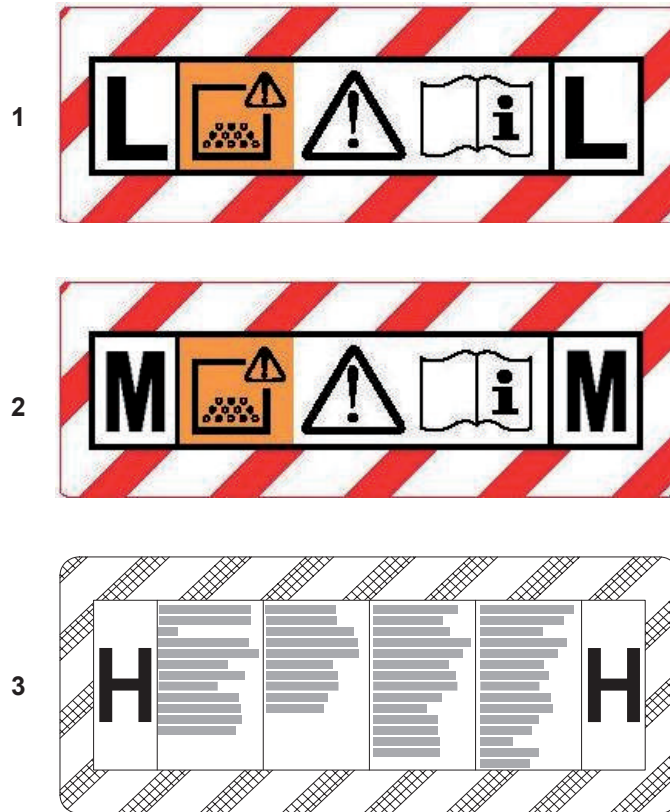
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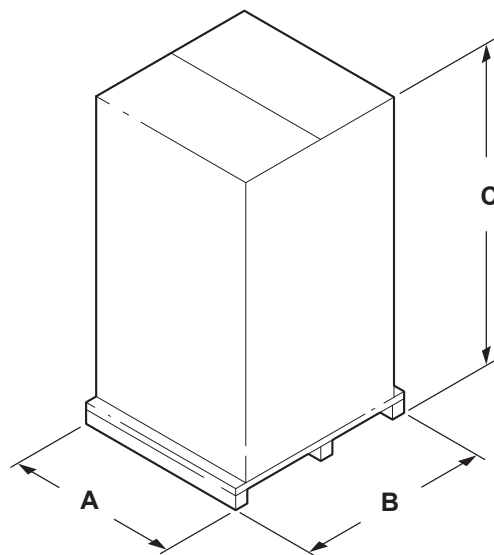
VHS120 M VHS120 H



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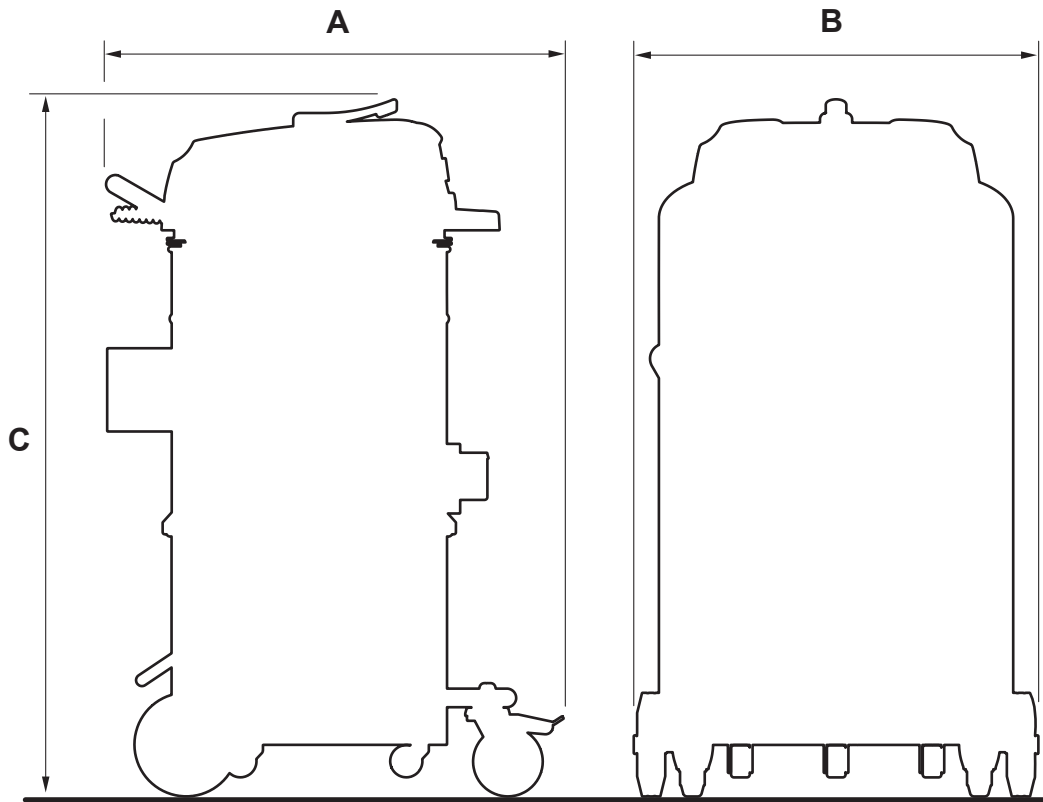


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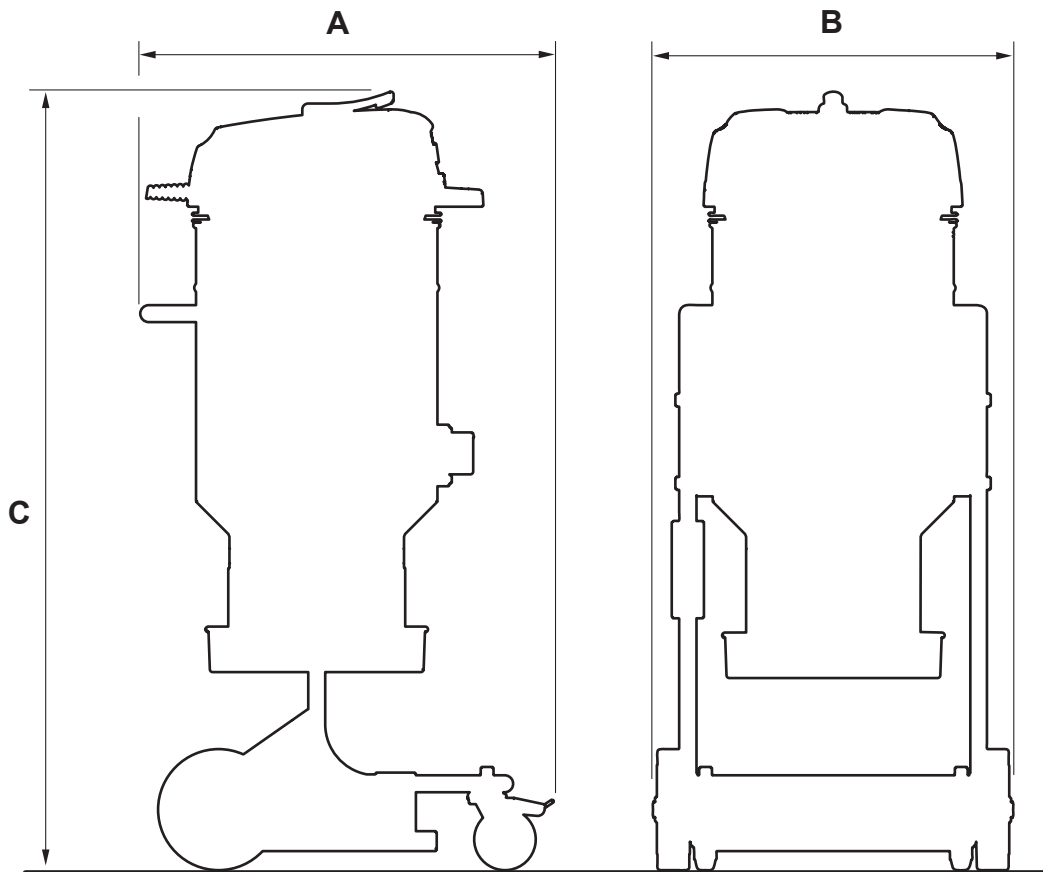


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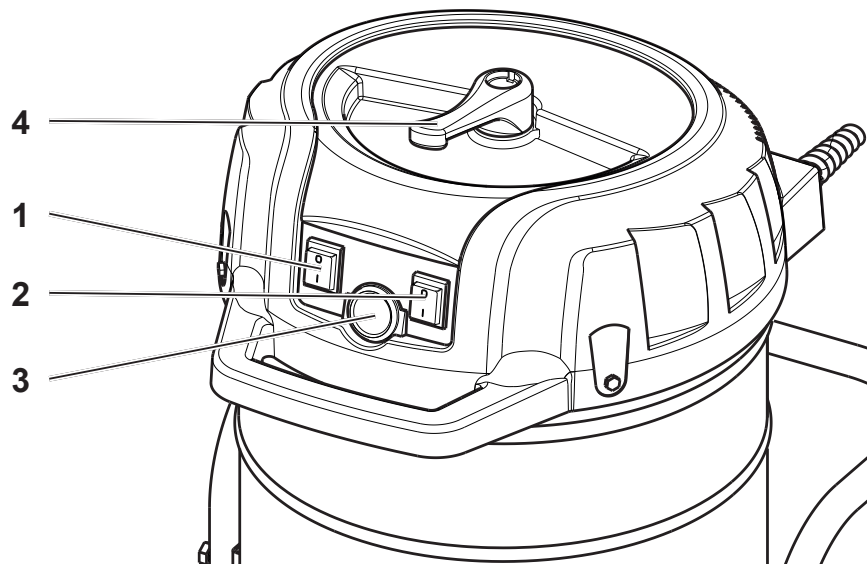
VHS120 L



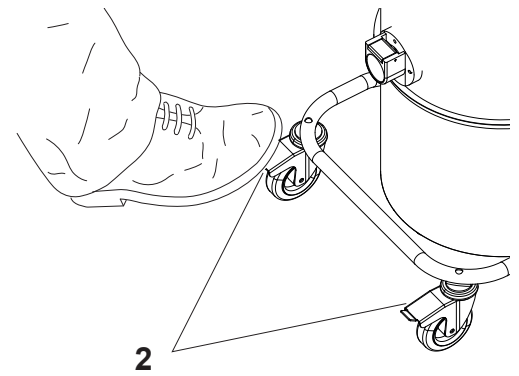
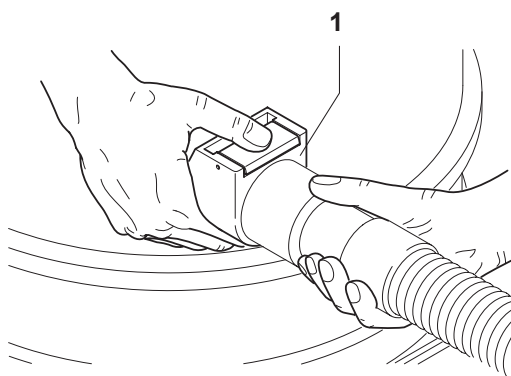
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VHS120 H**



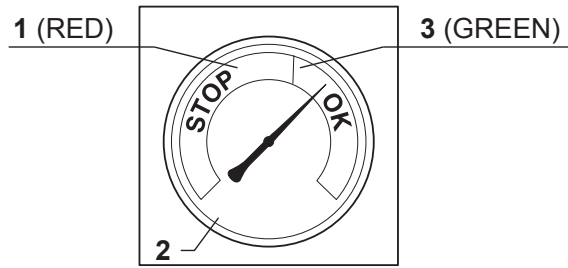
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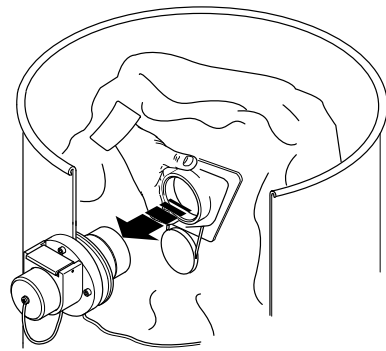
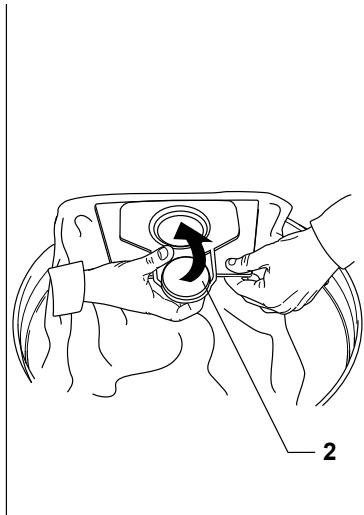
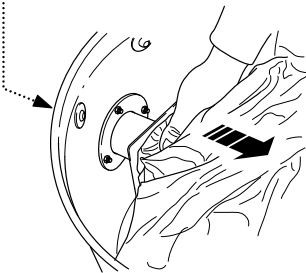
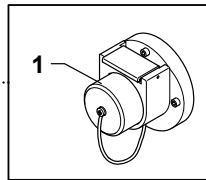


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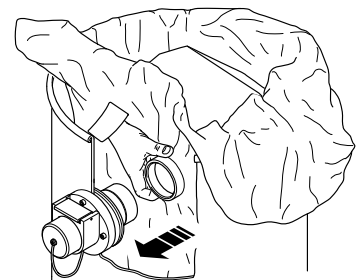
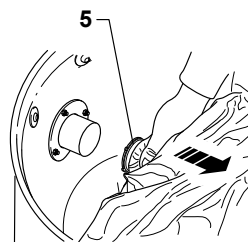
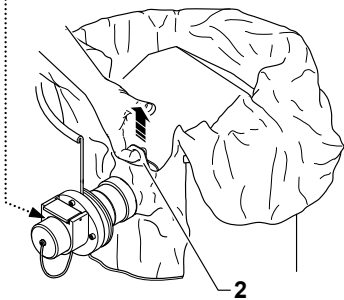
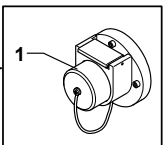
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VHS120 L



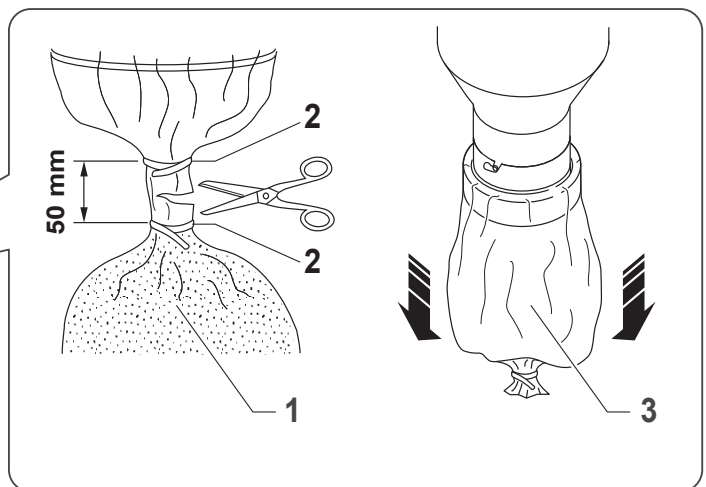
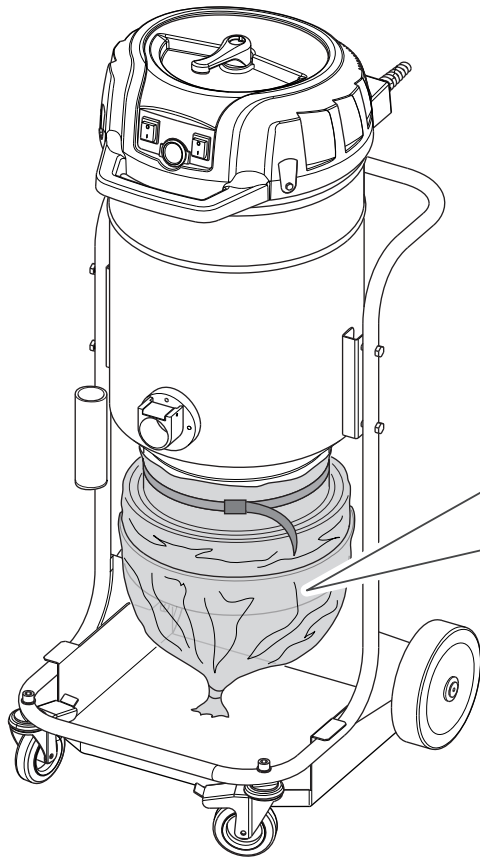
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VHS120 L



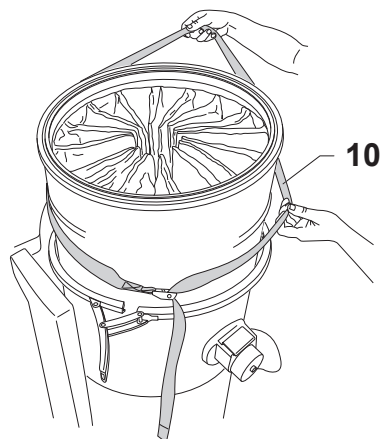
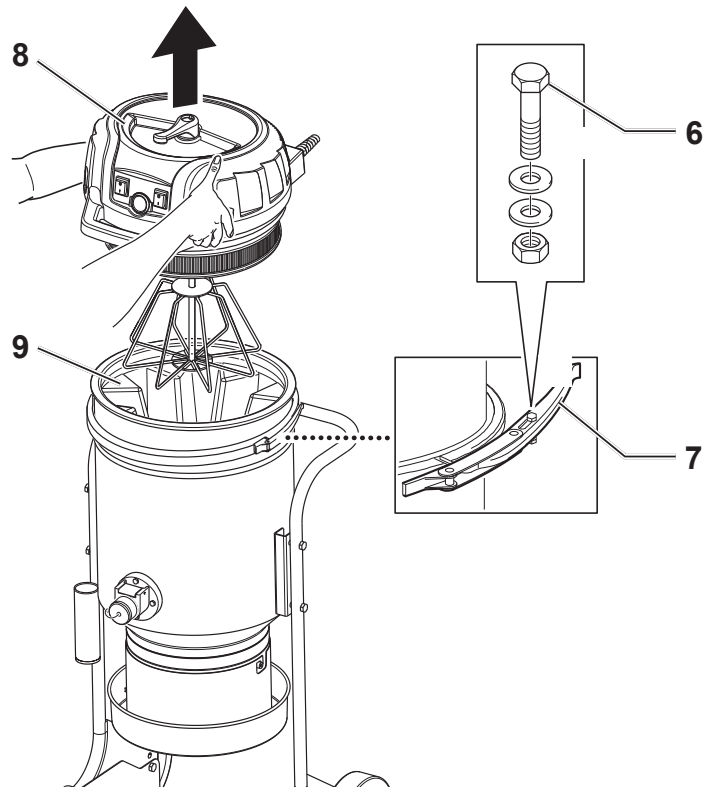
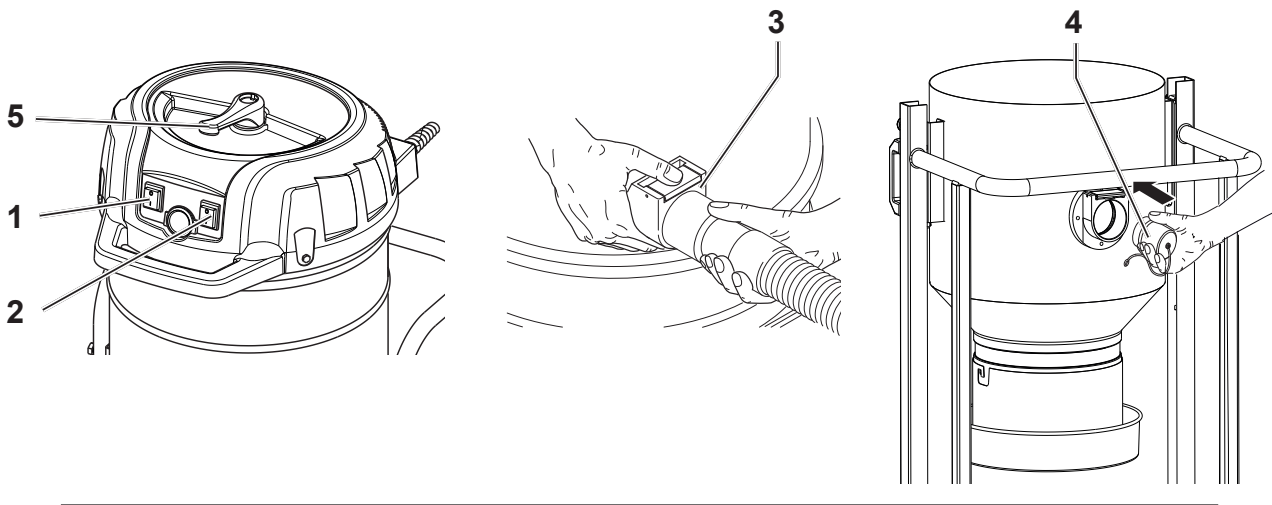
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VHS120 M
VHS120 H

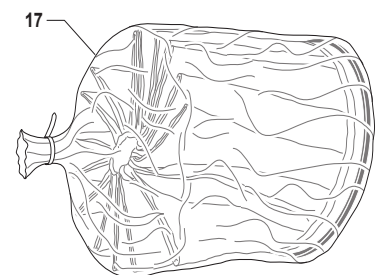
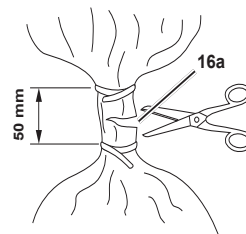
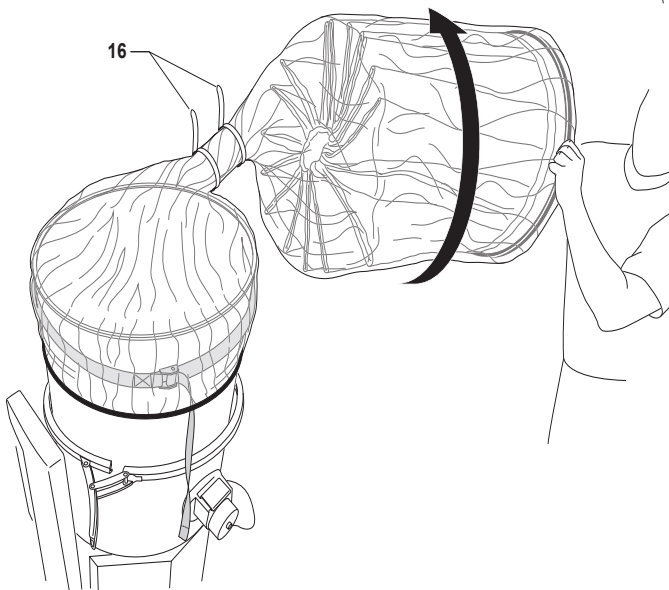
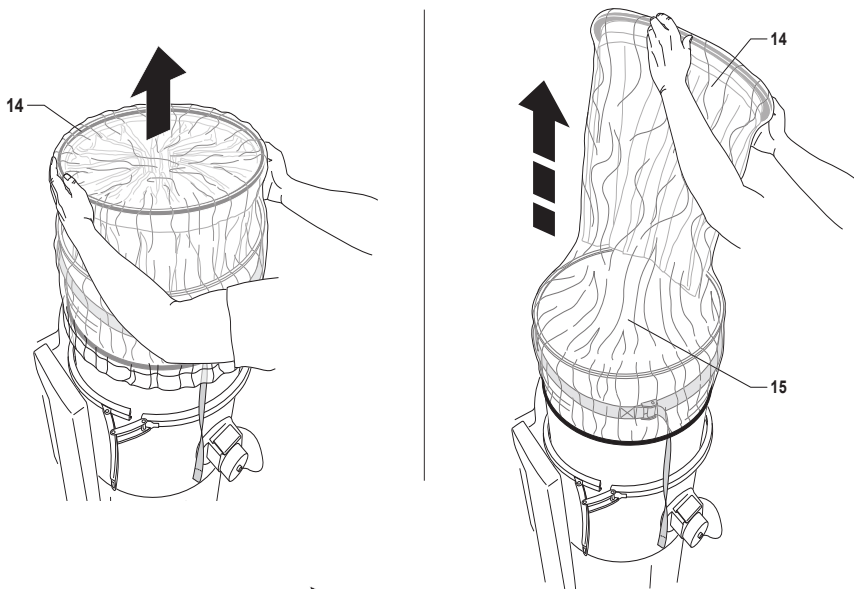
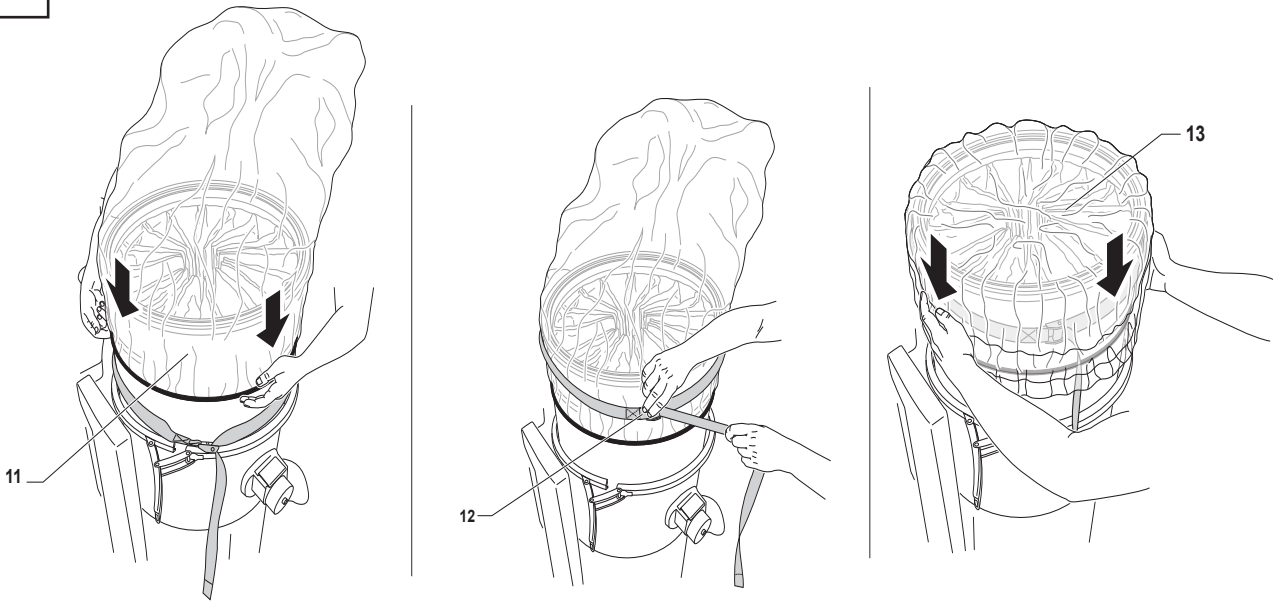


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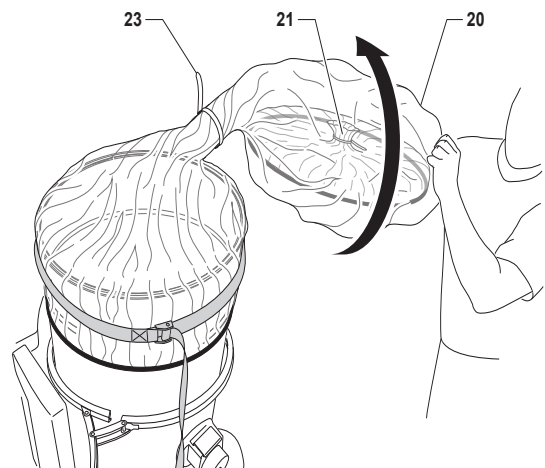
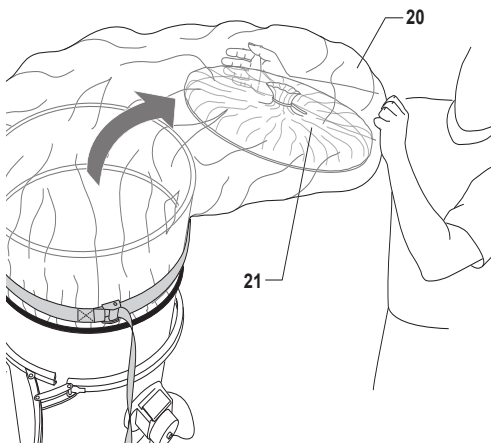
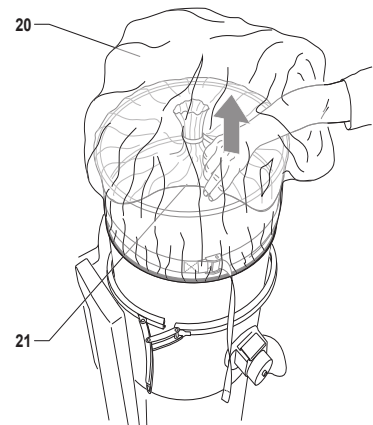
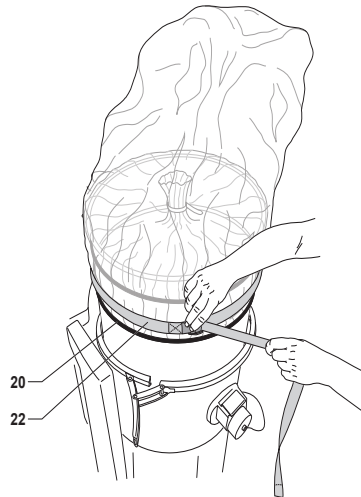
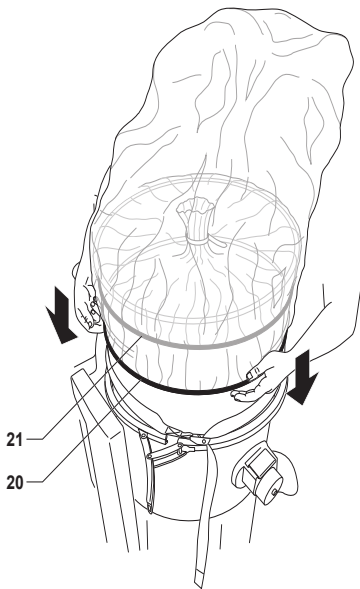
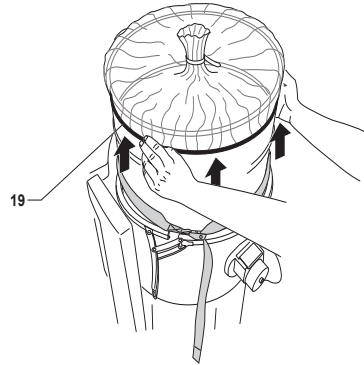
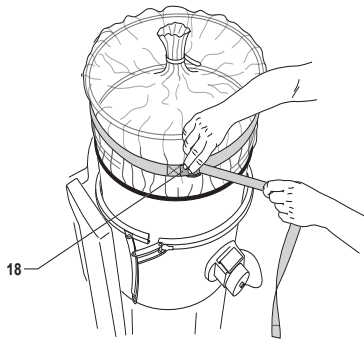
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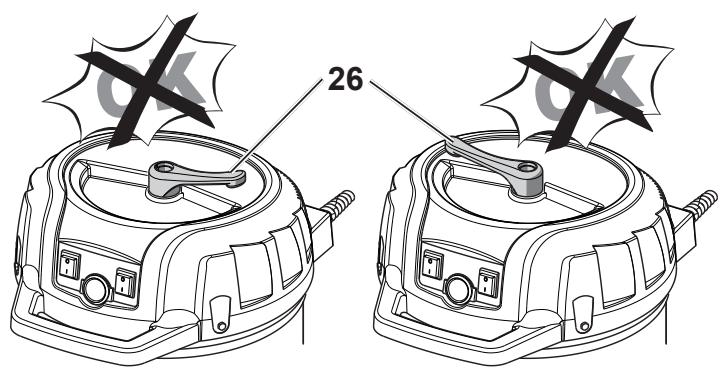
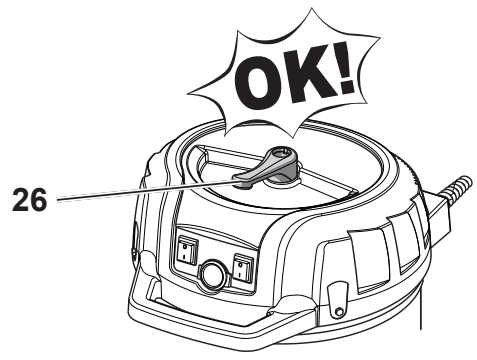
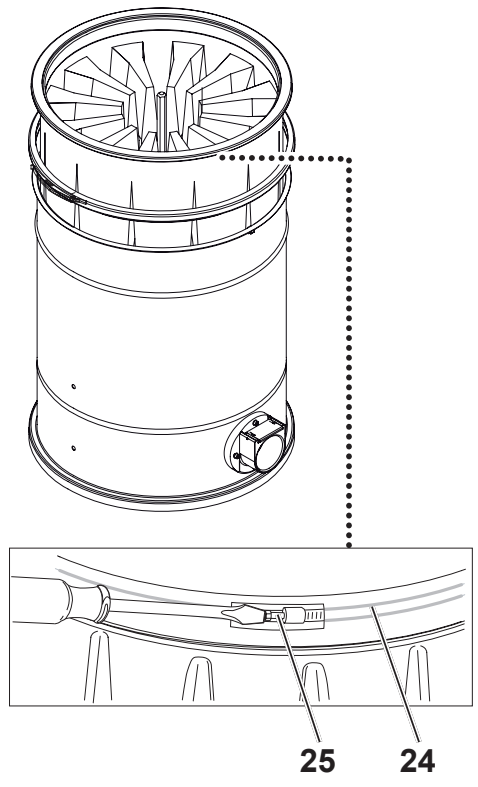
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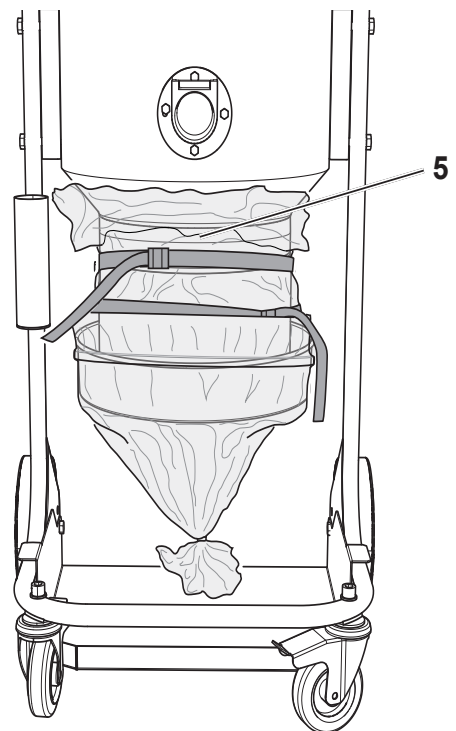
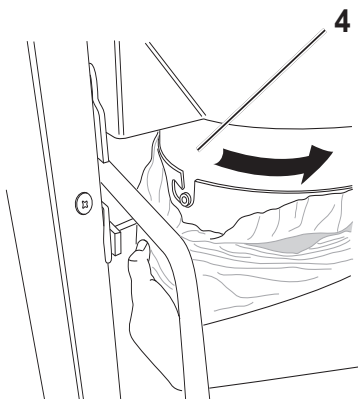
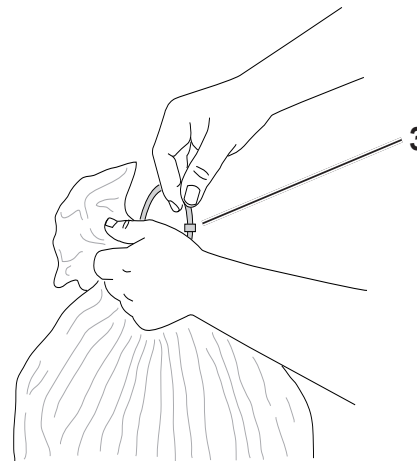
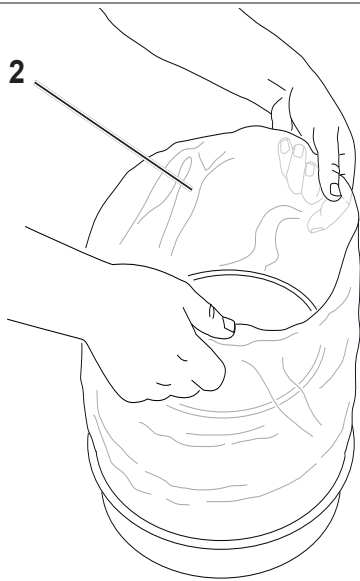
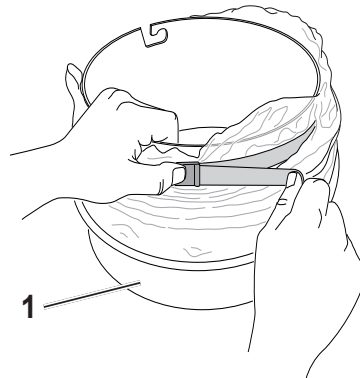


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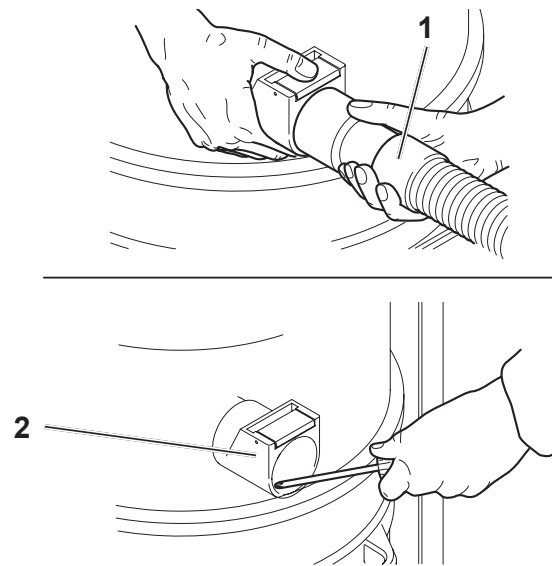


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VHS120 M
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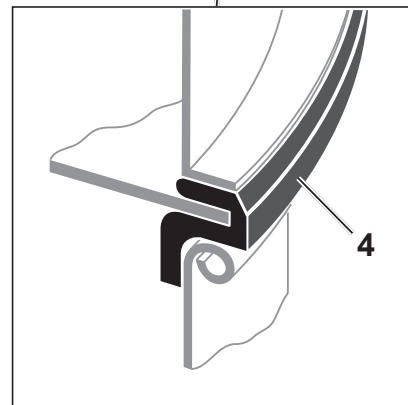
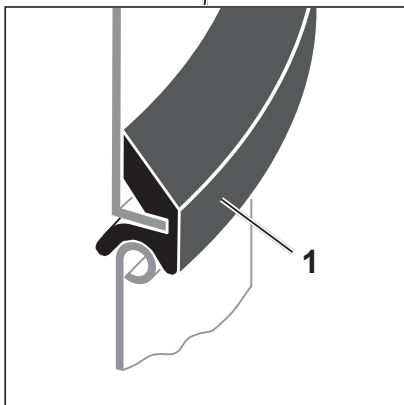
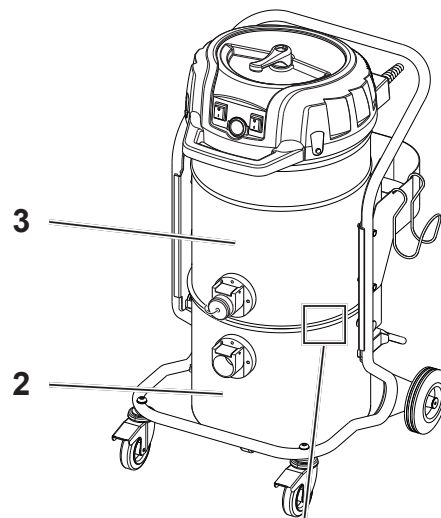
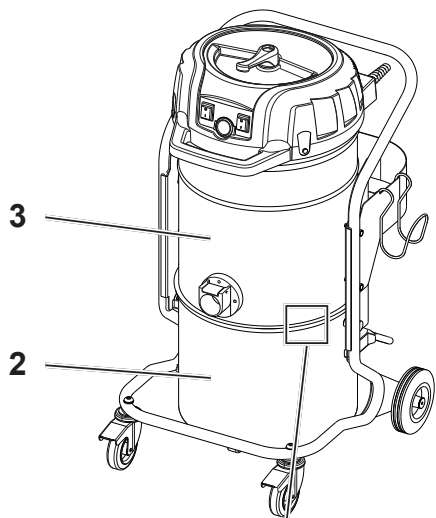


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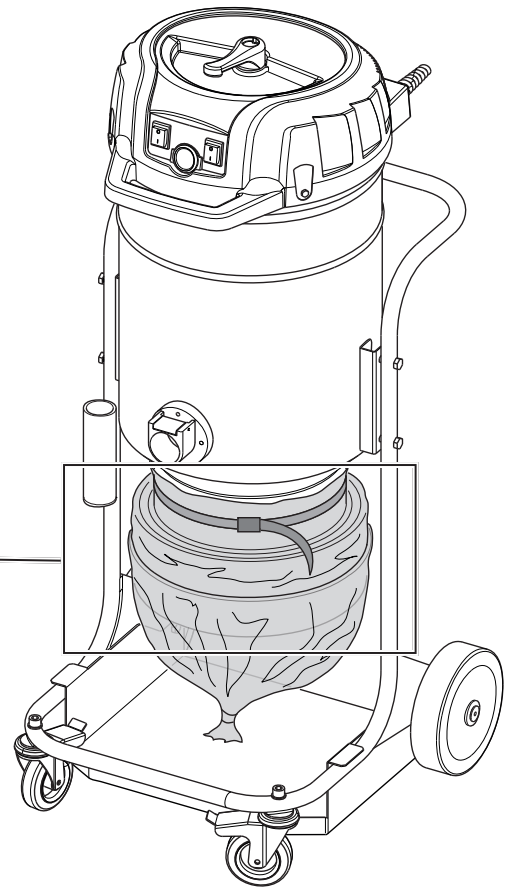
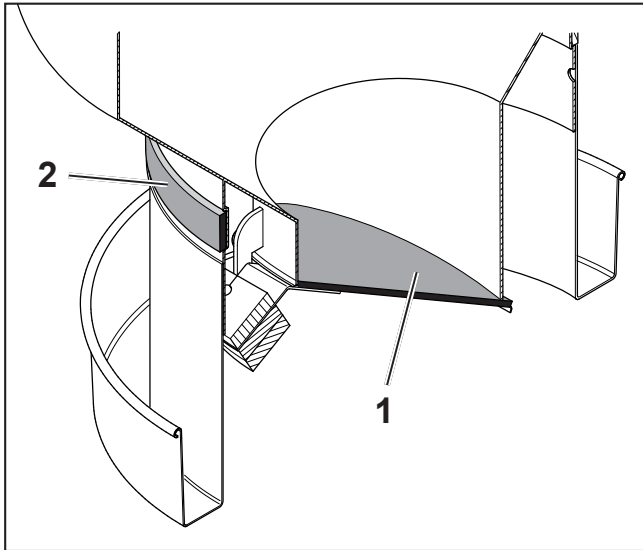
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VHS120 H**



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