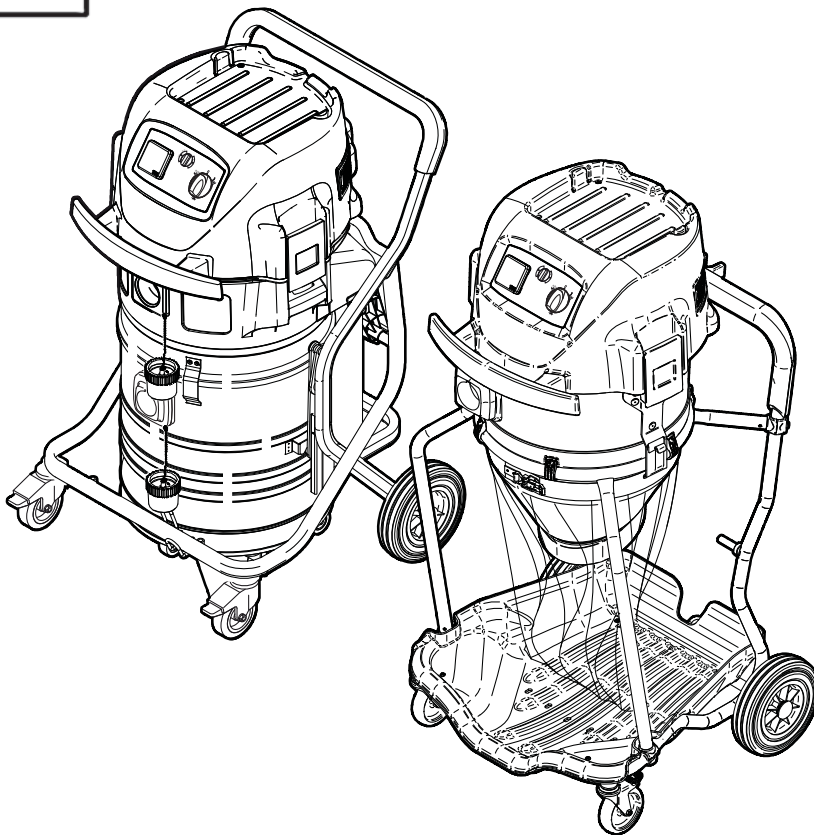


IVB 963-2M ED XC IVB 965-2H/M SD XC



Operating Instructions

Betriebsanleitung

Notice d'utilisation

Gebruiksaanwijzing

Istruzioni sull'uso

Driftsinstruks

Bruksanvisning

Driftsvejledning

Käyttöohje

Navodilo za uporabo

Uputstvo za rad

Prevádzkový návod

Provozní návod

Instrukcja obsługi

Kezelési utasítás

Ἐγχειρίδιο ἰσχύσεως

Instrucciones de manejo

Instruções de operação

Οδηγίες λειτουργίας

Ýpletme kýlavuzu

Naudojimo instrukcija

Kasutusjuhend

Lietošanas instrukcijas

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GB 1 Important safety instructions

Symbols used to mark instructions



Prior to using the appliance for the first time, be sure to read this document through and keep it ready to hand.

	DANGER
	Danger that leads directly to serious or irreversible injuries, or even death.
	WARNING
	Danger that can lead to serious injuries or even death.
	CAUTION
	Danger that can lead to minor injuries and damage.

The appliance must

- only be used by persons, who have been instructed in its correct usage and explicitly commissioned with the task of operating it
- only be operated under supervision
- not be used by children

Before starting work, the operating staff must be informed on

- use of the vacuum cleaner
- risks associated with the material to be picked up
- safe disposal of the picked up material

1. Do not use any unsafe work techniques.
2. Never use the vacuum cleaner without a filter.
3. Switch off the appliance and disconnect the mains plug in the following situations:
 - Prior to cleaning and servicing
 - Prior to replacing components
 - Prior to changing over the appliance
 - If foam develops or liquid emerges

Besides the operating instructions and the binding accident prevention regulations valid in the country of use, observe recognised regulations for safety and proper use.

Purpose and intended use

Since 1997, there is a new division of hazardous dusts and their assigned vacuum machines. These are regulated by IEC 60335-2-69 (world wide) and by EN 60335-2-69 (European wide).

The safety label on the machine warns:

This appliance contains dust hazardous to health. Emptying and maintenance operations, including removal of the dust collecting means, must only be carried out by authorized personnel wearing suitable personal protection. Operate only after the full filtration system has been fitted and checked.



Dust Class M (medium). The dusts which belong to this class are: dusts with OEL values¹⁾ $\geq 0.1 \text{ mg/m}^3$ as well as saw dust. The machine is tested in its entirety by vacuums for this dust class. The maximum degree of permeability is 0.1% and the disposal must be low dust.



Dust Class H (high). The dusts which belong to this class are: dusts with OEL values¹⁾, all carcinogenic dusts and dusts which are mixed with pathogenic agents. Vacuums for Dust Class H are tested in their entirety and have a maximum degree of permeability of 0.005%. The disposal must be dust free.

The air flow in Safety Vacuum systems has to be strictly controlled to achieve a minimum flow rate of $V_{\text{min}} = 20 \text{ m/s}$ in the suction hose.

The vacuum cleaner IVB 963-2M ED XC is suitable to pick up dry, nonflammable dust, sawdust and hazardous dusts with OEL values¹⁾ $\geq 0.1 \text{ mg/m}^3$.

Do not use the IVB 963-2M ED XC to pick up liquids.

The vacuum cleaner IVB 965-2H/M SD XC is suitable to pick up

- dry, nonflammable dust, non flammable liquids, sawdust and hazardous dusts with OEL values¹⁾, carcinogenic dusts, dusts containing germs

When dust removers are used, the rate at which air is exchanged in the room must be adequate if the exhaust air from the vacuum cleaner is blown into the room (please observe regulations valid in your country).

The vacuum cleaner is suitable for commercial use, such as e.g. in

- Hotels, Schools, Hospitals, Factories, Shops, Offices, Hire shops

Any other use is considered as improper use. The manufacturer accepts no liability for any damage resulting from such use. The risk for such use is borne solely by the user.

Proper use also includes proper operation, servicing and repairs as specified by the manufacturer.

Transport

1. Before transporting the dirt tank, close all the locks.
2. Make sure that both plugs are inserted in fittings.
3. Do not tilt the cleaner if there is liquid in the dirt tank.
4. Do not use a crane hook to lift the cleaner.

Storage

1. Store the appliance in a dry place, protected from frost.



Electrical connection

1. It is recommended that the vacuum cleaner should be connected via a residual current circuit breaker.
2. Arrange the electrical parts (sockets, plugs and couplings) and lay down the extension lead so that the protection class is maintained.
3. Connectors and couplings of power supply cords and extension leads must be watertight.

Extension lead

As an extension lead, only use the version specified by the manufacturer or one of a higher quality.

When using an extension lead, check the minimum cross-sections of the cable:

Cable length	Cross section	
	< 16 A	< 25 A
up to 20 m	1.5 mm ²	2.5 mm ²
20 to 50 m	2.5 mm ²	4.0 mm ²

Maintenance, cleaning and repair

During the following work, ensure that dust is not unnecessarily spread around. Wear a P2 breathing mask.

Only carry out maintenance work described in the operating instructions.

Always pull out the mains plug before cleaning and maintenance of the vacuum cleaner.

During maintenance and cleaning, handle the vacuum cleaner in such a manner that there is no danger for maintenance staff or other persons.

In the maintenance area

1. Use filtered compulsory ventilation
2. Wear protective clothing
3. Clean the maintenance area so that no harmful substances get into the surroundings

Before removing the vacuum cleaner from the area contaminated with harmful substances:

1. Clean the outside of the vacuum cleaner, wipe it clean or pack the vacuum cleaner in well sealed packaging
2. and avoid spreading deposited harmful dust.

Warning: Do not reuse the essential filter element after removal out of the appliance (only for class H appliances).




During maintenance and repair work all contaminated parts that could not be cleaned satisfactorily must be:


1. packed in well sealed bags
2. disposed of in a manner that complies with valid regulations for such waste removal.


At least once a year, a Nilfisk-ALTO technician or an instructed person must perform a technical inspection including filters, air tightness and control mechanisms. According to AA.22.201.2 appliances in class H must have their filtration efficiency checked once a year. If the efficiency of the filter does not fulfil the requirements for dust class H, the filter must be replaced, and the new filter must be tested according to AA.22.201.2.


GB Risks

Electrical components


	DANGER
	<p>Electric shock due to faulty mains connecting lead.</p> <p>Touching a faulty mains connecting lead can result in serious or even fatal injuries.</p> <ol style="list-style-type: none"> 1. Do not damage the mains power lead (e.g. by driving over it, pulling or crushing it). 2. Regularly check whether the power cord is damaged or shows signs of ageing. 3. Have the faulty mains connecting lead replaced by your Nilfisk-Advance service representative or a qualified electrician prior to using the appliance again.

	DANGER
	<p>The upper section of the vacuum cleaner contains live components.</p> <p>Contact with live components leads to serious or even fatal injuries.</p> <ol style="list-style-type: none"> 1. Never spray water on to the upper section of the vacuum cleaner.



	CAUTION
	<p>Damage due to unsuitable mains voltage.</p> <p>The appliance can be damaged as a result of being connected to an unsuitable mains voltage.</p> <ol style="list-style-type: none"> 1. Ensure that the voltage shown on the rating plate corresponds to the voltage of the local mains power supply.

	CAUTION
	<p>Appliance socket ¹⁾</p> <p>The appliance socket is only designed for the purposes defined in the operating instructions. The connection of different appliances can result in damage.</p> <ol style="list-style-type: none"> 1. Prior to plugging in an appliance, always switch off the vacuum cleaner and the appliance that is to be connected. 2. Read the operating instructions to the appliance to be connected and observe the safety notes contained in these.


Picking up liquids

	CAUTION
	<p>Picking up liquids.</p> <p>Due to their construction vacuum cleaners with a removable tank (SD) do not have an automatic level indicator. There is a risk of damage to the vacuum cleaner due to overfilling or of damage due to leakage of the picked up liquid.</p> <ol style="list-style-type: none"> 1. Never pick up more than 40 litres at once. 2. Switch off the vacuum cleaner and empty the dirt tank.


Hazardous materials

	WARNING
	<p>Hazardous materials.</p> <p>Vacuuming up hazardous materials can lead to serious or even fatal injuries</p> <p>1. The following materials must not be picked up by the vacuum cleaner:</p> <ul style="list-style-type: none"> - hot materials (burning cigarettes, hot ash, etc.) - flammable, explosive, aggressive liquids (e.g. petrol, solvents, acids, alkalis, etc.) - flammable, explosive dust (e.g. magnesium or aluminium dust, etc.)
	<p style="text-align: center;">WARNING</p> <p>When the vacuum cleaner has been used with dust classified as “H”, it is necessary to clean the machine thoroughly before using the machine with dust classified as “M” or lower.</p>

Spare parts and accessories

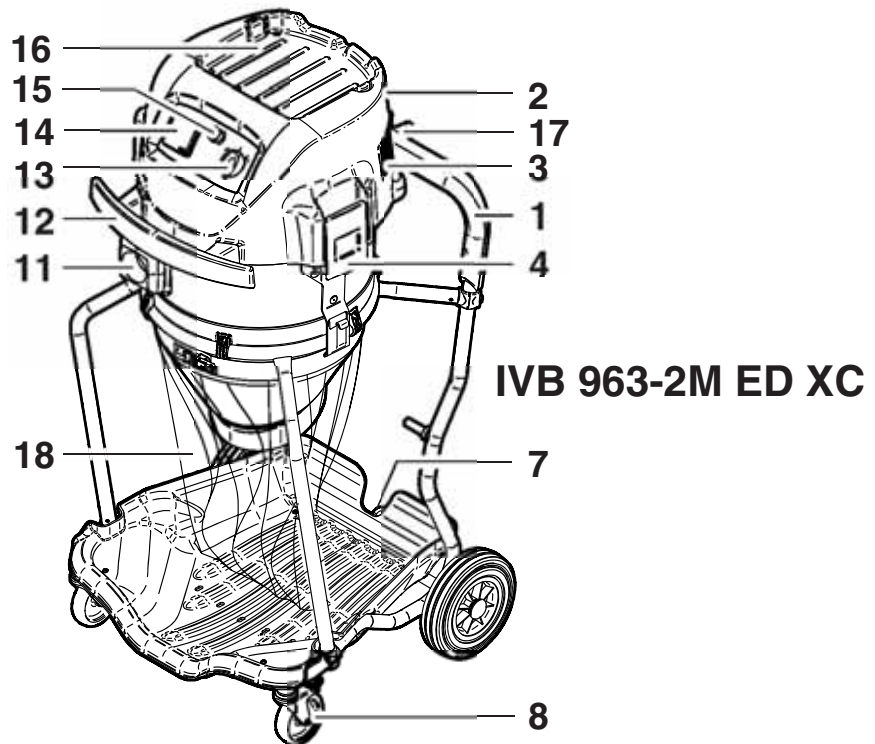
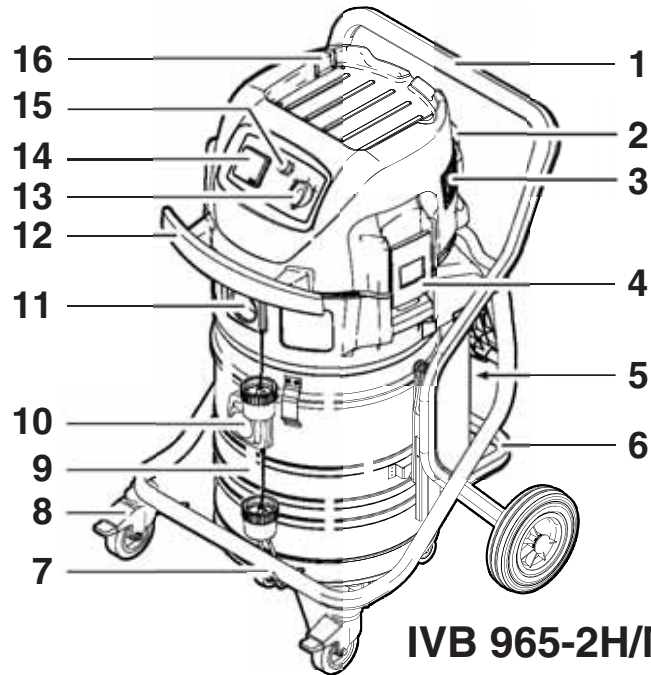
	CAUTION
	<p>Spare parts and accessories.</p> <p>The use of non-genuine spare parts and accessories can impair the safety of the appliance.</p> <p>1. Only use spare parts and accessories from Nilfisk-Advance.</p> <p>2. Use only the brushes supplied with the vacuum cleaner or specified in the operating manual.</p>

Emptying dirt tank

	CAUTION
	<p>Picking up environmentally hazardous materials.</p> <p>Materials picked up can present a hazard to the environment.</p> <p>1. Dispose of the dirt in accordance with legal regulations.</p>

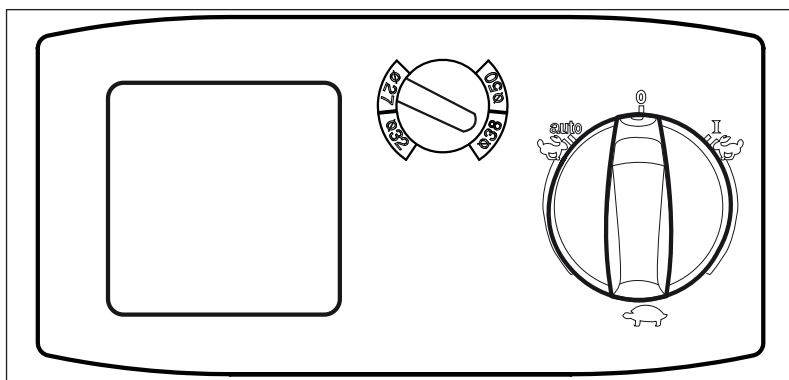
GB 2 Description

2.1 Operating elements



- 1 Handle
- 2 Outlet for waste air
- 3 Inlet for fresh air
- 4 Retaining clamp
- 5 Handle to remove dirt tank
- 6 Swivel bar to remove dirt tank
- 7 Bracket for floor nozzle
- 8 Castor with brake
- 9 Dirt tank
- 10 Inlet fitting "H"
- 11 Inlet fitting "M"
- 12 Receptacle for electrical lead
- 13 Appliance switch with suction power control 'auto-0-I'
- 14 Appliance socket
- 15 Hose diameter setting
- 16 Accessory holder
- 17 Suction pipe support
- 18 Disposal bag

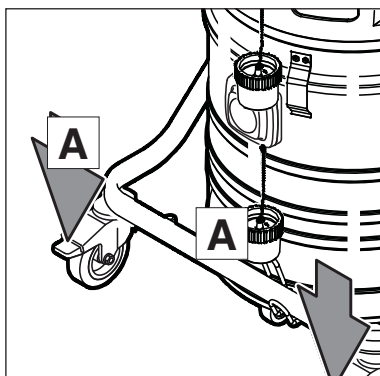
2.2 Operating panel



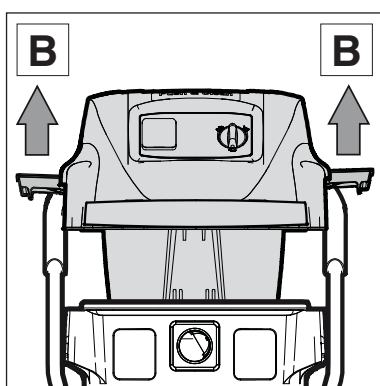
GB 3 Before starting the cleaner

3.1 Assembling the vacuum cleaner

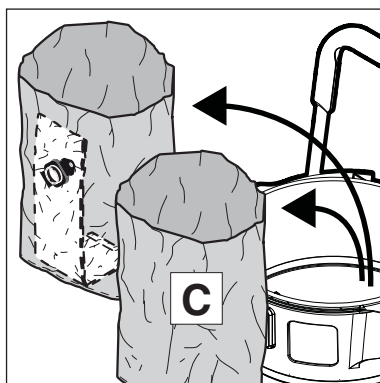
3.1.1 Taking accessories out of the packaging



1. Take vacuum cleaner and accessories out of the packaging.
2. The mains plug should not yet be inserted into a socket.
3. Apply parking brakes (A) on both castors.






4. Open the retaining clamps (B) and remove the upper section of the vacuum cleaner.



5. Take the accessories (C) out of the dirt tank and the packaging.

3.1.2 Before starting the cleaner

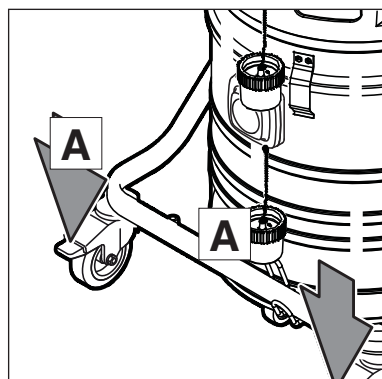
Depending on how hazardous the dust is, the cleaner must be fitted with appropriate filters:

Type of dust	Filter bag/waste bag
IVB 965 2H/M SD XC / IVB 963-2M ED XC: <ul style="list-style-type: none"> • Non-hazardous dust • Non-carcinogenic dust with OEL values $\geq 0.1 \text{ mg/m}^3$ (observe any additional national regulations) 	 Waste bag Order No. 965 2H/M SD XC: 302001480 (5pcs.) 963-2M ED XC: 302003723 (25 pcs.)
IVB 965 2H/M SD XC: <ul style="list-style-type: none"> • All dusts with OEL values 	 Safety filter bag Order No. 302003473 (5 pcs.)
IVB 965 2H/M SD XC / IVB 963-2M ED XC: <ul style="list-style-type: none"> • All dusts with OEL values 	 Filter element Order No. 965 2H/M SD XC: 107400564 963-2M ED XC: 107400562

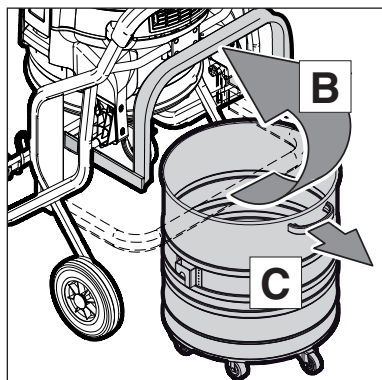
Before picking up dust with occupational exposure limit values:

1. Check that all the filters are present and properly fitted.
2. The hose diameter and the setting for the suction hose diameter must be the same.
3. When the motor is running, hold the suction hose shut. For safety reasons, an acoustic warning sounds if the air speed in the suction hose drops to below 20 m/s.

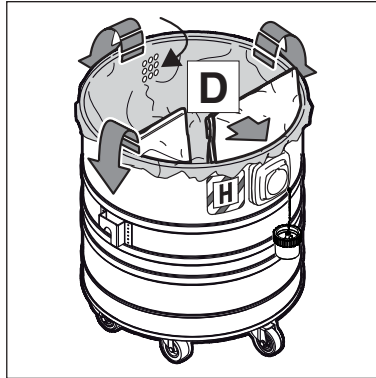
3.1.3 Inserting the safety filter bag (IVB 965-2H/M SD XC)



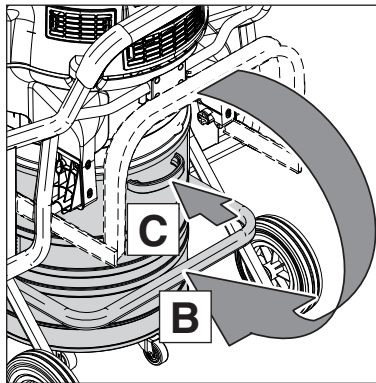
1. The mains plug should not yet be inserted into a socket.
2. Apply parking brakes (A) on both castors.



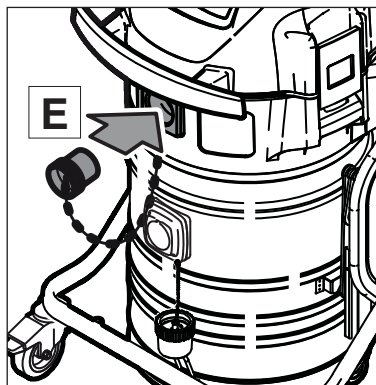
3. Swing the bar (B) upwards.
4. Use the handle (C) to pull the dirt tank out of the vacuum cleaner.



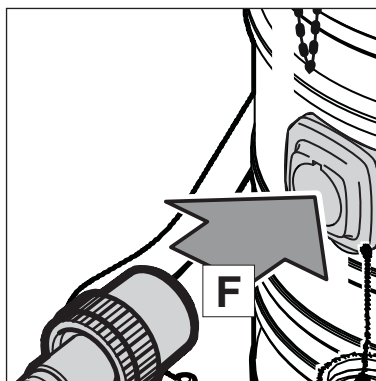
5. Insert the safetyfilter bag (D) in the dirt tank.
6. Fold the top edge of the disposal bag over the rim of the dirt tank.



7. Push the dirt tank as far as possible into the vacuum cleaner.
8. Swing the bar (B) downwards without forcing it.

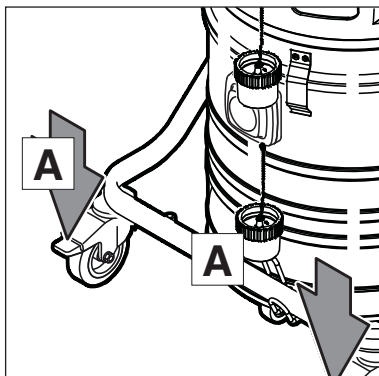


9. Close inlet fitting "M" (top) with plug (E).

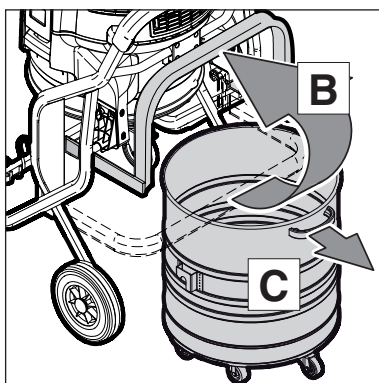


10. Connect suction hose to inlet fitting "H" (bottom) (F).

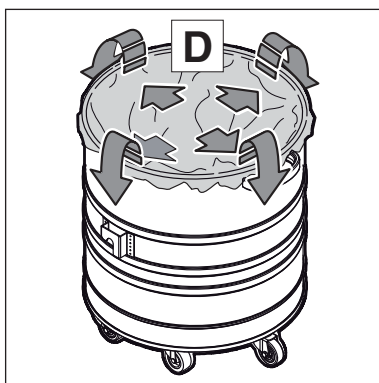
3.1.4 Inserting the disposal bag (IVB 965-2H/M SD XC)



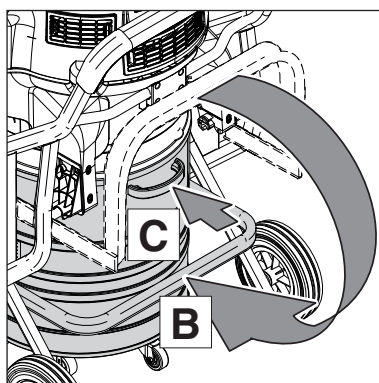
1. The mains plug should not yet be inserted into a socket.
2. Apply parking brakes (A) on both castors.



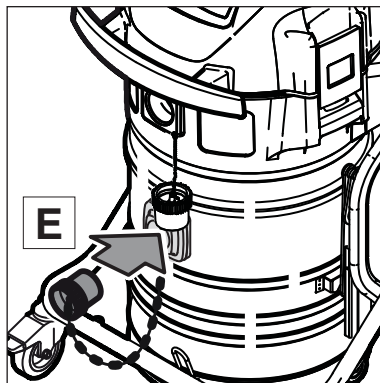
3. Swing the bar (B) upwards.
4. Use the handle (C) to pull the dirt tank out of the vacuum cleaner.



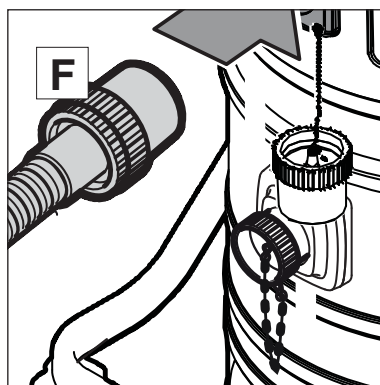
5. Insert the disposal bag (D) in the dirt tank.
6. Fold the top edge of the disposal bag over the rim of the dirt tank.



7. Push the dirt tank as far as possible into the vacuum cleaner.
8. Swing the bar (B) downwards without forcing it.

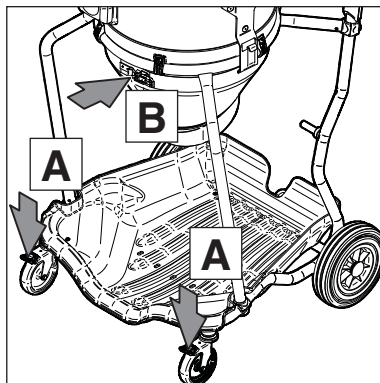


9. Close inlet fitting "H" (bottom) with plug (E).

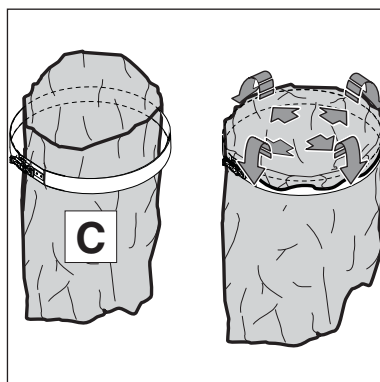


10. Connect suction hose to inlet fitting "M" (top) (F).

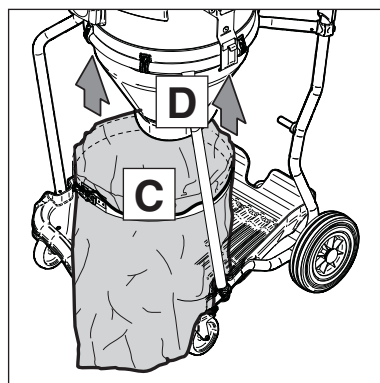
3.1.5 Inserting the disposal bag (IVB 963-2M ED XC)



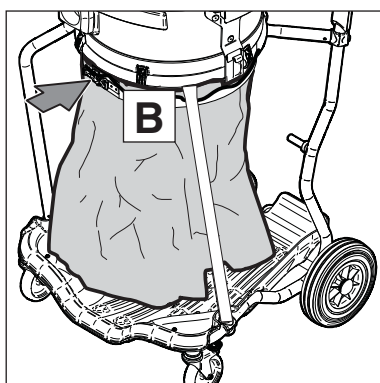
1. The mains plug should not yet be inserted into a socket.
2. Apply parking brakes (A) on both castors.
3. Open clamping ring (B).



4. Insert disposal bag (C) into clamping ring.
5. Fold the top edge of the disposal bag over the rim of the clamping ring.



6. Attach the new disposal bag (C) onto the storage container (D).



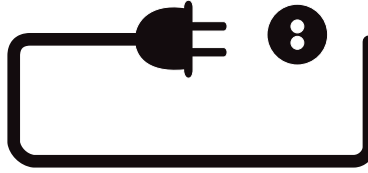
7. Close clamping ring (B).

GB 4 Control / Operation

4.1 Connections

4.1.1 Electrical connection

The operating voltage shown on the rating plate must correspond to the voltage of the mains power supply.



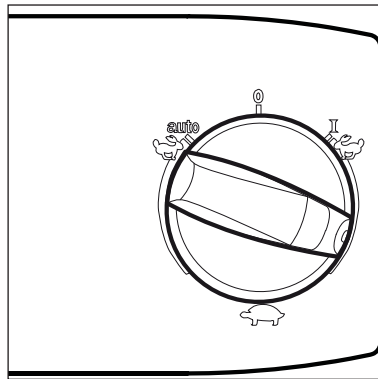
1. Ensure that the cleaner is switched off.
2. Insert the power cord into a properly installed and fused socket with earthing contact.

4.2 Switching on the vacuum cleaner

4.2.1 Switch „ auto-0-I “

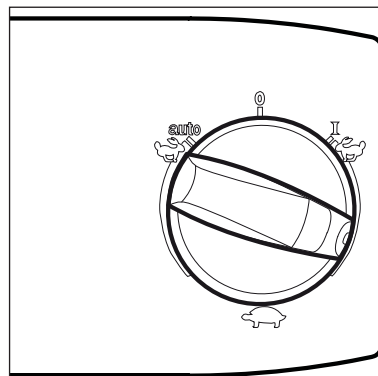
The hose diameter and the setting for the suction hose diameter must be the same.

ø27	ø27
ø32	ø32
ø38	ø38
ø50	ø50



Switch position	Function
I	Maximum suction

4.2.2 Suction power control



Switch position	Function
	The suction power control switch allows precise adaptation of the suction power for different cleaning tasks.

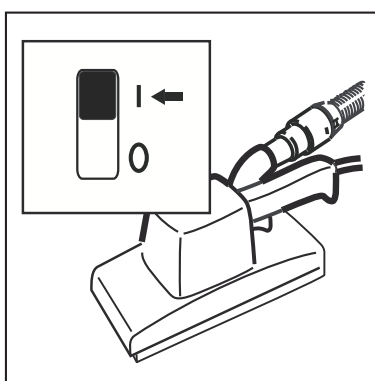
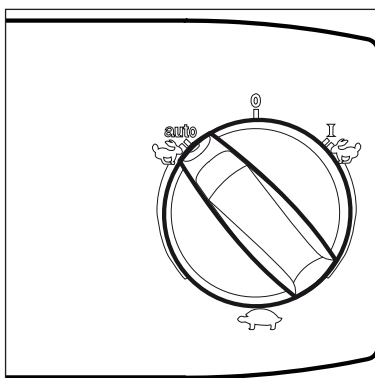
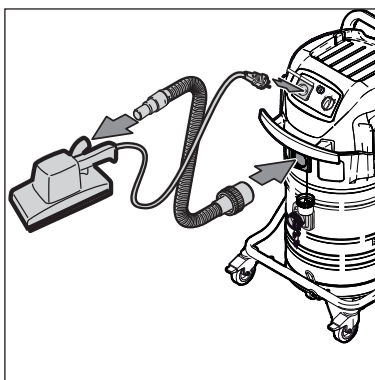
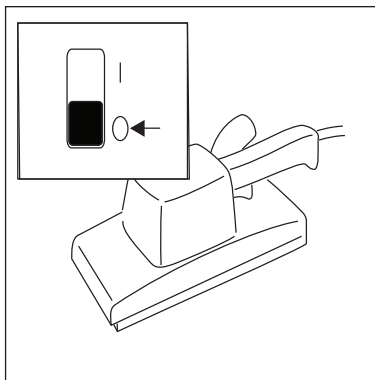
4.2.3 Auto-On/Off-Operation - "auto" switch position

The vacuum cleaner is switched on and off by the power tool connected. Dirt is picked up from the source of dust immediately.

To comply with regulations, only approved dust producing tools should be connected.

The maximum power consumption of the connected electrical appliance is stated in section 9.5 "Technical data".

Before switching the switch to position „auto“, ensure that the tool connected to the appliance socket is switched off.



1. Switch off the vacuum cleaner.
2. Switch off the power tool.

3. Connect the power tool and the vacuum cleaner with a suction hose.
4. Insert the plug of the power tool into the tool socket on the operating panel of the vacuum cleaner.

5. Switch on the vacuum cleaner. Switch in "auto" position.

6. Switch on the power tool. The vacuum cleaner motor starts when the connected power tool is switched on. When the power tool is switched off, the vacuum cleaner continues to run for a short moment so that any dust in the suction hose is conveyed to the filter bag.



4.3 Check volume flow monitor

Before picking up dust with maximum room concentration values:

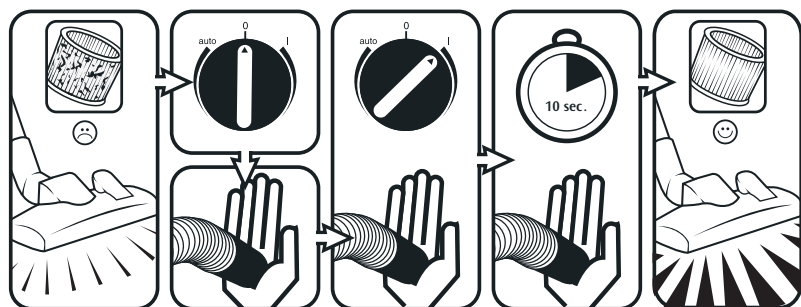
1. Check that all the filters are present and properly fitted.
2. When the motor is running, hold the suction hose shut. An acoustic warning sounds after approx. 1 second.

4.4 Acoustic warning

For safety reasons, an acoustic warning sounds if the air speed in the suction hose drops to below 20 m/s. See section "Troubleshooting".

4.5 Cleaning the filter element

After picking up harmless dust using the waste bag.



To ensure that suction performance is always at its best, the filter element is automatically cleaned during operation. We recommend complete cleaning if the filter element becomes extremely dirty.

1. Switch off the vacuum cleaner
2. Close the nozzles or suction hose opening with the palm of your hand.
3. Turn the switch to position „I“ and let the cleaner operate for approx. 10 seconds with the suction hose opening closed.

5 Applications and methods

5.1 Techniques

If used correctly, additional accessories, suction nozzles and suction hoses can enhance the cleaning action and reduce the cleaning effort.

Effective cleaning is achieved if you follow just a few guidelines in combination with your own practical experience in special fields.

Here are some basic tips.

5.1.1 Picking up dry substances

CAUTION!

Do not pick up flammable substances.

There must always be a safety filter bag in the tank before dry substances with maximum room concentration values are picked up. See section "Accessories" for ordering number.

To pick up harmless dust we recommend the use of a waste bag. See section "Accessories" for ordering number. Disposal of the picked up material is then simple and hygienic.

After picking up liquids, the filter element is wet. A damp filter element clogs more quickly when dry substances are picked up. For this reason the filter element should be washed and dried or replaced by a dry element before dry substances are picked up.

5.1.2 Picking up liquids

CAUTION!

Do not pick up flammable liquids.

Do not use the IVB 963-2M ED XC to pick up liquids.

Before liquids are picked up, always remove the filter bag/disposal bag.

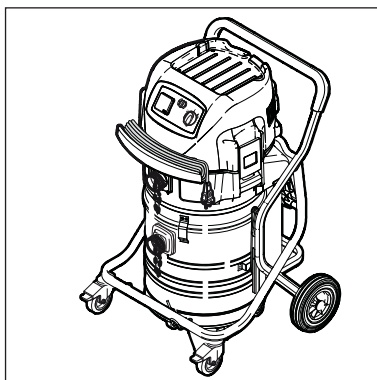
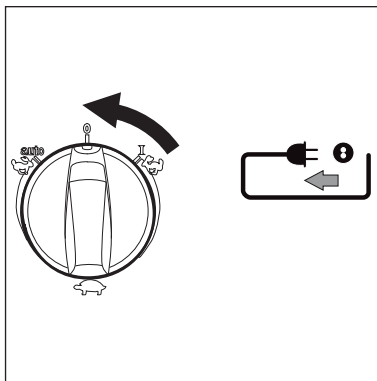
The use of a separate filter element or filter screen is recommended.

If foam appears, stop work immediately and empty the tank.

To reduce the amount of foam, use foam killer Alto Foam Stop (see section "Accessories" for order number).

GB 6 After using the cleaner

6.1 Switching the vacuum cleaner off and storage



1. After picking up hazardous dust, vacuum clean the outside of the cleaner.
2. Switch off the vacuum cleaner and pull the mains plug out of the socket.
3. Make sure that both plugs are inserted in fittings.
4. Wind up the power cord and hang it on the handle.
5. Empty the tank and clean the vacuum cleaner.
6. After picking up liquids: Store the upper section of the cleaner separately so that the filter element can dry.
7. Store the vacuum cleaner in a dry room where it is protected from unauthorized use.

7 Maintenance

7.1 Maintenance plan

IVB 965-2H/M SD XC:

		After finishing work	When required
7.2.1	Emptying dirt tank	●	
7.2.2	Replacing the disposal bag		●
7.2.3	Replacing the safety filter bag		●
7.2.4	Replacing filter element "H"		●

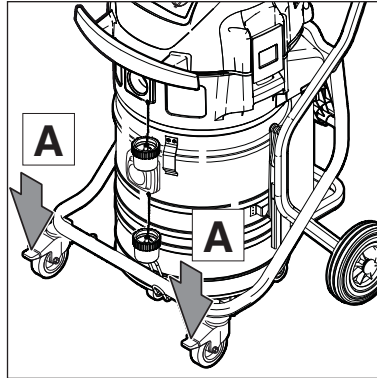
IVBw 963-2M ED XC:

		After finishing work	When required
7.2.4	Replacing filter element		●
7.2.5	Replacing the disposal bag		●

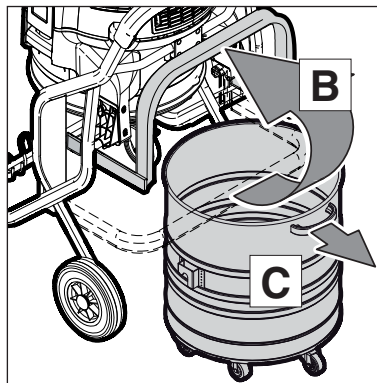


7.2 Maintenance work

7.2.1 Emptying the dirt tank

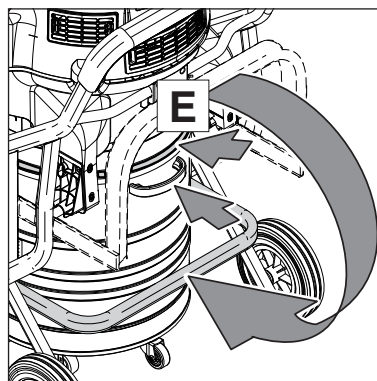
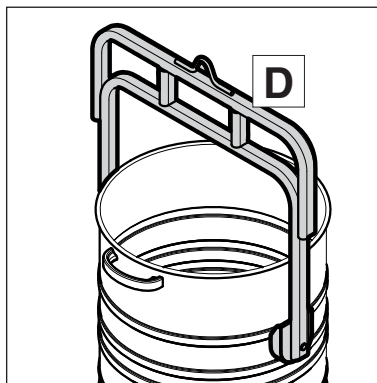


1. Switch off the vacuum cleaner and pull the mains plug out of the socket.
2. Apply parking brakes (A) on both castors..



Removing the dirt tank:

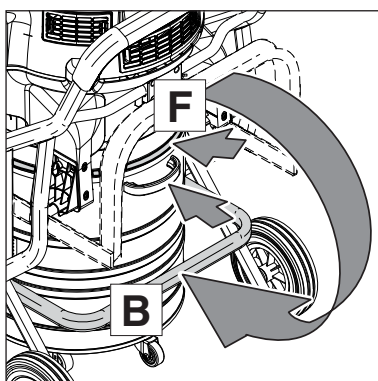
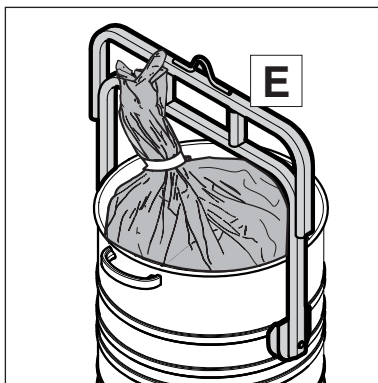
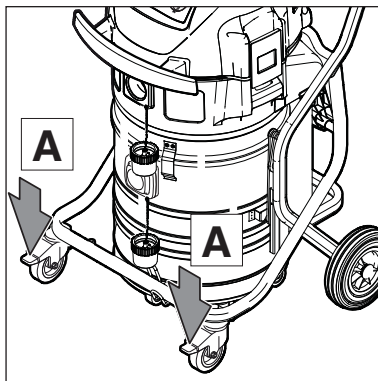
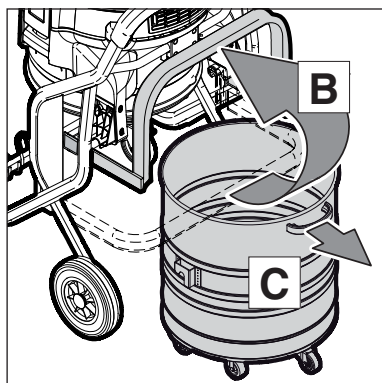
3. Swing the bar (B) upwards.
4. Use the handle (C) to pull the dirt tank out of the vacuum cleaner.
5. Tipping out the collected dirt: **WARNING!** If heavy dirt has been picked up, never lift the dirt tank alone. Use the FORKLIFT (D), which is available as an accessory.
6. Use a crane or fork lift truck to position the FORKLIFT above the dirt tank.
7. Attach the tank to the accessory.
8. Dispose of the dirt in accordance with legal regulations.



Inserting the dirt tank:

9. Clean the dirt tank.
10. Check the seals (E) between the tank and the upper section of the vacuum cleaner.
11. Push the dirt tank as far as possible into the vacuum cleaner.
12. Swing the bar (B) downwards without forcing it.

7.2.2 Replacing the disposal bag



1. Switch off the vacuum cleaner and pull the mains plug out of the socket.
2. Apply parking brakes (A) on both castors.

Removing the disposal bag:

3. Swing the bar (B) upwards.
4. Use the handle (C) to pull the dirt tank out of the vacuum cleaner.
5. Close the disposal bag with string (D) and remove it from the dirt tank.

WARNING!

If heavy dirt has been picked up, never lift the dirt tank alone. Use the FORKLIFT (E), which is available as an accessory.

6. Use a crane or fork lift truck to position the FORKLIFT above the dirt tank.
7. Attach the tank to the accessory.
8. Dispose of the dirt in accordance with legal regulations.

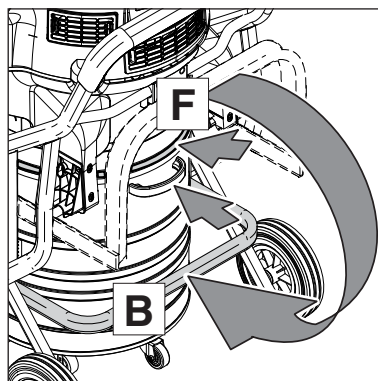
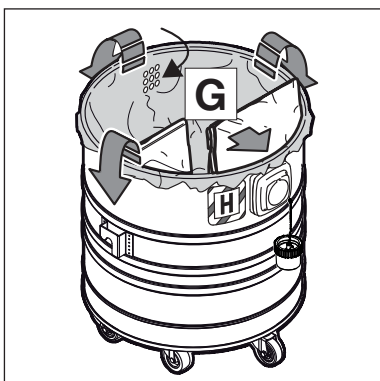
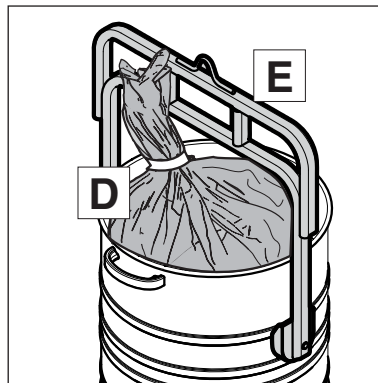
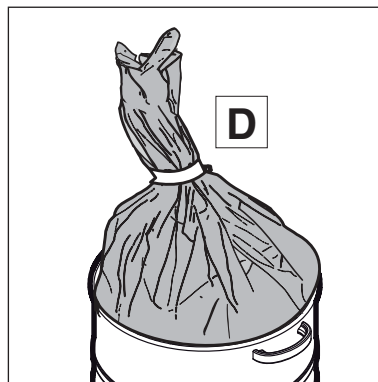
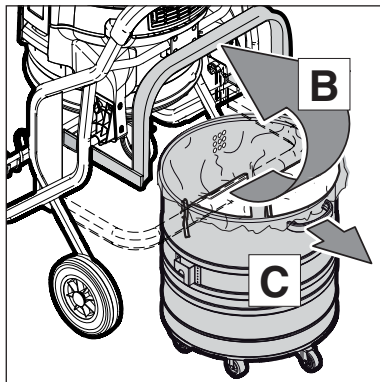
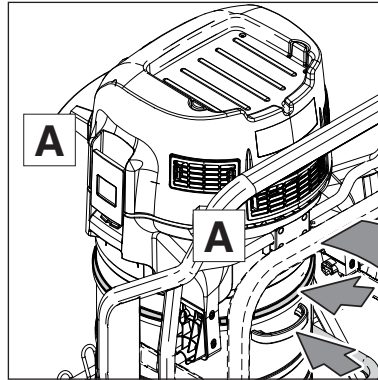
Inserting the disposal bag:

9. Clean the dirt tank.
10. Check the seals (F) between the tank and the upper section of the vacuum cleaner.
11. Insert the disposal bag (G) in the dirt tank.
12. Fold the top edge of the disposal bag over the rim of the dirt tank.
13. Push the dirt tank as far as possible into the vacuum cleaner.
14. Swing the bar (B) downwards without forcing it.



7.2.3 Replacing the safety filter bag

During the following work, ensure that dust is not unnecessarily spread around. Wear a P2 breathing mask.



1. Switch off the vacuum cleaner and pull the mains plug out of the socket.
2. Apply parking brakes (A) on both castors.

Removing the safety filter bag:

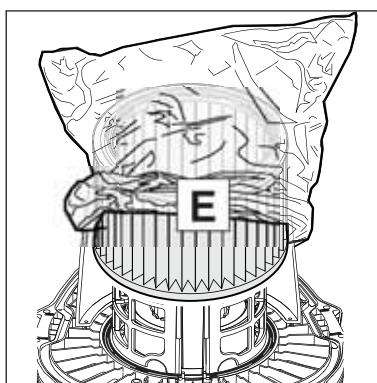
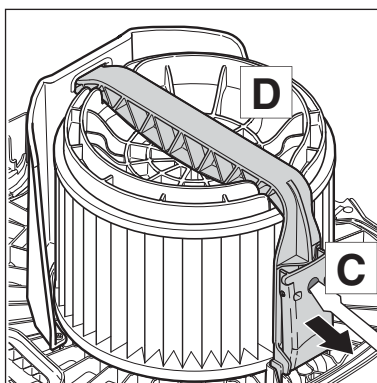
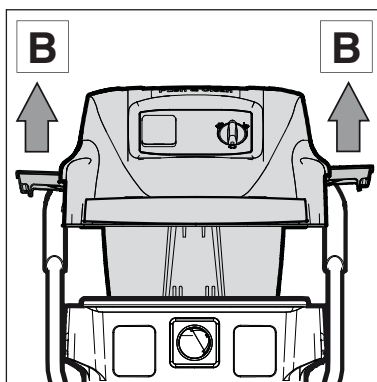
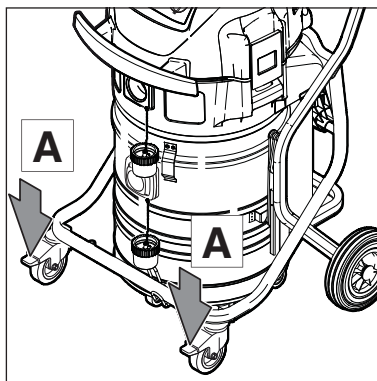
3. Swing the bar (B) upwards.
4. Use the handle (C) to pull the dirt tank out of the vacuum cleaner.
5. Close the disposal bag with string (D) and remove it from the dirt tank.
WARNING! If heavy dirt has been picked up, never lift the dirt tank alone. Use the FORKLIFT (E), which is available as an accessory.
6. Use a crane or fork lift truck to position the FORKLIFT above the dirt tank.
7. Attach the tank to the accessory.
8. Dispose of the dirt in accordance with legal regulations.

Inserting the safety filter bag:

9. Clean the dirt tank.
10. Check the seals (F) between the tank and the upper section of the vacuum cleaner.
11. Insert the safety filter bag (G) in the dirt tank.
12. Fold the top edge of the disposal bag over the rim of the dirt tank.
13. Push the dirt tank as far as possible into the vacuum cleaner.
14. Swing the bar (B) downwards without forcing it.

7.2.4 Replacing filter element "H"

During the following work, ensure that dust is not unnecessarily spread around. Wear a P2 breathing mask.



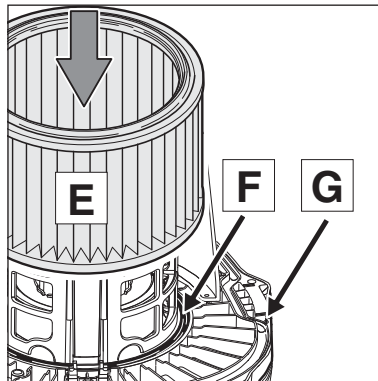
1. Switch off the vacuum cleaner and pull the mains plug out of the socket.
2. Apply parking brakes (A) on both castors.
3. Open the retaining clamps (B) and remove the upper section of the vacuum cleaner.

Remove the filter element:

4. Lay the upper section of the cleaner down with the filter element facing upwards.
5. Unscrew the screw (C), open the bar handle and remove it.
6. Remove the filter holder (D).
7. Place the protective filter bag over the filter element.

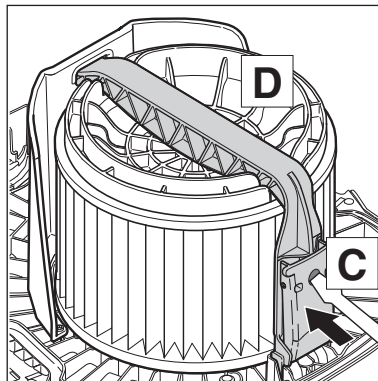


8. Carefully remove the filter element and close the protective filter bag with a knot.



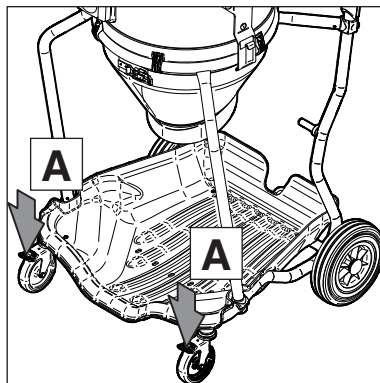
Inserting the filter element:

9. Clean the filter seal (F). Check it for damage and replace it if necessary.
10. Check the antistatic clamp (G) for damage and have it replaced by Nilfisk-Advance Service if necessary.
11. Fit a new filter element.

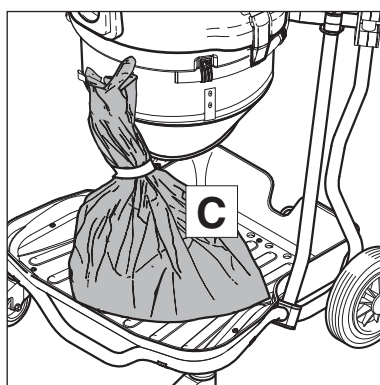
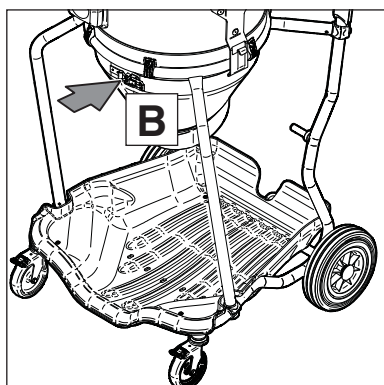


12. Fit the filter holder (D). Ensure that it is in the correct position.
13. Fit bar and close bar handle (C).
14. Dispose of the used filter element in accordance with legal regulations.

7.2.5 Replacing the disposal bag (IVB 963-2M ED XC)

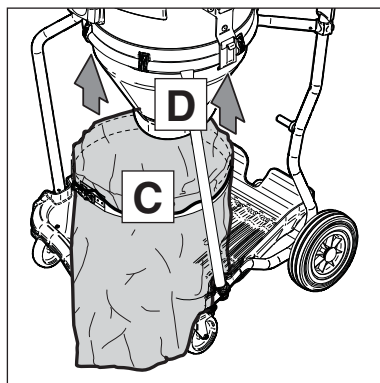
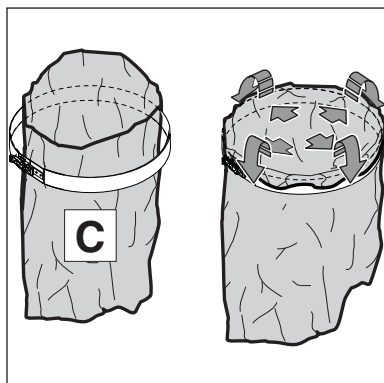


1. Switch off the vacuum cleaner and pull the mains plug out of the socket.
2. Apply parking brakes (A) on both castors.



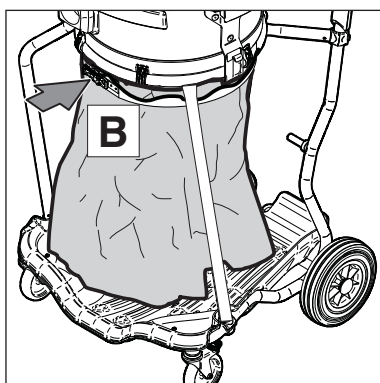
Remove the disposal bag:

3. Open clamping ring (B).
4. Detach the disposal bag (C) from the storage container and seal it.
5. Dispose of the dirt in accordance with legal regulations.



Inserting the disposal bag:

6. Insert disposal bag (C) into clamping ring.
7. Fold the top edge of the disposal bag over the rim of the clamping ring.
8. Attach the new disposal bag (C) onto the storage container (D).



9. Close clamping ring (B).

8 Troubleshooting

Fault	Cause	Remedy
‡ Motor does not start	<ul style="list-style-type: none"> > Fuse of the mains socket has blown. > Overload protection switch has tripped. > Motor is faulty. 	<ul style="list-style-type: none"> • Connect mains fuse. • Switch off the vacuum cleaner and allow it to cool for approx. 5 minutes. If the cleaner cannot be started again, contact the Alto service department. • Have motor changed by Nilfisk-Advance Service.
‡ Motor does not run in automatic mode	<ul style="list-style-type: none"> > Power tool/pneumatic tool is defective or not connected properly. > The power rating of the electrical tool is too low. 	<ul style="list-style-type: none"> • Check that the power tool works or that the plug is inserted correctly. • Note that minimum power rating is P>40W
‡ The acoustic warning sounds (Reduced suction power)	<ul style="list-style-type: none"> > Suction power selected with suction power control is too low. > Hose diameter does not correspond with switch position. > Clogged suction hose/nozzle. > The safety filter bag is full. > Filter element is clogged. > Cleaning mechanism is defective. 	<ul style="list-style-type: none"> • Set suction power in accordance with section „Setting suction power“. • Set correct switch position for hose diameter. • Clean suction hose/nozzle • See section „Replacing the filter bag“. • See section „Cleaning filter element“ and „Replacing filter element“. • Contact Nilfisk-Advance Service.
‡ No suction power during wet cleaning	<ul style="list-style-type: none"> > Tank is full. 	<ul style="list-style-type: none"> • Switch off the cleaner. Empty the tank.
‡ Voltage fluctuations	<ul style="list-style-type: none"> > Impedance of power supply is too high. 	<ul style="list-style-type: none"> • Connect the cleaner to another socket closer to the fuse box. Voltage fluctuations over 7% should not occur if the impedance at the transfer point is $\leq 0.15 \Omega$.

9 Further information

9.1 Recycling the cleaner

Make the old cleaner unusable immediately.

1. Unplug the cleaner.
2. Cut the power cord.
3. Do not discard of electrical appliances with household waste.



As specified in European Directive 2002/96/EC on old electrical and electronic appliances, used electrical goods must be collected separately and recycled ecologically. Contact your local authorities or your nearest dealer for further information.

9.2 Guarantee

Our general conditions of business are applicable with regard to the guarantee.



Unauthorised modifications to the appliance, the use of incorrect brushes in addition to using the appliance in a way other than for the intended purpose exempt the manufacturer from any liability for the resulting damage.

9.3 Tests and approvals

Electrical tests must be performed in accordance with the provisions of safety regulations (VBG4) and to DIN VDE 0701 Part 1 and Part 3. In accordance with DIN VDE 0702 these tests must be performed at regular intervals and after repairs or modifications.

The vacuum cleaner has been approved in accordance with IEC/EN 60335-2-69.

9.4 EC declaration of conformity

	EC declaration of conformity
NILFISK-ADVANCE A/S Sognevej 25 DK-2605 Brøndby	
Product:	Vacuum cleaner for wet and dry operation
Model:	IVB 963-2M ED XC IVB 965-2H/M SD XC
Description:	230-240 V~, 50/60 Hz Dust Class M and H
The design of the appliance corresponds to the following pertinent regulations:	Low Voltage Directive 2006/95/EC Machine directive 2006/42/EC Directive EMC 2004/108/EC
Applied harmonized standards:	EN ISO 12100-1, EN ISO 12100-2 EN 60335-1, EN 60335-2-69, EN 55014-1, EN 55014-2, EN 61000-3-2
Applied national standards and technical specifications:	EN 60335-2-69 (2009)
 Anton Sørensen General Manager EAPC Technical Operations	Brøndby, 01.04.2008



9.5 Technical data

IVB			
		963-2M ED XC	965 2H/M SD XC
		EU	EU
Voltage	V	230	
Mains frequency	Hz	50/60	
Fuse	A	16	
Power consumption _{IEC}	W	2 x 1200	
Connected load for appliance socket	W	1200	
Total connected load	W	3600	
Air flow rate	m ³ /h l/min	2 x 216 2 x 3600	
Vacuum	hPa/mbar kPa	230 23	
Sound pressure level at a distance of 1m, EN 60704-1	dB(A)	70 ± 2	
Working sound pressure level	dB(A)	67 ± 2	
Power cord: Length	m	10	
Power cord: Type		H07RN-F3G1,5 mm ²	
Protection class		I	
Type of protection (splash water protected)		IP X4	
Radio interference level		EN 55014-1	
Tank volume	l	30	50
Width	mm	620	615
Depth	mm	605	690
Height	mm	1200	990
Weight	kg	30	45

9.6 Optional accessories

Description	Order No.
Safety filter bag (5 pcs.)	302003473
Disposal bag IVB 965-2H/M SD XC (5 pcs.)	302001480
Disposal bag IVB 963-2M ED XC (25 pcs.)	302003723
Filter element "H" IVB 965-2H/M SD XC	107400564
Filter element IVB 963-2M ED XC	107400562
Alto-Foam-Stop (6 x 1 l)	8469



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