

## Important safety instructions



Symbols used to mark instructions



Before using the vacuum cleaner, always read the operating instructions and keep them readily available.



This symbol is used to mark safety instructions that must be observed to prevent damage to the vacuum

cleaner and its performance.



This symbol is used to mark safety instructions that must be observed to pre-

This symbol indicates tips and instructions

to simplify work and to ensure safe operation.

For your own safety

Only allow the vacuum cleaner to be used by persons who have been trained in its use and who have been explicitly authorized to use it.

vent damage to persons.

This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge.

Children shall be supervised to make sure that they do not play with the appliance.

The use of the vacuum cleaner is subject to valid national requlations. Besides the operating instructions and the binding accident prevention regulations valid in the country of use, observe recognized regulations for safety and proper use.

Do not use any unsafe work techniques.

**Transport** 

Before transporting the dirt tank, close all the locks. Do not tilt the cleaner if there is liquid in the dirt tank.

Do use a crane hook to lift the cleaner.

Purpose and intended use



The vacuum cleaners described in this operating manual are suitable for

commercial use, e.g. in hotels, schools, hospitals, factories, shops, offices and rental businesses.

The following materials should not be picked up by the vacuum cleaner:

- hazardous dust
- 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.)

Precautions and safety regulations when using the vacuum cleaner

### Before start-up

Inspect power cord regularly to detect signs of damage, e.g. cracks or ageing.

If the power cord is damaged, it must be replaced by Alto-Service or an electrician to avoid danger before use of the vacuum cleaner is continued.

<sup>1)</sup> Option depending on model Original Instruction Manual



Use only the type of power cord specified in the operating manual.

Do not damage the power cord (e.g. by moving over it or pulling or crushing it).

Disconnect the power cord by pulling the plug only (do not pull or tug the power cord).

Inspect the vacuum cleaners to ensure that they are in proper condition. Plugs and couplings in power cords must at least have splash protection.

Never use the vacuum cleaner if the filter element is damaged.

#### Picking up liquids

If foam develops or liquid emerges, stop work immediately and empty the dirt tank.

Regularly clean the built in float<sup>1)</sup> or level indicator hose to limit

the water level<sup>1)</sup> and check that they are not damaged.

See section 5 for information on handling liquids and (hazardous) dust.

#### **Electrical components**

Check the rated voltage of the vacuum cleaner before connecting it to the mains supply system. Ensure that the voltage shown on the rating plate corresponds to the voltage of the local mains power supply.

If you are using an extension cord, use only those specified by the manufacturer or higher quality ones (see section 9.4 "Technical data").

It is recommended that the vacuum cleaner should be connected via a residual current circuit breaker. This stops the supply of electricity if the leakage current to earth exceeds 30 mA for 30 ms or it has an earth tester circuit.

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

Cable length	Cross section			
m	<16 A	<25 A		
up to 20 m	ø1.5mm²	ø2.5mm²		
20 to 50 m	ø2.5mm²	ø4.0mm²		

Arrange the electrical parts (sockets, plugs and couplings) and lay down the extension lead so that the protection class is maintained.

Never spray water on to the upper section of the vacuum cleaner. Danger for persons, risk or short-circuiting.

Observe the latest edition of the IEC regulations.

2. Switch off the appliance to

#### **Tool socket**

Use the socket on the vacuum cleaner for the purpose defined in the operating instructions only.

Before plugging an appliance into the appliance socket:

 Switch off the vacuum cleaner

### be connected.

CAUTION!

Follow the operating instructions and safety instructions for appliances connected to the power tool socket.

Only carry out maintenance work described in the operating instructions.

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

### Maintenance, cleaning and repair

#### Accessories and spare parts

Use only the brushes supplied with the vacuum cleaner or specified in the operating manual. The use of other brushes can adversely affect safety.

Use only original Alto accessories and spare parts (see section 9.5). The use of other parts can adversely affect safety.



## 2 Description

2.1 Purpose

When used properly, the industrial vacuum cleaners described in these instructions

are suitable for sucking up dry, non-flammable, non-hazardous dusts and liquids.

2.2 Operating elements

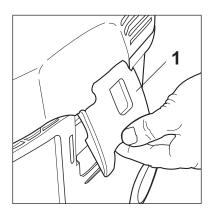
See fold-out page at front of these operating instructions.

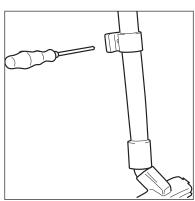
- 1 Handle
- 2 Suction pipe support
- 3 Accessory holder
- 4 Applicance switch with suction power control<sup>1)</sup>
- 5 Retaining clamp
- 6 Dirt tank
- 7 Grip to empty tank 1)

- 8 Inlet fitting
- 9 Appliance socket 1)
- 10 Cable hook
- 11 Operating knob for filter cleaning 1)
- 12 Connection for compressed air supply 1)
- 13 Connection for pneumatic tool 1)
- 14 Tank locks 1)
- 15 Castor with brake

## 3 Before starting

3.1 Assembling the vacuum cleaner





- 1. The mains plug should not yet be inserted into a socket.
- 2. Open the retaining clamps (1) and remove upper section of the cleaner.
- Take the accessories<sup>1)</sup> out of the dirt tank and the packaging.
- Place a filter bag into the tank as described in the instructions (printed on the filter bag).

#### **IMPORTANT!**

Press the filter bag connection firmly on to the inlet fitting.

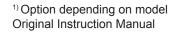
Fit the upper section of the cleaner (do not damage the filter bag) and close the retaining clamps.

### NOTE!

Ensure that the retaining clamps fit properly.

6. Fit the suction tube fastener<sup>1)</sup> about 20 cm from the edge of the lower extension tube as shown in the figure.

On delivery some of the accessories are lying in the tank and must be removed before the vacuum cleaner is used for the first time. Remove the upper section of the vacuum cleaner: The mains plug should not yet be inserted into a socket.



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### 4 Operation

#### 4.1 Connections

### 4.1.1 Connecting the suction hose

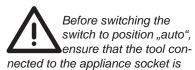
1. Connect the suction hose.

#### 4.1.2 Electrical connection

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

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

### 4.1.3 Connecting electrical appliances<sup>1)</sup>



switched off.

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 9.4 "Technical data".

 Connect the electrical appliance to the appliance socket<sup>1)</sup> on the control panel.

### 4.1.4 Connecting pneumatic tools<sup>1)</sup>

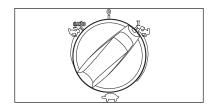
Before switching the switch to position "auto", ensure that the tool connected to the appliance socket is

switched off.

Operating pressure of the pneumatic tool is stated in section 9.4 "Technical data".

- Connect the pneumatic tool to the upper quick coupling<sup>1)</sup> on the control panel.
- Connect the compressed air supply to the lower push-in nipple<sup>1)</sup>.

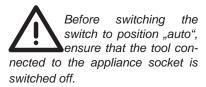
- 4.2 Switching on the vacuum cleaner
- 4.2.1 Switch position "I"

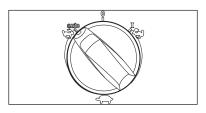


1. Turn the switch to position

The vacuum cleaner motor starts.

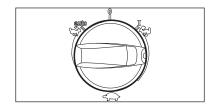
#### 4.2.2 Switch position "auto"1)





- 1. Turn the switch to position "auto" 1).
  - The vacuum cleaner motor starts when the connected power tool/pneumatic 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.

#### 4.2.3 Setting suction power<sup>1)</sup>



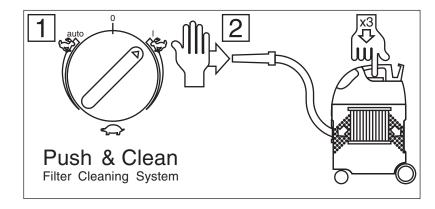
The motor speed and the suction power can be varied with the suction power control<sup>1)</sup>. This allows precise adaptation of the suction power for different cleaning tasks.



- 4.3 Cleaning the filter element
- 4.3.1 Cleaning the filter element (Push&Clean System)<sup>1)</sup>



If suction performance drops.

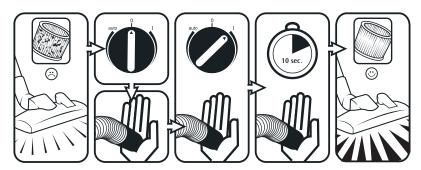


- 1. Set the suction power to maximum.
- Close the nozzles or suction hose opening with the palm of your hand.
- Press the button to start filter cleaning three times. The resulting stream of air removes attached dust from the slats of the filter elements.

4.3.2 Cleaning the filter element (Automatic Filter Cleaning System)<sup>1)</sup>



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.



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

# 5 Applications and techniques

#### 5.1 Techniques

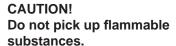
If used correctly, additional accessories, suction nozzles and suction hoses can enhance the cleaning action and reduce the cleaning effort.

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



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.



Before picking up dry substances, always ensure that a filter bag is inserted in the tank (see section 9.5 "Accessories" for order number). Disposal of the picked up material is then simple and hygienic.

#### 5.1.2 Picking up liquids

### CAUTION! Do not pick up flammable liquids.

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



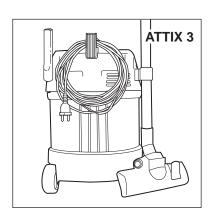
Before liquids are picked up, always remove the filter bag/ waste bag and check that the float<sup>1)</sup> or the water level limit<sup>1)</sup> works properly. (See section 7.2.4 and 7.2.5 "Replacing the filter element".)

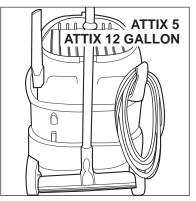
If foam appears, stop work immediately and empty the tank.

To reduce the amount of foam, use foam killer Alto Foam Stop (see section 9.5 "Accessories" for order number).

## 6 After finishing work

6.1 Switching the vacuum cleaner off and storage







- Switch off the vacuum cleaner and pull the mains plug out of the socket.
- 2. Wind up the power cord and hang it on the handle.
- 3. Empty the tank and clean the vacuum cleaner.
- After picking up liquids: Store the upper section of the cleaner separately so that the filter element can dry.
- Store the cleaner in a dry room where it is protected from unauthorized use.

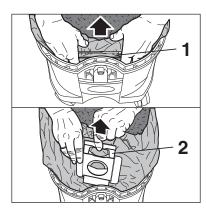
### 7 Maintenance



#### 7.1 Maintenance plan

		After finishing work	As required
7.2.1	Replacing the waste bag		•
7.2.2	Replacing the filter bag		•
7.2.3	Emptying dirt tank (ATTIX 3 / ATTIX 5 / 12 GAL)	•	
7.2.4	Emptying dirt tank (ATTIX 7 / 19 GAL)	•	
7.2.5	Replacing filter element (Push&Clean System)1)		•
7.2.6	Replacing filter element (Automatic Filter Cleaning System) <sup>1)</sup>		•

# 7.2 Maintenance work7.2.1 Replacing the waste bag



3

- Open the retaining clamps and remove the upper section of the cleaner from the dirt tank.
- 2. Carefully remove the waste bag connection (1) from the inlet fitting.
- 3. Close the waste bag connection with the slide (2).
- 4. Close the waste bag using the cable binder (3).
- 5. Dispose of the dirt in accordance with legal regulations.
- Insert a new waste bag into the cleaned tank as described in the instructions enclosed.

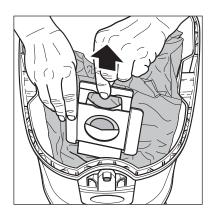


Press the waste bag connection of the new waste bag firmly on to the inlet fitting.

### 7.2.2 Replacing the filter bag



Press the filter bag connection of the new filter bag firmly on to the inlet fitting.

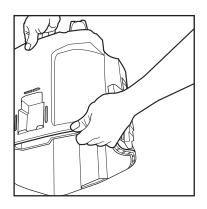


- Open the retaining clamps and remove the upper section of the cleaner from the dirt tank.
- Carefully remove the filter bag connection from the inlet fitting.
- 3. Close the filter bag connection with the slide.
- 4. Dispose of the filter bag in accordance with legal regulations.
- 5. Place a new filter bag into the cleaned tank as described in the instructions (printed on the filter bag).

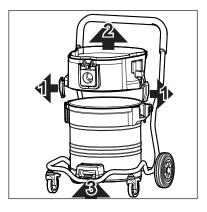
<sup>&</sup>lt;sup>1)</sup> Option depending on model Original Instruction Manual

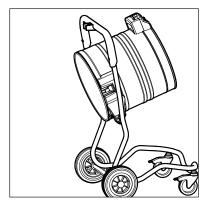


### 7.2.3 Emptying dirt tank (ATTIX 3 / 5 / 12 GALLON)



## 7.2.4 Emptying the dirt tank (ATTIX 7/19 GALLON)







To empty the dirt tank after picking up liquids: remove the intermediate ring as a proper seal is only ensured during suction.

After emptying the tank: clean the rim of the tank and the seals in the intermediate ring and the upper section of cleaner before refitting them

If the seal or groove is dirty or damaged, the suction performance will be reduced.

Before reinserting the suction hose: clean the inlet fitting and hose collar.



- Remove the upper section of the cleaner from the dirt tank
- 2. Hold the dirt tank at the grip underneath the tank and tip out the dirt.
- 3. Dispose of the dirt in accordance with legal regulations.
- 4. Clean the rim of the tank before fitting the upper section of cleaner.

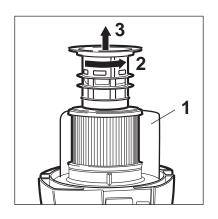
Before reinserting the suction hose:

- 5. Clean the inlet fitting and hose collar.
- 1. Remove the upper section of cleaner from the dirt tank.
- 2. Open the retaining clamps (1) and remove the intermediate ring (2) from the tank.
- 3. Pull the lever in the handle (3) upwards and tilt the tank.
- 4. Tip out the collected dirt.
- 5. Dispose of the dirt in accordance with legal regulations.

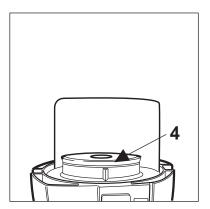
#### or:

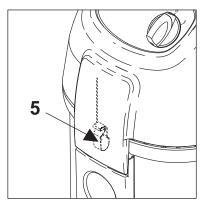
- 1. Open the tank locks (4).
- 2. Use the handles (5) to lift the tank out of the frame.
- 4. Tip out the collected dirt.
- 5. Place the empty tank in the frame and close the locks (4).
- 6. Dispose of the dirt in accordance with legal regulations.

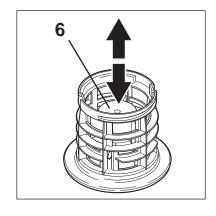
# 7.2.5 Replacing filter element (Push&Clean System)<sup>1)</sup>



- Remove the upper section of the cleaner from the dirt tank and deposit with the filter element facing upwards. Do not place the upper section of the cleaner on the guard (1).
- 2. Turn the filter holder anticlockwise (2) and remove it (3).
- 3. Carefully remove the filter element.





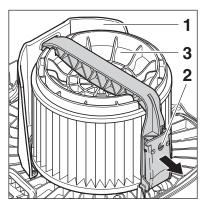


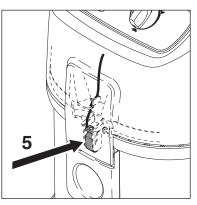
- 4. Clean the filter seal (4). Check it for damage and replace if necessary.
- 5. Check antistatic clamp (5) for damage and have it replaced by Alto Service if necessary.
- Check the floater (6) for proper operation: When you turn the filter holder, the floater should move back and forth easily.
- 7. Fit a new filter element.
- 8. Fit the filter holder and turn it clockwise to secure it.
- Dispose of the used filter element in accordance with legal regulations.

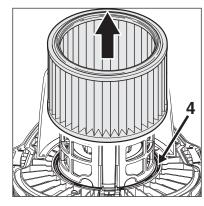


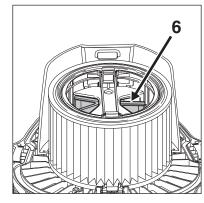
Never use the vacuum cleaner without a filter.

# 7.2.6 Replacing filter element (Automatic Filter Cleaning System)<sup>1)</sup>









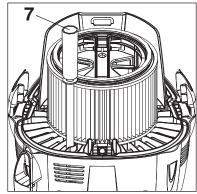
- Open the retaining clamps and remove the upper section of the cleaner from the dirt tank. Lay the upper section of the cleaner down with the filter element facing upwards. Do not place the upper section of the cleaner on the guard (1) and do not damage the filter element.
- 2. Open the bar handle (2) and remove it.
- 3. Remove the filter holder (3).
- 4. Carefully remove the filter element.
- Clean the filter seal (4).
   Check it for damage and replace it if necessary.
- Check the antistatic clamp (5) for damage and have it replaced by Alto Service if necessary.
- Check that the control flap (6) for filter cleaning works properly. The control flap should move back and forwards easily.

<sup>&</sup>lt;sup>1)</sup> Option depending on model Original Instruction Manual

without a filter.







- 8. Clean the level hose (7).
- 9. Fit a new filter element.
- 10.Fit the filter holder. Ensure that it is in the correct position.
- 11. Fit bar and close bar handle.
- 12. Dispose of the used filter element in accordance with legal regulations.

# 8 Troubleshooting

	Fault		Cause		Remedy
‡	Motor does not start	>	Fuse of the mains socket has blown.	•	Connect mains fuse.
		>	Overload protection switch has tripped.	•	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.
		>	Self-acting carbon brush is worn <sup>1)</sup>	•	Have carbon brushes changed by Alto Service.
‡	Motor does not run in automatic mode	>	Power tool/pneumatic tool is defective or not connected properly.	•	Check that the power tool works or that the plug is inserted correctly.
		>	The power rating of the electrical tool is too low.	•	Note that minimum power rating is P>40W
‡	Reduced suction power	>	Suction power selected with suction power control is too low.	•	Set suction power in accordance with section 4.2.3. "Setting suction power".
		>	Clogged suction hose/nozzle.	•	Clean suction hose/nozzle
		>	Filter bag is full.	•	See section 7.2.2 "Replacing filter bag".
		>	Filter element is clogged.	•	See section 4.5 "Cleaning filter element" and 7.2.5+7.2.6 "Replacing filter element".
		>	Automatic Filter Cleaning System only: Defective cleaning mechanism	•	Contact Alto Service
‡	No suction power during wet cleaning	>	Tank is full. (Float has closed the suction opening).	•	Switch off the cleaner. Empty the tank.
‡	The vacuum cleaner switches off during wet cleaning	>	Tank is full.	•	Switch off the cleaner. Empty the tank.
‡	Voltage fluctuations	>	Impedance of power supply is too high.	•	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 vacuum cleaner



Make the old cleaner unusable immediately.

1. Unplug the cleaner and cut the power cord.

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.

Subject to change as a result of technical advances.

#### 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.

<sup>&</sup>lt;sup>1)</sup> Option depending on model Original Instruction Manual



### 9.4 Technical data

				ATTIX 3 /	5/7		ATTIX 12 GALLON	ATTIX 12 GALLON RDF EC 12 GALLON AS/E	ATTIX 12 GALLON RDFD 12 GALLON AS/PE	ATTIX 19 GALLON 19 GALLON AS/PE2
		EU	CH, DK	GB230/240V	GB 110V	AU, NZ 230/240V	US 120 V			
Voltage	V		230	230/240	110	230/240	120			
Mains frequency	Hz		5	0/60		50	60			
Fuse	Α	16	10	13	16	10	15			
Power consumption	W (HP)			1200			1000 (1.4)	840 (1.1)	940 (1.3)	1040 (1.4)
Connected load for appliance socket	W (HP)	2400	1100	1800	560	1100	-	600 (0.8)	500 (0.7)	400 (0.5)
Total connected load	W (HP)	3600	2300	3000	1760	2300	1000 (1.4) 1440 (1.9)			

		ATTIX 350-01	ATTIX 360-11 360-21	ATTIX 550-01 550-11 MOBIL 550-21 / 590-21 560-21 / 560-31	ATTIX 12 GALLON 12 GALLON RDF EC 12 GALLON AS/E 12 GALLON RDFD 12 GALLON AS/PE	ATTIX 751-01 / 751-11 751-21 / 761-21 XC 791-21	ATTIX 19 GAL 19 GAL AS/PE2
Volume flow (air)	I/min (cfm)			3600	(127)		
Negative pressure (water lift)	Pa (in)		2300	0 (93)		23000 (93) 25000 (100) <sup>2)</sup>	23000 (93)
Sound pressure level at a distance of 1 m, EN 60704-1	dB(A)	62	± 2	60	±2	64 ± 2	
Operating noise	dB(A)	59	± 2		57	± 2	
Vibration ISO 5349	m/s²			≤ ;	2,5		
Power cord: Length	m (ft)	7	.5	7.5 10.0(GB)	7.5 (25)		
Power cord: Type		H05RR-F 2x0.75	H05RR-F 3x1.5	H05RR-F 3x0,75 H05RR-F 3x1.5 <sup>1)</sup>	SJTW-A AWG 18/3 <sup>4)</sup> SJTW-A AWG 14/3	H05RR-F 3x1.5 H07BQ-F 3x2.5	SJTW-A AWG 14/3
Protection class		II			l		
Type of protection (splash water protected)			IP X4				
Radio interference level				EN 5	5014-1		
Tank volume	I (gal)	2	7	45 (12)		70 (19)	
Width	mm (in)	38	30	476	476 (19)		(23)
Depth	mm (in)	390		506 (20)		605 (24)	
Height	mm (in)	570		655 (26)		970 (38)	
Weight	kg (lb)	1	0	14 /	<sup>1</sup> 16 <sup>1)</sup>	25 / 27 <sup>3</sup>	(56/60)
<sup>1)</sup> ATTIX 560-21/-31, ATTIX <sup>2)</sup> ATTIX 791-21	ATTIX 560-21/-31, ATTIX 12 GALLON RDFD, ATTIX 12 GALLON AS/PE  ATTIX 791-21  3 ATTIX 761-21 XC / 19 GALLON AS/PE  4 ATTIX 12 GALLON						

### 9.5 Accessories

Description		Order No.				
	ATTIX 3	ATTIX 5 12 GAL 12 GAL RDF	ATTIX 560-21/-31 12 GAL RDFD 12 GAL AS/PE EC12 GAL AS/E	ATTIX 751 19 GAL	ATTIX 761 19 GAL AS/ PE2	ATTIX 791
Filter bag(5 pcs.)	302000449	302000527	-	302002892	-	302002892
Waste bag (5 pcs.)	302000804	302000728	302000728	302001480	302001480	-
Filter element	302000490 11753 (ZA)	302000490 11753 (ZA)	107400562	302000490 11753 (ZA)	107400562	302000490
Cloth insert filter	302000606	302000525	-	-	-	-

Description	Order No.
	ATTIX 3 / 5 / 7
Filter screen	15475
Alto FoamStop (6 x 1 l)	8469

### 9.6 EC conformity declaration

CE	EC conformity declaration
Product:	Vacuum cleaner for wet and dry operation
Type:	ATTIX 350-01 / 360-11 / 360-21 ATTIX 550-01 / 550-11 MOBIL / 550-21 ATTIX 560-21 / 560-31 / 590-21 ATTIX 751-01 / 751-11 / 751-21 //61-21 XC / 791-21
The design of the unit corresponds to the following pertinent regulations:	EC Machine Directive 2006/42/EC EC EMC Directive 2004/108/EC RoHS Directive 2011/65/EC
Applied harmonised standards:	EN 12100-1, EN 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:	DIN EN 60335-1 DIN EN 60335-2-69
Name and address of the person authorised to compile the technical file:	Anton Sørensen General Manager, Technical Operations EAPC Nilifisk-Advance A/S Sognevej 25 DK-2605 Brøndby
Identity and signature of the person empowered to draw up the declaration on behalf of the manufacturer:	Anton Sørensen General Manager, Technical Operations EAPC Nilfisk-Advance A/S Sognevej 25 DK-2605 Brøndby
Place and date of the declaration:	Hadeund 01 03 2013





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