

The logo for ESTA, consisting of the letters 'ESTA' in a bold, red, sans-serif font, centered within a light gray square background.

# Operating Instructions



## VACUMAT

## Fan Unit

VACUMAT 1000 (order no.: 07100)  
VACUMAT 2200 (order no.: 07220)

and variations



Do not use this product unless you have  
read the operating instructions and understood them.

Original operating instructions  
07220-08-03

## Edition notice

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# 1 General instructions

## 1.1 Target group

These instructions are intended for

- Skilled warehousing and logistics personnel responsible for transport
- Operators trained on the product who are familiar with the extraction process,
- service, cleaning and maintenance staff trained on the product.
- Trained electrical specialists.

## 1.2 Tips

Before operation, all persons who are to use the product or perform maintenance on it must be provided with information, instructions and training in using the product and on the substances for which it is to be used, including the procedure for safe disposal of the collected material. Responsibilities must be clearly established for the following

- **Installation**
- **Commissioning**
- **Operation**
- **Maintenance and repairs**



Read the instructions carefully before working with the product.

The product may only be used by persons who have been instructed in its handling and are explicitly authorised to use it.

Always keep the instructions at the place where the product is being used, so that they can be seen by personnel at all times.

These instructions describe the product at the time of first delivery following manufacture.

- Keep the documents throughout the product's service life.
- Pass these and other supplementary documents on to any subsequent owners or users.
- Add all changes to the documents that they obtain.

Check the completeness of the documents and pay attention to their content.

Further documents are available on top of these instructions. You can request any documents required from ESTA.

- Where applicable, instructions on optional equipment

## 2 Product identification

### 2.1 Technical Data

We reserve the right to make technical changes

Item no.		07100	07220
<b>VACUMAT type</b>		<b>1000</b>	<b>2200</b>
Drive power	[kW]	1.1	2.2
Connection voltage	[V]	400	
Nominal frequency	[Hz]	50	
Nominal current	[A]	2.4	4.5
Circuit breaker	[A]	16 (circuit breaker)	
Protection class		IP 54	
Max. vacuum	[Pa]	1,250	2,550
Max. volume flow	[m <sup>3</sup> /h]	1,010	2,250
Filter class		F9	
average sound pressure level LpA*	[dBA]	62	71
Dimensions L x W x H (incl. filter unit)	[mm]	1,050 x 800 x 1,330	
Weight of active carbon filter	[kg]	30	
Dimensions of active carbon filter	[kg]	25	
Total weight (including filter unit)	[kg]	215	218
Production year		See model plate	

\* using the enveloping surface method DIN EN ISO 3744, measured at minimum volume flow; noise measurement margin of error approx. 4 dBA

\*\* Custom voltage on request

## 2.2 Intended application

### 2.2.1 Ambient conditions

Ambient temperature	[°C]	5≤9≤40
Rel. humidity	[%]	30 - 70
min. spatial requirement around the product		1,000
Operator's side (front)		1,000
Inlet	[mm]	1,000
Outlet		500
Rear		1,000
Top		

### 2.2.2 Intended use

The product has been manufactured based on state-of-the-art technology and according to recognized safety regulations and must be used as intended:

- as central extraction system for environmental pollutants and noxious odours,
- for commercial use, such as in industrial enterprises and workshops,
- for extraction in individual workplaces.
- Only for dry cleaning.

Other applications are considered unintended use. ESTA is not liable for damages due to unintended use!

### 2.2.3 Improper use

The product has been manufactured according to the state of the art and recognized safety regulations. Unintended use may cause hazards.

Therefore:

- **Do not** use or store outdoors or in wet conditions.
- **Do not** change the location of the product during suction operation.
- **Do not** set up or operate in dust/gas-explosive areas.
- **Do not** use in painting operations.
- **Do not** connect to processing machines that may produce active ignition sparks or hot embers.
- **Do not** suck up liquids.
- **Do not** suck up aggressive gases.
- **Do not** suck up any readily flammable or glowing particles.
- **Do not** suck up dusts and particles.

### 2.2.4 Reasonably foreseeable misuse

- **Do not** suck up hot embers, such as cigarette butts.
- **Do not** cause complete closure of the suction openings.

# 3 Product description

## 3.1 Product illustration VACUMAT 1000 / 2200 active carbon filter





### 3.2 Functional description

The product is equipped with a three-phase motor which drives a radial fan. The product is supplied with or disconnected from the requisite power via a main switch. The fan is turned on and off via the control panel. The operating hours counter serves for orientation for filter change and maintenance intervals.




Due to the negative pressure produced by the fan, air is sucked in through the active carbon filter unit. This separates the odours and pollutants located in the air which is sucked in. The purified air is guided back into the room through the outlet openings on the exhaust air grilles.

## 4 Safety




### 4.1 Hazard categories

Safety instructions and cross-topic information are indicated in this manual by symbols.

Based on the severity of the hazard, the hazard warnings are categorized as follows:

	<p><b>DANGER</b></p> <p>Hazard warning about an immediate danger to people. Failure to comply can lead to severe injury or death.</p>
	<p><b>WARNING</b></p> <p>Warning about a recognisable hazard. Failure to comply can lead to severe injury or death, and can destroy the product or parts of it.</p>
	<p><b>CAUTION</b></p> <p>Instruction about a hazard. Failure to comply can lead to slight injury and to damage to the product.</p>

### 4.2 Symbol explanation

	Further information
	Reference to ESTA customer service
	Reference to legal regulations

### 4.2.1 Symbols on the product



Before commissioning, read and observe the operating instructions and safety instructions (per ISO 11684)



Do not take in glowing dust or other sources of ignition. Do not use in conjunction with spark-generating machinery.



Warning of hand injuries (as per BGV A8 W27)

Type plate:

<b>ESTA</b>			
Apparatebau GmbH & Co. KG Gotenstr. 2-6, D-89250 Senden <a href="http://www.ESTA.com">www.ESTA.com</a> ; <a href="mailto:info@esta.com">info@esta.com</a>			
Artikelnr. . . . .	<input type="text" value="07220"/>		
Sprachcode . . . . .	<input type="text"/>		
Volt 400	3N~ 50 Hz	kW 2,2	Amp. 4,5
Lpa [dBA]: 71	Vorsich. C16A	IP 54 IE2	Gewicht: 21...
V max =	2.250 m³/h	<input type="text"/>	<input type="text"/>
	Filter / Anzahl : ca. 25 kg / 1 Stück		
max.Unterd...	2.550 Pa		
Abmessungen	(LxBxH) 1.050x800x1.330		
<input type="text"/>	<input type="text"/>		
<b>CE</b>			


### 4.3 General safety instructions

During extraction, the volume flow returned from the product into the room should be no more than 50% of the air supplied. With open room ventilation, supply air flow should be assumed as equal to the room volume every hour. This means that the rate of air replacement must be once per hour.

$$\text{Supply air flow [m}^3\text{/h]} = \text{room volume [m}^3\text{]} * \text{air replacement rate [1/h]}$$

Example:


When the product is operating at the nominal airflow volume of 1,060 m<sup>3</sup>/h, the same volume of fresh air must be fed in. This occurs with natural ventilation if the volume of the work room is 1,060 m<sup>3</sup> (e.g., 353 m<sup>2</sup> surface with a 3 m ceiling height).


	According to work equipment user directives 2009/104/EG and TRGS 560, safety devices for prevention or removal of hazards must be regularly maintained and regularly inspected by an expert for safe, flawless operation.
---	---

In all emergencies, the product must be disconnected from the power supply immediately, turned off at the main switch and the plug pulled immediately.


If there is a fire, alert the fire department immediately, and contain the fire by appropriate means. Therefore keep a suitable extinguishing agent near the product before start-up and during operation.


### 4.4 Preventing mechanical hazards


	<b>WARNING</b>
	Crushing hazard due to loose or open covers during operation <ul style="list-style-type: none"> <li>• Keep covers tightly closed during operation!</li> </ul>

	<b>WARNING</b>
	Risk of falling due to improper handling of the lifting device. <ul style="list-style-type: none"> <li>• Always pay attention to the local accident prevention regulations.</li> <li>• The lifting device protrudes from the product when at rest.</li> <li>• Do not stand on the lifting device.</li> </ul>


All movable machine parts driven by electric motors must be covered by fixed, securely fastened protective covers that can be removed only with tools.


	<p><b>CAUTION</b></p>
	<p>Injuries from spontaneous movement by running over and crushing</p> <ul style="list-style-type: none"> <li>• Wear personal protective equipment. (safety shoes)</li> <li>• Do not place the product on a sloping surface.</li> <li>• Always make sure that the castor's lock is activated during placement.</li> <li>• Make sure that the surface can be driven on, is level and sufficiently load bearing.</li> <li>• Watch out for pipe or hose connections and other valves, or disconnect if required.</li> </ul>

	<p><b>CAUTION</b></p>
	<p>Risk of tipping over when moving the product with the filter unit lid open.</p> <ul style="list-style-type: none"> <li>• Keep the filter unit lid closed when moving.</li> </ul>

	<p><b>CAUTION</b></p>
	<p>Risk of spontaneous movement due to unsuitable floor</p> <ul style="list-style-type: none"> <li>• Make sure that the surface can be driven on, is level and sufficiently load bearing.</li> </ul>

#### 4.5 Preventing electrical hazards

	<p><b>DANGER</b></p>
	<p>Electric shock from high voltages</p> <ul style="list-style-type: none"> <li>• Follow the safety rules for working with electrical products!</li> <li>• Secure the product against reactivation with a padlock!</li> <li>• Render the product voltage-free by pulling the mains connector!</li> <li>• Any work on the electrical grid and on voltage-conducting parts may only be performed by an electrical specialist.</li> </ul>

	<p><b>DANGER</b></p>
	<p>Electric shock from high voltages when power cable is damaged</p> <ul style="list-style-type: none"> <li>• Do not damage by running over, crushing, straining, etc.</li> <li>• Regularly check the power cable for damage and ageing.</li> <li>• Do not use if damage has been found on the power cable!</li> <li>• Any work on the electrical grid and on voltage-conducting parts may only be performed by an electrical specialist.</li> <li>• Use only original ESTA replacement parts.</li> </ul>

**DANGER**

High-voltage electric shock when working on the running product

- Turn off at the main switch and secure with a padlock against reactivation!
- Render the product voltage-free by pulling the mains connector!
- Any work on the electrical grid and on voltage-conducting parts may only be performed by an electrical specialist.

**DANGER**



Residual hazard from loose or open covers

- Keep covers closed during operation!
- Any work on the electrical grid and on voltage-conducting parts may only be performed by an electrical specialist.

All electrical parts must be covered by fixed, securely fastened protective covers that can be removed only with tools. The product complies with Protection Class I according to EN 60335.

After use, before moving the product to another site and before cleaning, maintenance, or replacement or removal of movable parts, switch off the product at the main switch and unplug the mains connector.

## 4.6 Preventing dust hazards

	<p><b>CAUTION</b></p>
	<p>Damage due to dust release</p> <ul style="list-style-type: none"> <li>• Maintenance, cleaning, repair and emptying work must be done only by expert personnel.</li> <li>• Wear personal protective gear.             <ul style="list-style-type: none"> <li>- Respirator mask (particle filter class P3)</li> <li>- Protective clothing</li> <li>- Protective gloves</li> </ul> </li> <li>• Set up locally filtered forced-air ventilation where the product is being maintained, inspected or cleaned.</li> <li>• Operate the product only with the complete filtration system.</li> <li>• Seal the intake port with a sealing plug so it is dust-tight when transporting.</li> </ul>
	<p><b>CAUTION</b></p>
<p>Damage due to dust build-up in the pipe system</p> <ul style="list-style-type: none"> <li>• Check the connected piping system regularly for dust deposits.</li> <li>• Observe the minimum air speed required for your application and the resulting minimum airflow volume.</li> </ul>	
	<p><b>CAUTION</b></p>
	<p>Damage due to dust build-up in the pipe system</p> <ul style="list-style-type: none"> <li>• Check the connected piping system regularly for dust deposits.</li> <li>• Observe the minimum air speed required for your application and the resulting minimum airflow volume.</li> </ul>





When replacing the active carbon filter, it is impossible to preclude the inhalation of dust. That is why all servicing, cleaning and maintenance procedures, including removal and emptying, is only to be performed by specialist personal with personal protective equipment.

The people assigned to cleaning work must be instructed on the aspirated toxic materials. Harm to bystanders and the environment must be prevented by all means. Clean the maintenance area thoroughly once maintenance is complete.



## 5 Delivery and commissioning

### 5.1 Delivery and transport

	<p><b>DANGER</b></p> <p>Danger from falling product</p> <ul style="list-style-type: none"> <li>• Do not walk under heavy and suspended loads.</li> <li>• The lifting and transporting equipment must be designed for the weight of the product.</li> </ul>
	<p><b>WARNING</b></p> <p>Crushing hazard if the product settles during transport</p> <ul style="list-style-type: none"> <li>• Secure the product during transport.</li> <li>• Wear safety shoes.</li> </ul>
	<p><b>CAUTION</b></p> <p>Risk of damaging the product due to improper transport.</p> <ul style="list-style-type: none"> <li>• Do not push the product over the floor if it does not have any rollers.</li> <li>• Use only suitable lifting and transport equipment (such as a forklift or lift truck) when transporting the product to its set-up location.</li> <li>• Watch out for the centre of gravity – which is not in the centre – when positioning.</li> </ul>
	<p>Make sure the floor has adequate weight capacity and can be properly driven on when transporting the product.</p>

Upon delivery inspect the product for transportation damage. Damage determined must be reported and documented immediately.

At delivery, the product is fastened to a pallet.

- Remove the protective cover and floor securing devices.
- Check the delivery is complete
- Suspend the product using sling gear (e.g. a lifting belt, round sling) at the positions provided, lift it from the pallet and place it down on the ground.
- Lift the product from the pallet using a forklift at the positions provided and place it down on the ground.



- Note total weight and centre of gravity during all transport work.
- Use the attached rollers for further transport to its installation location.





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## 5.2 Connection



Before establishing cable connections between the product and the mains, check whether the operating voltage specified on the rating plate matches that of the mains.

Place the product on an even surface as close as possible to the source of odour or pollutant. Ensure the product is aligned horizontally when setting it up.

### 5.2.1 Control unit description

The control unit is equipped with the following elements.

#### 1) MAIN SWITCH

For switching the product on and off.

This switch also serves as an EMERGENCY STOP switch and can be secured with a lock against unintentional activation.

#### 2) OPERATING UNIT

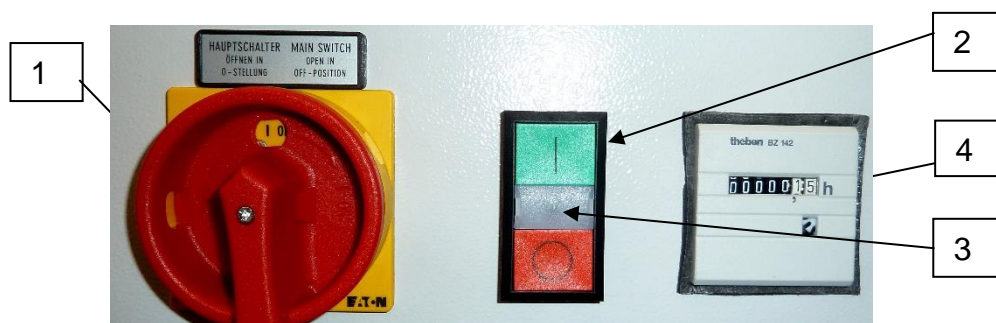
Extraction is started and stopped on the control panel and serves to control rotation direction.

#### 3) PHASE SEQUENCE CONTROL


The control lights of the phase sequence monitor light up when the fan rotor of the motor turns in the wrong direction.

#### 4) OPERATING HOURS COUNTER

The operating hours counter serves for orientation of the intervals for filter change and filter maintenance.



### 5.2.2 Electrical connection

	<b>DANGER</b>
	<ul style="list-style-type: none"> <li>• Electric shock from high voltages</li> <li>• Follow the safety rules for working with electrical products!</li> <li>• Secure the main switch against reactivation with a padlock when working on the product.</li> <li>• Any work on the electrical grid and on voltage-conducting parts may only be performed by an electrical specialist.</li> </ul>

A CEE wall socket with a slow-blow fuse must be in place to supply the product with power.

Connection to the building's power supply is made at the installation location.

		VACUMAT 1000 / 2200
Connection plug	[Amp.]	CEE 16 Amp.
Mains (standard)		Three-phase current 400V/50Hz 3N ~
Fuse	[Amp.]	C16A (circuit breaker)



\* Custom voltage on request; observe the specifications on the rating plate.

### 5.2.3 Activation operations for motors:

Motors with high output without frequency converters should be not be switched on and off within a short period of time too frequently. Otherwise, electrical components could be overloaded. Please observe the specifications for the number of activation operations:

Motor output	Activation operations per hour
1 – 4 KW	Up to 8 starts
4 – 7.5 KW	Up to 6 starts
7.5 – 15 KW	Up to 4 starts
15 – 30 KW	Up to 3 starts
From 30 KW	Electronically controlled overrun time

## 5.3 Function check



Before the product is first used, a function check must be performed.

Turn the main switch to position "I" for a product function check.

### 5.3.1 Rotation direction monitoring

When the direction of rotation is incorrect, the product becomes impermissibly hot, the volume increases, the airflow volume falls, and the product's suction performance suffers. Damage to the product cannot be ruled out.

After first switching on the product, you should check that the fan rotor's direction of rotation is correct.

1. Switch on the product at the main switch.
2. Rotation direction monitor light lights up.
3. Turn the product off at the main switch.
4. Pull the power plug.



#### **DANGER**

Electric shock from high voltages

- Any work on the electrical grid and on voltage-conducting parts may only be performed by an electrical specialist.

5. Insert the power plug.
6. Turn the product on at the main switch.
7. The product is ready for operation.
8. Turn the product off at the main switch.

## 5.4 Commissioning



Use original ESTA accessories.

Once a functional inspection has been completed, the connection is made to the processing apparatus that is to be extracted.

1. Disconnect the compressed air supply.
2. Pull the power plug.
3. Place the product on an even surface as close as possible to the work station.
4. Insert the power plug.
5. Connect the compressed air.

## 5.5 Suction line connection

Connect the processing machine to be vacuumed to the filter unit's intake port through a pipe or hose line.

For a suction line, use

- an appropriate suction hose that meets the national requirements for this application.
- an appropriate pipe (wrap fold) that meets the national requirements for this application.
- approved adapters for short diameter on the connection piece



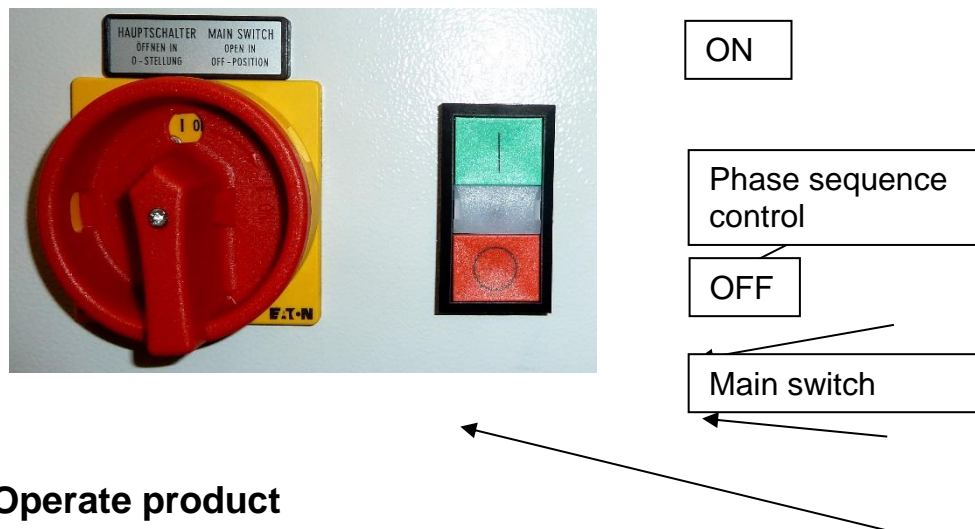
## 5.6 Troubleshooting during commissioning

Fault	Possible cause	Possible solution
The motor shuts down before reaching the operating speed.	The switching devices present are incorrectly set up or unsuitable.	Adjust the switching devices accordingly; possibly allow for heavy starts.
Motor power consumption is too high.	Direction of motor rotation is incorrect.	Change to rotation direction by turning the phase inverter in the connector.
The desired air quantity is not reached	Direction of motor rotation is incorrect.	Change to rotation direction by turning the phase inverter in the connector.
The supply cable's preliminary fuse has tripped.	Motor was switched on/off too often within a short period of time	Please consult the "Activation operations for motors" table.

## 6 Operating instructions

### 6.1 Control panel

Switch on the product at the main switch. The suction in manual mode is then switched on and off by pressing the "ON/OFF" button.



### 6.2 Operate product

After connecting the suction hose to the source of odours and pollutants:

1. Switch on the product at the main switch.
2. Start suction on the control panel.
3. Start processing machine / extraction element.
4. Start the processing operation.


During operation, do not change the product's location.

When finishing the processing operation:


1. End the processing operation.
2. Switch off processing machine / extraction element.
3. Switch off suction on the control panel.
4. Switch product off.


## 7 Maintenance & troubleshooting

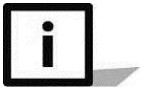
### 7.1 Maintenance instructions

	<p><b>CAUTION</b></p>
	<p>Damage due to dust release</p> <ul style="list-style-type: none"> <li>• Maintenance, cleaning, repair and emptying work must be done only by expert personnel.</li> <li>• Wear personal protective gear.             <ul style="list-style-type: none"> <li>- Respirator mask (particle filter class P3)</li> <li>- Protective clothing</li> <li>- Protective gloves</li> </ul> </li> <li>• Set up locally filtered forced-air ventilation where the product is being maintained, inspected or cleaned.</li> <li>• Seal the intake port with a sealing plug so it is dust-tight when transporting.</li> </ul>

For maintenance by qualified personnel, the product must be opened, cleaned and inspected at the given locations. During maintenance or repair work, all soiled objects that can no longer be adequately cleaned must be disposed of. Dispose of such objects in bags impermeable to dust in compliance with the applicable regulations for disposal of such waste.

	<p>Conduct annual repeat examinations VDE 0701 – 0702, VDE 0600. Depending on the mode of operation, the time intervals could be shorter. In this process, the entire system must be checked for its seamless functioning by trained specialist personnel. Keep written proof of the main annual inspection in the maintenance book enclosed. The date of the inspection, detected deficiencies and the name of the auditor must be visible from this. The date of the next maintenance session can be read on the inspection plate installed on the product.</p>
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	<p>According to work equipment user directives 2009/104/EG and TRGS 560, safety devices for prevention or removal of hazards must be regularly maintained and regularly inspected by an expert for safe, flawless operation.</p>
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	<p>The maintenance work must be recorded in writing in the maintenance book provided. This must make clear the equipment inspected and, if necessary, the deficiencies found, along with the name of the inspector and the date of the inspection.</p> <p>When there is a malfunction, switch the product off immediately and contact the responsible maintenance service!</p>
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Detailed descriptions of the maintenance work are contained in the supplementary maintenance instructions. Please consult them!



ESTA maintenance service: +49 (0) 7307 804 - 0  
 ESTA replacement part service: +49 (0) 7307 804 - 0


## 7.2 Inspection and maintenance intervals

<p>The inspection and maintenance intervals specified here refer to normal application conditions.</p> <p>In the event of difficult conditions (e.g. heavy dust accumulation, etc.) and longer daily hours of operation:</p> <ul style="list-style-type: none"> <li>Shorten the intervals specified</li> </ul> <p>In the event of occasional use of the product:</p> <ul style="list-style-type: none"> <li>Extend the intervals specified</li> </ul>								
		Daily Operator	Weekly Operator; specialist maintenance personnel	monthly Specialist maintenance personnel	Half-yearly Specialist maintenance personnel	Annually In collaboration with the ESTA maintenance	In the event of damage	As required
whole product	Visual inspection	X						
	Clean			X				
Power cable	Visual inspection	X						
	Replace					X		
Filter mat on outlet element	Visual inspection				X			
	Replace						X	
Pre-filter mats	Visual inspection			X				
	Replace					X	X	
Trails of dust or deposits on air outlet openings	Visual inspection			X				
Volume flow	Measurement				X			
Negative pressure	Measurement				X			
Power consumption	Measurement				X			
Active carbon filter	Visual inspection				X			
	Replace						X	
Seal of the whole product	Function check				X			



### 7.2.1 Spare and wear parts

 **Use original ESTA replacement and wear parts!**

 With the product's model information and serial number, request the spare parts you need from ETA Spare Parts Service +49 (0) 7307 804 - 0

Replacement parts	VACUMAT
Active carbon filter with filter mat	30011231
Filter mat, outlet	01000568

### 7.3 Detaching the filter mat outlet element



#### CAUTION

Damage due to dust release

- Operate the product only with the complete filtration system.
- Regularly check whether the filter mats have clogged.

A filter mat is installed on the outlet openings in the product cover. This must be checked regularly and replaced where necessary. Perform a visual inspection when you take off the product cover off the product during cleaning, repair or maintenance work. To do this:

1. Switch off the suction on the control panel and wait for the post-cleaning.
2. Switch off the product on the main switch and unplug the mains plug.
3. Take off the end caps via the fastening screws of the outlet element.
4. Release and remove the fastening screws.
5. If present → detach the potential equalisation from the cover.
6. Take the outlet element cover off.
7. Remove the old filter mat without leaving residue.
8. Attach the new filter mat into the cover.
9. Place the cover onto the product with the outlet openings pointing upwards.
10. If available → Attach potential equalisation to the cover.
11. Insert the fastening screws of the cover and tighten them.
12. Re-insert the power plug.
13. The product is now ready to operate again.



## 7.4 Detaching the filter mat active carbon filter



### WARNING

Crushing risk from falling product cover.

- When working with open product cover don't touch the tensioned supporting chains.



### CAUTION

Damage to the product cover by supporting chains breaking off.

- Carefully open the product cover, do not let it fall into the chains.
- Always make sure that the chains are in a good state and fit correctly.

A filter mat lies on the active carbon filter in the cover. This must be checked regularly and replaced where necessary. Perform a visual inspection when you take off the product cover off the product during cleaning, repair or maintenance work. To do this:

1. Switch off the extraction on the control panel.
2. Switch off the product on the main switch and unplug the mains plug.
3. Release the fastening screws on the cover.
4. Open the cover.
5. Remove the old filter mat without leaving residue.
6. Place the new filter mat into the active carbon filter.
7. Close the cover.
8. Mount the fastening screws.
9. Re-insert the power plug.
10. The product is now ready for operation again.



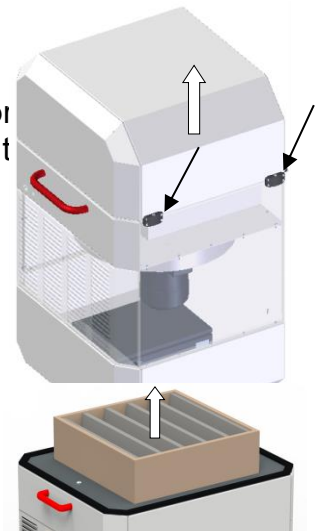
## 7.5 Replace active carbon filter

After an extended period of operation, the active carbon filter clogs up due to filtering odours and environmental pollutants. The filter must be replaced. This work should only be carried out by an expert!

If possible, filter replacement must be done when there is no work going on. This process requires 2 people with personal protective equipment. Dispose of the active carbon filter after removal in sealable packaging, for example a foil bag. Disposal takes place in accordance with local regulations.

The filter cassette is arranged immediately in front of the fan. After a longer period of operation the filter become clogs with the impurities absorbed. The filter cassette must be replaced with a new one. This work should be done only by an expert.

1. Switch off the extraction on the control panel.
2. Pull the power plug.
3. Release the fastening screws around the clamping pr
4. If available → detach the potential equalisation from t
5. Remove the cover from the product.



6. Lift the active carbon filter with 2 people.

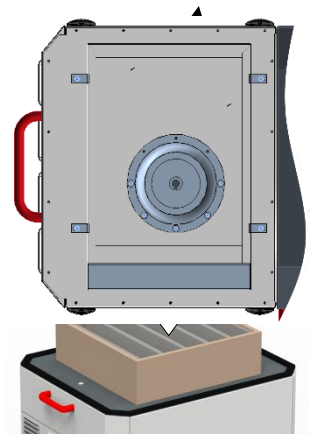
7. Then put the filter cassette into a suitable disposal bag.
8. Seal the disposal bag with a cable tie or such like.



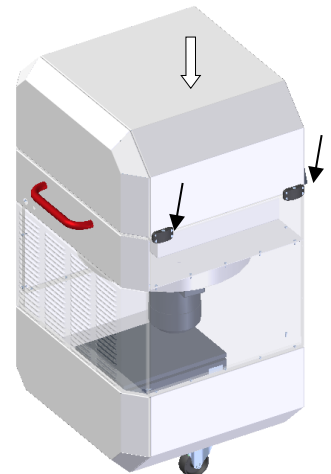
9. Clean the supporting surface for the filter cassette with a suitable industrial vacuum cleaner or with a damp disposable cloth.

10. Check the seal and the chain of the cover, if necessary they must be replaced.

11. Insert a new filter cassette.



12. If available → re-attach the potential equalisation on to the cover.
13. Take the product cover and place this back on the product.
14. Insert the fastening screws around the clamping profile and screw these in tightly.
15. Re-insert the power plug.
16. The product is now ready for operation again.



## 7.6 Clean product

Clean the product regularly and remove dust deposits, especially on the product cover. To do this:

1. Remove the dust build-up with an industrial vacuum cleaner.
2. Wipe down thoroughly with a damp disposable cloth.
3. **Do not** spray down with a water jet!


## 7.7 Store product

If the product is not needed in its location of use for a long time, it must be stored in a dry room. The temperature should not be below 5°C or above 40°C.


Before the product is stored away,


1. clean the product inside and out
  - with a damp disposable cloth.
  - With an industrial vacuum cleaner.
  - **Do not** spray down with a water jet!

## 7.8 Eliminating faults


	<b>DANGER</b>
	<p>High-voltage electric shock when working on the open switch cabinet</p> <ul style="list-style-type: none"><li>• Follow the safety rules for working with electrical products!</li><li>• Secure the product against reactivation with a padlock!</li><li>• Render the product voltage-free by pulling the mains connector!</li><li>• Any work on the electrical grid and on voltage-conducting parts may only be performed by an electrical specialist.</li></ul>

Fault	Possible cause	Possible solution
Suction too weak	Filter soiled.	Change filter.
	Throttle is shut too firmly.	Open throttle accordingly.
	Clog due to deposited residue in the suction pipe system	Check the suction pipe system for deposited residue and clogs, and clean it if necessary
Motor protection trips.	Motor was switched on/off too often within a short period of time.	Please consult the "Activation operations for motors" table.
Dust leaks and dust trails at air outlet openings.	Filter breakage	Switch product off immediately. Then clean the entire product and replace the filter elements (filter cartridges, filter mats, etc.) with new ones.
	Filter inadequately attached.	Check installation of filter elements (filter cartridges, filter mats, etc.).
Smoke development or load running noises of the fan	Imbalance in the fan.	Turn the product off immediately and have ESTA customer service inspect the fan.
	Rotor is scraping on the inlet nozzle or the housing.	Switch off the product immediately and - Check the fan for tension and transport damage - Check the position of the motor in relation to the bearing and the screw connections. - Have the fan checked by ESTA customer service.

	<b>CAUTION</b>
	Damage from dust leaks and dust trails at air outlet openings. <ul style="list-style-type: none"> <li>• Turn the product off at the main switch immediately.</li> </ul>

	<b>CAUTION</b>
	Danger from the fan producing smoke and loud running noises <ul style="list-style-type: none"> <li>• Turn the product off at the main switch immediately.</li> </ul>

## 8 Disposal

	<b>CAUTION</b>
	<p>Damage due to dust release</p> <ul style="list-style-type: none"><li>• Emptying and disposal work only to be performed by specialist staff.</li><li>• Wear personal protective gear.<ul style="list-style-type: none"><li>- Respirator mask (particle filter class P3)</li><li>- Protective clothing</li><li>- Protective gloves</li></ul></li><li>• Set up locally filtered forced-air ventilation where the product is being maintained, inspected or cleaned.</li></ul>

### 8.1 Dispose of product

Before disposing of the product

1. Remove and pack up the active carbon filter.  
*The packaging material may not have any leaks.*
2. Take the removable parts (e.g. motor, fan, cover, etc.) out of the product.
3. Package the product and the detachable parts as specified by local regulations.
4. Dispose of all the parts according to local regulations.

	<b>Due to contamination of the product with toxic dusts, ESTA cannot take the product or individual parts of it back.</b>
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## 9 EC/EU Declaration of Conformity

**Name of manufacturer:** ESTA Apparatebau GmbH & Co. KG  
**Address of manufacturer:** Gotenstraße 2 - 6  
 89250 Senden

Responsible for documentation: ESTA Apparatebau GmbH & Co. KG  
 Gotenstraße 2 - 6  
 89250 Senden

### We hereby declare that the design of the machine

**Machine:** Mobile filter product with active carbon for adsorption of gaseous odours and pollutants.  
**Series:** Small dust extractor platform  
**Model:** **VACUMAT 1000 // 2200**

**and variants with optional equipment**

### conforms to the following regulations:

<b>2006/42/EC</b>	EC - Machine Directive
<b>2014/30/EU</b>	EU Electromagnetic Compatibility Directive

The protective aims of the **2014/35/EC Low Voltage Directive** have been accomplished in accordance with Appendix I, No. 1.5.1 of the 2006/42/EC Machinery Directive.

### Reconciled norms used:

<b>DIN EN ISO 12100:2011-03</b>	Safety of Machinery – Basic concepts, general principles for design
<b>DIN EN ISO 13857:2008-06</b>	Safety of Machinery – Safety distances to prevent danger zones from being reached by upper and lower limbs
<b>DIN EN 349:2008-09</b>	Safety of machinery; minimum distances for preventing body parts from being crushed
<b>DIN EN 60335-1:2012-10</b>	Safety of electrical appliances for household and similar use - general requirements
<b>DIN EN 60335-2-69:2012-08</b>	Safety of electrical appliances for household and similar use – Special requirements for dust and water suction systems including power brushes for commercial use
<b>DIN EN 61000-6-1:2007-10</b>	EMC generic standard - Immunity for residential, commercial and light-industrial environments
<b>DIN EN 61000-6-2:2006-03</b>	EMC generic standard – Immunity for industrial environments
<b>DIN EN 61000-6-3:2011-09</b>	EMC generic standard - Interference for residential, commercial and light-industrial environments
<b>DIN EN 61000-6-4:2011-09</b>	EMC generic standard - Interference for industrial environments
<b>DIN EN 61000-3-2:2015-03</b>	EMC limits – Limits for harmonic current emissions (product input currents ≤16 A per cable)
<b>DIN EN 61000-3-3:2014-03</b>	EMC limits – limitation of voltage changes, voltage fluctuations and flickers in low-voltage public supply systems for products and equipment with a rated current ≤16 A per cable, not subject to a special connection

### National norms and technical specifications used:

<b>VDI 3677</b>	Filtering separators
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Senden, 04/10/2016

*Dr. Peter Kullitz*  
 Managing Director







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