The World of Extraction ESTA

OPERATING INSTRUCTIONS

DUSTOMAT-21 to **-67**

Mobile Dust Extractors
Dust Classification H

The World of Extraction **ESTA**

Welcome to the sphere of suction technology

Your purchase of an **ESTA** machine has been a good decision. The design of our quality products complies with the latest state of the art. **ESTA** products have been devised to provide for clean air at the workplaces at which they are applied. This results in an even more enhanced level of quality and longer machine times and, particularly, healthier working conditions. Should you have any questions pertaining to suction technology issues, please feel free to contact us at any time. Our experts will be gladly at your disposal.

Your **ESTA Absaugtechnik** Team

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Operating Instructions

CE

DUSTOMAT
-21 to -67 H

Item No. 09.302 (DUSTOMAT-21H)
Item No. 09.303 (DUSTOMAT-22H)
Item No. 09.304 (DUSTOMAT-23H)
Item No. 09.322 (DUSTOMAT-27H)
Item No. 09.305 (DUSTOMAT-41H)
Item No. 09.306 (DUSTOMAT-42H)
Item No. 09.307 (DUSTOMAT-43H)
Item No. 09.323 (DUSTOMAT-47H)
Item No. 09.308 (DUSTOMAT-61H)
Item No. 09.309 (DUSTOMAT-62H)
Item No. 09.310 (DUSTOMAT-63H)
Item No. 09.324 (DUSTOMAT-67H)

and variations

Do not use this device unless you have
read the user manual and understand it.

Translation of the original instructions
09302-08-00

Edition notice

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Type of device: DUSTOMAT -21 H to -67 H mobile dust extractors
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Warnings and safety instructions

Electrical current hazard

Note

Reference to ESTA customer service

Reference to legal regulations

Contents

1. General safety notes

Before operation, all persons who are to use the dust extractor or perform maintenance on it must be provided with information, instructions, and training in using the device 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**

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

Always keep the operating manual at the place where the suction device is being used, so that it can be seen by personnel at all times.

No liquids, aggressive gases, easily flammable materials, or glowing particles (such as hot embers) may be sucked in. For example, it is prohibited to use the DUSTOMAT in painting operations. It is forbidden to vacuum processing machines with active ignition sparks or hot embers (such as multi-blade saws).

The dust extractor is intended only for dry cleaning and must not be used or stored outdoors or under wet conditions.

Installation and operation in dust explosive zones or gas explosive zones is not permitted.

Only original ESTA replacement parts must be used; use of other products will void the warranty.

During extraction, the volume flow returned from the dust extractor into the room must be no more than 50% of incoming air. With free room ventilation, the incoming airflow must equal the room volume every hour. This means that the rate of air replacement must be once per hour.

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

Example:
When the dust extractor is operating at the nominal airflow volume of 1,060 m³/h the same volume of fresh air must therefore be fed in. This occurs with natural ventilation if the volume of the work room is 1,060 m³ (e.g., 442 m² surface with a 2.4 m ceiling height).

Make sure that the power cable does not become damaged by being run over, compressed, pulled, etc.

The power cable must be examined regularly for signs of damage or ageing.

The device must not be used if damage to the power cable is detected.

The power cable and plug must be replaced only by an appropriately trained electrical specialist.

For the power supply and the device's power cords, only original ESTA replacement parts must be used. This guarantees that they are spray-proof according to applicable standards and have the necessary mechanical strength.

The power cord must be plugged in only after the dust extractor has been successfully set up at its place of use. For this a 16-amp CEE wall socket must be in place.

Plugs and connectors complying with EN 61241-14 must be used for connecting electrically driven industrial dust extractors and dust extractors. Coupling plugs and connectors or adapters are not permitted.

After use, before moving the device to another site and before cleaning, maintenance, or the replacement or removal of movable parts, the device must be unplugged and any compressed air must be disconnected.

The DUSTOMAT is to be moved on a stable, even surface that can securely support a weight of 350 kg.

To prevent dust release when transporting the device, the intake connection piece must be closed with the sealing plug.

Only original ESTA conductive accessories may be used for operating the device.

From its first use, the device contains toxic dust. Emptying and maintenance processes, including removal of the dust collection container, must be performed by expert personnel who are wearing appropriate protective gear. The device must not be operated without the complete filtration system!

According to work equipment user directives 2009/104/EC and TRGS 553, 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 device must be disconnected from the power supply immediately. Turn the device off with the emergency switch and pull the plug. If there is a fire, the fire department is to be alerted immediately, and the fire must be contained by appropriate means. A suitable extinguishing agent must be kept near the device before start-up and during operation.

2. Preventing mechanical hazards

All movable machine parts driven by electric motors must be covered by fixed, securely fastened protective covers that can be removed only with tools.
An exception to this is the brush cleaning inside the filter. If there is a block, the safety mechanism (miniature fuse) must be tripped. Because this mechanism is tripped by only a slight deviation below normal cleaning power, there is no danger of injury.

Residual risk:
If a covering that can only be unfastened with a tool is removed, there is risk of injury if the machine is running!

3. Preventing electrical hazards

All electrical parts must be covered by fixed, securely fastened protective covers that can be removed only with tools. The device complies with Protection Class I according to EN 60 335.

Residual risk:
If a covering that can only be unfastened with a tool is removed, the risk of an electric shock cannot be ruled out!

4. Preventing dust hazards

Using a one-way dust collection bag with a closable opening guarantees low-dust removal of the collected material.

The device is designed for use with dusts that are hazardous to health. When working on the open device (for maintenance, cleaning, repairs), the operator must take special protective measures, which include wearing special personal protective gear. When the device is being operated, the complete filtration system – consisting of the pre-filter, main filter and the filter for the bag intake – must always be used. The main filter element may not be re-used once it has been removed from the device. The following warning is shown on the device.

Open the device only when it has been turned off from the control panel, and when it has been determined by a wait time of about 4 minutes that the automatic dedusting process has been performed and that the dust inside the device has settled in the dust collection container. Before opening, turn the device off at the main switch and secure it against unintentional reactivation. Using a one-way dust collection bag with a closable opening guarantees low-dust removal of the collected material.

Residual risk:
When emptying the dust collection bag, it is possible to inhale dust. Following the instructions in the "Disposal" section will minimize this hazard!

5. Intended use

The ESTA dust extractor has been manufactured according to the state of the art and in compliance with safety regulations. It is suitable for commercial use, such as in industrial firms and workshops.

The DUSTOMAT H-type devices are not only suitable for extracting dry, toxic dusts with exposure limit values smaller than 0.1 mg/m³, but also for extracting (and separating) toxic dusts with occupational exposure limit values (OELVs) including carcinogenic dusts. Since carcinogenic dusts may also be extracted using dust-class-H devices, here – especially in relation to air recirculation – the provisions of TRGS 560 must apply.

They are fitted with a dust-class-"M" pre-filter and a **dust-class-"H"** main filter (backup filter cassette) (high risk) and are tested based on Annex AA of standard EN 60335-2-69.

Conductive extraction equipment (e.g., extraction hoods on machines) and conductive parts of processing machines (e.g. devices in protection class II) that are not earthed (grounded) through the dust extractor must be earthed in some other way to prevent electrostatic charges.

The maximum allowable extraction port diameter for devices in dust class H is 140 mm.

It is forbidden to connect a dust source with a suction connection whose diameter is greater than that of the dust extractor.

When connecting a suction hose, make sure to use only electrically conductive hoses and that the electrical connection between the hose and the port is perfect. If a so-called "spiral hose" is used, the metal spirals must be stripped and pressed to the bare wall of the extraction port with a pipe clamp after the hose is attached. Only metal should be used as tube material.

The device must not be used or stored outdoors or under wet conditions.

The dust extractor's discharge openings must not be closed or covered. Otherwise, the device will get impermissibly hot and will no longer work.

Only plugs and connectors complying with EN 61241-14 must be used for connecting electrically driven industrial vacuums and dust extractors. Extension cords, coupling devices and adapters are not permitted.

Installation and operation in **dust explosive zones** or **gas explosive zones** is not permitted.

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

ESTA sets up the dust extractor according to the operator's information.

The device is suitable for extracting dust-class-H dusts and other flammable dusts of dust explosion class St 1 (Kst value ≤ 200 bar m/s).

The device is not suitable for extraction of explosive or equivalent materials in the sense of Section 1 of the explosives act, of dusts or dust explosion classes St 2 and St 3, of dusts with low minimum ignition energy and of explosive gases or gas/air mixtures, of flammable liquids or of mixtures of flammable dusts with liquids.

When operating the device with a frequency converter, the operator must make sure that the minimum airflow volume is maintained in every operational state of the extraction process and that no build-up can thereby accumulate.

6. Technical data and description

6.1 DUSTOMAT - 21 H to - 67 H

Type (see model plate)		**21/22/23/27**	**41/42/43/47**	**61/62/63/67**
Max. airflow volume	[m³/h]	1,060	1,330	1,500
Connection diameter	[mm]	125	140	140
Max. vacuum	[Pa]	3,550	3,800	4,350
Nominal volume flow	[m³/h]	884	1,108	1,108
Minimum volume flow	[m³/h]	795	997	997
Connection voltage	[V]	400		
Nominal frequency	[Hz]	50		
Drive output	[kW]	2.2	3	
Rated current	[A]	4.5	6.3	6.3
Circuit breaker	(A)	16		
Filter area, dust class “M”	[m²]	9.6		
Filter area, dust class “H”	[m²]	18		
Dust collection container	[litres]	200		
Environmental conditions	[°C]	5≤ϑ≤25		
Max. air humidity	[%]	60		
Dimensions	[mm]	1,830 x 782 x 2,040		
Weight	[kg]	240	260	265
Max. sound pressure level Lpa*	dB(A)	74	75	78
Production year		See model plate		

* = as per DIN EN ISO 3744, measurement margin of error approx. 4 dB(A)

We reserve the right to make technical changes.

6.2 Function description

Depending on the model, the DUSTOMAT is driven by a 2.2 kW or 3.0 kW three-phase motor that drives a radial fan.
The main switch supplies or cuts off the necessary power to the device, and the device is turned on and off with the red-green double push button.

The vacuum created by the fan draws air through the suction hose connected to the intake port. A permanent filter set up within the filter housing separates the dust that is in the exhausted air.
The purified air is guided back into the room through the exhaust vents.

The DUSTOMAT is equipped with a vacuum monitor as a control device for overseeing minimum airflow volume. This monitoring device measures the vacuum in the filter. With increased dust soiling of the filter, the flow resistance increases along with the vacuum behind the filter. If the value set on the vacuum monitor is reached, an acoustic signal sounds. This means that the minimum airflow volume has fallen to the limit and that the filter must be cleaned.

Depending on the model, filter cleaning is handled in various manners. The cleaning clears the filter of dust and refurbishes it. The dust collection container underneath the filter catches the dust that is cleared.
For easier removal of the collected dust material, the upper part can be tipped backwards and the dust collection container removed from the device complete with its contents.

Category H devices have a main filter in addition to the filter described above. It is this filter that allows the device to comply with dust class **"H"**. It cannot be cleaned, so when necessary it must be replaced.

7. Delivery and commissioning

7.1 Delivery and transport

At delivery, the DUSTOMAT is fastened to a pallet. After the protective cover and the bottom fasteners have been removed, the device can be picked up with a forklift. Do not use a crane!

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

ESTA customer service: +49 (0) 7307 804 - 0

When moving the device, make sure the ground can support it and be driven over.

7.2 Start-up

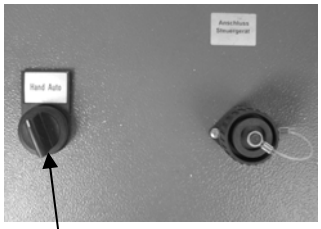
Only persons authorised under "General safety instructions" may turn the device on.
Before setting up the cable connection between the device and the power grid, check to make sure the operating voltage shown on the model plate is the same as that of the grid.

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

For start-up, the red-yellow power cut-off switch must be turned to the **"I"** position. (This switch also serves as an emergency shut-off and can be secured with a padlock against unintentional activation.)

The device is turned on and off with the double push button.

Optionally, the device can be equipped with an additional rotary switch and a plug connection device for potential-free contact. During manual operation, this switch must be set to the "HAND" position. During control through a processing machine, the switch must be at "AUTO".



Rotary switch

The fan's direction of rotation must be checked!

After turning on the device, make sure that the fan rotor's direction of rotation is correct. Meanwhile, also look at the red light on the double push button. If this lights after the main switch is turned on, the direction of rotation is wrong, and the power supply's polarity must be reversed. For this purpose, the CEE plug is equipped with a phase inverter.

The polarity of the power feed must be changed only by an electrical specialist. For this purpose, the CEE plug is equipped with a phase inverter. Using a screwdriver to turn the pole pin built into the insulated part of the plug changes the fan rotor's direction of rotation.

When the direction of rotation is wrong, the device becomes impermissibly hot, the airflow volume gets weaker, and the device's performance suffers. This can also damage the device.

Once a functional inspection has been completed, the connection can be made to the processing apparatus that is to be extracted.
For this, the device must be turned back off, unplugged from the power grid, and set on an even surface as close as possible to the workplace. Lock the device's wheels.

The dust extractor's intake port has an interior diameter of 125 mm or 140 mm, depending on the model.
At the port, the suitable electrically conductive ESTA suction hose is inserted and secured with the locking bolt. This suction hose comes with a plug connection attached.

Connection is made to a processing machine that has a smaller port diameter by using a reduction adaptor that fits the extraction hose and is chosen to fit the port diameter of the machine creating the dust. Here also, pay attention to the electrical conductivity between the connections.

Now the device can be reconnected to the power grid and also, for devices with pneumatic filter cleaning, to the necessary compressed air supply. (DUSTOMAT -23,-27,-43,-47,-63,-67)

The quarter-inch compressed air connection nozzle is on the upper filter housing.
The compressed air supply line (4-6 bar, oil- and water-free) can be connected to the device with a model DN 7.2 ¼-inch coupling.

After connecting the suction hose to the processing machine, first set the dust extractor in motion, and then the processing machine. When switching off, follow the same procedure in reverse.
During operation, the dust extractor's location should not be changed.

When the device is turned off, the neutral line is not disengaged. The device is therefore intended only for use in TN networks.

8. Maintenance and troubleshooting

8.1 Maintenance instructions

For maintenance by qualified personnel, the device must be opened, cleaned and inspected at the given locations, as far as this is feasible, without any hazard being posed to maintenance personnel or to other persons. Proper precautions must be taken before cleaning and removal of wearing parts. This includes locally filtered forced-air ventilation in the area in which the device is being maintained and proper personal protective gear.

During maintenance or repair work, all soiled objects that can no longer be adequately cleaned must be disposed of. Such objects must be discarded in an impermeable bag in compliance with applicable regulations for disposal of such refuse.

If the device 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 25 °C.
Before the device is placed into storage, it is recommended that it be cleaned with a disposable damp cloth, that the filter be cleaned, and that the dust container be emptied.

The device must never be cleaned with flowing water.

The operator is obligated to have maintenance performed once per year. During maintenance, the device is to be tested by a trained expert for correct operation. A log is to be kept of the main annual inspection in the maintenance book included. It must document the date of inspection, deficiencies determined and the name of the inspector. The date of the next inspection can be read from the test plate installed on the device.

8.2 Inspection and maintenance intervals

Regular maintenance consists of 3 intervals:

1. Daily inspection includes:

➢ ***By cyclone filter users***

Visual inspection

- for damage to the device or its parts,
- for mechanical damage to the power cable,
- for a full dust collection container (regulations require that the container be emptied if it is more than 2/3 full)

2. Monthly inspection includes:

➢ ***By expert maintenance personnel***

Visual and functional inspection,

- for filter leaks (dust trails or deposits on the air outlets)
- whether the minimum airflow volume inspection function (acoustic signal) is assured. During inspection, the device's air intake must be closed. If the acoustic signal sounds, the equipment is in order.

3. The main annual inspection includes:

The last test by ESTA is documented on the device.

➢ ***In* collaboration *with the ESTA maintenance service***

- Flow volume measurement
- Vacuum measurement
- Current consumption measurement
- Visual check of filters
- Seal inspection

After maintenance, the device receives a new test plate to document that maintenance has been performed.

This inspection must be done once per year.

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.
If there is a malfunction, the dust extractor must be switched off immediately and the responsible maintenance service notified.

According to work equipment user directives 2009/104/EC and TRGS 553, safety devices for prevention or removal of hazards must be regularly maintained and regularly inspected by an expert for safe, flawless operation.

Maintenance must be performed according to accident prevention regulations. The device must be disconnected from the electrical power and from the compressed air network. Even when the compressed air supply is turned off, the compressed air tank is still under pressure! (model-dependent)

Get the most from ESTA's maintenance service!

A maintenance contract ensures long life and top-notch operation for your dust extractor.
We'll make you a great offer — simply give us a call:

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

8.3 Troubleshooting

Always use the following checklists if a malfunction is evident. Call the ESTA maintenance service right away if there is a malfunction that is not discussed in this list. Do not perform any repairs on the device yourself if they are not explicitly specified.

Failure	Possible cause	Possible solution
Motor stalls / motor won't restart	Motor protection triggered by frequently turning the device on and off	On devices with potential-free start-up, the motor protection must be reset manually. (The motor protection is inside the switch box.)
The device has shut off during cleaning.	The electromechanical device for up and down movement is dirty, which has triggered the motor protection switch.	Clean the frame (for disassembly, see the "Filter replacement" section).
Suction performance diminishes / or no suction	Filter clogged Suction hose clogged	Dedust filter In a vacuumed area, hold the hose vertically and bang it out with a rubber mallet.
Warning signal for low suction volume persists despite filter dedusting.	Fine dust is sucked right back to the filter. Pressure controller set too weak Dust collection container too full Filter pores clogged in main filter	Dedust several times with device at rest and let the dust settle (1 min.) Change the pressure controller after consulting with ESTA Replace dust bag Replace filter

If dust escapes or clouds up from the air outlets, if smoke develops or the fan runs loudly, the device must be disconnected from the power immediately!

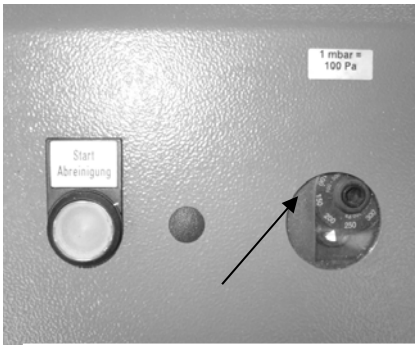
The person doing the work should always wear a respirator mask (filter mask with particle filter, filter class P3) and gloves.

Before opening the switch box, make sure to turn the main switch to the "0" position and pull the electrical plug! Work in the switch box must be performed only by an electrical expert or an appropriately trained person.

9. Monitoring the minimum airflow volume

With the dust extractor, the processing machines can be dedusted with exhaust ports of various diameters. In so doing, check that the exhausted airflow volume does not drop below the lower limit. The minimum airflow volume depends on the size of the intake connection piece of the machine creating the dust. The dust extractor's monitoring equipment (pressure switch with connected acoustic signal) must be adjusted to this minimum airflow volume.
This device measures the vacuum in the filter. With increased dust soiling of the filter, the flow resistance increases along with the vacuum behind the filter. If the value set on the vacuum monitor is reached, an acoustic signal sounds. This means that the filter must be cleaned.
Depending on the device's equipment, do this manually after switching off, or automatically during operation (DUSTOMAT -27,-47,-67).

If the pressure controller's preset value is too weak for operational use conditions (long extraction distances and small tube diameters), it means that a short time after cleaning, the acoustic signal will be triggered again. This can be adjusted upon consultation with ESTA maintenance services.



preset pressure controller

The pressure switch must be adjusted only by an appropriately trained person. The adjustment is made with a size 6 Allen wrench. After the pressure switch has been set, the device is ready for operation again.

10. Dedusting

The people assigned to cleaning work must be instructed on the aspirated toxic materials and wear a breathing protection mask with a class P3 particle filter, as well as protective gloves. Harm to bystanders must be prevented by all means.

During cleaning work, all soiled objects that can no longer be adequately cleaned must be disposed of. Such objects must be discarded in an impermeable bag in compliance with applicable regulations for disposal of such refuse.

A safety device is built into the machine for monitoring the minimum airflow volume to be extracted. An acoustic signal sounds when the filter must be cleaned. Depending on the device's equipment, various cleaning procedures are necessary.
If the warning signal still sounds after successful cleaning of the device, check the amount of material in the dust collection equipment. After dedusting, wait about a minute to check the fill level of the dust collection container so that the removed dust can settle. Then empty the dust collection container (see the section on "Disposal").

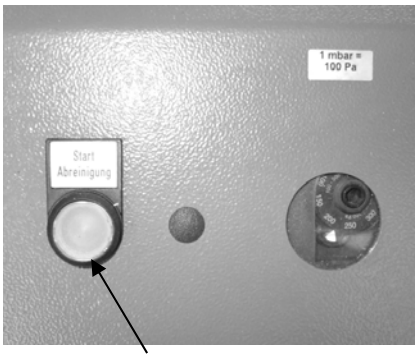
Cleaning takes place only when the main switch is on.

10.1 Manual cleaning: DUSTOMAT-21, -41, -61

If the filter is to be cleaned, wait about one minute after turning off the fan, to allow the fan's rotor to come to a standstill. For cleaning the filter, turn the hand crank on the filter part about 60 times rightward and then 60 times leftward. The cleaning process should take about two minutes (1 minute per rotation direction) and must be repeated three times.
This process should be performed even after a long downtime.

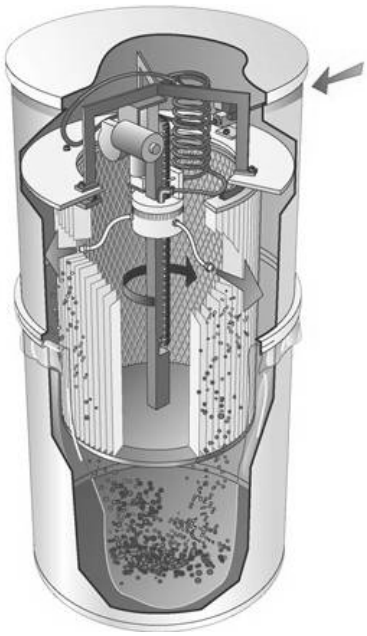
10.2 Motorized cleaning: DUSTOMAT-22, -42, -62

Under the device's cover, there is a built-in motor-operated filter cleaner. As with the manual version, here a brush is run over the folds in the filters. After the fan is shut off from the double push button (red button), filter cleaning begins after a delay set at the factory (about 30 seconds). A white light built into the push button blinks to show that it is time for cleaning. The cleaning process is set for two minutes and must be repeated three times. The white light in the push button stays on to indicate the cleaning process. Additionally, filter cleaning can be turned on with the "Start cleaning" push button, e.g., when the filter is heavily soiled. Filter cleaning can be interrupted at any time by turning on the fan motor at the double push button (green button).



Cleaning button

10.3 Pneumatic cleaning: DUSTOMAT-23, -43, -63



Pneumatically operated filter cleaning is built into the device. During filter dedusting, streams of compressed air from the clean air side of the filter remove filter cakes from the dust-laden side. The blow nozzles are driven by an electromagnetic mechanism that leads compressed air streams over the entire surface of the filter. After the fan is shut off from the double push button (red button), filter cleaning begins after a delay set at the factory (about 30 seconds). A white light built into the push button blinks to show that it is time for cleaning. The cleaning process is set for two to three minutes and is signalled by a continuous glow from the light in the push button. Additionally, filter cleaning can be turned on with the "Start cleaning" push button, e.g., when the filter is heavily soiled.

Filter cleaning can be interrupted at any time by turning on the fan motor at the double push button (green button).

10.4 Jet cleaning: DUSTOMAT-27, -47, -67

Pneumatically operated filter cleaning, so-called jet cleaning, is built into the device. During operation, the four built-in filters are automatically cleaned in sequence, as long as the vacuum set on the differential pressure switch has been reached.
Additionally, the filters can be cleaned manually with the blowers turned off (the main switch must remain on) by pressing the push button marked "Start cleaning". Each filter will be cleaned by at least one compressed air blast. The manual dedusting process can be repeated as often as needed. However, cleaning must be done any time the acoustic signal sounds.

If the acoustic signal still immediately sounds again after the device has been cleaned and started, check the amount of material in the dust collection equipment. If necessary, empty the container (see the "Disposal" section). If the acoustic signal continues to sound, then the pre-filter and the main filter must be replaced (backup filter cassette).

10.5 Filter replacement

Filter replacement must be performed in a well-ventilated room or outdoors. The people assigned to this work must be instructed on the aspirated toxic materials and wear a breathing protection mask with a class P3 particle filter, as well as protective gloves. Harm to bystanders must be prevented by all means.

After an extended operation period, the filter pores can be clogged by extremely fine dust. Even the dedusting equipment cannot remove this infiltrated dust. The filter material affected must now be replaced with a new one.
If possible, filter replacement must be done when there is no work going on. Used filters must be discarded in compliance with local regulations.

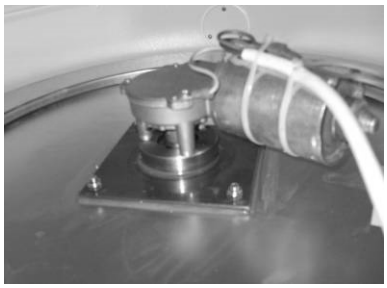
Before the filter is replaced, it must first be cleared of loose dust using the available dedusting system, and the power must be cut off.

10.5.1 Replacing the pre-filter on a DUSTOMAT -21, -41, -61,

Remove the crank from the cleaning device in order to loosen the threaded fastening pin. Now the crank can be pulled out. After that, loosen the clamping ring that holds the cover plate and remove the cover plate.
The four fastening bolts of the now-visible bearing block must be removed. The bearing block can be removed along with the shaft. Pull the dust collection bag over the upper part of the vacuum. The upper part will now tilt backwards. On the underside of the filter part, six nuts are visible (M8, SW 13); remove them. Now the used filter can be pulled out of the upper part by pulling it upward on the cleaning shaft. In this way, the dust collection bag turns over the entire filter, so that no dangerous dust enters the environment. Close the dust collection bag with the supplied band so that no dust can escape.
Install the new filter by performing the same process in reverse. Additionally, the filter cartridge must be sealed at the upper side with sealing compound.

10.5.2 Replacing the pre-filter on a DUSTOMAT -22, -42, -62,

Next loosen the clamping ring that holds the cover plate and remove the cover plate. Loosening the clamping ring can be easier if the device has been turned on and the exhaust port closed.



The cables must be disengaged from the motor after the power supply has been interrupted. To do this, remove the cable tie, then the plug connections, along with the earthing (ground) cable.
Pull a dust collection bag over the upper part, tip the upper part, and remove the six screws on the underside of the filter part. Now the used filter can be pulled from the upper part into the dust collection bag.
To remove the cleaning equipment, next remove the two screws on the brush shaft in order to be able to remove the brush. In the connection to it, remove the two adjusting rings on the brush shaft and four nuts on the upper side of the filter cartridge. This allows the cleaning equipment to be pulled from the cartridge and installed in the new cartridge.

Install the new filter by performing the same process in reverse. Additionally, the filter cartridge must be sealed at the upper side with sealing compound.

10.5.3 Replacing the pre-filter on a DUSTOMAT -23, -43, -63,

Next loosen the clamping ring that holds the cover plate and remove the cover plate. Loosening the clamping ring can be easier if the device has been turned on and the exhaust port closed.
Tilt the upper part backward, and remove the lock nut in the middle of the filter cartridge. Now remove the six nuts on the filter cartridge, and pull a dust collection bag from under over the upper part. A second person must hold the filter from underneath, so that it won't fall into the dust collection container.

Install the new filter by performing the same process in reverse. Additionally, the filter cartridge must be sealed at the upper side with sealing compound. When installing and removing, make sure that the blower device does not become damaged and it doesn't drag against the filter bottom during operation.

10.5.4 Replacing the pre-filter on a DUSTOMAT -27, -47, -67,

First remove the compressed air hose and use the manual cleaning button to empty the vessel. Next loosen the clamping ring that holds the cover plate and remove the cover plate.
Loosening the clamping ring can be easier if the device has been turned on and the exhaust port closed.
Remove the compressed air hose, the connecting plug from the compressed air vessel to the power cable and both bolts below the compressed air vessel, so that the compressed air vessel can be removed.
Now the filter cartridge's three bolts can be removed. Cover the upper part with a dust collection bag and pull the cartridge out. Do the same with each of the cartridges.
Install the new filter by performing the same process in reverse. During installation, make sure to place a new rubber gasket at the bottom of each cartridge.

Cleaning the filter cartridge in a dismantled state by blowing it out or beating it is not permissible.

10.5.5 Replacing the main filter (backup filter cassette)

Next, the flanged button-head cap screws on the cap must be removed and the suction hose unplugged from the bend. Then remove the cap.
Remove the four nuts on the angle bracket to remove the filter and pack it in a dust collection bag. Install the new filter by following the opposite sequence.

Before installing a new filter, clean the filter housing, especially the sealing surface, with an industrial or glass cleaner.
Stubborn remains can also be removed with a scraper.

Under no circumstances should the filter material be damaged during installation, because then the filtration efficiency will no longer be achieved.

11. Disposal

The people assigned to disposal work must be instructed on the aspirated toxic materials and wear a breathing protection mask with a class P3 particle filter, as well as protective clothing. Harm to bystanders must be prevented by all means.



11.1 Disposing of collected dust materials

After the dedusting process or an extraction operation phase, wait about one minute for the dust to settle in the device. Only then can the dust collection container be emptied.

After using the dust extractor, always replace the dust collection bag when it has reached the container's maximum fill height (about 2/3), which is identical with the upper edge of the viewing window.

Since the ESTA company does not know what types of dust are being exhausted, it can be necessary to replace the dust collection bag before it has reached its maximum fill level (a large bulk density means heavy weight).

Before replacing the dust collection bag, lock the castors, raise the locating pin on the intake connection piece, and pull off the suction hose. To remove the full dust collection bag, after opening the buckle closure, tilt the upper part of the device in the direction of the fan.
To remove the dust collection bag, pull this carefully upward and press it together about 30 cm below the upper edge of the bag. Tighten this 30 cm to about 15 cm at the upper edge, close it with the band included, remove it from the container, and dispose of it in accordance with local regulations.
When inserting a new dust collection bag, make sure that it lies flat against the walls of the container and overlaps the upper edge as little as possible. Turn the device off again, snap the upper part of the device shut, and close the buckle closure. Turn the device back on. It should remain on until the dust collection bag is lying completely against the wall of the container. This process takes about 1 minute. Make sure that the upper part of the dust collection bag does not form a collar that can collect dust. Insert the suction hose and lock it. The device is now ready to operate again.

Follow applicable regulations when disposing of the collected material!

11.2 Disposing of the dust extractor

Before disposing of the device, empty the dust collection container, remove the filter cartridges, and dispose of both of them in compliance with local regulations.

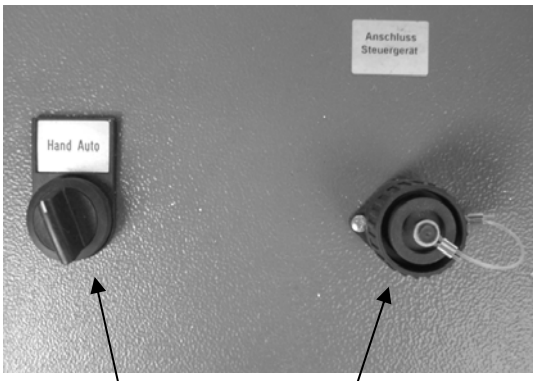
Pack the device in a suitable manner and dispose of it in compliance with local regulations.

Due to contamination of the device with toxic dust, ESTA cannot take the device back.

12. Optional equipment

12.1 Start-up with potential-free contact

Optionally, the DUSTOMAT can be equipped with start-up through an external potential-free contact. This means there can be a coupling between the DUSTOMAT's fan and a processing machine connected to it. In this case, the processing machine starts and stops the fan.
The grey rotary switch on the switch box must be set to "AUTO" for this operating mode. In the "HAND" setting, the DUSTOMAT is operated as previously described.
Pins 1 and 2 of the external, potential-free contact are connected to the plug (packaged with the device). Pin 3 is reserved for the neutral wire. This is needed only when using special ESTA accessories. Connect the potential equalization to the PIN with the earthing (ground) indicator. (Please follow the enclosed switching documentation!)



Toggle switch

Plug connections for external start-up

All electrical installations necessary to starting up the dust extractor, as well as electrical modifications and installation work to the processing machines, must be done only by an electrical specialist or a person trained for the job. As soon as the main switch is set to "ON", the contacts to the dust extractor's black socket carry 230 volts!
When the processing machines are connected, the dust extractor can start running by itself at any time!
When maintenance work is being done to the **dust extractor**, therefore, the control cable to the control box must be disconnected, and the main switch must be set to "0" and secured with a padlock against unintentional start-up! Unplug the dust extractor from the electrical grid.

When maintenance work is being done to the connected **processing machines** and devices or control units, the control cable to the dust extractor must be disconnected. All main switches must be set to "0" and secured, if possible, with a padlock against unintentional start-up! Additionally, all electrical plugs must be pulled. If this is not possible, take appropriate measures to ensure that all machines are free of current. This applies to all machines connected to the system.

12.2 Pre-separator

The DUSTOMAT can be equipped with an upstream separator. This collects large amounts of coarse dust, in order to prolong the life of the filter cartridge.
It is available in various sizes, depending on the dust extractor being used.

Order no.	Included in delivery	Connection size	Application
95,100	 Mobile 200-litre vessel with pre-separator head, incl. connection to suction assembly	Ø100	**Dry** Heavy, coarse suction material and high dust emission
95,125		Ø 125	
95,140		Ø140	
95,160		Ø160	
97,125	 Mobile 200-litre vessel with a baffle plate for filling with water, incl. connection to suction assembly	Ø 125	**Flying sparks** Water separator for extraction on processing machines that may produce sparks
97,140		Ø140	
97,160		Ø160	
20821100	 Cyclone with a mobile 100-litre dust collection container, including connection to suction assembly	Ø100	**Light material** Large amounts of light material, mainly chips and dust
20821125		Ø 125	
20821140		Ø140	
20821160		Ø160	

ESTA customer service: +49 (0) 7307 804 - 0

13. Device diagram

DUSTOMAT- 21 to - 67 H

With the model information, request the replacement parts you need from the ESTA replacement part service: +49 (0) 7307 804 - 0

14. EC Declaration of Conformity

Name of manufacturer:	ESTA Apparatebau GmbH & Co. KG
Address of manufacturer:	Gotenstraße 2 - 6 89250 Senden
Name of person in charge of documentation:	Ramona Pflum Gotenstraße 2 - 6 89250 Senden

We hereby declare that the design of the machine

Machine:	Dust extractor for the collection, transport and separation of dry, free-flowing dust-class-"H" dusts from individual sources.
Series:	DUSTOMAT
Model:	**DUSTOMAT - 21H, ... 22H, ... 23H, ...27H, ...41H, ...42H, ...43H, ...47H, ...61H, ...62H, ...63H, ...67H**

conforms to the following relevant regulations:

2006/42/EC	EC Machinery Directive
2004/108/EC	EC Electromagnetic Compatibility Directive
2009/104/EG	Work Equipment Usage Guideline

Reconciled norms used:

EN 12100	Safety of machinery - basic concepts, general propositions (part 1 and part 2)
EN 13857	Safety of machinery, devices, and systems; safety distances to prevent hazard zones from being reached
EN 349	Safety of machinery; minimum distances for preventing body parts from being crushed
EN 60335-2-69	Safety of electrical appliances for household and similar use
EN 61000-6-3	Electromagnetic compatibility - Emitted interference in residential areas, commercial and business operations, as well as small enterprises
EN 61000-6-4	Electromagnetic compatibility - Emitted interference in industrial applications
EN 61000-3	Electromagnetic compatibility
Part 11	Limit values - Limiting voltage changes
EN 61241-14	Installation of electrical systems in potentially explosive areas

National norms and technical specifications used:

VDI 3677	Filtering separators
DIN 8416	Dust extractors for commercial use

Senden, 07/03/2012

Dr. Peter Kulitz
Managing Director

Notes

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