The World of Extraction

ESTA

OPERATING INSTRUCTIONS

MOBEX

Compact dust extractor

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 manual

MOBEX P

MOBEX P-24 (Item-No. 09.831)
MOBEX P-36 (Item-No. 09.832)

and variations

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

Translation of the original operating manual
09831-08-02

Edition notice

Original operating manual
Document No.: 09831-08-02
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Type of device: MOBEX P stationary extractor
Item No.: 09.831 // 09.832 and variations

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ESTA Apparatebau GmbH & Co. KG
Gotenstraße 2-6
89250 Senden
Germany

Tel.: +49 (0) 73 07 80 4 -0
Fax: +49 (0) 73 07 80 4 -500
E-mail: info@esta.com
www.esta.com

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Contents

1. General information

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**
- **Start-up**
- **Operation**
- **Maintenance and repair**

Read the operating manual carefully before working with the device.

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

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

2. Product identification

2.1 Technical Data

Subject to change without notice

Item.-No.		**09831**		**09832**	
Type MOBEX		**P-24**		**P-36**	
Filter type		Cartridge filter			
Number of filter elements	[Pc.]	2		3	
Filter surface	[m²]	24		36	
max. negative pressure	[Pa]	3.400	3.640	3.400	___**
max. air flow	[m³/h]	2.800	2.635	4.500	___**
min. air flow	[m³/h]	2.400		3.200	
Drive	[kW]	3,0		4,0	
Voltage	[V]	400			
Nominal frequency	[Hz]	50	60	50	60
Rated current	[A]	7	5,7	9	___**
Fuse	[A]	16			
Type of protection		IP 54			
Dust collection drawer	[l]	100 - 150			
Dust collection container (each ~38 litre)	[pc.]	2			
Intake port diameter ø	[mm]	200		250	
Dimensions (L x W x H)	[mm]	1.910 x 1.040 x 2.030		2.030 x 1.040 x 2.030	
Sound pressure level LpA *	[dBA]	71	69	74	___**
Weight	[kg]	ca. 310		ca. 350	
Production year		see label			

*measured at minimum airflow volume, noise measurement margin of error approx. 4 dBA
** Custom voltage on request

2.2 Intended use

2.2.1 Environmental conditions

Ambient temperature	[°C]	$5 \leq \vartheta \leq 40$
Relative humidity	[%]	30 - 70

2.2.2 Intended use

The device has been manufactured according to recognized safety regulations and must be used as intended:

- for commercial use, such as in industrial enterprises and workshops.
- for separation of dry, free-flowing, non-flammable dusts of dust class M.
- for suction at individual workstations.
- as a central exhaust system at machines that produce dust.
- only for dry cleaning.
- as a central exhaust system at machines that produce shavings.

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.

2.2.3 Unintended use

The device 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 the device outdoors or under wet conditions.
- **do not** change the location of the device during suction operation.
- **do not** set up or operate in 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** exhaust aggressive gases.
- **do not** exhaust mildly combustible or glowing particles.

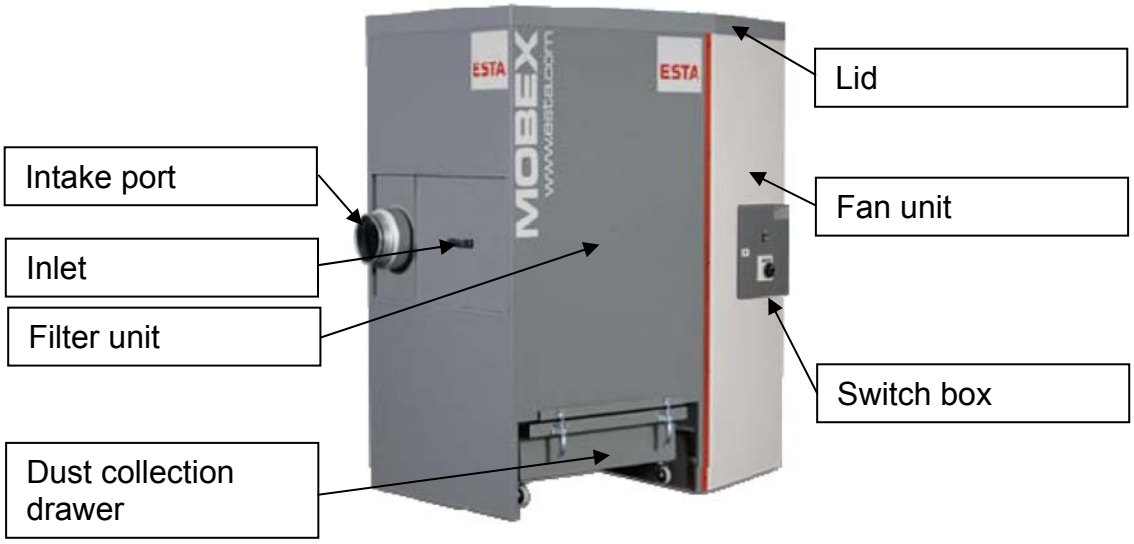
2.2.4 Reasonably foreseeable misuse

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

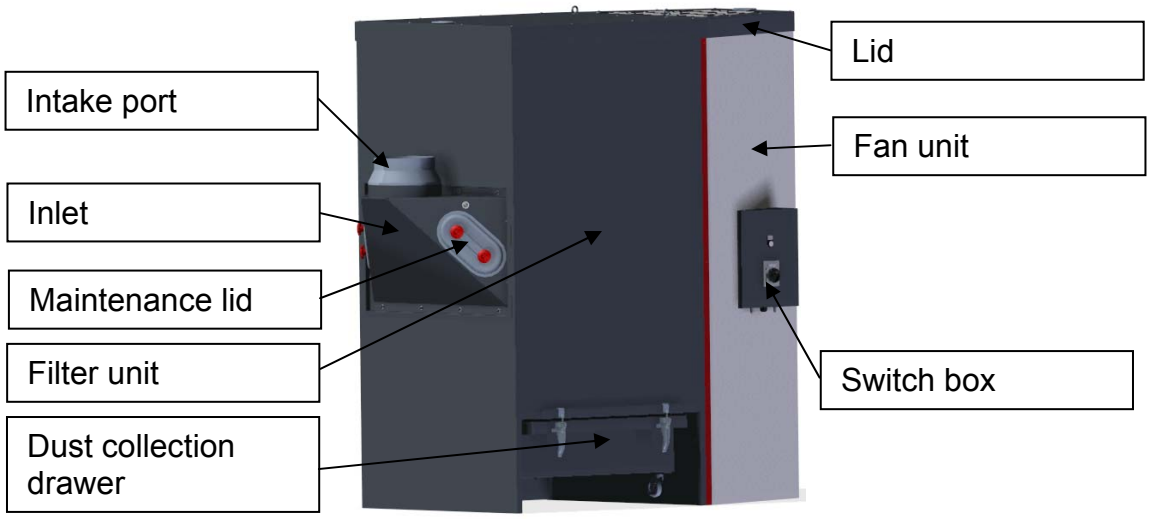
3. Product description

3.1 Product representation

3.1.1 MOBEX P-24



3.1.2 MOBEX P-36



3.2 Functional description

The DUSTOMAT is equipped with a three-phase motor that drives a radial fan.
The main switch supplies or cuts off the necessary power to the device, and the fan is turned on and off from the control unit. The device starts running as soon as the main switch is turned on.

The vacuum created by the fan draws air through the suction pipe or 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 draft-free back into the room through the exhaust openings on the top of the device.

With the filter cartridges used, the device 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, the filter cartridges are automatically cleaned with compressed air. A pneumatic jet pulse cleaning device is integrated for this purpose. Intense pulses of compressed air are successively introduced into the filter cartridges. The cleaning frees the filters of dust and reconditions them. The dust collection container underneath the filter catches the dust that is cleared.

For easy disposal of the collected dust material, the dust collection drawer is released, pulled out and removed from the dust collection container complete with contents.

The device is equipped with a pre-separator / baffle. This pre-separator / baffle is built in behind the intake port, before the actual pre-filters. It pre-separates the coarse particles and thus prevents them from being sucked against the filters. The pre-separator / baffle must be checked regularly for contamination. For this, follow the safety instructions for cleaning.

3.3 Monitoring the minimum airflow volume

The minimum airflow volume is monitored though a differential pressure measurement. Capture elements with various exhaust port diameters can be used with the device. Here it should be ensured
that suction does not go below the minimum airflow volume

- This minimum airflow volume depends on the capture element’s port diameter and the required flow velocity.

4. Safety instructions

4.1 Hazard classes

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:

	**DANGER** Hazard warning about an immediate danger to people. Failure to comply can lead to severe injury or death.

	**WARNING** Warning about a recognizable hazard. Failure to comply can lead to severe injury or death, and can destroy the device or parts thereof.

	**CAUTION** Instruction about a hazard. Failure to comply can lead to mild injury and to damage to the device.

4.2 Explanation of symbols

	Further information

	Reference to ESTA customer service

	Reference to legal regulations

4.2.1 Symbols on the device

- Turn the device off.
- Wait 5 minutes.
- Then pull out the dust collection drawer or open the device.

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

Hand injury warning (per BGV A8 W27)

Short-term loads on the surface must not exceed 175 kg!

Do not take in glowing dust or other sources of ignition. Do not use with machines that produce sparks!

4.3 General safety notes

During exhaust, 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.

Incoming airflow [m³/h] = room volume [m³] ∗ air replacement rate [1/h]

Example:
When the dust extractor is operating at the nominal airflow volume of 1060 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 1060 m³ (e.g. 353 m² surface with a 3m 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 device must be disconnected from the power supply immediately. Turn the device off with the main switch and pull the plug.

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 device before start-up and during operation.

4.4 Preventing mechanical hazards

⚠	**WARNING** Crushing hazard due to loose or open covers • Keep covers closed during operation!

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

4.5 Preventing electrical hazards

	**DANGER** High-voltage electric shock • Follow the safety rules for working with electrical devices! • Secure the device with a padlock against reactivation! • Cut off the device's power supply by pulling the electrical plug! • Work on the electrical grid and on voltage conducting parts must be done only by an electrical specialist.

	**DANGER** High-voltage electric shock due to damaged power cable • Do not damage by running over, crushing, straining, etc. • Regularly check the power cable for damage and ageing. • Do not use if damage has been found on the power cable! • Work on the electrical grid and on voltage conducting parts must be done only by an electrical specialist. • Use only original ESTA replacement parts.

	**DANGER** High-voltage electric shock due to working at the running device • Turn off at the main switch and secure with a padlock against reactivation! • Cut off the device's power supply by pulling the electrical plug! • Work on the electrical grid and on voltage conducting parts must be done only by an electrical specialist.

	**DANGER** Residual hazard from loose or open covers • Keep covers closed during operation! • Work on the electrical grid and on voltage conducting parts must be done only by an electrical specialist.

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.

After use, before moving the device to another site and before cleaning, maintenance, or replacement or removal of movable parts, the device must be turned off at the main switch and the electrical plug must be pulled.

4.6 Preventing dust hazards

	**CAUTION** Damage due to dust release • Maintenance, cleaning, repair and emptying must be done only by expert personnel. • Wear personal protective gear. - Respirator mask (particle filter class P3) - Protective clothing - Safety gloves • Set up locally filtered forced-air ventilation when the device is being maintained, inspected or cleaned. • Operate the device only with the complete filtration system. • During transport, close the intake port dust-free with sealing plugs.

	**CAUTION** Damage due to dust build-up in the pipe system • Regularly check the connected pipe system for dust build-up. • Observe the minimum air speed for your application and the resulting minimum airflow volume.

When emptying the dust collection bag, it is possible to inhale dust. Therefore all repair, cleaning and maintenance procedures, including removing and emptying the dust collection container, must be performed by expert personnel using personal protective gear.

The people assigned to cleaning work must be instructed on the aspirated toxic materials. Negative impacts on uninvolved persons and the environment must be prevented. Clean the maintenance area thoroughly after maintenance is finished.

4.7 Preventing hazards - Noise

CAUTION

Danger of hearing damage from release of compressed air impulses when filter elements are being cleaned

- Keep the device's covers closed.
- Wear ear protection.
- Open the device only when the compressed air tank has been relieved.
  To do this:
  - Turn the device off at the main switch.
  - Wait for automatic post-cleaning to end,
  - Cut the compressed air supply directly at the control cabinet
  - If necessary, empty the compressed air tank through "Start Cleaning".
- Open the device only when it has stopped.
  To do this
  - Cut off the power supply by pulling the electrical plug

If the device — especially the cleaning module — must be opened during operation, during normal operation automatic cleaning can be triggered through the controls. The cleaning impulse can damage human hearing. The manometer attached to the compressed air tank is for checking the tank's pressure.

After use, before moving the device to another site and before cleaning, maintenance, or replacement or removal of movable parts, disconnect the device at the control cabinet.

5. Delivery and start-up

5.1 Delivery and transport

DANGER

Danger from falling device

- Do not walk under heavy loads.
- The lifting equipment must be designed for the weight of the device.

WARNING

Crushing hazard if the device settles during transport

- Secure the device during transport.
- Wear safety shoes.

VORSICHT

The device may be damaged if transported wrong.

- Do not slide the device across the floor if it has no casters.
- Use only suitable lifting equipment (such as a crane) and transport equipment (such as a forklift or lift truck) when transporting the device to its set-up location.
- When setting down, beware of the off-centre centre of gravity.

Make sure the floor has adequate weight capacity and can be properly driven on when transporting the device.

At delivery, the device is fastened to a pallet. Remove the protective cover and floor securing devices. Inspect the delivery for completeness. Lift the device with a crane, using the eye hooks on the top of the device, or with a forklift. Pay attention to the weight of the device and its high centre of gravity during all transport operations.

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

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5.2 Connection

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.

The device must be placed on a level surface as near as possible to the dust source. During set-up, make sure that the device is level. For this, use the shims included in delivery as installation material.

5.2.1 Description switch box

The control cabinet is equipped with the following elements.

MAIN SWITCH
A main switch for turning the device on and off. The device starts running immediately after the switch is activated.
The switch can be secured with a padlock against unintentional activation.

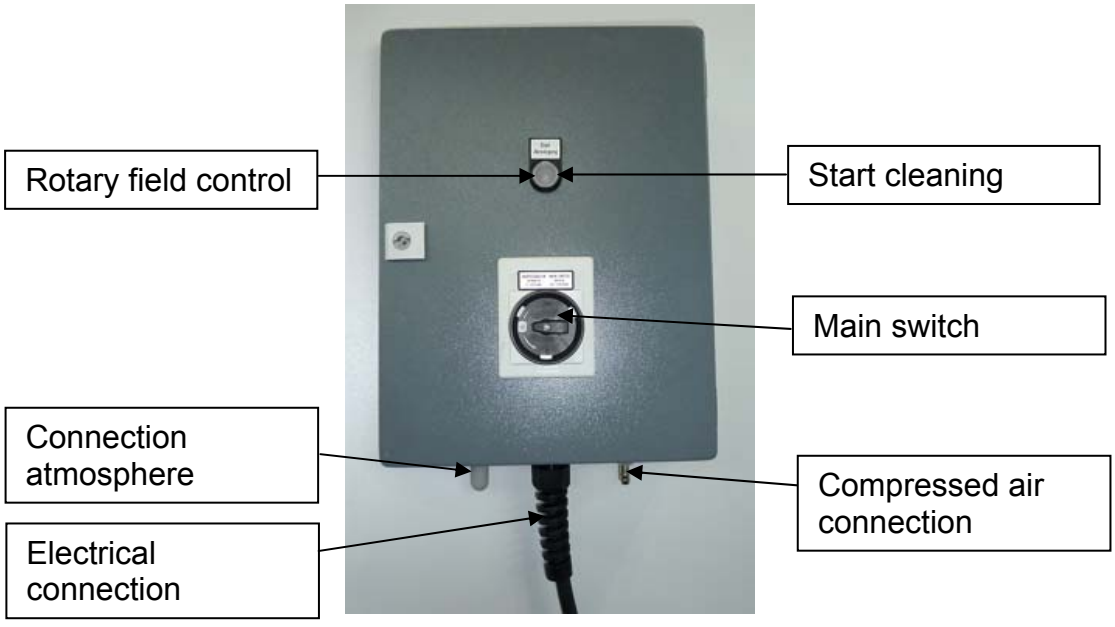
START CLEANING (Push-button)
For starting the cleaning equipment manually.

ROTARY FIELD CONTROL (light in push-button)
Lights if the rotating electrical field is wrong during commissioning.

ELECTRICAL CONNECTION
To be connected to the required power supply. The electrical plug is also used to cut power to the device. In an emergency, pull this immediately as an emergency shut-off.

COMPRESSED AIR CONNECTION
To be connected to the required compressed air supply.

CONNECTION ATMOSPHERE
For measuring the pressure against the atmosphere. Combined with the vacuum measured in the device, this gives the differential pressure.



5.2.2 Compressed air connection

	WARNING Danger of corrosion when using unfiltered compressed air • Use a compressed air maintenance unit (not included in delivery) to make sure that only oil- and water-free compressed air is fed to the device.

Compressed air is needed for pneumatic jet pulse cleaning of the filter elements. Connect oil- and water-free compressed air to ensure operating safety and machine availability.

Connection to the compressed air network is made at the set-up site.

		MOBEX	
		P-24	P-36
Pressure	[bar]	4 - 6	
Connection-ø	["]	1/4 (ø9mm)	
Requirement of compressed air*	[l/impulse]	19	

* at 4 bar with a valve opening time of 0.12 sec.

5.2.3 Electrical connection

	DANGER High-voltage electric shock • Follow the safety rules for working with electrical devices! • Secure the device with a padlock against reactivation! • Cut off the device's power supply by pulling the electrical plug! • Work on the electrical grid and on voltage conducting parts must be done only by an electrical specialist.

To supply the device with power, a CEE wall socket with a slow-blow fuse must be available.

Connection to the on-site power grid is made at the set-up location.

Connection plug	[Amp.]	CEE 16 Amp.
Electrical network (standard)*		Three-phase current 400V; 50 Hz; 3N~
Fuse	[Amp.]	16 (slow blow)

* Custom voltage on request; observe the data on the model plate.

5.2.4 Switch-on operations for motors:

Higher-performance motors without a frequency converter must not be switched on and off at too short an interval, because this places a heavy load on the electro-technical components. Please comply with the chart for switch-on operations:

Motor output	Switch-on 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
more than 30 KW	Electronically controlled follow-up time

5.3 Functional inspection

	Before the device is first used, its operation must be tested.

To check operation of the device, turn the main switch to "I" position.

5.3.1 Checking the direction of rotation

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

After turning on the device for the first time, check to see that the fan rotor's direction of rotation is correct.

- ➢ Turn the device on at the main switch.
- ➢ The signal light for rotary field check goes on.
  - Turn the device off at the main switch and secure against reactivation.

	**DANGER** High-voltage electric shock • Work on the electrical grid and on voltage conducting parts must be done only by an electrical specialist.

  - Pull the electrical plug.
  - Turn the phase inverter in the CEE plug.
  - Insert the electrical plug.
  - Turn the device on at the main switch.
  - The signal light for rotary field check no longer goes on.
- ➢ Turn the device off at the main switch.
- ➢ The device is now ready to operate.

5.4 Preparing the dust collection container

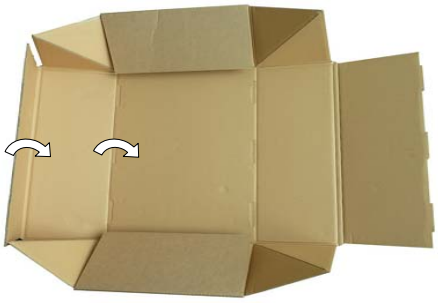
5.4.1 Base body

Dust collection containers are inserted into the dust collection drawer. Prepare this as follows:

1.

2.

3.



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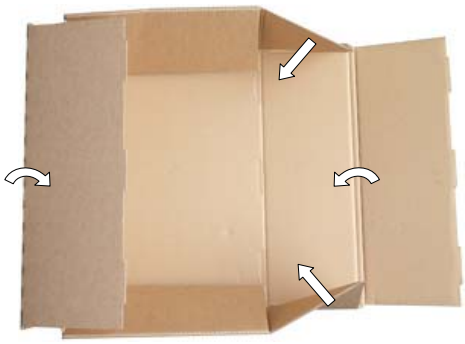

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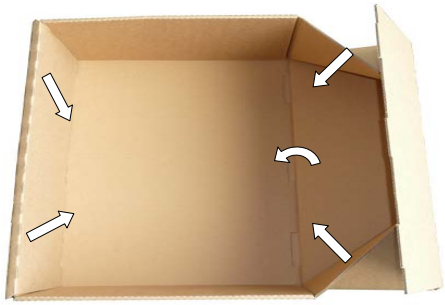

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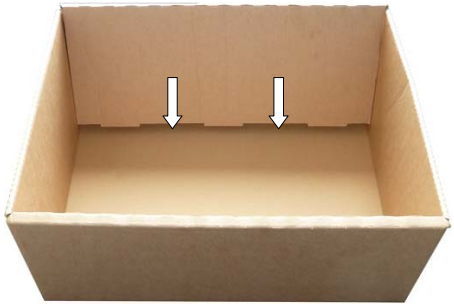
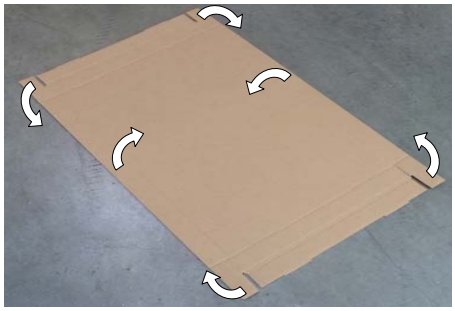


5.4.2 Lid for dust collection container

To lock the dust collection container, a lid is placed on the opening. Prepare this as follows:

1.



2.

3.

4.

5.

5.5 Start up

	For suction processes that produce shavings or for very fine dusts (grain size ≤10µm), a pre-separator may be required. For more information, please contact ESTA customer service: +49 (0) 7307 804 - 0

	Use original ESTA accessories!

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

- Disconnect the compressed air.
- Pull the electrical plug.
- Place the device on a level surface as near as possible to the workplace.
- Insert the electrical plug.
- Reconnect the compressed air.

At start-up:

- Insert empty dust collection containers without lids into the dust collection drawer.
  - Flip the latches upward.
  - Unhook the tensioner from the bar.
  - Slowly, carefully pull out the drawer.
  - Insert new, empty dust collection containers into the holder of the dust collection drawer.
  - Slide the dust collection drawer completely into the device.
  - Hook the tensioner into the bar.
  - Flip the latches downward so that the drawer is firmly locked upward.

Before first start-up and after new filter cartridges are installed, a filter aid (pre-coating powder) must be introduced into the device. This forms a filter assist layer on the surface of the new filter cartridges and prevents dust particles from penetrating the filter cartridge. It increases the device's effectiveness, reduces caking, improves cleaning, and therefore lengthens filter cartridge life.

This work should be done only by a professional! Keep all device covers closed during the pre-coating process.

	The pre-coating process must be performed only before the dust impinges on the filter cartridges. Do not exhaust any foreign material during the pre-coating process.

	**CAUTION** Damage due to dust release • The pre-coating process must be performed only by expert personnel. • Wear personal protective gear. - Respirator mask (particle filter class P3) - Protective clothing - Safety gloves • Keep covers closed during operation! • Keep work area free around the device during pre-coating process.

➢ Pre-coating filter cartridges
- Prepare the pre-coating powder
- For this process, disconnect the compressed air from the device's control cabinet.
- Turn the device on at the main switch.
- Feed the pre-coating powder through the device's intake port.
- Turn the device back on in 15 to 30 minutes.
- The pre-coating process is completed.
- Reconnect the compressed air to the device from the control cabinet.

5.6 Connecting the suction line

➢ Connect the processing machine to be exhausted to the device's intake port through a pipe or hose line.
As a suction pipe, use
- a matching suction hose that meets the national requirements for this application.
- a matching pipe (such as a spiral duct) that meets the national requirements for this application.
- approved adaptors for ports with smaller diameters.

	If the vacuum monitor is changed, the pipe diameter increased, or the pipeline lengthened, it cannot be guaranteed that no dust deposits will collect in the pipeline. Observe the minimum air speed for your application. Regularly check the pipeline for dust deposits.

5.7 Troubleshooting at start-up

Problem	Possible cause	Possible solution
The motor assembly shuts off before reaching operating RPM.	Wrong or poorly installed switching devices. Time for star / triangle start-up incorrectly set.	Install the switching devices correctly or allow for heavy starting. Check the time relay and reset, if necessary.
The motor's current consumption is too high.	The motor's rotation direction is wrong.	Change in direction of rotation when two phases are switched.
The desired air mass is not achieved.	The motor's rotation direction is wrong.	Change in direction of rotation when two phases are switched.
The fuse on the supply line triggers.	The motor has been turned on/off at short intervals too often.	Please comply with the "Switch-on operations for motors" chart.

If the vacuum monitor is changed, the pipe diameter increased, or the pipeline lengthened, it cannot be guaranteed that no dust deposits will collect in the pipeline.

Observe the minimum air speed for your application. Regularly check the pipeline for dust deposits.

6. Operating instructions

6.1 Operating the device

After the exhaust line is connected to the dust source:

- Turn on the suction apparatus.
- Start the processing machine or capture element.
- Start the processing operation.

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

When finishing the processing operation:

- End the processing operation.
- Turn off the processing machine or capture element.
- Turn off the suction apparatus.

6.2 Jet pulse cleaning

CAUTION

Danger of hearing damage from release of compressed air impulses when filter elements are being cleaned

- Do not open the device during the cleaning cycle.

Pneumatically operated filter cleaning, so-called jet pulse cleaning, is built into the device. This works as follows:

- Automatic cleaning during suction operation
- Automatic post-cleaning
- Manual cleaning

For suction processes that produce shavings or for very fine dusts (grain size ≤10µm), a pre-separator may be required.
For more information, please contact
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6.2.1 Automatic cleaning during suction operation

When?

- Suction performance diminishes.
- The device reaches the pre-set minimum airflow volume.

How?

- The cleaning cycle starts automatically during suction operation.
- Intense pulses of compressed air are successively introduced into the filter cartridges.
  - wait 5 minutes until the cleaning cycle is complete.

6.2.2 Automatic post-cleaning

When?

- Turn the device off at the main switch.

How?

- The cleaning cycle starts automatically while the fan is still running.
- Intense pulses of compressed air are successively introduced into the filter cartridges.
  - wait 5 minutes until the cleaning cycle is complete.

6.2.3 Manual cleaning

When?

- At any time during operation.
- The device is turned off and the automatic post-cleaning cycle is complete.
  - To empty the compressed air tank before opening the device, for example.

How?

- At the control cabinet, press the light-up button "Start Cleaning".
- Intense pulses of compressed air are successively introduced into the filter cartridges.
  - wait 5 minutes until the cleaning cycle is complete.

	During manual cleaning, if the fan is not running, there may be pulses of compressed air at the dust outlet of the extraction points during cleaning.

7. Maintenance and troubleshooting

7.1 Maintenance instructions

CAUTION

Damage due to dust release

- Maintenance, cleaning, repair and emptying must be done only by expert personnel.
- Wear personal protective gear.
  - Respirator mask (particle filter class P3)
  - Protective clothing
  - Safety gloves
- Set up locally filtered forced-air ventilation when the device is being maintained, inspected or cleaned.
- During transport, close the intake port dust-free with sealing plugs.

CAUTION

Danger of hearing damage from release of compressed air impulses when filter elements are being cleaned

- Keep the device's covers closed.
- Wear ear protection.
- Open the device only when the compressed air tank has been relieved.
  To do this:
  - Turn the device off at the main switch.
  - Wait for automatic post-cleaning to end,
  - Cut the compressed air supply directly at the control cabinet
  - If necessary, empty the compressed air tank through "Start Cleaning".
- Open the device only when it has stopped.
  To do this
  - Cut off the power supply by pulling the electrical plug

For maintenance by qualified personnel, the device 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. Such objects must be disposed of in an impermeable bag in compliance with applicable regulations for disposal of such refuse.

An instructed expert must check the complete system for perfect functioning during these works. Each time an annual general inspection is made, a corresponding entry is to be made in the related log. The entry must indicate the date of the inspection, the name of the person that performed the inspection and must also indicate all possibly detected defects. The date of the next servicing routine to be performed is to be indicated on the inspection sticker that has to be affixed to the machine.

§	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.

i	The inspection works actually performed are to be recorded in writing in the related maintenance booklet. The entry must indicate the inspected equipment and, if necessary, all possibly detected defects. The entry must also indicate the date of the inspection and the name of the person that performed it. If malfunctions occur, the dust extractor is to be deactivated immediately and the responsible maintenance service to be informed thereof directly!

7.2 Inspection and servicing intervals

The regular maintenance comprises following procedures:

1. The daily inspection includes:

- ***By the user of the device***
  Visual inspection,
- for damage to the device or its parts;
- for mechanical damage to the power cable;
- of the dust collecting container (once the filling level comes to 2/3 of the overall filling height, the container needs to be emptied).

2. The weekly maintenance includes:

- ***By expert maintenance personnel***
  Visual inspection,
- of the baffle (depending on device model) for adhered residue and removal, if necessary

3. The monthly maintenance includes:

- ***By expert maintenance personnel***
  Visual and functional inspection,
- for filter leaks (dust trails or deposits on the air outlets)
- to guarantee operation of the minimum airflow volume monitor. During inspection, the device's air intake must be closed. If automatic cleaning starts, the equipment is in order.
- Clean the device.
- Remove the dust residues.
- If the inner lining of the process area is damaged by wear, replace it, if necessary.

4. The semi-annually maintenance includes:

- ***By expert maintenance personnel***
  Visual and functional inspection,
- the filter pad on the device cover's exhaust openings.
- the filter pad before the fan.

5. The main annually maintenance 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
- Check the compressed air tank → drain condensation, if necessary

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

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

	Get the most from ESTA's maintenance service!

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

7.2.1 Replacement and wear parts

Use original ESTA replacement and wear parts!

With the device's model information and serial number, request the replacement parts you need from the
ESTA replacement part service : +49 (0) 7307 804 - 0

Replacement parts	MOBEX P-Series	
	P-24	P-36
Filter cartridge antistatic (pre-filter)	01000518 2 units	01000518 3 units
Filter cartridge oil- / water-repellent (pre-filter)	01001026 2 units	01001026 3 units
Filter cartridge PTFE (pre-filter)	01001019 2 units	01001019 3 units
Dust collection container with cover	30008311 [=06001074	1 set 8 units]
Outlet filter pad	01000520 1 unit	
Fan filter pad	01000523 1 unit	
Disposal bag for filter	30000567 [=06000358	1 set 10 units

7.3 Cleaning the air baffle

CAUTION

Fire hazard from deposited residue on the baffle

- Regularly remove flammable adhered residues and build-up on the baffle, on the viewing lid, and on the interior of the inlet hopper (MOBEX P-36).
- Prevent sparks from entering.

CAUTION

Damage due to dust release

- Maintenance, cleaning, repair and emptying must be done only by expert personnel.
- Wear personal protective gear.
  - Respirator mask (particle filter class P3)
  - Protective clothing
  - Safety gloves
- Set up locally filtered forced-air ventilation when the device is being maintained, inspected or cleaned.

The air baffle serves as a filter pre-separator. This reduces entry of coarse particles into the filter chamber, thus reducing the risk of a filter fire from flying sparks. It also works as a targeted airflow that improves the life of the filter cartridges.
The baffle must be checked regularly for adhered residue and cleaned, if necessary. Depending on the application, weekly inspection of the baffle's and inlet's exterior and interior is necessary. If adhered residue is found, wipe it downward with a damp cloth into the dust collection drawer or remove it with a suitable industrial vacuum cleaner.

7.3.1 At MOBEX P-24

For this stage of the work, two trained operators are needed with the protective gear described. To clean the air baffle, do as follows:

- Turn the device off at the main switch.
- Cut the compressed air supply directly at the control cabinet.
- Empty the compressed air tank, and clean it manually, if necessary.
- Bump the inlet to allow loose build-up to fall into the dust collection container.
- Wait about 5 minutes for the dust to settle into the dust collection container.
- Pull the electrical plug.
- Remove the pipe or hose line at the intake port.
- If possible, wipe adhered residue through the intake port at the accessible part of the baffle with a damp disposable cloth or vacuum it out with a suitable industrial vacuum cleaner.
- Loosen the fastening nuts all around the inlet and remove them.
- One operator holds the inlet by the handle and carefully tilts it from above.

- If present → unclamp the potential equalization from the inlet.
- A second operator wipes the build-up downward from the baffle and the entire inlet with a damp disposable cloth or vacuums it out with a suitable industrial vacuum cleaner.
- Now remove the entire inlet and clean it thoroughly.
- Check the filter cartridges visually to see if they show mechanical damage.
- Visually check
  - if the filter cartridges show mechanical damage.
  - the conductive inner lining of the process area for wear.
- Reinsert the inlet.
  - When inserting the inlet, make sure that the baffle is placed correctly! (See Fig.)

- If present → clamp the potential equalization to the inlet.
- Place the fastening nuts all around the inlet while the other operator secures them.
- Tighten the fastening nuts.
- Slide the pipe or hose line onto the intake port and fasten it.
- Reattach the compressed air supply.
- Insert the electrical plug.
- The device is now ready to operate.

7.3.2 At MOBEX P-36

For this stage of the work, two trained operators are needed with the protective gear described. To clean the air baffle, do as follows:

- Turn the device off at the main switch.
- Cut the compressed air supply directly at the control cabinet.
- Empty the compressed air tank, and clean it manually, if necessary.
- Bump the inlet to allow loose build-up to fall into the dust collection container.
- Wait about 5 minutes for the dust to settle into the dust collection container.
- Pull the electrical plug.
- Remove the pipe or hose line at the intake port.
- Remove the side viewing lid. To do this
  - loosen the turning handles to the stop,
  - hold the viewing lid firmly by the turning handles and gently twist it,
  - take the viewing lid out of the opening.

- If possible, wipe adhered residue from the viewing lid with a damp disposable cloth or vacuum it out with a suitable industrial vacuum cleaner
  - at the accessible part of the baffle,
  - at the inlet.
- Reinsert the viewing lid. To do this
  - hold on to both turning handles,
  - gently twist and slide into the opening,
  - orient the viewing lid,
  - gently pull toward you,
  - turn the handles to tighten.
- Loosen the fastening nuts all around the inlet and remove them.
- One operator holds the inlet by the handle and carefully tilts it from above.
- If present → unclamp the potential equalization from the inlet.
- A second operator wipes the build-up downward from the baffle and the entire inlet with a damp disposable cloth or vacuums it out with a suitable industrial vacuum cleaner.
- Now remove the entire inlet and clean it thoroughly.
- Visually check
  - if the filter cartridges show mechanical damage.
  - the conductive inner lining of the process area for wear.
- Reinsert the inlet.
- If present → clamp the potential equalization to the inlet.
- Place the fastening nuts all around the inlet while the other operator secures them.
- Tighten the fastening nuts.

- Slide the pipe or hose line onto the intake port and fasten it.
- Reattach the compressed air supply.
- Insert the electrical plug.
- The device is now ready to operate..

7.4 Replacing the dust collection container

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

During cleaning, loose dust is removed from the filter cartridges. This dust is collected in the dust collecting containers that are placed in the dust collecting drawer. After use of the device and at max. filling height (about 2/3 of the container) take control and remove them. Perform such tasks only by a qualified person that wears personal protective gear.

Exchange the dust collection container as possible during non-working time. Before the replacing provide the lids to close the container and new dust collection container as well.

- Turn the device off at the main switch.
- Cut the compressed air supply directly at the control cabinet.
- Empty the compressed air tank, and clean it manually, if necessary.
- Bump the inlet to allow loose build-up to fall into the dust collection container.
- Wait about 5 minutes for the dust to settle into the dust collection container.
- Pull the electrical plug.
- Flip the latches upward.
- Unhook the tensioner from the bar.
- Slowly, carefully pull out the drawer.

- Place both lids on the dust collection container.
- Remove the dust collection containers individually from the dust collection drawer.
- Seal the edge between the dust collection container and lid with an adhesive tape, so that it is dustproof.
- If necessary, write the dust class of the dust on the lid with a waterproof marker.
- Clean the inside of the dust collection drawer with a suitable industrial vacuum cleaner or with a damp disposable cloth.
- Insert new, empty dust collection containers into the holder of the dust collection drawer.
- Slide the dust collection drawer completely into the device.
- Hook the tensioner into the bar.
- Flip the latches downward so that the drawer is firmly locked upward.
- Reattach the compressed air supply.
- Insert the electrical plug.
- The device is now ready to operate.

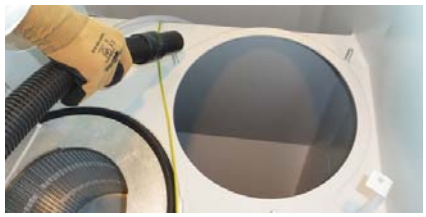
7.5 Replacing the filter cartridge

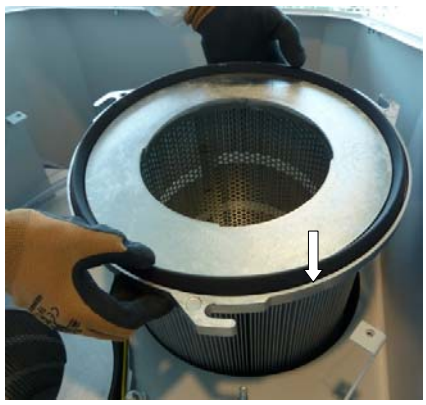
	**WARNING** Risk of falling from ladder • Use a ladder at least 2 m tall.

After an extended operation period, the filter cartridges' pores can be clogged by extremely fine dust. Even the cleaning equipment cannot remove this dust. The affected filter cartridges must be replaced with new ones. This work should be done only 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 gear and a ladder. To remove the filter cartridges and the compressed air tank, it is permissible to stand on the filter holding plate. Note that the filter holding plate's short-term load capacity is no more than 175 kg!

- Turn the device off at the main switch.
- Cut the compressed air supply directly at the control cabinet.
- Empty the compressed air tank, and clean it manually, if necessary.
- Bump the inlet to allow loose build-up to fall into the dust collection container.
- Wait about 5 minutes for the dust to settle into the dust collection container.
- Pull the electrical plug.
- Loosen and remove the fastening screws on the processing unit's lid.
- If present → Unclamp the potential equalization from the lid.
- Remove the device's lid by the handles.
- Remove the electrical connection cable on the solenoid valves.
- Loosen the pipe clamp on the pressure hose and remove it along with the pressure hose from the compressed air tank.
- Loosen the compressed air tank's fastening nuts.
- Completely remove the compressed air tank and mounting.
- If present → Loosen the earthing screws on the filter cartridge and remove them together with the filter cartridge's earthing cable.
- Loosen and completely remove the filter cartridges' fastening screws.
- Fold the disposal back over the edge of the filter cartridge.





- While the filter cartridge is being carefully pulled out, the disposal bag must be folded bit by bit over the entire filter cartridge.
- Close the end of the bag and fasten it securely with a cable tie.
- Remove subsequent filter cartridges by the process already described.
- Clean the edge around the opening for inserting the filter cartridge. Make sure no dust is stirred up.
- Insert new filter cartridge. Notice the mounting possibilities for earthing screws.
- Clamp the potential equalization with the earthing screw.
- Carefully insert the compressed air tank and mounting. The outlets must be in the middle of the filter cartridge.
- Insert the fastening screws for the filter cartridge, and tighten them.
- Attach the pressure hose to the compressed air tank and fasten it with a pipe clamp.
- Connect the electrical connection cable on the solenoid valves.
- Replace the filter pad in front of the fan.
  To do this,
  - loosen the fastening nuts and remove them along with the disks,
  - remove the old filter pad,
  - insert a new filter pad,
  - put the fastening nuts and disks back on and fasten them.
- Replace the filter pad on the device cover's exhaust openings. To do this,
  - remove the old filter pad residue-free from the device lid,
  - fasten a new filter pad in the device lid.

	**CAUTION** Finger crushing hazard when putting on the lid • Hold the lid by the handles and set it onto the device. • Do not reach between the housing and the lid.

- Place the lid onto the device.
- If present → clamp the potential equalization to the lid.
- Insert the cover's fastening screws and tighten them.
- Reattach the compressed air supply.
- Insert the electrical plug.
- The device is now ready to operate.

7.5.1 Pre-coating during commissioning or when installing new filter cartridges

	The pre-coating process must be performed only before the dust impinges on the filter cartridges. Do not exhaust any foreign material during the pre-coating process.

	**CAUTION** Damage due to dust release • The pre-coating process must be performed only by expert personnel. • Wear personal protective gear. - Respirator mask (particle filter class P3) - Protective clothing - Safety gloves • Keep covers closed during operation! • Keep work area free around the device during pre-coating process.

Before first start-up and after new filter cartridges are installed, a filter aid (pre-coating powder) must be introduced into the device. This forms a filter assist layer on the surface of the new filter cartridges and prevents dust particles from penetrating the filter cartridge. It increases the device's effectiveness, reduces caking, improves cleaning, and therefore lengthens filter cartridge life.

This work should be done only by a professional! Keep all device covers closed during the pre-coating process.

The pre-coating process goes as follows:

- Prepare the pre-coating powder
- For this process, disconnect the compressed air from the device's control cabinet
- Turn the device on at the main switch.
- Feed the pre-coating powder through the device's intake port.
- Turn the device back on in 15 to 30 minutes.
- The pre-coating process is completed.
- Reconnect the compressed air to the device from the control cabinet.

7.6 Adjust the monitoring the minimum airflow volume

	**DANGER** High-voltage electric shock when working on the open control cabinet • Follow the safety rules for working with electrical devices! • Secure the device with a padlock against reactivation! • Cut off the device's power supply by pulling the electrical plug! • Work on the electrical grid and on voltage conducting parts must be done only by an electrical specialist.

	If the vacuum monitor is changed, the pipe diameter increased, or the pipeline lengthened, it cannot be guaranteed that no dust deposits will collect in the pipeline. Observe the minimum air speed for your application. Regularly check the pipeline for dust deposits.

The device for monitoring the minimum airflow volume is integrated into the control cabinet. To make the settings, proceed as follows:

- Turn the device off at the main switch.
- Cut the compressed air supply directly at the control cabinet.
- Pull the electrical plug.
- Open the control cabinet.
- Check the settings on the pressure controller and adjust them, if necessary (see the chart below).
  Here observe the specified values for the installed cartridge type and defined connection diameter for each machine size!
- Close the control cabinet securely.
- Reattach the compressed air supply.
- Insert the electrical plug.
- The device is now ready to operate.

7.6.1 MOBEX P-24

The values in the following chart serve as standard values with a medium air speed of **18.5 m/s:**

Ø in mm	200
min. air flow in m³/h	2.000
Standard value for pressure controller	2.400

This does not consider any external loss of pressure through the connected pipeline. To calculate the setting value, proceed as follows:

Setting value of pressure controller =
standard value of pressure controller - external pressure loss

	If the vacuum monitor is changed, the pipe diameter increased, or the pipeline lengthened, it cannot be guaranteed that no dust deposits will collect in the pipeline. Observe the minimum air speed for your application. Regularly check the pipeline for dust deposits.

7.6.2 MOBEX P-36

The values in the following chart serve as standard values with a medium air speed of **18.5 m/s:**

Ø in mm	250
min. air flow in m³/h	3.200
Standard value for pressure controller	1.900

This does not consider any external loss of pressure through the connected pipeline. To calculate the setting value, proceed as follows:

Setting value of pressure controller =
standard value of pressure controller - external pressure loss

	If the vacuum monitor is changed, the pipe diameter increased, or the pipeline lengthened, it cannot be guaranteed that no dust deposits will collect in the pipeline. Observe the minimum air speed for your application. Regularly check the pipeline for dust deposits.

7.7 Removing the fan filter pad

	**CAUTION** Damage due to dust release • Operate the device only with the complete filtration system. • Regularly check to see if the filter pads have clogged.

A filter pad is installed in front of the fan. This must be regularly inspected and replaced, when necessary. Make a visual inspection if the device's lid is removed during cleaning, repair or maintenance.

To do this,

- ➢ Turn the device off at the main switch.
- ➢ Cut the compressed air supply directly at the control cabinet.
- ➢ Empty the compressed air tank, and clean it manually, if necessary.
- ➢ Bump the inlet to allow loose build-up to fall into the dust collection container.
- ➢ Wait about 5 minutes for the dust to settle into the dust collection container.
- ➢ Pull the electrical plug.
- ➢ Loosen and remove the fastening screws on the processing unit’s lid.
- ➢ If present → Unclamp the potential equalization from the lid.
- ➢ Remove the device's lid by the handles.
- ➢ Loosen the fastening nuts and remove them along with the disks.
- ➢ Remove the old filter pad.
- ➢ Insert a new filter pad.
- ➢ Put the fastening nuts and disks back on and fasten them.

	**CAUTION** Finger crushing hazard when putting on the lid • Hold the lid by the handles and set it onto the device. • Do not reach between the housing and the lid.

- ➢ Place the lid onto the device.
- ➢ If present → clamp the potential equalization to the lid.
- ➢ Insert the cover’s fastening screws and tighten them.
- ➢ Reattach the compressed air supply.
- ➢ Insert the electrical plug.
- ➢ The device is now ready to operate.

7.8 Removing the exhaust filter pad

	**CAUTION** Damage due to dust release • Operate the device only with the complete filtration system. • Regularly check to see if the filter pads have clogged.

There is a filter pad installed at the exhaust openings in the device's lid. This must be regularly inspected and replaced, when necessary. Make a visual inspection if the device's lid is removed during cleaning, repair or maintenance.
To do this,

- Turn the device off at the main switch.
- Cut the compressed air supply directly at the control cabinet.
- Empty the compressed air tank, and clean it manually, if necessary.
- Bump the inlet to allow loose build-up to fall into the dust collection container.
- Wait about 5 minutes for the dust to settle into the dust collection container.
- Pull the electrical plug.
- Loosen and remove the fastening screws on the processing unit's lid.
- If present → Unclamp the potential equalization from the lid.
- Remove the device's lid by the handles.
- Loosen the fastening nuts and remove them along with the disks.
- Remove the old filter pad residue-free.
- Insert a new filter pad in the lid on the exhaust openings.

	**CAUTION** Finger crushing hazard when putting on the lid • Hold the lid by the handles and set it onto the device. • Do not reach between the housing and the lid.

- Place the lid onto the device.
- If present → clamp the potential equalization to the lid.
- Insert the cover's fastening screws and tighten them.
- Reattach the compressed air supply.
- Insert the electrical plug.
- The device is now ready to operate.

7.9 Cleaning the device

Regularly clean and remove dust build-up from the device, especially the lid. To do this:

- Remove the dust build-up with an industrial vacuum cleaner.
- Wipe thoroughly with a damp, disposable cloth.
- **Do not** clean with a water jet!

7.10 Storing the device

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 40°C.

Before the device is stored,

- clean the filter cartridges or replace them, if necessary.
- empty the dust collection container according to local regulations.
- clean the device inside and out.
  - with a damp, disposable cloth
  - with an industrial vacuum cleaner.
  - **do not** clean with a water jet!

7.11 Troubleshooting

DANGER

High-voltage electric shock when working on the open control cabinet

- Follow the safety rules for working with electrical devices!
- Secure the device with a padlock against reactivation!
- Cut off the device's power supply by pulling the electrical plug!
- Work on the electrical grid and on voltage conducting parts must be done only by an electrical specialist.

Problem	Possible cause	Possible solution
Suction performance diminishes	Filter dirty	Clean filter
	The throttling device is firmly closed	Open the throttling device appropriately.
	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
	Cleaning point too low and therefore filter is not cleaned	Contact ESTA customer service to adjust the cleaning point
Automatic cleaning keeps starting after the device is turned on	Worn-out filter	Replace filter
	Dust collection container full	Replace or empty the dust collection container
	The resistance in the system is too high	Check the suction line and, if necessary, use a wider-diameter pipe or reduce the pipe length
	Cleaning point set too high	Contact ESTA customer service to adjust the cleaning point

Problem	Possible cause	Possible solution
The fuse on the supply line triggers.	The motor has been turned on/off at short intervals too often.	Please comply with the “Switch-on operations for motors” chart.
Escaping dust and dust fans at the air outlet	Filter breakage	Turn the device off immediately. Then clean the device completely and replace the filter elements (filter cartridges, filter pads, etc.) with new ones.
	Filter installed wrong	Check installation of the (filter cartridges, filter pads, etc.).
Fan produces smoke or loud running nose	Fan not balanced	Turn the device off immediately and have ESTA customer service inspect the fan
	Rotor is scraping the inlet nozzle or housing	Turn the device off immediately and - Check the fan for tension and transport damage - Check the motor's position on the mounting, as well as the screw joints -Have ESTA customer service inspect the fan
	Motor noises	- Check the hub seat - Check the motor for storage damage and replace, if necessary

CAUTION

Damage due to escaping dust and dust fans at the air outlet

- Immediately turn the device off at the main switch.

CAUTION

Danger from fan producing smoke and loud running noise

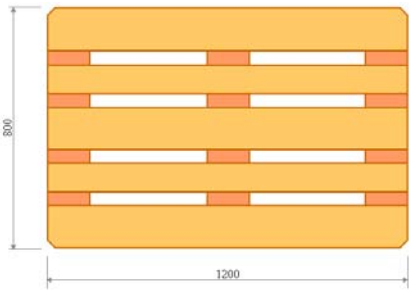
- Immediately turn the device off at the main switch.

8. Disposal

⚠	**CAUTION** Damage due to dust release • Maintenance, cleaning, repair and emptying must be done only by expert personnel. • Wear personal protective gear. - Respirator mask (particle filter class P3) - Protective clothing - Safety gloves • Set up locally filtered forced-air ventilation when the device is being maintained, inspected or cleaned.

8.1 Disposing of collected dust materials

Firmly close the dust collection containers and dispose of them according to local regulations.

ℹ	The dust collection containers are designed so that 4 of them fit onto a layer on a euro pallet (1200x800x144mm // per EN 13698-1). For transport, fasten and secure each layer according to local regulations. 

8.2 Disposing of the dust extractor

Before disposing of the device

- ➢ Remove the dust collection containers from the device as described, and close them firmly.
- ➢ Remove the filter cartridges as described and package them tightly.
- ➢ Take the removable parts (e.g. motor, fan, lid, etc.) out of the device.
- ➢ Package the device and the removed parts according to local regulations.
- ➢ Dispose of everything according to local regulations.

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

9. Optional equipment

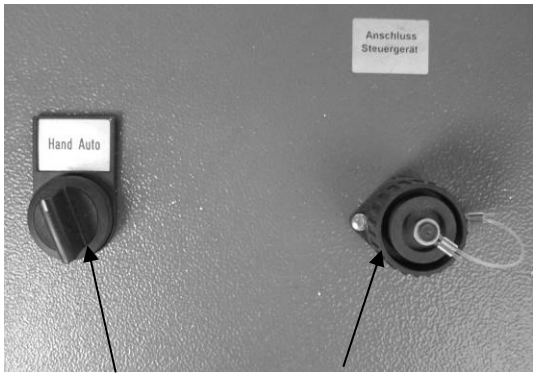
9.1 Start-up with potential-free contact

Optionally, the device can be equipped with start-up through an external potential-free contact. This means there can be a coupling between the suction apparatus and a processing machine connected to it. In this case, the processing machine starts and stops the suction apparatus.

	**DANGER** High-voltage electric shock when working on the open control cabinet • Follow the safety rules for working with electrical devices! • Secure the device with a padlock against reactivation! • Cut off the device's power supply by pulling the electrical plug! • Work on the electrical grid and on voltage conducting parts must be done only by an electrical specialist.

	**DANGER** Hazard from unintentional activation of the device • Switch off all devices connected to the potential-free contact at their main switch and secure them with a padlock against reactivation. • Cut the power to all devices connected to the potential-free contact, by pulling all plugs, for example. • Work on the electrical grid and on voltage conducting parts must be done only by an electrical specialist.

9.1.1 Installation at the potential-free contact



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!)

9.2 Mobile version

The device can come in an optional mobile design. This version of the device comes with a dolly. The dolly is equipped with casters and brake rollers. This allows the device to be moved easily to a different location. This is an advantage when no suitable lifting device (such as a forklift or indoor crane) is available.

	Make sure the floor has adequate weight capacity and can be properly driven on when transporting the device and at the place of installation.

	**DANGER** Danger from falling device • Do not walk under heavy loads. • The lifting equipment must be designed for the weight of the device. • If the carriage device is already installed, lift the device only for a short time to take it off the transport pallet!

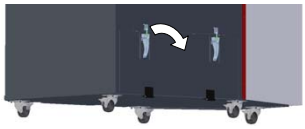
	**CAUTION** Danger of spontaneous movement due to unsuitable floor • Make sure that the floor is even, suitable for traffic and has adequate load capacity!

	**CAUTION** Danger of running over feet due to unintentional movement • Do not park on a sloping floor! • Always engage the brake rollers' brakes when parking the device! • Always wear safety shoes when moving the device! • Before moving, dismantle all connections To do this - Pull the electrical plug, - cut the compressed air supply at the control cabinet, - disconnect the pipe or hose line.

The dolly has a ramp attached, which covers the dust collection drawer when closed. To remove the dust collection drawer from the device, do as follows:

- ➢ Turn the device off at the main switch.
- ➢ Cut the compressed air supply directly at the control cabinet.
- ➢ Empty the compressed air tank, and clean it manually, if necessary.
- ➢ Bump the inlet to allow loose build-up to fall into the dust collection container.
- ➢ Wait about 5 minutes for the dust to settle into the dust collection container.

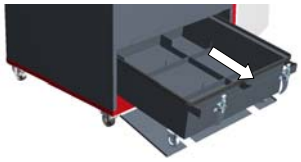
- Pull the electrical plug.
- Carefully swing open the ramp, and lay it on the floor.



- Flip the latches on the dust collection drawer upward.
- Unhook the tensioner from the bar.
- Slowly, carefully pull out the drawer.
- Empty, repair, clean or maintain as described.

- Slide the dust collection drawer all the way back into the device.
- Hook the tensioner into the bar.
- Flip the latches downward so that the drawer is firmly locked upward.

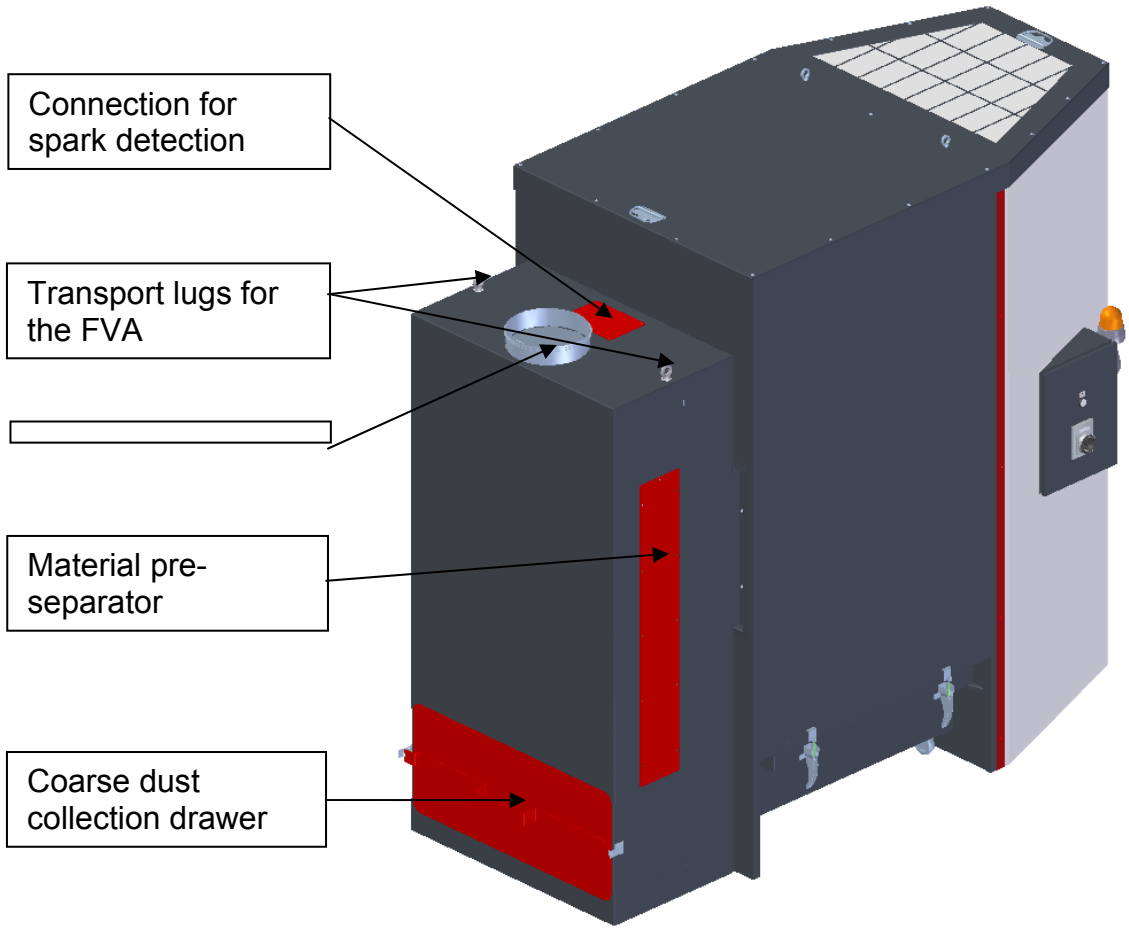
- Fold the ramp back upward, and press it firmly.
-
- Reattach the compressed air supply.
- Insert the electrical plug.
- The device is now ready to operate.



9.3 Integrated spark pre-separator (FVA)

Optionally, the device can be equipped with a spark pre-separator (FVA). (There is no 100% protection against filter fires.) This reduces entry of coarse particles into the filter chamber, thus reducing the risk of a filter fire from flying sparks. It also works as a targeted airflow that improves the life of the filter cartridges.

The spark pre-separator is attached to the device instead of the inlet. Both a material pre-separator and a coarse dust collection drawer are integrated into the spark pre-separator. They must be inspected and maintained regularly.



9.3.1 Cleaning the spark pre-separator

	**VORSICHT** Fire hazard from deposited residue on the spark pre-separator • Regularly remove combustible adhered residue from the spark pre-separator. • Empty the combustible and explosive deposited residue from the coarse dust collection drawer every day. • When extracting oily and adhesive dusts, inspect and clean the material pre-separator every day. • Prevent sparks from entering.

	**CAUTION** Damage due to dust release • Maintenance, cleaning, repair and emptying must be done only by expert personnel. • Wear personal protective gear. - Respirator mask (particle filter class P3) - Protective clothing - Safety gloves • Set up locally filtered forced-air ventilation when the device is being maintained, inspected or cleaned.

The material pre-separator inside must be checked regularly for adhered residue and cleaned, if necessary. Depending on the application, weekly inspection of the material pre-separator's exterior and interior is necessary. If adhered residue is found, it must be removed.

9.3.2 Inspecting and cleaning the material pre-separator

To be inspected and cleaned, the material pre-separator must be removed from the spark pre-separator. For this stage of the work, two trained operators are needed with the protective gear described. Please proceed as follows:

- Turn the device off at the main switch.
- Cut the compressed air supply directly at the control cabinet.
- Empty the compressed air tank, and clean it manually, if necessary.
- Bump the inlet to allow loose build-up to fall into the dust collection container.
- Wait about 5 minutes for the dust to settle into the dust collection container.
- Pull the electrical plug.
- Loosen and remove the fastening screws all around the viewing lid.
- One operator pulls the roll out of the spark pre-separator.
- The second operator can now remove the deposited residue with
  - an industrial vacuum cleaner,
  - a screwdriver,
  - a brush.
- Slide the roll back into the spark pre-separator.
- Position the viewing lid on the opening.
- Fasten the viewing lid with the fastening screws.
- Reattach the compressed air supply.
- Insert the electrical plug.
- The device is now ready to operate..

9.3.3 Inspecting and cleaning the coarse dust collection drawer

To be inspected and cleaned, the coarse dust collection drawer must be pulled out of the spark pre-separator. For this stage of the work, one trained operator is needed with the protective gear described. Please proceed as follows:

- Turn the device off at the main switch.
- Cut the compressed air supply directly at the control cabinet.
- Empty the compressed air tank, and clean it manually, if necessary.
- Bump the inlet to allow loose build-up to fall into the dust collection container.
- Wait about 5 minutes for the dust to settle into the dust collection container.
- Pull the electrical plug.
- Carefully open both latches.
- Cautiously pull the drawer out by the handle

VORSICHT

There is a crushing hazard for fingers and feet when the coarse dust collection drawer is being pulled out.

- Do not allow the coarse dust collection drawer to tip downward when it is being pulled out.
- Wear safety shoes.

- Carefully remove the coarse dust collection drawer from the opening and set it on the floor.
- Remove the coarse dirt from the collection drawer with a suitable industrial vacuum cleaner.
- Reattach the compressed air supply.
- Insert the electrical plug.
- The device is now ready to operate..

9.4 Spark detection

The spark pre-separator can optionally be equipped with spark detection. This notices potential ignition sparks and gives off a signal. This signal can be processed by extinguishing equipment (supplied optionally or provided by the customer) and sets off an extinguishing process.

More information is available in the spark detection manufacturer's documentation.

VORSICHT

There is danger of setting off the signal when opening the inspection ports during maintenance, cleaning and repair.

- Before opening the inspection ports, always deactivate the spark detection so that entering light does not set off a signal.
- After closing the inspection openings, always reactivate the spark detection.

9.4.1 Extinguishing equipment

Optionally, the spark pre-separator's spark detection can be connected to extinguishing equipment. This puts out any sparks that may occur, so that they do not reach the filter and set it on fire.

More information is available in the extinguishing equipment manufacturer's documentation.

9.5 Exhaust port

The device can be equipped with an optional exhaust (ø400) on the processing unit's lid. This can be connected to a exhaust air duct (flexible hose or pipeline) to discharge the air to the atmosphere for example.

An appropriate sound absorber can also be connected to the exhaust port. This is adapted to the device and contributes to reduced noise volume in the device.

Here the outflow must remain free so that the air movement remains constant.

Replacement parts	Item No.	
Sound absorber 600mm lenght for exhaust port ø400	15001888	1 unit
Sound absorber 900mm lenght for exhaust port ø400	15003146	1 unit
Sound absorber 1200mm lenght for exhaust port ø400	15001890	1 unit
Sound absorber 90° for exhaust port ø400	15004758	1 unit

Use original ESTA replacement and wear parts!

With the device's model information and serial number, request the replacement parts you need from the
ESTA replacement part service : +49 (0) 7307 804 - 0

9.6 Control filter

Optionally, a control filter can be used downstream from the main filter. This functions as both a final cleaning and a backup. This is especially an advantage if toxic dusts are being extracted and an upstream filter element is damaged and can no longer filter properly.

Replacement parts	MOBEX P-Series	
	P-24	P-36
Filter cassette H14 Ultra-fine filter 17m²	01000291 1 unit	
Filter cassette H14 Ultra-fine filter 12,8m²		01011022 2 unit

Use original ESTA replacement and wear parts!

With the device's model information and serial number, request the replacement parts you need from the
ESTA replacement part service : +49 (0) 7307 804 - 0

9.6.1 Replacing the filter cassette (control filter)

The filter cassette is located directly in front of the fan. After an extended operation period, the filter cassette's pores can be clogged by extremely fine dust. The filter cassette must be replaced with a new one. This work should be done only 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 gear and a ladder. To remove the filter cassette, it is permissible to stand on the filter holding plate. Note that the filter holding plate's short-term load capacity is no more than 175 kg!

- Turn the device off at the main switch.
- Cut the compressed air supply directly at the control cabinet.
- Empty the compressed air tank, and clean it manually, if necessary.
- Pull the electrical plug.
- Loosen and remove the fastening screws on the processing unit's lid.
- If present → Unclamp the potential equalization from the lid.
- Remove the device's lid by the handles.

- Loosen the locking bolts on the left and right of the tenter frame, and carefully open it.
- Pull the protective film at the adhesive seam on the filter cassette's cardboard box.
- Slide the cardboard box into the filter cassette's support frame so that it covers it all around.
- Fold the adhesive edge over, so that the top of the filter cassette is closed.
- Take the whole filter cassette out of the mounting by the holding strap.
- Then put the filter cassette into an appropriate disposal bag.
- Close the disposal bag with a cable tie or something similar.
- Insert a new filter cassette. → Make sure the flow direction is right!
- Close the tenter frame and hold on to the rear panel to create counterpressure.
- Lock the tenter frame right and left with the locking bolts.

CAUTION

Finger crushing hazard when putting on the lid

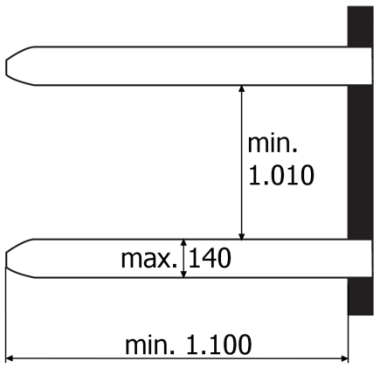
- Hold the lid by the handles and set it onto the device.
- Do not reach between the housing and the lid.

- Place the lid onto the device.
- If present → clamp the potential equalization to the lid.
- Insert the cover's fastening screws and tighten them.
- If necessary, check the settings of the monitoring of the minimum air flow
- Reattach the compressed air supply.
- Insert the electrical plug.
- The device is now ready to operate.

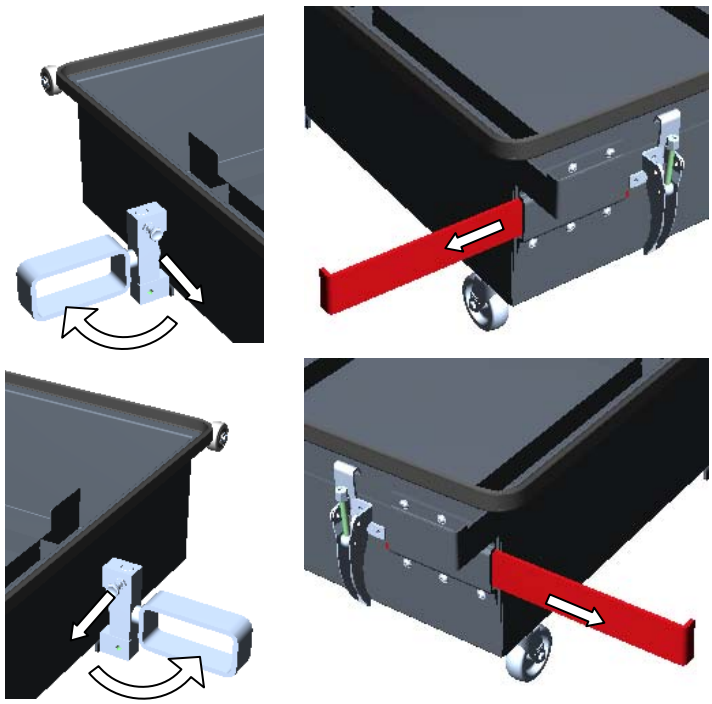
9.7 Forklift tilting mechanism for dust collection drawer

The dust collection drawer can optionally be equipped with a forklift tilting mechanism. With this addition, the dust collection drawer can be lifted with an appropriate lifting device and emptied by tilting. This is of particular advantage if dust of large bulk density (→ large weight) is sucked away.

Individuals deployed for maintenance work must be instructed on the toxic materials being sucked in. Harm to persons not involved and the environment must be prevented at all costs.



To be able to use the forklift tilting mechanism, you require a forklift with the prescribed specifications.



10. EC declaration of conformity

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

Here we explain that the design of the machine

Machine:	Dust extractor for collection, transport and separation of dry, free-flowing dusts of dust class M.
Series:	MOBEX
Model:	**MOBEX P-24** **MOBEX P-36**
	and variants with optional equipment

conforms to the following regulations:

2006/42/EG	EC Machine Directive
2004/108/EG	EC Directive on Electromagnetic Compatibility

Reconciled norms used:

DIN EN ISO 12100:2011-03	Safety of machinery - General principles for design - Risk assessment and risk reduction
DIN EN ISO 13857:2008-06	Safety of machinery, devices and systems; safety distances to prevent hazard zones from being reached
DIN EN 349:2008-09	Safety of machinery; minimum distances for preventing body parts from being crushed
DIN EN 60335-1:2012-10	Household and similar electrical appliances - Safety - General requirements
DIN EN 60335-2-69:2012-08	Household and similar electrical appliances - Safety - Particular requirements for wet and dry vacuum cleaners, including power brush, for commercial use
DIN EN 61000-6-1:2007-10	EMC - Generic standards - Immunity for residential, commercial and light-industrial environments
DIN EN 61000-6-2:2006-03	EMC - Generic standards - Immunity for industrial environments
DIN EN 61000-6-3:2011-09	EMC - Generic standards - Emission standard for residential, commercial and light-industrial environments
DIN EN 61000-6-4:2011-09	EMC - Generic standards - Emission standard for industrial environments
DIN EN 61000-3-2:2010-03	EMC - Limits - Limits for harmonic current emissions (equipment input current ≤16A per phase)
DIN EN 61000-3-3:2009-06	EMC - Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤16A per phase and not subject to conditional connection

National norms and technical specifications used:

VDI 3677	Filtering separators

Senden, 17.10.2013

Dr. Peter Kulitz
CEO

Notes

ESTA Apparatebau GmbH & Co. KG
Gotenstraße 2 - 6
89250 Senden / Ay

Tel.: +49 (0) 7307 804 - 0
Fax: +49 (0) 7307 804 - 500
E-Mail: info@esta.com

www.esta.com

Notes

ESTA Apparatebau GmbH & Co. KG
Gotenstraße 2 - 6
89250 Senden / Ay

Tel.: +49 (0) 7307 804 - 0
Fax: +49 (0) 7307 804 - 500
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89250 Senden / Ay

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ESTA Apparatebau GmbH & Co. KG
Gotenstraße 2 - 6
89250 Senden / Ay

Tel.: +49 (0) 7307 804 - 0
Fax: +49 (0) 7307 804 - 500
E-Mail: info@esta.com

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ESTA Apparatebau GmbH & Co. KG
Gotenstrasse 2 – 6
D-89250 Senden, Germany

Phone: +49 (0) 73 07 - 8 04 - 0
Fax: +49 (0) 73 07 - 8 04 - 500
E-Mail: info@esta.com
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