



WHISPERSOG

High-vacuum cleaner

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

**DEDUSTING
EXTRACTION
CLEANING**



ESTA

Operating manual



WHISPERSOG

Item No. 83.101 (WHISPERSOG 2.2 man.)
Item No. 83.201 (WHISPERSOG 2.2 pneu.)
Item No. 83.102 (WHISPERSOG 3.0 man.)
Item No. 83.202 (WHISPERSOG 3.0 pneu.)
Item No. 83.113 (WHISPERSOG 2.2 Jet)
Item No. 83.114 (WHISPERSOG 2.2-S)



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

Translation of the original instructions
83101-08-03

Edition notice

Original operating manual

Document No.: 83101-08-03

Publishing date: 30.05.2014

Type of device: WHISPERSOG industrial vacuum cleaner

Item No.: 83.101 // 83.201 // 83.102 // 83.202 // 83.113 // 83.114 and variants

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Warnings and safety instructions



Electrical current hazard



Note



Reference to ESTA customer service



Reference to legal regulations

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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
- Start-up
- Operation
- Maintenance and repairs

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.

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

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

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

Installation and operation in dust-explosive or gas-explosive areas is forbidden.

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 determined.



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 with a 16-amp miniature fuse must be in place.

Only plugs and connectors complying with VDE 0165 must be used for connecting electrically driven industrial exhausts and dust extractors. Coupling plugs and connectors or adapters are not permitted.

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



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



From its first use, the WHISPERSOG 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 dust extractor must not be operated without the complete filtration system!



According to work equipment user directives 2009/109/EC 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, the device turned off at the emergency switch, and the plug pulled immediately. If there is a fire, the fire department is to be alerted immediately, and the fire must be contained by appropriate means.

2. Preventing mechanical hazards

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



Residual risk:

If a covering that can only be unfastened with a tool is removed, there is risk of injury or burn if the machine is running or has just been turned off (less than 30 minutes ago).

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, a hazard is posed by electric current.

4. Preventing dust hazards

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 section 9 — “Disposing of collected dust materials” — will minimize this hazard!

5. Intended use

ESTA industrial vacuums have been manufactured according to the state of the art and in compliance with safety regulations.

The industrial vacuums are intended to be used for removing dry, non-flammable, non-toxic dusts or welding fumes.

Aspiration of welding fumes is not permissible with welding of oil-moistened parts.

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

These industrial vacuums are suitable for commercial use, such as in industrial enterprises and workshops.

WHISPERSOG dust extractors are equipped with a filter for dust class "M" (moderate hazard) for separation of dust/smoke with an exposure limit of more than 0.1 mg/m³.

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

ESTA sets up the WHISPERSOG according to the operator's information.

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 exhaust port with a pipe clamp after the hose is attached.



Only plugs and connectors complying with VDE 0165 must be used for connecting electrically driven industrial exhausts and dust extractors. Extension cords, coupling devices and adapters are not permitted.

. Technical data and description

6.1 Technical data

technical changes reserved

WHISPERSOG		3.0 FM	3.0 FA	2.2 FM	2.2 FA	2.2 Jet	2.2-S
Connection voltage	[V]	400					
Max. drive output	[kW]	3.0	3.0	2.2	2.2	2.2	2.2
Max. vacuum inlet	[Pa]	31,500	31,500	21,000	21,000	21,000	21,000
Max. airflow volume	[m³/h]	216	216	300	300	300	300
Dimensions (L x W x H)	[mm]	1.300x 640x 1.250	1.300x 640x 1.650	1.300x 640x 1.250	1.300x 640x 1.650	1.830x 782x 2.040	1.075x 530x 1.075
Weight	[kg]	120	150	130	190	230	250
Intake port (dia.)	[mm]	50					
Dust collection container	[litres]	80				200	100
Production year		See model plate					

6.2 Functional description

Depending on the model, the WHISPERSOG is equipped with a side channel compressor with 2.2 kW or 3.0 kW output. The main switch cuts off power to the device, and the device is turned on and off with the red-green double push button.

The vacuum created by the side channel compressor 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 WHISPERSOG 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 the filter, the flow resistance increases along with the vacuum behind the filter. If the value set on the vacuum monitor is reached, a siren sounds (only with pneumatic filter cleaning). 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 material, the upper part can be tipped backwards and the dust collection container removed from the device complete with its contents.

7. Delivery and start-up

7.1. Delivery and transport

At delivery, the WHISPERSOG is fastened to a pallet. After the protective cover and the bottom fasteners have been removed, it can be picked up with a forklift. Please do not use a crane.

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



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7.2 Start-up



Only persons authorized under Section 1 are allowed to turn the dust extractor on or off.



Before setting up the cable connection between the device and the power grid, check to make sure the operating voltage shown on the manufacturer's plate is the same as that of the grid.

To start up the WHISPERSOG, the proper suction gear for the intended purpose must be chosen and attached. The suction harness consists of a suction hose, a handheld tube and a nozzle.

The equipment for turning the device on and off is located on the cover of the drive unit. The device is turned on and off with the black knob. Alternatively, the device can be equipped with a red-green double push button. The green button is for turning the device on, and the red button is for turning it off.

Jet cleaning

The cleaning equipment for the filter elements requires oil- and water-free compressed air (4-6 bar at the compressed air nozzle) at the attached coupling. The quarter-inch plug nipple can be connected with a DN 7.2 ¼-inch coupling to the compressed air network. For safety, the connection to the compressed air network should not be made until the device is at its set-up area.

Make sure that when the suction equipment is connected the dust extractor is turned on first, and then the dust-producer. When switching off, follow the same procedure in reverse.



Before the dust extractor is used, its operation must be tested.



Pay attention to the direction of rotation.

Before starting a device with three-phase drive, please make sure that the drive motor's direction of rotation is correct. Meanwhile, also look at the red light on the switch. If this lights up after the device is turned on, the direction of rotation is wrong, and the power supply's polarity must be reversed. Therefore, the 16 A 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 drive motor's direction of rotation.



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

8. Maintenance and troubleshooting



To ensure the device's safe operation and long life, it is both recommended and necessary to inspect it regularly.

8.1 Maintenance

The filter on the bypass valve must be cleaned regularly. The cleaning frequency depends on the device's application and environmental conditions. For frequent bypass operation (the device is regularly operated near the maximum vacuum range) and for operation in very dusty environments, this filter must be cleaned every 100 operating hours.

For cleaning, remove this filter and blow it out with compressed air. The filter is built into the machine housing. For removal, the lid of the machine housing must be removed. The mounting clip of the exhaust silencer must be removed. The filter can be pulled up and screwed off only together with the silencer. When installing the cleaned filter, follow the same procedure in reverse.



The operator is obligated to have maintenance performed once per year (applies to Germany only). During maintenance, the entire system is to be tested by a trained expert for correct operation. A log is to be kept of the main annual inspection in the included maintenance book. 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 the dust extractor's user***

Visual inspection

- for damage to the device or its parts
- for mechanical damage to the power cable
- level of dust collection bag

2. Monthly inspection includes:

- ***By expert maintenance personnel***

Functional and visual inspection

- to guarantee operation of the minimum airflow volume monitor (manometer or pressure controller). During inspection, the device's air intake must be closed. If the siren sounds, or the manometer indicator is in the red area, 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***

Annual maintenance includes:

- Flow volume measurement
- Vacuum measurement
- Current consumption measurement
- Visual check of filters
- Seal inspection
- Correct operation of the bypass.

After maintenance, the device receives a new test plate as documentation.



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!



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!



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 — just call us up:



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8.3 Troubleshooting

Problem	Possible cause	Possible solution
Suction performance diminishes / no suction	Suction hose clogged	Hold the hose vertically or hang it up. Hit the exterior of the hose with a rubber mallet and in this way loosen the dust clog.
	Bypass valve dirty	See section 8.1.



When removing the used filter, the person performing the work must wear dust mask with a P3 particle filter.



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.



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9. Monitoring the minimum airflow volume

During operation, the manometer monitors the minimum airflow volume. The filter must be cleaned when the manometer's needle is in the red zone after the nozzle has been withdrawn (see the Cleaning section).

10. Cleaning

10.1 Manual cleaning

To clean the filter, turn the hand crank on top of the device 60 times clockwise and 60 times counter-clockwise. If you want to check whether the dust collection bag is already full, wait about one minute after cleaning so that the removed dust can settle, before the filter housing is tilted.

10.2 Pneumatic cleaning

Pneumatically operated filter cleaning is built into the device. During filter cleaning, 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 about two to three minutes and is signalled by a continuous glow from the white 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 side channel blower at the double push button (green button).

If fine dust is being exhausted, the filter needs to be cleaned more often.

After cleaning and start-up of the device, if the manometer's indicator is still outside the necessary range or a signal sounds, the amount of material in the dust collection device must be checked. If necessary, empty the container (see the Disposal section). If the indicator still remains outside the necessary range, or if the signal continues to sound, the main filter must be replaced (see the Replacement section).

10.3 Jet cleaning

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 side channel compressor turned off (the main switch must remain on) by pressing the push button marked "Clean".

Each filter will be cleaned by at least one compressed air blast. The manual cleaning process can be repeated as often as needed. However, cleaning must be done anytime the horn signal sounds.

During inspection to see if the dust collection bag is already full, you must wait about one minute after cleaning so that the removed dust can settle, before the upper part of the filter is tilted back.

If the warning 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 (12). If the signal still sounds, replace the main filter (Section 11).

11. Replacing the main filter

After an extended operation period, the filter pores can be clogged by extremely fine dust. Even the cleaning equipment cannot remove this dust. Now the affected filter must 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.



When removing a used filter, the person performing the work must wear a particle filter class P3 respirator mask, protective clothing and gloves.

11.1 Manual cleaning

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 upper part of the dust extractor will now tilt backwards. On the underside of the filter part, six nuts are visible (M8, SW 13) that must be loosened. Now the filter can be pulled upward out of the upper part, and packed into a dust collection bag. Now install the new filter into the device by performing the same process in reverse.

11.2 Pneumatic cleaning:

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.

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.

11.3 For devices with jet cleaning

First 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 (order No. 06000358) 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.



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12. Disposal

12.1 Disposing of collected dust materials

After using the industrial vacuum, always replace the dust collection bag with a new one when it has reached the container's maximum fill height.

The container's maximum fill level is at the lower edge of the score in the dust collection container.

Before replacing the dust collection bag, lock the castors and pull off the suction hose. To remove the full dust collection bag, tilt the upper part of the device in the direction of the turbine housing. Turn the device back on. To remove the dust collection bag, pull it carefully upward, press it together, and close it with the included strip. Finally, remove the dust collection bag 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 insert the suction hose. The device is now ready to operate.



When emptying the dust collection container, the person performing the work must wear a particle filter class P3 respirator mask, protective clothing and gloves.

12.2 Disposing of the dust extractor

Before disposing of the dust extractor, 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.

13. Optional equipment

13.1 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 device'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 device 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.

(Please follow the enclosed switching documentation!)



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.

When the processing machines are connected, the device's fan can start running by itself at any time!



When maintenance work is being done to the device, 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! The electrical plug must be pulled.

When maintenance work is being done to the connected processing machines and devices or control units, the control cable to the ESTA device must be disconnected, and all main switches must be set to "0" and secured, if possible, with a padlock against unintentional start-up! Additionally, the electrical plug 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.

14. EC - Declaration of conformity

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Person in charge of Documentation: Ramona Pflum
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Here we explain that the design of the machine

Machine: Industrial exhaust for suction and separation of settled dust.

Series: WHISPERSOG
Model: WHISPERSOG 2.2
 WHISPERSOG 3.0

conforms to the following regulations:

2006/42/EG	EC Machine Directive,
2004/108/EG	EC Directive of 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 $\leq 16A$ 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 $\leq 16A$ per phase and not subject to conditional connection

Senden, 30 May 2013



Dr. Peter Kultz
(CEO)

Notes



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We reserve the right to make technical changes

**DEDUSTING
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