Operating Instructions

COMPASOG-ST

COMPASOG-ST (order no.: 83.400)

and variations

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

Translation of the original instructions
83400-08-00

Edition notice

Original user manual
Document no.: 83400-08-00
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Type of device: COMPASOG-ST Stationary Dust Extractor
Item no.: 83.400 and variants

Publisher

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Contents

1. General instructions

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

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

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 device is being used, so that it can be seen by personnel at all times.

2. Product identification

2.1 Technical data

We reserve the right to make technical changes.

Item no.		**83400**
COMPASOG model		**ST**
Filter type		Filter cartridge
Number of filter elements	[units]	1
Filter area	[m²]	8.6
Max. vacuum	[Pa]	22,000
Max. volume flow	[m³/h]	980
Drive output	[kW]	3 x 1.8
Connection voltage**	[V]	400
Nominal frequency	[Hz]	50
Rated current	[A]	13
Circuit breaker	[A]	32
Protection class		IP 54
Dust collection drawer	[l]	~ 40
Dust collection container (per ~38 litres)	[units]	1
Intake connection piece ø	[mm]	108
Dimensions (L x W x H)	[mm]	840 x 670 x 1,800
Average sound pressure level Lpa*	[dB(A)]	73
Weight	[kg]	approx. 230
Production year		See model plate

* Measured in accordance with the body casing method DIN EN ISO 3744 at minimum airflow volume; noise measurement margin of error approx. 4 dBA
** Custom voltage on request

2.2 Intended application

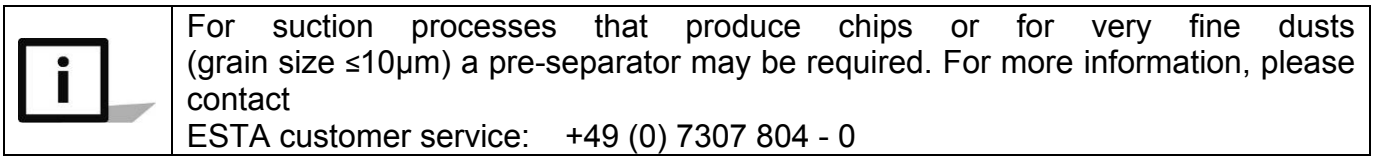
2.2.1 Ambient conditions

Ambient temperature	[°C]	$5 \leq \vartheta \leq 40$
Rel. humidity	[%]	30–70

2.2.2 Intended use

The device has been manufactured according to recognised 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.
- for suction at up to 3 workstations simultaneously.
- only for dry cleaning.
- with additionally available accessories, suitable for cleaning workstations as an industrial dust extractor.



For suction processes that produce chips 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

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

The manufacturer sets up the device according to the operator's information.

2.2.3 Unintended use

The device has been manufactured based on the very latest technology and recognized safety regulations. Unintended use may cause damage and accidents. Therefore

- **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** suck up aggressive gases.
- **Do not** suck up readily flammable or glowing particles.

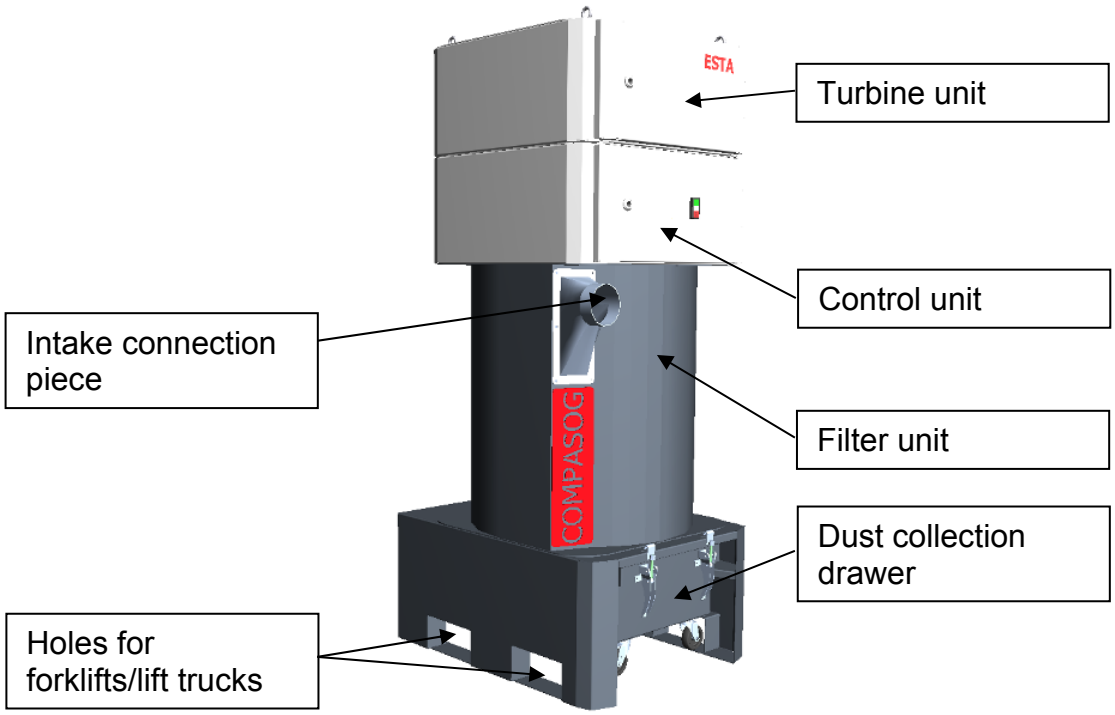
2.2.4 Reasonably foreseeable misuse

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

3. Product description

3.1 Device diagram

3.1.1 COMPASOG - ST



3.2 Function description

The device is a combination of a cyclonic separator and cartridge filters with integrated suction turbines. The main switch supplies or cuts off the necessary power to the device. Once the suction has been activated on the On/Off switch, the suction turbines begin suction.

The vacuum created by the suction turbines draws air through the suction pipe or hose connected to the intake port. Heavy components in the intake air are pre-separated through the cyclone effect. Permanent filters set up within the filter housing separate the dust that is in the exhausted air. The purified air is guided back into the room through the outlets on the top of the device.

With the filter cartridge 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 front of and behind 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 cartridge is automatically cleaned with compressed air. A pneumatic jet pulse cleaning device is integrated for this purpose. The filter cartridge used is halved inside by a separator, so that with a blast of compressed air only one half is cleaned in each case. Intense pulses of compressed air are successively introduced into the filter cartridge. As a result, the filter is freed of dust and regenerated. 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.

3.3 Monitoring the minimum airflow volume

The minimum airflow volume is monitored though a differential pressure measurement. Capture elements with various exhaust connection piece diameters can be used with the device. Here it should be noted that

- the minimum airflow volume sucked away is not undershot.

4. Safety instructions

4.1 Hazard categories

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

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

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

	**WARNING** Warning about a recognisable 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 Symbol explanation

	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)

Do not take in glowing dust or other sources of ignition.

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

4.3 General safety instructions

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

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

Example:
When the device is operating at the nominal airflow volume of 1,060 m³/h, the same volume of fresh air must be fed in. This occurs with natural ventilation if the volume of the work room is 1,060 m³ (e.g., 353 m² surface with a 3 m ceiling height).

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

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

If there is a fire, alert the fire department immediately, and contain the fire by appropriate means. Therefore keep a suitable extinguishing agent near the 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!

⚠	**CAUTION** Risk of rollers becoming damaged from the forks on the forklifts or lift trucks • Move the forks into the pick-up holes provided slowly.

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! • Any work on the electrical grid and on voltage-conducting parts may only be performed 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! • Any work on the electrical grid and on voltage-conducting parts may only be performed by an electrical specialist. • Use only original ESTA replacement parts.

	**DANGER** High-voltage electric shock when working on the open switch box • 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! • Any work on the electrical grid and on voltage-conducting parts may only be performed by an electrical specialist.

	**DANGER** Residual hazard from loose or open covers • Keep covers closed during operation! • Any work on the electrical grid and on voltage-conducting parts may only be performed by an electrical specialist.

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

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 equipment. - 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 removing the dust collection container, 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.

Persons assigned to cleaning work must be instructed on the toxic materials that are sucked in. Harm to bystanders and the environment must be prevented by all means. Clean the maintenance area thoroughly after maintenance is finished.

4.7 Preventing noise hazards

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.
  - Disconnect the compressed air supply.
- 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.

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

4.7 Preventing hot surface hazards

CAUTION

Danger of burns from hot surfaces on the suction turbines

- Keep the covers of the turbine unit closed during operation.
- Prior to touching the suction turbines, let them cool down sufficiently.

If the device – especially the turbine unit – has to be opened for cleaning, maintenance, or the replacement or removal of parts, hot air could be accumulated there. Therefore, wait until the suction turbines have cooled down.

All parts that can heat up must be covered by fixed, securely fastened protective covers that can be removed only with tools.

5. Delivery and commissioning

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 falls during transport.

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

WARNING

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 standard lift truck) when transporting the device to its set-up location.
- When setting down, beware of the off-centre centre of gravity.

The device is mounted onto a pallet when delivered. Remove the protective cover and floor fixings. Inspect the delivery for completeness.

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

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.

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

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For transport to the installation location:

- Transport the device with a forklift or lifting truck.

- Attach the device to suitable fixing equipment via the 4 suspension points (eye hooks) at the top of the device.
- Attach the fixing equipment to a suitable crane or from the fork of the fork-lift. Also pay attention to the illustration here!

5.2 Connection

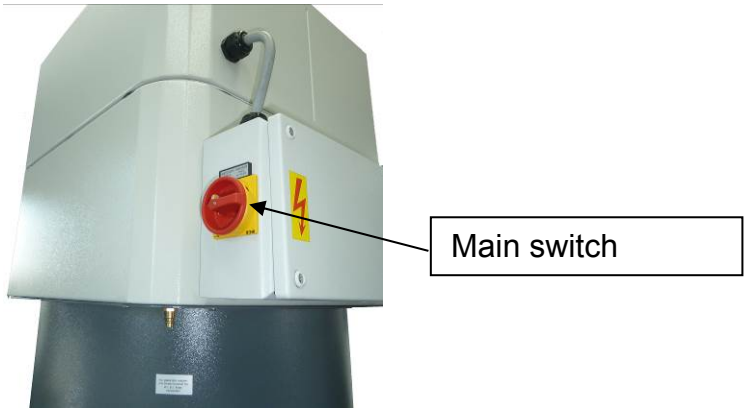
	Before setting up the cable connection between the device and the power grid, check to make sure the operating voltage shown on the model plate is the same as that of the grid.

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.

5.2.1 Control cabinet description

The control cabinet is equipped with the following elements.

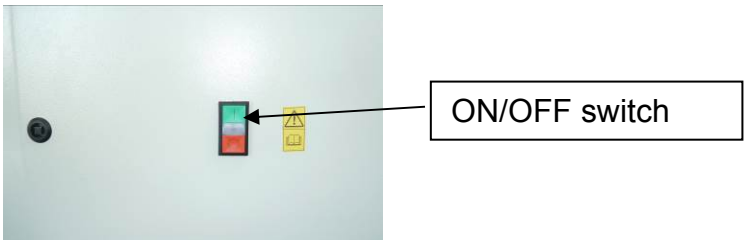
MAIN SWITCH
A main switch for turning the device on and off.
This also serves as an emergency-off switch and can be secured with a lock against unintentional activation.



5.2.2 Control unit user interface

The user interface is equipped with the following elements.

ON/OFF SWITCH (double push button)
Suction is started/stopped by pressing this.



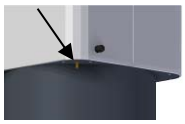
5.2.2 Pneumatic connection

	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.

		COMPASOG-ST
Pressure	[bar]	4–6
Connection-ø	[']	1/4 (ø9mm)
Compressed air consumption *	[L / pulse]	22



* 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! • When working on the device, secure the main switch against reactivation with a padlock! • Cut off the device's power supply by pulling the electrical plug! • Any work on the electrical grid and on voltage-conducting parts may only be performed 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 32 Amp.
Mains (standard)*		Three-phase current 400 V; 50 Hz; 3 N~
Fuse	[Amp.]	C32

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

5.3 Function check

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

	**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. - Disconnect the compressed air supply. • Open the device only when it has stopped. To do this - Cut off the power supply by pulling the electrical plug

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

- ➢ Turn the device on at the main switch.
- ➢ Start suction at the On/Off switch.
- ➢ Check compressed air connection.
  - No hissing may be audible.
- ➢ After the function check, switch the device off again at the On/Off switch and wait roughly 5 minutes so the automatic post-cleaning can be completed.
- ➢ Isolate the device from the voltage supply with the main switch.

5.4 Preparing the dust collection containers

5.4.1 Base body

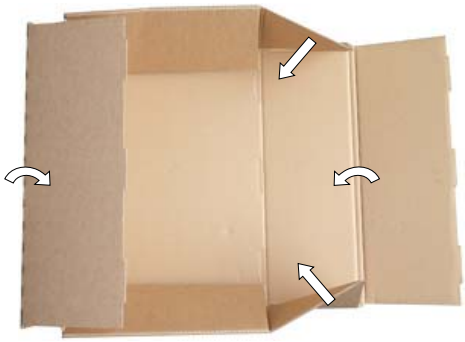
Dust collection containers are inserted into the dust collection drawer. Prepare this as follows:

1.

2.

3.

4.



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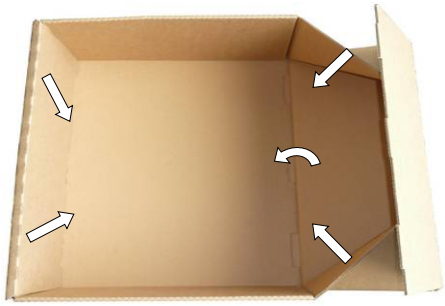
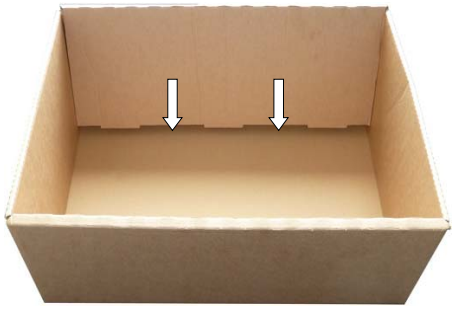


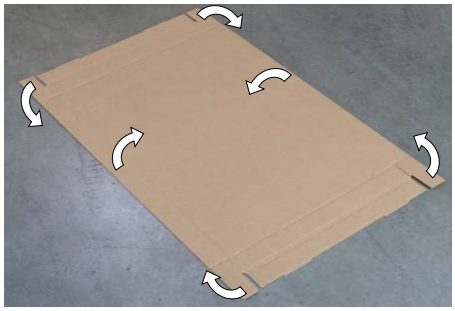
6.



5.4.2 Lid for dust collection containers

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

1.



2.

3.

4.

5.

5.5 Commissioning

	For suction processes that produce chips 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!

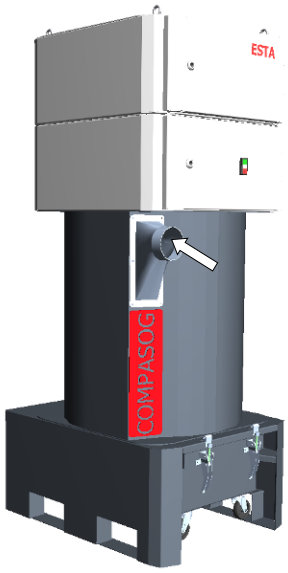
Once a functional inspection has been completed, the connection is made to the processing apparatus that is to be exhausted.

- 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:

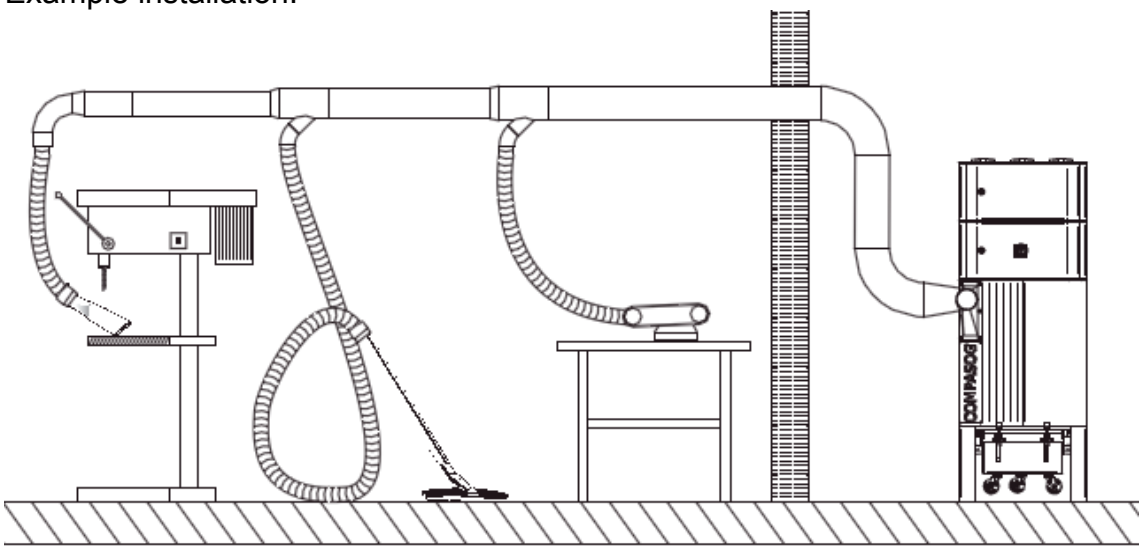
- Insert empty dust collection containers without lids into the dust collection drawer.
  - Flip the latches upward.
  - Unhook tensioner.
  - Slowly, carefully pull out the drawer.
  - Insert new, empty dust collection containers into the holder of the dust collection drawer.
  - Slide the dust collection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

5.6 Suction line connection



➢ Connect the processing machine to be exhausted to the device's intake connection piece 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 steel pipe) that meets the national requirements for this application.
- approved adaptors for ports with smaller diameters.

Example installation:



	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 during commissioning

Failure	Possible cause	Possible solution
Device does not start.	Suction turbine(s) overload fuse has tripped	Replace suction turbine(s) overload fuse
	Suction turbine(s) broken	Replace suction turbine(s)
	Suction turbine(s) overheated; temperature sensor tripped	Switch off device and open top door for cooling down
The motor assembly shuts off before reaching operating RPM.	Wrong or poorly installed switching devices.	Set up switching devices appropriately

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 hose is connected to the dust source:

- Turn the suction device on at the main switch.
- Start suction using the On/Off switch.
- 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.
- Switch off suction using the On/Off switch.
- Wait for the post-cleaning cycle to finish.
- Turn the suction device off at the main switch.

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

	If very fine dust is being extracted (grain size ≤10 µm) the filters need to be cleaned more often. If necessary you should provide a pre-separator. For more information, please contact ESTA customer service: +49 (0) 7307 804 - 0

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.

6.2.2 Automatic post-cleaning

When?

- Device is switched off at the On/Off switch.

How?

- The cleaning cycle starts automatically while the suction turbine is still running.
- Intense pulses of compressed air are successively introduced into the filter cartridges.
  - Wait at least 5 minutes until the cleaning cycle is complete.

7. Maintenance & troubleshooting

7.1 Maintenance instructions

WARNING

Damage due to dust release

- Maintenance, cleaning, repair and emptying must be done only by expert personnel.
- Wear personal protective equipment.
  - 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.
  - Disconnect the compressed air supply.
- 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. Dispose of such objects in bags impermeable to dust in compliance with the applicable regulations for disposal of such waste.

Perform annual retests according to VDE 0701 – 0702, VDE 0600. Depending on the mode of operation, the time intervals could be shorter. During maintenance, the entire system is to be tested by a trained expert for correct operation. Keep written proof of the main annual inspection in the maintenance book enclosed. 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.

§	According to work equipment user directives 2009/104/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.

i	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. When there is a malfunction, switch the device off immediately and contact the responsible maintenance service!

7.2 Inspection and maintenance intervals

Regular maintenance consists of the following intervals:

1. Daily inspection includes:

➢ ***By the device user***

Visual inspection

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

2. Weekly maintenance includes:

➢ ***By expert maintenance personnel***

Visual inspection

- of the top of the device and cleaning it.

3. Monthly inspection includes:

➢ ***By expert maintenance personnel***

Functional and visual inspection

- for filter leaks (dust trails or deposits on the air outlets)
- Clean the device.
- Remove the dust residues.
- the filter pad on the device lid's outlets. Clean or replace if necessary.

4. The main annual inspection includes:

The last test by ESTA is documented on the device!

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

- Flow volume measurement
- Vacuum measurement
- Current consumption measurement
- Visual check of filters
- Seal inspection
- Check the compressed air tank → drain condensation, if necessary

After the main annual inspection, 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 suction apparatus.
We'll make you a great offer — simply give us a call:

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

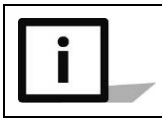
7.2.1 Replacement and wear parts

	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	COMPASOG series ST
Antistatic filter cartridge (Standard)	01001054 1 piece
Filter cartridge electrically conductive	Upon request 1 piece
PTFE filter cartridge	Upon request 1 piece
Filter partridge oil/water-repellent	Upon request 1 piece
Other filter cartridge designs	Upon request 1 piece
Dust collection container with lid	30008311 1 set [=06001074 8 pieces]
Blow out the filter pad	Upon request 1 piece
Disposal bag for filter	30000567 1 set [=06000358 10 pieces]

7.3 Replacing the dust collection container

	Since the ESTA company does not know what types of dust are being extracted, it can be necessary to empty the dust collection container before it has reached its maximum fill level. (High bulk density → High weight.)

During cleaning loose dust is removed from the filter cartridge. This dust accumulates in the dust collection container of the dust collection drawer. Check and remove this based on the use of the device and when the maximum fill level is reached (approx. 2/3 of the container). This work should be done only by an expert with personal protective equipment!

Replace dust collection containers when no work is going on wherever possible. Prior to replacement, supply a lid for sealing and new dust collection containers

- Turn the device off at the On/Off switch.
- Disconnect the compressed air supply.
- Wait about 5 minutes so the dust can settle into the dust collection containers.
- Then turn the device off at the main switch.
- Flip the latches upward.
- Unhook tensioner.
- Slowly, carefully pull out the drawer.
- Place the lid on the dust collection container.
- Remove dust collection containers from the dust collection drawer.
- Seal the edge between the dust collection container and lid with an adhesive tape, so that it is dustproof.
- 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 all the way back into the device.
- Hook in tensioner.
- Flip the latches downward so that the drawer is firmly locked upward.
- Reattach the compressed air supply.
- Plug the device back in.
- The device is now ready to operate again.

7.5 Replacing filter cartridges

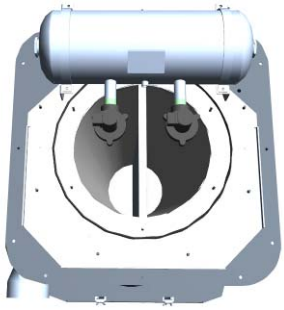
	**WARNING** Risk of falling from ladder • Use a ladder at least 2 m tall.

After an extended operation period, the filter pores can be clogged by extremely fine dust. Jet pulse cleaning can no longer remove this penetrated dust. Filters 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.

- Turn the device off at the On/Off switch.
- Disconnect the compressed air supply.
- Wait about 5 minutes so the dust can settle into the dust collection containers.
- Then turn the device off at the main switch.
- Pull the electrical plug.
- Open the cover of the control unit.
- Remove the electrical connection cable from the solenoid valve and close the cover again.
- Hang the turbine unit to suitable fixing equipment via the suspension points.
- Release and remove the retaining bolts between the control unit and the filter unit.
- If available → unplug potential equalisation.
- Lift the turbine unit and control unit from the device.
- Loosen the pipe clamp on the pressure hose and remove it along with the pressure hose from the compressed air tank.
- Release the filter holding plate's retaining bolts.
- Completely remove the filter holding plate with attached compressed air tank.
- Release the filter holding plate's fixing nuts.
- Supply an opened disposal bag and new filter cartridges.
- Lift the filter holding plate with the filter cartridge out of the filter unit and put the filter cartridge straight into the opened disposal bag.
- Fold the disposal bag over the edge of the pipe.
- Release the fixing nut for the partition and remove it from the cartridge together with the partition.
- Loosen and completely remove the filter cartridge's fixing nuts.

- Take the filter holding plate from the filter cartridge, clean it and place it straight onto the new filter cartridge supplied.
- Fold the disposal bag over the edge of the used filter cartridge.
- Close the end of the bag and fasten it securely with a cable tie.
- Insert and arrange the partition into the new filter cartridge.
- Put the fixing nuts for the filter cartridge on and fasten them.
- Use the earthing screws to fasten the earthing cable at the position provided on the filter cartridge.
- Insert the filter holding plate with attached compressed air tank carefully into the device.
- Attach the pressure hose to the compressed air tank and fasten it with a pipe clamp.



- Place the turbine unit and control unit onto the filter unit.
- Insert and fasten retaining bolts.
- If available → attach potential equalisation.
- Connect the electrical connection cable onto the solenoid valves.
- Close all device covers.
- Reattach the compressed air supply.
- Plug the device back in.
- The device is now ready to operate again.

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

	If the pressure 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 of the control unit. To make the settings, proceed as follows:

- Turn the device off at the On/Off switch.
- Disconnect the compressed air supply.
- Wait about 5 minutes so the dust can settle into the dust collection containers.
- Then turn the device off at the main switch.
- Pull the power plug.
- Open control unit.
- Open the control cabinet.
- Check the settings on the pressure monitor and adjust them, if necessary. (See table below)
- Close the control cabinet and control unit securely.
- Reattach the compressed air supply.
- Plug the device back in.
- The device is now ready to operate again.

The values in the following chart serve as standard values with a medium air speed of **18.5 m/s**(with suction turbines at 100% performance):

Ø in mm		108
Minimum flow volume in m³/h	[m³/h]	600
Standard value for pressure controller	[Pa]	3,000

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 monitor = standard value of pressure monitor – external pressure loss

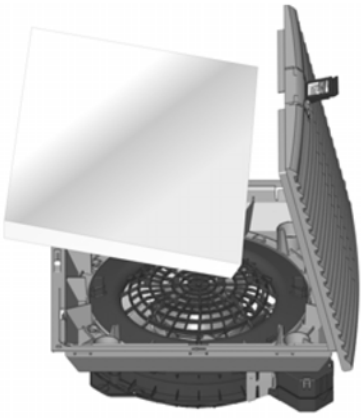
7.8 Filter pad cooling fans

	**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.

Cooling holes are arranged above the suction turbines. These must be checked regularly and the filter pad replaced, if necessary. Perform a visual inspection when the device undergoes cleaning, repair or maintenance.

To do this:

- Turn the device off at the On/Off switch.
- Disconnect the compressed air supply.
- Wait about 5 minutes so the dust can settle into the dust collection containers.
- Then turn the device off at the main switch.
- Pull the electrical plug.
- Open the grid on top of the device. To do this,
  - Pull on the grid's function logo with your finger to unlock it.
  - Open up the grid.
- Remove the old filter pad.
- Insert the new filter pad with the compacted side facing downwards.
- Close the grid shut again until you hear it lock in.
- Reattach the compressed air supply.
- Plug the device back in.
- The device is now ready to operate again.



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 Eliminating faults

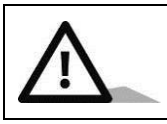
DANGER

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

Failure	Possible cause	Possible solution
Suction too weak	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
	Dust collection container full	Empty / replace dust collection container
		Switch off device and open top door for cooling down
	Suction turbine overheated; temperature sensor tripped	Insert new suction turbine
	Suction turbine defective	Contact ESTA customer service to adjust the cleaning point
	Cleaning point too low and therefore filter is not cleaned	
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
		Contact ESTA customer service to adjust the cleaning point
	Cleaning point set up incorrectly	

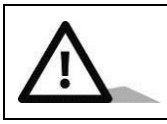
Failure	Possible cause	Possible solution
Escaping dust and dust fans at the air outlet	Filter breakage	Turn the device off immediately. Then clean the device completely and replace the filter elements (filter cartridges, filter pads, etc.) with new ones.
	Filter installed wrong	Check installation of the (filter cartridges, filter pads, etc.).
Smoke development or loud running noises on the suction turbine(s)	Imbalance in the suction turbine due to installation errors	Turn the device off immediately and have ESTA customer service inspect the suction turbines
	Rotor is scraping	Turn the device off immediately and - Check the suction turbine for tension and transport damage - Check screw connections → do not install with too much tension applied - Have ESTA customer service inspect the suction turbine



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 suction turbine(s) producing smoke and loud running noise

- Immediately turn the device off at the main switch.

8. Disposal

CAUTION

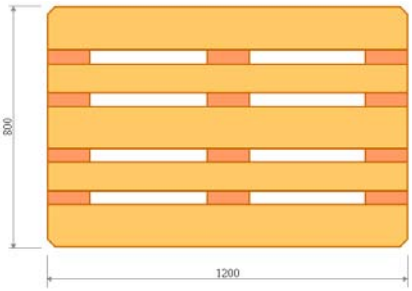
Damage due to dust release

- Emptying and disposal must be performed only by expert personnel.
- Wear personal protective equipment.
  - 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 the device

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

The dust collection containers are designed so that 4 of them fit onto a layer on a euro pallet (1,200 x 800 x 144 mm // as per EN 13698-1). For transport, fasten and secure each layer according to local regulations.



8.2 Disposing of the device

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. drive, lid, etc.) out of the device.
- ➢ Package the device and the removed parts according to local regulations.
- ➢ Dispose of everything according to local regulations.

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

9. Optional equipment

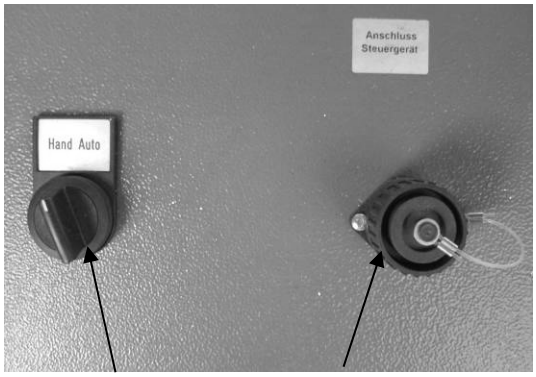
9.1 Start-up with potential-free contact

Optionally, the device can be equipped with start-up through an external potential-free contact. That means a coupling option is established between the suction device and a dust-producing machine connected to it. In this way, the dust-producing machine starts and stops the suction device automatically. The toggle switch on the switch box must be set to “AUTO” for this operating mode. In the “HAND” setting, the suction apparatus is operated as previously described.

	**DANGER** Risk of high-voltage electric shock when working on the 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! • Any work on the electrical grid and on voltage-conducting parts may only be performed by an electrical specialist.

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

9.1.1 Installation on the potential-free contact



Toggle switch

Plug connections for external start-up

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 Suction line connection via flap valves

Intake connection piece ø	[mm]	3 x 50

- Connect the processing machine to be vacuumed to the device's intake connection piece through a hose line.
  As a suction pipe, use
  - a matching suction hose that meets the national requirements for this application.
  - approved adaptors for ports with smaller diameters.
- Suction starts as soon as a flap valve is assigned.
- Suction performance is adjusted based on the flap valves assigned.

	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**.**

9.3 Thorough electrical conductivity

The device can optionally be equipped to be electrically conductive throughout.

The following work must therefore be performed at least every 2,000 hrs or after every reorganisation as part of inspection by an electrical specialist:

- Checking and recording the potential equalisation of the system and pipeline system to prevent electrostatic charging

	DANGER Risk of explosion due to insufficient conductivity • Conductive extraction and recording equipment (e.g. extraction hoods, piping) and conductive processing machines (e.g. devices of protection category II) which are not earthed through the device must be grounded in another way by the user in order to prevent electrostatic charging.

10. EC Declaration of Conformity

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

We hereby declare that the design of the machine

Machine:	Stationary dust extractor for capturing, filtering and separating dry, free-flowing and non-flammable dusts of dust class M and welding fumes.
Series:	COMPASOG
Model:	**COMPASOG**
	and variants with optional equipment

conforms to the following regulations:

2006/42/EC	EC Machinery Directive
2004/108/EC	EC Electromagnetic Compatibility Directive
2006/95/EC	EC Low-Voltage Directive

Reconciled norms used:

DIN EN ISO 12100:2011-03	Safety of Machinery – Basic concepts, general principles for design
DIN EN ISO 13857:2008-06	Safety of Machinery – Safety distances to prevent danger zones from being reached by upper and lower limbs
DIN EN 349:2008-09	Safety of machinery; minimum distances for preventing body parts from being crushed
DIN EN 60335-1:2012-10	Safety of electrical appliances for household and similar use - general requirements
DIN EN 60335-2-69:2012-08	Safety of electrical appliances for household and similar use – Special requirements for dust and water suction systems. including power brushes for commercial use
DIN EN 61000-6-1:2007-10	EMC generic standard - Immunity for residential, commercial and light-industrial environments
DIN EN 61000-6-2:2006-03	EMC generic standard – Immunity for industrial environments
DIN EN 61000-6-3:2011-09	EMC generic standard - Interference for residential, commercial and light-industrial environments
DIN EN 61000-6-4:2011-09	EMC generic standard - Interference for industrial environments
DIN EN 61000-3-2:2010-03	EMC limits – Limits for harmonic current emissions (device input currents ≤16 A per cable)
DIN EN 61000-3-3:2009-06	EMC limits – limitation of voltage changes, voltage fluctuations and flickers in low-voltage public supply systems for devices and equipment with a rated current ≤16 A per cable, not subject to a special connection

National norms and technical specifications used:

VDI 3677	Filtering separators

Senden, 26 May 2014

Dr. Peter Kulitz
Managing Director

Notes

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