



TRANSLATION OF THE ORIGINAL OPERATION
MANUAL

Stationary deduster

DEDUSTER DE 1-8



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The information in the document must be followed during operation in order to avoid faults or damage. The operator must therefore make it available to all relevant maintenance and operating staff. Subject to alteration.

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The warranty can only be accepted if the following conditions are met:

- Professional transport
- Professional assembly, commissioning and operation using these operating instructions.
- Verifiable compliance with the prescribed maintenance intervals.
- Operation of the product with conveyed media having the specified chemical and physical properties.
- Immediate reporting of damage to the manufacturer.
- Exclusive use of genuine replacement parts.
- Structural modifications to the original condition only to be carried out with the agreement and written approval of the manufacturer.

Table of contents

1	General instructions	5	8.3	Visual inspection	27
1.1	General notes prior to use	5	8.4	Check the filter elements	28
1.2	Legal information	5	8.5	Cleaning the filter	28
1.3	Target group of the document	5	8.6	Changing the filter cartridge	29
1.4	How to read this document	6	8.7	Emptying the collection container	31
1.5	Form and significance of warning information	7	8.8	Cleaning the product	31
1.6	Explanation of symbols	8	9	Faults and Rectification	32
2	Product identification	9	9.1	Product	32
2.1	Intended use	9	9.2	Fan and drive motor	33
2.2	Improper use	9	10	Decommissioning	34
2.3	Foreseeable misuse	10	11	Packing and storage	35
2.4	Warranty terms	10	11.1	Packaging	35
2.5	Important information on the product	10	11.2	Storage	36
3	Safety	11	11.3	Disposal	36
3.1	Hazard prevention	11	12	Technical data	37
3.2	Workstation ventilation	12	12.1	Spare parts list	37
3.3	Product safety	13	13	EC/EU Declaration of Conformity	38
3.4	Qualified personnel	14			
4	Structure and function	15			
4.1	Illustration	15			
4.2	Functional description	16			
4.3	Safety and monitoring devices	16			
5	Transport and installation	17			
5.1	Transport	17			
5.2	Set-up	18			
6	Commissioning	19			
6.1	Ambient conditions for the product	19			
6.2	Pipeline connection	20			
6.3	Electrical connection	21			
6.4	Pneumatic connection	21			
6.5	Preparing disposal unit	22			
6.6	Operating and display element	23			
6.7	Activation operations for motors	23			
7	Operation	24			
7.1	Operating the product	24			
8	Servicing and maintenance	25			
8.1	Operating and auxiliary materials	26			
8.2	Maintenance table	27			

1 General instructions

1.1 General notes prior to use

Before using the product, it must be ensured that all persons about to use the extraction system or perform maintenance work on it:

- Have received all relevant information, instructions and training courses for using the product and have understood them.
- Are able to perform or fulfil their tasks according to the law and the current operating manual.

1.2 Legal information

To reduce potential risks posed by the product, the design and construction of the product conform to the directives and standards listed in the EU/EC declaration of conformity. Potential risks can only be minimised when the user or its authorised representative adheres to the additional, relevant standards for a product ready to install.

1.3 Target group of the document

This document is intended for

- Operators trained on the product who are familiar with the extraction process.
- Trained assembly and maintenance personnel.
- Trained electrical specialists

1.4 How to read this document

This document is a component of the product it describes. Keep the instructions easily accessible at the place where the device is being used, so that they can be seen by the staff at all times.

All persons must carefully read this document before any work on the product takes place (commissioning, assembly, maintenance, etc.). Prerequisite for safe work and trouble-free handling is that all relevant information, instructions and training for the use of the product and substances it is used for have been obtained and understood. The tasks must be performed or fulfilled according to the law and in accordance with this document.

Please follow the safety and warning instructions in the document and on the product. All plant, operating, and work instructions of the owner-operator apply in addition to this document.

The document also contains graphical examples along with the descriptions. For this reason, the equipment may differ somewhat from the descriptions and representations.

Highlighting in the text

In order to simplify the legibility and overview, various paragraphs and information are highlighted by distinguishing elements.

The symbols have the following meaning:

- 1st level list
 - 2nd level list
- ✓ Handling requirement
- 1. Handling step
 - ⇒ Intermediate result
- ⇒ Result of the entire handling sequence



Information on the target group for whom the following instructions are intended.

1.5 Form and significance of warning information



DANGER

High risk

indicates an imminent hazard. If this is not averted, death or very serious injury will result.



WARNING

Medium risk

indicates the possibility of an imminent hazard. If this is not averted, death or very serious injury may result.



CAUTION

Low risk

indicates the possibility of an imminent hazard. If this is not averted, slight or minimal injury may result.



NOTICE

Material damage











Foreseeable material damage for the product and environment with a failure to comply with the specified measures.

This warning is displayed when there is a thread of danger or damage. This represents actions which can cause a risk of damage.

Warnings are indicated by a symbol or signal word. The warning includes information on the type and source of the hazard, the consequences if it occurs, and actions for averting it.

1.6 Explanation of symbols

Warning notices

	General warning signs		Electric voltage
	Hearing damage		Toxic dusts
	Danger of crushing		Falling/tipping hazard
	Hand injuries		Automatic start-up
	Suspended load		Automatic start-up

Prohibition symbols

	General prohibition		Read the manual
	Wear ear defenders		Wear safety goggles
	Wear safety footwear		Wear a hard hat
	Wear gloves		Use breathing equipment
	Wear protective clothing		Enable before maintenance or repair work
	Further information		Reference to target group

2 Product identification

2.1 Intended use

The product was designed for use at the following workstations:

The product's application is documented in the data sheet. Coordinate any deviating applications with the manufacturer to ensure that the functioning of the product is not compromised.

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

- For commercial use, such as in industrial enterprises and workshops.
- extraction of particles and dust from cardboard packaging.
- For the extraction of dry dust
- for the extraction of smoke and dust
- For the extraction of free-flowing dust
- For the extraction of non-flammable dust
- For the extraction of dry, non-flammable welding fumes
- To extract smoke from unalloyed steels

2.2 Improper use

The product may only be used within the scope of the technical data specified by ESTA. Uses that exceed the specifications in "Intended Use" are deemed to be inappropriate. The manufacturer is in this case not liable for resulting damage.

Examples of inappropriate use are:

- Extraction of combustible gases, dust, vapours or mist
- Using or keeping in the open air or under wet conditions
- Use in dust or gas EXPLOSION areas
- Extraction of highly flammable or glowing particles
- Extracting highly flammable particles and hotspots
- Extraction of process air outside the specified temperature range, see *chapter Ambient conditions for the product [19]*
- Extraction of liquids
- Extraction of corrosive gases
- Extraction of moist or fluid substances
- Installation in paint shops
- Installation in food operations

2.3 Foreseeable misuse

The use of the product in an unintended way, but which can arise from easily foreseeable human behaviour.

This includes:

- Installing outdoors
- Installation or operation in explosive dust and gas environments
- Unauthorised modifications to the product
- Intake of glowing embers such as, e.g., cigarettes
- Start-up of the product despite defects detected on the product or attached parts (e.g., pipeline)
- Intake of items not suitable for suction (e.g., mobile phone, tool, glove, screws, etc.)
- Closing of intake opening

2.4 Warranty terms

HSM GmbH + Co.KG accepts no liability for direct damage and consequential damage to products or for personal injuries when the product is not used for its intended purpose. The operating company must prove that the fault was not caused by inappropriate installation, assembly, maintenance or use of the product.

For your own safety, use only genuine replacement parts and accessories. HSM accepts no liability for any resulting damage if other products are used.

2.5 Important information on the product

Responsibility must be clearly stipulated for the following tasks:

- Transport
- Assembly
- Commissioning
- Operation
- Maintenance and repair
- Cleaning
- Decommissioning
- Disposal

3 Safety

3.1 Hazard prevention



DANGER

Danger of fire due to sparks and glowing particles

Severe injury including death possible

- ▶ Keep combustible, flammable materials away from the work area.
- ▶ Never run away if clothing catches fire. Extinguish flames by rolling on the ground or by smothering them with blankets.
- ▶ If there is a fire, alert the fire department immediately, and contain the fire by appropriate means.
- ▶ Keep a suitable extinguishing agent (not included in scope of delivery) near the product before start-up and during operation.

DANGER

Risk of falling and tripping

Danger to life from falling objects or loads



- ▶ Do not stand under suspended loads.
- ▶ Secure the assembly area and mark it out (e.g., with barrier tape).
- ▶ Always lift the product vertically during loading and assembly work.
- ▶ Only transport the product with suitable, approved means of lifting and transport.
- ▶ Keep a sufficient distance from the product while it is being installed. Distance at least 1.5 times the height of the product.
- ▶ Wear personal protective equipment.

WARNING



Danger of crushing due to loose or open covers

Injuries to the limbs

- ▶ Keep covers tightly closed during operation.
- ▶ Check regularly that fastening screws and component connections are secure.
- ▶ Only start up the product after the assembly is complete and correct.



CAUTION

Toxic dusts

Short-term impairment of the respiratory organs during inhalation

- ▶ Maintenance, cleaning, repair, and emptying work may only be completed by expert personnel.
- ▶ Only operate the product with the filter elements installed.
- ▶ Regularly check the filter elements for clogging.
- ▶ During operation, do not change the product's location.
- ▶ Always complete all maintenance and upkeep work in a well-ventilated room.
- ▶ Dispose of used filter elements in air-tight-sealed disposal bags in accordance with regional regulations.

CAUTION



Dust deposits in the pipe system

Short-term impairment of the respiratory organs during inhalation

- ▶ Check the connected piping system regularly for dust deposits.
- ▶ Observe the minimum air speed required for use and the resulting minimum airflow volume.

3.2 Workstation ventilation



The provisions of DGUV rule 109-002 must be complied with.

During extraction, the volume flow returned from the product into the room should be no more than 50% of the supply air. With open room ventilation, supply air flow should be assumed as equal to 1x the room volume every hour. This means that the rate of air replacement must be 1/h.

Calculation Supply air flow [m³/h] = room volume [m³] x air replacement rate [1/h]

Example:

When the product 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 x 3 m ceiling height).

3.3 Product safety

The following points must be considered to avoid injuries and other risks due to inappropriate use and operation of the product:













- Assembly, electrical connection, maintenance, initial operation, cleaning, repair and other work in connection with the product may only be performed by trained specialists.
- The product must be checked for faulty or damaged supply lines (cables, pipe systems, etc.), connections and open system parts (inspection door, discharge opening) every time before starting up. Do not use the product in such cases and immediately notify the maintenance personnel responsible.
- The product may only be operated when it is ready for operation, when the inspection doors are shut and when the toggle-type fasteners of the collection container are firmly closed.
- Ensure before any work is performed on the product or before inspection doors are opened that the product is disconnected from the power supply and secured against unauthorised reactivation.
- Connect the product to the electrical power supply properly and in precise compliance with the safety instructions and use it exclusively in accordance with the specifications.

3.4 Qualified personnel

Trained personnel Trained personnel are those who have been instructed in the correct handling of the product and who are aware of the risks presented by improper use. Personnel must receive instruction on safety equipment. Knowledge of this manual is mandatory.

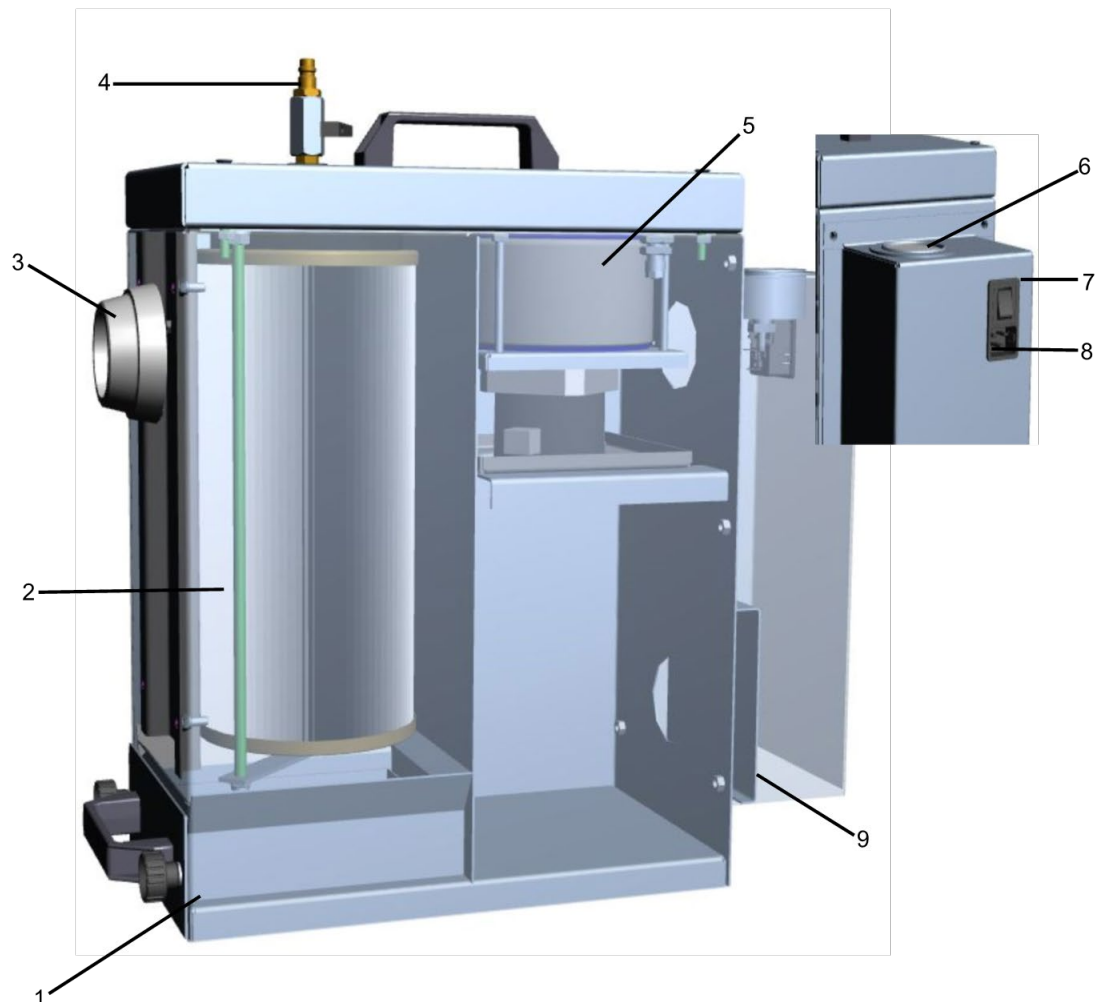
Qualified semi-skilled technicians An employee with appropriate technical training, knowledge and experience who is able to identify and avoid hazards. Knowledge of this manual is mandatory.

Trained skilled worker Qualified technician in a qualified profession. Knowledge of this manual is mandatory.

Target group	Task	Qualification	Protective equipment
Transport personnel	Transport Set-up	Qualified semi-skilled technicians	 
Installation personnel	Installation	Trained skilled worker	
Commissioning personnel	Commissioning	Trained skilled worker	 
Operating personnel	Operation	Qualified semi-skilled technicians	  
Maintenance personnel	Inspection Maintenance Repair work	Trained skilled worker	   
Maintenance, cleaning personnel	Maintenance Clean	Trained personnel	

4 Structure and function

4.1 Illustration



1	Disposal unit	5	Fan unit
2	Filter unit	6	Manometer for minimum volume flow
3	Connection for raw gas suction opening	7	On/off switch
4	Compressed air connection for rotary cleaning	8	Power plug connection
9	Outlet opening clean gas / air outlet box		

4.2 Functional description

- Procedure principle** Room air is extracted using a vacuum in a collection system (e.g. extraction arm, extraction hood) and then dust is removed in a filter unit. The suction unit attached to the product generates an air current and returns the cleaned air to the atmosphere via the outlet opening.
- Cleaning** The filter cartridges are manually cleaned with compressed air. The compressed air is fed into the rotating cleaning device in the product's filter unit. The filters are freed from dust and regenerated as a result of this cleaning process.
- Fan** The product is equipped with a three-phase motor which drives a radial fan. The product is supplied with or disconnected from the requisite power via a main switch. The fan is turned on and off at the control panel.
- Filter unit** Due to the negative pressure produced by the fan, air is sucked in through the corresponding filter unit. The permanent filter in the filter unit separates the dust from the extracted air. The purified air is fed back into the room through the outlets on the top of the fan unit.
- Disposal unit** Dust that is generated during the cleaning process is collected in the disposal unit below the filter unit. The collection drawer is pulled out for easier disposal of the collected material. Collected material is sealed tightly in a disposal sack for low-dust disposal and disposed of according to local regulations.

4.3 Safety and monitoring devices

- Extraction ON/OFF** Extraction is started/stopped on the control panel by means of the ON/OFF switch.
- Minimum volume flow monitoring** The minimum flow volume is monitored by the manometer next to the switch. The limit of the minimum flow volume is marked in red on the scale. If this marking is exceeded, the filter is saturated and must be cleaned.

5 Transport and installation



TARGET GROUP: Transport personnel

5.1 Transport



DANGER

Risk of falling and tripping

Danger to life from falling objects or loads

- ▶ Do not stand under suspended loads.
- ▶ Secure the assembly area and mark it out (e.g., with barrier tape).
- ▶ Always lift the product vertically during loading and assembly work.
- ▶ Only transport the product with suitable, approved means of lifting and transport.
- ▶ Keep a sufficient distance from the product while it is being installed. Distance at least 1.5 times the height of the product.
- ▶ Wear personal protective equipment.

WARNING



Crushing hazard when setting the product down

Injuries to the hands and feet

- ▶ Secure the product against tipping and falling during transport.
- ▶ Set the product down carefully and cautiously during set-up.
- ▶ Wear work gloves and safety shoes.

NOTICE



Material damage due to improper transport

Damage to the housing, lines and product components

- ▶ Do not push or pull the product across the floor if it does not have any rollers.
- ▶ Pay attention to any protruding components when setting down the product.
- ▶ Note the centre of gravity (which is not in the centre) when setting down the product.
- ▶ Make sure that the surface can be driven on, is level and sufficiently load bearing.

The product is delivered fastened to a pallet. After the protective covers and the floor fixing have been removed, the device can be lifted and transported using suitable lifting equipment.

- Remove the packaging and check the product for damage and completeness
- The product must not be put into operation if there is damage, or if the delivery is incomplete. Contact HSM in such cases
- Any foreign objects inside the product must be removed before start-up

5.2 Set-up



NOTICE

Damage to property and the environment

Observe minimum load-bearing capacity of the substrate

- ▶ Only install the product on a level, firm substrate with sufficient load-bearing capacity
- ▶ Products that are stationary during use must be fastened to the floor with anchors or another appropriate means of fastening
- ▶ Products that are mobile during use must be secured with the parking brake.

During set-up, always consider the required minimum distances from the product to ceilings and walls.

Space requirements

Top side (mm)	800
Raw gas air outlet (mm)	800
Clean gas air inlet (mm)	800
Side walls (mm)	800



1. Lift the product by the handle, take it off the pallet and transport it to the installation site on a mobile substructure or using a suitable means of transport (pallet truck).

6 Commissioning



TARGET GROUP: Commissioning personnel



WARNING

Danger of crushing due to loose or open covers

Injuries to the limbs

- ▶ Keep covers tightly closed during operation.
- ▶ Check regularly that fastening screws and component connections are secure.
- ▶ Only start up the product after the assembly is complete and correct.



NOTICE

Material damage

- ▶ Inspect the product before each use for faulty, damaged or missing components.
- ▶ If there is damage, do not use the product and immediately notify the maintenance personnel responsible.

6.1 Ambient conditions for the product

Ambient temperature	[°C]	+5 ≤ ≤ +40
Humidity	[%]	30 - 70

6.2 Pipeline connection

CAUTION



Dust deposits in the pipe system

Short-term impairment of the respiratory organs during inhalation

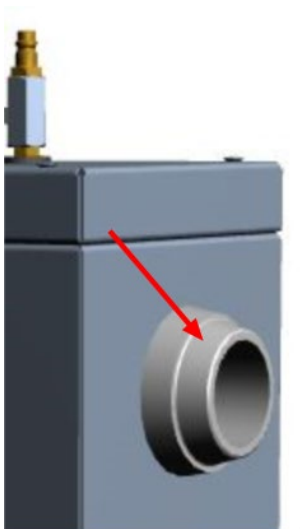
- ▶ Check the connected piping system regularly for dust deposits.
- ▶ Observe the minimum air speed required for use and the resulting minimum airflow volume.

NOTICE



Dust accumulations impede the airflow volume

If there is a change of the pipeline or the pipeline \varnothing , there is no guaranteed that dust deposits in the pipeline are avoided. The necessary minimum air speed must be taken into consideration and observed for the application.



Air inlet (raw gas)

1. Connect a pipeline or hose pipe to the outlet port of the product.
2. Connect the collection unit to the intake port of the processing machine at which extraction is to take place, via a pipe or hose.

⇒ Product is connected to the suction line.

Use as a suction line:

- approved adapters in case of small diameters at the port.

6.3 Electrical connection



NOTICE

Observe type plate

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

The product is connected according to the information on its type plate.

The connection to the in-house power supply is established at the installation location.

6.4 Pneumatic connection

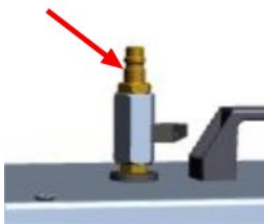


NOTICE

Risk of corrosion of the compressed air tank or damage to the filter elements when using unfiltered compressed air

Use a compressed air maintenance unit to make sure that only oil-free and water-free compressed air is fed into the product.

- ▶ Wear personal protective equipment.

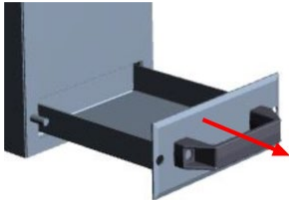
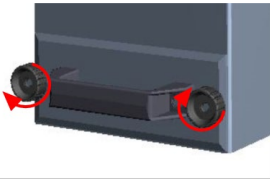


Compressed air is required for pneumatic cleaning of the filter elements. Only connect oil- and water-free compressed air with a hose approved for this purpose to ensure operating safety and machine availability.

Compressed air (bar)	4-6
Compressed air quality, according to ISO 8573-1	3.2.2
Compressed air connection (")	1/4 (ø 9 mm)

Tab. 1: Compressed air quality

6.5 Preparing disposal unit



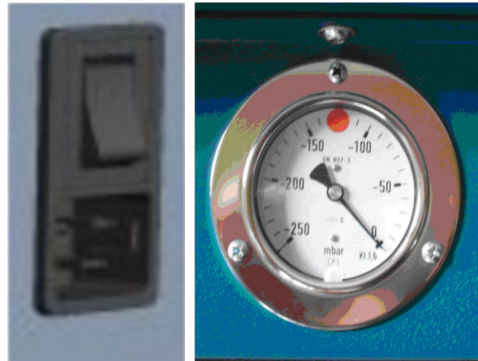
1. Carefully withdraw the collection drawer.
2. Unscrew and release the knurled nuts
3. Carefully withdraw the collection drawer.
4. Visual inspection for any consolidated product residues of other substances or objects, if necessary empty and clean the collection drawer.
5. Move the collection drawer back into the device.
6. Reinsert knurled nuts and tighten.

⇒ The collection drawer is ready for operation.

The product can be operated in the collection drawer without a disposal carton. The nature of the collected material must be suitable for this application.

6.6 Operating and display element

The main switch is equipped with the following elements.



IEC power socket The IEC power socket is the connection for the mains power cable.

Manometer The minimum volume flow is monitored via the manometer. The red marking on the scale shows when the maximum value of the minimum volume flow is reached.

Extraction ON/OFF Extraction is started/stopped on the control panel by means of the ON/OFF switch.

6.7 Activation operations for motors

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

Motor output kW	Power-ups / h
1 - 4	< 8 starts
4 - 7.5	< 6 starts
7.5 - 15	< 4 starts
15 - 30	< 3 starts
From 30	Electronically controlled overrun time

7 Operation



TARGET GROUP: Operating personnel

7.1 Operating the product

- Switch product on**
1. Switch on the product.
 2. Switch on the processing machine and the collection element as required.
 3. Switch extraction on using the On/Off switch.
- ⇒ The extraction system is operational and the processing step can be started.

- Switch off the extraction function**
1. End the operating process.
 2. Switch off the processing machine and the collection element as required.
 3. Switch extraction off using the On/Off switch.

- Switch product off**
1. Switch product off.
- ⇒ The product is not in operation.

8 Servicing and maintenance



TARGET GROUP: Maintenance and cleaning staff



CAUTION

Toxic dusts

Short-term impairment of the respiratory organs during inhalation.

- ▶ Maintenance, cleaning, repair, and emptying work may only be completed by expert personnel.
- ▶ Regularly check the filter elements for clogging.
- ▶ Always complete all maintenance and upkeep work in a well-ventilated room.
- ▶ Dispose of used filter elements in air-tight-sealed disposal bags in accordance with regional regulations.

All 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.

All maintenance tasks should be carefully performed within the given time-scales. Preventative maintenance of the components prolongs the life of the product. So does regular cleaning and preventative exchange of wearing parts.

Safety devices for prevention or removal of hazards (e.g. according to the 2009/104/EC work equipment user devices and TRGS 560) must be regularly maintained and inspected by an expert for safe and appropriate operation.

Shut down the product immediately if malfunctions and defects are discovered and notify the responsible maintenance and repair staff.

8.1 Operating and auxiliary materials



NOTICE

Material damage caused by aggressive cleaning agents and incorrect cleaning methods

Damage to seals, surfaces or plastics on the product

- ▶ Do not use any aggressive cleaning agents which might attack seals, surfaces or plastics.
- ▶ Use damp disposable cloths for cleaning.
- ▶ Use industrial vacuum cleaners approved for the application.
- ▶ Do not use any sharp objects or cleaning material with a rough surface.

Cleaning agents The following are suitable as cleaning agents for metal parts:

- Mild detergent
- Damp disposable cloths

The following are suitable as cleaning agents for deposited dusts and coarse soiling on surfaces:

- Industrial vacuum cleaner

Compressed air Compressed air is required for pneumatic cleaning of the filter elements. Always connect oil and water-free compressed air to ensure operational safety and optimum function of the product.

8.2 Maintenance table



NOTICE

Adjusting the maintenance interval to the operating time

The inspection and maintenance intervals specified here refer to normal application conditions.

In difficult conditions, e.g. increased separation volume and extended daily operating hours, the specified intervals must be shortened.

Maintenance table

		daily	monthly	as required
8.3	Visual inspection	1		
8.4	Check the filter elements		1	
8.5	Cleaning the filter			1
8.7	Emptying the collection container			1
8.8	Cleaning the product			1

1 - Maintenance personnel

8.3 Visual inspection

Parts and components on the product exhibiting damage must be replaced immediately with new original parts.

- Daily**
- Check the complete product and its parts for damage.
 - Check the product and its parts for dirt and clean as necessary, see *chapter Cleaning the product [31]*.
 - Check for electrical cables for damage such as open cable insulation, crushing, visible wired or heavy soiling.
 - Check the fill level of the collection container (regulations require that the container be emptied if it is more than 2/3 full), see *chapter Emptying the collection container [31]*.

- Annually**
- Check the sealing of the complete product

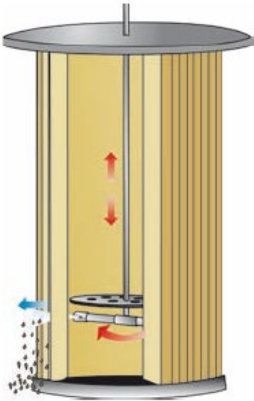
8.4 Check the filter elements

- Condition of the filter elements
- Damage and level of soiling
- Soiling in the interior between the filter elements and the outlet

8.5 Cleaning the filter

Rotary cleaning

If the minimum volume flow is undershot, the filter is saturated and must be cleaned. The compressed air supplied causes the cleaning nozzle to rotate inside the filter cartridge. Moving the cleaning tube up and down clears the filter of deposits.



Cleaning the filter

- ✓ The compressed air supply is connected
 - ✓ Product is switched off.
1. Connect the compressed-air supply to the product.
 2. Switch on compressed air supply.
 3. Open compressed air valve at the compressed air connection.
 - ⇒ The compressed air feed causes the rotation of the nozzle bar and the filter elements are thoroughly cleaned by the compressed air streaming out of the nozzles.
 4. Perform the cleaning process for at least 5 minutes.
 5. Switch off the compressed air supply after the cleaning time has elapsed.
 6. Wait 5 minutes until the nozzle bar is no longer rotating, then disconnect the compressed air supply.
 - ⇒ The filters are cleaned.
 7. Empty the disposal unit.
 - ⇒ The product is ready for operation.



8.6 Changing the filter cartridge



CAUTION

Toxic dusts

Short-term impairment of the respiratory organs during inhalation

- ▶ Maintenance, cleaning, repair, and emptying work may only be completed by expert personnel.
- ▶ Only operate the product with the filter elements installed.
- ▶ Regularly check the filter elements for clogging.
- ▶ During operation, do not change the product's location.
- ▶ Always complete all maintenance and upkeep work in a well-ventilated room.
- ▶ Dispose of used filter elements in air-tight-sealed disposal bags in accordance with regional regulations.

WARNING



Risk of crushing when removing and fitting covers

Hand injuries

- ▶ Do not reach between the housing and the cover.
- ▶ Wear gloves.

After an extended time in operation, the fabric of the filter elements slowly clogs up due to the penetration of dust. Depending on the degree of soiling, it may no longer be possible to clear the fabric of deposits using the cleaning device alone. It is no longer possible to reach the minimum volume flow. At this stage, the filter elements must be completely replaced.

- ✓ Remove the power plug
- ✓ Disconnect the compressed air supply
- ✓ Wait at least 5 minutes until the remaining dust in the housing has settled in the collection container.



1. Unscrew the fastening screws on the product cover.
2. Lift the product cover by the handle and set it down inverted on the product.
⇒ The filter cartridge is at the top

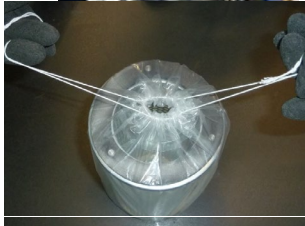
3. Draw the cleaning device down (see fig.)



4. Fold the disposal bag over the filter cartridge.



5. Turn the filter cartridge to release it from the locking and lift it up.



6. Pack the filter cartridge in the disposal bag and close the bag.
7. Clean the holder and sealing surface on the product using a damp disposable cloth.



8. Fit a new filter cartridge with seal at the top over the cleaning device in the locking and lock in place.
9. Secure the filter cartridge in the holder by turning it.
⇒ The filter cartridge is secured on the product cover.
10. Lift and carefully turn the product cover over.
11. Refit the product cover with replaced filter cartridge and fasten it with the fastening screws.
12. Dispose of used filter cartridges in accordance with local regulations.

⇒ The filter cartridge is replaced.

8.7 Emptying the collection container



CAUTION

Toxic dusts

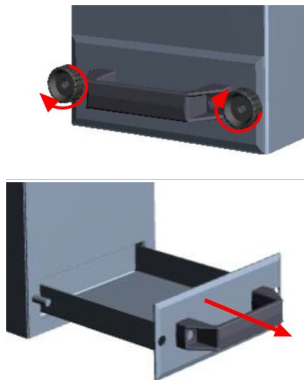
Short-term impairment of the respiratory organs during inhalation.

- ▶ Maintenance, cleaning, repair, and emptying work may only be completed by expert personnel.
- ▶ Regularly check the filter elements for clogging.
- ▶ Always complete all maintenance and upkeep work in a well-ventilated room.
- ▶ Dispose of used filter elements in air-tight-sealed disposal bags in accordance with regional regulations.

- Check the fill level of the collection container (regulations require that the container be emptied if it is more than 2/3 full), see *chapter Emptying the collection container [31]*.

During filter cleaning, loose dust is removed from the filter elements. This dust accumulates in the collection drawer of the disposal unit. The collection drawer fill height must be checked after each operation. If the fill height has reached approx. 2/3 of the collection container, the collection drawer must be emptied. Depending on the bulk density, it may be necessary to empty the collection drawer before it has reached its maximum fill level.

Proceed as follows:



1. Unscrew and release the knurled nuts.
2. Carefully withdraw the collection drawer.
3. Empty the collection drawer and dispose of the collected material according to local regulations.
4. Clean collection drawer interior (industrial vacuum cleaner, damp cloth).
5. Move the collection drawer back into the device.
 - ⇒ The collection drawer is emptied.

8.8 Cleaning the product

Clean the product regularly inside and out:

1. Remove severe soiling and large amounts of deposits with an industrial vacuum cleaner.
2. Do **NOT** spray down with a water jet.

9 Faults and Rectification



TARGET GROUP: Maintenance staff



CAUTION

Toxic dusts

Short-term impairment of the respiratory organs during inhalation.

- ▶ Maintenance, cleaning, repair, and emptying work may only be completed by expert personnel.
- ▶ Regularly check the filter elements for clogging.
- ▶ Always complete all maintenance and upkeep work in a well-ventilated room.
- ▶ Dispose of used filter elements in air-tight-sealed disposal bags in accordance with regional regulations.

9.1 Product

Fault	possible cause	fault clearance
The product has insufficient extraction power	The holes in the filter elements are so severely clogged with dust so that the cleaning device can no longer regenerate them	Replace used filter elements with new ones
Manometer needle stays on or past the red marking despite cleaning the filter.	Filter fabric clogged	Replace the filter
Suction too weak, manometer needle reaches the red marking.	Main filter is dirty Suction hose is blocked	Cleaning the filter Hold the hose vertical and knock out adhesions with the rubber hammer
The system does not start up.	The overload protection of the product has responded.	Notify HSM customer service.
Cleaning of the filter elements insufficient.	The pressure in the compressed air supply network is insufficient.	Check whether the compressed air supply network provides sufficient pressure (min. 4-6 bar).
	Faulty function of the cleaning device.	Notify HSM customer service.

9.2 Fan and drive motor

Fault	possible cause	fault clearance
Smoke development or loud running noises of the fan	Imbalance in the fan.	Immediately switch off.
	Impeller scrapes against the housing.	Have fan checked by HSM customer service.
	Noises from the motor.	
Vibrational speed too high	Fan has been installed in a strained condition.	Have fan checked by HSM customer service.
	The impeller is unbalanced.	
The fan does not run smoothly	The impeller wheel is imbalanced due to deposits.	Immediately switch off. Carefully and thoroughly remove the deposits.
	Imbalance due to material corrosion at the impeller, e.g. caused by the transport of aggressive media.	Notify HSM customer service.
	Imbalance due to deformation of the impeller wheel due to overheating.	
	Fan has been installed in a strained condition.	
	Imbalance due to wear of the impeller wheel.	

10 Decommissioning



TARGET GROUP: Commissioning personnel



CAUTION

Toxic dusts

Short-term impairment of the respiratory organs during inhalation.

- ▶ Maintenance, cleaning, repair, and emptying work may only be completed by expert personnel.
- ▶ Regularly check the filter elements for clogging.
- ▶ Always complete all maintenance and upkeep work in a well-ventilated room.
- ▶ Dispose of used filter elements in air-tight-sealed disposal bags in accordance with regional regulations.

Proceed as follows:

1. Clean filter elements.
 2. Disconnect the product from the mains supply and secure it against re-activation (e.g. with a padlock).
 3. Take out the filter and package according to local regulations.
 4. Clean the product inside and out, *see chapter Cleaning the product [31]*.
 5. Remove the intake and outlet pipes from the product's ports.
 6. Securely fasten all loose hoses, pipes and cables on the product.
 7. Use approved lifting gear to place the product onto a pallet and secure it with transport locks.
- ⇒ Product prepared for relocation, storage or transport.

11 Packing and storage



TARGET GROUP: Transport personnel

11.1 Packaging



DANGER

Risk of falling and tripping

Danger to life from falling objects or loads

- ▶ Do not stand under suspended loads.
- ▶ Secure the assembly area and mark it out (e.g., with barrier tape).
- ▶ Always lift the product vertically during loading and assembly work.
- ▶ Only transport the product with suitable, approved means of lifting and transport.
- ▶ Keep a sufficient distance from the product while it is being installed. Distance at least 1.5 times the height of the product.
- ▶ Wear personal protective equipment.

NOTICE



Material damage due to improper transport

Damage to the housing, lines and product components

- ▶ Do not push or pull the product across the floor if it does not have any rollers.
- ▶ Pay attention to any protruding components when setting down the product.
- ▶ Note the centre of gravity (which is not in the centre) when setting down the product.
- ▶ Make sure that the surface can be driven on, is level and sufficiently load bearing.

1. Decommission the product, refer to the *chapter Decommissioning [34]*.
2. Fasten the product to an adequately dimensioned pallet.
3. Wrap the product in tear-proof packaging foil and pack it to prevent slipping and damage.
4. Clearly mark the packaged product.

Transport The product is transported in accordance with general logistics guidelines.

11.2 Storage

Store the product in a dry room if it is not required for a longer period of time.

Storage temperature	[°C]	+5 ≤ ≥ +25
Humidity	[%]	30 - 70

11.3 Disposal



CAUTION

Toxic dusts

Short-term impairment of the respiratory organs during inhalation.

- ▶ Maintenance, cleaning, repair, and emptying work may only be completed by expert personnel.
- ▶ Regularly check the filter elements for clogging.
- ▶ Always complete all maintenance and upkeep work in a well-ventilated room.
- ▶ Dispose of used filter elements in air-tight-sealed disposal bags in accordance with regional regulations.

NOTICE



Contamination

Due to contamination of the extraction system with dust hazardous to health, the system or its parts cannot be returned to ESTA. Dispose of collected material and filter elements according to the country-specific and regional laws and regulations.

Proceed as follows:

1. Remove the filter elements and package them air-tight.
2. Take the removable parts out of the product.
3. Package the product and the detachable parts as specified by local regulations.
4. Dispose of everything according to local regulations.

12 Technical data



NOTICE

Differing technical data for special versions

- ▶ The potentially differing technical data for special versions of the standard product can be found on the type plate
- ▶ We reserve the right to make technical changes.

FP = filter cartridge

Type	DE 1-8
Power (kW)	1,0
Frequency (Hz)	50/60
Voltage (V)	230/220 (120 for US-version)
Fuse (A)	16A
Protection class	IP 54
max. air flow (m ³ /h)	200
max. neg. pressure (Pa)	19.000
Intake (mm)	50
Dimensions (mm)	390 x 210 x 500
Weight (kg)	15
Sound pressure level (dB[A])	71
No. of filter elements (Pc)	1
Filter type	FP
Filter area (m ²)	0,8
Filter material	M

12.1 Spare parts list



NOTICE

Improper storage

Material damage

- ▶ Store spare parts in the original packaging until use.
- ▶ Observe storage temperature.

Filter cartridge 150x330mm	01000058
Disposal bag for filter cartridge	30007856 (set 10 pieces)

13 EC/EU Declaration of Conformity

pursuant to EC guideline Machinery 2006/42/EC Appendix II, Part 1 A

Name of manufacturer:	ESTA Apparatebau GmbH & Co. KG
Address:	Gotenstr. 2 – 6 89250 Senden / GERMANY

Name of the authorised documentation manager:	ESTA Apparatebau GmbH & Co. KG
Address:	Gotenstr. 2 – 6 89250 Senden / GERMANY

We hereby declare that the

Machine:	Stationary deduster
Type:	Deduster DE 1-8

was developed, designed and manufactured in compliance with the EC directives specified in this declaration.

It also fulfils the protection goals of the following EC/EU directives:

2014/30/EU	EU – Electromagnetic Compatibility Directive
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The protective goals of the 2014/35/EU Low Voltage Directive have been accomplished in accordance with Appendix I, No. 1.5.1 of the 2006/42/EC Machinery Directive.

Applied harmonised standards:

- DIN EN ISO 12100
- DIN EN ISO 13857
- DIN EN 349
- DIN EN 61000-6-3
- DIN EN 61000-6-4
- DIN EN 61000-3-11

Applied national standards and technical specifications:

- VDI 3677

Place and date Senden, 29/08/2019

Signature Philipp Raunitschke

Managing Director

HSM GmbH + Co. KG

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