



User Manual

Translation

Dust Extractor RL 250/300



Keep this manual handy and in good condition for continual reference!

**Note: Year of construction**

The machine number of this machine will be printed on this operating manual.
The final two digits of the machine number show the year of construction of this machine.
z.B. XXX.XX.XXX.11 -> Year of construction 2011



Note: The machine must be inspected immediately on arrival. If the machine was damaged during transport or if any parts are missing, a written record of the problems must be submitted to the forwarding agent and a damage report compiled. Be sure, also to notify your supplier immediately.



For the safety of all personnel, it is necessary to conscientiously study this manual before assembly and operation. This manual must be kept in good condition, as it belongs to the machine! Furthermore, keep the manual at hand and in the vicinity of the machine so that it is accessible to personnel when they are using, maintaining or repairing the machine.

FELDER | A product of the FELDER GROUP

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General

1 General

1.1 Explanations of the symbols

Important technical safety instructions in this manual are marked with symbols. These instructions for work safety must be followed. In

all these particular cases, special attention must be paid in order to avoid accidents, injury to persons or material damage.



Warning! Risk of injury or death!

This symbol marks instructions that must be followed in order to avoid harm to one's health, injuries, permanent impairment or death.



Warning! Danger – electric current!

This symbol warns of potentially dangerous situations related to electric current. Not observing the safety instructions increases the risk of serious injury or death. Required electrical repairs may only be carried out by a trained electrical technician.



Attention! Risk of material damage!

This symbol marks instructions which, if not observed, may lead to material damage, functional failures and/or machine breakdown.



Note:

This symbol marks tips and information which should be observed to ensure efficient and failure-free operation of the machine.

1.2 Information about the manual

This manual describes how to operate the machine properly and safely. Be sure to follow the safety tips and instructions stated here as well as any local accident prevention regulations and general safety regulations. Before beginning any work on the machine, ensure that the manual, in particular the chapter entitled "Safety" and the respective safety guidelines, has been read in its

entirety and fully understood. This manual is an integral part of the machine and must therefore be kept in the direct vicinity of the machine and be accessible at all times. If the machine is sold, rented, lent or otherwise transferred to another party, the manual must accompany the machine.



Attention! This operating manual contains general guidelines on how to transport, set up, operate and maintain the filter system.

The information contained in this manual is based on practical experience acquired over many years. It is recommended to comply exactly with the technical specifications to guarantee the best possible results and a safe operation of the machine. Read this operating manual carefully and keep it in a safe place. If you have any

questions or are unclear about the instructions, please do not hesitate to contact us. Please have the machine serial number at hand when you contact us.

- This operating manual is designed for english spoken technicians.
- If the instructions in this operating manual are not observed, the guarantee claim is null and void.
- The filter system may only be operated, maintained and put into operation by personnel who have read and understood the operating manual and are familiar with the applicable working safety and accident prevention regulations.
- Keep this operating manual close at hand and ensure it is easily accessible to every operator.
- In addition to the operating manual, comply with the local applicable accident prevention rules and regulations.

Attention! This system was manufactured according to state-of-the-art technology and the safety standards in force. This does not, however, exclude the risk of bodily injury, system damage or other material damages when used.



The system may only be used if it is technically defect-free and if the instructions in the technical operating manual are followed and applied to the intended range of operations. The system may only be operated by responsible personnel aware of the dangers and risks of operating the system. Malfunctions, in particular those, which affect the occupational safety must be eliminated immediately.

General

1.3 Liability and warranty

The contents and instructions in this manual were compiled in consideration of current regulations and state-of-the-art technology as well as based on our know-how and experience acquired over many years. This manual must be read carefully before commencing any work on or with this machine. The manufacturer shall not be liable for damage and or faults resulting from the disregard of instructions in the manual. The texts and images do not necessarily represent the delivery contents.

The images and graphics are not depicted on a 1:1 scale. The actual delivery contents are dependent on custom-build specifications, add-on options or recent technical modifications and may therefore deviate from the descriptions, instructions and images contained in the manual. Should any questions arise, please contact the manufacturer. We reserve the right to make technical modifications to the product in order to further improve user-friendliness and develop its functionality.

1.4 Copyright

This manual should be handled confidentially. It is designated solely for those persons who work on or with the machine. All descriptions, texts, drawings, photos and other depictions are protected by copyright and other commercial laws. Illegal use of the materials is punishable by law.

This manual – in its entirety or parts thereof – may not be transferred to third parties or copied in any way or

form, and its contents may not be used or otherwise communicated without the express written consent of the manufacturer. Infringement of these rights may lead to a demand for compensation or other applicable claims. We reserve all rights in exercising commercial protection laws.

1.5 Warranty notice

The guarantee period is in accordance with national guidelines. Details may be found on our website, www.felder-group.com

1.6 Spare parts



Attention! Non genuine, counterfeit or faulty spare parts may result in damage, cause malfunction or complete breakdown of the machine.

If unauthorised spare parts are installed in the machine, all warranty, service, compensation and liability claims against the manufacturer and their contractors, dealers and representatives shall be rejected.

Use only genuine spare parts supplied by the manufacturer.



Note: A list of authorised genuine spare parts can be found at the end of this operating manual.

1.7 Disposal

If no agreement has been made with the supplier to take back the packaging materials, help to protect the environment by reusing the materials or separating them according to type and size for recycling.

- Scrap waste metal
- Recycle all plastic elements
- Sort all other components and dispose of appropriately.



Attention! Used electrical materials, electronic components, lubricants and other auxiliary substances must be treated as hazardous waste and may only be disposed of by specialised, licensed firms.

1.8 Important information

- When vacuuming oak or beech dust, the purified air must be returned to the room from which it was extracted. Positioning the dust extractor beside the woodworking machine will ensure this.
- When vacuuming oak or beech dust, the exhaust air volume returned to the room by the dust extractor must not exceed 50% of the air delivered.
For natural ventilation, assume an intake volume of 1x the room volume^e (m³/h, air exchange index LW=1/h).
- Dust explosion-proof dust extractors of type 1 are from a safety point of view, engineered to collect combustible dust particles (moist or dry) classified as dust explosion classes St 1 and St 2 (Kst-value 300 bar x m x s⁻¹) in zone 11 (see Elex V §2(4)).
They may be used to vacuum individual dust sources.
- Dust collection is prohibited on woodworking machines that may produce ignition sparks or smouldering embers (e.g. multi-blade saws).

The Felder clean air devices RL 250/RL 300

- are designed to extract combustible dusts categorised as ST1 and ST 2 of the dust explosion classes.
- and are not designed to extract objects which could be active ignition sources.
- are not designed to extract potentially explosive or similar materials according to §1 from the law on explosives, nor dusts categorised as St 3 under the dust explosive classes, nor combustible liquids and mixtures of combustible dusts and combustible liquids.

The required airflow capacity and collection quality is guaranteed if the dust extractor has been connected properly to either one or several woodworking machines and is operated according to the regulations.

If extracting dust from a «dust certified» machine with a dust source, it is ensured that the TRK working place concentration value remains 2 mg/m³.

We guarantee that the dust extractor was manufactured with extreme attention to qualitative equipment and manufacturing standards and that the supplied parts were controlled thoroughly.

As can be seen from the enclosed docket, our employees vouch with their names for meticulous workmanship. We hope you will enjoy your new dust extractor and the simplicity of its operation.

Safety

2 Safety

At the time of its development and production, the machine was built in accordance with prevailing technological regulations and therefore conforms to industry safety standards.

However, hazards may arise should the machine be operated by untrained personnel, used improperly or employed for purposes other than those it was designed for. The chapter entitled "Safety" offers an overview of all the important safety considerations necessary to optimise

safety and ensure the safe and trouble-free operation of the machine.

To further minimise risks, the other chapters of this manual contain specific safety instructions, all marked with symbols. Besides the various instructions, there are a number of pictograms, signs and labels affixed to the machine that must also be heeded. These must be kept visible and legible and may not be removed.

2.1 Intended use

The dust extraction equipment should only be used to remove sawdust and woodshavings, as it is not suitable for other materials. Suitable wooden materials are: all solid woods, ply wood, medium density fibre boards (MDF),

highly compressed fibre boards (HDF) and chipboards. Operational safety is guaranteed only when the machine is used for the intended purposes.



Attention! Any use outside of the machine's intended purpose shall be considered improper and is therefore not permitted. All claims regarding damage resulting from improper use that are made against the manufacturer and its authorised representatives shall be rejected. The operator shall be solely liable for any damage that results from improper use of the machine.

The term "proper use" also refers to correctly observing the operating conditions as well as the specifications and instructions in this manual.

The machine may only be operated with original manufacturer parts and accessories.

2.2 Manual contents

All those appointed to work on or with the machine must have fully read and understood the manual before commencing any work. This requirement must be met even if the appointed person is familiar with the operation of such a machine or a similar one, or has been trained by the manufacturer.

Knowledge about the contents of this manual is a prerequisite for protecting personnel from hazards and avoiding mistakes so that the machine may be operated in a safe and trouble-free manner. It is recommended that the operator requests proof from the personnel that the contents of the manual have been read and understood.

2.3 Making changes and modifications to the machine

In order to minimise risks and to ensure optimal performance, it is strictly prohibited to alter, retrofit or modify the machine in any way without the express consent of the manufacturer.

All the pictograms, signs and labels affixed to the machine must be kept visible, readable and may not be removed. Pictograms, signs and labels that have become damaged or unreadable must be replaced promptly.

2.4 Responsibilities of the owner operator

This manual must be kept in the immediate vicinity of the machine and be accessible at all times to all persons working on or with the machine. The machine may only be operated if it is in proper working order and in safe condition. All instructions in this manual must be strictly followed without reservation.

Besides the safety advices and instructions stated in this manual, it is necessary to consider and observe local accident prevention regulations, general safety regulations

as well as current environmental stipulations that apply to the operational range of the machine.

The operator and designated personnel are responsible for the trouble-free operation of the machine as well as for clearly establishing who is in charge of installing, servicing, maintaining and cleaning the machine. Machines, tools and accessories must be kept out of the reach of children.

2.5 What is required of personnel

Only authorized and trained personnel may work on and with the machine. Personnel must be briefed about all functions and potential dangers of the machine.

„Specialist staff“ is a term that refers to those who – due to their professional training, know-how, experience, and knowledge of relevant regulations – are in a position to assess delegated tasks and recognise potential risks. If the personnel lack the necessary knowledge for working on or with the machine, they must first be trained. Responsibility for working with the machine (installation, service, maintenance, overhaul) must be clearly defined and strictly observed. Only those persons who can be expected to carry out their work reliably may be given

permission to work on or with the machine. Personnel must refrain from working in ways that could harm others, the environment or the machine itself. It is absolutely forbidden for anyone who is under the influence of drugs, alcohol or reaction-impairing medication to work on or with the machine. When appointing personnel to work on the machine, it is necessary to observe all local regulations regarding age and professional status. The user is also responsible for ensuring that unauthorised persons remain at a safe distance from the machine. Personnel are obliged to immediately report to the operator any irregularities with the machine that might compromise safety.

2.6 Work safety

Following the safety advice and instructions given in this manual can prevent bodily injury and material damage while working on and with the machine. Failure to observe these instructions can lead to bodily injury and damage to or destruction of the machine.

Disregard of the safety advice and instructions given in

this manual as well as the accident prevention regulations and general safety regulations applicable to the operative range of the machine shall release the manufacturer and their authorised representatives from any liability and from all compensation claims.

Safety

2.7 Personal safety equipment

When working on or with the machine, the following must always be worn by personnel:



Protective clothes

Sturdy, tight-fitting clothing (tear-resistant, no wide sleeves).



Protective footwear

That protect the feet from heavy falling objects and prevent sliding on slippery floors.



Hearing protection

To protect against loss of hearing.

2.8 Other risks



Warning! Risk of injury or death!

- Hearing damage as a result of high noise levels.
- Health impairments due to the inhalation of airborne particles, especially when working with beech and oak wood.

2.9 Machine hazards

The machine has undergone a hazard analysis. The design and construction of the machine are based on the results of this analysis and correspond to state-of-the-art technology.
The machine is considered operationally safe when used

properly.
Nevertheless, there are some remaining risks that must be considered.
The machine runs with high electrical voltage.



Warning! Danger – electric current!

Electrical energy can cause serious bodily injury. Damaged insulation materials or defective individual components can cause a life-threatening electrical shock.

- Before carrying out any maintenance, cleaning and repair work, switch off the machine and secure it against being accidentally switched on again.
- When carrying out any work on the electrical equipment, ensure that the voltage supply is completely isolated.
- Do not remove any safety devices or alter them to put them out of commission.

2.10 Fire hazards



Warning! Fire hazard!
Incorrect installation and usage could result in a fire.

- The dust extraction hoses must be electrically conductive and grounded to prevent electrostatic loading. Earth vacuum hose/pipes against any static electricity that may accumulate.
- The vacuum hoses/pipes must be flameproof.
- All electrical connections must be installed correctly by qualified persons.
- Electricity supply only in authorized region of +/- 10% of mains voltage.
- Only vacuum sawdust and woodshavings.
- Do not vacuum spark-generating objects (e.g. nails, screws etc.).
- Do not vacuum any inflammable waste (e.g. cigarette ends, flying sparks, etc.)

2.11 Noise emission

The specified values are emission values and therefore do not represent safe workplace values. Even though a relationship exists between particle emission and noise emission levels, an inference cannot be made about whether additional safety measures need to be implemented. Factors which can significantly affect the emission level that presently exists at the workplace include duration of the effect, characteristics of the workspace, and other ambient influences. The permissible workplace values may also differ from country to country. Nevertheless, this information is provided to help the operator better assess hazards and risks.

Depending on the location of the machine and other specific conditions, the actual noise emission values may deviate significantly from the specified values.

To keep the noise emission as low as possible, always use sharpened tools and operate the machine at the correct speed.

It is recommended to use protective ear equipment, this is however not a substitute for properly sharpened tools or the correct operating speed.

Safety

2.12 Safety cover

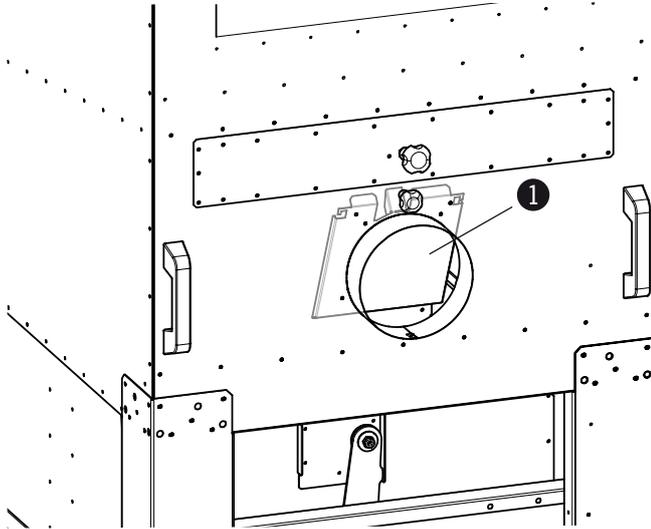


Fig. 1: Safety cover

The safety cover simultaneously fulfills 2 functions:

1. Closes the vacuum connector if dust should explode.
2. Forwards the vacuumings towards the dust collecting sacks.

Ensure that this cover is always easy to move.

- 1 Safety cover

2.13 Procedure in case of fire

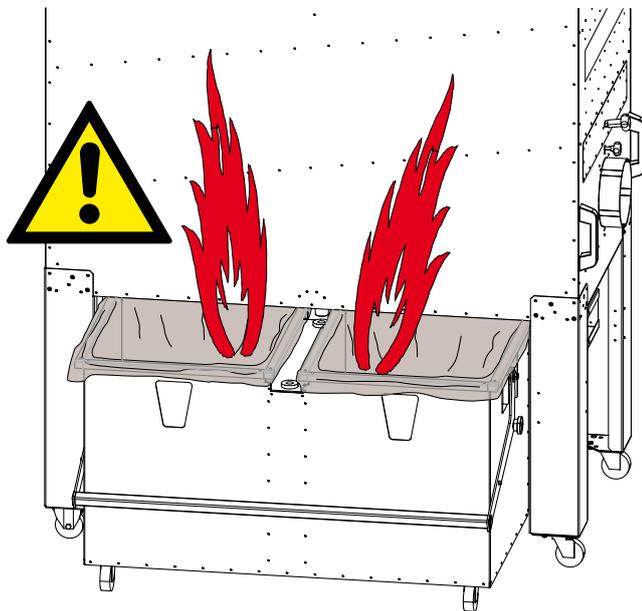


Fig. 2: Procedure in case of fire

1. Pull out the mains plug.
2. Stop the pneumatic supply.
3. Call the fire-brigade.



Attention! When moving the chip container, flash fire can occur!

3 Declaration of Conformity



EG-Declaration of Conformity
according to Machine Guidelines 2006/42/EG

We hereby declare that the machine indicated below, which corresponds to the design and construction of the model we placed on the market, conforms with the safety and health requirements as stated by the EC.

Manufacturer:	Felder KG KR-FELDER-STR. 1 A-6060 Hall in Tirol
Product designation:	Dust Extractor
Make:	FELDER
Model designation:	RL 250 / RL 300
The following EC guidelines were applied:	2006/42/EG 2006/95/EG 2004/108/EG
The following national norms have been applied:	VDI 3677 GS-HO-14

This EC Declaration of Conformity is valid only if the CE label has been affixed to the machine.

Modifying or altering the machine without the express written agreement of the manufacturer shall render the warranty null and void.

The signatory of this statement is the appointed agent for the compilation of the technical information

Hall in Tirol, 1.1.2010

Johann Felder, Managing Director FELDER KG
KR-FELDER-STR. 1 • A-6060 Hall in Tirol

Delivery and assembly

4 Delivery and assembly

The dust extractor RL 250/RL 300 models are usually delivered in a completely assembled state.

The dust extractor is shipped in a crate made of metal sheets, and it is screwed down to the crate. Lift and if necessary, transport the crate with appropriate hoisting devices such as a stacker truck, crane or a lift truck.

Use the steering rollers to roll the dust extractor to its destined location. There are two steering rollers with brake blocks on the motor side to fix the position of the device on a level floor surface.

Only set up and operate the duct extractor on an even surface.

Insert a chip sack.

The container is then hermetically connected to the dust extractor with a sealing clamp.

The dust extractor is assembled and ready to plug in. Assemble the electrical connection as described in item 10.

To clean the filter, connect the dust extractor to the compressed air supply with a 1/2 inch pneumatic hose.



Attention! The compressed air is free of oil and water!
Max. limit pressure: 7 bar
Operating pressure: 5 bar

Connect the duct extractor to the water-supply line or to an appropriate water reservoir for the fire water supply.



Attention! The device may only be set up in a frost-free area!

Storage: keep dry and protect against unauthorised use!

5 Intended use

The compact dust extractor was built according to the inspection standards of the GS-HO-07 certificate (from October 2006) and was inspected according to these inspection standards by the German wood institute for statutory accident insurance and prevention (Holz-Berufsgenossenschaft), Vollmoellerstrasse 11, 70563

The dust inspection applies to beech wood dust, with the following specifications:

- Approx. median value $100 \mu\text{m}$, $20 \mu\text{m} \leq d_{90} \leq 300 \mu\text{m}$
- Wood moisture $8 \% \pm 2 \%$
- The metered beech wood dust concentration amounts to 5 g/m^3 of air.

Stuttgart, Germany.

The dust extractor is thus appropriate to extract and to separate dry (wood moisture $< 30\%$) wood dust and shavings, whereby the residual dust contents level of 3 "H3", 0.1 mg/m^3 will be adhered to.

The dust extractor is tested for explosion pressure proofness with an explosion pressure of 200 mbar (0.2 bar) and therefore, can be set up in a working environment if the necessary requirements are fulfilled.

Technical specifications

6 Technical specifications

Dimensions RL 250

Length	3015 mm
Width	970 mm
Height	2280 mm
Weight	700 kg
Motor power	7,5 PS (5,5 kW)
Motor voltage	400 V
Motor frequency	50 Hz
Power consumption	11,2 A
Minimum fuse amperage	32 A
Suction diameter	250 mm
Max. air flow rate	5000 m ³ /h
Nominal air flow rate	3530 m ³ /h
Interface vacuum	2100 Pa (for nominal air flow rate)
Dust collecting volume	500 l (3 bags each with 166 l)
Sealing grade	IP54
Filter (surface) area	40 m ²
Dust loading	< 0,1 mg/m ³
Air-to-cloth ratio	88 m ³ /m ² /h (for nominal air flow rate)
Max. sound pressure	81 dB (A)/1 m distance/ 1,6 m height according to MRL
Ambient temperature	5–40° C
Compressed air consumption	12 l per filter cartridge and pulse (Regular interval = 90 sec. = 40 Pulse/h = 2400 Litre/h)

Dimensions RL 300

Length	3015 mm
Width	970 mm
Height	2280 mm
Weight	720 kg
Motor power	12,5 PS (9,2 kW)
Motor voltage	400 V
Motor frequency	50 Hz
Power consumption	17 A
Minimum fuse amperage	32 A
Suction diameter	300 mm
Max. air flow rate	6000 m ³ /h
Nominal air flow rate	5090 m ³ /h
Interface vacuum	2100 Pa (for nominal air flow rate)
Dust collecting volume	500 l (3 bags each with 166 l)
Sealing grade	IP54
Filter (surface) area	40 m ²
Dust loading	< 0,1 mg/m ³
Air-to-cloth ratio	127 m ³ /m ² /h (for nominal air flow rate)
Max. sound pressure	82 dB (A)/1 m distance/ 1,6 m height according to MRL
Ambient temperature	5–40° C
Compressed air consumption	12 l per filter cartridge and pulse (Regular interval = 90 sec. = 40 Pulse/h = 2400 Litre/h)

7 Filter contents level monitoring

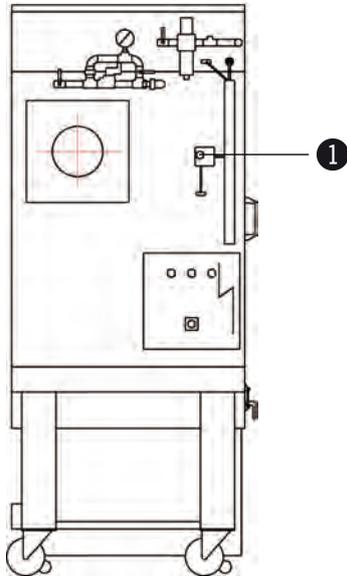


Fig. 1: Monitoring the filter system

If the filter resistance increases to a value which is not allowed (filter clogging up), a warning lamp in the equipment cabinet switches itself on. The filter component cleaning process starts simultaneously. Once the device is switched off, a manual cleaning process should start (switch in the control cabinet). If, the warning lamp is still on once the dust extractor is started anew, clean the filter elements by hand using an appropriate industrial vacuum.

① Differential pressure transducer



Warning! Danger of dust inhalation:

Always wear a dust respirator when cleaning the filter by hand (filter mask with a particle collector, Class 2). Prevent people uninvolved with the process from being exposed to dust pollution. Avoid ignition sources, open fire and electrostatic charging.



Dust and shavings must be disposed of according to the regulations of the country where the machine is installed.

8 Explosion pressure proofness

The RL 250/RL 300 clean air devices were tested for explosion pressure proofness by the FSA GmbH test centre.



Warning! The explosion pressure proofness is 210 mbar.

The maximum explosion excess pressure, up to which the dust extractor still withstood any form of damage, was used as a proof pressure value, as detailed in the VDI 2263 Guidelines, Part 3.

Afterwards, to test the explosion pressure proofness, a minimum of 1.1 x the proof pressure has to be attained safely. Deformations are tolerated.

General safety information

9 General safety information

- The dust extractor may only be used by personnel who are trained to handle the machine (instructions and the operating manual).
- The machine may only be used in a dry and frost-free environment and may not be used outside.
- Ensure that the current supply wire (power supply cord) is not damaged by external influence (squashing, driven over, tugged, etc.).
- Check the power supply lead regularly for signs of damage or ageing.
- The device may only be used if the power supply cord is free of defects.
- If replacing the power supply cord, only use HO7RN 5 x 4 mm² rubber-insulated cable.
- If replacing the power plug, use a CEE plug SH/32 Amp. according to the VDE 0165 section 7.1.4 safety standards. Adaptors are not authorised.
- Only qualified personnel may replace the power supply cord and the power plug.
- If the power supply cord and the power plug need to be changed, comply with the replacement equipment named by the manufacturer.
- The power plug may only be plugged into the power source once the dust extractor has been set up at its site of operation. Connection to CEE plug (i.e. wall socket) with a delayed 25A fuse.
- Always unplug the dust extractor if it is not in use, or if moving it from one place to another and before cleaning or maintaining it or removing and replacing removeable parts.
- Only use original spare parts when operating the machine.
- If the device is to be stored (in a dry room) for a long period of time, insert new chip sacks, switch the machine off, roll up the power cord and ensure that unauthorised personnel does not have access to the machine.
- The filtered air from the dust extractor may only be recycled into the room it was extracted from.
- The machine is only designed to extract dust from woodworking machines which do not produce sparks (Note: according to the BGI 739 (wood institute for statutory accident insurance and prevention) such machines are breakers, multi-blade circular saws and wide-belt sanding machines used to manufacture chipboards, doors, fillets and parquet flooring.
- Extracting other types of dust than wood dust is only authorised with the express agreement of the machine manufacturer.
- The machine may only be operated in non-explosive areas. It is not authorised to use the machine in areas where there is the danger of a gas explosion.
- It is not authorised to collect mixtures of combustible dusts and liquids.
- The machine is not designed to extract liquids.
- Only sheet metal pipes and inflammable flexible hoses with metal filaments, for electrostatical earthing, may be used to connect to the machine. Ensure that the electrostatical earthing is continuous.
- To avoid unauthorised heating, the direction of rotation of the ventilating fan must be monitored.
- The machine is designed to extract combustible dusts of Class 1 and 2 of the dust explosion classes (Kst-value max. 300 bar m s⁻¹), (see ElexV §3(4)).
- This device is not, from a safety point of view, designed to absorb or extract explosive or similar materials according to §1 from the law on explosives, nor dusts categorised as a St 3 dust explosive class, nor combustible liquids and mixtures of combustible dusts and combustible liquids.
- The dust collecting container is always to be emptied if full or after use. Only use original spare parts.
- If several machines are connected, the sum of the opened cross-sections may not exceed the cross-section of the dust extractor.

10 Vacuum hose port/casing

If connecting a vacuum hose, only use electrical conductive and flame-resistant hoses. Ensure that the electrical connection between the hose and the pipe connector is free of defects.

If a so-called „coil hose“ is used, the metal coil must be stripped and the hose pressed onto the wall of the connector with a pipe wall clamp or a ring-tightener. Plastic hoses must be flame-resistant.

Only use sheet metal pipes to connect to a pipe (pipework). Use optimised flow lateral pipes and elbows (no

T-branches and/or 90° elbow fittings). The pipe fittings have to be connected together hermetically and must conduct electricity.

Use a sluice gate if the sum of the connected cross-sections is larger than the cross-section of the extraction opening of the dust extractor.

We recommend the use of a qualified professional to design and lay the pipework.

11 Electrical connection

Check if the power-supply indicated on the factory name plate corresponds with the mains before connecting the device to the mains supply available.

This device may only be operated if the mains has an earthed neutral conductor!



Attention! Note the direction of rotation!

Check that the direction of rotation is correct before starting the machine. The direction of rotation can be determined by switching the motor on and off, by observing the cooling fan on the motor and comparing it to the direction of rotation arrow.

If the direction of rotation is incorrect, change the polarity. Change the polarity with the phase reverser built into the plug. The direction of rotation of the ventilating fan is changed by turning the pole pin built into the insulated part of the plug with a screwdriver.



Attention! If the direction of rotation of the drive motor is incorrect, for example as a result of the incorrect polarity, switch the machine off immediately, as the resulting suction output is not sufficient, and it prevents the machine from heating up (prohibited).

Connect the converter coils in the connecting lead of the appropriate woodworking machine as depicted in the wiring diagram „Converter inputs“ in the annexed Control operating manual.

This task may only be carried out by qualified professionals.

Fire prevention and extinguisher/Putting the dust extractor into operation/Dedusting the filter

12 Fire prevention and extinguisher



Attention! Risk of flooding / Risk of material damage!

Check the water pressure on the pressure gauge every day!

Disconnect the machine from the mains and from the compressed air supply should you need to trigger the extinguishing function manually.

The fire extinguisher must be connected to the main water supply 1/2 inch pipe with a pressure of at least 2 bar. If the temperature measures more than > 70°C at the measuring point (temperature sensor in the clean gas

area), an extinguishing process is triggered within the set time delay (max. of 30 seconds). The extinguishing valve opening time has been pre-set to 70 seconds.



Note: If due to technical difficulties (such as for example a power failure), the solenoid valve does not open, it can be extinguished by opening the spherical valve via the bypass line. The spherical valve is sealed upon delivery so it is not activated unintentionally.

Min. extinguishing water supply

12 litres/Min.

Min. extinguishing excess water pressure

1–2 Bar

13 Putting the dust extractor into operation

- The dust extractor should be set up as close to the woodworking machine as possible.
- Set up the dust extractor on an even surface. The steering wheels lock the device in position.
- Attach the vacuum hose or the pipe to the dirty gas pipe nozzle.
- Fabricate a compressed air connection, to clean the filter, with a compressed air hose with a cross-section measuring 1/2 inch. Set the operating pressure from 5 to 6 bar with the compressed air reducing valve (the control knob on the compressed air maintenance unit). The compressed air must be dry and free of oil.
- Connect the water connection with a fixed pipe or a steel hose line and flood.
- The dust extractor is switched on and off fully automatically (via both the converter coil and the control), when the woodworking machine is switched on or off. The control operating switch must be positioned on "Auto" (see annexed Control operating manual). If the operating switch is on the "Manual" position, the device is switched on immediately without the converter coil signal.

14 Dedusting the filter

The filter is cleaned fully automatically via the control depending on the running time of the ventilating fan, and/or how full the filter is. The cleaning process in the operating pauses also takes place fully automatically. The pause periods between the cleaning times are pre-determined and may not be adjusted by the operator. The cleaning process can also be triggered manually if required.

If the clear air dust extractors are mainly providing suction for machines, which produce a lot of dust (stroke sanders or wide-belt sanders), we would recommend that after 30 minutes of continuous use that the extraction system is turned off for regeneration purposes. The cleaning process then begins automatically and only takes 2 minutes. The clean air dust extraction unit is then fully operational again.

15 Maintenance

Interval	Task to accomplish
Daily	Collecting container level control
	Visual check to see if there are any apparent defects
	Water pressure gauge extinguisher
	Compressed air pressure gauge for dedusting
Monthly*	Leak control
	Damage and function check
Annually**	Main inspection and air flow rate control
	Compressed air container visual check (for corrosion)

* = To be carried out by a skilled professional ** = To be carried out by a qualified professional



Attention! Regularly document maintenance and servicing work!
Ignition sources and electrostatic charges are to be avoided when servicing and maintaining the device. Only use original spare parts. Do not alter the device in any way. Alterations would result in losing the type approval!

16 Removing the collected materials

Dust and woodshavings are collected into the collecting containers during the vacuum process. The level indication is controlled on the level tube. Only a total volume of 500 litres of dust may be stored. If during the level control, a collecting container is shown to be full (corresponds to 166 l), switch off the device. By pressing the cleaning key, a jet of compressed air is triggered, which removes dust and woodshavings from the filter. This is to ensure that dust and woodshavings will not fall out of the device once the collecting containers have been removed. Please note that there are three cleaning cycles! Wait for the third jet of compressed air! Release the collecting containers onto the floor by opening the locking clamp and roll them forwards.

The part of the plastic sack folded over the edge of the collecting container is removed carefully, twisted and closed. The sack is removed carefully and disposed of according to the local regulations.

When inserting a new sack, ensure that the bag lies smoothly against the walls and that there are as few creases as possible on the upper edge of the collecting container!



Warning! Danger of dust inhalation:

Always use a dust respirator (filter mask with a particle collector, Class 2) when carrying out this task. Prevent uninvolved people from being exposed to the dust pollution.

Avoid ignition sources and electrostatic charging.

Only use original sacks.

Operating the machine without the filling sacks is forbidden as dust and woodshavings can clog the vacuum differential duct!

Dust and shavings must be disposed of according to the regulations of the country where the machine is installed.



Cleaning the filter/Hazard prevention/Remaining risks

17 Cleaning the filter

Following long operating times, the inserted filter cartridges can clog up and thus reduce the airflow capacity.

Disconnect the dust extractor from the mains to clean the filter cartridges. It is possible to access the filter cartridges via the revision door on the side of the device. The cartridges are mounted with a screw thread.

Tap or vacuum the cartridges with an appropriate (B1 at least) industrial vacuum. Insert the collecting containers during the cleaning process to collect the falling dust.

Control the individual cartridges for damage.



Only insert original and intact filter cartridges!
Only carry out this task with a dust respirator (filter mask with particle filter, Class 2)!

18 Hazard prevention/Remaining risks

18.1 Mechanical hazard prevention measures

All moving parts (wheel, motor) which pose a potential danger are cased in fixed and securely fastened protection devices, which can only be removed with tools.



Attention: Risk! Injuries are possible if a fixed and securely fastened casing is removed with a tool when the machine is running.

18.2 Electrical hazard prevention measures

All live machine parts are cased in fixed and securely fastened protection devices, which can only be removed with tools. The device corresponds to the protection class I according to EN 60335 regulations.



Attention: Risk! Injuries are possible if a fixed and securely fastened casing is removed with a tool when the machine is running.

18.3 Dust hazard prevention

Using non-reusable and sealable chip sacks enables a relatively dust-free disposal. To reduce the risk of danger, comply with the information about waste disposal in the

operating manual (i.e. wearing P2 dust respirators).



Attention: Risk: it is possible to breathe in dust when closing and changing the dust collecting sack (chip sack). If the waste disposal information in the operating manual is not heeded (i.e. wearing P2 dust respirators), dust may be inhaled.

18.4 Fire and explosion hazards prevention

If sparks are vacuumed, smouldering nests may develop in the dust deposits and the collecting container. In particular the extraction of wood dust can develop into, during the vacuuming process or once the device is switched off, a combustible dust and air mixture. This mixture can develop into a very serious fire. To fight this fire hazard, the dust extractor has been equipped with an automatic spark extinguisher.

A temperature sensor detects the fire and the sensor reacts to a temperature rise of over 70°C within a max.

of 30 seconds and closes the solenoid valve of the extinguisher. Simultaneously, the extraction fan is switched off and the compressed air supply to clean the filter is shut off.

A hold-back gate at the entrance of the crude gas in the dust extractor, prevents the fire spreading out into the suction pipe and further into the machine.

The dust extractor body is pressure explosion proof up to 200 mbar.



Attention: Risk! The integrated extinguisher must be connected by the operator or by a specialist company contracted to do so. Note that a min. pressure of 0.5 bar must be present in the pipe and that there is sufficient water available to extinguish a fire.

Removing components (i.e. the hold-back gate) or changing the Logo module parameters will have serious consequences when attempting to fight a fire.

19 Error recognition

Sudden drop in the vacuum power:

1. Vacuum hose or pipe is clogged up: detach the vacuum hose (pipe) from the machine and tap the hose/pipe lightly to remove the dust and woodshavings (use a dust respirator).
2. Containers are overflowing: switch the machine off, empty the containers, insert the containers again, and clean the cartridges if necessary (use a dust mask), switch on the manual postcleaning process.
3. None or reduced pulse-jet cleaning: check the operating pressure.

Dust discharge

Change the damaged filter cartridges. Only use original cartridges!

Electrical fault

See appended wiring diagram.

20 Spare parts list RL 250

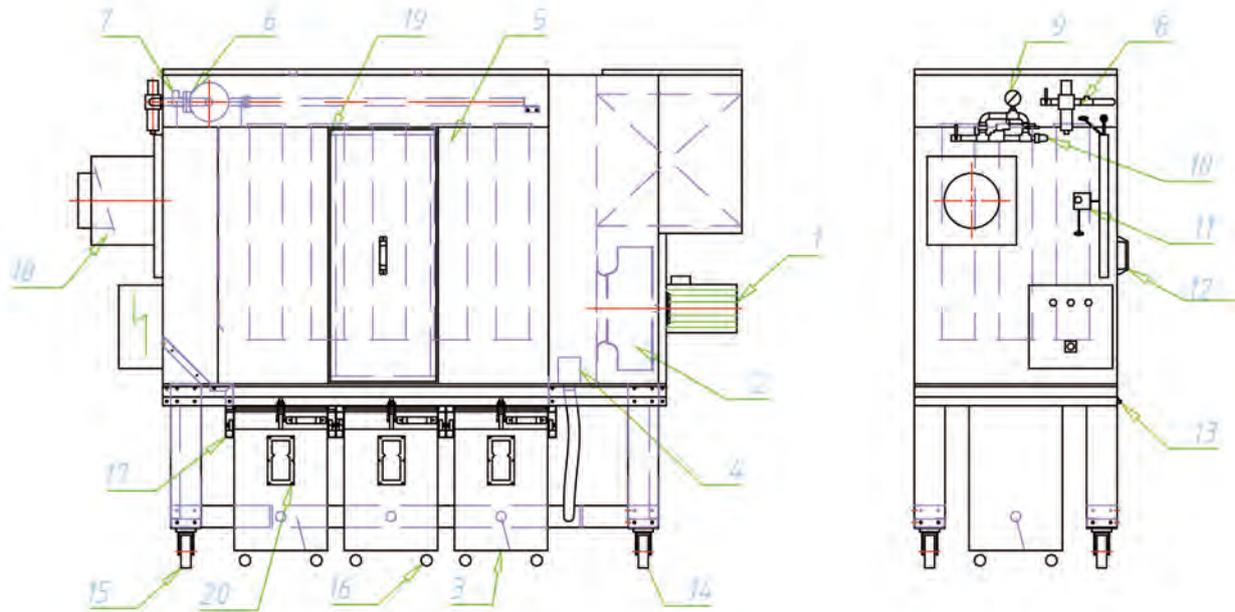


Fig. 4: Spare parts RL 250

Pos.	Art. Nr.	Pcs.	Description
01	56212050550	1	Three-phase a.c. motor 5,5 KW 2-pin B5 BG 132 S, Type: AY 132 SA- S
02	6106575	1	Wheel HLV 300/53 RLF RD
02-01	573161038	1	Taper lock bushing 1610/38 (no illustration)
03		3	Filling (chip) sack 700 x 1000 mm
04	51062249	1	Filter sleeve DN 160 x 150, Needle felt PES-1067201
05		15	Filter cartridges DN 160 x 985 2,7 m ² Quality: NA 909
06	5603001	1	Compressed air tank 6" 3 Valves VEP508-230/50
07	56021029	3	Solenoid valve VEP 508 1"
07-01	5602506	3	Solenoid for solenoid valve (no illustration)
08	5602913	1	Filter pressure regulator NL G3/4
09	5603012	1	Pressure gauge 1/4
10	560212212	1	Air-operated solenoid valve 1/2 inch
11	5610307	1	Dungs differential pressure switch KS 3000 C2
12	5790410	4	Plastic handle 1095-19
13	5790512	3	Galvanised adjustable locking clamp
14	5760151	2	Guide pulley Dm 150 mm Front stop
15	5760150	2	Guide pulley Dm 150
16	5760050	12	Apparatus guide pulley Dm 50 mm
17	5760001	6	Transport rollers FR 2201 Dm. 48 mm 25 kg
18	51301017	1	Control cabinet ECO-5000
19	5790208	6	Tilttable 5-star knob M8
20	5790514	2	Level tube

Spare parts list RL 300

21 Spare parts list RL 300

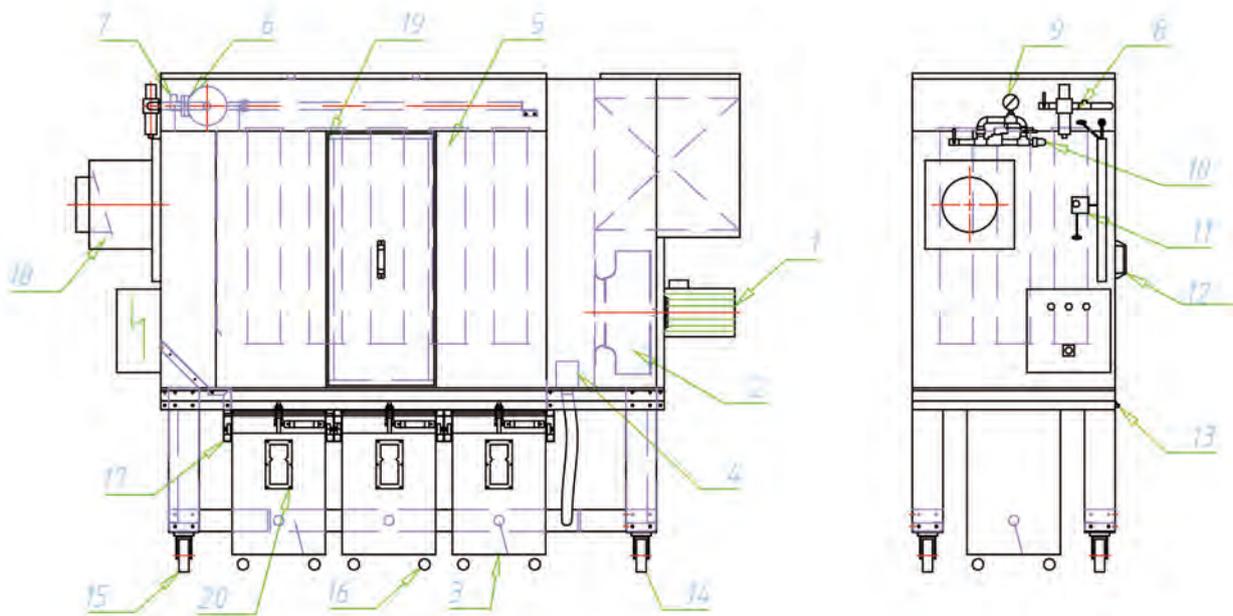
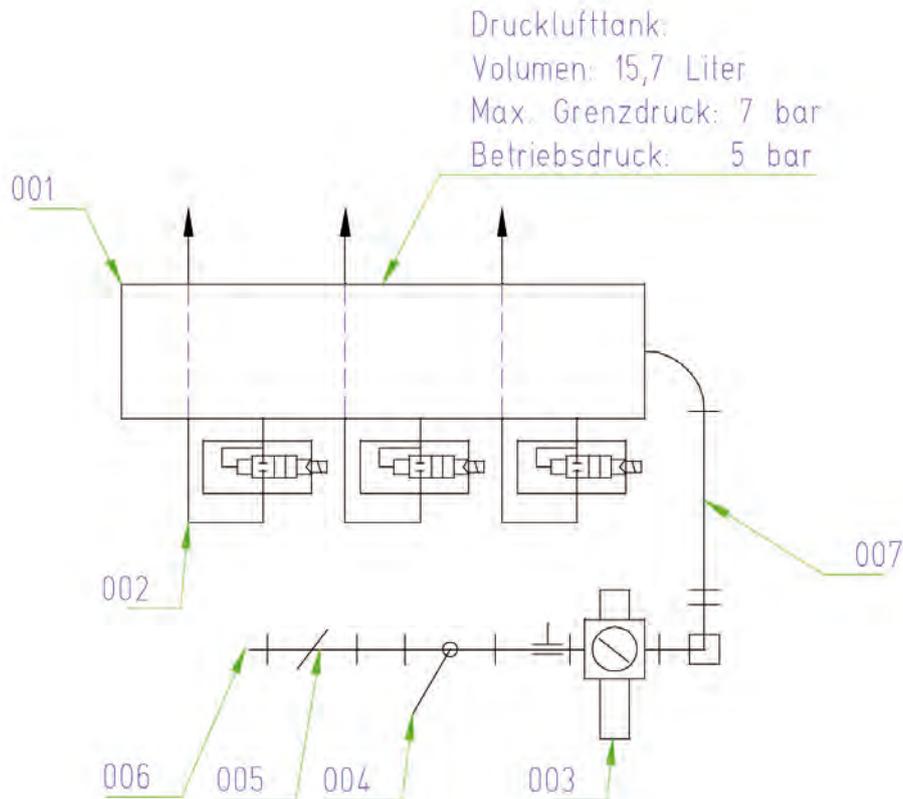


Fig. 5: Spare parts RL 300

Pos.	Art. Nr.	Pcs.	Description
01	56212050920	1	Three-phase alternating current motor 9,2 KW 2-pin B5 BG 132 S
02	6108544	1	Wheel HLV 350/53 RLF RD
02-01	573251738	1	Taper lock bushing 2717/38 (no illustration)
03	51050810	3	Filling (chip) sack 790 x 1000 mm
04	51062249	1	Filter sleeve DN 160 x 150, Needle felt PES-1067201
05	510639092	15	Filter cartridges DN 160 x 985 2,7 m ² Quality: NA 909
06	5603001	1	Compressed air tank 6" 3 Valves VEP508-230/50
07	56021029	3	Solenoid valve VEP 508 1"
07-01	5602506	3	Solenoid for solenoid valve (no illustration)
08	5602913	1	Filter pressure regulator NL G3/4
09	5603012	1	Pressure gauge 1/4
10	560212212	1	Air-operated solenoid valve 1/2 inch
11	5610307	1	Dungs differential pressure switch KS 3000 C2
12	5790410	4	Plastic handle 1095-19
13	5790512	3	Galvanised adjustable locking clamp
14	5760151	2	Guide pulley Dm 150 mm Front stop
15	5760150	2	Guide pulley Dm 150
16	5760050	12	Apparatus guide pulley Dm 50 mm
17	5760001	6	Transport rollers FR 2201 Dm. 48 mm 25 kg
18	51301017	1	Control cabinet ECO-6000
19	5790208	6	Tilttable 5-star knob M8
20	5790514	2	Level tube

Pulse-jet cleaning pneumatic diagram

22 Pulse-jet cleaning pneumatic diagram



Pos.	Art. Nr.	Pcs.	Description
001	5603001	1	Compressed air tank
002	56021029	3	Solenoid valve VEP508 1" 230VAC MECAIR
003	5602913	1	Filter pressure regulator NL G3/4 with pressure gauge
004	5775210	1	Spherical valve 3/4 inch
005	5775020	1	3/4 inch brass one-way valve
006	5775018	1	Hose connection nipple 3/4 inch - 19 mm No. 461
007	577809703		Pipe 3/4 inch



Fig. 6: Compressed air supply connection

Removing the pressure from the pulse-jet cleaning process:

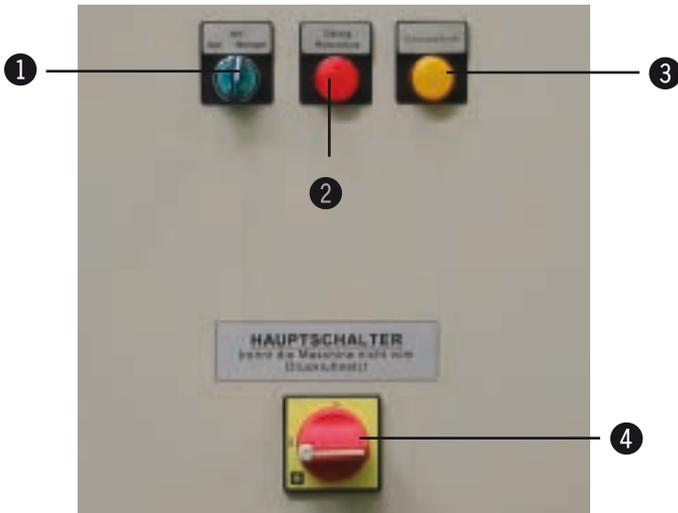
1. Close the spherical valve.
2. Loosen the bleed screw until the compressed air escapes.
3. If the pressure gauge is on 0 and no further compressed air escapes, then the compressed air unit (tank, valve and pipe) is completely empty.
4. Close the bleed screw again.

- ① Spherical valve
- ② Bleed screw

Control system

23 Control system

23.1 Indicator lamps and option switches in the equipment cabinet

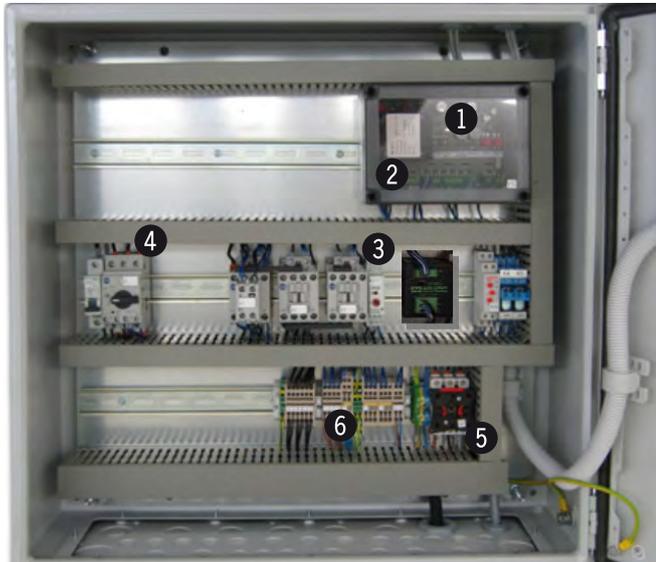


- ① Operating mode switch incl. ventilating fan operating lamp
- ② "Overload protector" lamp
- ③ "Differential pressure filter" lamp
- ④ Main switch

Fig. 7: Indicator lamps and option switches in the equipment cabinet

Switch/Lamp	Function	Description/Function with factory settings
Main switch		The system is disconnected from the electric mains. Attention: the system is still to be disconnected from the compressed air system, extinguisher is not ON.
① "Cleaning" mode switch on right-hand side	Manual cleaning	Start the cleaning process manually (only start to clean manually once the system has been switched off; wait until the ventilating fan has also come to a stop). Each valve cleans once with the preset interval (see factory settings paragraph).
① "Auto" mode switch in the centre	Automatic operation	The mobile dust extractor is started via the "Ventilating fan and the shift control unit" and the automatic cleaning program starts. See the automatic controller STW 82 V description for the appropriate settings.
① "Manual" mode switch on left-hand side	Manual operation	The extraction ventilating fan is starting.
"Overload protector" lamp is ON (red)	The motor safety switch has been triggered	Motor overload. Possible causes: <ul style="list-style-type: none"> • Motor overload (mechanical defect, motor overload as a result of too low suction side resistance (pipe very short)) • Frequent switching on and off of the system in a short period of time • Motor defect
"Differential pressure" lamp is ON (yellow)	Filter loading display	The B2 pressure sensor is indicating that the authorised differential pressure at the filter has been exceeded. The filter dedusting has started.

23.2 Built-in equipment cabinet components



- ① Solenoid valve controls HE 571 1
- ② Relay for extinguishing mechanism
- ③ Controls transformer
- ④ Motor safety switch
- ⑤ Main switch
- ⑥ Terminal strip for machine input - potential-free

Fig. 8: Electrical control box



Abb. 9: Logicmodul

Solenoid valve controls Cleaning with extinguisher valve output

"ZELIO" logic module HE 571 1
This module is for activating jet cleaning and the extinguishing mechanism. Factory settings are not intended to be changed.



Attention! Improper use may result in changes to parameters which are crucial for equipment safety!

Control system

23.3 List of parameters for filter check: (factory settings)

Poti	Manufacturer's settings	Remark
Number of valves	3 - sealed	Number of available valves must not be changed!
Extinguishing time	7 - sealed	Factor 7 extinguishing time must not be changed
Impulse time	0,3 seconds.	Impulse time Valves
Pause	210 seconds.	Pause Valve 1 - Valve 2 - Valve 3
Push button Test		Only for service engineers
Push button Reset		Press only when it is certain that there is no fire. Device can only be turned back on after a thorough check.

functioning:

Activation and control are carried out via a potential-free contact. The cleaning process then begins. On selecting the start command, the first valve opens (impulse time setting); the first set of filters is cleaned by a blast of compressed air. After a pause, the second valve opens, and finally, after another pause, the third valve opens.

Fire detection is carried out by a temperature sensor, which responds when the temperature rises above 70°

Celsius within a response time of max. 30 s and opens the solenoid valve of the extinguishing system. Simultaneously, the exhaust fan is turned off and filter cleaning is turned off. The device can be restarted by pressing the reset button. Before turning the equipment back on it must be checked by a specialist.

23.4 Motor overload protector

Component	Description	Function
Overload protector circuit breaker (motor safety switch)	F1	<p>Setting the motor safety switch: The power of the motor to be protected is set on the bevelled scale. The short-circuit release is set to 12 times the value of the rated power of the switch. This ensures a problem-free machine start-up and protects the motor.</p> <p>Resetting following fault: reset manually with the black rotary handle. "9 o'clock" position Overload protector blown "12 o'clock" position Overload protector OK</p> <p>Phase failure: the phase failure sensitivity ensures that the switch is triggered if the phase fails.</p>



Attention! Resetting the motor safety switch on a regular basis without eliminating the cause of the fault will result in motor damage! This motor damage is NOT covered by the guarantee!

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