

VacuFil 500

EN - Operating Manual

Typenschild einkleben

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1 General

1.1 Introduction

This manual is an essential aid for the proper and safe operation of the product.

These operating instructions contain important information to ensure safe, proper and efficient operation of the product. Observing these instructions helps avoiding danger, reducing repair costs and downtimes and increasing the reliability and service life of the product. The operating instructions must be kept available at all times and have to be read and applied by every person who is assigned to work on or with the product.

These include amongst others:

- the operation and troubleshooting during operation
- the maintenance (care, maintenance, repair)
- the transport
- the assembly
- the disposal

Technical modifications and errors expected.

1.2 References to copyright and industrial property rights

These Operating Instructions should be kept confidential. They should be made accessible only to authorised persons. They may be passed on to third parties only with the written consent from KEMPER GmbH, referred to as manufacturer in the following.

All documents are protected under the Copyright Act. The reproduction and distribution of documents, including excerpts, as well as re-use and passing on of their contents is not permitted. Unless this is expressly permitted in writing.

Violations are liable to prosecution and liable for damages. The manufacturer reserves the right to exercise all intellectual property rights.

1.3 Notes for the operating company

The operating instructions are an essential part of the product.

The operating company must ensure that the operating personnel is aware of the contents of this manual.

Based on national regulations for accident prevention and environmental protection, the operating instructions are to be supplemented by the operating company's own operating instructions, including information on regulatory and reporting requirements to meet specific operating requirements, such as work organisation, work flow and staff employed. In addition to the operating instructions and the relevant obligatory

regulations for accident prevention applicable in the country of use, it is also imperative to comply with the recognised technical rules for safe and professional handling.

Without prior consent from the manufacturer, the operating company may not carry out any changes, conversions or additions to the product which may impair safety. Spare parts used must comply with the manufacturer's specified technical requirements. This is always the case with original replacement parts.

Only use trained and instructed staff for the operation, maintenance, repair and transport of the product. Clearly define for staff who is responsible for operation, maintenance and transport.

2 Safety

2.1 General information

The product is designed and built according to state-of-the-art technology and the recognised safety rules and regulations. When operating the product, technical hazards for the operator or impairment of the product as well as other property may occur, if:

- it is not operated by trained or instructed personnel
- it is not used for the purpose intended and/or
- it is improperly maintained

2.2 Information on signs and symbols

▲ DANGER

This symbol in conjunction with the signal word "Danger" indicates imminent danger. Non-adherence of the safety note leads to death or serious injuries.

▲ WARNING

The symbol in conjunction with the signal word "Warning" indicates a potentially dangerous situation. Non-adherence to the safety notice may lead to death or serious injuries.

▲ CAUTION

The symbol in conjunction with the signal word "Caution" indicates a potentially dangerous situation. Non-adherence of the safety note may lead to slight or negligible injuries.

May also be used for warnings against property damage.

NOTE

The general information is simple additional information which does not warn about personal injury or property damage.

1. Enumerations of action steps are marked as numbers with a dot, where the order is important.
- Bullet points indicate lists of parts in a legend or instructions for which the sequence is unimportant

2.3 Markings/signs to be affixed by the operating company

The operating company is obliged to post further markings and signs on the product and the surrounding area if necessary.

Such markings and signs might be related, for example, to the requirement for wearing personal protective equipment.

2.4 Safety instructions for operating staff

Before use, the operator of the product must be instructed through information, instructions and training on the handling of the product and the materials and aids to be used.

The product system may only be used in technically perfect condition, for its intended purpose, in full awareness of the safety aspects and potential dangers and in accordance with these instructions. All errors, especially those that may affect safety, must be removed immediately.

Every person who is charged with commissioning, operation or maintenance must have fully read and understood these operating instructions. This specifically applies to staff who only operate the product occasionally.

The operating instructions must always be within reach of the product.

We accept no liability for any damages or injuries caused by failure to observe these operating instructions.

The relevant accident prevention regulations and other generally recognised safety and occupational health regulations must be observed.

The responsibilities for the various activities included in maintenance and repair must be clearly defined and adhered to. Only then will human error - especially in dangerous situations - be avoided.

The operating company is to enforce wearing of personal protective equipment by operating and maintenance staff. These include in particular safety shoes, safety glasses and gloves.

Do not wear loose, long hair, loose clothing or jewellery. In theory, there is a risk of getting caught on something, or being pulled in or dragged along by moving parts.

If there are any safety-related changes to the product, immediately halt the process, secure it and report the occurrence to the relevant authority/person!

Work on the product may only be carried out by reliable, trained staff. Observe the minimum legal age.

Staff who require training, teaching or instructing or staff who undergo a general apprenticeship may only operate the product under the supervision of an experienced member of staff.

2.5 Safety instructions for maintenance/troubleshooting

Service and maintenance doors must be freely accessible at all times.

Setting up, maintenance and repair work and troubleshooting must only be performed when the product is switched off.

Always tighten bolt connections that have been loosened during repair work. If specified, tighten the relevant bolts with a torque wrench.

In particular, protect connections and screw connections from dirt or care products at the beginning of maintenance/repair/care

The time frames for periodic testing/inspections stipulated or specified in the operating instructions must be observed.

Before disassembling, mark the parts that belong together.

2.6 Notes regarding special types of hazard

⚠ DANGER

Danger of electric shock!

Any work on the electrical equipment of the product must only be performed by a qualified electrician or by operating personnel under the direction and supervision of a qualified electrician in accordance with electronic regulations.

Before opening the product, pull the plug, if available, and secure it against accidental switch-on.

For faults with the product's electrical energy supply, immediately switch the product off at the on/off switch and if available, also pull the plug.

Use only original fuses with the prescribed amperage.

Electrical components, on which inspection, maintenance and repair work must be carried out, must be disconnected from the power supply. Secure equipment that has been used for disconnection against unintentional or automatic reconnection. Firstly check that no voltage is present in activated, electrical components, then isolate adjacent components under voltage. When making repairs, ensure that constructive characteristics are not altered in a way that reduces safety.

Check cables regularly for damage and replace if necessary.



CAUTION: Automatically Operated Device – To Reduce The Risk Of Injury Disconnect From Power Supply Before Servicing.

WARNING: To Reduce The Risk Of Electric Shock, Do Not Expose to Water or Rain.

ATTENTION: Appareil fonctionnant automatiquement – afin de réduire les risques de blessure, débrancher l'alimentation électrique de procéder à l'entretien.

AVERTISSEMENT: Pour réduire le risque de choc électrique, ne pas exposer à l'eau ou à la pluie.

⚠ WARNING

Electric shock if earthing is missing!

If the protective earth connection of devices is missing or incorrectly executed, high voltages may be present on exposed parts or housing parts which, if touched, can lead to serious injury or death.

⚠ WARNING

Electric shock if an unsuitable power supply is connected!

The connection of an unsuitable power supply can cause parts that can be touched to be under dangerous voltage. Contact with dangerous voltage can lead to serious or fatal injury.

For electrical connection data, see the name plate of the product

Power supply

The product is designed for the mains voltage indicated on the name plate. If mains cables or mains plugs are not fitted to the product, they must be fitted in accordance with national standards.

⚠ CAUTION

Insufficiently dimensioned electrical installation can lead to serious damage to property.

The mains supply line and its fuse protection must be designed in accordance with the existing power supply. Observe the technical data on the name plate.

The mains fuse should be equipped with at least a **category C** circuit breaker.

Note on connection to the mains supply for products with extraction capacity control

⚠ DANGER

Danger of electric voltage!

Products with extraction power control (frequency inverters) are intended for protection by line protection fuses.

If the product is operated on a mains supply with a residual current circuit breaker (RCCB) connected upstream, the following must be observed.

Since the operation of the frequency inverter on the protective earth conductor can cause a direct current, the residual current circuit breaker (RCCB) connected in series with the mains must meet the following requirements.

Products with 16/ 32 Ampere – Plug

Category type:	Rated current	Tripping fault current	Note
Type B	40 A	30 mA	short time-delayed
Type B	63 A	30 mA	short time-delayed

Tab. 1: Requirements for residual current circuit breaker

⚠ WARNING

Danger from toppling over during transport!

The product may tilt and topple over when moved. People can be injured due to the high dead weight.

- Before moving, release the brakes on the castors.
- Move and set down the product only on flat, smooth floor coverings.
- Only move the product with the push handle.
- Do not use the push handle to lift the product.
- Do not sit or climb on the product.
- Before moving; if present, fold in suction arm / wind up or dismantle suction hoses

⚠ WARNING

Health hazards caused by welding fume particles

Do not inhale welding dust / smoke! Serious injury to the lungs and respiratory tract is possible!

Sweat smoke contains substances that can cause cancer!

Skin contact with cutting and welding fumes etc. can cause skin irritation in sensitive persons!

Repair and maintenance work on the product may only be carried out by trained and authorised personnel while complying with the safety rules and the applicable accident prevention regulations.

To avoid contact with and inhalation of the dust particles, wear disposable overalls, protective goggles, gloves and a suitable Class FFP2 respiratory protection filter mask in accordance with EN 149.

The release of hazardous dust particles during repair and maintenance is to be avoided to ensure that persons not charged with the task are not affected.

⚠ WARNING

Work on the compressed air vessel and on the compressed air lines and components may only be performed by persons with expertise in pneumatics.

The pneumatic system must be isolated and depressurised prior to the performance of maintenance and repair work on the external compressed air supply.

⚠ WARNING

Danger of burns or scalding!

The surfaces of the product can reach temperatures of more than 70 °C during operation.

Before maintenance and repair work, allow the product to cool down or wear heat-protective gloves.

⚠ CAUTION

Health hazard due to noise!

The product can produce noise, please refer to information in the technical data. In connection with other machines and/or local conditions, a higher noise level can occur at the operation site of the product. In this case, the operating company is obliged to provide the operating personnel with the appropriate protective equipment.

3 Product information

3.1 Functional description

The product is a compact welding fume filter unit that extracts the welding fumes generated during welding and separates them with a filter efficiency of more than 99%.

The extracted contaminated air is cleaned by a 1-stage filter method (rotary pre-separator and filter cartridge) and returned to the working chamber. Alternatively, it can also be routed outside via an optional ducting system.

The particles separated on the filter cartridge are cleaned off by automatically triggered pressure pulses and collected together with the particles separated by the rotary pre-separator in a dust collection container.

The product can be operated with suitable welding fume extraction torches or with funnel nozzles.

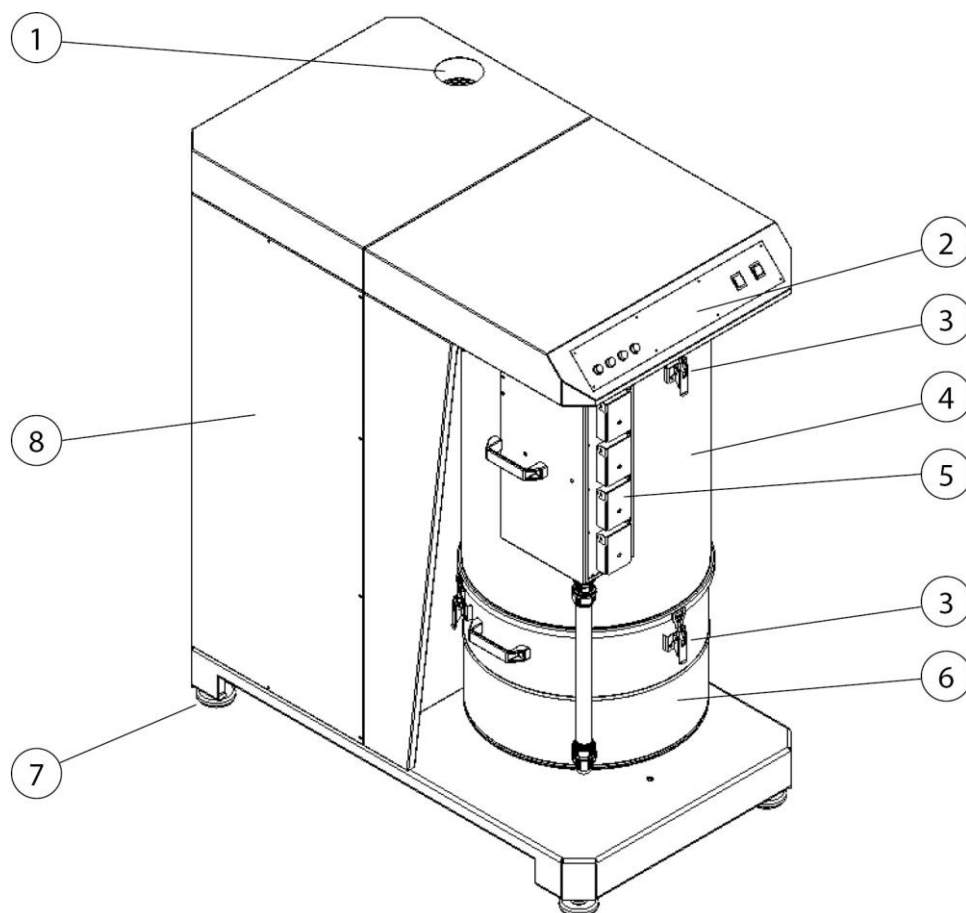


Fig. 1: Functional description – Product

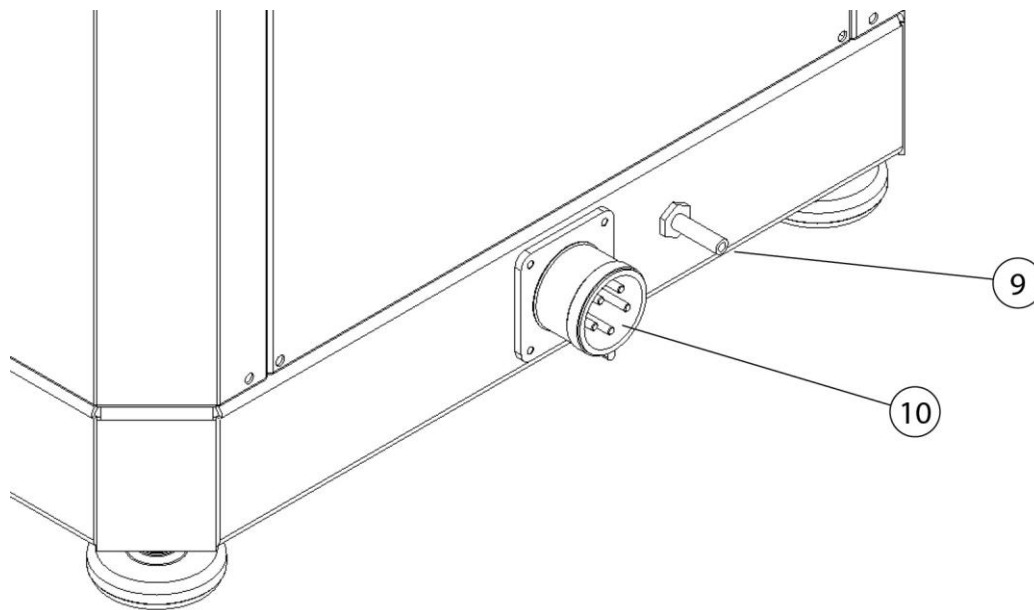


Fig. 2: Connections

Pos.	Description	Pos.	Description
1	Air outlet, air outlet grille	6	Dust collection container
2	Operating control	7	Adjustable machine foot
3	Clamp fasteners	8	Housing – control, side channel compressor
4	Filter housing	9	Compressed air connection
5	Connection for extraction hose	10	CEE connector plug

Tab. 2: Positions on the product

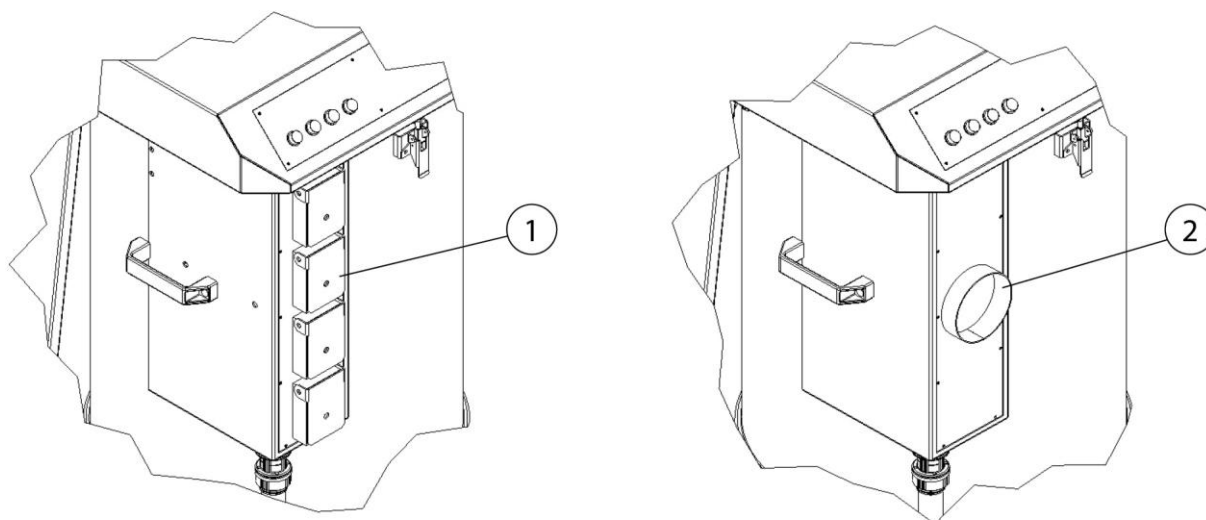


Fig. 3: Connection for extraction hose/ducting system

Pos.	Description
1	Connection for 4 x extraction hose size 45
2	Connection for ducting system size 100

Tab. 3: Connection for extraction hose/ducting system

3.2 Distinguishing feature – product with extraction capacity regulation

The product is manufactured in two versions:

- **Version – without extraction capacity regulation**
- **Version – with extraction capacity regulation**

Version without extraction capacity regulation

The product without extraction capacity regulation works at maximum power during operation. There is no regulation of the extraction capacity.

Version with extraction capacity regulation

The automatic extraction power control constantly monitors the vacuum set in the connected piping system. Depending on the activation of the central extraction systems (air requirement) and saturation of the filters, it

automatically controls the fan speed so that there is always a constant extraction capacity at the individual central extraction systems.

The product therefore only works demand-oriented which results in the following advantages:

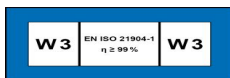
- Constant extraction capacity on each central extraction system
- Energy saving due to optimum fan speed (energy efficiency).
- Protects filters and product components (longer service life)
- Reduction of noise emissions (health and safety).

3.3 Intended use

The product is designed to extract and filter out the welding fumes produced when welding metallic materials at the point of origin. In general, the product can be used for all work processes in which welding fumes are released. However, care must be taken that no glowing sparks are drawn into the product.

Dimensions and further product details that must be observed can be found in the technical data.

NOTE



Only products labelled with the W3 sticker have been tested and certified accordingly. See also chapter Technical data: Welding fume class and test standard.

NOTE

When welding alloyed or high-alloy steels with filler metals above 5% chromium/nickel, carcinogenic CMR substances (carcinogenic, mutagenic, reprotoxic) are released. In accordance with official regulations, only tested and approved products may be operated in Germany to extract these harmful smoke particles using the so-called recirculation method.

Only products that meet the requirements of welding fume separation class W3/IFA certified may be operated for the aforementioned welding processes using the recirculation method.

When extracting welding fumes with carcinogenic components (e.g. chromates, nickel oxides, etc.), the requirements of TRGS 560 (technical rules for HAZMAT) and TRGS 528 (welding work) must be obeyed.

NOTE

The information in the "Technical data" chapter must be observed and strictly adhered to.

Intended use also includes observation of the instructions and information on

- safety
- operation and control
- maintenance and servicing

contained in this manual.

Any other use or use going beyond this is considered improper use. The company operating the product is solely responsible for any damage resulting from it. This also applies to unauthorised modifications to the product.

3.4 General requirements in accordance with DIN EN ISO 21904

NOTE

Connection of ducting systems, extraction arms and hoses.

Ducting systems, extraction arms and hoses connected to the product can lead to a pressure drop and must be taken into account by the system designer or user.

The connected components must be suitable for the product and ensure the required minimum volume flow (extraction capacity).

A possible design of the ducting can be requested from the manufacturer.

The connected components must be checked regularly for proper seating, leaks and blockages.

The required extraction capacity must be checked at the central extraction element.

NOTE

Returning the air to the workplace atmosphere

In some Federal States, recirculation of air into the workplace atmosphere is not recommended or is prohibited. It may be necessary to conduct the exhaust air to the outside via a duct.

3.5 Reasonably foreseeable misuse

No reasonable, foreseeable misuse is possible that could lead to dangerous situations with personal injury when working with the product whilst adhering to its intended use.

The operation of the product in industrial areas that do not comply with the requirements for explosion protection is not permissible.

Furthermore, the operation is prohibited for:

1. Processes that are not in the intended use list and in which the extracted air is:
 - is mixed with sparks, e.g. from grinding processes, which due to their size and quantity might lead to damage to the filter media or even to a fire;
 - mixed with liquids and the resulting contamination of the air flow with vapours containing aerosols and oils;
 - mixed with highly flammable, combustible dust and/or with substances that can form explosive mixtures or atmospheres;
 - is mixed with other aggressive or abrasive dust that could damage the product and the filter elements employed;
 - is mixed with organic, toxic substances or a proportion of substances that are released when cutting the material.

2. Outdoor locations where the product is exposed to weather conditions because the product must only be installed in closed buildings. If there is an outdoor variant of the product available, this may be installed outside. Please note that additional accessories may be required for the outdoor installation.

3.6 Markings and signs on the product

Various markings and signs are affixed to the product. If these are damaged or removed, please replace them immediately with new ones in the same location.

The operating company is obliged to post further markings and signs on the product and the surrounding area if necessary.

Such notes and signs might be related, for example, to the requirement for wearing personal protective equipment.

In the country of use, additional required safety instructions and pictograms can be provided by the manufacturer in accordance with applicable law.

3.7 Residual Risk

Even when all safety rules are observed, when operating the product a residual risk remains, as described below.

All persons working on and with the product must be aware of these residual risks and follow the instructions that prevent these residual risks from causing accidents or damages.

4 Transport and Storage

4.1 Transport

⚠ DANGER

Life-threatening crushing possible when loading and transporting the product!

Improper lifting and transporting may cause the pallet (if present) to tilt and fall!

- Never stand under suspended loads.
- Observe the permissible loads of the transport and lifting aids.
- Observe the applicable accident prevention and occupational safety regulations.

For transporting products with a pallet, use a suitable pallet truck or forklift. The weight of the product can be found on the name plate.

4.2 Storage

The product must be stored in its original packaging at an ambient temperature of 20 °C to +50 °C in a dry and clean place. The packaging must not be loaded by other objects.

The storage duration is not critical for all products.

5 Assembly

Instructions for safe installation of the product

NOTE

The operating company of the product may only assign specialists to carry out independent assembly.

- At least two people are needed to assemble the product.
 - It must be ensured that the installation location and point of use of the product provides sufficient load-bearing capacity and good stability.
-

⚠ DANGER

Falling or tipping parts may cause life-threatening injuries!

Tipping or falling loads lead to severe to fatal injuries.

- Observe the total weight, attachment points and centre of gravity of the load.
 - Observe the transport instructions and symbols on the transported goods.
-

⚠ WARNING

Incorrect connections may cause serious injuries!

Please note the necessary safeguards and only have the product connected by trained specialists.

NOTE

Ensure that the welding current return line between the workpiece and the welding machine has a low resistance and that connections between the workpiece and the product are avoided so that the welding current cannot flow back to the welding machine via the product's protective conductor.

NOTE

If add-on products are also present, follow the appropriate manuals when assembling them.

The product is delivered ready for operation on a pallet.

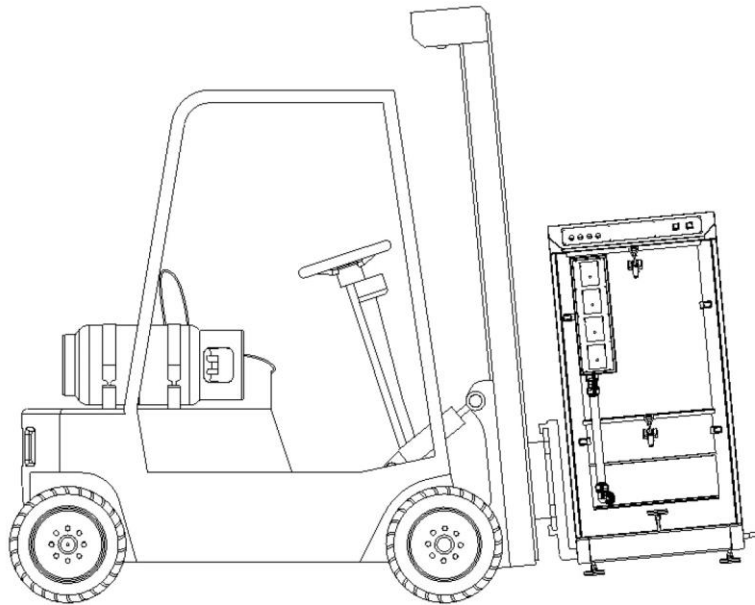


Fig. 4: Transporting the product

1. Position the product at the installation location using a forklift or pallet truck.
2. Remove the tension straps and the outer packaging of the product.

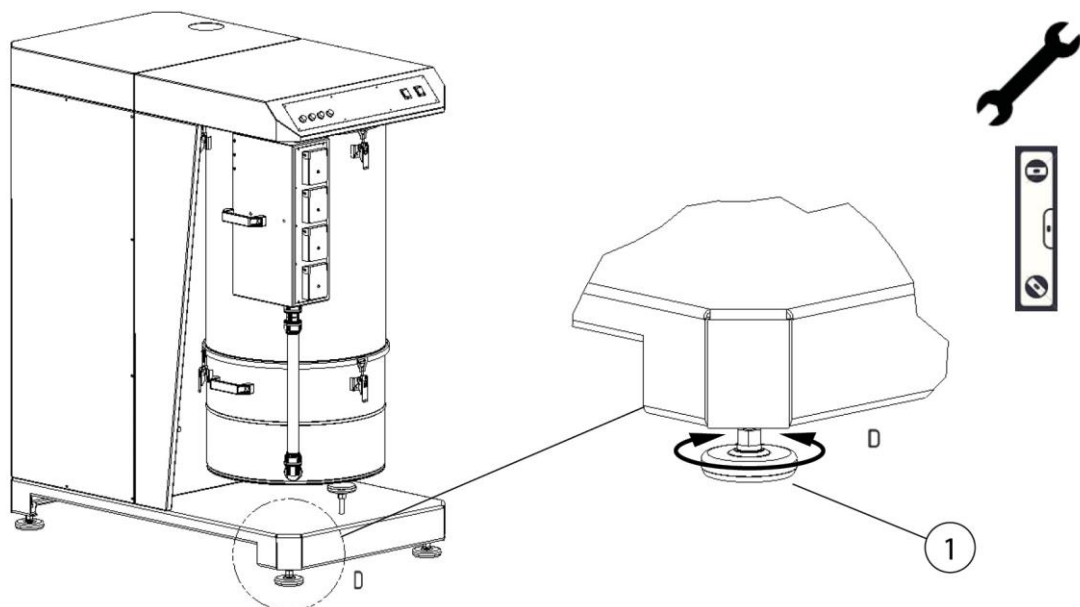


Fig. 5: Aligning the product

3. Align the product on the adjustable machine feet using a suitable spanner and spirit level. When adjusting the machine feet, make sure that all four feet are loaded evenly.

Connecting the product

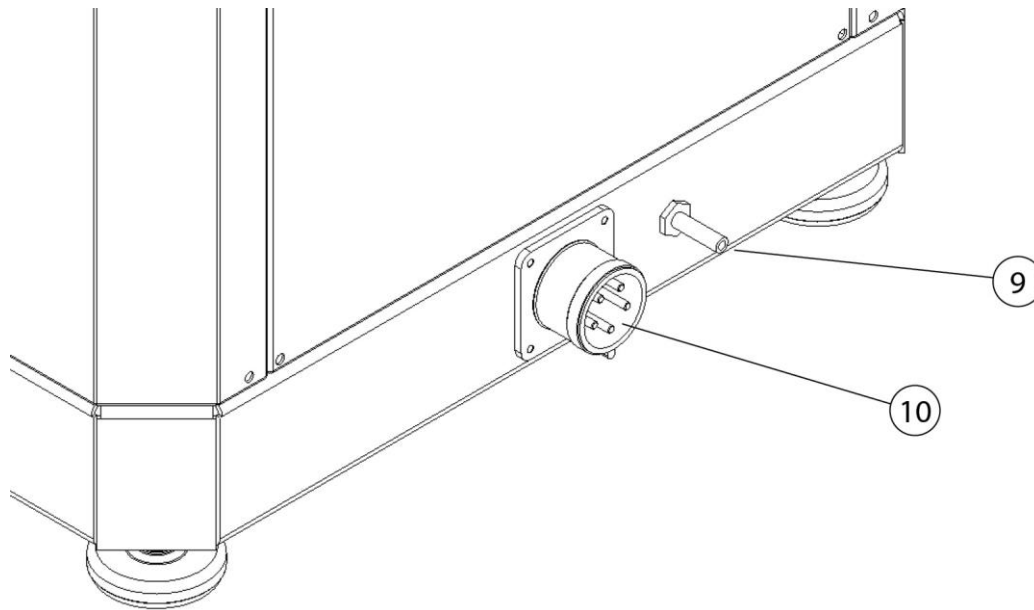


Fig. 6: Connecting the product

4. Connect the power cable to the on-site air compressed air network. To do this, push a suitable compressed air hose with an inner diameter of 9 mm onto the grommet (Pos. 9) and fix it with a suitable band clamp.
5. Connect the product to the mains. To do this, connect a suitable CEE connection cable to the CEE connection plug (Pos. 10).

6 Use

Every person who deals with use, maintenance and repair of the product must have thoroughly read these operating instructions as well as the instructions for any attachment and accessory products and have understood them.

6.1 Qualification of the operating personnel

The operating company of the product may only commission persons to use the product independently if they are well-versed in this task.

Those familiar with this task includes those who have been instructed appropriately in the task and know the operating instructions as well as the operational issues in question.

The product should only be used by trained or instructed personnel. This is the only way to ensure safety and hazard awareness of all personnel during work.

6.2 Operating elements

Operating controls and connection options are located on the front side of the product:

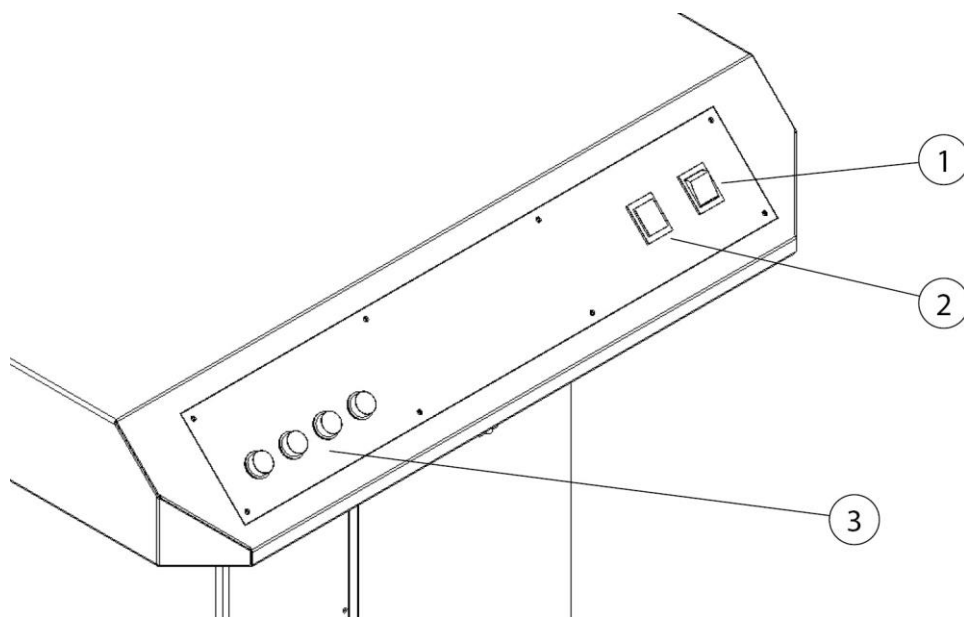


Fig. 7: Operating elements

Pos.	Description	Function
1	On/Off switch	Switches the product on or off
2	Service indicator light	Signals a malfunction or the need for maintenance
3	Connections for automatic start/stop	Connection for up to 4 x start/stop modules

Tab. 4: Operating elements

On/off switch (Pos. 1)

Even if the unit is operated with automatic start/stop or on/off switch, it must first be switched on with this unit on/off switch.

Service indicator light (Pos. 2)

The service indicator light indicates a fault or an error in the product. These faults are displayed using different blink codes for optical reference.

Flashing code of the signal lamp	Note
X - X - X ...	Fault in power supply
XX - XX - XX ...	Motor protection relay or temperature switch has tripped
XXX - XXX - XXX ...	Maintenance is due
XXXX - XXXX - XXXX ...	Filter condition critical; carry out required filter change
XXXXX - XXXXX - XXXXX ...	Safety shutdown – maximum filter saturation reached
XXXXXX - XXXXXX - XXXXXX ...	Compressed air supply fault

Tab. 5: Flashing codes of the signal lamp

NOTE

Flashing codes. See also chapter "Troubleshooting".

Connections for start/stop clamps (Pos. 3)

1–4 optional start/stop sensors can be connected here. Its use means that the extraction system will only operate during the pure welding time (arcing time) plus the set run-on time. The start/stop sensor is automatically detected by the product.

6.2.1 Adjusting the extraction capacity (optional)

Some products have an adjustable extraction capacity control.

This is located behind the side cover on the left side of the product. The extraction capacity is set to 100 % at the factory.

If the required extraction capacity is too high for the detection element used, it can be readjusted at the extraction capacity control.

▲ WARNING

Danger of burns from hot surfaces!

Components of the product can reach temperatures of more than 70 °C during operation.

Before adjustment work, allow the product to cool down or wear heat-protective gloves.

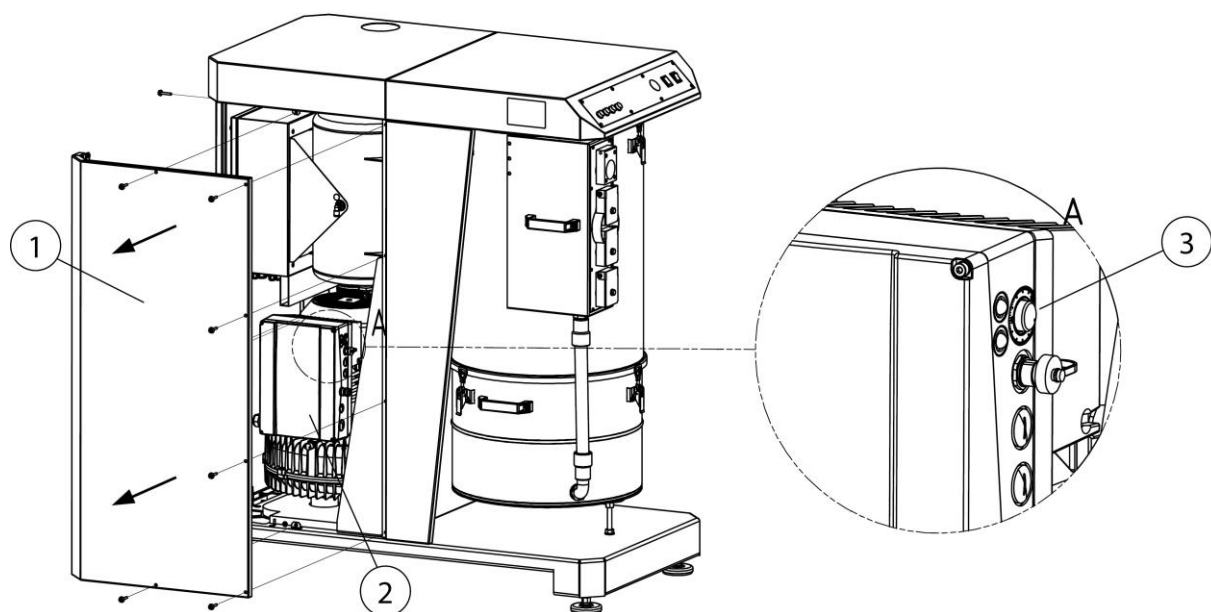


Fig. 8: Access to the extraction capacity control

Pos.	Description	Pos.	Description
1	Cover plate	3	Rotary control
2	Extraction capacity regulation		

Tab. 6: Access to the extraction capacity control

Proceed as follows to adjust the required extraction capacity.

1. Remove the left cover plate (Pos. 1).
2. Connect the detection element with the highest internal resistance (lowest extraction capacity) to the product.

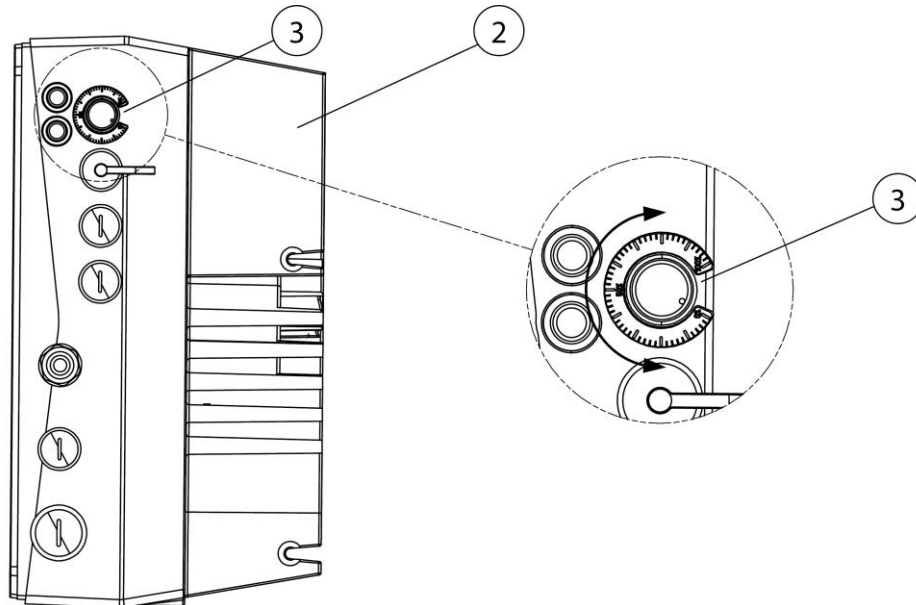


Fig. 9: Adjusting the extraction capacity

3. Switch on the product and set the required extraction capacity on the rotary control (Pos. 3).
4. After adjusting, refit the cover plate (Pos. 1).

6.3 Commissioning

⚠ WARNING

Danger due to faulty product condition.

The product must be fully installed before commissioning begins. All doors must be closed and the necessary connections must have been made.

1. Connect the power cable to the on-site mains connection.
2. Connect the power cable to the on-site air compressed air network.
3. Switch the product on using the pushbutton marked "0" and "I".
4. The fan starts and the green indicator lamp on the device switch signals error-free operation of the product.

If there is a fault, please refer to the "Troubleshooting" chapter.

7 Maintenance

The instructions in this chapter are intended as minimum requirements. Depending on the operating conditions, further instructions may be required to keep the product in optimal condition.

The maintenance and repair work described in this chapter must only be performed by specially trained repair personnel of the operating company.

Spare parts used must comply with the manufacturer's specified technical requirements.

This is guaranteed if original spare parts are used.

The safe and environmentally friendly disposal of operating materials and replacement parts must be ensured.

The safety instructions in these operating instructions must be observed during maintenance work.

7.1 Care

The care of the product is essentially limited to cleaning all surfaces of the product and – if present – checking the filter inserts.

The warning notices listed in the chapter "Safety notes for maintenance and fault removal" must be observed.

NOTE

The product may not be cleaned with compressed air. This may result in dust and/or dirt particles getting into the ambient air.

Proper care helps to maintain the product in a continuous functional state.

For optimum care and cleaning of the powder-coated surfaces, the following must be observed:

- Thoroughly clean the product monthly or as needed.
- Clean the exterior areas of the product with a suitable industrial vacuum cleaner of dust classification H or with damp soft cloths/industrial cotton wool.
- For stubborn dirt, use commercially available household cleaners. Avoid vigorous rubbing.
- Do not use any abrasive agents that scratch.
- Do not use any acidic or strongly alkaline cleaning agents.
- Do not use organic solvents containing esters, ketones, alcohols, hydrocarbons or similar.

7.2 Safety instructions for maintenance

Regular inspection and servicing have a positive effect on the reliable functioning of the product.

Observe the warning notices for servicing and troubleshooting in the “Safety” chapter.

Maintenance of the product is essentially limited to visual inspection and checking for damage, signs of wear and leaks.

In addition, the following maintenance points must be carried out:

▲ WARNING

Health hazards caused by welding fume particles

Inhalation of welding fume particles, especially welding fume particles from welding processes on alloyed steels, can damage your health as they are ‘respirable’. Skin contact with welding fume particles can cause skin irritation in sensitive individuals.

To avoid contact with and inhalation of these dust particles, wear disposable overalls, protective goggles, gloves and a suitable Class FFP2 respiratory protection filter mask in accordance with EN 149.

ATTENTION

Avoid whirling up welding particles!

Carry out maintenance work with caution and care when in possible contact with welding fume particles. Avoid vibrations and shocks!

ATTENTION

Do not clean the product with compressed air. This may result in dust particles getting into the ambient air.

Always ensure there is adequate lighting and ventilation for maintenance tasks.

7.3 Daily checks before starting work

Test	Instructions
Check the connection cable and plug (if present) for damage	If necessary, inform a qualified electrician
Check the connected ducting system for leaks	Mend or replace any damaged parts
Check the fill level of the dust collection container (if present).	See "Maintenance" chapter
Check the maintenance doors/maintenance covers for leaks	Have any defective seals replaced
Check the filter(s) for damage (filter breakthrough)	Visually check if smoke is coming out of the clean air outlet during the welding process or if dust deposits are visible in the area of the clean air outlet.

Tab. 7: Daily checks

⚠ WARNING

Health hazard due to welding fumes

If the filter surface is damaged (filter breakthrough), the filtration of the air containing pollutants is no longer given. Operation of the product must be stopped immediately.

A filter change is required. See chapter Changing Filters

7.3.1 Emptying the dust collection container

The dust collection container fill level must be checked at regular intervals. The time period in which the dust collection bucket/disposal bag must be changed depends on the type and quantity of use of the separated dust particles. For this reason, we cannot state specific replacement intervals. Since particularly light dust particles can be stirred up simply by the airflow through the inside of the product and in the course of the dust collection bucket/disposal bag replacement, the dust collection bucket/disposal bag may only be filled up to 50 mm below the top lip of the dust collection container.

When emptying the dust collection container, please proceed as follows:

1. Switch off the product using the I/O pushbutton.
2. Wait 2 minutes for the dust particles to settle inside the filter section.

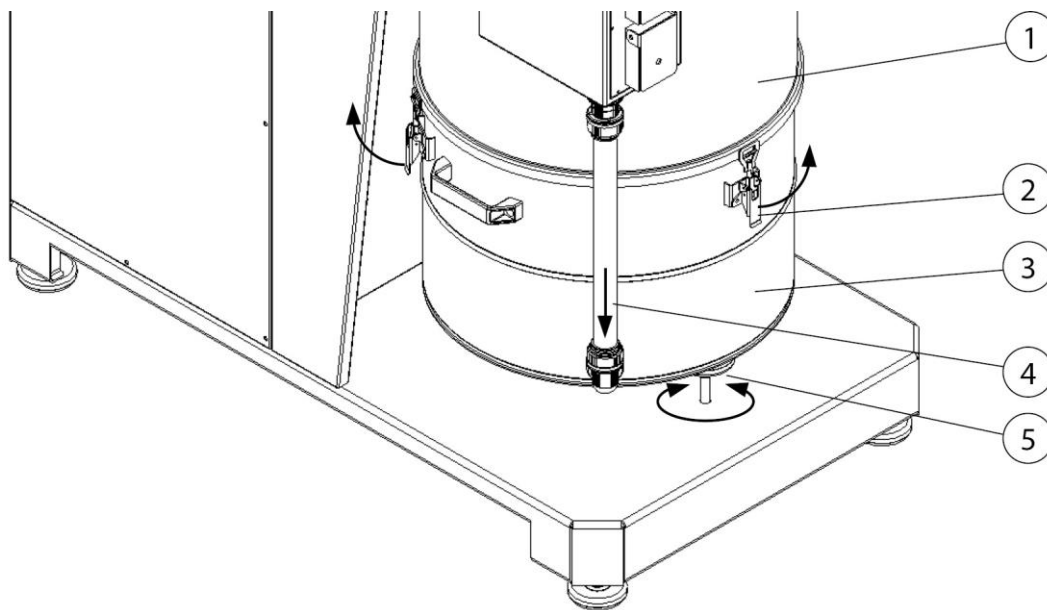


Fig. 10: Emptying the dust collection container

Pos.	Description	Pos.	Description
1	Filter area	4	Vacuum hose
2	Clamp fastener (3 x)	5	Support (adjustable machine foot)
3	Dust collection container		

Tab. 8: Positions on the product

3. Provide a new disposal bag.
4. Release the dust collection container (Pos. 3) by opening the three clamp fasteners (Pos. 2).
5. Pull off the vacuum hose (Pos. 4) on one side.
6. Lower the dust collection container (Pos. 3) by screwing in the support (Pos. 5).

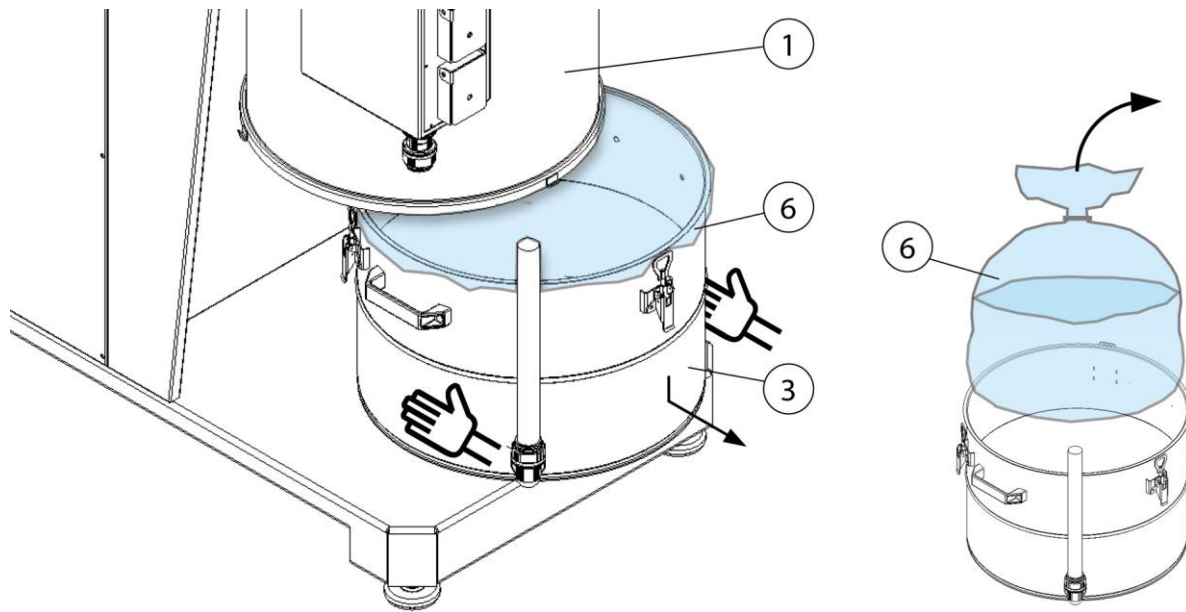


Fig. 11: Removing the dust collection container

7. Carefully remove the dust collection container (Pos. 3) from the product without whirling up dust particles.
8. Close the disposal bag (Pos. 6) airtight, remove it from the dust collection container (Pos. 3) and dispose of it in accordance with the applicable regulations.
9. Insert the new disposal bag (Pos. 6) into the dust collection container (Pos. 3).
10. Fix the dust collection container (Pos. 3) to the filter part (Pos. 1) again with the three clamp fasteners (Pos. 2), making sure that the inserted disposal bag (Pos. 6) is also clamped airtight all around the edge.
11. Turn the support (Pos. 5) up again and push on the vacuum hose (Pos. 4).
12. Switch on the product using the I/O pushbutton. See also the chapter Commissioning.

7.3.2 Draining the compressed air vessel condensate

Depending on usage, but at least once a month, the condensate must be drained from the compressed air vessel.

For this, the condensate drain valve is located on the side next to the dust collection container.

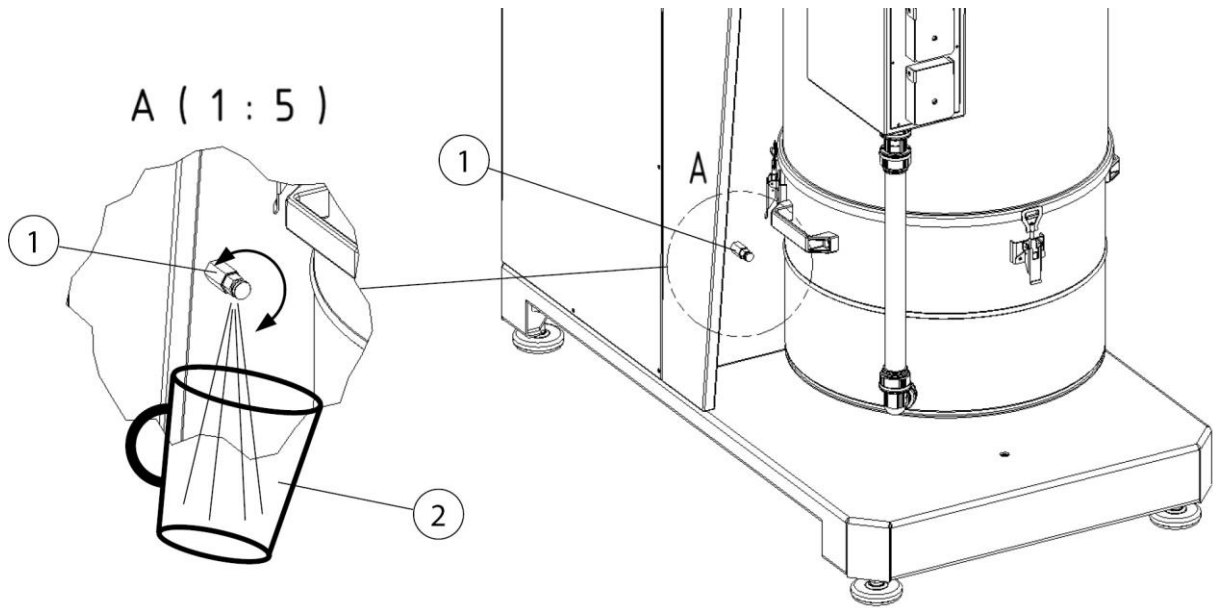


Fig. 12: Draining the condensate

Pos.	Description	Pos.	Description
1	Condensate drain valve	2	Container

Tab. 9: Positions on the product

To drain the condensate, please proceed as follows:

1. Hold a container (Pos. 2) under the outlet opening of the condensate drain valve (Pos. 1).
2. With the other hand, slowly open the condensate drain valve (Pos. 1) at the knurled screw.
3. Only close the condensate valve (Pos. 1) again when just air is escaping.

7.3.3 Checking the compressed air container with compressed air safety valve

NOTE

The product has one or more compressed air containers with compressed air safety valve.

Products with compressed air container and safety valve must be serviced/checked according to current national regulations.

7.3.4 Checking the compressed air safety valve

The compressed air vessel with the compressed air safety valve is located in the rear area of the product.

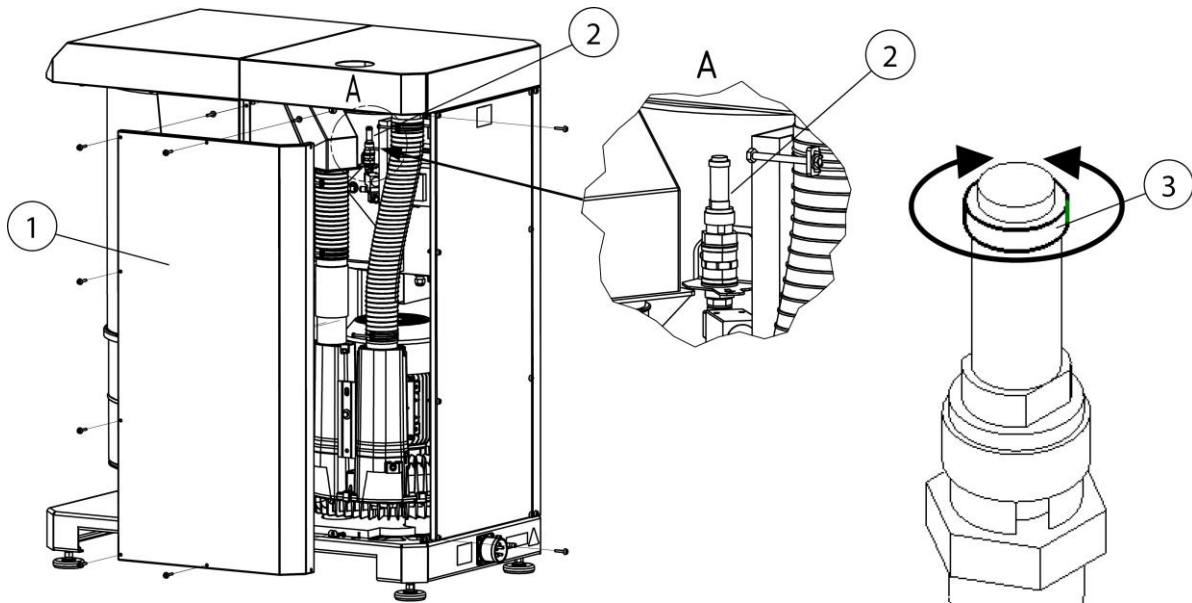


Fig. 13: Access to the compressed air vessel + compressed air safety valve

Pos.	Description	Pos.	Description
1	Maintenance cover	3	Knurled screw
2	Compressed air safety valve		

Tab. 10: Positions on the product

To gain access to the compressed air vessel/safety valve (Pos. 2), please proceed as follows.

1. Remove the right maintenance cover (Pos. 1) of the product using a suitable tool.
2. Loosen the knurled screw (Pos. 3) on the compressed air safety valve (Pos. 2) by turning it anti-clockwise and open it by approx. 3 - 4 turns until the exhaust air process starts. (audible discharge of compressed air)
3. Allow the compressed air safety valve to blow off briefly.
4. Screw in the knurled screw (Pos. 3) as far as it will go and hand-tighten it.
5. Close the maintenance cover (Pos. 1) and put the product back into operation. See chapter "Commissioning"

7.3.5 Changing the filter – Safety instructions

The life of the filter inserts depends on the type and amount of deposited particles.

As the dust accumulation in the filter increases, its flow resistance increases and the extraction capacity of the product decreases.

Even with products that may have automatic filter cleaning, adhering deposits can reduce the extraction capacity.

A filter change is required.

⚠ WARNING

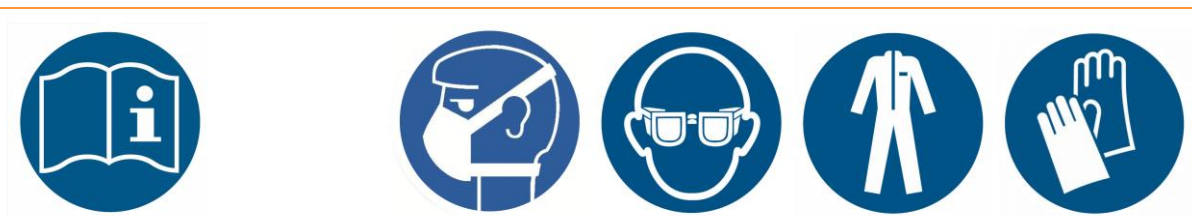
Health hazards caused by welding fume particles

Do not inhale welding dust / smoke! Serious injury to the lungs and respiratory tract is possible!

Sweat smoke contains substances that can cause cancer!

Skin contact with welding fume particles can cause skin irritation in sensitive individuals.

To avoid contact with and inhalation of these dust particles, wear disposable overalls, protective goggles, gloves and a suitable Class FFP2 respiratory protection filter mask in accordance with EN 149.

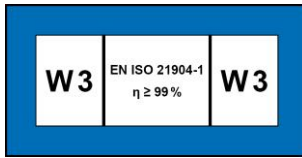


⚠ WARNING

Cleaning the filter inserts is not permitted. This inevitably leads to damage to the filter element, meaning the filter ceases to function and hazardous substances enter the air.

During the work described in the following section, pay particular attention to the seal on the main filter. Only an undamaged seal allows the product to achieve a high filter efficiency. Main filters with a damaged seal must therefore be replaced every time.

NOTE



Products with W3 certification according to requirements for W3/IFA certified welding fume separation class. (See "Technical data" chapter)

The W3 approval becomes void if:

- The product is used other than as intended or is subject to constructive modifications.
- Non-original spare parts, in accordance with the spare parts list, are used.

-
- Only original replacement filters, because they guarantee the necessary filter efficiency and are matched to the product and its performance characteristics.
 - Switch the product off using the on/off switch.
 - Secure the product against unintentional switching on. If available, pull out the mains plug or secure the main switch in the 0 position with a padlock.
 - Disconnect the pressure supply, if present, and let the compressed air present in the product flow out via the condensate drain valve.

7.3.6 Main filter change

Carry out the main filter replacement as follows:

1. Switch off the product using the on/off switch.
2. Disconnect the product from the power supply by unplugging.
3. Disconnect the product from the compressed air supply.
4. Provide a new filter cartridge and the associated disposal bag.

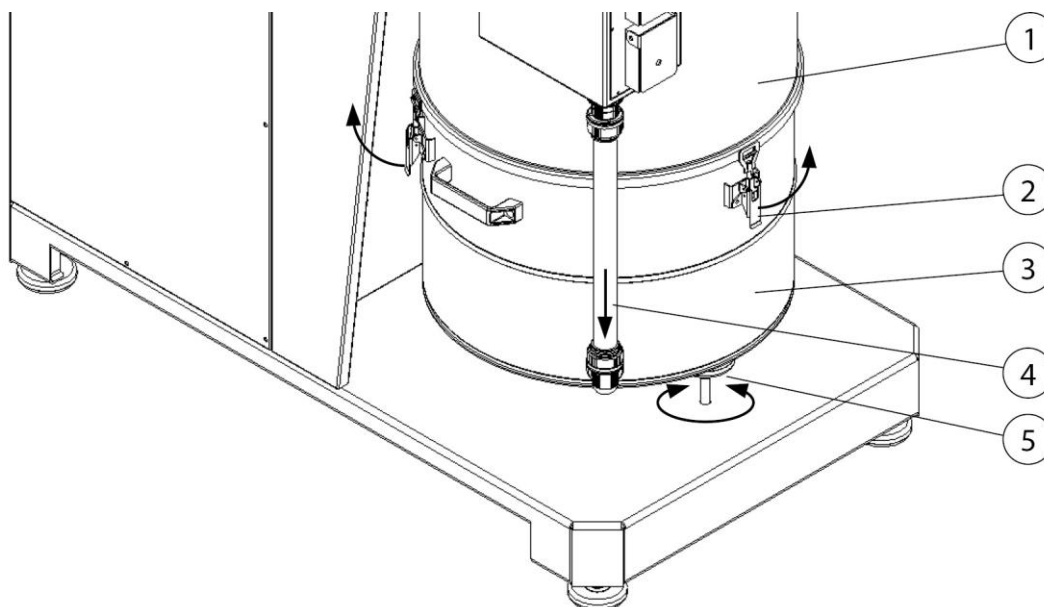


Fig. 14: Filter change – removing the dust collection container

Pos.	Description	Pos.	Description
1	Filter housing	4	Vacuum hose
2	Clamp fasteners	5	Support (adjustable machine foot)
3	Dust collection container		

Tab. 11: Positions on the product

5. Release the dust collection container (Pos. 3) by opening the three clamp fasteners (Pos. 2).
6. Screw in the support (Pos. 5) and pull off the vacuum hose (Pos. 4). Then remove the dust collector container (Pos. 3).

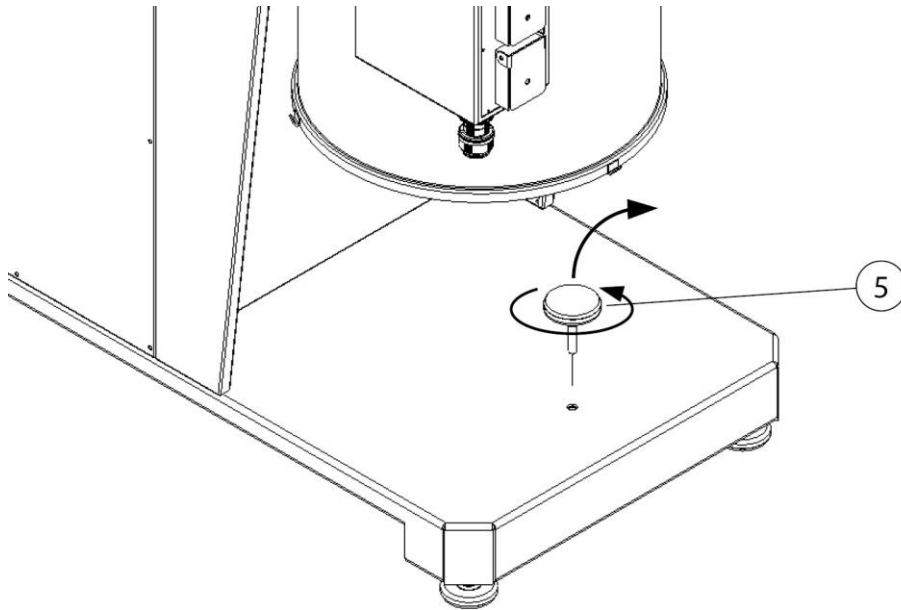


Fig. 15: Filter change – removing the support

7. Remove the support (Pos. 5) and put it aside.

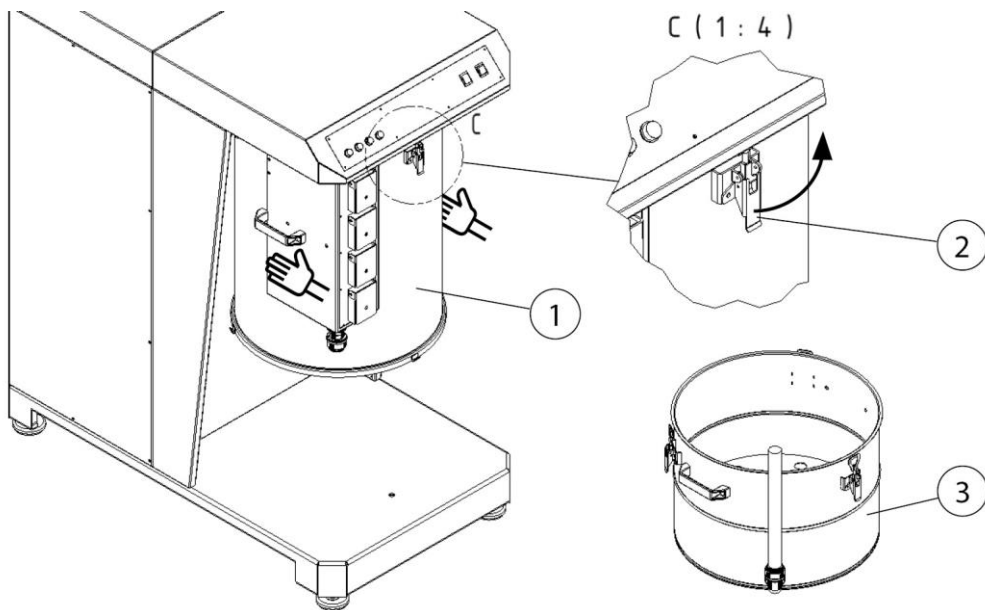


Fig. 16: Filter change – removing the filter housing

8. Remove the filter housing (Pos. 1) by holding the filter housing and loosening the three upper clamp fasteners (Pos. 2).

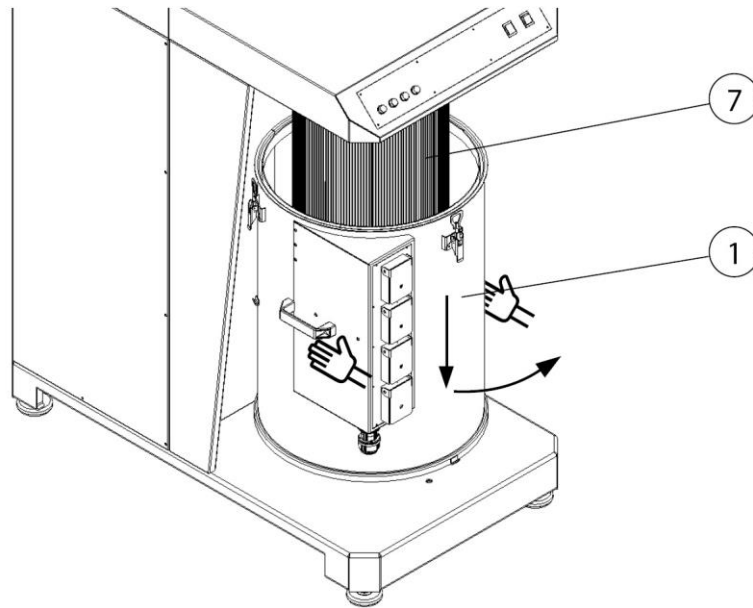


Fig. 17: Filter change – removing the filter housing

9. Lower the filter housing and remove it from the product at an angle.

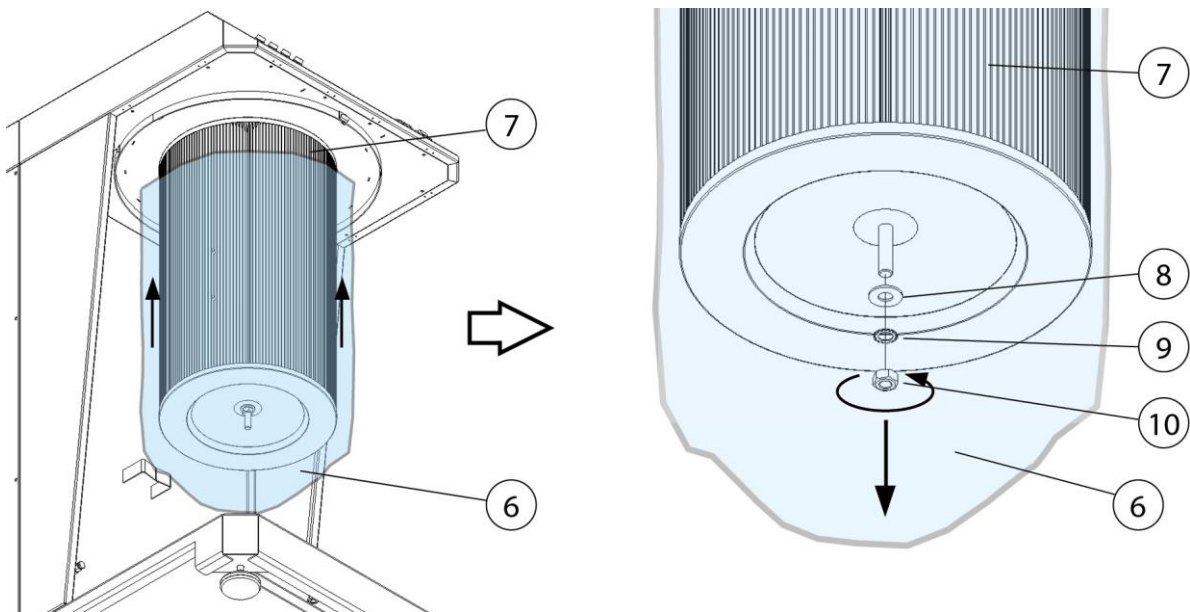


Fig. 18: Dismantling the filter cartridge

10. Loosen the hexagon nut (Pos. 10), but do not remove it completely.

11. Carefully cover the contaminated filter cartridge with the disposal bag (Pos. 6) provided.

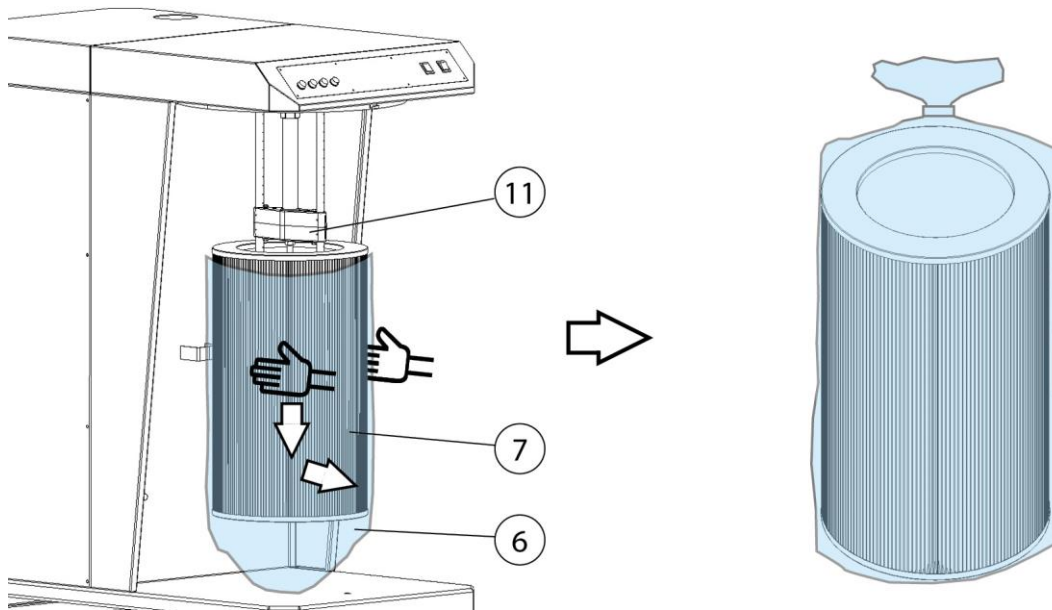


Fig. 19: Removing the filter cartridge

12. Hold the disposal bag (Pos. 6) with the filter cartridge (Pos. 7) and completely loosen the nut (Pos. 10) and drop it into the disposal bag together with the serrated lock washer and sealing ring (Pos. 8 + 9).
13. Remove the disposal bag (Pos. 6) with the filter cartridge (Pos. 7) along the rotation nozzle (Pos. 11) downwards out of the product.
14. Seal the disposal bag (Pos. 6) airtight and dispose of it according to the applicable regulations.
15. The installation of the new filter cartridge is carried out in reverse order. (See Pos. 12 – 5).
16. When installing the new filter cartridge, make sure that the seals of the filter cartridges are clean and flush with the cartridge mounting plate.
17. When assembly is complete, connect the product to the mains and compressed air supply.
18. Put the product into operation. See also the chapter Commissioning.

7.3.7 Maintenance schedule

Activities	Time/interval	Information:
Emptying the dust collection container	As required	
Draining the condensate from the compressed air vessel	As required, but at least once per month	
Checking the compressed air safety valve	Every 6 months	See "Maintenance" chapter
Replacing the main filter cartridge	As required	

Tab. 12: Maintenance schedule

7.4 Troubleshooting

Fault	Cause	Note
Product will not start up	No mains voltage	Have it checked by a qualified electrician
	Start/stop sensor (optional fitting) connected but no welding current detected. Welding process not yet started	Start welding process
Not all fumes are being captured	Draught	Avoid draughts
	Incorrect extraction capacity set	Check and correct required extraction capacity
Dust escapes on the clean air side	Filter inserts damaged	Replace filter inserts
Product/filter does not clean	No compressed air supply available. Pressure/compressed air quantity not sufficient	(only for products with cleaning filter)
Product switches off	Temperature of a product component too high	Allow product to cool down
Extraction capacity too low/non-existent	Unused suction openings are open	Close unused suction openings
	Welding torch/suction line blocked	Welding torch/clean suction line
	Filter inserts saturated	Replace filter inserts

Tab. 14: Troubleshooting

7.5 Troubleshooting – flashing codes

Faults and service information are signalled by flashing codes on the signal lamp.

After each flashing code, there is a short pause (4 seconds).

Flashing code	Cause	Note
1 x flashing	Fault in power supply	Have the phase sequence checked by an electrician
2 x flashing	Motor protection switch has triggered	Power consumption too high Contact service department
3 x flashing	Maintenance interval reached/exceeded	Carry out maintenance – Contact manufacturer’s service department
4 x flashing	Filter condition critical Differential pressure above 2500 Pa.	Carrying out a filter change See chapter "Changing Filters"
5 x flashing	Safety shutdown Differential pressure above 3000 Pa.	Carrying out a filter change Product can only be switched on again after changing the filter
6 x flashing	Compressed air supply too low/non-existent	Check compressed air supply. See chapter “Technical Data”

Tab. 15: Troubleshooting – flashing codes

NOTE

If the fault cannot be corrected by the customer, please contact the manufacturer’s service department.

7.6 Emergency measures

In case of fire of the product or its detection elements, the following steps should be taken if necessary:

1. Disconnect the product from the mains! If present; pull out mains plug; set main switch to 0-position; disconnect supply fuses.
2. If present, disconnect the compressed air supply.
3. Fight fire with a commercially available dry powder extinguisher.
4. Notify local fire brigade if necessary.

⚠ WARNING

Do not open products with maintenance door. Flash flame formation!
In the event of a fire, do not touch the product under any circumstances without proper protective gloves. Risk of burns!

8 Disposal

▲ WARNING

Skin contact with welding fumes, etc. can cause skin irritation in susceptible individuals.

Disassembly work on the product may only be carried out by trained and authorised personnel while complying with the safety rules and the applicable accident prevention regulations.

Serious injury to the lungs and respiratory tract is possible!

In order to avoid contact with and inhalation of dust particles, use protective clothing, gloves and a blower respirator system.

The release of hazardous dust particles must be avoided during dismantling work so that persons in the vicinity are not harmed.

▲ CAUTION

All work on and with the product must comply with the legal obligations for waste avoidance and proper recycling/disposal.

8.1 Plastics

Plastics, if present, must be sorted as far as possible. Plastics must be disposed of in compliance with the legal requirements.

8.2 Metals

Metals, if present, must be separated and disposed of. Disposal must be carried out by an authorised company.

8.3 Filter elements

Filter elements, if present, must be disposed of in compliance with the legal requirements.

9 Annex

9.1 EC compliance statement

Designation: Welding fume filter unit
 Series: VacuFil 500
 Type: **82755, 82756** (if necessary, different item numbers for other product variants)
 Machine ID: See name plate in front section of this operating manual
 This product is developed, designed and manufactured in accordance with EC directives
 2006/42/EC – Machinery Directive

The product continues to comply with the provisions of the
 2014/30/EU - EMC Directive
 2014/29/EU - Pressure Equipment Directive
 2014/35/EU - Low Voltage Directive

Company: At the sole responsibility of
KEMPER GmbH
 Von-Siemens-Str. 20, D-48691 Vreden

The following harmonised standards are used:

- EN ISO 12100:2010 Safety of machinery - General principles for design
- EN ISO 13857:2019 Safety of machinery - Safety distances
- EN ISO 13854:2019 Safety of machinery - Minimum gaps
- EN ISO 4414:2010 fluid power - General rules and safety requirements for systems and their components
- EN ISO 21904-1:2020 Health and safety in welding and allied processes
- EN IEC 61000-6-2:2019 Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity standard for industrial environments
- EN IEC 61000-6-4:2019 Electromagnetic compatibility (EMC) - Part 6-4: Generic standards - Emission standard for industrial environments
- EN 60204-1:2018 Safety of machinery - Electrical equipment of machines
- EN ISO 13849-1:2015 Safety of machinery - Safety-related parts of control systems

A complete list of standards, directives and specifications applied is available from the manufacturer. The operating manual belonging to the product is available.

Additional information:

If it is not used for as intended or the design is altered, the Declaration of Conformity expires, unless confirmed in writing by us as manufacturers.

Mr Marcel Kusche is authorised to compile the technical documentation. Kemper GmbH, Von-Siemens-Str. 20, 48691 Vreden, Germany



Vreden, 06.05.2025
 Place, date

B. KEMPER

CEO
 Identification of the signatory

9.2 UKCA Declaration of Conformity

Designation: Welding fume filter unit
 Series: VacuFil 500
 Type: **82755, 82756** (possibly different article numbers for other product variants)
 Machine ID: See name plate in front section of this operating manual
 This product is developed, designed and manufactured in accordance with the UKCA directives
 Supply of Machinery (safety) Regulations 2008

The product continues to comply with the provisions of the
 Electromagnetic Compatibility Regulations 2016
 Electrical Equipment (Safety) Regulations 2016
 Pressure Equipment Regulations 2016

Company: At the sole responsibility of
KEMPER GmbH
 Von-Siemens-Str. 20, D-48691 Vreden

The following designated standards and technical specifications have been applied:

- BS EN ISO 12100:2010 Safety of machinery - General principles for design
- BS EN ISO 13857:2019 Safety of machinery - Safety distances
- BS EN ISO 13854:2019 Safety of machinery
- BS EN ISO 4414:2010 fluid power - General rules and safety requirements for systems and their components
- BS EN ISO 21904-1:2020 Health and safety in welding and allied processes
- BS EN IEC 61000-6-2:2019 Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity standard for industrial environments
- BS EN IEC 61000-6-4:2019 Electromagnetic compatibility (EMC) - Part 6-4: Generic standards - Emission standard for industrial environments
- BS EN 60204-1:2018 Safety of machinery - Electrical equipment of machines
- BS EN ISO 13849-1:2016 Safety of machinery - Safety-related parts of control systems
- BS EN IEC 63000:2018 Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances

A complete list of standards, directives and specifications applied is available from the manufacturer. The operating manual belonging to the product is available.

Additional information:

If it is not used for as intended or the design is altered, the Declaration of Conformity expires, unless confirmed in writing by us as manufacturers.

UK Authorised Representative (for authorities only): Mr. Marc Crawford
 United Kingdom KEMPER (U.K.) Ltd.
 Venture Court, 2 Debdale Road, Wellingborough, Northamptonshire NN8 5AA

Vreden, 06.05.2025
 Place, date


 B. Kemper

CEO
 Identification of the signatory

9.3 Technical data

Designation	Type	
	82755	82756
Filter		
Filter stages	1	
Filter method	Cleanable filter	
Cleaning method	Rotating nozzle	
Filter surface m ² [ft ²]	10 [108]	
Number of filter elements	1	
Total filter surface m ² [ft ²]	10 [108]	
Type of filter	Filter cartridge	
Filter material	ePTFE membrane	
Filter efficiency ≥ %	99.9	
Welding fumes class	--	
Test standard	--	
Filter class/Dust classification	M	
Basic data		
Maximum fan capacity m ³ /h [CFM]	700 [412]	
Extraction capacity m ³ /h [CFM]	500 [294]	
Vacuum Pa [inch WC]	20000 [80]	
Motor power kW [hp]	5.5 [7.38]	
Power supply/rated current/protection type/ISO class	See name plate	
Permissible ambient temperature °C [F]	-10 to +40 [+14 to +104]	
Duty cycle %	100	
Noise level dB(A)	74	
Compressed air supply bar [PSI]	5 – 6 [73 – 87]	
Compressed air consumption NL/min [CFM]	230 [8]	
Compressed air class	2:4:2 ISO 8573-1	
Dimensions of the basic product (W x H x D)	See dimension sheet	
Basic product weight kg [lbs]	270 [596]	
Additional information		
Fan type	Side channel blower	

Extraction capacity regulation	--	Yes
Maximum installation environment above sea level m (mean sea level meters) [ft]	1500 [4921]	

Tab. 16: Technical data 82755

9.4 Dimensions sheet

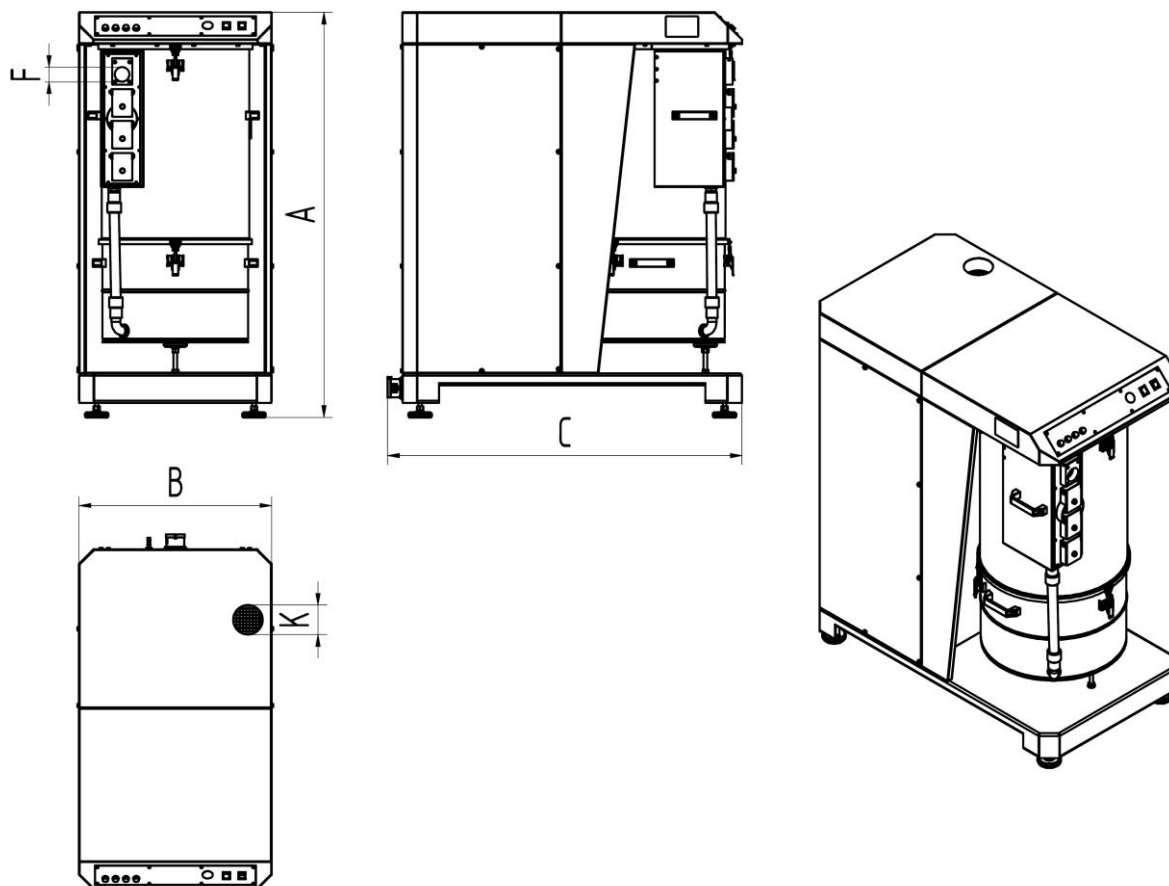


Fig. 20: Dimensions sheet

Symbol	Dimensions mm [in]	Symbol	Dimensions mm [in]
A	1377 [54.2]	F	4x Ø 45 (1x Ø 100) [4x Ø 1.8] [(1 x Ø 4.0)]
B	655 [25.8]	K	Ø 100 [Ø 3.9]
C	1205 [47.4]		

Tab. 17: Dimensions table

9.5 Spare parts and accessories

Consec. no.	Description	Pos. no.
1	Main filter – cleaning filter	1090440
2	1 disposal bags for dust collection bucket	1490399
3	Set of 10 disposal bags for dust collection bucket	1190893
5	Extraction hose 2.5 m Ø 45 mm	93070004
6	Extraction hose 5.0 m Ø 45 mm	93070005
7	Extraction hose 10.0 m Ø 45 mm	93070006
8	Funnel nozzle, round, suction opening Ø210 mm	2320006
9	Slit nozzle, width 300mm, with magnetic base	2320008
10	Slit nozzle, width 600mm, with magnetic base	2320009
11	Funnel nozzle, flexible with magnetic base	2320010
12	Adapter for welding guns 42–44 mm	1060071
13	Adapter for welding guns 39–42 mm	1060104
14	Adapter for welding guns 30–38 mm	1060084
15	Automatic start/stop	94102704

Tab. 18: Spare parts and accessories

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