



Operating instructions

Dry vacuum cleaner

TS-1000/PRO & TS-2000/PRO

BA-04-000001-02-EN

Scope of application

These Operating instructions only apply to the machine labelled on the cover sheet.

Check the machine model using the machine's rating plate.

Original instructions / translation of the original instructions

In accordance with the EU Machinery Directive, the German copy of these Operating instructions is the original instructions.

Copies in other languages are translations of the original instructions.

Kernlochbohrer GmbH

Geigersbühlweg 52

72663 Großbettlingen

Germany

Phone: +49 (0)70 22 / 50 34 900

E-mail: info@kernlochbohrer.com

Internet: <http://www.kernlochbohrer.com>

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The function of the machine is limited to the functions described in the associated technical documentation.

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1 Information and support

1.1 Thanks to the buyer

Thank you for purchasing a machine from Kernlochbohrer GmbH.

Please read the Operating instructions carefully and observe the safety instructions. By following the Operating instructions, you will be able to fully utilise the outstanding performance of our product.

If you have any questions regarding the operation of the machine, please contact Kernlochbohrer GmbH directly. We are available to answer your questions at any time.

1.2 Using the Operating instructions

The machine is intended for professional use and may only be operated by trained personnel. Strictly adhere to the instructions in the Operating instructions.

Our company declines all responsibility in the event of non-compliance with the Operating instructions, which may result in injury or damage to the machine.

The Operating instructions are indispensable for using the machine. The Operating instructions must therefore always be kept close to the machine and be accessible to the intended personnel at all times.

In addition to the Operating instructions, the generally applicable and local regulations for accident prevention and environmental protection must be provided; compliance with these regulations must be checked regularly.

1.3 Changes

Kernlochbohrer GmbH reserves the right to change the design and appearance of the products and their Operating instructions. Future changes to the Operating instructions will be made without prior notice.

1.4 Explanation of symbols



The symbol draws your attention to dangers that you must be aware of when carrying out the following work in order to avoid injury to yourself, other persons or damage to property.



Cross-reference to another point in the Operating instructions.



Prerequisite for an action.



Action to be performed.



Behaviour of the machine that is to be expected as a result of the preceding action.



Background information or reference to special features.

1.5 Guarantee

In accordance with Kernlochbohrer GmbH's general terms of delivery, a warranty period of 12 months applies to material defects in business transactions with companies (proof by invoice or delivery note).

Damage caused by natural wear and tear, overloading or improper handling is excluded.

Damage caused by material or manufacturer defects will be rectified free of charge by repair or replacement. Complaints can only be recognised if the device is sent to Kernlochbohrer GmbH undismantled.

Wear parts are excluded from the warranty.

1.6 Environmental protection

1.6.1 Disposal of the product

Follow national regulations on environmentally friendly disposal and recycling of used machines and accessories.

For EU countries only:

Do not dispose of the machine and accessories with household waste! In accordance with European Directive 2012/19/EU on waste electrical and electronic equipment and its transposition into national law, used power tools must be collected separately and recycled in an environmentally friendly manner.

1.6.2 Disposal of the packaging

The packaging is made from recyclable materials. They must be disposed of in accordance with their labelling and municipal guidelines.

1.7 Service

Precise information and specific questions allow faults to be rectified quickly, make it easier to order spare parts and prevent incorrect deliveries.

Before contacting the service, please collect the following data first.

The model designation must be stated for all questions and orders:
This information can be found on the rating plate of the machine.

In the event of malfunctions, further information is required:
type and extent of the malfunction, accompanying circumstances, suspected cause.

When ordering spare parts, the following is required:

Quantity and item number in the exploded drawing in these Operating instructions or item number (if known).

- ① You are welcome to send us photos when ordering spare parts or videos in the event of faults.

Contact details:

Kernlochbohrer GmbH

Geigersbühlweg 52

72663 Großbettlingen

Germany

Phone: +49 (0)70 22 / 50 34 900

E-mail: info@kernlochbohrer.com

Internet: <http://www.kernlochbohrer.com>

2 Security

2.1 General information

The machine was built according to the state of the art and in compliance with the applicable laws, standards and safety regulations. Nevertheless, the use of the machine can result in hazards for the user or third parties as well as damage to the machine and other property.

The machine may only be used if it is in perfect working order and in accordance with its intended use, and in a safe and hazard-conscious manner.

If the machine is damaged or malfunctions, switch it off immediately, secure it against being switched on again and repair it or arrange for it to be repaired.

2.2 Intended use

The machine is designed for the extraction and separation of dry, hazardous and non-flammable dust:

The machine fulfils the requirements of DIN EN 60335-2-69, Annex AA, for dust class H with a maximum degree of permeability < 0.005 %.

The machine was developed for cleaning construction or industrial areas and for connection to electrical machines such as drills, grinders, etc.

Do not suck in any combustible or explosive dusts (e.g. magnesium, aluminium, etc.) - risk of explosion!

Do not suck in sparks or hot parts (e.g. metal shavings, ash, etc.) with a temperature above 60 °C - risk of fire and explosion!

Do not suck in any aggressive substances (e.g. acids, alkalis, solvents, etc.).

The machine is only suitable for indoor use.

The machine is not suitable for vacuuming liquids.

The machine may only be used within the limits of its technical data. This information, for example performance data and ambient conditions, can be found in the "Technical data" chapter.

Any other use or use beyond this is considered improper use - risk of accident! Kernlochbohrer GmbH is not liable for any resulting damage. The risk is borne solely by the operator.

Intended use also includes observing the operating instructions and complying with the prescribed maintenance intervals.

2.3 Safety regulations for the operator

2.3.1 Organisational safety measures

The Operating instructions must always be available for the operating and maintenance personnel. It must therefore always be kept at the machine's place of use.

The regulations on accident prevention and environmental protection applicable at the machine's place of use must also be available. The operator of the machine must regularly check compliance with these regulations.

The use of sound-emitting machines may be limited in time by national or local regulations.

The machine must not be operated in potentially explosive atmospheres.

All safety and danger notices on the machine must be legible and must not be removed.

The protective equipment required to operate the machine must be provided by the operator. The operator must ensure that the protective equipment is used properly by the personnel.

Operating and auxiliary materials, such as lubricants or cleaning agents, must be selected in such a way that the limit values for hazardous substances applicable at the place of use are complied with. The regulations for environmental protection and disposal applicable at the place of use must be complied with.

2.3.2 Changes to the machine

The operator may not make any modifications to the machine without written authorisation from Kernlochbohrer GmbH. If the operator carries out modifications without authorisation, the warranty becomes void. Kernlochbohrer GmbH is not liable for damage caused by unauthorised modifications.

2.3.3 Spare parts

Spare parts must comply with the properties defined by Kernlochbohrer GmbH. This is always guaranteed for spare parts supplied by Kernlochbohrer GmbH. Kernlochbohrer GmbH is not liable for damage caused by the use of unsuitable spare parts.

2.3.4 Personnel

All persons who are authorised to commission, operate and maintain the machine must have read and understood the Operating instructions beforehand.

The machine may only be operated by persons who have been adequately instructed beforehand.

The machine may only be serviced by persons who have completed the appropriate specialised training for this activity.

Minors are not permitted to work with the machine. Young people over the age of 16 who are trained under supervision are exempt from this regulation.

2.4 Safety regulations for staff

2.4.1 Safe behaviour

All persons responsible for commissioning, operating and maintaining the machine must have read and understood the Operating instructions beforehand.

The machine may only be operated by persons who have been adequately instructed beforehand.

The machine may only be serviced by persons who have completed the appropriate specialised training for this activity.

Minors are not permitted to work with the machine. Young people over the age of 16 who are trained under supervision are exempt from this regulation.

Any work on and with the machine that could jeopardise safety must be avoided.

All safety and danger notices on the machine must be legible and must not be removed.

2.4.2 Safe operation

Operating the machine requires the full concentration and ability of the personnel. Persons who are overtired, unable to concentrate or under the influence of alcohol, drugs or medication must not work on or with the machine.

Persons who are not directly required to operate the machine must maintain a sufficient safety distance from the machine.

Before using the machine, check that it is in perfect condition.

If the machine is damaged, it must not be used. Secure the machine against use and repair it or arrange for it to be repaired.

In order not to jeopardise the functionality and safety of the machine, covers or other components of the machine must not be removed.

Before starting or starting up the machine, ensure that persons are not endangered by the starting machine.

Operating elements must not be operated thoughtlessly or wilfully. This could result in personal injury or damage to the machine.

When using the machine, personnel must ensure that they stand securely and adopt an ergonomic posture.

The machine must not be left unattended during use.

Air inlet and outlet openings must not be covered during use.

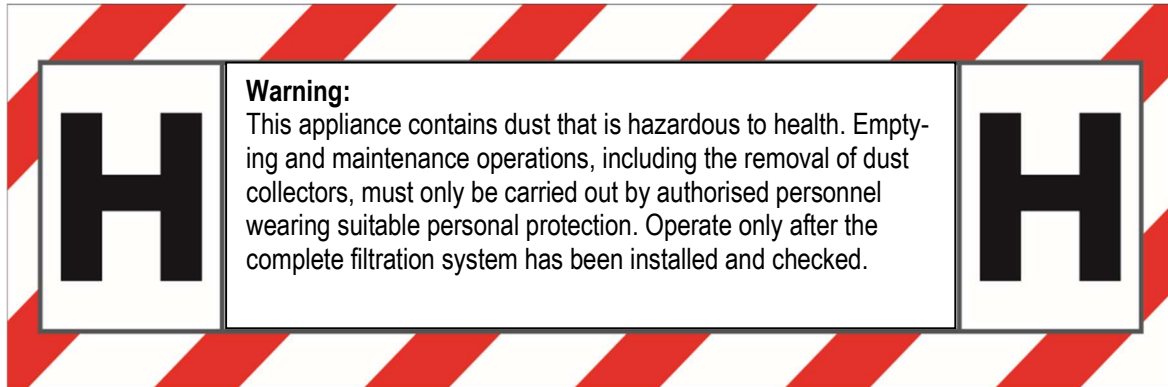
Never immerse the machine in water.

The machine must be cleaned regularly so that dirt does not accumulate. All operating elements and handles must be kept clean, dry and free of grease.

When the machine is not in use, it must be parked in such a way that nobody is endangered. Secure the machine against unauthorised use.

2.4.3 Protective equipment

If the noise emissions generated when using the machine exceed the limits applicable to this workplace, suitable hearing protection must be worn.



When disposing of dust, changing filters and cleaning the machine, there is a risk of harmful dust! Personnel must therefore wear suitable protective equipment during these activities

- Safety goggles
- Protective gloves
- FFP3 protection class breathing mask
- Disposable clothing

Persons carrying out maintenance work on the machine are obliged to wear additional, suitable protective equipment that is required for this work.

2.5 Safety during maintenance

2.5.1 General information

The machine may only be serviced by persons who have completed the appropriate specialised training for this activity.

The maintenance activities and intervals specified in the Operating instructions must be observed.

Workshop equipment appropriate to the type of work is required to carry out maintenance activities.

The following safety precautions must be taken before starting maintenance work:

- Position the machine so that the access point is easily accessible.
- Set the machine to the appropriate operating status.

After completion of maintenance activities:

- Assemble the machine completely.
- If operating elements or safety devices have been removed, they must be refitted and their function checked.
- Retighten any screw connections that have been loosened. Re-attach the screw locks.

2.5.2 Cleaning

Do not use any corrosive, harmful or environmentally damaging substances to clean the machine. Dispose of cleaning agents in an environmentally friendly manner.

Under no circumstances should high-pressure cleaners, water jets or compressed air be used to clean the machine.

3 Technical data

Model	TS-1000/PRO	TS-2000/PRO
Article number	6252	6452
Maximum air flow	200 m ³ /h	400 m ³ /h
Maximum negative pressure	220 mbar	
Suction hose connection	Ø 50 mm	Ø 70 mm
Suction hose	Ø38 x 5000 mm	Ø 50 x 7500 mm
Pre-filter EN 779-F8	99.5 % @ 1 µm	
Pre-filter area	1,7 m ²	3 m ²
HEPA filter EN 1822-H13	99.99 % @ 0.3 µm	
Main filter area	1,2 m ²	2,4 m ²
Dust separation	Endless bag	
Width	420 mm	570 mm
Depth	680 mm	710 mm
Height	1100 mm	1270 mm
Weight	30 kg	48 kg
Supply voltage	230 V ±5%	
Frequency	50 Hz	
Performance	1200 W	2400 W
Mains cable	H05VV-F 3*1.5 length 8 m	
Mains plug	Type F (CEE 7/4)	
Ambient temperature	max. +40 °C	
Relative humidity	max. 85 %	
Sound power level L _{weq}	75 dB(A)	80 dB(A)

4 Machine description

Structure

The TS-1000/PRO and TS-2000/PRO dry vacuum cleaners are two-stage dust extractors.

Pre-filtering is carried out by a class F8 fine dust filter (in accordance with EN779).

A class H13 HEPA filter (in accordance with EN 1822) is used as the main filter for the TS-1000/PRO; the TS-2000/PRO has two filters.

Functionality

The dust-laden air is sucked into the interior of the machine at high speed through the suction hose.

There, the air is slowed down by a cyclone and coarse dust particles are separated by centrifugal and gravitational force. The coarse dust particles collect on the cone-shaped pre-filter and fall down and through the bottom flap into the endless bag after the machine is switched off.

Air and finer dust particles pass through the main filter system, through which the air is filtered to a high level of purity.

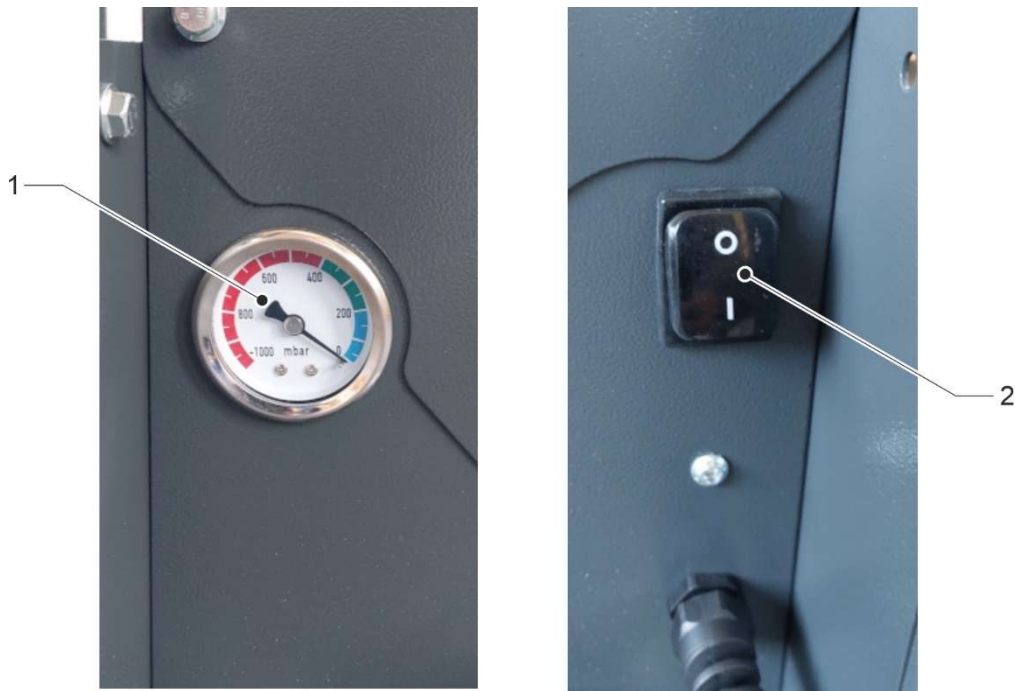
4.1 Machine components and operating devices

4.1.1 TS-1000/PRO



- 1 Lid of the collection container
- 2 Collection container with pre-filter
- 3 Suction hose connection
- 4 Fastening strap for endless bags
- 5 Endless bag holder
- 6 Endless bag
- 7 On/off switch
- 8 Swivel castor with parking brake (2 pieces)
- 9 Filter cleaning lever
- 10 Quick release (2 pieces)
- 11 Filter cover
- 12 Nut (2 pieces) of the filter cover
- 13 Suction motor with main filter
- 14 Container for cable ties
- 15 Vacuum gauge
- 16 Trolley with push handle
- 17 Wheel (2 pieces)

On the TS-1000/PRO, the vacuum gauge is located on the left-hand side and the on/off switch on the right-hand side of the machine.



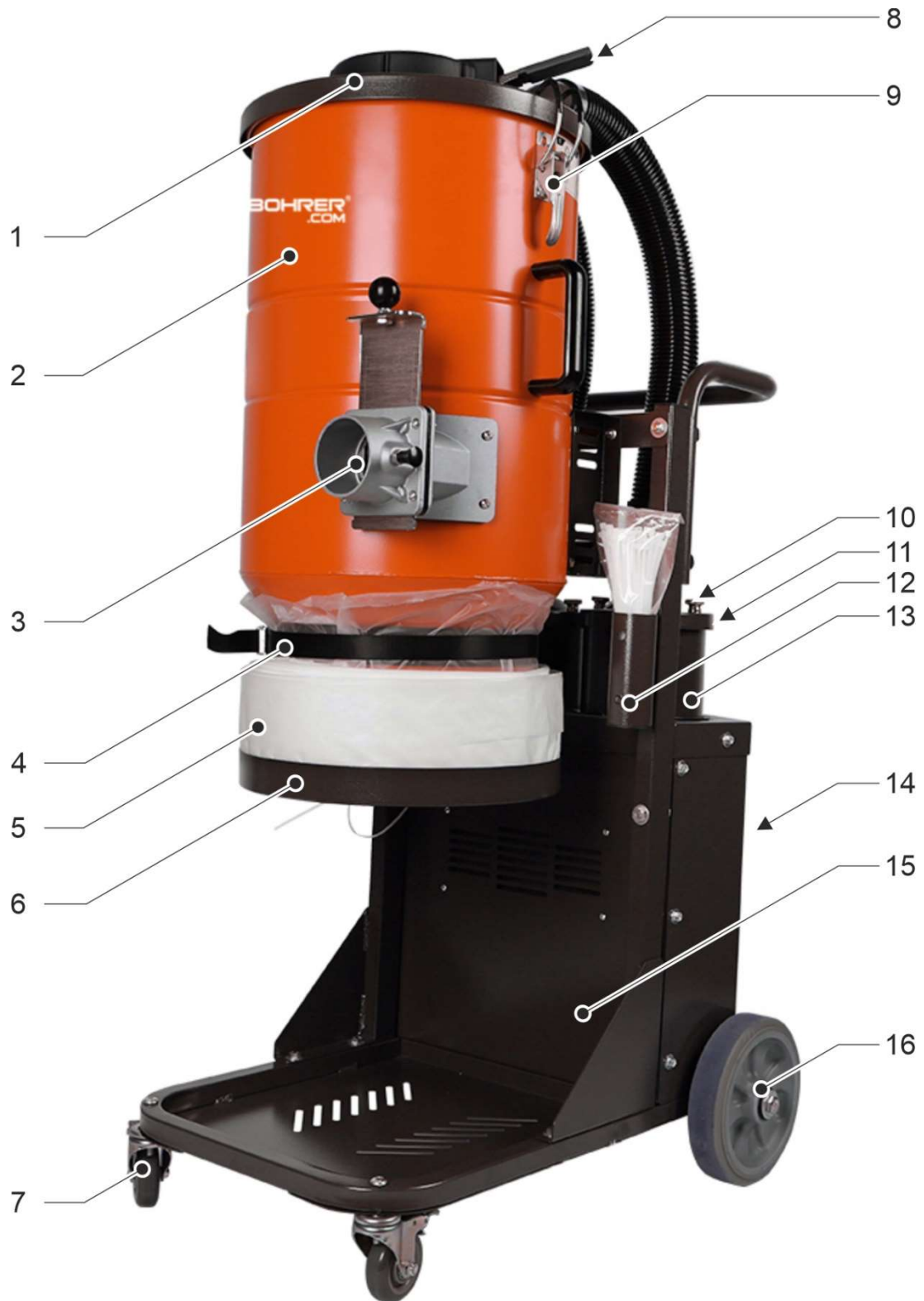
TS-1000/PRO: Left image shows left side; right image shows right side

- 1 Vacuum gauge
- 2 On/off switch



For further machine components, see scope of delivery in chapter 4.2.1 "TS-1000/PRO".

4.1.2 TS-2000/PRO



- 1 Lid of the collection container
- 2 Collection container with pre-filter
- 3 Suction hose connection
- 4 Fastening strap for endless bags
- 5 Endless bag
- 6 Endless bag holder
- 7 Swivel castor with parking brake (2 pieces)
- 8 Filter cleaning lever
- 9 Quick release (2 pieces)
- 10 Nut (2 pieces) of the filter cover (2 pieces)
- 11 Filter cover (2 pieces)
- 12 Container for cable ties
- 13 Suction motor with main filter (2 pieces)
- 14 On/off switch (2 pieces) and vacuum gauge
- 15 Trolley with push handle
- 16 Wheel (2 pieces)

On the TS-2000/PRO, the two on/off switches and the vacuum gauge are lo-



cated on the rear of the machine.

TS-2000/PRO: Rear view

- 1 Vacuum gauge
- 2 On/off switch

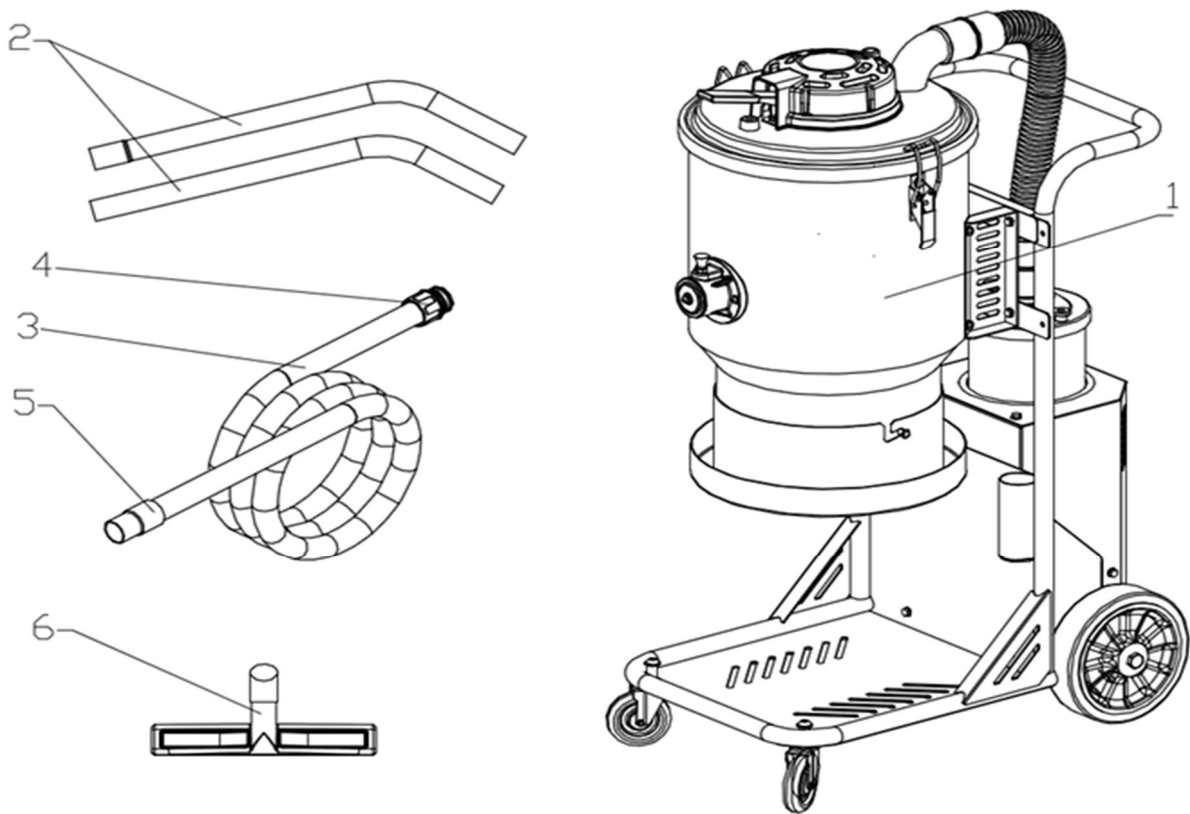


For further machine components, see scope of delivery in chapter 4.2.2 "TS-2000/PRO".

4.2 Scope of delivery

4.2.1 TS-1000/PRO

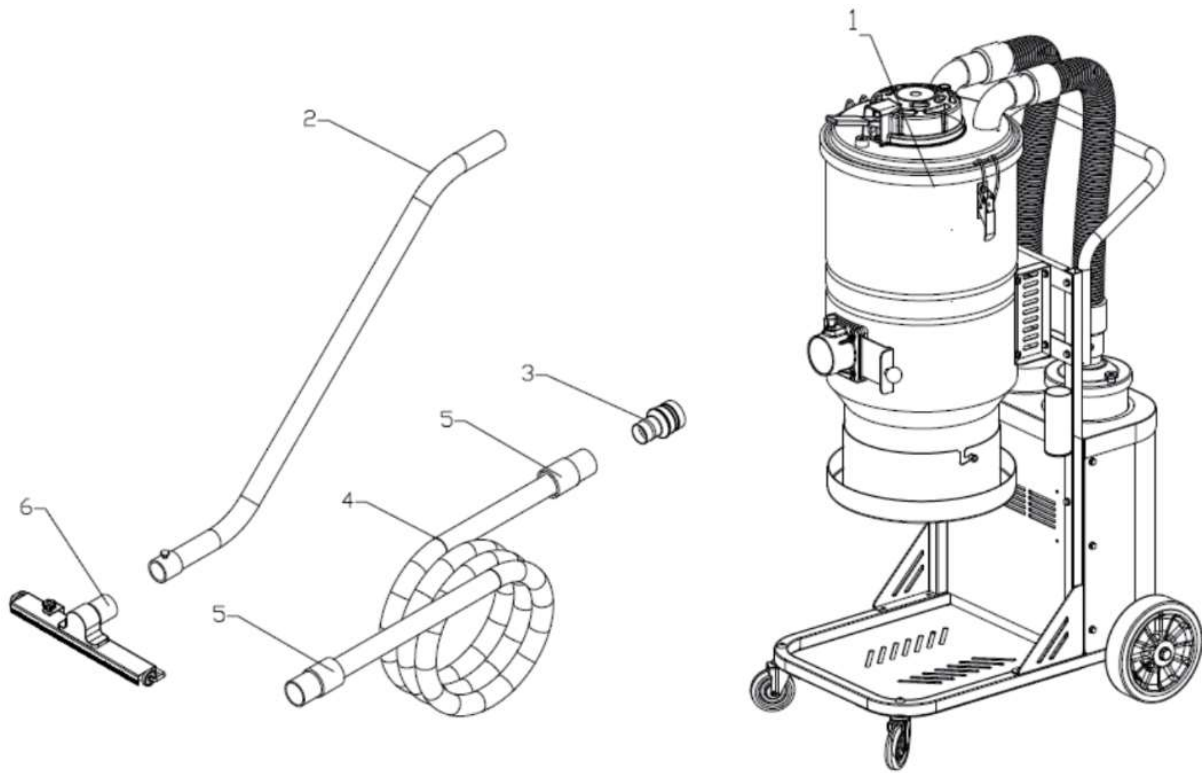
The scope of delivery includes the following components:



- 1 Dry vacuum cleaner TS-1000/PRO
- 2 Suction pipe (Ø 38 mm | 2 pieces)
- 3 Suction hose (Ø 38 mm | length 5 m)
- 4 Full hose sleeve (Ø 38 mm)
- 5 Hose sleeve (Ø 38 mm)
- 6 Bottom brush (Ø 38 mm)

4.2.2 TS-2000/PRO

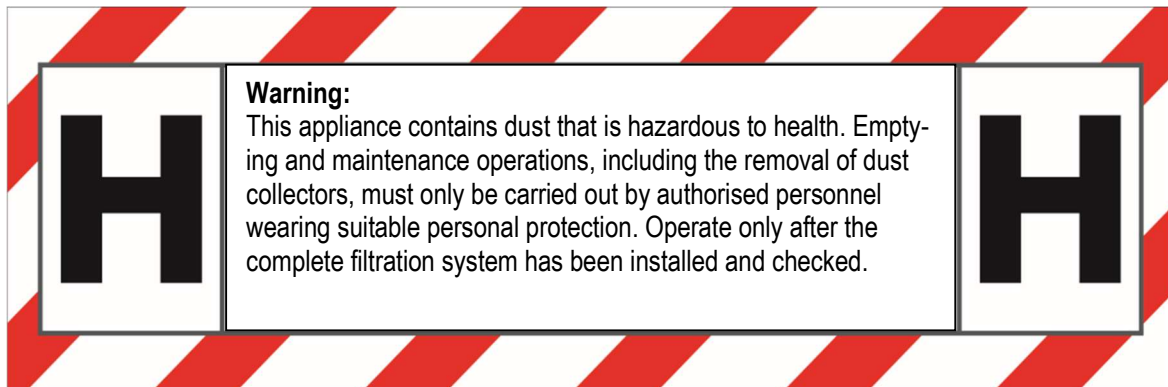
The scope of delivery includes the following components:



- 1 Dry vacuum cleaner TS-2000/PRO
- 2 Suction pipe (Ø 50 mm)
- 3 Reducing piece (Ø 70/50 mm)
- 4 Suction hose (Ø 50 mm | length 7.5 m)
- 5 Hose sleeve (Ø 50 mm | 2 pieces)
- 6 Bottom brush (Ø 50 mm)

5 Utilisation of the machine

5.1 Specific precautions



The machine may only be operated in a room with sufficient room volume or sufficient ventilation:

- In order to comply with the required limit values, the air flow Q_Z returned by the machine must not exceed 50% of the fresh air volume V_F : $Q_Z = 0.5 * V_F$
- The fresh air volume V_F is calculated as the product of the room volume V_R and the air exchange rate L_W : $V_F = V_R * L_W$
- Without special ventilation measures, an air exchange rate of $L_W = 1 / h$ applies.
- For TS-1000/PRO this would result in a minimum room volume of 400 m³.
- For TS-2000/PRO, this would result in a minimum room volume of 800 m³.
- Additional ventilation measures must be taken for smaller rooms.

Other national and regional health and safety regulations must be observed.

The machine does not have the appropriate degree of protection and must therefore not be operated in wet rooms (e.g. bathrooms or laundry rooms).

People or animals must not be vacuumed with the machine.

5.2 Unpacking the machine and fitting accessories

When unpacking the machine, check that all accessories are present.



See chapter 4.2 "Scope of delivery".



If the scope of delivery is not complete, please contact Kernlochbohrer GmbH.

Mounting the accessories:

- Attach the floor brush to the Hoover tube.
- Connect the Hoover pipe to the suction hose.
- Attach the free end of the reducer to the suction hose (only for TS-2000/PRO).

For dust disposal with the endless bag system:

- Insert the cable tie into the holder.

5.3 Working with the machine


5.3.1 Visual inspection of the machine

Before working with the machine, it must be visually inspected:

- Check the general condition and cleanliness of the machine.
- Check that all covers and machine components are present.
- Check that all screws are tight.
- Air inlet and outlet openings must not be dirty or covered.
- Filter system fully installed and checked for function.

5.3.2 Establish electrical connection

Please note the following points:

- Observe the electrical connection values of the appliance.
 See chapter 3 "Technical data".
- The mains cable and mains plug must not be damaged.
- Damaged mains cable or damaged mains plug may only be replaced by Kernlochbohrer GmbH or a qualified electrician.
- The machine is equipped with a type F mains plug (CEE 7/4). The machine may only be operated from a socket outlet with earthing contact (CEE 7/3) that is appropriately earthed.
- When connecting the machine to the mains, a residual current circuit breaker with a maximum tripping current of 30 mA must be connected upstream.
- The machine may only be connected to a socket outlet that is protected by a circuit breaker or a fuse with a minimum current rating of 16 A.
- Never touch the mains plug with wet hands.
- The mains plug and socket must be clean and dust-free.
- The supplied electrical voltage must not deviate by more than 5% from the nominal value. Excessive voltages can lead to irreparable damage to the machine.
- Voltage peaks must not occur when operating the machine with power generators.
- When using extension cables, the cable cross-section must be suitable for the power consumption of the machine.
- When using a cable reel, the cable must always be unrolled completely.
- Grasp the mains plug to remove the mains cable from the socket. Do not pull on the cable.
- If the machine is not to be used for a longer period of time, switch off the machine and remove the mains plug from the socket.

5.3.3 Switch on the machine

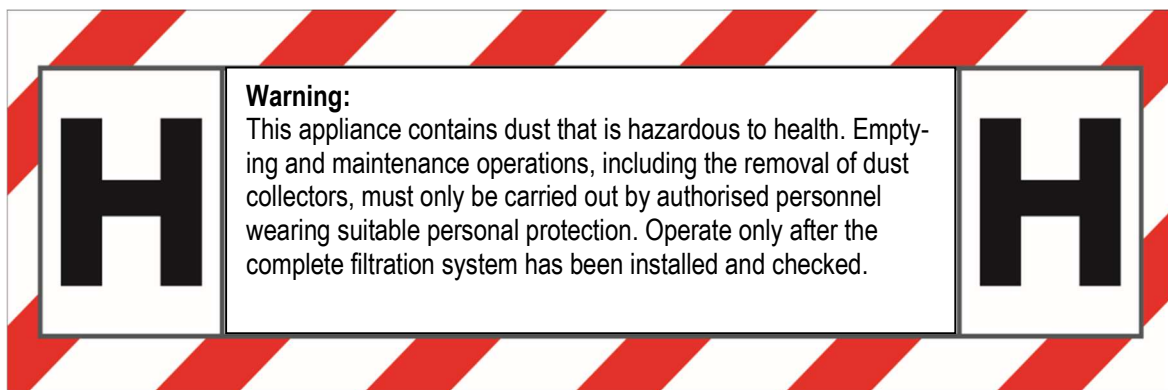
Procedure:

- ☑ Machine unpacked and accessories fitted.
 - 📖 See chapter 5.2 "Unpacking the machine and fitting accessories".
- ☑ Visual inspection of the machine carried out.
 - 📖 See chapter 5.3.1 "Visual inspection of the machine".
- ☑ Endless bag for dust disposal attached.
 - 📖 See chapter 5.3.5 "Dust disposal".
- ☑ Electrical connection established.
 - 📖 See chapter 5.3.2 "Establish electrical connection".
- ☒ Apply the parking brake on both swivel castors to prevent the machine from rolling away.
- ☒ Attach the suction hose to the suction hose connection of the machine.
- ☒ Switch on the machine motor using the on/off switch.
 - ① The on/off switch has two positions:
Position 0: Motor switched off
Position 1: Motor switched on
 - ① TS-2000/PRO has two motors and two separate on/off switches.
This means that the motors can be operated individually or together.
- ↪ Once the motor(s) have fully started up, the machine has reached full power and the suction process can begin.
- ① When using the machine, the suction hose must not be kinked, rolled or twisted!
- ☒ During the suction process, continuously check the contamination of the pre-filter on the vacuum gauge.
 - If the negative pressure is greater than 150 mbar, clean the pre-filter.
 - 📖 See chapter 5.3.4 "Pre-filter cleaning".
- ☒ During the suction process, continuously monitor the fill level in the wand bag. To do this, switch off the motor(s) briefly.
 - When the dust bag is full, replace the dust bag.
 - 📖 See chapter 5.3.5 "Dust disposal".

- ① The machine is equipped with a safety thermal circuit breaker to prevent the motor from overheating. If the thermal protection is triggered, the machine switches off automatically. Disconnect the power supply and check whether the cause is a full dust bag, a blockage in the suction hose or a filter blockage. It can take up to 45 minutes for the safety thermal cut-out to reset.

5.3.4 Pre-filter cleaning

- ① Pre-filter cleaning must be carried out in the following situations:
- During the suction process, the vacuum gauge displays more than 150 mbar.
 - In case of unsatisfactory suction power
 - Before dust disposal
 - At the end of the work



Harmful dust may be emitted when cleaning and maintaining the machine!

Wear safety goggles, protective gloves, disposable protective clothing and a respiratory mask of protection class FFP3!

Procedure:

- ☒ Switch off the machine motor.
- ☒ Remove the suction hose from the suction hose connection.
- ☒ Clean the dirty suction hose or pack it in an airtight plastic bag for temporary storage.
- ☒ Close the suction hose connection with a protective cap (only for TS-1000/PRO).
- ☒ Close the suction hose connection with the sliding cover (only for TS-2000/PRO).
- ☒ Switch on the machine motor, start it up and wait 3 seconds.
 - ↪ Machine builds up vacuum.
- ☒ Quickly press the filter cleaning lever down five times and wait 3 seconds.
 - ↪ The pre-filter is cleaned by a return air pulse.
 - ① It is very important to allow the machine to rebuild the vacuum between each press of the filter cleaning lever.
- ☒ Switch off the machine motor.
- ☒ After the motor has come to a complete standstill: Open the suction hose connection.
- ☒ Attach the suction hose to the suction hose connection of the machine.
- ☒ Switch on the machine motor and continue the suction process.

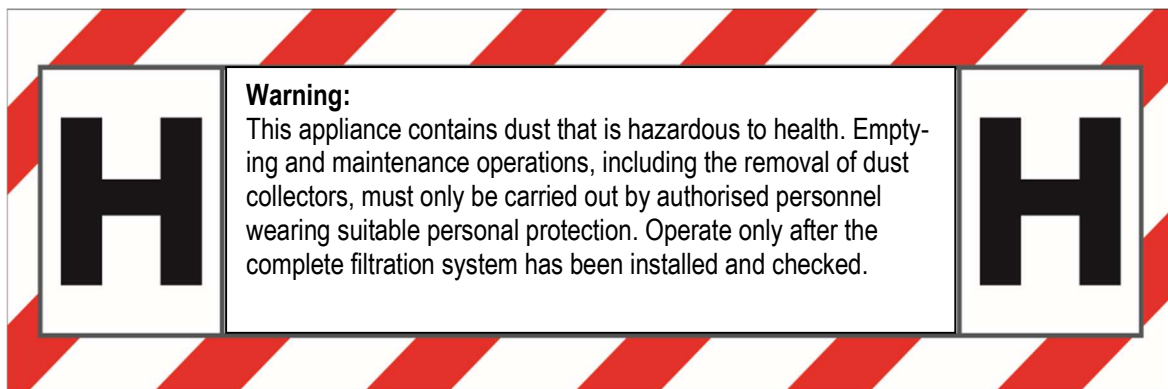
- ① If the suction performance is still unsatisfactory, the pre-filter must be replaced.
 - 📖 See chapter 6.3.3 "Replace pre-filter".

- ① If the suction performance is still unsatisfactory, the main filter must also be replaced.
 - 📖 See chapter 6.3.4 "Replace main filter".

5.3.5 Dust disposal

- ① The machine is equipped with an endless bag system for dust disposal.

The endless bag system is a 22 metres long film tube that can be divided into individual bags that are sealed with cable ties.




Harmful dust may be emitted when cleaning and maintaining the machine!

Wear safety goggles, protective gloves, disposable protective clothing and a respiratory mask of protection class FFP3!

Auxiliary means:

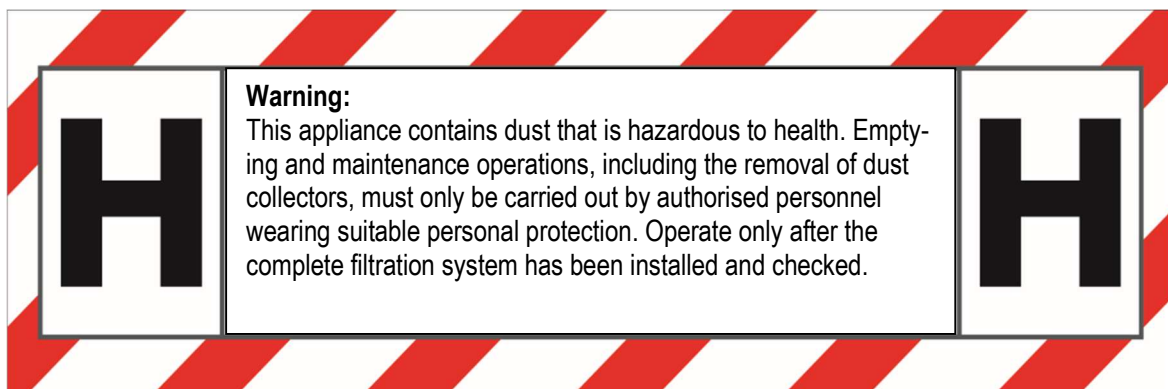
- 2 cable ties
- Scissors

Procedure:

- Carry out pre-filter cleaning.
 See chapter 5.3.4 "Pre-filter cleaning".
- Switch off the machine motor at the on/off switch.
- Remove the mains plug from the socket.

- ☒ Apply the parking brake on both swivel castors to prevent the machine from rolling away.
- ☒ Gather the endless bag just below the collection container and seal it with a cable tie.
- ☒ Attach the second cable tie just below the first cable tie.
- ☒ Cut the endless bag between the two cable ties.
 - ☞ Collected dust is packed in a sealed bag.
 - ⓘ Dispose of the dust bag in an environmentally friendly manner according to the material vacuumed up and in compliance with the applicable regional laws and guidelines.
- ☒ Pull the endless bag down a little from the endless bag holder to create a bag for collecting the dust again.

Attach new endless bag



Harmful dust may be emitted when cleaning and maintaining the machine!

Wear safety goggles, protective gloves, disposable protective clothing and a respiratory mask of protection class FFP3!

Spare part:

Endless bags - article number 6255

Auxiliary means:

Cable ties


Procedure:

- ☒ Open the fastening strap of the endless bag.
- ☒ Remove the remaining piece of the endless bag from the collection container.
- ☒ Lift the endless bag holder and remove it from the collection container by twisting it (bayonet catch).
- ☒ Place a new endless bag on the endless bag holder.
- ☒ Position the endless bag holder with the new endless bag under the collection container.
- ☒ Pull the inner end of the endless bag upwards and position it over the rubber ring on the collection container.
- ☒ Attach the inner end of the endless bag to the collection container using the fastening strap. The fastening strap must seal the endless bag to the rubber ring.
- ☒ Attach the endless bag holder with the new endless bag to the collection container.
- ☒ Pull the outer end of the endless bag down a little from the endless bag holder and close it with a cable tie to create a closed bag for collecting the dust.

5.3.6 Switch off the machine




Before removing the machine and the accessories used from the contaminated area, the exterior of the machine and the accessories must be cleaned.

 See chapter 6.3.2 "Cleaning the machine".

Alternatively, the machine and accessories can be packed in airtight film bags for transport or temporary storage.

Wear safety goggles, protective gloves, disposable protective clothing and a respiratory mask of protection class FFP3!


Procedure:

- ☒ Carry out pre-filter cleaning.
 See chapter 5.3.4 "Pre-filter cleaning".
- ☒ Switch off the machine motor at the on/off switch.
- ☒ Clean the dirty suction hose and accessories or pack them in an airtight plastic bag.
- ☒ Close the suction hose connection with a protective cap (only for TS-1000/PRO).
- ☒ Close the suction hose connection with the sliding cover (only for TS-2000/PRO).
- ☒ Remove the mains plug from the socket.
- ☒ Wind up the mains cable and tie it together.
- ☒ Clean the outside of the machine or pack the machine in an airtight plastic bag.

5.4 Transport of the machine





Before removing the machine and the accessories used from the contaminated area, the exterior of the machine and the accessories must be cleaned.

 See chapter 6.3.2 "Cleaning the machine".

Alternatively, the machine and accessories can be packed in airtight film bags for transport or temporary storage.




Wear safety goggles, protective gloves, disposable protective clothing and a respiratory mask of protection class FFP3!

Procedure:

- ☒ Switch off the machine.
 See chapter 5.3.6 "Switch off the machine".
- ☒ Remove and dispose of the dust bag.
 See chapter 5.3.5 "Dust disposal".
- ☒ Release the parking brake on both swivel castors.
- ☒ Transport the machine as vertically as possible. To do this, push the machine on the castors.
- ☒ To transport the machine over obstacles such as steps or stairs: Lift the machine by the push handle and trolley.
- ☒ After transport:
 - Switch off the machine and secure it against falling over.
 - Apply the parking brake on both swivel castors to prevent the machine from rolling away.

5.5 Store the machine

Procedure:

- ☒ Switch off the machine.
 See chapter 5.3.6 "Switch off the machine".
- ☒ Remove and dispose of the dust bag.
 See chapter 5.3.5 "Dust disposal".
- ☒ Clean the machine.
 See chapter 6.3.2 "Cleaning the machine".
- ☒ Store the machine in a dry, cool place protected from moisture and direct sunlight.
- ☒ Switch off the machine and secure it against falling over.
- ☒ Apply the parking brake on both swivel castors to prevent the machine from rolling away.
- ☒ Secure the machine against unauthorised use.

6 Maintenance

6.1 Notes on proper maintenance

Insufficient or improper maintenance can cause malfunctions and impair the operational safety and service life of the machine. Regular inspection and maintenance is therefore essential. We recommend that maintenance work is only carried out by trained personnel.

The contractually agreed warranty does not release the operator of the machine from the obligation to maintain the machine in accordance with the manufacturer's instructions from the time of commissioning. Kernlochbohrer GmbH is not liable for damage caused by a lack of maintenance.

6.2 Maintenance and inspection plan

The interval specifications refer to normal operating conditions. In more difficult conditions (heavy dust accumulation, etc.) and longer daily working times, the specified intervals must be shortened accordingly by the operator.

Only use the maintenance and inspection schedule as a guide! Be sure to observe the cross-references to chapter 6.3! This contains a detailed description of how to carry out the individual tasks correctly and safely.

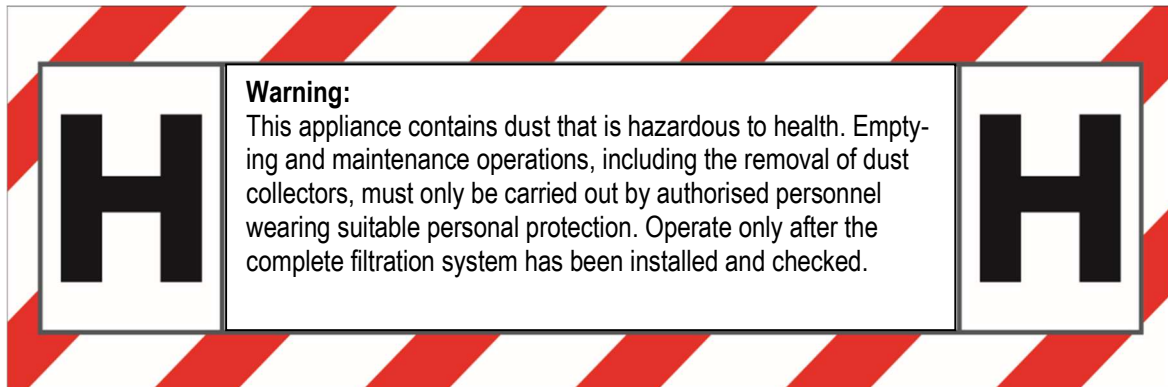
Interval	Category	Component	Activity	Chapter
1 week	Real time	Machine	Cleaning	6.3.2

6.3 Inspection and maintenance

6.3.1 Safety instructions



Cleaning and maintenance of the machine may only be carried out by trained personnel!



Harmful dust may be emitted when cleaning and maintaining the machine!

Wear safety goggles, protective gloves, disposable protective clothing and a respiratory mask of protection class FFP3!



Suitable precautions must be taken before cleaning or maintaining the machine:

- The machine and accessories must be considered contaminated if they are removed from the hazardous area.
- Suitable measures must be taken to avoid dust dispersion.
- Full protective equipment for personnel.
- Before dismantling: Clean the outside of the machine by vacuuming or wiping.
- Filtered forced ventilation at the workplace.
- Final cleaning of the workplace.

6.3.2 Cleaning the machine



Do not use sharp sponges or metal objects to clean the machine. These could damage the surface of the machine.

Do not use high-pressure cleaners, water jets or compressed air to clean the machine. The sharp water or air jet could damage the machine.

No corrosive, harmful or environmentally damaging substances may be used to clean the machine.



Safety instructions in chapter 6.3.1 must be observed!




Interval:

1 week real time

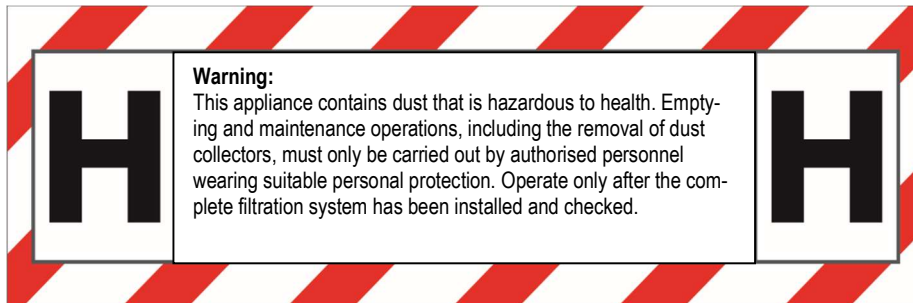
Auxiliary means:

- The cleaning agent should be placed in a container with a mixture of water and mild detergent (e.g. washing-up liquid).
- Cloth and brush

Procedure:

- Pre-filter cleaning carried out.
 See chapter 5.3.4 "Pre-filter cleaning".
- Switch off the machine and remove the mains plug from the socket.
 See chapter 5.3.6 "Switch off the machine".
- Dust bag removed and disposed of.
 See chapter 5.3.5 "Dust disposal".
- Apply the parking brake on both swivel castors.

- ☒ Clean the machine to remove dust and dirt.
 - Use a damp cloth dipped in water mixed with a mild detergent.
 - Water must not be allowed to enter the inside of the housing via the ventilation openings.
- ☒ Clean the air inlet and outlet openings with a brush and damp cloth.
- ☒ Clean all accessories, such as suction hose, floor brush, etc.
- ☒ Allow the machine and accessories to dry completely.
- ☒ Check the mains plug and mains cable for damage. Have damaged parts replaced by a qualified electrician.
- ☒ Check the presence and legibility of the warning sign:



If the warning sign is missing or illegible: Replace the warning sign.

- ☒ Check that all screws on the machine are tight. If necessary, tighten the screws.

6.3.3 Replace pre-filter

- ① Before replacing the pre-filter, it can also be cleaned mechanically. However, the pre-filter must not be mechanically damaged during cleaning, for example by using a brush or compressed air!



Safety instructions in chapter 6.3.1 must be observed!

Spare part:



For TS-1000/PRO: Cone filter - article number 6253

For TS-2000/PRO: Cone filter - article number 6453

Auxiliary means:

Cable ties to seal the plastic bag.

Procedure:

- Pre-filter cleaning carried out.
 -  See chapter 5.3.4 "Pre-filter cleaning".
- Switch off the machine and remove the mains plug from the socket.
 -  See chapter 5.3.6 "Switch off the machine".
- Apply the parking brake on both swivel castors.
- Open both quick-release levers of the cover.
- Remove the lid of the collection container.
- Open the plastic bag of the new pre-filter at the edge so that it can be used to dispose of the old pre-filter.
- Remove the new pre-filter from the plastic bag and have it ready.

- ☒ Remove the old pre-filter from the collection container and place it in the empty plastic bag. Close the plastic bag tightly with a cable tie.
 - ① Dispose of the pre-filter in an environmentally friendly manner according to the material sucked up and in compliance with the applicable regional laws and guidelines.
- ☒ Insert a new pre-filter into the collection container.
- ☒ Attach the lid of the collection container and secure with quick-release fasteners.

6.3.4 Replace main filter

- ① When the main filter is replaced, the pre-filter should always be replaced as well. Otherwise, the main filter may become clogged more quickly.

The main filter cannot be cleaned.

- ① When replacing the main filter, ensure that the inside of the new main filter is not touched. Any damage to the inside of the new main filter will destroy it.

- ① The TS-1000/PRO dry vacuum cleaner has a main filter.
The TS-2000/PRO dry vacuum cleaner has two main filters. These must always be replaced together.



Safety instructions in chapter 6.3.1 must be observed!

Spare part:




For TS-1000/PRO: 1 piece - main filter H13 - article number 6254

For TS-2000/PRO: 2 pieces - main filter H13 - article number 6254

Auxiliary means:

Cable ties or adhesive tape to seal the plastic bag.

Procedure:

- ☑ Pre-filter cleaning carried out.
 See chapter 5.3.4 "Pre-filter cleaning".
- ☑ Switch off the machine and remove the mains plug from the socket.
 See chapter 5.3.6 "Switch off the machine".
- ☑ Pre-filter replaced.
 See chapter 6.3.3 "Replace pre-filter".
- ☒ Apply the parking brake on both swivel castors.

Perform for each main filter:

- ☒ Remove both nuts from the filter cover.
- ☒ Remove the filter cover.
- ☒ Open the plastic bag of the new main filter at the edge so that it can be used to dispose of the old main filter.
- ☒ Only touch the new main filter on the outside, remove it from the plastic bag and keep it ready.
- ☒ Remove the old main filter from the main filter housing and place it in the empty plastic bag. Seal the plastic bag tightly with a cable tie.
 - ① Dispose of the main filter in an environmentally friendly manner in accordance with the material sucked up and in compliance with the applicable regional laws and guidelines.
- ☒ Only touch the new main filter on the outside and insert it into the main filter housing.
- ☒ Fit the filter cover and secure with nuts.

7 Troubleshooting

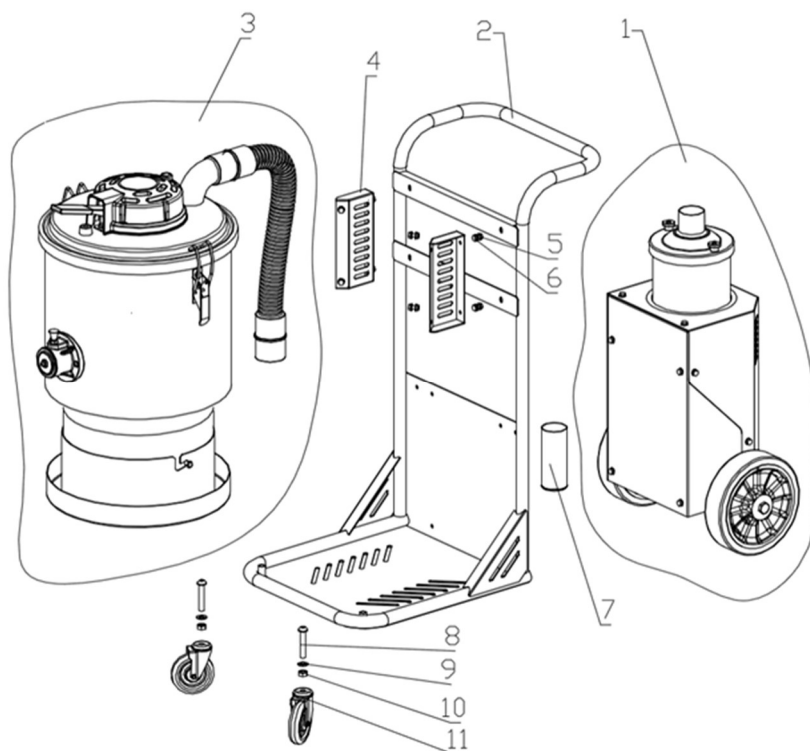
If a fault occurs during operation of the machine, please first try to rectify the fault yourself using the following information.

If you are unable to rectify the fault yourself, please contact Kernlochbohrer GmbH.

Malfunction	Possible cause	Troubleshooting	Chapter
Engine does not start	No power supply	Plug in the mains plug	5.3.2
	Power cable defective	Have the mains cable replaced by a qualified electrician	
	On/off switch defective	Have the on/off switch replaced by a qualified electrician	
Engine stops immediately after starting	Short circuit on mains cable or machine	Have the mains cable and machine checked by a qualified electrician	
Motor runs, but no suction power	Suction hose not connected	Connecting the suction hose	5.3.3
	Suction hose clogged or blocked	Cleaning the suction hose	6.3.2
	No dust bag inserted	Insert dust bag	5.3.5
Motor runs, but poor suction power	Suction hose damaged	Replacing the suction hose	
	Filter dirty	Replace filter	6.3.3 + 6.3.4
	Cover of the collection container or filter cover of the main filter loose	Fasten the lid or filter cover	
Abnormal noises		Please contact Kernlochbohrer GmbH	

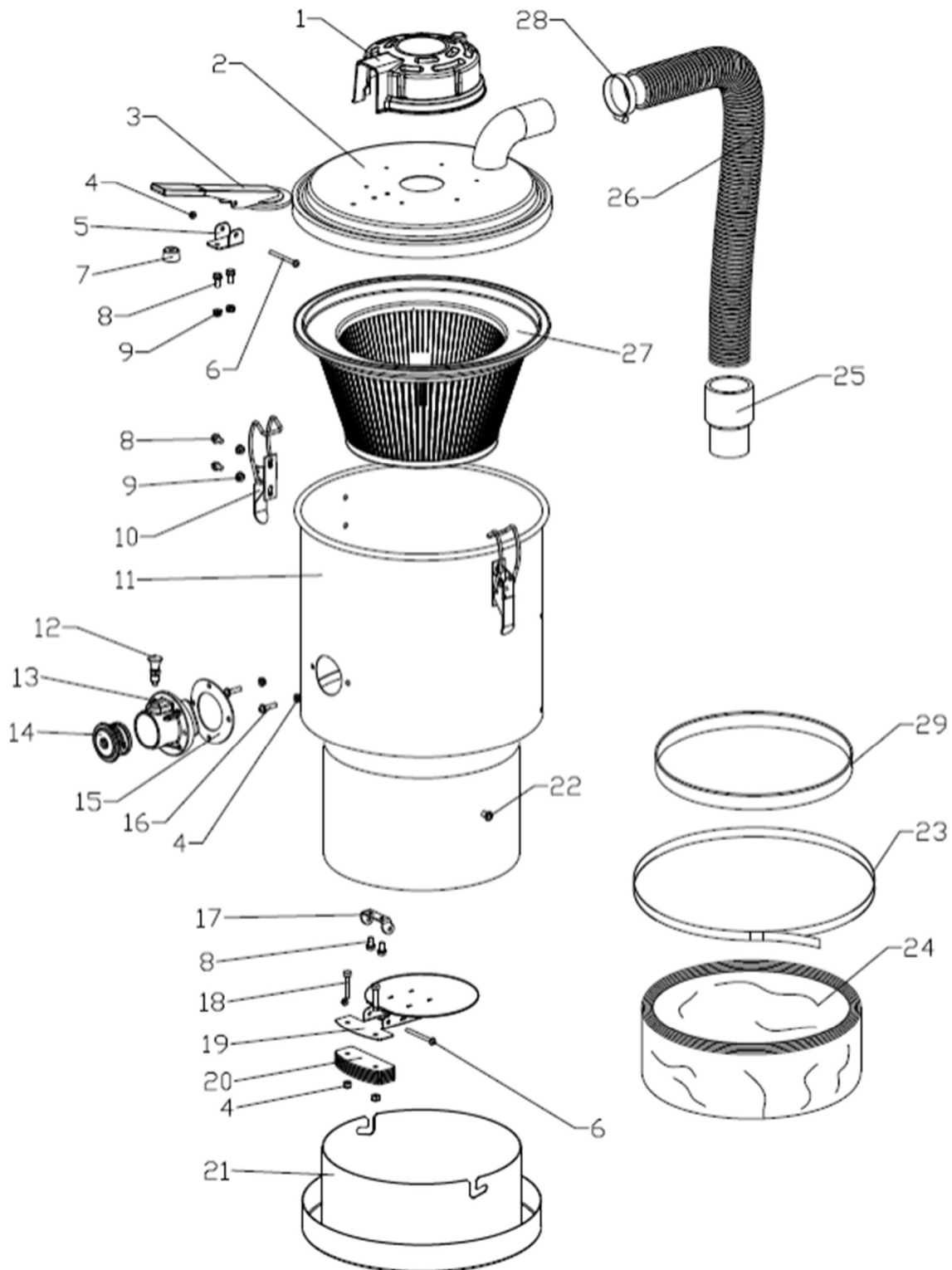
8 Spare parts

8.1 TS-1000/PRO



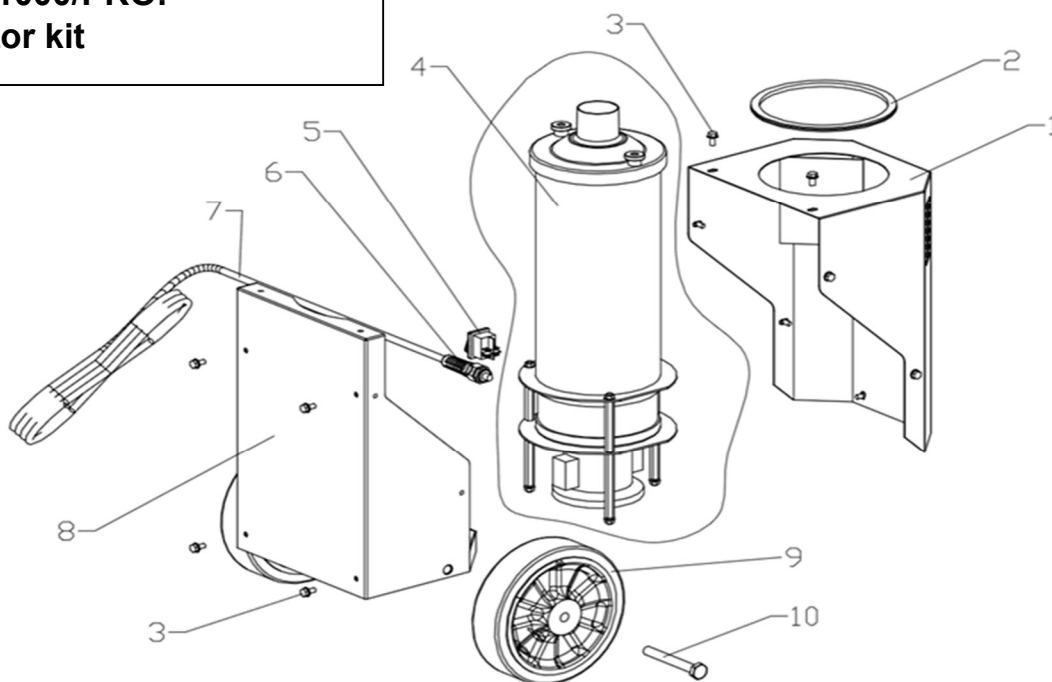
No.	Designation	Quantity	Size
1	Motor set	1	
2	TS-1000/PRO trolley complete	1	
3	TS-1000/PRO collection container	1	
4	Connecting plate	2	
5	Screw	4	M6*12
6	Mother	4	M6
7	Storage container for cable ties	1	
8	Screw	2	M10*60
9	Washer	2	M10
10	Lock nut	2	M10
11	Front wheel	2	3"

TS-1000/PRO: Collecting container



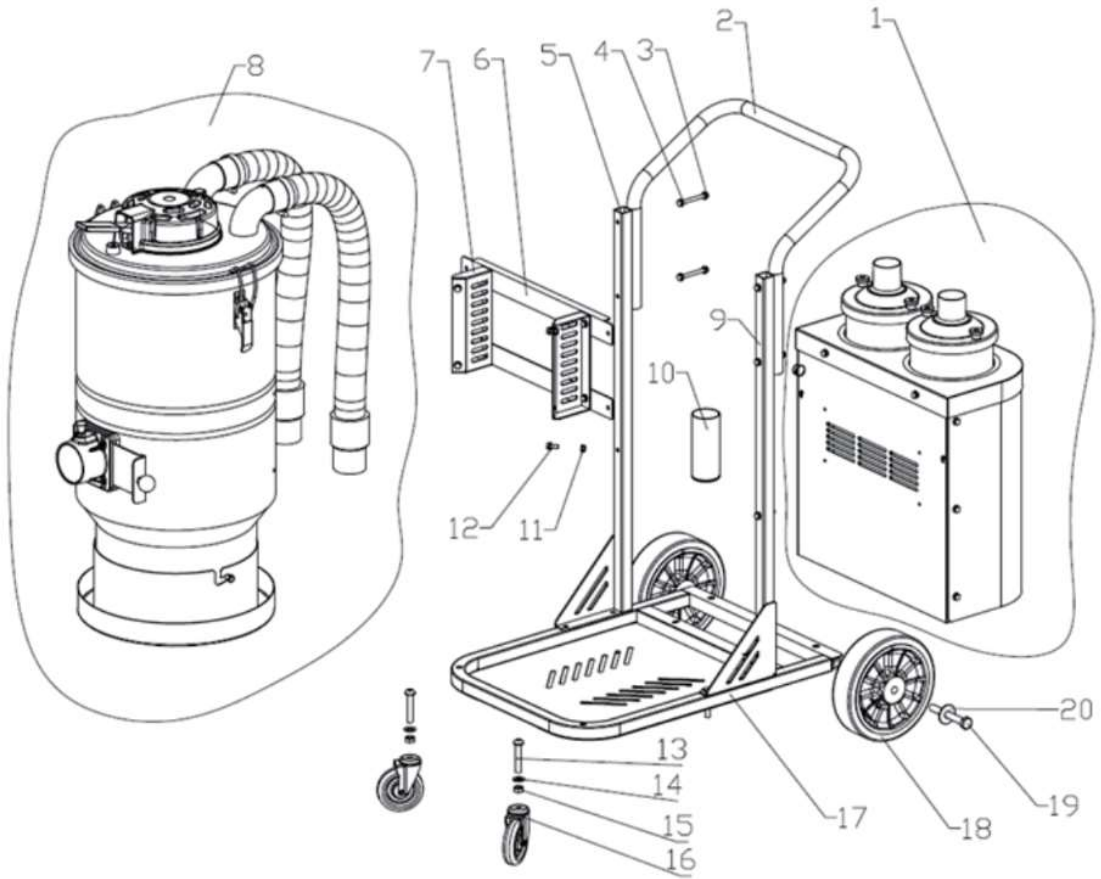
No.	Designation	Quantity	Size
1	Plastic cover	1	
2	Cover TS-1000/PRO	1	
3	Lever (for jet pulse filter cleaning)	1	
4	Mother	5	M6
5	Lever bracket	1	
6	Screw	2	M6*60
7	Damper	1	
8	Screw	6	M6*12
9	Mother	8	M6
10	Quick release	2	
11	TS-1000/PRO container	1	
12	Index Plunger	1	
13	D50 Inlet	1	
14	Inlet gasket complete set	1	
15	Sealing ring for D50 inlet	1	
16	Screw	2	M6*20
17	Bracket	1	
18	Screw	2	M6*35
19	Flap mounting kit	1	
20	Balancing weight	6	
21	Endless bag holder	1	
22	Mother	2	M8*15
23	Clamping ring	1	
24	Endless filter bags	1	
25	D50 Antistatic hose cuff	2	
26	D50 EVA antistatic hose	1	D50*520mm
27	TS-1000/PRO main filter	1	
28	Hose clamp	1	40-63mm
29	Rubber ring	1	

**TS-1000/PRO:
Motor kit**



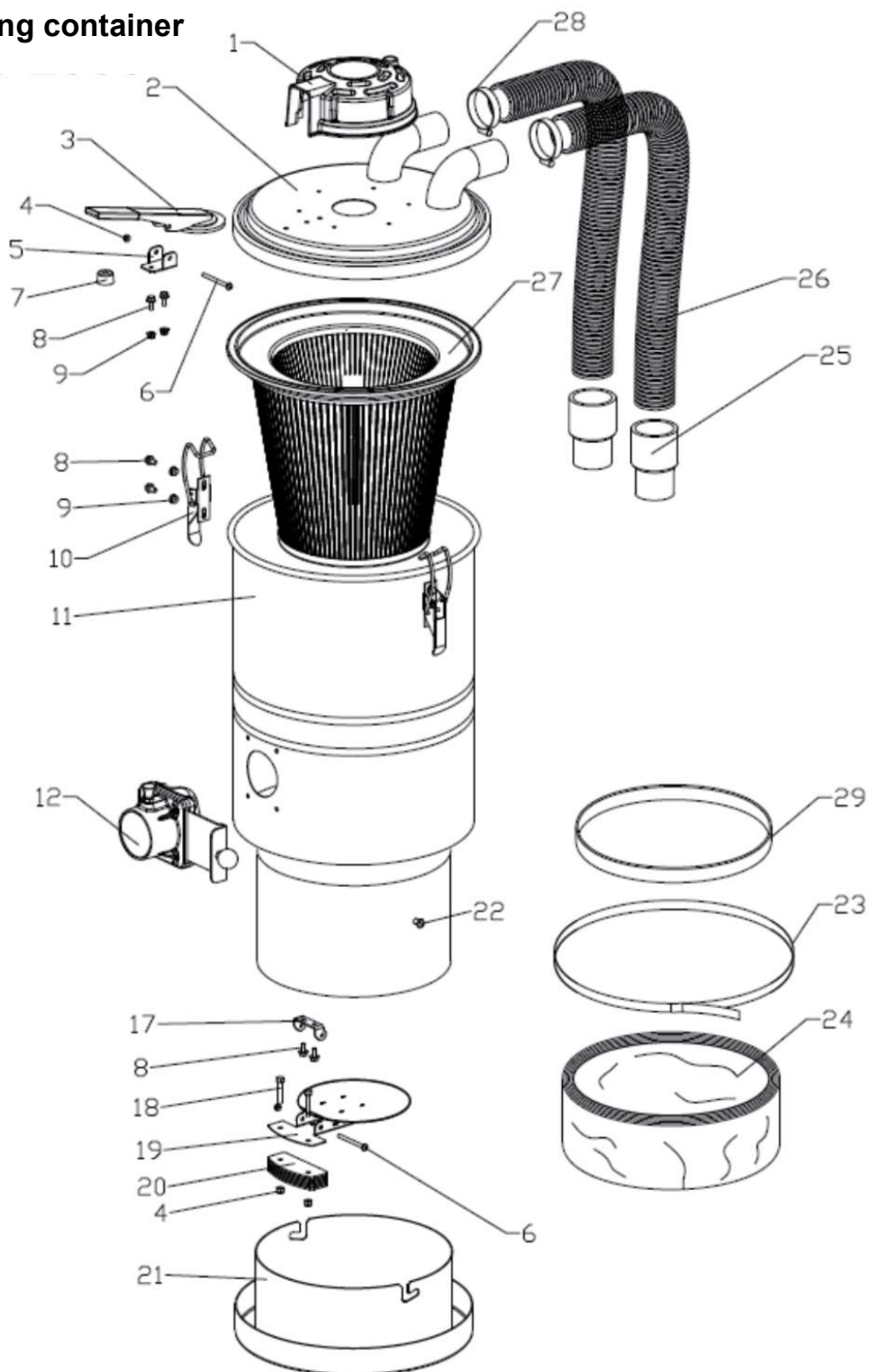
No.	Description of the	Quantity	Size
1	TS-1000/PRO engine cowling	1	
2	Rubber ring	1	
3	Mother	12	M6*12
4	Motor set	1	
5	Switches	1	
6	Plug	1	PG11
7	Cable with mains plug	1	3*1.5 / 8 metre length / RVV-10A power plug
8	TS-1000/PRO engine cowling	1	
9	Wheel	1	8"
10	Screw	2	M12*100

8.2 TS-2000/PRO



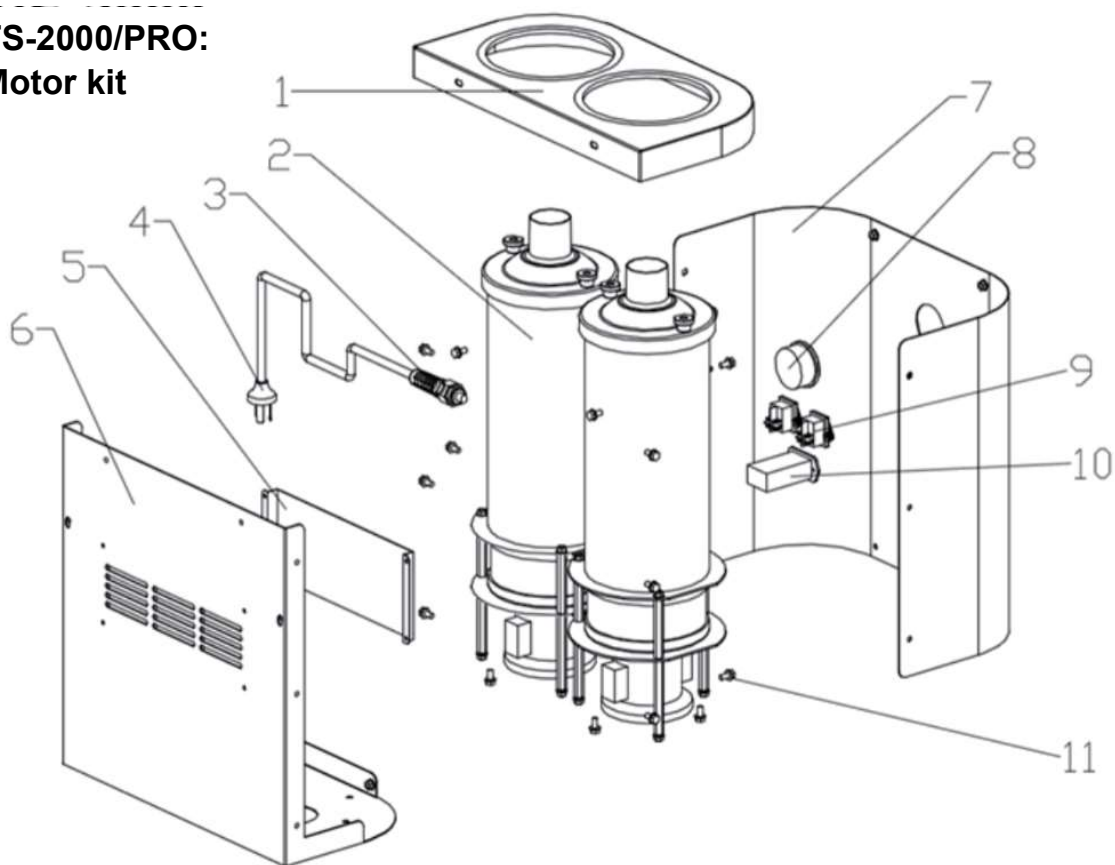
No.	Designation	Quantity	Size
1	Motor set TS-2000/PRO	1	
2	TS-2000/PRO trolley complete	1	
3	Mother	4	
4	Screw	4	M6*60
5	TS-2000/PRO right upright	1	
6	Support for connecting plate	2	
7	Connecting plate	2	
8	TS-2000/PRO collection container	1	
9	TS-2000/PRO left upright	1	
10	Storage container for cable ties	1	
11	Mother	8	M6
12	Screw	4	M6*12
13	Screw	2	M10*60
14	Washer	2	M10
15	Mother	2	M10
16	Front wheel	2	3"
17	TS-2000/PRO base plate	1	
18	Rear wheel	2	8"
19	Screw	2	M12*100
20	Washer	2	M12*30*2.5

**TS-2000/PRO:
Collecting container**



No.	Designation	Quantity	Size
1	Plastic cover	1	
2	Cover TS-2000/PRO	1	
3	Lever (for jet pulse filter cleaning)	1	
4	Mother	5	M6
5	Lever bracket	1	
6	Screw	2	M6*60
7	Damper	1	
8	Screw	6	M6*12
9	Mother	8	M6
10	Quick release	2	
11	TS-2000/PRO container	1	
12	D70 inlet	1	
13	Bracket	1	
14	Inlet gasket complete set	1	
15	Hexagon head screw	1	M6*60
21	Endless bag holder	1	
22	Mother	2	M8*15
23	Hose clamp	1	
24	Endless filter bags	1	
25	D50 Antistatic hose cuff	6	
26	D50 EVA antistatic hose	2	D50*520mm
27	TS-2000/PRO main filter	1	M8*15
28	Hose clamp	2	40-63mm
29	Rubber ring	1	

**TS-2000/PRO:
Motor kit**



No.	Description of the	Quantity	Size
1	TS-2000/PRO engine cowling	1	
2	Motor set	2	
3	Connection	1	PG11
4	Cable with mains plug	1	3*1.5 / 8 metre length RVV-10A plug
5	Baffle	1	
6	TS-2000/PRO front engine cowling	1	
7	TS-2000/PRO rear engine cowling	1	
8	Vacuum gauge	1	
9	Switches	2	
10	Hour counter	1	
11	Screw	20	M6*12

9 EU Declaration of Conformity

The manufacturer/distributor

Kernlochbohrer GmbH
Geigersbühlweg 52
72663 Großbettlingen
Germany

hereby declares that the following product

Product description: **Dry vacuum cleaner**
Type: **TS-1000 / PRO TS-2000 / PRO NTS-38/HEPA**

complies with all relevant provisions of the applicable legal regulations (hereinafter) - including their amendments valid at the time of the declaration. This declaration of conformity is issued under the sole responsibility of the manufacturer. This declaration relates only to the machine in the state in which it was placed on the market; parts and/or modifications subsequently fitted by the end user are not taken into account.

The following legal provisions were applied:

Machinery Directive 2006/42/EC
EMC Directive 2014/30/EC

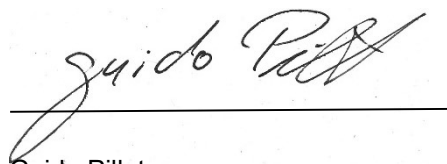
The following harmonised standards were applied:

EN ISO 12100	Safety of machinery - General principles for design - Risk assessment and risk reduction (ISO 12100:2010)
EN 60335-1:2012/A15:2021	Safety of household and similar electrical appliances - Part 1: General requirements
EN 60355-2-69:2016	Household and similar electrical appliances - Safety - Part 2-69: Particular requirements for commercial vacuum cleaners and water vacuum cleaners
EN IEC 61000-6-2:2019	Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity for industrial environments
EN IEC 61000-6-4:2019	Electromagnetic compatibility (EMC) - Part 6-4: Generic standards - Emission for industrial environments

Name and address of the person authorised to compile the technical documentation:

Kernlochbohrer GmbH | Geigersbühlweg 52 | 72663 Großbettlingen | Germany

Großbettlingen 2025-03-03
Kernlochbohrer GmbH



Guido Pillat
Managing Director / Chief Executive Officer