

Instruction Manual

— Cyclon extraction unit

— ZAA 1351

— ZAA 1353



ZAA 1353

ZAA SERIES

Imprint

Product identification

Cyclon extraction unit	Item number
ZAA 1351	5924134
ZAA 1353	5924135

Manufacturer

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Information about the operating instructions

Original operating instructions

Published: 23.03.2021
Version: 2.02
Language: English

Author: FL/CW

Copyright information

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Subject to technical changes and errors.

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1 Introduction

You have made an excellent choice in purchasing a HOLZSTAR Cyclon extraction unit.

Carefully read the operating instructions prior to commissioning.

They describe correct commissioning, intended use and safe as well as efficient operation and maintenance of the Cyclon extraction unit.

The operating instructions form part of the Cyclon extraction unit. Always keep them at the Cyclon extraction unit location of use. Please also observe the local accident prevention regulations and general safety regulations for the use of the Cyclon extraction unit.

1.1 Copyright

The contents of these operating instructions are protected by copyright. Their use is permitted within the context of using the Cyclon extraction unit. Any further use shall not be permitted without written consent by the manufacturer.

To protect our products, we register our rights to our brands, patents and designs where possible in each individual case. We take strong action against any violation of our intellectual property.

1.2 Customer service

Please contact your specialist retailer if you have any questions regarding your Cyclon extraction unit or require any technical information. Your specialist retailer will be happy to support you with specialist advice and information.

Germany:

Stürmer Maschinen GmbH
Dr.-Robert-Pfleger-Str. 26
D-96103 Hallstadt

Repair service:

Fax: 0049 (0) 951 96555-111
E-Mail: service@stuermer-maschinen.de
Internet: www.holzstar.de

Spare parts orders:

Fax: 0049 (0) 951 96555-119
E-Mail: ersatzteile@stuermer-maschinen.de

Please submit any information and experiences you make during application of the machine as these may be valuable for product improvements.

1.3 Disclaimer

All data in this operation manual has been compiled on the basis of the state-of-the-art, valid standards and guidelines as well as our many years of expertise and experience.

The manufacturer shall not be liable for damage in the following cases:

- Failure to comply with the operation manual,
- Unintended use
- Deployment of untrained staff
- Conversions at one's own responsibility
- Technical modifications
- Use of unauthorised spare parts

The actual scope of delivery may deviate from the descriptions and illustrations in this document as a result of special variants, optional extras or recent, technical modifications. The obligations defined in the supply contract shall apply in addition to the general terms and conditions and the manufacturer's general terms and conditions as well as the statutory regulations valid at the time of the conclusion of the contract.

2 Safety

This section provides an overview of all important safety packages for personal protection as well as safe and reliable operation. The individual sections contain additional, task-specific safety information.

2.1 Legend of symbols

Safety instructions

Safety instructions in this operation manual have been highlighted with symbols. Safety instructions are indicated by signal terms that express the degree of risk involved.



DANGER!

This combination of symbol and signal term indicates a directly dangerous situation which may cause death or serious injury if not averted.



WARNING!

This combination of symbol and signal term indicates a potentially hazardous situation which may cause minor or light injuries if it is not averted.



IMPORTANT!

This combination of symbol and signal term indicates a potentially dangerous situation which may cause material damage or harm the environment if it is not averted.



ATTENTION!

This combination of symbol and signal word indicates a potentially hazardous situation which, if not avoided, could result in material and environmental damage.



NOTE!

This combination of symbol and signal term indicates a potentially dangerous situation which may cause material damage or harm the environment if it is not averted.

Tips and recommendations



Tips and recommendations

This symbol highlights useful tips and recommendations as well as information for efficient and reliable operation.

Observe the safety information in these operating instructions to minimise the risk of personal injury as well as material damage and prevent hazardous situations.

2.2 Operator responsibility

Operators are defined as the persons who operate the machine for commercial or profit-based purposes or provide the machine to third parties for use or application and bear the legal product responsibility in terms of the protection of users, staff or third parties during operation.

Obligations of the operator:

If the machine is used for commercial purposes, operators are subject to the legal stipulations in terms of occupational safety. For this reason, the safety instructions in these operating instructions as well as the safety, accident prevention and environmental protection regulations valid at the installation location must be complied with. In this process, the following shall apply in particular:

- Operators shall obtain information about valid occupational safety regulations and determine additional hazards as part of a risk assessment which result from the specific operating conditions at the machine's installation location. Said risk assessment shall be reflected in operating instructions for machine operation.
- During the entire machine operating time operators must check whether the operating instructions they created meet current standards and adapt the operating instructions where necessary.
- Operators shall clearly manage and specify the responsibilities for installation, operation, troubleshooting, maintenance and cleaning.
- Operators must make sure that all persons handling the machine have read and understood these operating instructions. Operators must also regularly train staff and notify of the hazards.
- Operators shall provide staff with the required protective equipment and wearing the required protective equipment shall be mandatory.

Operators shall also be responsible for maintaining the machine in a technically perfect condition. For this reason, the following shall apply:

- Operators shall make sure that the maintenance intervals described in these operating instructions are complied with.
- Operators shall regularly check that the safety equipment is fully functional and complete.

2.3 Operating staff qualification

The different tasks described in these operating instructions require different levels of skills in terms of the qualifications of operating staff working with the machine.



WARNING!

Risk from inadequately qualified persons!

Inadequately qualified persons are unable to assess the risks when handling the machine, thus putting themselves and others at risk of severe injuries.

- All work must be carried out by qualified persons only.
- Keep inadequately qualified persons and children away from the work area.

Exclusively persons of whom it can be expected that they reliably complete assigned tasks shall be authorized to carry out any tasks. Persons whose reactions have been impaired shall not be authorized, e.g. drug users, users under the influence of alcohol or medication.

These operating instructions specify the following personal qualifications for the different tasks:

Operating staff:

Operating staff has undergone an induction by the operator about the entrusted tasks and potential hazards resulting from improper behaviour. Tasks which go beyond normal operation may only be carried out by the operator if they are listed in the operation manual and the operator has made him/herself familiar with them.

Qualified electrician:

Due to the electrician's specialised training, know-how, experience and knowledge of pertinent standards and regulations the electrician is in a position to work on the electrical systems, and autonomously identify and avoid potential hazards.

Specialist staff:

As a result of specialist training, expertise, experience and skills in terms of the relevant standards and regulations, specialist staff is able to complete the tasks they are entrusted with and independently identify hazards and avert risks.


Manufacturer:


Certain work must be carried out by manufacturer specialist staff only. Other staff is not permitted to carry out this work. Contact our customer service to have the work carried out.


2.4 Personal protective equipment

Personal protective equipment is intended to protect the health and safety of persons at work. Staff must wear the personal protective equipment indicated in individual sections of these operating instructions when carrying out the different tasks on the machine.


The personal protective equipment is described in the following section:


 **Ear protection**
The ear protection protects against hearing damage caused by noise.

 **Eye protection**
Protective glasses protect the eyes against projected parts and splashes of liquid.

 **Protective gloves**
The protective gloves serve to protect the hands from sharp-edged components, as well as from friction, abrasions or deeper injuries.

 **Breathing protection**
Respiratory protection is used to protect the respiratory tract and lungs from the ingestion of dust particles.

 **Safety shoes**
Safety shoes protect feet from pinching, falling parts and slipping on slippery surfaces.

 **Protective clothing**
Protective work clothing is close-fitting work clothing, without protruding parts, with low tear resistance.

2.5 Safety labels on the device

The following safety markings are attached to the Cyclon extraction unit (Fig. 1), which must be observed and followed.



Fig. 1: Safety labels

The safety markings attached to the machine must not be removed. Damaged or missing safety markings can lead to incorrect actions, personal injury and damage to property.

They must be replaced immediately. If the safety markings are not recognisable and comprehensible at first glance, the machine must be taken out of operation until new safety markings have been applied.

2.6 General security measures

The following must be observed:



CAUTION!

Despite observing all working instructions, safety and accident prevention regulations, there is still a residual risk when handling the machine.

There is still a residual risk when handling the machine. You can reduce the residual risk by working and acting with concentration and foresight.

- The cyclone extraction system may only be operated and maintained by persons who have read and understood these operating instructions. The operator must be adequately trained in use, adjustment and operation.
- If you pass on this cyclone extraction system, you must hand over all tools and documents supplied with the cyclone extraction system.
- Do not switch on the machine until immediately before starting the extraction work. Switch off the machine during work breaks and when not in use. Do not leave the machine unattended when it is ready for operation.
- Never open the protective covers while the cyclone extraction system is in operation.
- Keep the workplace and the floor around the cyclone extraction system free of any objects that could endanger your stability or pose a tripping hazard. Keep the workplace tidy. Disorder can result in accidents.
- Check the danger zone before and during work to ensure that no unauthorised persons are present. Do not allow other people, especially children, to operate the cyclone extraction system.
- Only use the machine in dry rooms or in dry surroundings and ensure that the working area is sufficiently illuminated.
- Protect the machine from wetness and moisture to avoid electrical hazards.
- Take good care of the machine in order to be able to work well and safely with it in the long term. Follow the instructions for maintenance.
- Wood dust is explosive and can be harmful to health. In particular, tropical woods and hard woods such as beech and oak are classified as carcinogenic.
- Ensure that the environment in which the machine is operated is cleaned regularly - excessive dust deposits on skylights, heaters, electrical panels or other heat sources increase the risk of fire
- To reduce this risk, ensure that the machine is thoroughly earthed.
- Do not operate the cyclone extractor outdoors in the rain or in wet places - contact with water can cause electric shock or shorten the life of the machine.
- Do not allow steel or stones to strike the impeller - this can produce sparks. Sparks can smoulder in wood dust for a long time before a fire is detected. If you accidentally cut into wood that contains foreign metal (nails, staples, spikes, etc.), switch off the machine immediately and unplug it from the mains.
- Work with common sense and concentration. Do not use the cyclone extraction system if you are not concentrated.
- Defective or damaged parts of the machine must be replaced immediately.
- Do not operate the machine in areas with a high risk of explosion. High risk areas include, but are not limited to, areas near pilot lights, open flames or other sources of ignition.
- Never place your hands or tools near the intake nozzle during operation. The suction could easily cause accidental contact with the impeller, resulting in serious injury or damage to the machine.
- Operation or maintenance of the cyclone suction system is prohibited for persons under 18 years of age or who are under the influence of alcohol, drugs or medication.
- Keep children away from the machine.
- Operate the machine only with safety devices fully and correctly fitted and do not modify anything on the machine that could affect safety.
- There must be adequate ventilation and lighting.
- Before starting extraction work, inform yourself about the type of material to be processed and about any possible health risk from released dusts. Take appropriate precautions if necessary
- Always wear hearing protection and respiratory protection when working with the cyclone extraction system. Wearing loose clothing (ties, scarves, open jackets and clothing that is not tight-fitting) is prohibited. There is a risk of injury from getting caught or pulled into moving machine parts. Wear a hair net if you have long hair.
- Avoid unnatural posture and maintain balance at all times. Wear work shoes to increase their stability.
- Do not vacuum flammable gases or materials (e.g. paint or paint mist) or metallic parts.
- Before further use of the machine, carefully check the protective devices or slightly damaged parts for proper and intended function.
- Damaged guards and parts must be properly repaired or replaced by a recognised specialist workshop or by the manufacturer, unless otherwise stated in the operating instructions.

- Switch off the machine and disconnect the mains plug from the socket when carrying out repair work, maintenance, cleaning and replacing the dust filter bag.
- Use only original spare parts.
- Do not use the cyclone extraction system if it does not allow the machine to be switched on or off properly with the switch and the control components do not reach their proper operating state.
- Protect the mains cable from heat, oil and sharp edges.
- Replace a damaged mains cable immediately.
- The connector of the connection cable must be splash-proof.
- The plugs on connection cables must be made of or covered with rubber, non-rigid PVC or another thermoplastic material with the same mechanical stability.
- When laying the power cable, make sure that it is not crushed, bent or wet.
- Unwind the cable completely when using a cable drum.
- Check the extension cables regularly and replace them if they are damaged.
- Do not use defective connection cables.
- Do not make temporary electrical connections.
- Never bypass or disable protective devices.
- Only use dust filter bags that are not damaged.
- Replace damaged filter bags immediately. Do not use the machine until the filter bag is replaced.
- Do not use the machine for purposes for which it is not intended.
- Do not overload the cyclone extraction system. It works better and safer in the specified power range. Do not use the cyclone extraction system for heavy work that requires a more powerful machine.
- Check the stability of the machine.
- Be aware that the use of tools and accessories other than those recommended by the manufacturer may cause injury.
- Check that all repair and adjustment tools have been removed before switching on.
- This machine is not designed to pick up hazardous dust.
- Wear a dust mask (filter mask with particle filter) when changing and emptying the dust filter bag..
- Before each maintenance and dust filter bag change, the cyclone extraction system must be secured against accidental start-up.
- Never reach into the machine when it is running or is about to run down.

- To avoid contact with the rotating fan wheel, unused suction connections must always be covered.
- All guards and safety devices must be refitted immediately after repair or maintenance has been completed.
- After maintenance, repair and cleaning work, check that all covers and protective devices are properly refitted to the machine and that no tools are inside or in the extraction area of the machine.

3 Intended use



WARNING!

If the cyclone extraction system is not used as intended, there is a risk to personnel, the cyclone extraction system and other material assets of the operator, and the function of the machine may also be impaired.

The cyclone extraction unit is used to extract chips that are produced when working with wood or wood-like materials. The suction of metallic or metal-like materials or rocks is not permitted.

The cyclone extraction unit may only be installed and operated in dry rooms. If the cyclone extraction system is used in any other way than that stated above, the cyclone extraction system is no longer being used for its intended purpose.

No liability is accepted for damage due to improper use.

Stürmer Maschinen GmbH accepts no liability for design and technical modifications to the cyclone extraction unit.

Claims of any kind for damage due to improper use are excluded..

3.1 Residual risks

Residual risks can be minimised if the "Safety instructions" and the "Intended use" as well as the entire operating instructions are observed.

Following these instructions and taking appropriate care will reduce the risk of injury or damage to the appliance.

- Hearing damage if working on the machine for a long time without hearing protection.
- Fire hazard
- Electrostatic discharge on the suction hose.
- Danger from electric current due to wear of electrical cables and electrical connections.
- Danger from wood dust

3.2 Foreseeable misuse

- Sucking in water or other liquids and gases.
- Bypassing or altering the protective devices
- Operating the machine without a filter

4 Technical Data

4.1 Table

Model	ZAA 1351 & 1353
Length	1145 mm
Width/depth	654 mm
Height	1830 mm
Weight	82 kg
Supply voltage	400 V = ZAA 1353 230 V = ZAA 1351
Rated volume flow	1325 m ³ /h
Negative pressure for rated volume flow	2600 Pa
Filter surface area	3.5 m ²
Filter cleaning	Manuel
Nennweite außen Absaugstutzen Eingang	1x150 mm
Nennweite außen Absaugstutzen Abgang	2x100 mm
Max. sound pressure level max.	80 db(A)
Motor input	2200 W
Motor output	1600 W

4.2 Type plate

Zyklonabsauganlage Cyclon extraction unit			
Typ Type	ZAA 1353	Serien-Nr. Serial no.	
Artikel-Nr. Item no.	5924135	Baujahr Year of manufacture	
Aufnahmeleistung Input power	2,2 kW	Netzanschluss Power connection	400 V / 3 ~ / 50 Hz
Abgabeleistung Output power	1,6 kW	Max. Luftstrom Max. Airflow	1325 m ³ /h
Stutzen Eingang Nozzle inlet	1 x 150 mm + 2 x 100 mm		
Gewicht Weight	82 kg		
		Stürmer Maschinen GmbH Dr.-Robert-Pfleger-Str. 26, 96103 Hallstadt Deutschland / Germany	

Fig. 2: Type plate ZAA 1353

4.3 Dimensions

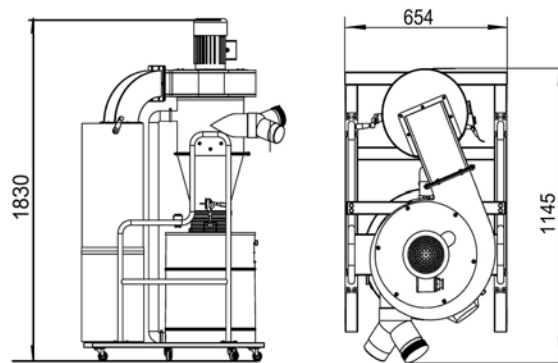


Fig. 3: Dimensions

5 Description of the device

Figures in this operation manual serve to provide a basic under-standing and may differ from the actual design.

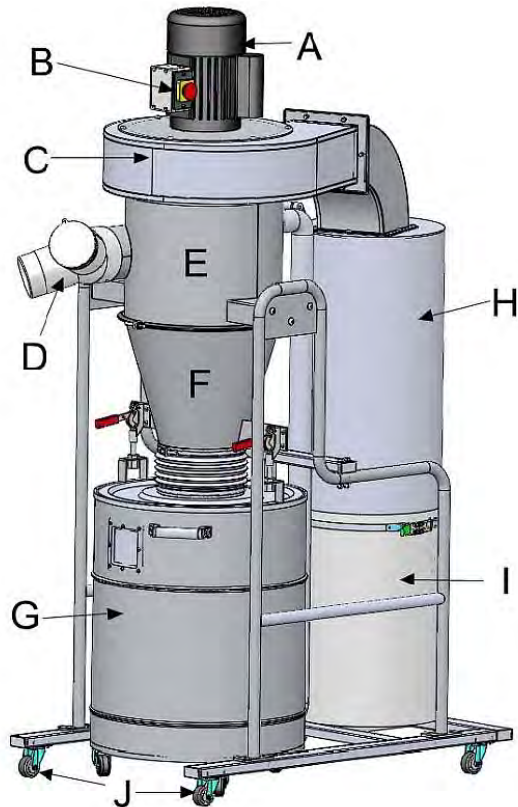


Fig. 4: Cyclon extraction unit

- A Engine
- B On / Off switch
- C Impeller housing
- D Suction port adapter
- E Suction container
- F Cyclone hopper
- G Chip container
- H Filter cartridge
- I Dust filter bag
- J Transport rollers

5.1 Scope of delivery

- Filter cartridge
- Flexible hose
- Operating instructions

5.2 Accessories

- Filter cartridge 340 x 800 mm
Item number: 5932400
- Dust filter bag for filling container
Item number: 5932401
- Dust bag for filter cartridge
Item number: 5129006

6 Transport, packaging, storage

6.1 Delivery and transport

Delivery

Check the Chip Extraction Unit for visible transport damage upon delivery. In case of visible damage to the Chip Extraction Unit, immediately notify the carrier or your retailer.

Transport



CAUTION!

Injuries caused by parts falling over or off a forklift, pallet truck or transport vehicle.
Only use means of transport that can carry the total weight and are suitable for it.

Improper transport of individual devices, unsecured devices stacked on top of each other or next to each other in packed or already unpacked condition is accident-prone and can cause damage or malfunctions for which we do not grant any liability or guarantee.

Transport the scope of delivery secured against shifting or tilting with a sufficiently dimensioned industrial truck to the installation site.

General risks during internal transport



CAUTION: DANGER OF TIPPING!

The device may be lifted unsecured by a maximum of 2cm.

Employees must be outside the danger zone, the reach of loads. Warn employees and, if necessary, advise employees of the hazard.

Devices may only be transported by authorized and qualified persons. Act responsibly during transport and always consider the consequences. Refrain from daring and risky actions.

Gradients and descents (e.g. driveways, ramps and the like) are particularly dangerous. If such passages are unavoidable, special caution is required.

Before starting the transport check the transport route for possible danger points, unevenness and disturbances as well as for sufficient strength and load capacity.

Danger points, unevenness and disturbance points must be inspected before transport. The removal of danger spots, disturbances and unevenness at the time of transport by other employees leads to considerable dangers.

Careful planning of internal transport is therefore essential.

6.2 Packaging

All of the Chip Extraction Unit's packaging materials and packing aids are suitable for recycling and must always be disposed of using material-based recycling systems.

Packaging materials made of cardboard must be shredded and recycled as waste paper.

The foils are made of polyethylene (PE), padding is made of polystyrene (PS). Dispose of these substances at a recycling centre or hand them over to a qualified waste disposal company.

6.3 Storage

The chip extraction unit must be thoroughly cleaned and stored in a dry, clean and frost-free environment. Cover the machine with a tarpaulin.

7 Installation and connection

7.1 Requirements for the installation site

Remove the Cyclon extraction unit from the packaging and remove all protective films.

In order to achieve a good function and a long service life of the Cyclon extraction unit, the installation site should fulfil the following criteria:

- The surface must be level, firm and vibration-free.
- The installation or working area must be dry and well ventilated.
- Do not set up or operate the machine in a damp or wet environment. The humidity should not exceed 90% and the measured ambient temperature should be between -10°C and +50°C.
- There must be sufficient space for the operating personnel, for material transport and for adjustment and maintenance work.
- Mains voltage and frequency should correspond to the characteristics of the machine's motor.
- The installation site must have good lighting.

7.2 Assembly of the extraction system

Wear protective goggles!

Wear safety shoes!

Wear protective clothing!

DANGER!
 The mains plug must be disconnected before carrying out any maintenance, conversion or assembly work on the cyclone extraction system!

The cyclone extraction unit is not pre-assembled. After unpacking, the machine must be assembled. Before unpacking the cyclone extraction unit, transport it in its packing crate to a place close to its final installation site. The machine must be fully assembled before it can be put into operation. Before starting assembly, collect all the items listed. To ensure that the assembly process runs smoothly, first clean all parts that are covered or coated with a high performance rust preventative (if applicable).



Fig. 5: Assembly parts

Step 1: Remove the packaging and check that the machine is complete.

Step 2: Attach the wheels to the chassis using the screws and washers (Fig.6)..

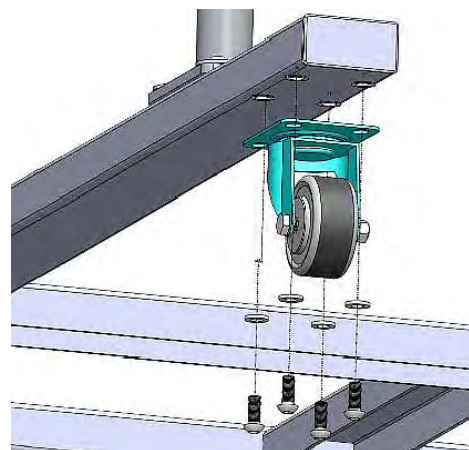


Fig. 6: Fit wheels

Step 3: Secure the bracket to the chassis with bolts and washers (Fig.7).

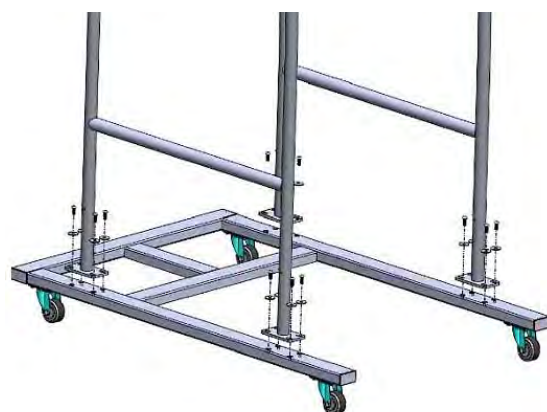


Fig. 7: Mount frame

Step 4: Insert the covers (Fig.8) into the four sides of the chassis.

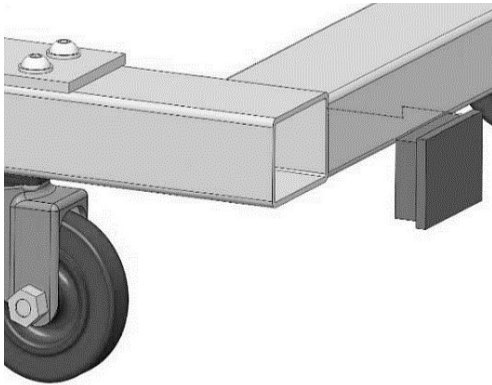


Fig. 8: Insert covers

Step 5: Secure the cross brace to the bracket with bolts, washers and nuts.

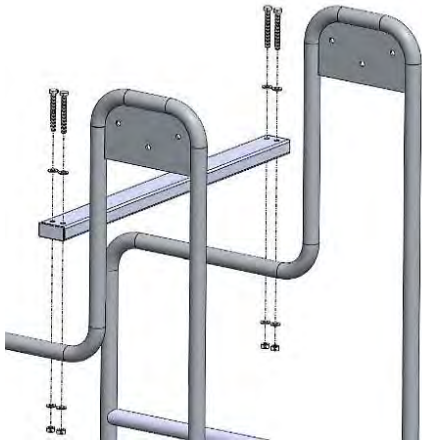


Fig. 9: Fit cross brace

Step 6: Mount the transport wheels on the chip container.



Fig. 10: Mounting transport rollers

Step 7: Secure the handle (Fig.11) to the container with hexagon bolts, washers and self-locking nuts.

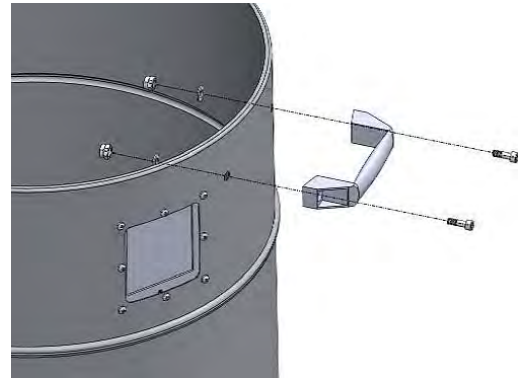


Fig. 11: Mounting the handle

Step 8: Place the cover on the container and connect it to the cyclone funnel with a flexible hose (Fig.12)..

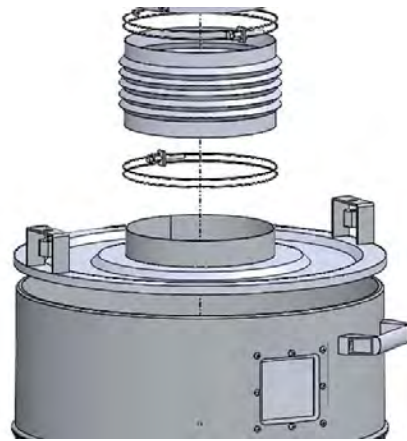


Fig. 12: Mount the container cover

Step 9: Fit the quick release fastener and lock the container cover with the quick release fasteners on the cyclone funnel.

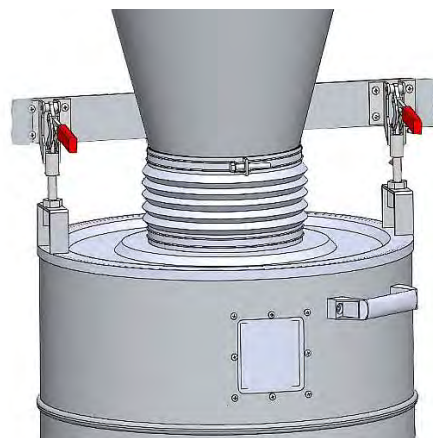


Fig. 13: Fitting quick fasteners

Step 10: Mount the intake angle with rubber seal and impeller casing to the casing head using the screws.

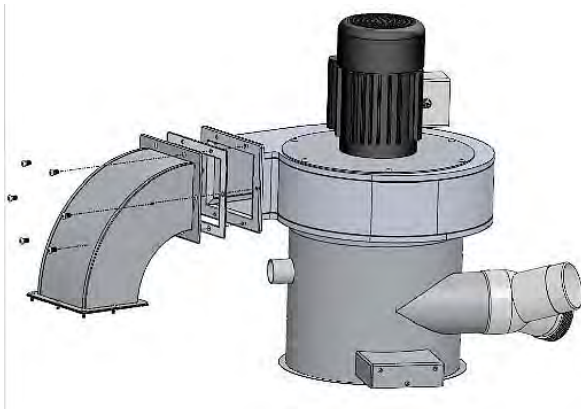


Fig. 14: Mount impeller casing and intake angle

Step 11: Mount the suction nozzle on the suction pipe with three screws and then place the cap on the opening of the suction nozzle..

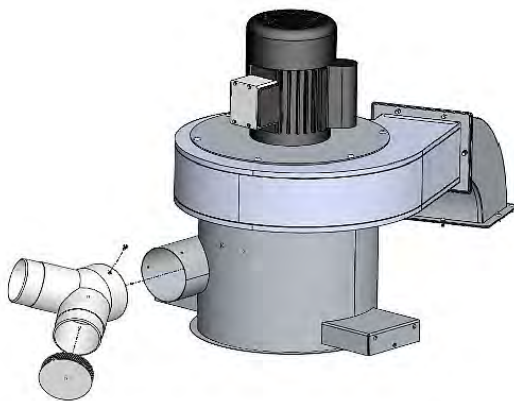


Fig. 15: Mounting the suction socket

Step 12: Secure the intake manifold and impeller housing assembly to the bracket with screws and washers.

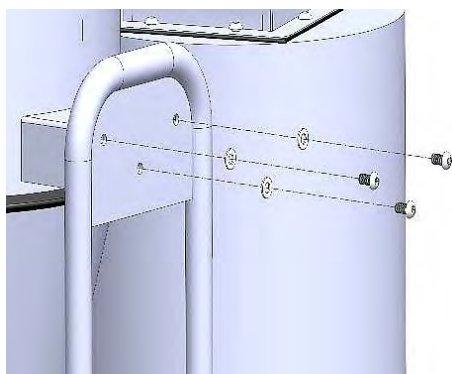


Fig. 16: Assemble assembly

Step 13: Connect the intake pipe and the cyclone funnel together using the steel clamp.

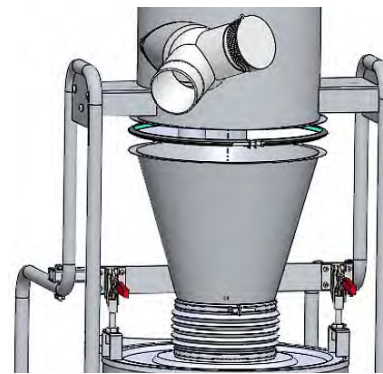


Fig. 17: Connect cyclone funnel with suction pipe

Step 14: Connect the filter cartridge, rubber seal and suction angle together using the screws.

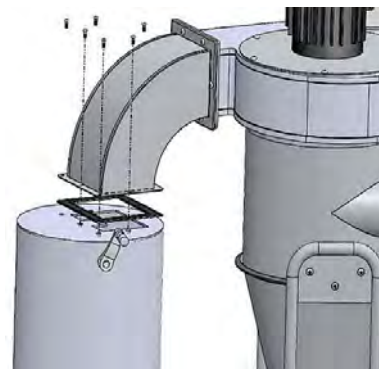


Fig. 18: Connect filter cartridge and suction angle

Step 15: Install the suction hose with hose clamps at each end to the connections of the cyclone suction unit.

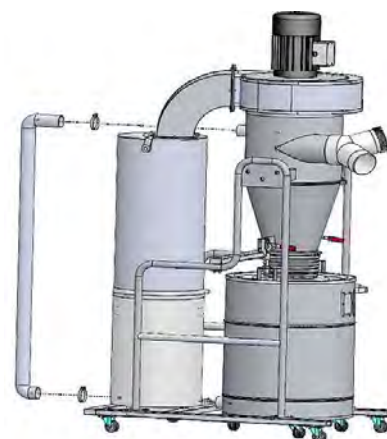


Fig. 19: Connect suction hose

The machine is correctly assembled according to the following figure 20. Before using the machine, please check that all screws and bolts are tight.

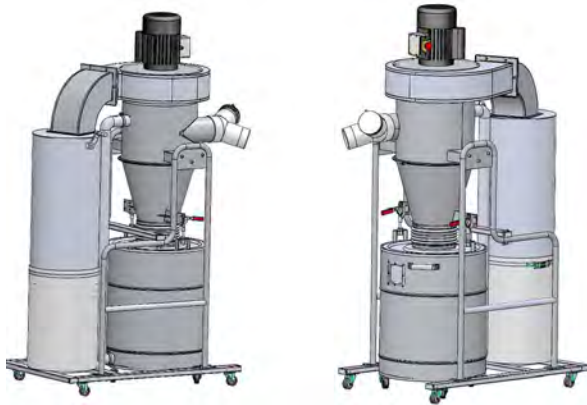


Fig. 20: Correct assembly of the cyclone extraction system

8 Commissioning



Wear protective clothing!



Wear safety shoes!



Wear protective gloves!



DANGER!

DO NOT start the machine until all previous safety instructions have been carried out. Operation of an improperly set up machine may cause malfunction or unexpected results, which could lead to serious injury, death or damage to the machine or property.

After completing assembly, carry out a test run to ensure that the machine is properly connected to the power supply and that the safety components are working correctly.

If you notice an unusual problem during the test run, stop the machine immediately, disconnect it from the mains and rectify the problem BEFORE starting the machine up again.

8.1 Electrical connection



DANGER!

Danger to life due to electric shock!

Danger to life due to electric current!

In case of contact with live components, there is an immediate danger to life due to electric shock.

- The cyclone extraction system may only be connected by qualified electricians.
- Work on the electrical system may only be carried out by qualified electricians.

Connect the cyclone extraction unit to the mains in the following steps:

Step 1: The cyclone extraction unit must be switched off.

Step 2: Connect the cyclone extraction system to a 400 volt socket.

Step 3: Check that all safety devices are fitted.

Step 4: Switch on the system.

Step 5: Check that the direction of rotation of the motor is correct..

8.1.1 Grounding the machine



DANGER!

Ensure good earthing of the cyclone extraction system!

Static charge leads to

- Grinding dust build-up
- Faster corrosion of moving parts.
- Sparking during discharge with danger of explosion!

The machine must be earthed. Should a malfunction or failure occur, earthing provides a path of least resistance for electric current to reduce the risk of electric shock.

The cyclone extraction unit is equipped with a cable with a grounding conductor and grounding plug. The plug must be plugged into a suitable outlet that is properly installed and grounded in accordance with all local codes and ordinances.

For grounded corded machines: Ensure that the machine is plugged into an outlet of the same configuration as the plug. Do not use an adapter for the machine. If the machine needs to be reconnected for use on a different circuit, qualified service personnel must perform the reconnection.

In the case of a permanently connected machine: connect to a control box or there must be an equipment

earth conductor must be routed with the circuit conductors and connected to the equipment earth terminal or lead on the machine.

Inspect the machine completely and carefully and ensure that all materials, such as shipping documents, instructions and accessories, supplied with the machine have been removed..

8.2 Test run

DO NOT operate the machine without first connecting it to a dust collection system and without closing an unused exhaust adapter port. Otherwise, the lack of airflow resistance will cause the motor to operate at full current load, which may cause the circuit breaker to trip or a fuse to blow.

Step 1: Remove all set-up tools from the machine.

Step 2: Lock all castors on the chassis.

Step 3: Check that the suction hose is firmly connected to the cyclone suction system and to the suction adapter of the woodworking machine.

Step 4: Close the unused extraction adapter connection.

Step 5: Check that the dust filter bag is securely fastened.

Step 6: Connect the machine to the mains.

Step 7: Switch on the machine.

Step 8: Check that the motor starts and runs smoothly without any problems or unusual noises.

Step 9: Switch off the machine.

9 Operation



Protective gloves

The protective gloves protect the hands from sharp-edged components, as well as from friction, abrasions or deeper injuries.



Safety shoes

The safety shoes protect the feet from crushing, falling parts and slipping on slippery surfaces.



Breathing protection

Respiratory protection is used to protect the respiratory tract and lungs from the ingestion of dust particles.



Protective clothing

Protective workwear is close-fitting clothing with low tear resistance.



NOTE!

Before operating the cyclone extraction unit for the first time, carry out the following points.

- Check all screw connections on the assembled cyclone extraction system and tighten them if necessary.
- Check the cyclone extraction system for leaks.
- Check the hose and suction connection for damage and blockage.
- Check the electrical cables for damage.

9.1 Switch on

- Check that the suction hose is firmly connected to the cyclone suction unit and to the suction adapter of the woodworking machine.
- Close unused suction connections on the suction system.
- Check that the dust filter bags are securely fastened.
- Switch on the extraction system by pressing the green "I" key.
- Switch on the woodworking machine.

9.2 Switch off

- Switch off the woodworking machine
- Switch off the cyclone extraction system by pressing the red "O" key.

9.3 Tips for optimal performance

- Avoid using suction hoses longer than 25 cm on each pipe. The ribs inside the flexible hose significantly increase the static pressure loss, which reduces the suction power.
- Keep the piping between the cyclone exhaust system and the woodworking machines as short as possible.
- Keep directional changes in the suction lines to a minimum. The more curved connections you use, the greater the suction loss at the dust-generating machine.
- Gradual changes in direction are more efficient than sudden changes in direction (i.e., use 45° bends instead of 90° bends whenever possible).
- The simpler the system, the more efficient it is.

9.4 CFM Value (Volume flow)

Since each machine produces a different amount of sawdust, the requirements for the minimum amount of CFM to extract the sawdust depend on the machine (e.g., a planer produces more sawdust than a table saw). Knowing this required amount of CFM is important in determining the size of the exhaust line to use.

Refer to the table below for an accurate estimate of the airflow required by each machine. Remember that the machines that generate the most sawdust should be placed closest to the exhaust system. If the machine has multiple dust ports, the total CFM required is the sum of all the exhaust ports.

Size suction port	Approximate CFM required
2"	100 m ³ /h
2,5"	150 m ³ /h
3"	250 m ³ /h
4"	400 m ³ /h
5"	600 m ³ /h
6"	850 m ³ /h
7"	1200 m ³ /h
8"	1600 m ³ /h
9"	2000 m ³ /h
10"	2500 m ³ /h

10 Care, maintenance and repair



Tips and recommendations

To ensure that the cyclone extraction system is always in good operating condition, regular care and maintenance work must be carried out.



DANGER!

Danger to life from electric shock!

There is a danger to life in the event of contact with live components.

- Before starting cleaning and maintenance work, switch off the machine and disconnect the power plug.
- Connections and repairs of the electrical equipment may only be carried out by a qualified electrician.



WARNING!

Danger in case of insufficient qualification of persons!

Inadequately qualified persons cannot assess the risks involved in repair work on the cyclone extraction system and expose themselves and others to the risk of serious or fatal injury.

Have all maintenance work performed only by persons qualified to do so.



NOTE!

After care, maintenance and repair work, check that all covers and protective devices are properly reattached to the cyclone extraction system and that there are no more tools inside or in the working area of the cyclone extraction system. Damaged protective devices and device parts must be repaired or replaced by a recognized specialist workshop in accordance with the regulations.

10.1 Care through cleaning

The cyclone exhaust system must always be kept in a clean condition.



Wear protective gloves!



NOTE!

Never use harsh cleaning agents for any cleaning work. This can lead to damage or destruction of the device.

All plastic parts and painted surfaces should be cleaned with a soft, damp cloth and some neutral cleaner.

Cleaning instructions on the extraction unit

- Do not clean the motor and switch directly with water.
- Wear a dust mask when cleaning.
- Clean the electric motor and circuit breaker only with a dry cloth.
- Clean dust bag beforehand when changing.

10.2 Maintenance and repair



DANGER!

Maintenance and repair work may only be carried out by qualified personnel.



Wear protective gloves!



DANGER!

Exposure to dust from machine use can cause cancer, birth defects, or long-term respiratory damage. Always wear safety glasses and an approved respirator when working with the dust collection bags or filters.

If the cyclone suction unit does not function properly, contact a specialist dealer or our customer service. The contact details can be found in chapter 1.2 Customer service. All protective and safety devices must be refitted immediately after repair and maintenance work has been completed.

Daily maintenance work

- Clean/vacuum dust deposits from machine body and Clean/vacuum the motor.
- Check the fastening screws of the machine.
- Replace damaged safety devices immediately.
- Check dust bags, filter bags and suction hoses for damage and possible leaks.
- Check power cable and other power lines for damage.
- Check electrical safety devices and guards.

Weekly maintenance work

- Clean the machine regularly with a damp cloth and some soft soap. Do not use any cleaning agents or solvents; these could attack the plastic parts of the machine. Make sure that no water can get into the interior of the machine.
- Keep guards, air slots and motor housing as free of dust and dirt as possible. Wipe the machine with a clean cloth or blow it out with compressed air at low pressure. Wear protective goggles !
- Wear a dust mask when changing and emptying the dust filter bag.

10.2.1 Clean filter cartridge

The cyclone aspirator has a crank to remove dust accumulation and debris from the filter cartridge. Turn the crank (Fig.21) to clean the filter cartridge and loosen dust in the filter bag. Be sure to close the dust bag tightly to contain wood dust and minimize the risk of exposure..



NOTE!

Hand wash the filter, if heavily used, every month.

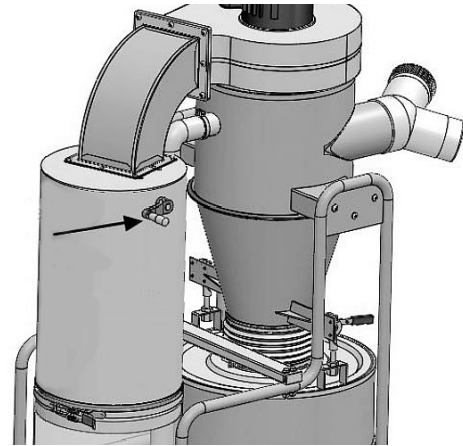


Fig. 21: Clean filter cartridge

10.2.2 Replace dust filter bag

Remove and empty the dust filter bag when it is half full.

Step 1: Switch off the machine and disconnect the power plug.

Step 2: Loosen hose clamp and remove dust filter bag.

Step 3: Empty and clean the dust filter bag and replace with a new dust filter bag if necessary.

Step 4: Insert the new dust filter bag and tighten it with the hose clamp..

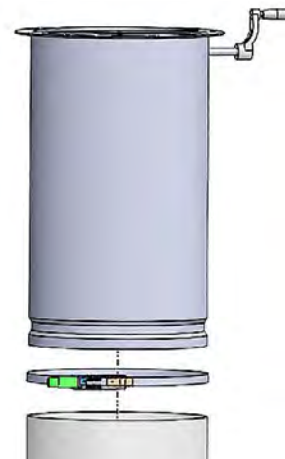


Fig. 22: Replace dust filter bag

10.2.3 Replace filter cartridge

As soon as the filter cartridge becomes clogged or dirty and its cleaning does not improve the suction performance, the filter cartridge must be replaced.

Step 1: Switch off the machine and disconnect the power plug.

Step 2: Loosen the screws securing the rubber seal, suction angle and filter cartridge.

Step 3: Remove the filter cartridge.

Step 4: Clean the rubber seal and the suction angle.

Step 5: Refit the new filter cartridge using the screws..

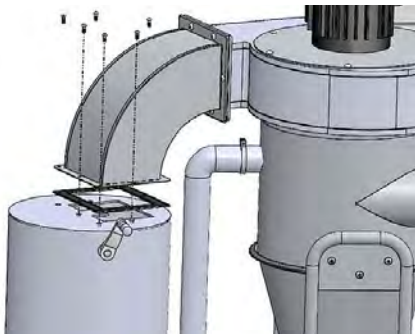


Fig. 23: Replace filter cartridge

10.2.4 Clean dust collector

Empty the dust collection bag as soon as it is 3/4 full. Replace the bag if it is leaking or damaged.

Step 1: Switch off the machine and disconnect the power plug.

Step 2: Release the quick-release fasteners (Fig. 24) to open the container.

Step 3: Remove the dust bag from the container.

Step 4: Empty and clean the dust bag, if necessary, replace it with a new one.

Step 5: Insert the dust bag into the container.

Step 6: Close the quick-release fasteners to clamp the container..

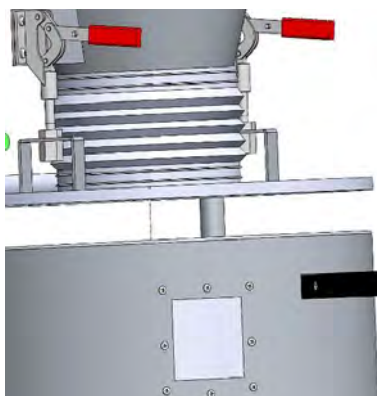


Fig. 24: Clean dust collector

11 Disposal, recycling of old equipment

In your own interest and in the interest of the environment, please ensure that all components of the machine are disposed of only via the designated and approved channels.

11.1 Decommission

Discarded devices must be taken out of service immediately in a professional manner in order to avoid later misuse and the endangerment of the environment or persons.

Step 1: Remove all environmentally hazardous operating materials from the old machine.

Step 2: If necessary, dismantle the machine into manageable and recyclable assemblies and components.

Step 3: Route the machine components and operating materials to the designated disposal channels..

11.2 Disposal of electrical equipment

Please note that electrical equipment contains a variety of recyclable materials as well as components that are harmful to the environment. Help to ensure that these components are disposed of separately and properly.

If in doubt, please contact your municipal waste disposal service. If necessary, enlist the help of a specialized disposal company for reprocessing.

11.3 Disposal via municipal collection points

Disposal of used electrical and electronic equipment (To be applied in the countries of the European Union and other European countries with a separate collection system for this equipment).



The symbol on the product or its packaging indicates that this product should not be treated as normal household waste, but must be taken to a collection point for the recycling of electrical and electronic equipment.

By helping to dispose of this product correctly, you are protecting the environment and the health of those around you. Environment and health are endangered by incorrect disposal. Material recycling helps to reduce the consumption of raw materials. For more information about recycling this product, contact your local municipality, municipal waste disposal service or the store where you purchased the product.

12 Troubleshooting



DANGER!

If any of the following errors occur, stop working with the machine immediately. Serious injury and damage could result. All repairs or replacement work may only be carried out by qualified and trained personnel.

Fault	Possible cause	Remedy
The machine does not start or the fuse blows immediately after starting.	<ol style="list-style-type: none"> 1. Incorrect mounting. 2. Incorrect power supply. 3. Fuse blown. 4. Motor overheated. 5. Incorrect wiring. 6. Switch defective. 7. Capacitor defective. 8. Engine defective. 	<ol style="list-style-type: none"> 1. Check mounting and connections. 2. Let the power supply checked by a qualified electrician. 3. Replace fuse. 4. Allow motor to cool down. 5. Let the wiring checked by a qualified electrician. 6. Let the switch checked and replaced if necessary. 7. Let the capacitor checked and repaired if necessary. 8. Let the engine checked and replaced if necessary.
Machine does not work properly	<ol style="list-style-type: none"> 1. Engine overheated. 2. Suction lines damaged. 3. Filter cartridge dirty. 4. Machine is too far away from the woodworking machine. 5. Condenser damaged. 6. Engine bearing damaged. 	<ol style="list-style-type: none"> 1. Allow engine to cool down. 2. Check suction line and replace if necessary. 3. Clean the filter cartridge. 4. Place the machine closer to the woodworking machine. 5. Check condenser and replace if necessary. 6. Check motor bearings, replace if necessary.
Strong vibrations or loud noises during operation.	<ol style="list-style-type: none"> 1. Engine damaged or loose. 2. Engine fan damaged. 3. Engine bracket damaged. 4. Impeller damaged. 5. Engine bearing defective. 6. Engine shaft damaged. 7. Uneven surface on which the machine 8. Damaged impeller. 9. Impeller loose on motor shaft. 	<ol style="list-style-type: none"> 1. Check motor and replace if necessary. 2. Check fan and fan cover. 3. Check motor bracket, replace if necessary. 4. Check impeller and replace if necessary. 5. Check motor bearing, replace if necessary. 6. Check motor shaft, replace if necessary. 7. Move machine to flat surface and tighten casters. 8. Replace impeller. 9. Check impeller and remount if necessary.
Poor suction power	<ol style="list-style-type: none"> 1. Dust filter bag / bag full. 2. Filter cartridge dirty. 3. Suction hose clogged. 4. Pipe clamps not properly fastened. 5. Too many bends in the suction pipe. 6. Wood is too wet. 7. Leak in the pipe. 8. Connections incorrectly dimensioned. 	<ol style="list-style-type: none"> 1. Empty the dust filter bag. 2. Clean the filter cartridge. 3. Clean the suction hose. 4. Check pipe clamps and tighten if necessary. 5. Shorten suction line, if necessary, remove dust deposits from the suction socket. 6. Allow wood to dry. 7. Seal pipe, replace if necessary. 8. Mount larger connections.
Machine blows dust into the air.	<ol style="list-style-type: none"> 1. Hose clamps or filter cartridge not mounted properly. 2. Cylinder or funnel seals loose or damaged. 	<ol style="list-style-type: none"> 1. Check hose clamps and filter cartridge and retighten if necessary. 2. Retighten all mounting and sealing points; replace damaged seals.

13 Spare parts



DANGER!

Risk of injury due to the use of incorrect spare parts!

The use of incorrect or faulty spare parts can result in danger to the operator and cause damage and malfunctions.

- Only original spare parts from the manufacturer or spare parts approved by the manufacturer are to be used.
- In case of any uncertainties, always contact the manufacturer.



NOTE!

Use of non-approved spare parts will void the manufacturer's warranty.

13.1 Ordering spare parts

The spare parts can be obtained from the authorized dealer or directly from the manufacturer.

The contact details can be found in chapter 1.2 Customer service. Specify the following key data when making inquiries or ordering spare parts:

- Device type
- Item number
- Item number
- Year of manufacture
- Quantity
- Desired shipping method (mail, freight, sea, air, express)
- Shipping address

Spare parts orders without the above information cannot be considered. In the absence of information on the shipping method, shipping will be at the discretion of the supplier.

Information on the device type, article number and year of manufacture can be found on the type plate attached to the machine.

Example

The engine for the Cyclon extraction unit ZAA 1353 must be ordered. The engine has the number 14 in the spare parts drawing 1.

By ordering spare parts, send a copy of the spare parts drawing (1) with the marked part (engine) and marked position number (14) to the dealer or spare parts department and provide the following information:

- Type of device: **Cyclon extraction unit ZAA 1353**
- Item number: **5924135**
- Position number: **14**

13.2 Spare parts drawing

The following drawing should help to identify necessary spare parts in case of service. To order, send a copy of the parts drawing with the marked components to your authorized dealer.

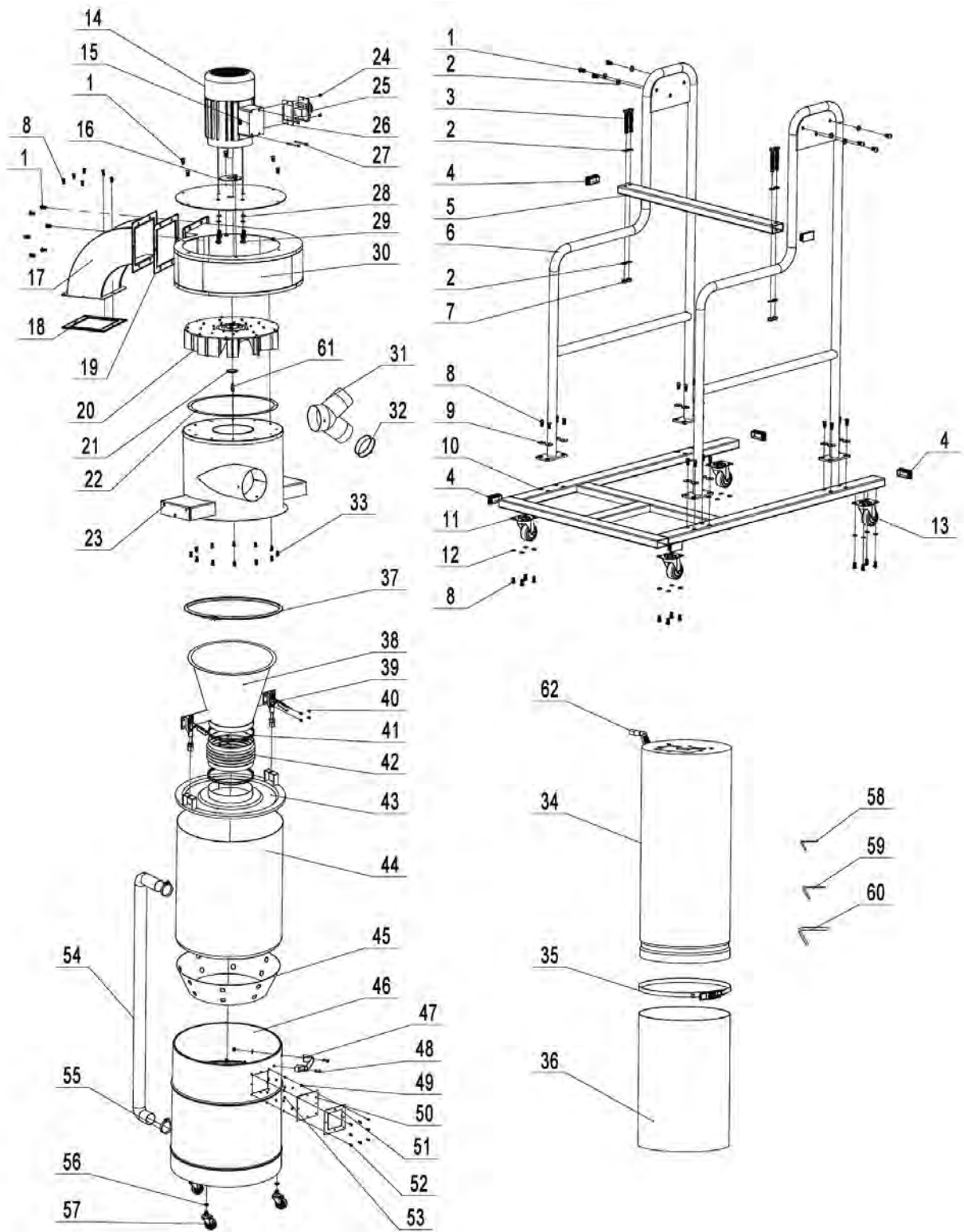


Fig. 25: Spare parts drawing

14 Electrical circuit diagrams

14.1 Electrical circuit diagram 230V

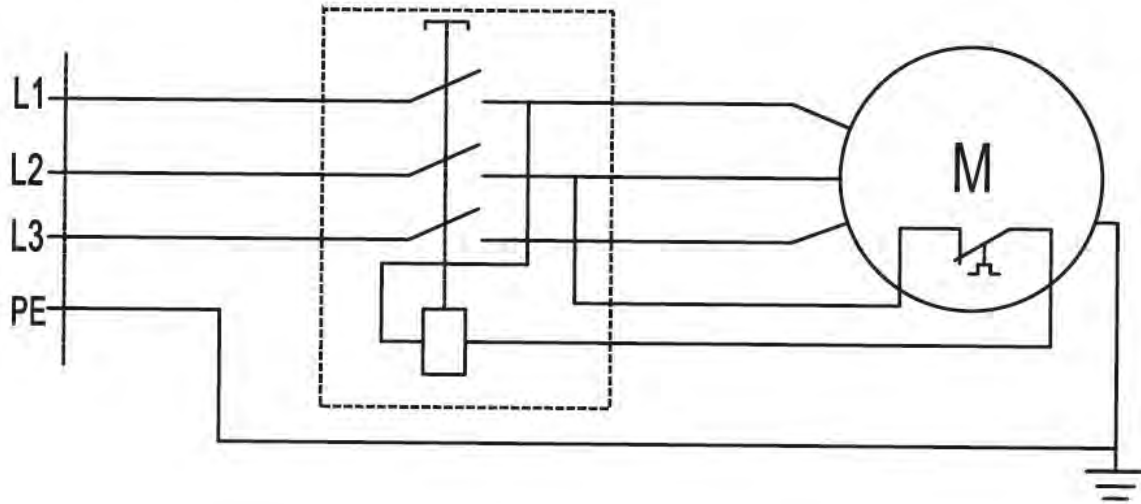


Fig. 26: Electrical circuit diagram 230V

14.2 Electrical circuit diagram 400V

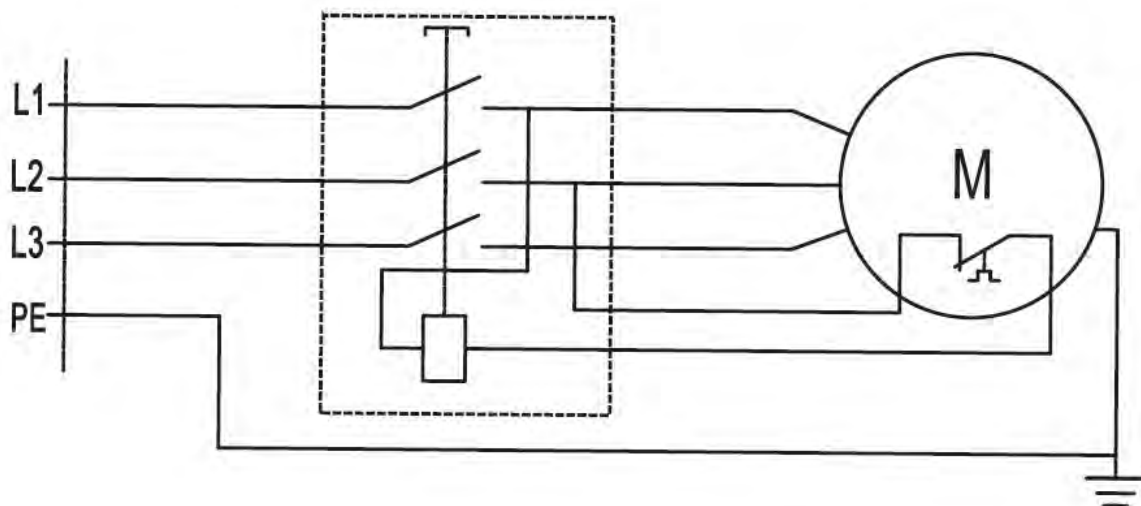


Fig. 27: Electrical circuit diagram 400V

15 EC - Declaration of Conformity

According to Machinery Directive 2006/42/EC Annex II 1.A

Manufacturer/Marketer: Stürmer Maschinen GmbH
Dr.-Robert-Pfleger-Str. 26
D-96103 Hallstadt

hereby declares that the following product

Product group: Holzstar® Woodworking machines

Type of device: Cyclon extraction unit

Designation of the machine *: ZAA 1351 **Item number *:** 5924134
 ZAA 1353 5924135

Serial number*: _____

Year of manufacture*: 20____ *fill in these fields according to the information on the type plate

complies with all relevant provisions of the above-mentioned directive and the other directives applied (hereinafter) - including their amendments in force at the time of the declaration.

Applicable EU directives: 2014/30/EU EMC-Directive
2012/19/EU WEEE-Directive

Applicable EU regulations: 1907/2006/EU REACH-Regulation

The following harmonized standards have been applied:

- DIN EN 60335-1:2012-10 Household and similar electrical appliances - Safety - Part 1: General requirements
- DIN EN 60335-2-69:2015-07 Household and similar electrical appliances - Safety - Part 2-69: Particular requirements for wet and dry vacuum cleaners, including power brush for commercial use
- DIN EN 62233:2008-11 Measurement methods for electromagnetic fields of household appliances and similar apparatus with regard to human exposure
- DIN EN 55014-1:2018-08 Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus - Part 1: Emission
- DIN EN 55014-2:2016-01 Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus - Part 2: Immunity - Product family standard
- DIN EN IEC 61000-3-2:2019 Electromagnetic compatibility (EMC) - Part 3-2: Limits - Limits for harmonic current emissions (equipment input current ≤ 16 A per phase)
- DIN EN 61000-3-3:2014-03 Electromagnetic compatibility (EMC) - Part 3-3: Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤ 16 A per phase and not subject to conditional connection

Responsible for documentation: Kilian Stürmer, Stürmer Maschinen GmbH,
Dr.-Robert-Pfleger-Str. 26, D-96103 Hallstadt
Hallstadt, 11.08.2023



Kilian Stürmer
Manager



16 Notes

