

Operating Instructions

_____ Extraction unit

_____ AS 1601



AS 1601

AS 1601

Imprint

Product identification

Extraction unit AS 1601
Item number 3922006

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Indications regarding the operating instructions

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Subject to technical modifications and error.

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1 Introduction

You have made a good choice by purchasing extraction unit made by METALLKRAFT.

Thoroughly read the operating instructions before commissioning the machine.

It informs you about the proper commissioning, the intended use as well as the safe and efficient operation and maintenance of your extraction unit.

The operating instructions are part the extraction unit. Always keep it at the place of use the extraction unit. Furthermore, the local accident prevention regulations and the general safety notes are applicable for the field of application the extraction unit.

The illustrations in these operating instructions serve the general comprehension and may deviate from the actual type.

1.1 Copyright

The contents of these instructions are copyright. Their application is admissible in the frame the extraction unit utilisation. An application beyond the described application is not allowed without written approval of the manufacturer. For the protection of our products, we shall register trademark, patent and design rights, as this is possible in individual cases. We strongly oppose any infringement of our intellectual property.

1.2 Customer service

Please contact your dealer if you have questions concerning your extraction unit or if you need technical advice. They will help you with specialist information and expert advice.

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

Spare part orders:

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

We are always interested in valuable experience and knowledge gained from using the application which then could be shared and be valuable to develop our products even further.

1.3 Limitation of liability

All information and notes in these operating instructions were summarised taking the applicable standards and rules, the state-of-the-art and our long-term knowledge and experiences into consideration.

In the following cases the manufacturer is not liable for damages:

- Non-observance of the operating instructions,
- Inappropriate use,
- Use of untrained staff,
- Unauthorised modifications,
- Technical changes,
- Use of not allowed spare parts.

The actual scope of delivery may deviate from the explanations and presentations described here in case of special models, when using additional ordering options or due to latest technical modifications.

The obligations agreed in the delivery contract, the general terms and conditions as well as the delivery conditions of the manufacturer and the legal regulations at the time of the conclusion of the contract are applicable.

2 Safety

This paragraph will give you an overview of all important safety packages for the protection of persons as well as for the safe and undisturbed operation. Other task-based safety notes are included in the individual chapters.

2.1 Symbol explanation

Safety instructions

The safety notes in these operating instructions are highlighted by symbols. The safety notes are introduced by signal words which express the concern of the risk.



DANGER!

This combination of symbol and signal words indicate an imminently dangerous situation which may lead to death or severe injuries if they are not avoided.



WARNING!

This combination of symbol and signal words indicate a possibly dangerous situation which may lead to death or severe injuries if they are not avoided.

**CAUTION!**

This combination of symbol and signal words indicate a possibly dangerous situation which may lead to minor or light injuries if they are not avoided.

**ATTENTION!**

This combination of symbol and signal words indicates a possibly dangerous situation which may lead to property and environmental damages if they are not avoided.

**NOTE !**

This combination of symbol and signal words indicate a possibly dangerous situation which may lead to property and environmental damages if they are not avoided.

Tips and recommendations**Tips and recommendations**

This symbol highlights useful tips and recommendations as well as information for an efficient and trouble-free operation.

It is necessary to observe the safety notes quoted in these operating instructions in order to reduce the risks for personal injuries and damages to property.

2.2 Obligations of the operating company

The operating company is the person who operates the extraction unit for business or commercial reasons by herself, or leaves it to a third party for use or application, and who bears the legal product responsibility for the protection of the user, the staff or for third parties.

Obligations of the operating company

If the extraction unit is used for commercial purposes, the operating company of the extraction unit must comply with the legal working safety regulations.

Therefore, the safety notes in this operating manual, as well as the safety, accident prevention and environment protection regulations applying for the area of application of the extraction unit must be met. The following applies in particular:

- The operating company must be informed about the applying industrial safety regulations and further analyse hazards resulting from the special working conditions at the place of use of the extraction unit.

She must implement these in form of operating manuals for the operation of the extraction unit.

- During the entire lifetime the extraction unit, the operating company must verify whether the operating manuals prepared by her correspond to the current status of the regulations, and must adapt these if necessary.
- The operating company must unambiguously regulate and determine the responsibilities for installation, operation, troubleshooting, maintenance and cleaning.
- The operating company must ensure that all persons who work with the extraction unit, have read and understood this manual. Furthermore she must instruct the staff in regular intervals and inform them about the hazards.
- The operator must provide the necessary protective equipment to the staff and order the use of the necessary protective equipment in a binding way.

Furthermore the operating company is responsible to keep the extraction unit always in a technically flawless state. Thus, the following applies:

- The operator must ensure that the maintenance intervals described in this manual are kept.
- The operator must have all safety devices checked regularly for their good working order and their integrity.

2.3 Requirements to staff

Qualifications

The different tasks described in this manual represent different requirements to the qualification of the persons entrusted with these tasks.

**WARNING!****Danger in case of insufficient qualification of the staff!**

Insufficiently qualified persons cannot estimate the risks while using the extraction unit and expose themselves and others to the danger of severe or lethal injuries.

- Have all works only performed by qualified persons.
- Keep insufficiently qualified persons out of the working area.

Only persons reliable working procedures can be expected from, are allowed to perform all works. Persons the responsiveness of which is affected by e. g. drugs, alcohol or medication, are not allowed to work with the machine.

The qualifications of the personnel for the different tasks are mentioned below:

Operator

The operator is instructed by the operating company about the assigned tasks and possible risks in case of improper behaviour. Any tasks which need to be performed beyond the operation in the standard mode must only be performed by the operator if it is indicated in these instructions and if the operating company expressly commissioned the operator.

Electrically qualified person

Electrically qualified person is due to their professional training, knowledge and experience as well as knowledge of the relevant standards and regulations, in a position to carry out work on the electrical systems and to independently recognize and avoid possible dangers.

Qualified personnel

Due to their professional training, knowledge and experience as well as their knowledge of relevant regulations the specialist staff is able to perform the assigned tasks and to recognise and avoid any possible dangers themselves.

Manufacturer

Certain works may only be performed by specialist personnel of the manufacturer. Other personnel is not authorized to perform these works. Please contact our customer service for the execution of all arising work.

2.4 Personal protective equipment

The personal protective equipment serves to protect persons against impairments of safety and health while working. The staff has to wear personal protective equipment while performing different works on and with extraction unit which are indicated in the individual paragraphs of these instructions. The personal protective equipment is explained in the following paragraph:



Protective gloves

The protective gloves serve to protect the hands against sharp components as well as against friction, abrasions or deep injuries.



Safety boots

The safety boots protect the feet from being crushed, falling parts and slipping over on slippery ground.



Protective clothes

Protective clothes are made of a tightly fitted fabric without the protruding parts of low tear strength.



Eye, hearing and head protection

Protective goggles protect the eyes from flying parts and liquid splashes.

Hearing protection protects the ears from hearing damage caused by noise.

The industrial helmet protects the head from falling objects and bumping into stationary objects.

2.5 General safety notes



WARNING!

Danger in case of misuse!

The extraction unit shall only be used in technically perfect condition. Possible malfunctions should be eliminated immediately. Unauthorised modifications on the extraction unit or improper use the extraction unit as well as the disregard of safety regulation or of the safety instructions exclude a liability of the manufacturer for any damages to persons or objects resulting hereof and lead to a loss of warranty!

- Despite compliance with all working instructions, safety and accident prevention regulations, 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 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 application, adjustment and operation.
- If you pass on this extraction system, you must hand over all tools and documents supplied with the extraction system.
- Only switch on the machine immediately before starting the extraction work. Switch off the machine during breaks and when the machine is not in use. Do not leave the operational machine unattended.
- Never open the protective covers by hand while the extraction system is running.
- Keep the workplace and the floor around the extraction system free of any objects that could endanger your stability or pose a trip hazard. Keep the workplace tidy. Disorder can lead to accidents.
- Before and during work, check the danger area to ensure that there are no unauthorised persons in it. Do not allow other persons, especially children, to touch the extraction unit.

- Do not use the machine near flammable gases, liquids and solids. There is a risk of explosion or fire due to possible flying sparks.
- Only use the machine in dry rooms or in a dry environment and ensure that the working area is adequately illuminated.
- Protect your workplace from rain, moisture and humidity so that no electrical hazards emanate from the extraction system.
- Carefully maintain the machine. Keep the extraction system clean in order to be able to work with it well and safely in the long term. Observe the maintenance instructions.

2.6 Safety signs on the extraction unit

The following safety signs are applied on the extraction unit (Fig. 1) which need to be observed and followed

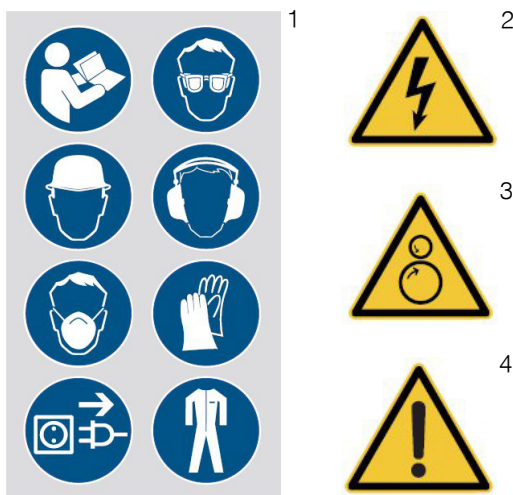


Fig. 1: 1 Mandatory sign | 2 Warning of dangerous electrical voltage | 3 Warning of danger of drawing in | 4 Warning of a danger point

The safety markings which are applied on the machine must not be removed. Damaged or missing safety markings may lead to errors, personal and material damages. Immediately replace them.

Decommission the machine if the security symbols cannot be recognised nor understood at the first glance, until the new security symbols are applied.

3 Intended use

The extraction unit is used for the extraction of chips, which are produced during the machining of metal workpieces. The system is designed and built for use in non-explosive environments and may only be installed and operated in dry rooms. Intended use also includes compliance with all information in these instructions. Any use going beyond the intended use or any other use shall be regarded as misuse.

For structural and technical changes to the extraction unit the company Stürmer Maschinen GmbH assumes no liability. Claims of any kind due to damage due to improper use are excluded.



ATTENTION!

Any change on the extraction unit is prohibited. The change may void the warranty, cause burns and personal injury, even fatal for the user.

The manufacturer will not be liable for any damage that results from failure to follow these instructions or from the misuse of the equipment to objects or persons.

3.1 Improper use



WARNING!

Danger in case of misuse!

Misuse of the special extraction unit can lead to dangerous situations.

- Only operate the special extraction unit in the power range listed in the technical data.
- Never bypass or override the safety devices.
- Only operate the extraction unit in a technically perfect condition.

4 Technical Data

	AS 1601
Motor output 4	0,75 kW
Electrical connection	400 V / 50 Hz
Phases	3
Type of current	AC
Extraction duct	2 x Ø 100 mm
Fan wheel Ø	325 mm
Dust bag Ø / Length	350 mm / 470 mm
Suction performance without dust bag/hoses	1.100 m ³ /h
Dimensions (L x W x H)	560 x 840 x 1180 mm
Weight	36 kg
Sound level	86,5 dB(A)

5 Transport, packing, storage

5.1 Delivery

Check the extraction unit on delivery for any visible transportation damage. If you notice any damage to the device please report this immediately to the carrier or dealer.

5.2 Packaging

All used packaging materials and packaging aids are recyclable and should be taken to a materials recycling depot to be disposed of.

The delivery packaging is made of cardboard, so please dispose carefully by having it chopped up and given to the recycling collection.

The film is made of polyethylene (PE) and the cushioned parts of polystyrene (PS). Deliver these substances to a collection point for recyclable materials or to the waste disposal company which looks after your region.

5.3 Storage

The extraction unit should be stored in a dry, frost-free environment.

6 Description of the device

Illustrations in these operating instructions are for basic understanding only and may differ from the actual version.

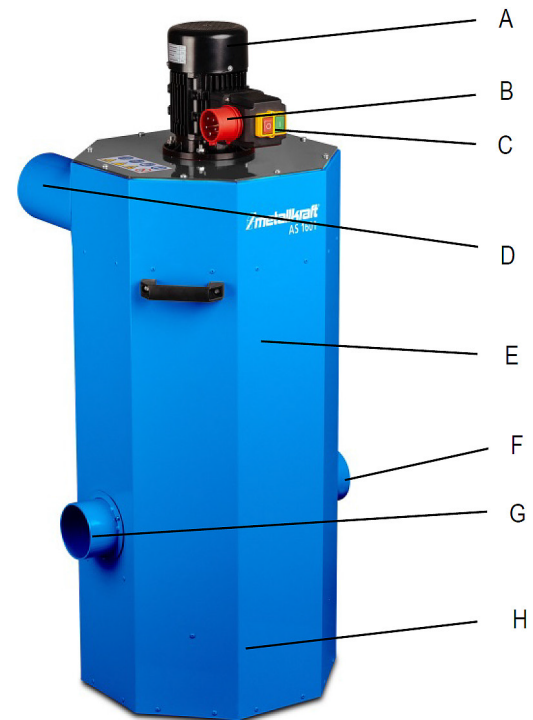


Fig. 2: Gerätebeschreibung AS 1601

- A Motor
- B Connector
- C ON/OFF switch
- D Extraction duct
- E Cover
- F Extraction dust
- G Extraction dust
- H Housing

7 Montage and Start-up



WARNING!

Before installing the extraction system, check the conditions at the installation site.

In order to achieve good functionality and a long service life of the extraction system, the installation site should meet the following criteria:

- The extraction unit may only be installed and operated in dry, ventilated rooms. Ambient temperature from -10°C to +50°C, relative humidity not more than 90%.
- The substrate must be suitable for the work. Pay attention to load capacity and evenness of the soil.
- Also consider the accessibility for adjustment and Maintenance work on the extraction system.
- Provide adequate lighting (Minimum value: 300 Lux)

7.1 Set up

Step 1: Place the machine on a stable, level surface. The distance to the wall should be at least 800 mm. Check the electrical supply voltage. This must be connected to the voltage of the Machine match.

Step 2: Connect the suction hose(s) to the suction nozzle(s) of the extraction system using suitable hose clamps.

Step 3: Connect the suction hose to the metalworking machine.

7.2 Electrical connection



DANGER!

Danger to life due to electric shock!

Work on the electrical connection may only be carried out by qualified electricians.

Make sure that the power connection has the same characteristics (voltage, mains frequency, phase position) as the motor (see nameplate).

Step 1: Connect the mains plug to the mains.

7.3 Commissioning



ATTENTION!

The operator must comply with the following rules:

- The extraction system is designed for operation by one person.
- The operator must not work when under the influence of alcohol, drugs or medication.
- The operator must not work if he is overtired or suffers from concentration disorders.



ATTENTION!

The operator must comply with the following rules:

- The extraction unit must not be used for purposes for which it is not intended.
- The extraction unit must not be overloaded.
- The extraction unit may only be used to extract metal dust and chips. Dangerous substances must not be extracted.
- Do not use the extraction unit near flammable gases, liquids and solids. There is a risk of explosion or fire due to possible flying sparks!
- Never open the guards and never remove the collection container while the extraction unit is running.



Wear ear and head protection!



Wear protective goggles!



Wear respiratory protection!



Wear protective gloves!



Wear safety boots!



Wear safety clothes!

Step 1: Check that the suction hose is firmly connected to the extraction unit and to the extraction adapter of the metalworking machine.

Step 2: Check that the collection container and the cover hood are fitted and tightly closed.

Step 3: Switch on the extraction unit first, then the metalworking machine. Make sure that the dust bag is firmly attached.

Step 4: After finishing the work, first switch off the metalworking machine, then the extraction unit

Step 5: Empty the collection container and check the filter. Replace the filter if necessary.

8 Care, maintenance and repair



Tips and recommendations

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



WARNING! **Danger from on insufficient qualification of persons**

Inefficiently qualified persons cannot assess the risks involved in repair work on the extraction unit and expose themselves and others to the risk of serious or fatal injuries.

All maintenance work should only be carried out by qualified personnel.



DANGER! **Danger to life due to electric shock!**

There is danger to life when in contact with live components.

- Disconnect the mains plug before starting cleaning and maintenance work.
- Connections and repairs of the electrical equipment may only be carried out by a qualified electrician.



NOTE!

After care, maintenance and repair work, check that all covers and protective devices have been properly fitted to the extraction unit and that no tools are left inside or in the working area of the extraction unit.

Damaged protective devices and equipment parts must be repaired or replaced by an approved specialist workshop.

Always use original spare parts when required.

Under no circumstances may the device be modified without permission.

8.1 Cleaning of the extraction unit



ATTENTION!

- Before starting cleaning and lubrication, switch off the extraction unit and pull out the mains plug!
- Never use solvents to clean plastic parts or painted surfaces. A loosening of the surface and resulting consequential damages can occur.
- A dust mask must be worn when emptying the collecting container.

Step 1: Clean the extraction unit after each use. Sweep or wipe the extraction unit with a broom or cloth. All painted surfaces should be cleaned with a soft, damp cloth.

Step 2: Empty and clean the collection container after each use.

Step 3: Check the filter for dust deposits after each use.

Step 4: Check the protection device and the function of the EMERGENCY STOP button.

8.2 Maintenance

Weekly: Check hose clamps and suction hose for tight fit and tightness and replace if necessary.

Check the filter for dust deposits and clean if necessary. Replace the filter at regular intervals.

Clean guards, air vents and motor housing.

Monthly: Check the fastening screws of the system.

Half-yearly: Check electrical safety devices and protective devices.

9 Troubles table

Trouble	Cause	Solution
Machine does not switch on	1. No current available	1. Check the mains fuse
	2. Motor, switch or cable defect	2. Contact a qualified electrician
	3. Incorrect electrical connection	3. Contact a qualified electrician

10 Disposal, recycling of used device

Please take care in your own interest and in the interest of the environment that all component parts of the machine are only disposed of in the intended and permitted way.

10.1 Decommissioning

Immediately decommission disused machines in order to avoid later misuse and endangering of the environment or personal safety.

- Eliminate all environmentally hazardous operating materials from the used device.
- If required, disassemble the machine into easy-to-handle and usable components and parts.
- Dispose of machine components and operating materials by the disposal channels provided.

10.2 Waste disposal of electric equipment

Please note that electrical devices contain a variety of recyclable materials as well as environmentally harmful components.

You contributes to that these components are disposed of separately and properly. In case of doubt, please contact your municipal waste disposal. As necessary, a specialized waste disposal company can help be used for the treatment.

10.3 Disposal of lubricants and cooling lubricants



ATTENTION!

Please ensure that the coolants and lubricants used are disposed of in an environmentally friendly manner. Observe the disposal instructions of your municipal waste disposal company.



NOTE!

Used cooling lubricant emulsions and oils should not be mixed, as only unmixed waste oils can be used without pre-treatment.

The disposal instructions for the lubricants used are provided by the lubricant manufacturer. If necessary, ask for the product-specific data sheets.

11 Spare parts



DANGER!

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

The use of wrong or damaged spare parts can as danger the operator and cause damage and malfunctions.

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



Loss of warranty

The manufacturer's warranty will become null and void if non admitted spare parts are being used

11.1 Ordering spare parts

The spare parts may be purchased with the authorised dealer or directly with the manufacturer. Please find the corresponding contact data in Chapter 1.2 Customer service.

Indicate the following basic information for requests or orders of spare parts:

- Type of device
- Item No.
- Position No.
- Year of construction:
- Quantity
- Required mode of dispatch (mail, freight, sea, air, express)
- Address of dispatch

Spare part orders which do not include the above indications may not be taken into consideration. If the indications regarding the mode of dispatch are missing, the product is dispatched at the discretion of the supplier.

You will find indications regarding the device type, item No. and year of construction on the type plate which is fixed on the device.

Example

If it is necessary to order the motor for extraction unit AS 1601. The motor has the position No. 20 on the spare parts drawing.

Type of device: **Extraction unit AS 1601**

Item number: **3922006**

Position No.: **20**

The order No. is: **0-3922006-20**

The order No. consists of the item No., the position No. and one digit in front of the item No.

- Place the digit 0 in front of the item No.
- Also place the digit 0 in front of the position No 1 through 9.

The item No. of your machine:

Extraction unit AS 1601: **3922006**

11.2 Spare parts drawing

In case of service, the following drawing shall help to identify the necessary spare parts. If necessary, send a copy of the parts drawing with the marked components to your authorised dealer.

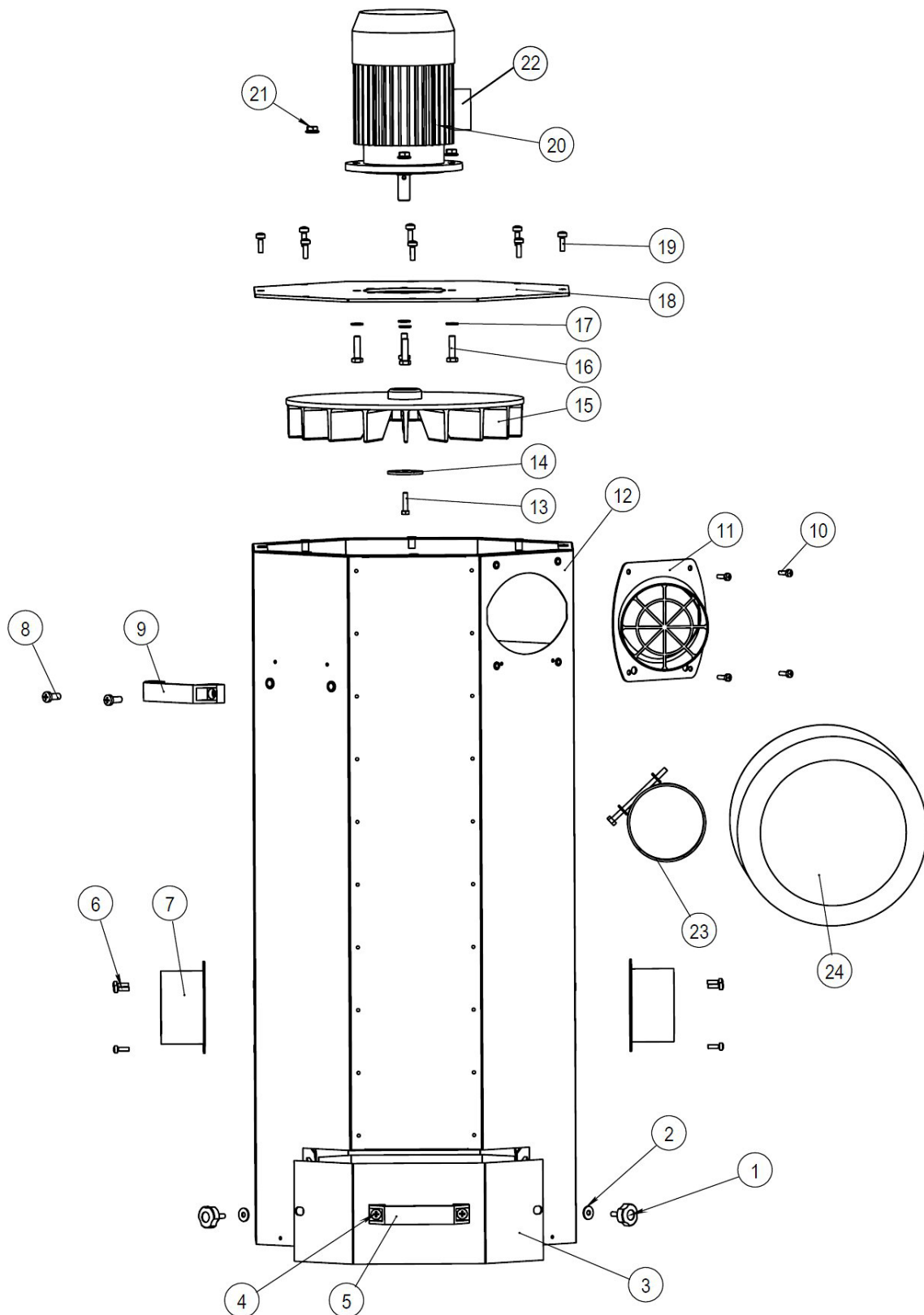


Fig. 3: Spare parts AS 1601

11.3 Spare parts list

Pos.	Description	Item Nr.	Quantity
1	Knob	0392200601	2
2	Washer 6 mm	0392200602	2
3	Drawer	0392200603	1
4	Screw M8x20	0392200605	2
5	Handle	0392200604	1
6	Screw M5x16	0392200606	6
7	Extraction duct	0392200607	2
8	Screw M8x20	0392200608	4
9	Handle	0392200609	2
10	Screw M5x16	0392200610	4
11	Air outlet	0392200611	1
12	Main box	0392200612	1
13	Hex bolt M6x25	0392200613	1
14	Spacer ring	0392200614	1
15	Fan impeller	0392200615	1
16	Hex bolt M8x30	0392200616	4
17	Washer 8 mm	0392200617	4
18	Upper cover	0392200618	1
19	Screw M6x20	0392200619	8
20	Motor	0392200620	1
21	Flange nut M8	0392200621	4
22	Switch	0392200622	1
23	Hose clamp	0392200623	1
24	Filter bag	0392200624	1

12 Electrical wiring diagram

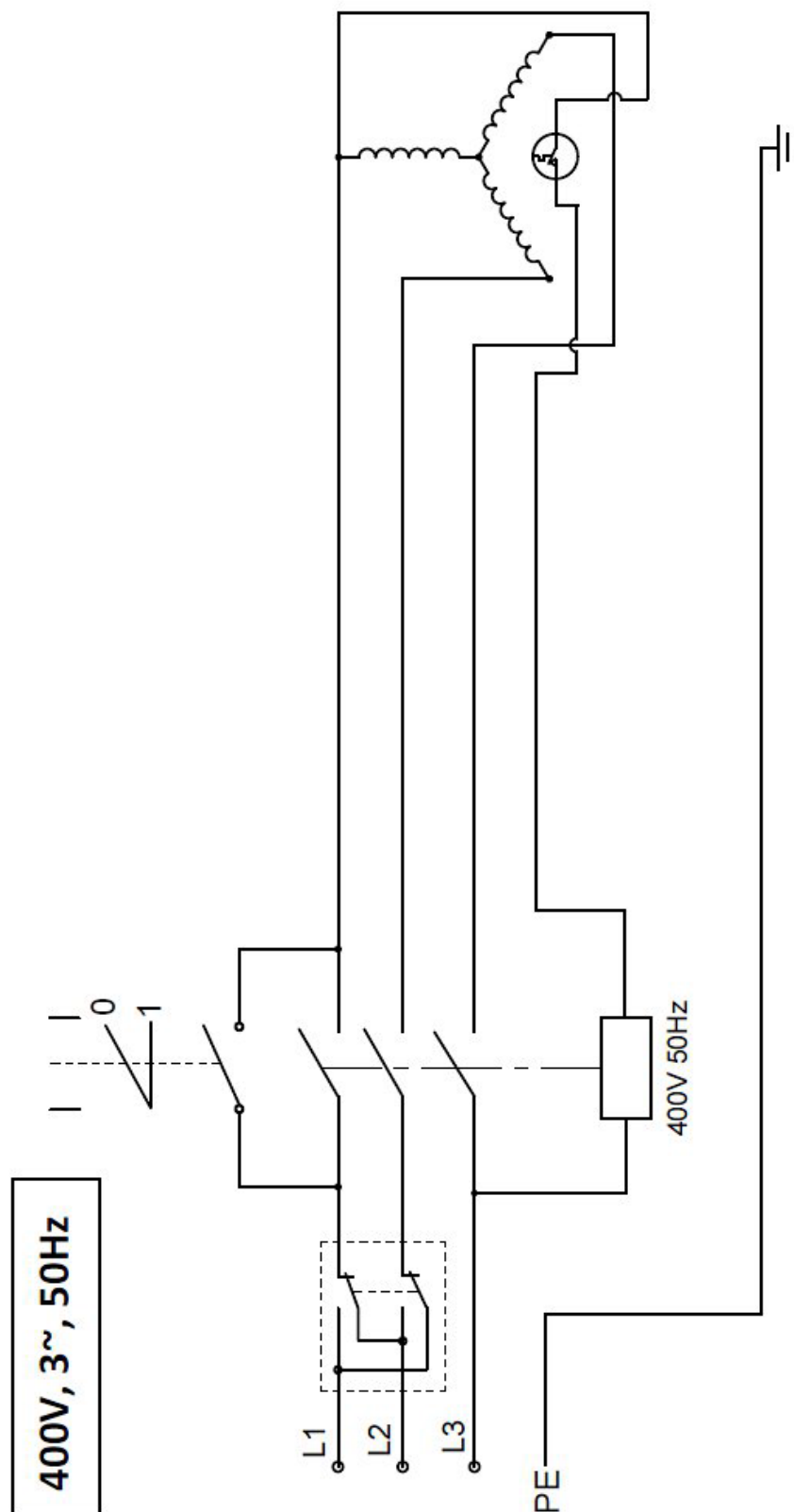


Fig. 4: Electrical wiring diagram AS 1601

13 EC Declaration of Conformity

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

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

hereby declares that the following product

Product Group: Metallkraft® Metalworking machines

Machine type: AS 1601

Designation of the machine: Extraction unit

Item number: 3922006

Serial number: _____

Year of manufacture: 20____

complies with all relevant provisions of the above mentioned directive as well as the other applied directives (below) - including their applicable modifications at the time of the declaration.

Relevant EU Directives: 2014/30/EU EMC Directive

Following standards where applied:

DIN EN 12100:2010 Safety of machinery. General principles for design. Risk assessment and risk reduction (ISO 12100:2010)

DIN EN 60204-1:2007-06 DIN EN 60204-1:2007-06 Safety of machinery. Electrical equipment of machines. Specification for general requirements

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

Hallstadt, 07 September 2018



Kilian Stürmer
CEO, Director



