unicraft Werkstatttechnik

Operating Instructions

Mini Electric Hoist

- MES 250-2
- MES 600-2
- MES 999-2

MES 600-2

MES-SERIES

Imprint

Product identification

Mini Electric Hoist	Item number
MES 250-2	6198225
MES 600-2	6198260
MES 999-2	6198299

Manufacturer

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

Fax: 0049 (0) 951 96555 - 55

E-Mail: info@unicraft.de
Internet: www.unicraft.de

Indications regarding the operating instructions

Original instructions
according DIN EN ISO 20607:2019

Edition: 23.08.2023
Version: 110
Language: English

Author: ES/MS/RL

Indications regarding the copyright

Subject to technical modifications and error.

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1 Introduction

You have made a good choice by purchasing the UNI-CRAFT Mini electric hoist.

Read the operating instructions carefully before using the hoist.

This is an important part and must be kept near the electric wire rope hoist and accessible to every user.

The operating instructions inform you about the proper commissioning, the intended use as well as the safe and efficient operation and maintenance of the electric wire rope hoist. In addition, observe the local accident prevention regulations and general safety regulations for the area of application of the electric wire rope hoist.

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

1.1 Copyright

1.2 Customer service

Please contact your dealer if you have questions concerning your electric hoist 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
Email: service@stuermer-maschinen.de

Spare part orders:
Fax: 0049 (0) 951 96555-119
Email: 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 while taking applicable standards and rules, the state-of-the-art technology 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 inexperienced 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 section provides an overview of all important safety packages for the protection of operating personnel as well as for safe and fault-free operation. Other task-based safety notes are included in the paragraphs of the individual phases of life.

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 word indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury

WARNING!
This combination of symbol and signal word indicates a potentially dangerous situation that will result in death or serious injury if not avoided.

CAUTION!
This combination of symbol and signal word indicates a potentially hazardous situation which, if not avoided, may result in minor or slight injury.

ATTENTION!
This combination of symbol and signal word indicates a potentially hazardous situation which, if not avoided, may result in damage to property and the environment.

NOTE!

This combination of symbol and signal words indicates a potentially dangerous situation which may lead to material or environmental damage if 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 written in these operating instructions in order to reduce the risk of personal injuries and damages to property.

2.2 Obligations of the operating company

of the operator

The operator is the person who operates the electric wire rope hoist for commercial purposes himself or who makes it available to a third party for use or application and who bears the legal product responsibility for the protection of the user, the personnel or third parties during operation.

Obligations of the operating company

If the electric hoist is used for commercial purposes, the operating company the electric hoist 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 electric hoist 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 electric hoist. She must implement these in form of operating manuals for the operation electric hoist
- During the entire lifetime of electric hoist, 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 electric hoist, 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 electric hoist 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 electric hoist 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 expressively commissioned the operator.

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.

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 member has to wear personal protective equipment while performing different tasks on and with the machine which are indicated in the individual paragraphs of these instructions.

The personal protective equipment is explained in the following paragraph:

Head protection

The industrial helmet protects the head against falling objects and knocks against stationary objects items.

Suitable protective gloves

The protective gloves provide protection for the hands against sharp-edged components, as well as against friction, abrasions or deeper injuries.

Safety boots

The safety boots protect the feet against crushes, falling parts and slipping over on slippery underground.

Protective clothes

Protective work clothing means tight-fitting clothing with low tear resistance.

Hearing protection

Hearing protection prevents hearing damage caused by noise.

2.5 Safety devices

EMERGENCY STOP button

Fig. 1: Emergency stop button

When the EMERGENCY STOP button is pressed, electric hoist is switched off immediately. To unlock, turn the switch in the direction of the arrow (clockwise).

Motor overload protection

The electric hoist is not suitable for continuous operation. If the intended operating time is exceeded, the motor overheats and the electric wire rope hoist switches itself off. After a sufficient cooling phase, the motor automatically switches back to operational readiness.

Upper and Lower limited position device

The electric cable has an upper and a lower end disconnection device.

Upper limit stop:

If the upper end stop is touched by the load hook buffer, the limit switch interrupts the circuit and the electric cable is switched off immediately.

Lower limit stop:

If the load is lowered until the steel cable actuates the end stop, the brake function is released and the limit switch interrupts the circuit. The electric cable stops.

2.6 Safety labels on the electric hoist

The following safety signs are applied on the electric hoist (Fig. 2), which need to be observed and followed.

Fig. 2: Safety labels

If safety labels on the machine are damaged or missing, this can cause errors, personal injury and material damage. The safety symbols attached to the machine must not be removed. Damaged safety symbols must be replaced immediately. As soon as the signs are not clearly visible and comprehensible at first glance, the machine must be stopped until new signs have been attached.

2.7 General safety regulations

NOTE!

In each case, the regulations in force in the country of use must be observed (in the currently valid version)
In Germany at the moment
DGUV Regulation 1 - Principles of Prevention DGUV Regulation 3 - Electrical Installations and Equipment
DGUV regulation 52 - Cranes
DGUV regulation 54 - Winches, hoists and hoists
DGUV Rule 100-500 Chapter 2.8 (BGR 500) - Load handling equipment in hoist operation
DGUV principle 309-001 - Testing of cranes EN 1494 - Mobile and mobile lifting devices EC Machinery Directive 2006/42 / EC

Setting up, retrofitting, maintenance and inspection work may be carried out only on equipment that is not in operation. The work is allowed for trained personnel only.

It is important to point out that the making of any unauthorised modifications or changes to the machine is not permitted.

Operating personnel must always ensure that the maximum load is never exceeded.

Personnel must not stand underneath a suspended load as this could come loose and fall.

Personnel must not ride on or be lifted by the equipment. Access to lifting equipment is not permitted.

2.8 Safety information for operating personnel

No operational mode which could compromise the safety of electric hoist may be undertaken.

It is the responsibility of the operator to ensure that no unauthorised personnel work on electric hoist(e.g. also by working on equipment in a manner contrary to authorised use).

It is the responsibility of the operator to check electric hoist at least once before use (once a day) for externally apparent damage or defects and to report any changes (including to the way the machine is operating) which are likely to compromise safety.

It is the responsibility of the operator to ensure that the electric hoist is operated only in perfect order and condition.

It is the responsibility of the operator to insist that operating personnel must wear protective clothing wherever necessary.

Under no circumstances must safety devices be removed or put of operation (potential risk of serious crushing, danger to life). If it is necessary to remove any safety devices for fitting, repair or maintenance work, they must be re-installed immediately after maintenance or repair is complete.

2.9 Checks

Lifting equipment is a testable suspension. It is therefore the Guidelines for Hoists issued by the German Employers' Liability Insurance Association, the Central Agency for Accident Prevention, the inspection guidelines and the test regulations according to DIN 685 part 5 Nov. 1981, UVV, DGUV regulation 54 and UVV, DGUV regulation 52 and DIN EN 818-7 of September 2002 to be observed.
The entry in the crane test book must be made via repairs and tests carried out (eg adjustment work on brake or clutch).

2.10 Safety data sheets

You can obtain safety data sheets on hazardous goods from your specialist dealer or by calling +49 (0)951/ 96555-0.
Specialist dealers can find safety data sheets in the download area of the partner portal.

3 Intended Use

The electric hoist is used exclusively for lifting, lowering and moving freely movable loads up to the specified maximum load.
Intended use also includes compliance with all the information in these instructions.

3.1 Reasonably foreseeable misuse

Any use beyond the intended use or any other use is considered misuse.

Possible misuses can be:

- Transporting heavier loads than permitted
- Not correctly attaching the transport hook to the means of transport.
- Operation of the electric wire rope hoist without the functioning, foreseen safety devices.
- Failure to observe the maintenance instructions
- Non-observance of signs of wear and damage
- Service work carried out by untrained or unauthorised personnel.
- careless handling of the electric wire rope hoist
- Installation of spare parts and use of accessories and equipment not approved by the manufacturer.
- Modifications to the electric wire rope hoist or the use of modified tool systems

Misuse of the surface and thickness planer can lead to dangerous situations.
Stürmer Maschinen GmbH accepts no liability for design and technical modifications to the surface and thickness planer.
Claims of any kind for damage due to improper use are excluded.

3.2 Residual risks

Even if all safety instructions are observed and the machine is used according to the instructions, there are still residual risks, which are listed below.

- During operation there is a risk of crushing the upper and lower limbs.
- During set-up and setup work, it may be necessary to dismantle on-site protective equipment. This creates various residual risks and potential dangers that every operator must be aware of

4 Technical Data

MES	250		600		999	
Deflection pulley	-	yes	-	yes	-	yes
Load lifting capacity [kg]	125	250	300	600	500	999
Lift height max. [m]	12	6	12	6	12	6
Max. lifting speed [m/min]	8	4	8	4	8	4
Electrical connection	230 V/50Hz		230 V/50Hz		230 V/50Hz	
Power rating	500 W		1050 W		1600 W	
Mechanism group	1Dm (M1)		1Dm (M1)		1Dm (M1)	
Work duty	S3-20% 10 min		S3-20% 10 min		S3-20% 10 min	
Inner dimension Fastening clamps	46 mm	46 mm	46 mm	46 mm	46 mm	46 mm
Rope diameter	3 mm		4,5 mm		6,0 mm	
Dimensions [mm] (LxWxH)	345x130 x250		385x148 x280		480x170 x340	
Weight	11,0 kg		17,5 kg		33 kg	

4.1 Type plate

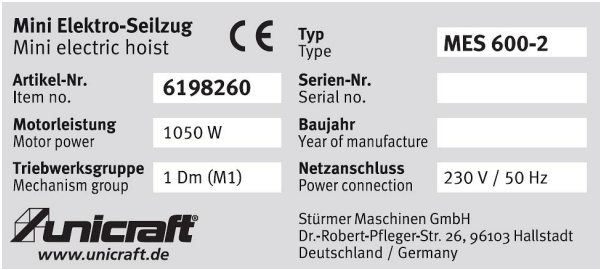


Fig. 3: Type plate Mini Electric Hoist MES 600-2

5 Transport, packaging, storage

5.1 Transport

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

NOTE!

The electric hoist should be protected from humidity.

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

Clean the electric hoist, oil the bearings and store them in a frost-free and dry environment (max. +55°C). Do not place anything on the electric hoist.

6 Description of the device

6.1 Illustration

Illustrations in these operating instructions may deviate from the original.

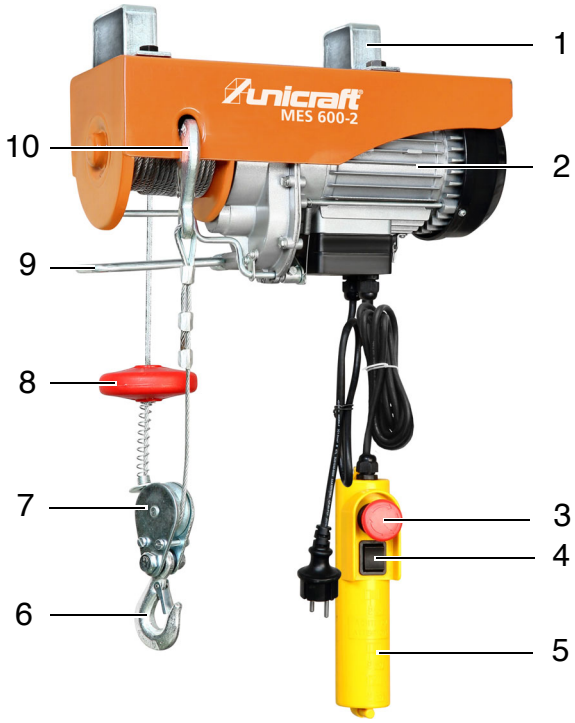


Fig. 4: Description of the device

1 Mounting clamps
2 Electric motor
3 Emergency stop switch
4 Control switches (lifting / lowering)
5 Control bar
6 Load hooks
7 Pulley
8 Stop
9 Safety device
10 Load hook attached (for operation with deflection roller)

EMERGENCY OFF switch

Engages when pressed. The power supply is immediately interrupted and the motor switches off.
To unlock, turn the switch in the direction of the arrow (clockwise).

7 Mounting and connection

Take the electric hoist out of its packaging and remove all protective films. Make sure that the electric hoist is not installed or put into operation in a damp or wet environment.

7.1 Mounting

ATTENTION!

Before working on the electric hoist, it must be disconnected from the mains supply.

Use suitable protective gloves!

Wear protective clothes!

The standard version of the electric hoist is equipped with a special clamp mounting system with a special profile for mounting on edged or round pipes.

ATTENTION!

Before installingthe electric hoist, check whether the load-bearing capacity of the carrier is sufficient for the weight to be carried plus the weight of the electric hoist and whether it can withstand the permanent load.

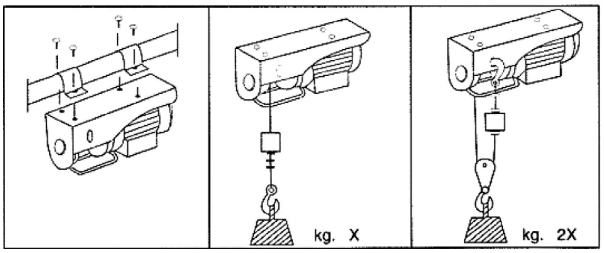


Fig. 5: Left: Mounted on a carrier I Center: Operation without pulley I Right: Operation with deflection pulley.

Operation with deflection pulley

For operation with deflection pulley to double the standard load capacity, attach the load hook to the upper loop and close the safety bar.

Then mount the pulley on the rope (Fig. 5 right) and tighten all screws.

Operation with swivel arm

ATTENTION!

Before installing the swivel arm, check that the load-bearing capacity of the carrier is sufficient for the weight to be carried plus the weight of the electric hoist plus the weight of the swivel arm and that it can withstand the continuous load.

Step 1: First screw the clamps to the carrier at the correct distance (450 mm).

Step 2: Then insert the swivel arm into the lower element and screw it to the upper cross brace as shown in Fig. 6.

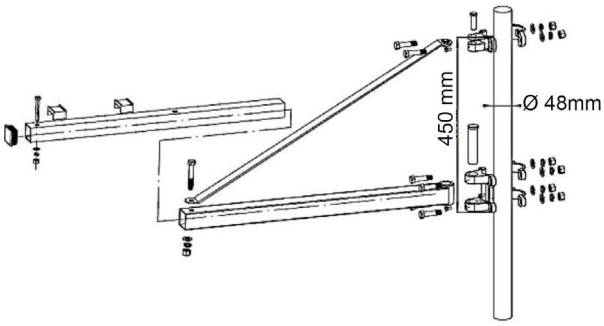


Fig. 6: Mounting the swivel arm

Step 3: The optional extension element (not included with the swivel arm) must be inserted and screwed in before screwing it into the cross strut.

Step 4: Screw the electric wire rope hoist to the desired position on the swivel arm. Observe the maximum load capacity in relation to the respective boom length!

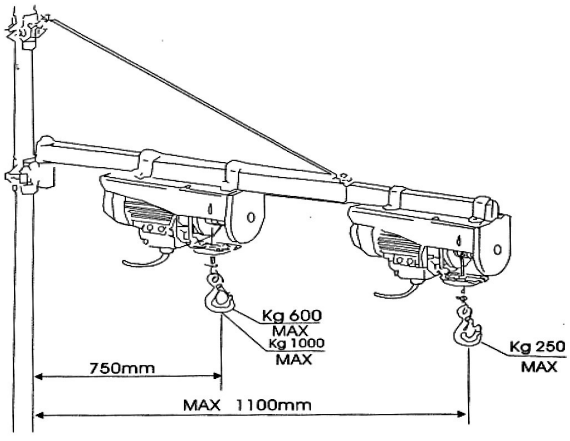


Fig. 7: Mounting the electric hoist on the swivel arm

ATTENTION!

Make sure that the electric hoist is not mounted over the maximum boom length when mounting the electric hoist on the swivel arm. Observe the maximum load capacity in relation to the respective boom length!

7.2 Electrical connection

DANGER!

Risk of death due to electric current!!

Contact with live components may result in immediate danger to life due to electric shock.

- Work on the electrical system must only be carried out by qualified electricians.
- Protect the mains cable from damage caused by heat, oil, sharp edges, kinks and knots.
- Always pull the mains cable out of the socket by the plug, never by the cable.

CAUTION!

Risk of crushing!

If improper work is carried out on electric hoist, there is a risk of injury to fingers and hands.

Make sure that the power switch is off when connecting to the mains.

Step 1: Check that the mains voltage corresponds to the voltage indicated on the nameplate.

Step 2: Mount the electric hoist to a stable device.

Step 3: Connect the power cord to the mains.

Step 4: Actuate the control switch on the control bar and check the functions of the electric hoist.

When using an extension cable, you must observe the minimum cross sections of the electric cables:

- Cable length up to 20 m: cross-section 1.5 mm
- Cable length 20 to 50 m: cross section 2.5 mm

7.3 Before first use

All commissioning work on the electric wire rope hoist may only be carried out by licensed specialists.

Step 1: Check all cables and plugs.

Step 2: Check the steel cable for damage.

Step 3: Check all functions of the electric wire rope hoist. Check the switch for ease of movement.

8 Operation

DANGER!

Risk of dead by crashing the load!

Falling loads can cause serious injury or death.

- Never step under suspended loads, stay there or work under suspended loads.
- Unsuitable attachment points can fail and the load can fall. Only attach the load hook of the electric wire rope hoist to the load at suitable attachment points.
- Only move loads under supervision.
- A lifted load must under no circumstances be subjected to an impact or shock load.
- Never lift a load with the electric wire rope hoist that slips, falls or whose individual parts are not firmly connected to each other.
- Never use a rusted or damaged Mini Electric Hoist.
- Never leave a load lifted by the Mini Electric Hoist unattended.
- When lifting and lowering a load, ensure that the operator is out of reach of the load at all times.
- Lower the load when leaving the workplace.

DANGER!

Overloading is life-threatening!

Beams not intended for use with the electric hoist and its load-bearing capacity can give way.

- The electric hoist should always be suspended from suitable equipment which has sufficient load-bearing capacity to withstand the weight of the load and the electric hoist.

If the load-bearing capacity is exceeded, the electric hoist may fail and the load may fall.

- Only loads which do not exceed the load-bearing capacity may be suspended.

CAUTION!

Risk of crushing!

Injuries to hands and fingers may result from improper use of electric hoist.

- Never grasp the cable while the equipment is in operation.

ATTENTION!

- Do not transport persons or animals with the electric hoist
- Children and other persons must be at an adequate distance from the working area.
- Never carry out work on the electric hoist under the influence of alcohol, drugs or medication and/or in the event of fatigue or illnesses affecting concentration.
- Never touch the cable when the electric hoist is in operation.
- Never use the electric hoist with the wire rope damaged or bent.
- Do not move loads that exceed the maximum load capacity of the electric hoist (see type plate).
- Do not use the electric hoist to move stuck or jammed loads.
- Loads may only be lifted vertically and never pulled diagonally.
- Keep a safe distance.
- Avoid excessive jog operation (give frequent short pulses to the motor).
- Do not change the direction of movement suddenly.
- Never allow heavy loads to hang for long periods of time in order to minimise the stress on the electric wire rope hoist and prevent accidents.

Use head protection!

Use suitable protective gloves!

Wear safety boots!

Wear protective clothes!

NOTE!

- Operating personnel must be familiar with the operation and functions of the Mini Electric Hoist and the safety regulations pertaining to it.
- The operator is responsible for ensuring that all operating personnel have had the necessary training.

ATTENTION!

Ensure that the cable is rolled up evenly.

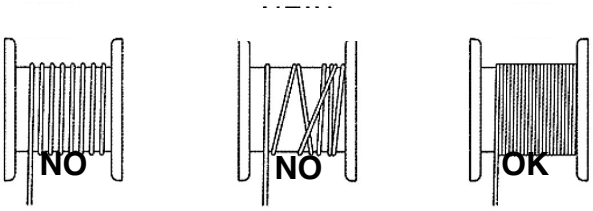


Fig. 8: Correct winding of the cable

Before starting work, make sure that the control switch is in the OFF position and the steel cable is wound onto the drum without overlapping.

Operation is carried out using the keys on the control panel, which are to be switched depending on the direction of travel. Do not switch directly from forward to reverse, but let the device stop in between.

If the upper end stop is reached, electric hoist will stop automatically.

When the cable limiter is activated, the circuit is interrupted and electric hoist is stopped.

When electric hoist is not in operation, it must always be disconnected from the mains.

8.1 Operating conditions

MES-Series	
Temperature range	+5°C to +40°C
Humidity	30% to 95% max.
Operating altitude	max. 1000m MASL
Operating environment	as closed rooms as possible, non-flammable environment, as dry and dust-free as possible.

The working area must be dry, fire and explosion protected and free of any corrosive or poisonous substances.

The electric hoist must not be used to lift or move dangerous goods such as molten, poisonous or radioactive materials.

The electric hoist may be used outdoors, but not in heavy rain.

Work duty: S3-20% 10 min

Working cycle 10 minutes, of which 2 minutes operating time and 8 minutes resting time for cooling down.

8.2 Test run

Before using the electric hoist to lift a load, a no-load test should be carried out to test all functions. In particular, the function of the raising and lowering limits should be tested.

8.3 Lifting up a load

ATTENTION!

Before starting operation, check that the steel cable is correctly wound onto the drum and that the minimum cross-section of the mains cable is maintained.

At least 3 complete cable windings must remain on the drum in order not to damage the connection point of the cable.

The limit switches must not be approached during operation.

Step 1: Check all cables and plugs.

Step 2: Check the rope for damage, repair or replace if damaged.

Step 3: Check the weight of the load to be lifted in relation to the maximum load capacity.

Step 4: Attach the load hook of the electric hoist to a suitable attachment point of the load and check that the hook safety catch is closed.

NOTE!

- Do not wrap the rope around the load.
- The load rope must not be twisted in itself.
- Check the position of the centre of gravity of the attachment point to prevent movement and slipping of the load.
- Lifting equipment (eye, chain or similar) must be loosely positioned at the bottom of the hook.
- The tip of the hook must not be loaded.
- Close the fuse.

Step 5: Set the main control switch to the "LIFT" position and drive upwards until the load rope is tensioned.

Step 6: Raise the load a little and check that the rope and load are stable.

Step 7: Lift the load smoothly and evenly upwards.

NOTE!

- The operator must have sufficient stability and freedom of movement.
- The electric hoist must be able to swing freely in the pulling direction.
- Limit switch-off: When the limit of the lifting travel is reached, the power supply switches off automatically and the load hook stops.
- The load hook is designed in such a way that it deforms when overloaded and does not break brittle.

8.4 Lowering of a load

Step 1: Set the control switch to the "DOWN" position.

Step 2: Lower the load smoothly and evenly.

CAUTION!

Risk of crushing!

When the load is lowered, the upper and lower limbs may be crushed.

- Do not hold the upper and lower limbs between the load and the ground when putting down the load.

Step 3: Place the load on a firm, safe surface.

Step 4: Open the safety catch of the load hook and lower the load.

9 Care, maintenance and repair

9.1 Care by cleaning

The electric hoist must always be kept in a clean condition.

Use suitable protective gloves!

NOTE!

Never use strong cleaning agents to clean the device. Such cleaning agents might damage or destroy the device.

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

Remove excess grease or oil with a dry, lint-free cloth.

NOTE!

Oil, grease and cleaning agents are hazardous to the environment and must not be added to waste water or normal household waste. Dispose of these agents in an environmentally friendly manner. The cloths soaked in oil, grease or cleaning agents are easily combustible. Collect the rags or the cleaning wool in a suitable, closed container and dispose of them in an environmentally friendly manner - do not dispose of them with your household waste!

9.2 Maintenance and repair

ATTENTION!

- Maintenance and repair works must only be performed by specialists.
- Use only original spare parts in case of a repair.

If the electric hoist is not functioning properly, contact a specialised dealer or our customer service. Please find the contact data on chapter 1.2 Customer service.

Immediately reassemble all protective and safety equipment after completing the repair and maintenance of the device.

Maintenance schedule

If an increase in wear is noted during regular inspections, the maintenance intervals should be decreased in accordance with the actual signs of wear. Contact the manufacturer for further information concerning maintenance tasks and intervals. Please find the contact data on chapter 1.2 Customer service.

Step 1: Lubricate all moving parts of electric hoist (gears, bearings) with good quality grease.

ATTENTION!

The steel rope must not be lubricated or oiled!

Step 2: Check the electric hoist for external damage before each use.

Step 3: Make sure that all safety instructions on the electric hoist are clearly legible.

Visual inspection

Maintenance intervals	Maintenance tasks
before each operation	Check the electric hoist for damage and wear, in particular check the wire rope for kinks, deformations, wire breaks and corrosion.
	Check the brake for damage and wear. Clean brake disc if necessary and replace if worn.
	Check the hook for wear or loss of substance by grinding. If the wear exceeds 10% of the normal size on delivery, the hook must be replaced.
	Check the fixing screws and clamps for tight fit on the beam.
after each operation	Oil the load hook well.
every 40 hours	Lubricate gearbox and bearings.
every 40 hours	Function control of the brake.
every 40 hours	Cleaning the brake disc.
every 200 hours	Wear test and wear measurement of the brake disc.
every 200 hours	Check the clamping screws of the steel cable for tight fit.
every 200 hours	Function test of the safety switches (stroke limitation switches) and the motor control switch.
every 200 hours	Wear test of the rope. Wear test and wear measurement of the load hook.
as required	Replacement of the brake disc.
as required	Replacement of steel cable and load hook.
annually	Safety inspection: If electric hoist is used in companies, it must be inspected annually in accordance with the Industrial Safety Ordinance and the inspection documented in accordance with § 10.

Check the brake system:

ATTENTION!

The brake system must be checked regularly!

Brake tests shall be carried out as follows:

Step 1: Attach load

Step 2: Lift the load.

Step 3: Lift and lower the load at different heights.

Step 4: Test whether the load can be held in any position.

ATTENTION!

Die Bremsscheibe muss ersetzt werden, wenn die Bremswirkung nicht mehr ausreicht, um die Nennlast sicher zu halten.

Checking the load cable for wear

The electric hoist is subjected to periodic maintenance and supervision. In many cases is the procedure of monitoring regulated in norms and directives (e.g. DIN 15020 paper 2 ,,Principles of the electric hoist, monitoring and use“).

The typical evaluation criteria described in norms with regard the wire rope discard in case of e.g. wire break, wire break nests, strand breakages, structural changes, mechanical wear or corrosion can be assessed by appropriate qualified specialists, which are trained in maintenance and assessment of cranes.

Continuous monitoring of the hoist in compliance with DIN 685 Part 5 and UVV BGV D8 Section 27 (VBG 8 Section 27) is a compulsory requirement. The load cable should be inspected before starting up and under normal operating conditions after about 200 operating hours or 10,000 load cycles, under heavy operating conditions at shorter intervals.

Particular checks should be made on the links, especially contact points, for wear, deformation, wire breaks, structural changes, corrosion and other damage.

The cable guide should be checked when changing the cable and replaced if necessary.

ATTENTION!

Only use original spare parts of the manufacturer or spare parts admitted by the manufacturer.

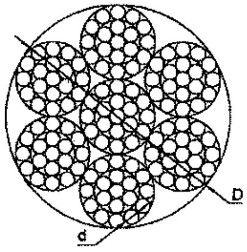


Fig. 9: Steel rope

MES	250-2	600-2	999-2
Rope diameter	3,0	4,5	6,0

Wear measurement and replacement of the load hook

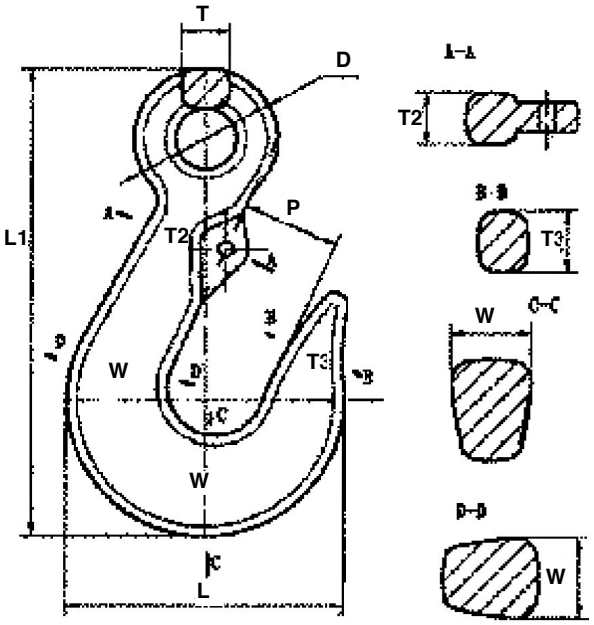


Fig. 10: Hook dimensions

Load hook

MES	250-2	600-2	999-2
Hook length L1 [mm]	84	93	121
Hook width L2 [mm]	48	54	73
Diameter D1 [mm]	25	28	38
Thickness T1 [mm]	7,0	9,5	10
Thickness T2 [mm]	7,5	10,5	12
Thickness T3 [mm]	9,0	12,0	13
Thickness W1 [mm]	11	16	17
Thickness W2 [mm]	11	16	17
Opening width P [mm]	17,5	19	24

Hook on roller

	250-2	600-2	999-2
Hook length L1 [mm]	93	93	121
Hook width L2 [mm]	54	54	73
Diameter D1 [mm]	28	28	38
Thickness T1 [mm]	9,5	9,5	10
Thickness T2 [mm]	10,5	10,5	12
Thickness T3 [mm]	12,0	12,0	13
Thickness W1 [mm]	16	16	17
Thickness W2 [mm]	16	16	17
Opening width P [mm]	19	19	24

According to DIN 15405 Part 1, the load hook must be replaced if the expansion is greater than 10%.

ATTENTION!

Only use original parts from the manufacturer as spare parts.

10 Testing the electric hoist

The use of the electric cable is possible according to: UVV "winches, hoists and hoists" DGUV regulation 54, UVV "cranes" DGUV regulation 52

Testing when used according to DGUV regulation 54 (BGV D8

§ 23 (VBG 8 § 23) by an expert before the first commissioning and after significant changes

Examination according to DGUV regulation 52 (BGV D6 § 25 (VBG 9 § 25) by an authorized expert before the first commissioning and after significant changes.

Recurring inspections of equipment, cranes and supporting structures by an expert once a year. In severe conditions, e.g. frequent operation with full load, dusty or aggressive environment, high switching frequency, high duty cycle, the test intervals must be shortened.

- Experts for the testing of cranes are, in addition to the experts of the TÜV, only the experts authorized by the professional associations.
- Experts are customer service technicians of the manufacturer or specially trained specialist personnel.

The inspection of cables shall be verified by means of a test book.

The test is essentially a visual and functional test. It covers the examination of the condition of the components and equipment, the completeness and effectiveness of the safety equipment and the completeness of the test book.

11 Troubleshooting

Fault	Possible cause	Solution
The electric hoist motor is not functioning.	1. It is not plugged into the power supply. 2. The wires are broken or ripped. 3. Switch Malfunction. 4. The capacitor is burned through. 5. End-switch has not been reset or a limit switch error. 6. The thermal switch has suffered a wire break.	1. Connect the item to the power supply. 2. Check the wires and plug it in again to the outlet. 3. Repair switch or change it. 4. Change your capacitor. 5. Check the end-switch and replace the limit switch. 6. Wait until the item cools down, or replace the thermal switch.
The motor continues to run after the function key is released.	Switch defective.	Replace switch.
Motor temperature too high.	Too much workload.	Reduce workload.
Cable pull moves in a direction other than that indicated on the control panel buttons.	1. Cable connections are not correct. 2. Malfunction of the switches. 3. Wrong connection of the motor.	1. Correct connections according to diagram. 2. Check connections. 3. Correct motor connection.
Brake does not work. Too long overrun after switching off.	1. Oily brake disc. 2. Brake disc worn. 3. Pressure spring defective. 4. Overload. 5. Defective rectifier. 6. Severe voltage loss.	1. Clean the brake disc. 2. Replace brake disc. 3.Replace pressure spring. 4. Reduce load. 5. Replace rectifier. 6. Ensure correct tension.
Uncommon noises.	Gear wheels are heavily worn.	Replace the gear wheels.
Upper and lower limit switches do not work.	1. Bad connection. 2. Limit switch defective.	1. Check connection. 2. Replace limit switch.
Leakage current	1. Poor grounding or no grounding. 2. Internal cables are in contact with the housing. 3. Humidity too high. 4. Current-carrying device parts dirty.	1. Check earthing or make connection. 2. Check cables. 3. Avoid work if the air humidity is too high. 4. Keep device parts clean.

12 Disposal, recycling of used devices

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.

12.1 Decommissioning

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

Step 1: Eliminate all environmentally hazardous operating materials from the used device.

Step 2: If required, disassemble the machine into easy-to-handle and usable components and parts.

Step 3: Dispose of machine components and operating materials by the disposal channels provided.

12.2 Disposal of electrical equipment

Note that electrical equipment contains a variety of recycling-capable materials and also environmentally hazardous components.

Please help to separate these components and dispose of them responsibly. In case of doubt, contact your local waste disposal authority. Consult a specialist disposal agent for recycling if needed.

12.3 Disposal of lubricants

Remove any leaking, used or excessive grease at the lubricating points.

Disposal notes for used lubricants are available from the manufacturer of the lubricants. If necessary, request the product-specific data sheets.

13 Spare parts

DANGER!

Danger of injury by the use of wrong spare parts!

Dangers may result for the user and damages as well as malfunctions may be caused by using wrong or damaged spare parts.

- Only use original spare parts of the manufacturer or spare parts admitted by the manufacturer.
- Always contact the manufacturer in case of uncertainties.

Tips and recommendations

The manufacturer's warranty will become null and void if non-permissible spare parts are used.

13.1 Ordering spare parts

The spare parts can be obtained from the specialist dealer.

Specify the following key data when ordering 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 information regarding the device type, item No. and year of manufacture on the type plate fixed to the device.

Example

The load hook for the Mini Electrical Cable Winch MES 250-2 must be ordered. The load hook has the number 97 in the spare parts drawing 1.

By ordering spare parts, send a copy of the spare parts drawing (1) with the marked part (load hook) and marked positon number (97) to the dealer or spare parts department and provide the following information:

- Type of device: **Mini Electric Hoist MES 250-2**
- Item number: **6198225**
- Drawing number: **1**
- Position number: **97**

The article number of your device:

Mini Electric Hoist MES 250-2: **6198225**

Mini Electric Hoist MES 600-2: **6198260**

Mini Electric Hoist MES 999-2: **6198299**

13.2 Spare parts drawings

In case of service, the following drawings 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.

Spare parts drawing MES 250-2

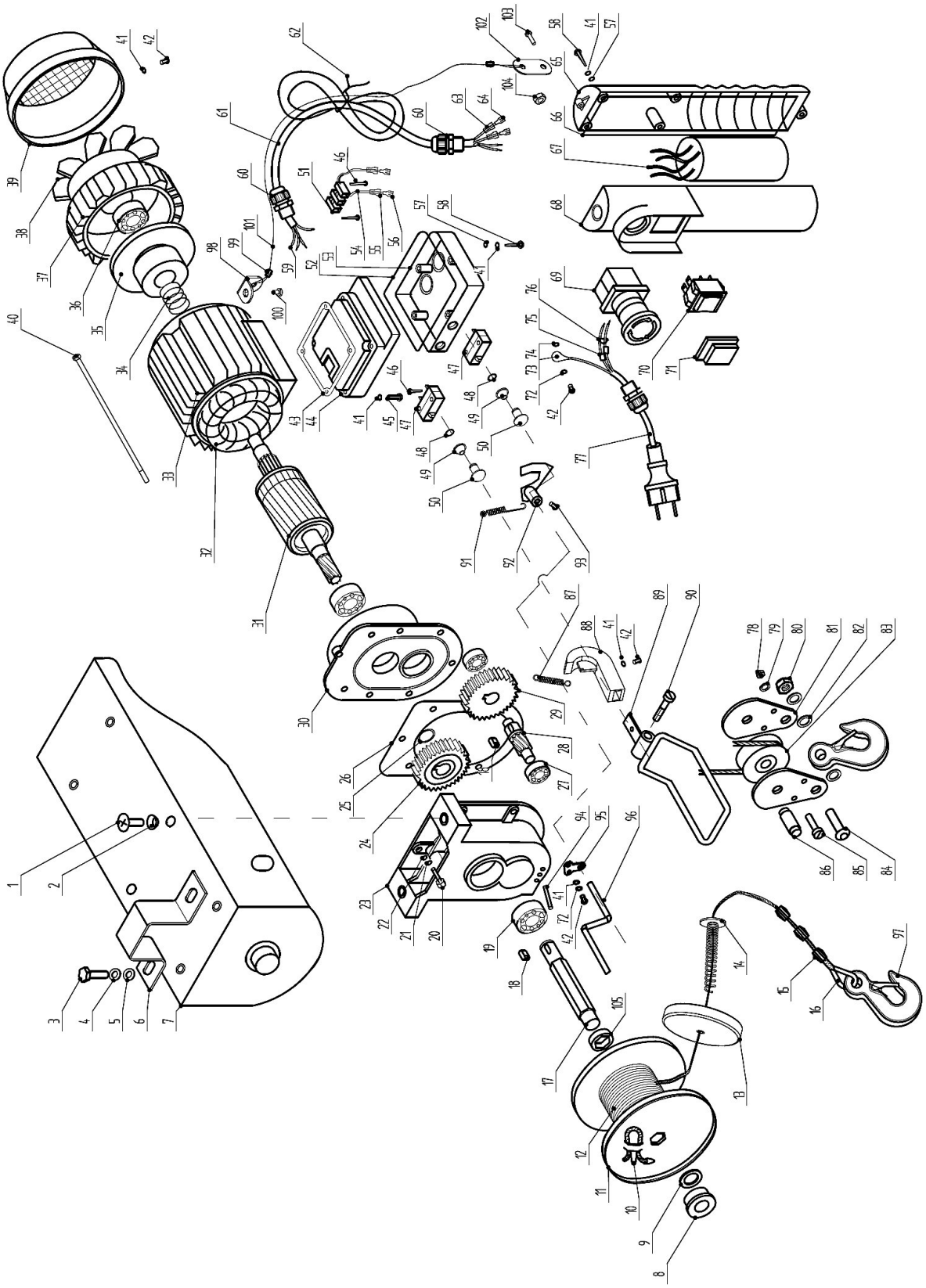


Fig. 11: Spare parts drawing MES 250-2

Spare parts drawing MES 600-2

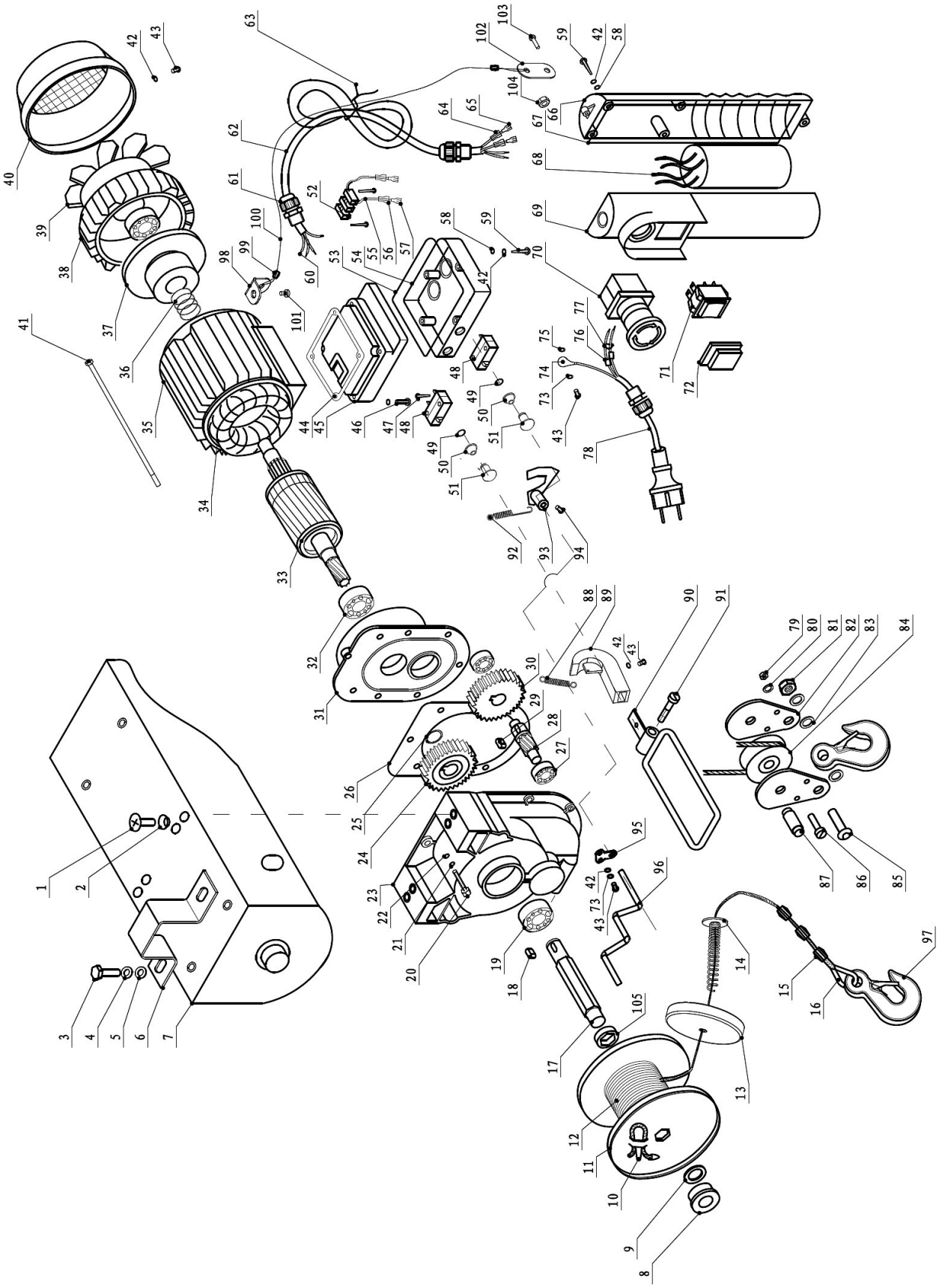


Fig. 12: Spare parts drawing MES 600-2

Spare parts drawing MES 999-2

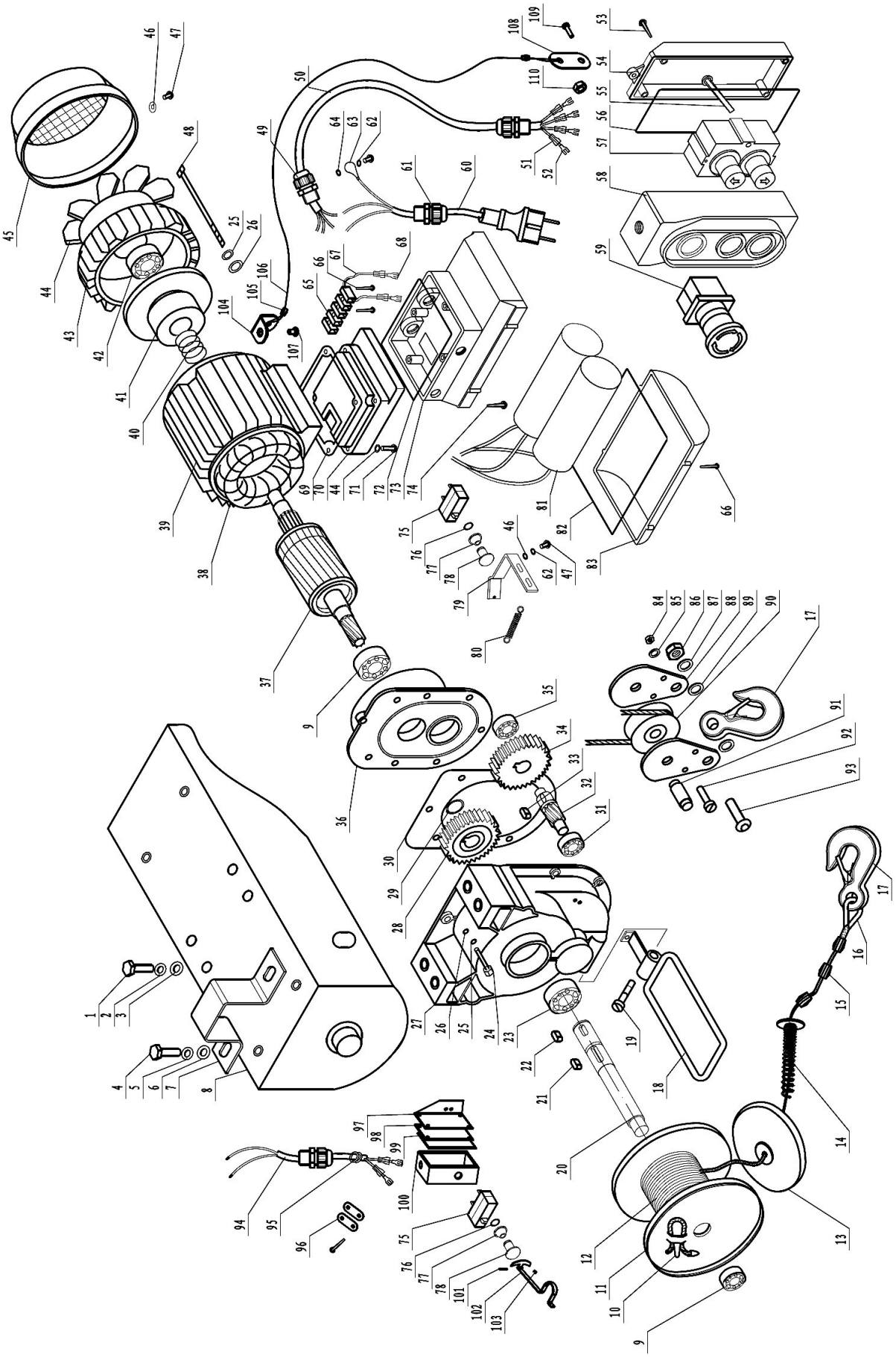


Fig. 13: Spare parts drawing MES 999-2

14 Electrical circuit diagram

Electrical circuit diagram MES 250-2, MES 600-2

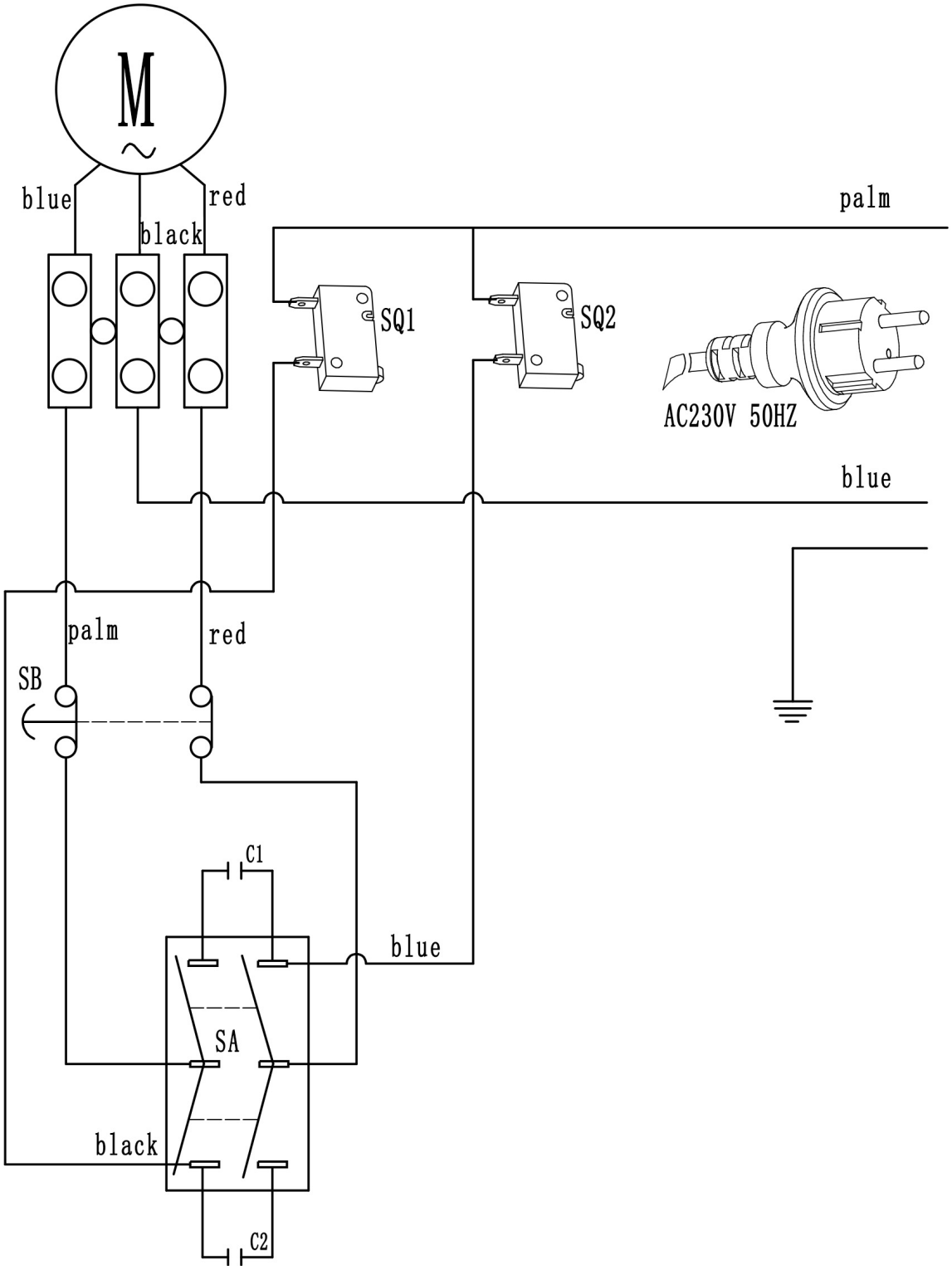
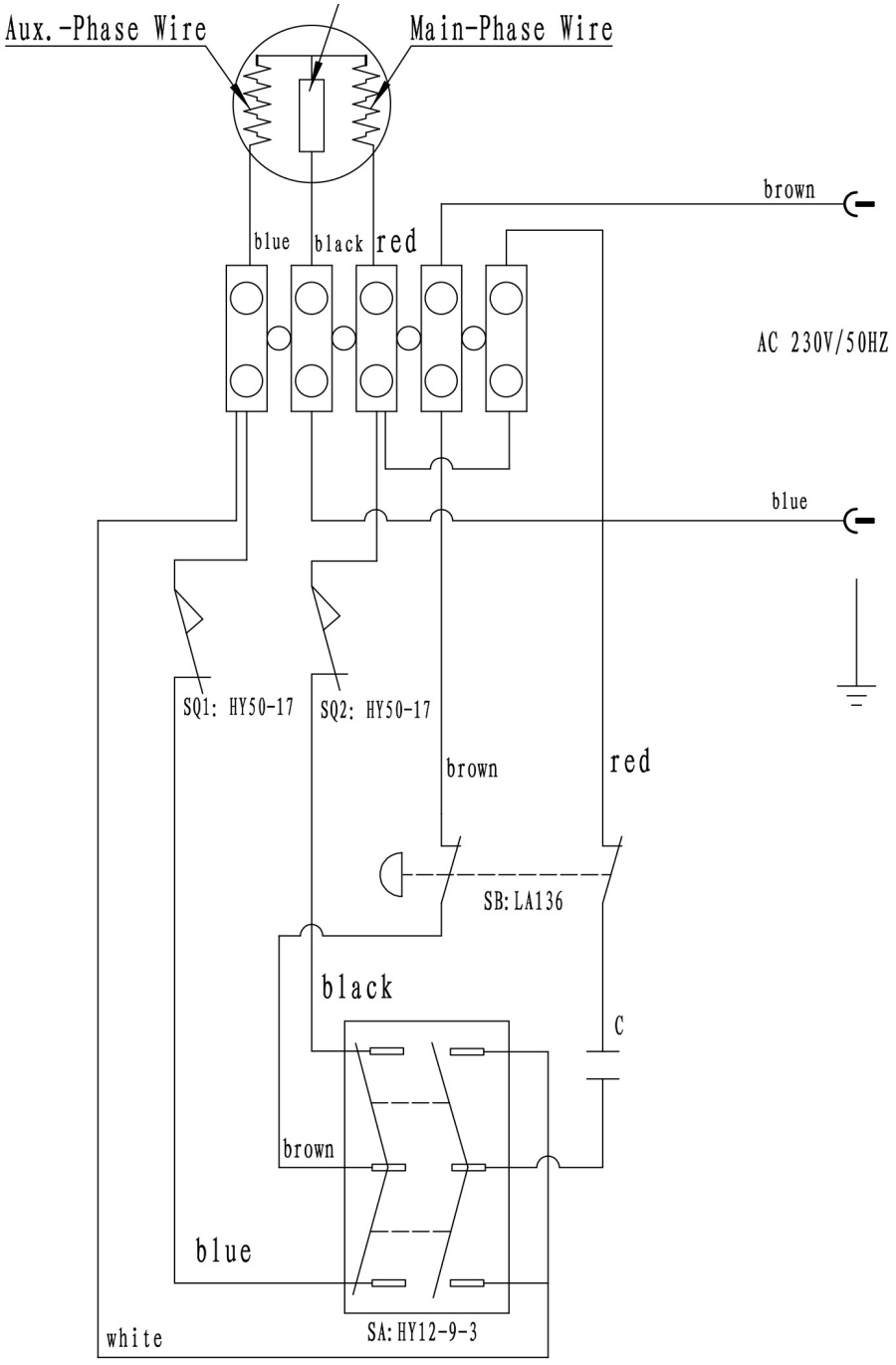


Fig. 14: Electrical circuit diagram MES 250-2, MES 600-2 (top) and MES 999-2 (below)

Electrical circuit diagram MES 999-2



External outgoing wire diameter $1mm^2$

Internal connecting wire diameter $0.75mm^2$

Fig. 15: Electrical circuit diagram MES 999-2

15 EC Declaration of Conformity

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

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

hereby declares that the following product

Product group: Unicraft® Werkstatttechnik

Machine type: Mini Electric Hoist

Designation of the device *:
☐ MES 250-2
☐ MES 600-2
☐ MES 999-2

Item number *:
☐ 6198225
☐ 6198260
☐ 6198299

Serial number*: _____

Year of manufacture*: 20_____

* please fill in according to the information on the type plate

complies with all relevant regulations of the aforementioned directive as well as any other, applicable directives (subsequently added) – including the changes applicable at the time the declaration was made.

Relevant EU directives: 2014/30/EU EMC Directive

The following harmonized standards have been applied:

DIN EN 14492-2:2019-09	Cranes - Power driven winches and hoists - Part 2: Power driven hoists
DIN EN 60204-32:2009-03	Safety of machinery - Electrical equipment of machines - Part 32: Requirements for hoisting machines
DIN EN IEC 55014-1:2022-12	Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus - Part 1: Emission
DIN EN IEC 55014-2:2022-10	Electromagnetic compatibility - Requirements for household appliances , electric tools and similar apparatus - Part 2: Immunity - Product family standard
DIN EN IEC 61000-3-2:2019-12	Electromagnetic compatibility (EMC) - Part 3-2: Limits - Limits for harmonic current emissions (equipment input current ≤ 16 A per phase)
DIN EN 61000-3-3:2023-02	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 the documentation: Kilian Stürmer, Stürmer Maschinen GmbH,
Dr.-Robert-Pfleger-Str. 26, D-96103 Hallstadt

Hallstadt, 23.08.2023

Kilian Stürmer
Managing Director

CE

16 Maintenance schedule

	Maintenance schedule							MES			
40 h	40 h	40 h	200 h	As re-qui-red	200 h	As re-qui-red	An-nuall y				
Lubricate bearings, gears	Functional check braking system	Cleaning brake disc	Wear test brake disc	Replacement brake disc	Wear measurement load rope, hook	Replacement load rope, hook	Safety check Mini Electric Hoist	Data	Opera-ting hours	Staff	Signa-ture

stürmer WELT DER MASCHINEN

Stürmer Maschinen GmbH

Dr.-Robert-Pfleger-Straße 26
D-96103 Hallstadt

+49 951 96 555 - 0

info@stuermer-maschinen.de
www.stuermer-maschinen.de