Operating Instructions

Electrical Cable Winch

ESW 500

ESW 800

ESW 500

ESW-SERIES

Imprint

Product identification

Electrical Cable Winch	Item number
ESW 500	6199500
ESW 800	6199800

Manufacturer

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Indications regarding the operating instructions

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Indications regarding the copyright

Content

1 Introduction

You have made a good choice by purchasing a Unicraft Electrical Cable Winch.

Read the operating manual thoroughly before commissioning the machine.

It gives you information about the proper commissioning, intended use and safe and efficient operation and maintenance of your Electrical Cable Winch.

The operating manual is part of the Electrical Cable Winch package. Always keep this operating manual in the location where your Electrical Cable Winch is being operated. All local accident prevention regulations and general safety instructions for the operating range of your Electrical Cable Winch must also be complied with.

1.1 Copyright

The contents of these instructions are copyright. They may be used in conjunction with the operation of the Electrical Cable Winch. Any application beyond those described is not permitted without the written approval of Stürmer GmbH. 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 Electrical Cable Winch 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
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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 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 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 words indicates an imminently dangerous situation which may lead to death or severe injury if not avoided.

WARNING!

This combination of symbol and signal words indicates a potentially dangerous situation which may lead to death or severe injury if not avoided.

CAUTION!

This combination of symbol and signal words indicates a potentially dangerous situation which may lead to slight or minor injury if 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 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 operating company is the person who operates the electrical cable winch 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 electrical cable winch is used for commercial purposes, the operating company the electrical cable winch 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 electrical cable winch 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 the electrical cable winch. She must implement these in form of operating manuals for the operation the electrical cable winch
- During the entire lifetime of the electrical cable winch, 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 electrical cable winch, 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 electrical cable winch 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 electrical cable winch 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.

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.

2.5 Safety devices

EMERGENCY STOP button

Fig. 1: Emergency stop button

When the EMERGENCY STOP button is pressed, the electrical cable winch is switched off immediately.

To unlock, turn the switch in the direction of the arrow (clockwise).

Motor overload protection

The electrical cable winch is not suitable for continuous operation. If the intended operating time is exceeded, the motor overheats and the electrical cable winch witches itself off. After a sufficient cooling phase, the motor automatically switches back to operational readiness.

Upper and Lower limited position device

When the load weight is raised and makes contact with the end switch/stop ring, the end-switch will stop the circuit for safety.

When the load weight is lowered and the steel rope is going to be unrolled, the steel rope will then press on the down limit brake and the brake is applied. For guaranteed safety, the switch contact is activated in order to interrupt the circuit and stop the machine.

2.6 Safety labels

The following safety signs are applied on the device (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!

All local regulations (the latest valid version) which apply in the country where the device is used must be complied with
In Germany, currently
BGV A1 - Principles of Prevention
BGV A3 (VBG 4) - Electrical systems and equipment
BGV D6 (VBG 9) - Cranes
BGV D8 - Winching, lifting and pulling equipment
BGR 500 (VBG 9a) - Load carrying devices used with lifting equipment
BGV B3 (VBG 121) - Noise
BGG 905 (ZH 1/27) - Principles for testing cranes
EC Machine guidelines 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 the electrical cable winch may be undertaken.

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

It is the responsibility of the operator to check the electrical cable winch 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 the electrical cable winch 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

Hoisting cables are classed as a load-carrying device requiring inspection. For this reason, the following guidelines issued by the trade association central office for accident prevention regarding steel cables used in lifting operations must be complied with: DIN 685 Part 5 Nov. 1981, UVV, BGV D8 (VBG 8 April 1997) and UVV, BGV D6 (VBG 9 April 2001) and DIN EN 818-7 September 2002.

A record of maintenance and inspections carried out must be entered in the crane inspection log book (e.g. any adjustment to the brakes or clutch).

3 Indended Use

The electrical cable winch must only be used for lifting free-moving loads weighing up to the maximum specified load.

The electrical cable winch may be operated only by personnel who have been trained in its use.

The proper use also includes observing all indications in these operating instructions. Any use beyond the proper use or any other use is regarded as misuse. Under no circumstances may personnel be lifted.

Stürmer Maschinen GmbH accepts no liability for any constructional or technical modifications carried out on the electrical cable winch.

Any claims due to damages because of not intended use are excluded.

3.1 Foreseeable misuse

If the intended use is observed, any reasonably foreseeable misuse which could lead to hazardous situations with personal damage is impossible with the electrical cable winch.

3.2 Residual risks

Even if all safety regulations are observed a residual risk in the operation of the electrical cable winch will remain, as described below.
All persons working with the electrical cable winch must be aware of these residual risks and follow the instructions which prevent any accidents or damage caused by these residual risks.

- Risk of crushing of upper and lower limbs while equipment is operating.
- During set-up and adjustment works it may become necessary to remove safety devices installed by the customer. This causes different residual risks and hazard potentials each operator must be aware of.

4 Technical Data

4.1 Table

	ESW 500	ESW 800
Load lifting capacity with / without deflection pulley	250 kg 500 kg	400 kg 800 kg
Power connection	230 V / 50 Hz	230 V / 50 Hz
Fuse	10 A	10 A
Cable	Ø 4,0 mm	Ø 5,0 mm
Tensile strength	1870 N/mm^2	1960 N/mm^2
Lifting speed without / with deflection pulley	8 m/min 4 m/min	8 m/min 4 m/min
Max. stroke with / without deflection pulley	30 m 15 m	30 m 15 m
Length of cable, control unit	5 m	5 m
Power rating	1000 W	1300 W
Sound pressure level (LWA)	71 dB(A)	71 dB(A)
Degree of protection	IP 54	P 54
Mechanism group	1 Dm (M1)	1 Dm (M1)
Work duty	S3 20%-10min	S3 20%-10min
Dimensions (LxWxH) [mm]	340x330x500	340x330x500
Weight	30 kg	32 kg

4.2 Type plate

Fig. 3: Type plate ESW 800

5 Transport, Packaging, Storage

5.1 Transport

Check the electrical cable winch 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 electrical cable winch 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 electrical cable winch, oil the bearings and store them in a frost-free and dry environment (max. +55°C). Do not place anything on the electrical cable winch.

6 Description of Device

6.1 Illustration

Illustrations in these operating instructions may deviate from the original.

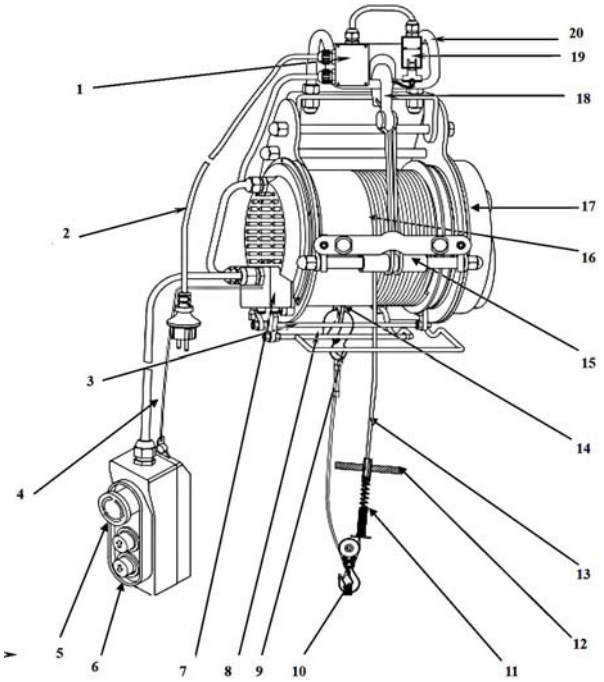

Fig. 4: Description of device

1 Switch box
2 Power cable
3 Down limit pole for limit stop
4 Handle connection cable
5 Emergency stop button
6 Control panel
7 Junction box
8 Uplimit assembly for limit stop
9 Load hook
10 Pulley hook with safety bar and pulley
11 Spring buffer unit
12 Limit weight
13 Steel cable
14 Hook hanging device for operation with pulley
15 Automatic rope rolling device
16 Cable drum
17 Gear box
18 Protection hook
19 Safety switch
20 Hanging hook rack

6.2 Scope of delivery

- Electrical Cable Winch
- Power cable
- Control panel
- Operating instructions

7 Installation

Use protective gloves!

Wear protective clothes!

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 the electrical cable winch, there is a risk of injury to fingers and hands.

- Observe mains voltage: The voltage of the power source must match the specifications on the type plate (Fig. 3).
- Make sure that the switch is switched off when connected to the mains.
- The device is preferably mounted on a wall swivel arm or on an equivalent support.
- The anchorage or the support must be of a stable design to withstand the loads.

ATTENTION!

The carrier must be designed for the weight of the device and for the maximum tractive force of 500 kg or 800 kg!

Step 1: Place the electrical cable winch with the suspension bracket on the carrier.

Step 2: Hook the safety hook (3, fig. 5) into the suspension bracket and insert the safety contact (2) into the safety switch (1) (first remove the cover on the underside of the safety switch).

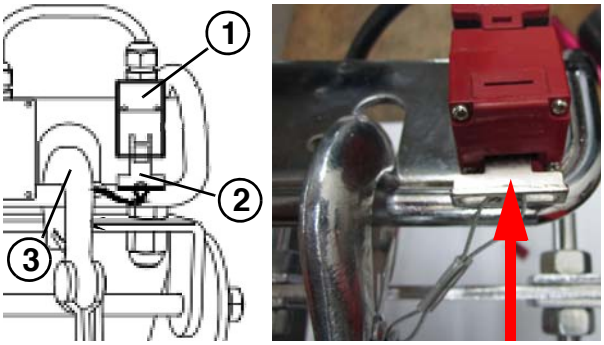

Fig. 5: Insert the safety contact 2 into the safety switch 1

ATTENTION!

If the safety contact has not been plugged into the safety switch, the electrical cable winch cannot be operated.

ATTENTION!

Never hang the electrical cable winch on the safety hook! The safety hook is not designed for the loads with which the electrical cable winch is operated.

8 Operation

DANGER!

Danger to life due to falling of the load!

Falling loads can cause serious injury or death.

- Never stand, linger or work below a suspende load.
- Loads may only be moved under supervision.
- A load must not be lifted by the wire rope hoist if it is slipping, falling or if its component parts are not secured firmly together.
- A rusted or damaged wire rope hoist must never be used.
- A load lifted by the wire rope hoist should not be left unattended.
- Care should be taken during lifting that the operator does not stand within the working range of the load.
- When leaving the workplace, lower the load.
- Unsuitable suspension points can fail and the load may drop. The wire rope hoist load hook should only be secured to suitable suspension points on the load.
- Under no circumstances may a load be subjected to a heavy blow or collision.

CAUTION!

Risk of crushing!

Injuries to hands and fingers may result from improper use of the electrical cable winch.

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

DANGER!

Risk to life due to overload!

Beams not intended for use with the Electrical Cable Winch and its load-bearing capacity can give way.

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

If the load-bearing capacity is exceeded, the Electrical Cable Winch may fail and the load may fall.

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

ATTENTION!

- Do not carry people on the the electrical cable winch.
- Do not move loads which exceed the maximum load-bearing capacity of the the electrical cable winch (see type plate).
- Children and other persons must be at an adequate distance from the working area.
- Never carry out work on the winch 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 winch is in operation.
- Never use the the electrical cable winch with damaged or kinked cable.
- The electrical cable winch must not be used for moving jammed or wedged loads.
- Keep the safety distance.
- Avoid over-use of jog control (repeated short impulses 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 winch and prevent accidents.

Use head protection!

Use protective gloves!

Wear safety boots!

Wear protective clothes!

NOTE!

- Operating personnel must be familiar with the operation and functions of the Electrical Cable Winch 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.

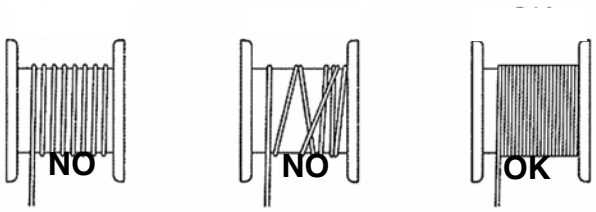

Fig. 6: Correct winding of the cable

Before starting work, make sure that the buttons are in the OFF position and that the steel cable is not wound on top of each other on the drum. The rope guide device ensures that the rope rolls up evenly. This avoids overloads which would occur if the rope were to be wound up unevenly. To do this, always keep the rope in tension by attaching a small load.

The safety hook must always be hooked into the suspension bracket, otherwise the wire rope hoist cannot be operated!

Even when fully extended, always leave at least 5 windings on the cable drum or do not bridge the lower cable disconnection bracket mechanism in order not to damage the cable.

Operation is carried out using the buttons on the control unit, 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.

When the upper end stop is reached, the machine stops automatically.

When the unwind rope limiter switches off the electrical cable winch, the circuit is interrupted and the machine is stopped.

If the electrical cable winch cannot lift a weight immediately, switch off the electrical cable winch immediately to avoid damage and accidents.

Ensure that the suspension rope is not deflected by more than 15° and is not pulled or fastened over sharp edges! (Risk of damage to the rope).

The direction of unwinding must always correspond to the switch position, otherwise the electrical limit switch will not function if it is not observed and serious damage may be caused to the unit!

If the electrical cable winch is not in operation, it must always be disconnected from the mains supply.

8.1 Operating conditions

ESW	
Temperature range [°C]	0 to +50
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 electrical cable winch must not be used to lift or move dangerous goods such as molten, poisonous or radioactive materials.

The electrical cable winch 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 the electrical cable winch 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 Raising a load

ATTENTION!

The electrical cable winch may only be connected to 230 V alternating current!

ATTENTION!

- Take care that no person is in vicinity or in line of the cable behind the the electrical cable winch, when the the electrical cable winch is under load.
- Make sure that the route of load is free from barriers.
- Avoid swinging the load.
- The limit switches must not be approached during operation.

NOTE!

- Do not wrap the rope around the load.
- 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.

NOTE!

- The operator must have sufficient stability and freedom of movement.
- The electrical cable winch 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.

Step 1: Check that the electrical cable winchand the rope are in perfect and undamaged condition.

Step 2: Attach the winch load hook to a suitable load attachment point and check that the hook securing device is closed.

Step 3: Check that the load is securely attached to the hook. Always stay away from the load and steel cable during operation.

Step 4: First drive upwards only until the load rope is tensioned.

Step 5: First lift the load only a small piece and check that the rope and load are stable.

Step 6: Lift the load slowly and evenly.

8.4 Lowering of a load

NOTE!

The rope must not be completely unwound! At least 5 windings must remain on the drum. If the red marking becomes visible, the winch must be stopped immediately.

When lowering a load, note that the winch may still run a few centimetres after stopping, so stop in good time.

Step 1: 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 2: Place the load on a firm, safe surface.

Step 3: After lowering the load, open the safety catch on the load hook and lower the load.

8.5 Operation with pulley

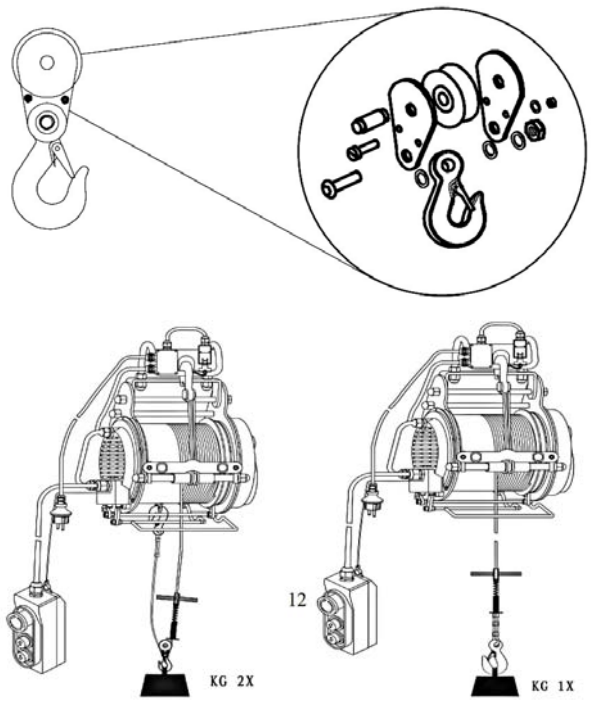

Fig. 7: Operation with pulley (left)

Step 1: Unscrew the cover from the load hook with pulley and place the steel cable on the pulley. Screw the cover back on. Check that the cable runs securely on the pulley and that the screws are tight.

Step 2: Connect the load hook on the steel cable into the suspension device on the housing (Fig. 7 bottom left).

9 Care, Maintenance and Repair

ATTENTION!

The electrical cable winch must be disconnected from the power supply system before starting any maintenance, servicing or repair work!

9.1 Care by cleaning

The electrical cable winch must always be kept in a clean condition.

Use 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 electrical cable winch 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 the electrical cable winch (gears, bearings) with good quality grease.

ATTENTION!

The steel rope must not be lubricated or oiled!

Step 2: Check the electrical cable winch for external damage before each use.

Step 3: Ensure that all safety instructions on the electrical cable winch are clearly legible.

Visual inspection

Maintenance intervals	Maintenance tasks
before each operation	Check wire rope hoist for damage and wear, look particularly at the cable and check for deflection, stretching, fissures or corrosion. If damaged, replace the rope.
	Check brake for damage and wear. Clean the brake disc (63, Fig. 10) if necessary and have it replaced in case of heavy wear.
	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 that the retaining screws and the mounting bracket are firmly seated on the carrier.
following each operation	Clean the electrical cable winch thoroughly and lubricate well. Oil the load hook well.
every 40 hours	Function check of the brake (Load test)
every 200 hours	Wear test and wear measurement of the brake disc
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 the electrical cable winch is used in a company, it must be inspected annually in accordance with the Industrial Safety Regulation and documented in accordance with § 10.

Checking the load cable for wear

The electrical cable winch 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 Electrical Cable Winch, 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.

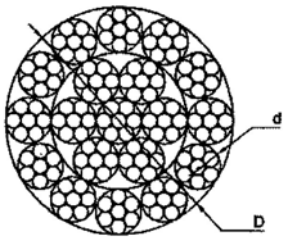

Fig. 8: Steel cable

Model	ESW 500	ESW 800
Cable diameter	Ø 4,0 mm	Ø 5,0 mm
Tensile strength	1870 N/mm^2	1960 N/mm^2

Wear measurement and replacement of the load hook

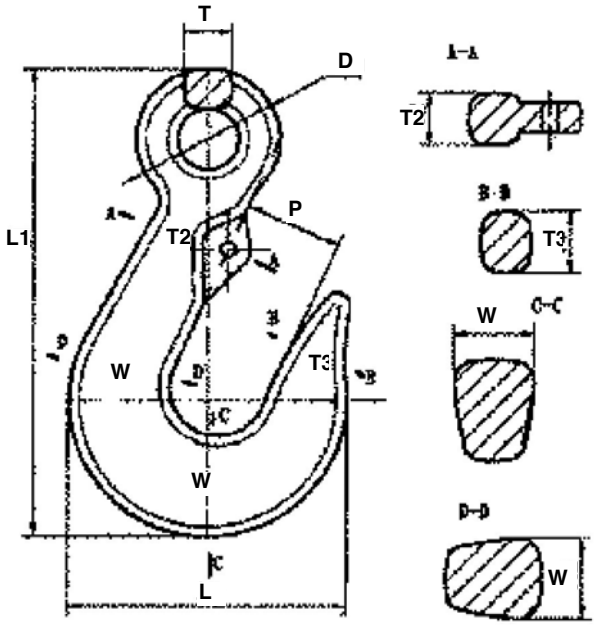

Fig. 9: Hook dimension

Model ESW 500	Load hook	Hook on roller
Hook length L1 [mm]	93 mm	121 mm
Hook width L2 [mm]	54 mm	73 mm
Diameter D1 [mm]	28 mm	38 mm
Thickness T1 [mm]	9,5 mm	10 mm
Thickness T2 [mm]	10,5 mm	12 mm
Thickness T3 [mm]	12 mm	13 mm
Thickness W1 [mm]	16 mm	17 mm
Thickness W2 [mm]	16 mm	17 mm
Öffnungsweite P [mm]	19 mm	24 mm

Model ESW 800	Load hook	Hook on roller
Hook length L1 [mm]	93 mm	121 mm
Hook width L2 [mm]	54 mm	73 mm
Diameter D1 [mm]	28 mm	38 mm
Thickness T1 [mm]	9,5 mm	10 mm
Thickness T2 [mm]	10,5 mm	12 mm
Thickness T3 [mm]	12 mm	13 mm
Thickness W1 [mm]	16 mm	17 mm
Thickness W2 [mm]	16 mm	17 mm
Opening width P [mm]	19 mm	24 mm

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 electrical cable winch

The use of the electrical cable winch is possible after:

UVV "Winches, lifting and pulling equipment" BGV D8 (VBG 8), UVV "Cranes" BGV D6 (VBG 9)

Inspection by an expert prior to initial commissioning and after major modifications when used in accordance with BGV D8 § 23 (VBG 8 § 23).

Testing in accordance with BGV D6 § 25 (VBG 9 § 25) by an authorised expert before initial commissioning and after major modifications.

Periodic inspections of equipment, cranes and supporting structures by a specialist once a year. In severe operating conditions, e.g. frequent operation at full load, dusty or aggressive environment, high switching frequency, high duty cycle, test distances must be shortened.

Expert for the testing of cranes, only the experts authorised by the employers' liability insurance associations are considered in addition to the TÜV experts.

Specialists are customer service fitters of the manufacturer or specially trained technical personnel.

The inspection shall be documented in an inspection book.

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

11 Troubleshooting

Problem	Possible cause	Solution
The electrical cable winch motor is not functioning.	1. Switch defective. 2. Motor defective. 3. Bad contact.	1. Replace switch. 2. Change motor. 3. Check contacts.
Temperature of motor too high.	1. Long service life. 2. Brake is not completely open.	1. File coolling phases 2. Contact customer service.
Motor runs with insufficient power or too low speed.	1. Bad contact. 2. Insufficient power supply.	1. Check contacts. 2. Check the power supply, have it installed by a qualified electrician.
Motor is wet.	1. Humidity is too high or water ingress.	1. Drain the water. Dry the device. After that start the motor and let it operate for a little while. Repeat this procedure a few times.
Brake does not work.	1. Brake disc dirty. 2. Brake disc worn. 3. Brake spring is broken.	1. Clean the brake disc 2. Contact customer service 3. Replace brake spring.

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 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 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 electrical cable winch ESW 500 must be ordered. The load hook is identified in the spare parts drawing with the number 88.

By ordering spare parts, please send a copy of drawing with marked part (load hook) and marked positon number (88) to your dealer or to the spare parts department and provide the following information:

- Type of device: **Electrical Cable Winch ESW 500**
- Spare part: **Load Hook**
- Item number: **6199500**
- Position number: **88**

13.2 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.

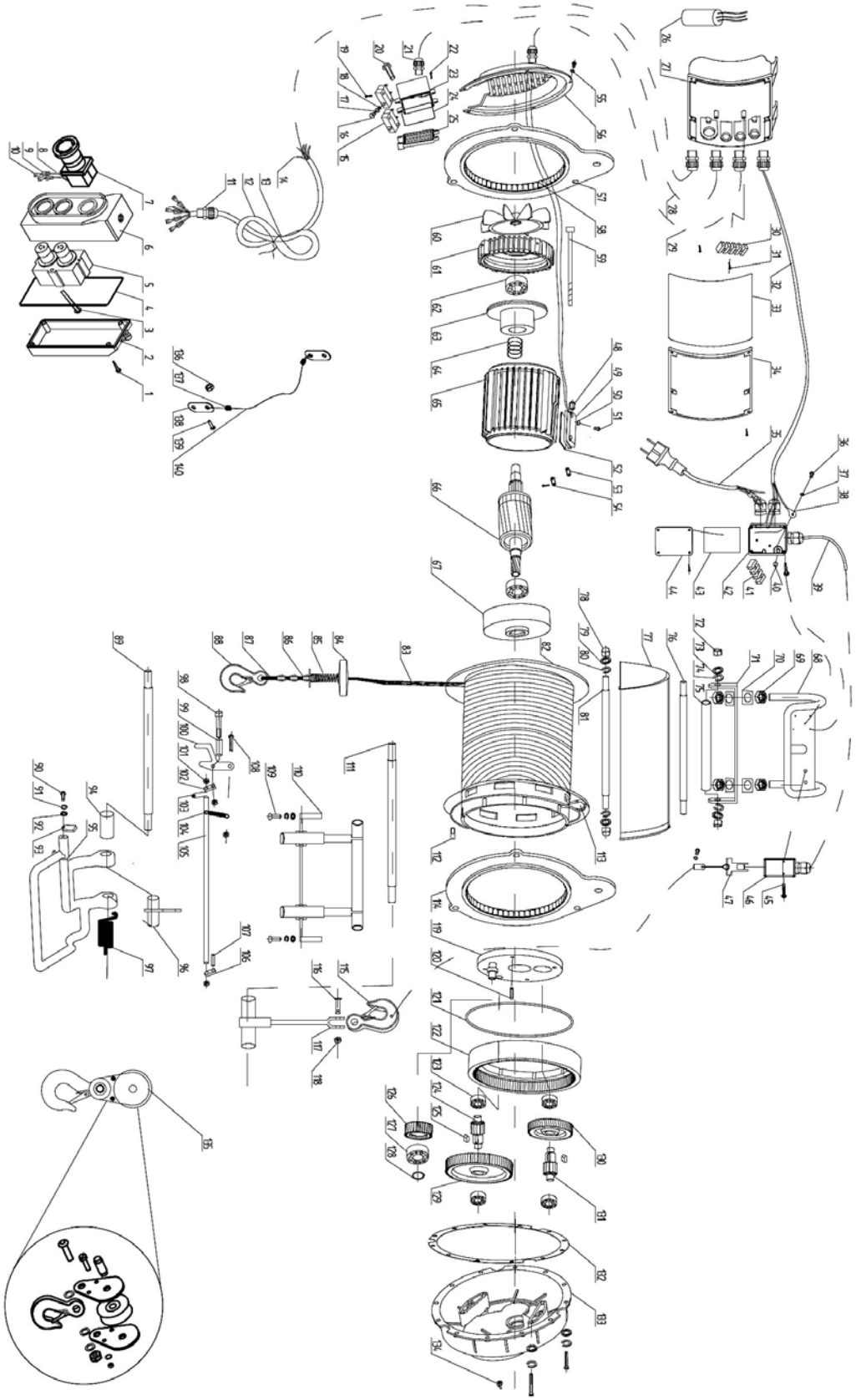

Fig. 10: Spare parts drawing ESW 500 and ESW 800

14 Electrical Circuit Diagram

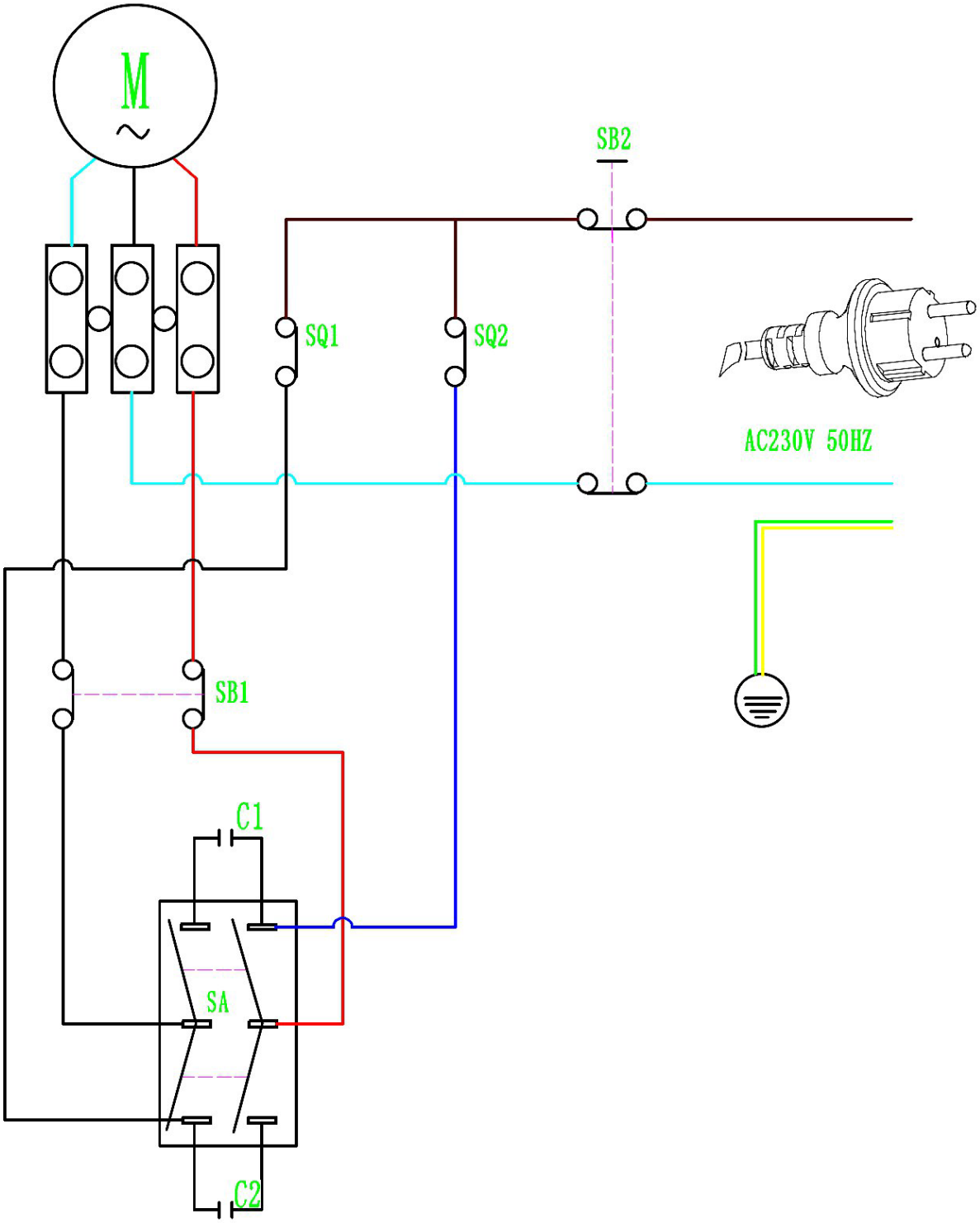

Fig. 11: Electrical circuit diagram ESW 500 and ESW 800

15 EC Declaration of Conformity

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

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

hereby declares that the following product

Product group: Unicraft® Werkstatttechnik

Type of the device: Electrical Cable Winch

Designation of the device*:
☐ ESW 500
☐ ESW 800

Item number*:
☐ 6199500
☐ 6199800

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:

EN 14492-1:2010-06	Crane - Power-driven winching and lifting gear - Part 1: Power-driven lifting gear
EN 60204-1:2019.06	Safety of machinery - Electrical equipment of machines - Part 1: General requirements
DIN EN ISO 12100:2011-03	Safety of machinery - General principles for design - Risk assessment and risk reduction

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

Hallstadt, 05.02.2021

_____
Kilian Stürmer
Managing Director

CE

16 Maintenance Schedule

Maintenance schedule							ESW			
40 h	40 h	200 h	As re-quired	200 h	As re-quired	An-nually				
Lubricate bearings, gears	Functional check brake system	Wear test brake disc	Replacement brake disc	Wear measurement load rope, hook	Replacement load rope, hook	Safety check Electrical Cable Winch	Data	Opera-ting hours	Staff	Signature

Maintenance schedule							ESW			
40 h	40 h	200 h	As re-quired	200 h	As re-quired	An-nually				
Lubricate bearings, gears	Functional check brake system	Wear test brake disc	Replacement brake disc	Wear measurement load rope, hook	Replacement load rope, hook	Safety check Electrical Cable Winch	Data	Opera-ting hours	Staff	Signature


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