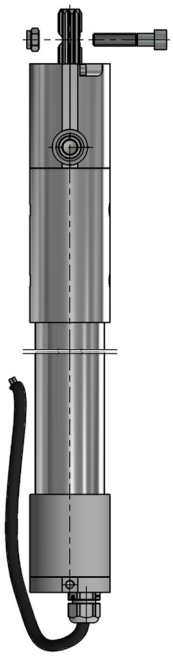
Assembly instructions

„Drive System 3062“
3062.00-V01XXX
3062.00-XXXX



Ketterer ANTRIEBE

Original assembly instructions
3062.72-01

for partly completed machines According to machinery directive 2006/42/EG
Attachment VI

04/2022

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Subject to modifications.

1 Introduction

1.1 Content

- This documentation is intended to help you work safely on and with the "Drive system 3062", hereinafter called "drive system". It contains safety instructions that must be followed for all work performed on and with the drive system.
- The documentation must be made accessible to all persons who work on and with the drive system. They must have understood the documentation and follow the specifications and instructions relevant to them.
- The documentation must be always complete and in a clearly readable condition.

Please read these instructions carefully and follow the safety instructions exactly!

Depending on the design or modification status of the product, there may be differences from these instructions. The user must check this before use and observe the differences if necessary.

1.2 Scope

These instructions are valid for the incomplete machine with article number 3062.00-V01XXX and 3062.00-XXXX only.

1.3 Standards and directives

The conformity assessment procedure was carried out in accordance with the Machinery Directive (MRL) 2006/42/EC.

This drive system is a "partly completed machine" according to Article 2, Paragraph g), MRL 2006/42/EC.

A declaration of incorporation according to Annex II, Part 1, Section B, MRL 2006/42/EC is provided in this document.

The drive system is designed according to compliance with the directives 2011/65/EU (RoHs), 2014/30/EU (EMC) and 2014/53/EU (radio equipment).

Based on the MRL, the manufacturer of the overall system in which the drive system is installed has the responsibility to verify and ensure compliance with the essential requirements of the MRL. This must be done before the complete machine is placed on the market.

1.4 Warnings and symbols used

The safety sign visually represents a source of hazard. The safety signs in these assembly instructions comply with DIN EN ISO 7010.

The following pictograms and signal words are used in this documentation to indicate hazards and important information:

Pictogram	Description
	**Warning of a general hazard** This warning sign is placed in front of activities where several causes can lead to hazards.
	**Hot surface warning** This warning sign stands in front of activities where there is a hazard from hot surfaces which can lead to burns.
	**Warning of electric shock** This warning sign stands in front of activities where there is a risk of electric shock, possibly with lethal consequences.
	**Warning against pointed object / sharp edges** This warning sign stands in front of activities where injuries can occur due to pointed and or sharp edges and corners.
	**Warning of crushing hazard** This warning sign stands in front of activities where hazards exist due to crushing and shearing points which can lead to crushing injuries.
	**Follow instructions**
	**Information**

In these assembly instructions, the following danger levels are used to indicate potentially hazardous situations and important safety instructions:

Hazard level	Description
 **DANGER!**	Indicates a hazardous situation which, if not avoided, will result in death or serious irreversible injury.
 **WARNING!**	Indicates a hazardous situation which, if not avoided, could result in death or serious irreversible injury.
 **CAUTION!**	Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.
 **INFORMATION!**	Indicates a potentially hazardous situation. If not avoided, the equipment or something in its environment may be damaged.

1.4.1 Structure of the section-specific warnings

The section-specific warnings apply not only to one specific action, but to several actions within a chapter. The hazard symbols used indicate either a general or specific hazard.

The warning is structured as follows:

SIGNAL WORD!

Nature of the hazard and its source.
Possible Consequence(s) of disregard.

► Action(s) to avoid the hazard.

1.4.2 Structure of the embedded warnings

The embedded warnings are directly integrated into the action before the dangerous action step.

The embedded warning is structured as follows:

SIGNAL WORD! Nature of the hazard and its source.

Possible Consequence(s) of disregard.

Action(s) to avoid the hazard.

2 Safety Instructions

Read the safety instructions and information on safe operation provided in these assembly instructions carefully before starting work. Become familiar with all functions. Keep these assembly instructions in a safe place and pass them on to others if necessary.

It is very important for your safety that you understand and follow all safety information contained in this document.

Non-compliance may result in danger to the life and health of persons and / or extensive damage to property.

Compliance with the safety instructions helps to avoid hazards.

Always keep the assembly instructions available in a readable condition.

2.1 Personnel - Qualification und obligations

Information

All activities on and with the drive system must only be performed by authorized personnel.

The authorized personnel must...

…know and be able to apply the general accident prevention regulations and safety instructions.

...be appropriately qualified for electrical work (qualified electrician).

...have been trained and instructed in accordance with the rules of behaviour in the event of a malfunction.

...have the physical and mental capabilities to carry out his responsibilities, tasks and activities on the drive system.

...have been trained and instructed in accordance with his responsibilities, tasks and activities at the drive system.

...have understood the technical documentation relating to his responsibilities, tasks and activities at the drive system and be able to implement it in practice.

2.2 Obligations of the operator

Every person who works with the drive system has a responsibility to ensure safety and health protection. They must be trained in the use of the drive system.

A safety-related condition and use of the drive system is a requirement for safe operation. Therefore, the operator has the responsibility to ensure that the following points are complied with:

- Ensure that the drive system is only operated by trained and authorized personnel!
- Prohibit safety-endangering and dangerous working methods! Check the actions of the personnel!
- Always keep this document in a complete and readable condition!
- Obligate the operating and maintenance personnel to report occurring and recognizable safety defects immediately to their superiors!

During start-up and operation, the operator must ensure that there are no persons in the danger zone. The danger zone depends on the function and dimensions of the end product in which the drive system is installed.

2.3 Use

2.3.1 Intended use

This product is an electromotive drive system consisting of a tubular motor with integrated control, radio module and multi-tooth output shaft for connecting a spindle.

The drive system is designed to be integrated into an application and to transmit the rotary motion of the motor to the application via a spindle system.

The drive system is controlled via the supplied 1-channel handheld radio transmitter.

The drive system may only be put into operation after conformity with all relevant directives and standards has been established by the integrator.

Observe the following notes on the intended use of the available versions of the drive system.

The drive system is available in two versions:

Version with emergency hand crank

- **3062.00-V01XXX (variable gear diameter)**
- **3062.00-0011 (gear diameter 53 mm)**

The versions with item numbers 3062.00-V01XXX and 3062.00-0011 has been specially designed for integration into the mast tube of an umbrella. This version has a gear input and an emergency hand crank for manual closing of the umbrella in case of emergency situations. Please note the specific instructions for this version.

Version without emergency hand crank

- **3062.00-0010 (gear diameter 53 mm)**

This version of the drive system does not have a gear input for manual operation. This must be taken into account when integrating it into the application. In emergency situations, this version cannot be operated manually. The integrator or operator of the application must provide sufficient safety in emergency situations.

The spindle system must be individually configured with Ketterer depending on the application.

2.3.2 Foreseeable misuse

In the case of misuse, Ketterer is not responsible for any injuries caused, property damage or any subsequent damage that may occur.

Misuses are:

- Operation in the range outside the operating data specified in these assembly instructions (see chapter 3.4 “Technical data / operating conditions").
- Mechanical and electrical assembly in non-compliance with the instructions given in these assembly instructions.
- Operation different from the application approved by Ketterer.
- Operation without suitable protection against the intrusion of water.
- Interference with the components or the system during operation.
- Changes to the drive system which have not been approved by Ketterer.

2.4 Residual risks

Despite all actions taken to integrate safety in the design, safety provisions and additional protective actions, non-obvious residual risks cannot be completely avoided. You can reduce residual risks by carefully following the safety instructions and the intended use. The identified residual risks are listed in Table 1.

Table 1: residual risks

Life phase / Activity	Residual risk
Packing / Transport / Unpacking / Assembly	**Cutting injuries** Despite strict quality controls, parts of the drive system, as well as the accessories and packaging, may have sharp edges and corners which can lead to cuts. Make sure that you wear suitable protective gear whenever handling the drive system.
Start-up / Operation	**Hot surfaces** Depending on the load and environmental temperature, the surfaces of the drive system may reach temperatures of over 90 °C. Only perform necessary activities directly with the drive system after it has cooled down completely. However, wait at least 45 minutes after the last motor activity.
Assembly / Start-up / Operation	**Electrical voltage / residual energy** Residual electrical energy may remain in lines, electrical components, equipment and devices when the drive system is switched off. Only allow work on the electrical supply to be carried out by qualified electrical personnel. Make sure that all phases are voltage-free. There must be no residual voltage left in the system, so wait at least 5 minutes after complete disconnection from the power supply before carrying out the necessary work.
Start-up / Operation	**Uncontrolled movements** Incorrect programming of the radio remote control may cause one or more applications to be activated unintentionally when several applications are controlled. Follow the instructions for programming and deleting the radio remote control.
Start-up / Operation	**Trapping, drawing in, grabbing** Objects, items of clothing or body parts can be drawn in, trapped or grabbed by the rotary motion of the motor, gear unit or spindle. Only operate the motor when it is encapsulated.
Start-up / Operation	**Breakage** Overloading the drive system above the specified load limits can lead to a defect in the drive system and thus to injury or damage to property. This also includes overloading due to wind forces.

3 Product description

3.1 Description of the drive system

The 3062 drive system is an electromotive drive system consisting of motor, control unit and radio remote control.

The drive is designed for large tensile and compressive forces and moves the corresponding application at the push of a button. The system is controlled via the radio remote control.

A wide range of applications can be realized by connecting a spindle unit and spindle nut.

The version with gear input and emergency hand crank was developed for use in umbrellas. The system can be integrated into the mast tube of the umbrella and is therefore not visible from the outside. The emergency hand crank allows to close the umbrella manually in emergency situations such as storms.

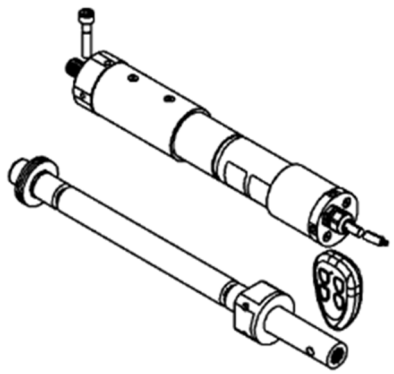
The version without emergency hand crank can be used for various applications.

In version 3062.00-V01XXX, the outer diameter of the gearbox can be adapted to customer requirements (Ø > 53mm), see chapter 3.3 “Dimensions”.

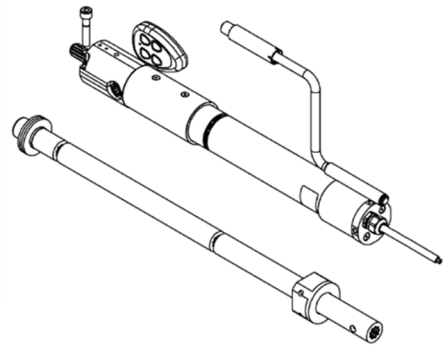
3.2 Standard scope of delivery

The scope of delivery depends on the corresponding version:

3.2.1 Scope of delivery 3062.00-0010

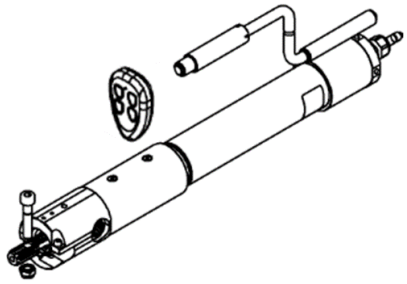
	Pcs	Description
	1	Electric motor drive consisting of motor with integrated control and radio module, connection cable 230V with open wires
	1	1-channel radio remote control
	1	Spindle unit SG25x4 RH incl. spindle nut

3.2.2 Scope of delivery 3062.00-0011



Pcs	Description
1	Electric motor drive consisting of motor with integrated control and radio module, connection cable 230V with open wires
1	1-channel radio remote control
1	Emergency hand crank with integrated ejection mechanism
1	Spindle unit SG25x4 RH incl. spindle nut

3.2.3 Scope of delivery 3062.00-V01XXX



Pcs	Description
1	Electric motor drive consisting of motor with integrated control and radio module, connection cable 230V with open wires
1	1-channel radio remote control
1	Emergency hand crank with integrated ejection mechanism
Spindle unit must be configured individually with Ketterer	

NOTE!

Customized solutions of spindle and spindle nut must be configured individually with Ketterer and ordered separately.

3.3 Dimension

The dimensions depend on the version:

3.3.1 Dimension 3062.00-0010

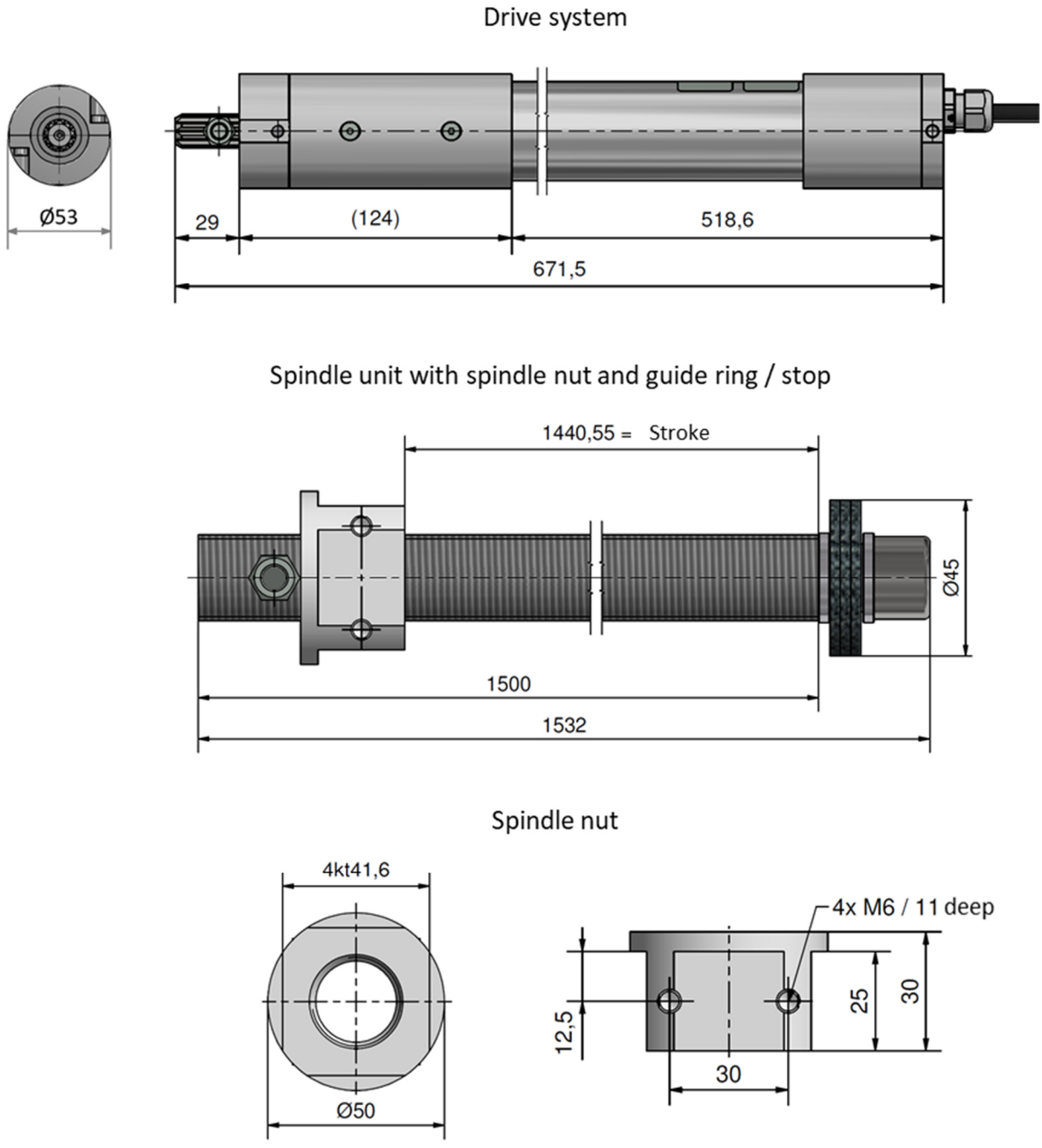


Figure 3-1: Dimensions of the drive system 3062.00-0010

3.3.2 Dimension 3062.00-0011

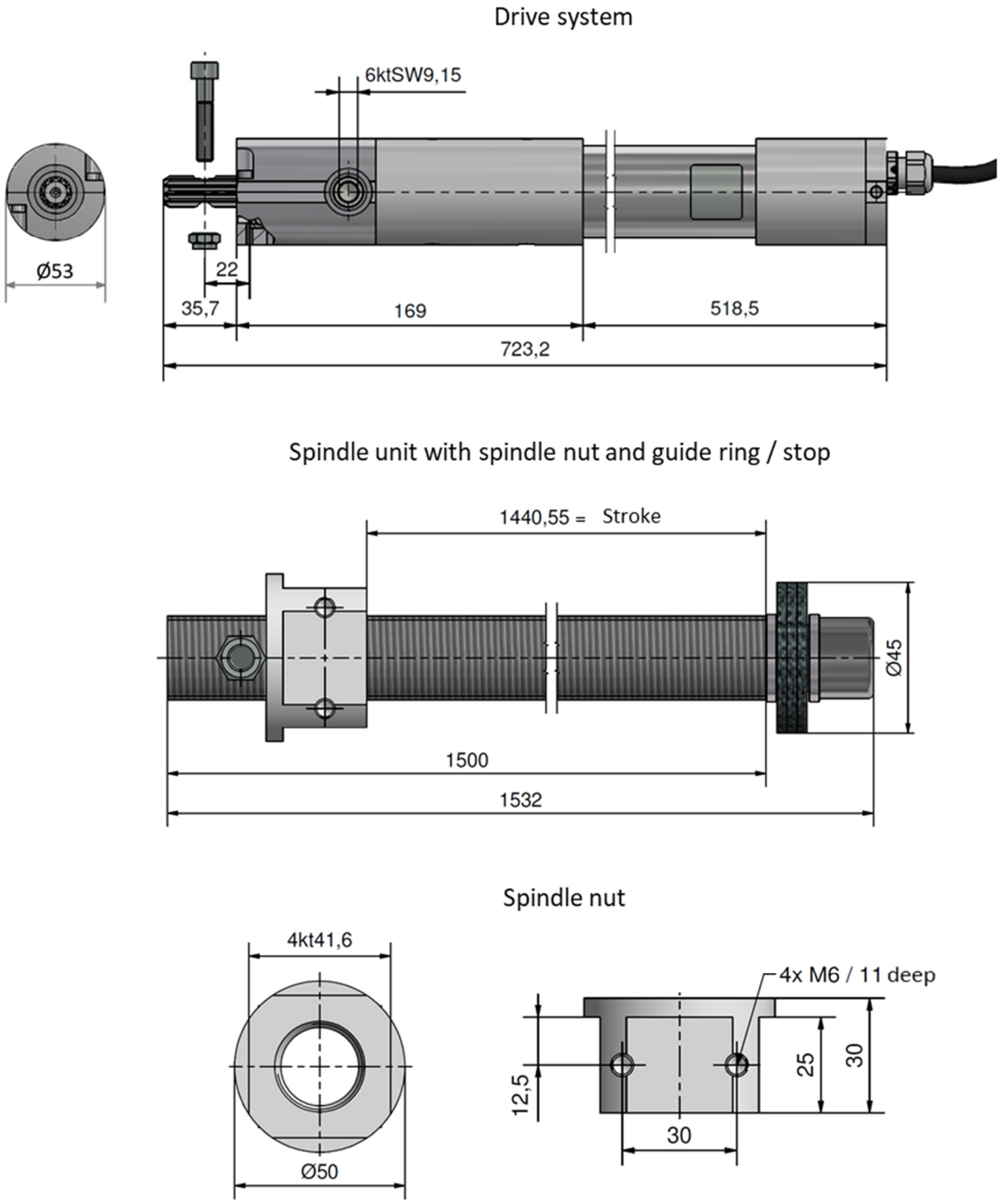


Figure 3-2: Dimensions of the drive system 3062.00-0011

3.3.3 Dimension 3062.00-V01XXX

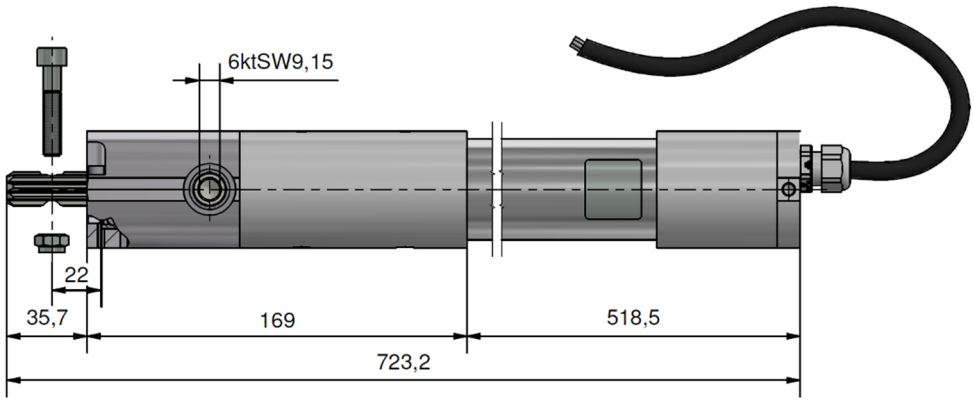
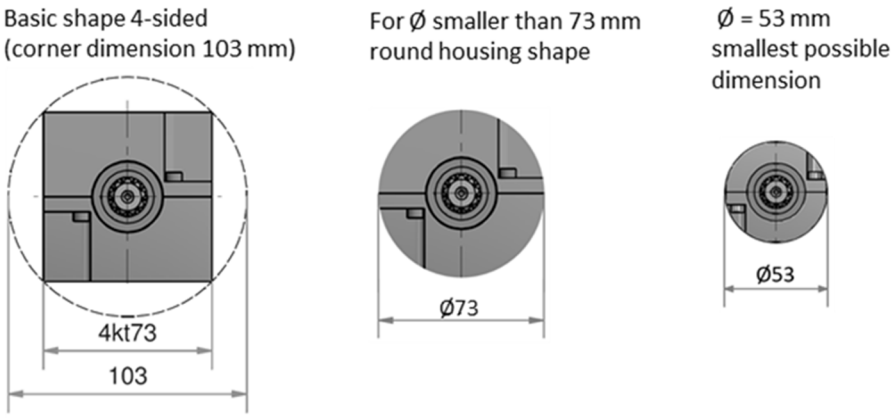


Figure 3-3: Dimensions of the drive system 3062.00-V01XXX

Customer-specific adaptation for 3062.00-V01XXX

Dimension of the gear housing can be realised between Square 73 mm und Ø = 53 mm.



3.4 Technical data / operating conditions

Table 1: Technical data / operating conditions

Technical data / operating conditions	
Voltage	230 V~/50 Hz
Current	1 A
Starting current (factor)	x 1,2
Power output	ca. 60 W
Transmission frequency radio remote control	434 MHz
Nominal torque / peak torque	5 Nm / 7 Nm short term
idle speed	134 U/min
Nominal speed	120 U/min @ 5 Nm
Operating mode	S2 4 min
Operating ambient temperature / humidity	T = -10°C ... +60°C / H max. 90%
Environmental temperature / humidity Storage	T = -15°C ... +70°C / dry
Motor operating temperature	Overheating protection with switch-off at 110°C
Protection class	IP 44
Gear ratio i Drive train electric drive - spindle	1:1
Travel speed at nominal load	8 mm/s*
Maximum load peaks Tensile / compressive forces static	10.000 N

* In combination with spindle SG25x4

4 Packing / Transport / Unpacking / Storage

CAUTION!

Danger from sharp edges on parts of the housing!

When handling the drive system, cuts may occur due to sharp edges and corners.

► Wear appropriate personal protective gear depending on the environmental conditions.

4.1 Packing / Transport

- During transport, the drive system must be protected against dust and shocks.
- During transport, the drive system must be protected adequately from moisture (e.g. rainwater).
- Observe the temperature ranges during the entire transport. These must not be exceeded or underrun. These are: - 15°C to + 70°C.

4.2 Unpacking

- Make sure that all packaging components are removed.
- Dispose all packaging components, according to the disposal regulations applicable in the country of use.
- When removing the packaging, pay attention to the danger of cutting.

4.3 Storage

- Storage in dry, low-vibration environment without aggressive atmosphere. The air humidity must not exceed the value of 70%. Temperature ranges must not be exceeded or underrun. These are: - 15°C to + 70°C.
- Protect from dust and shocks.

5 Assembly

5.1 Mechanical mounting instructions

WARNING!

Malfunctions due to incorrect installation of the drive system!

Incorrect installation of the drive system can lead to malfunctions of the application and thus to dangerous situations with risk of injury and / or damage to material.

- ► Install the drive system only in compliance with the installation instructions specified in this document.
- ► Have the installation work performed by qualified personnel only.

CAUTION!

Danger from pointed or sharp edges on parts of the housing!

When handling the drive system, cuts may occur due to pointed or sharp edges or corners.

- ► Wear suitable personal protective equipment depending on the environmental conditions.

Preparatory activities:

- Inspect the drive system for external mechanical damage before starting the assembly.
- Remove all packaging components before the assembly.
- Make sure that the torque and speed of the drive system are suitable for your application.

5.2 Connecting a spindle unit with the drive system

CAUTION! Risk of malfunction of the drive system.

If an unsuitable spindle / spindle nut is used, there is a risk of malfunctions with serious consequences. The spindle / spindle nut must be approved by Ketterer. The spindle must not be operated without grease.

- If you have purchased part number 3062.00-0010 or 3062.00-0011, the aluminium spindle 25x4 and a suitable spindle nut are included. For part number 3062.00-V01XXX a suitable spindle and spindle nut must be configured with Ketterer and ordered separately.

- Grease the entire length of the spindle with 60 grams Castrol Optitemp LG2
- The spindle is mounted with the enclosed screw DIN912-M8x40 and nut DIN985-M8-VZ via the bore provided in the output shaft, see Figure 5-1.
- Make sure that the tightening torque is 18 Nm ±2Nm.

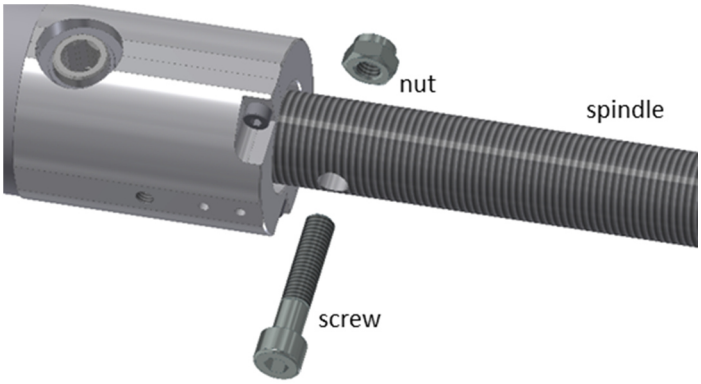


Figure 5-1: Connection of a spindle

5.3 Mounting the drive system in your application

- Fasten the drive system using the mounting points provided on both sides in the housing and motor adapter, see Figure 5-2 and Figure 5-3. If the drive system is only fixed on the housing and not on the motor adapter, the motor can rotate freely and the function in the application may be restricted.
- The length of the screws depends on the mounting position in the application and must be selected by taking the specified thread length into account. The screw-in depth should be at least 8 mm for M6 screws.
- Fasten the spindle nut to the screw connection points provided for this purpose.
- Only use screws which are suitable for the forces occurring in the application and for all tensile and compressive forces.
- Make sure that the selected screws are tightened with a correct torque value. Check that the screws are firmly seated. Use appropriate tools to tighten the screws to ensure a secure seat and to avoid damage to the screws.
- If there is no protection against moving parts or heated housing parts of the drive system, the system must be mounted at a height of at least 2.5 m above floor level.
- The drive system must not sit directly on the ground, but must be positioned at least 10cm above ground level.
- The drive system must be protected against intrusion of moisture.

- During assembly / mounting, note that the output shaft to the spindle and the bearings absorb the entire tensile and compressive forces.
- Do not apply excessive forces to any parts of the drive system during mechanical assembly. Do not use a hammer to push into the application. Do not drop the drive system.
- The device must be mounted as described. Mounting must not be done with adhesives as they are not considered to be reliable.

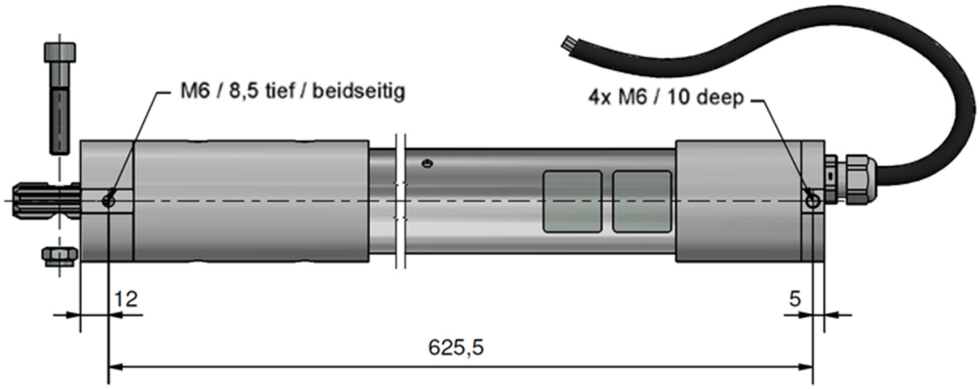


Figure 5-2: Mounting points 3062.00-0010

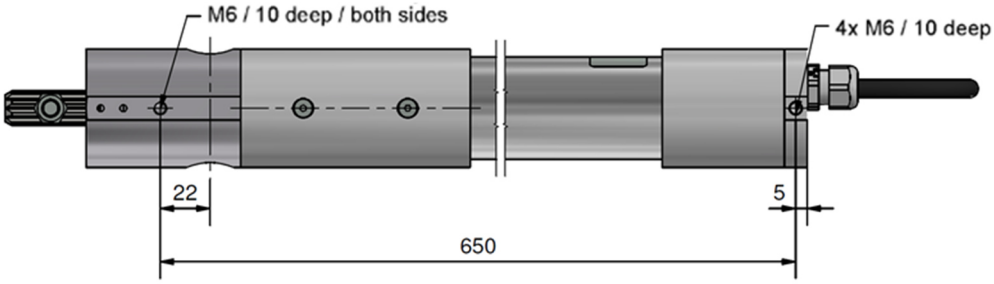


Figure 5-3: Mounting points 3062.00-V01XXX / 3062.00-0011

5.4 Installation instructions for the qualified electrician

DANGER!

Danger of short circuit! Danger due to electric shock!
Incorrect installation or damage to the live cables during installation can lead to an electrical hazard and thus to death or serious injury.

- ► All electrical work must only be carried out by a qualified electrician.
- ► Carry out all assembly work only in a voltage-free condition.

DANGER!

Danger of short circuit!
If water gets between the wires, a short circuit may result. This can result in death or serious injury.

- ► All plug connections must be protected against extended immersion in water, but at least IP68.

Preparatory activities:

- Inspect the drive system for external damage to the electronic components before starting assembly.
- If the connection cable directly on the motor (special connector) is damaged, it must be replaced by a connection cable of the same type. In this case, contact Ketterer immediately.
- Protect the drive system with a residual current circuit breaker (rated differential current 30 mA).
- Protect the drive system with a suitable fuse.
- Remove all packaging components before starting installation.

Observe the following instructions when installing the drive system:

CAUTION! Risk of malfunctions and unexpected start-up of the drive system. Serial or parallel wiring of several drives leads to malfunctions when teaching-in the radio remote control. Connect each system separately.

- All electrical installation work must only be carried out by a qualified electrician.
- Switch off all power supplies and carry out all electrical work only in a voltage-free state.
- Connect the motor to the power supply according to the circuit diagram in Figure 5-4. Make sure that connection cable 2 (brown) is not connected.
- Only connection cables that are suitable for the environmental conditions and that meet all structural requirements must be used.
- If the drive system is not equipped with a connecting cable and plug or other means of disconnection from the mains, which has a contact opening width in each pole corresponding to the conditions of overvoltage category III for full disconnection, such a disconnecting device must be installed in the fixed electrical installation in accordance with the installation regulations.
- The connection cables must not be mounted on surfaces that heat up.
- PVC cables are not suitable for equipment used outdoors or exposed to elevated UV radiation for extended periods of time. These cables must not be used if they are likely to come into contact with metal parts whose temperature exceeds 70°C.
- A plug for disconnecting the drive system from the mains must be accessible after installation.
- Secure the cabling against moisture intrusion and provide sufficient strain relief for the cables.
- Connecting cables with Hirschmann plugs are tested with Hirschmann couplings and are approved by the motor manufacturer.
- Make sure that the mains voltage corresponds to the voltage specified in the circuit diagram.

5.4.1 Circuit diagram:

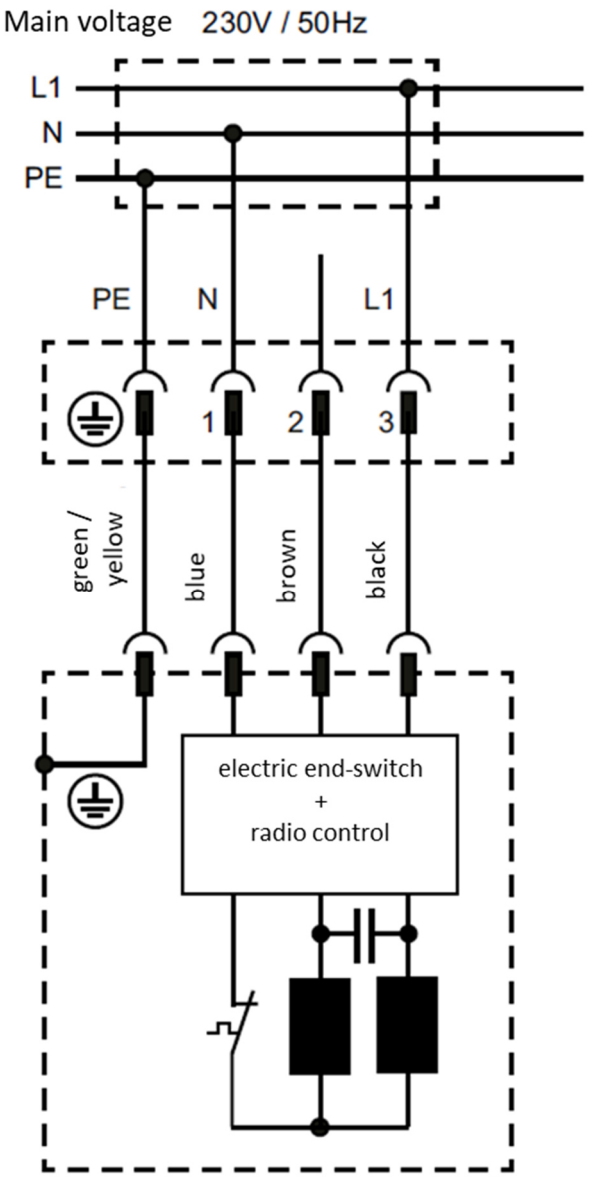


Figure 5-4: Circuit diagram

6 Start-up

DANGER!

Danger due to electric shock!

Incorrect installation or damaged live cables can result in electrical hazards and thus death and serious injury.

- ► Make sure that all installation instructions have been followed before initial start-up.
- ► Be sure to connect all PE protective conductors and ground conductors before initial start-up and make sure that the RCD and fuse are functional.
- ► Before start-up, have the electrical installation checked by a trained qualified electrician in accordance with the standards and regulations applicable in the country of use.

WARNING!

Danger due to unexpected start-up!

During initial start-up, the motor may run unexpectedly. If persons and / or objects are in the danger zone of the application, serious injuries and / or material damage may occur.

- ► During initial start-up, only activate the drive system if there are no persons or objects in the area of the application so that you can intervene in the case of danger. You must have visual contact with the application/danger zone at all times. Visual contact must be maintained until the end of motor activity.
- ► Before initial start-up, make sure that there are no persons or objects in the danger zone.

WARNING!

Danger due to breaking!

Incorrect installation or non-compliance with the operating parameters of the drive system may result in breakage during start-up. Injuries and / or damage to material are possible.

- ► Only operate the drive system within the range of approved operating parameters.
- ► Before initial start-up, make sure that all installation instructions have been taken into account.

CAUTION!

Danger due to hot surfaces.

The surfaces of the drive system and surrounding components can, depending on the load and the ambient temperature, exhibit temperatures above 90 °C during start-up and can lead to burning.

► Touching the components of the drive system during start-up is only permitted after complete cooling and with personal protective equipment. Wait at least 45 minutes after the last motor activity.

Preparatory activities:

- Be sure to connect all PE protective conductors and ground conductors before initial start-up and make sure that the RCD circuit breaker and fuse are functional.
- Before start-up, have the electrical equipment checked by a qualified electrician in accordance with the standards and regulations applicable in the country of use.
- Check for correct mechanical assembly.
- Make sure that the spindle has been sufficiently greased.

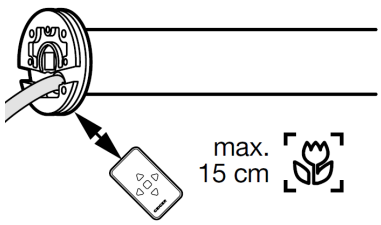
6.1 Teaching-in / deleting a radio remote control

Up to 3 radio hand-held transmitters and additionally 2 sensors (e.g. dawn/dusk or wind sensor for shading applications) can be taught-in per motor.

CAUTION! Disconnect all other drive systems in the proximity from the power supply. Otherwise, these may also take over the radio remote control to be taught in.

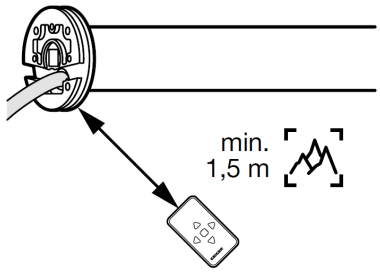
Definition of "close range":

- Hold the remote control directly to the motor control, maximum distance 15cm. Alternatively, hold the radio remote control to the motor cable, which serves as an antenna up to a length of 3 meters.



Definition of "far range":

- The distance between the radio remote control and the motor control must be at least 1.5 meters. The distance between the radio remote control and the motor connection cable must be at least 0.5 meters.

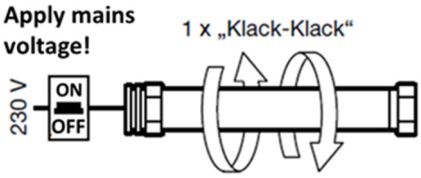


Step 1: Activate learning mode:

Important: After every disconnection of the power supply the learning mode can be activated within 30 min.

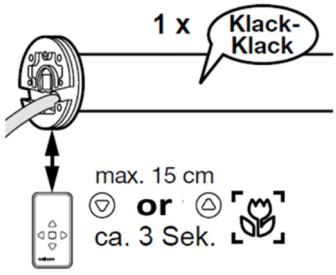
- Switch the power supply off and on again, e.g. fuse OFF - ON. If the motor is connected correctly, it makes a short UP and DOWN movement.

You hear 1x "Klack - Klack"



- In the close range, press UP or DOWN key and hold for approx. 3 seconds until the motor confirms.

You hear 1x "Klack - Klack"

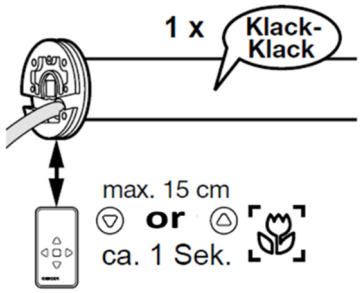


If now no action is taken within 60 seconds, the learning mode is deactivated! The motor returns to normal operation mode. You will hear 3 x "Klack - Klack".

Step 2a: Teach in the radio remote control:

- Press and hold the UP or DOWN key for approx. 1 second in the close range.

You hear 1 x „Klack-Klack“



- **The radio remote control is now taught-in to the motor and can be used.**

Step 2b: Delete radio remote control:

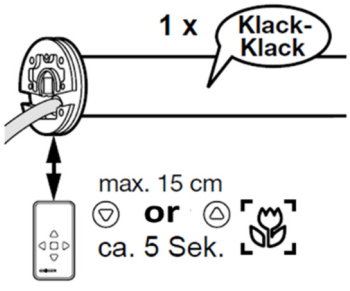
ATTENTION! All radio remote controls taught-in to the motor will be deleted. It is not possible to delete a single radio remote control!

- Activate learning mode as described in step 1.
- In the close range, press the UP or DOWN key and hold it down for approx. 5 seconds. The motor responds immediately.

You hear 1 x „Klack-Klack“

- Press and hold the button until the motor confirms the deletion of the radio remote control after 5 seconds.

You hear 1 x „Klack-Klack“



6.2 Setting the end positions

In your application, fixed mechanical end stops must be installed in order to tell the motor when the end position has been reached. When the respective end position is reached, the motor must move against the end stop in order to switch off via the integrated torque monitoring. If there are no end stops, the drive system and your application may be damaged.

7 Operation

DANGER!

Danger due to electric shock!
Damaged live cables can cause electrical hazards, resulting in death and serious injury.

- ► Only operate the drive system when the PE protective earth conductor is connected.
- ► Only operate the drive system with a residual current circuit breaker and a suitable fuse.
- ► Have an inspection of the electrical equipment performed by a qualified electrician at sufficient intervals.
- ► Do not operate the drive system if there is obvious damage to the electrical equipment.

WARNING!

Danger due to crushing and impact points!
Depending on the application, crushing, shearing and impact points may occur during operation. If persons and objects are in the danger zone of the application, considerable injuries and / or material damage may occur.

- ► Activate the motor only when you are near the application to be able to intervene in case of danger. You must have visual contact with the application and the danger zone at all times. Visual contact must be maintained until the end of the motor activity.
- ► Make sure that there are no persons and/or objects in the danger zone.
- ► The motor drive must not be used by persons with limited psychological, physical or mental capabilities (including children).
- ► Store the radio remote control so that only authorized personnel have access to it.

WARNING!

Danger due to hot surfaces!
Surfaces of the drive system and surrounding components may exhibit temperatures above 90 °C during operation and cause burns.

- ► Do not touch any components of the drive system during operation.

WARNING!

Danger of overheating the motor drive!

If the drive system is operated outside the operating parameters, the motor components may overheat. In this case, a blocking time of 15min. is triggered. No operation is possible during this time. This blocking time can lead to dangerous situations.

- ► Only operate the drive system within the specified operating parameters.
- ► Protect your application in case of a blocking time in which the motor cannot be controlled.

The following additional warnings apply to versions 3062.00-V01XXX and 3062.0011 with emergency hand crank for use in umbrellas:

WARNING!

Danger due to inserted emergency crank handle!

If the motor is activated when the emergency crank handle is inserted, the rotational movement of the crank handle creates a danger zone which can lead to serious injuries and / or material damage. The Ketterer emergency crank handle has an integrated ejector mechanism to prevent it from getting stuck. This ejector mechanism must not be modified.

- ► Remove the emergency hand crank before activating the drive system.
- ► Only insert the emergency hand crank into the gearbox input when the drive system is not active.
- ► Only use the emergency hand crank with integrated ejector mechanism provided by Ketterer.
- ► Do not make any modifications to the emergency hand crank.
- ► Do not use the emergency hand crank in the case of a defect, immediately take care of replacement from the manufacturer.

ATTENTION!

Danger from turning the emergency hand crank too quickly!

If the gear unit is rotated too quickly using the emergency crank handle, the motor drive will be damaged. In the event of damage, the motor drive must be replaced. In this case, no warranty or guarantee claims can be made against Ketterer.

- ► Turn the hand crank at a maximum of **1 revolution per second**.
- ► Never use a cordless screwdriver or similar electrical tools to operate the drive system.

Follow the instructions below for operating the drive system:

Jog mode

Short press of the UP or DOWN key for less than 3 seconds → the drive system rotates until the key is released.

Automatic mode

Press the UP or DOWN key for at least 3 seconds → the drive system rotates until the end stop is reached and is switched off via the integrated torque monitoring.

The motor can be stopped at any time in automatic mode by a short press on the key for the respective opposite direction.

Use of the emergency hand crank with versions 3062.00-V01XXX and 3062.00-0011

If the drive system is damaged or during a power failure, the drive system can only be operated by using the emergency hand crank.

- Make sure that no controlling can happen via the radio remote control during operation with emergency hand crank.
- Store the emergency hand crank in a safe place that is quickly accessible from your application. The emergency hand crank should be stored in a dry place.
- Only use the emergency hand crank if the drive system is not functioning in an emergency situation such as a storm or if there is a risk of injury.
- Insert the emergency hand crank into the designated input (Figure 7-1) in the gear unit and turn the crank until your application is secured.
- Turn the emergency hand crank at a maximum of 1 revolution per second to avoid damaging the motor.
- Only use the emergency crank handle for emergency operation via the gear unit input and under no circumstances use a cordless screwdriver or other electrical devices.

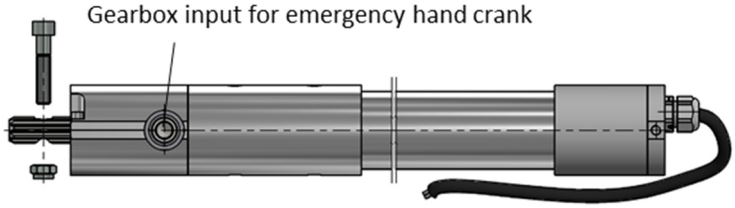


Figure 7-1: input for emergency hand crank

7.1 Operation with a wind sensor

Instructions for operation with a wind sensor:

If you need a wind sensor for your application, e.g. for umbrellas or other shading systems such as a pergola, observe the following instructions.

- The wind sensor serves only as a support; in the event of rising wind, the operator must take responsibility for adequately securing the application against personal injury and damage to material.
- In the event of rapidly arising wind, such as individual gusts, whirlwinds or similar, in many cases the application cannot be secured quickly enough by the drive system before wind damage occurs. Depending on the application, the securing process can take several minutes. The operator must therefore observe the following safety instructions:
  - The application must always be observed when wind is a threat. The operator must check the wind strength before operating the drive system.
  - In the event of an arising wind, the operator must immediately secure the application using the radio remote control and not wait for the signal from the wind sensor. If motorized securing is not possible (e.g. due to blocking time), the operator must be able to fall back on a suitable system.
  - The wind sensor may only be used if there are no objects such as tables or persons in the danger zone of the application.
  - Ketterer accepts no liability for damage to persons or material and consequential damage caused by wind, even when a wind sensor is used.

  The radio module of the drive system offers the possibility to teach-in 2 sensors (dusk/dawn) and/or wind sensor. The sensors from Geiger Antriebstechnik are suitable. Please contact the manufacturer for this purpose.

8 Maintenance

- The mechanical components of the drive system are maintenance-free.
- Carry out an inspection of the electrical equipment at sufficient intervals; these inspections are subject to the criteria of the standards applicable in the country of use. Have this test performed by a qualified electrician.

9 Disposal

The disposal of the drive system with its mechanical and electrical components, as well as all operating fluids, is based on the local disposal regulations and the environmental protection laws in the country of use.

10 Repair

If damage is a direct cause of the application, contact the manufacturer of the application in question.
In case of specific damage to the drive system or in case of service or repair, contact:

B. Ketterer Söhne GmbH & Co. KG
Bahnhofstraße 20
78120 Furtwangen

Phone:	+49(0)77 23 / 6569-10
E-Mail:	info@ketterer.de
Internet:	www.ketterer.de

11 Self-help and diagnosis in case of malfunction

Issue	Solution
No short "Klack - Klack" when switching on the drive system	• Motor not plugged in. Please check the plug connection. • Have the mains voltage and the cause of the voltage failure checked by a qualified electrician
Radio remote control does not work	• Check the battery. • The wind sensor has triggered a blocking time. Try again after the wind lock time of 10 minutes has elapsed. • The radio remote control was accidentally deleted. Repeat teach-in.
After driving several times, the engine stops and does not respond anymore	• The motor became too warm and has switched off. Try again after a cooling time of approx. 15 minutes.
The motor no longer runs automatically	• The wind sensor has triggered a blocking time. Try again after the wind lock time of 10 minutes has elapsed. • The radio remote control was accidentally deleted. Repeat teach-in.
The motor does not respond to the close range	• Move the radio remote control as close as possible to the motor head or the connecting cable. • Replace the batteries in the transmitter. • The close range has been deactivated. To activate the close-up range, disconnect the motor from the power supply for approx. 3 sec. • The time of the learning mode (30 min.) has expired. To activate the close-up range, disconnect the motor from the power supply for approx. 3 sec.
When the mains voltage is switched on, there is 2 x “Klack – Klack” and the motor does not respond to the radio remote control	• To bring the motor into the learning mode, the voltage must be switched off and then switched on again (e.g. fuse OFF - ON).

EC - Declaration of Incorporation

In terms of the EC Machinery Directive 2006/42/EC Annex II B

Manufacturer/ Distributor

B. Ketterer Söhne GmbH & Co. KG
Bahnhofstraße 20
78120 Furtwangen
Deutschland

We hereby declare that the following **incomplete machine**:

„ Drive system 3062“
3062.00-V01XXX and 3062.00-XXXX

meets the applicable basic requirements of the **Machinery Directive 2006/42/EC**.

Compliance with other applicable directives/regulations for the product is declared:

2014/30/EU	EMC Directive
2011/65/EU	RoHs Directive
2014/53/EU	Radio equipment

The following harmonised standards have been applied:

DIN EN ISO 12100:2010	Safety of machinery -General principles for design -Risk assessment and reduction

In addition, we declare that the special technical documentation was compiled according to Appendix VII Part B.

Authorized to compile the technical documentation:

B. Ketterer Söhne GmbH & Co. KG
Bahnhofstrasse 20
78120 Furtwangen
Germany

The incomplete machine may not be put into operation until conformity of the machine into which the incomplete machine is to be installed with the provisions of the Machinery Directive (2006/42/EC) is confirmed.

R. Jäger

Furtwangen, 02.04.2022 Robert Jäger, Managing Director