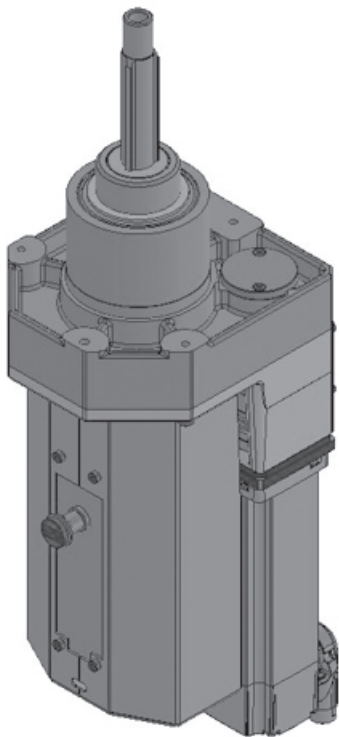


LIFTING ROTATING UNIT SH 0075



ASSEMBLY AND INSTRUCTION MANUAL

Mechanical system documentation



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1 Introduction

1.1 Definition

Mechanical system documentation

Lifting-Rotating Unit SH0075

The lifting-rotating unit is a handling device with two servo motors.

In the following operating instructions, the product Lifting-Rotating Unit will be referred to as the module.

1.2 Intended use

The assembly is an incomplete machine in terms of Directive 2006/42/EC, Article 1g and 2g.

The module is designed for integration into other machines, into other incomplete machines or equipment or for connection to them.

It may only be used within the limitations defined in the order characteristics.

Commissioning is prohibited until it has been established that the machine into which the aforementioned product should be installed is conform with Directive 2006/42/EC and all other applicable directives governing its use.

Intended use also requires the observance of the included documentation and compliance with the maintenance provisions.

1.3 Non-intended use

Any use of the machine other than intended is considered non-intended use and is not permitted.

The assembly should not be subject to loads beyond its maximum capacity.

The assembly is not suitable for use:

- in wet or damp environments of any kind (water, oils, acids, steam or vapours, etc.).
- in an environment with gases or radiation.
- in potentially-explosive atmospheres.
- in environments that contain swarf.

1.4 Laws / EC Directives / Standards

The machine is designed and constructed to conform to:

- applicable laws
- Directive 2006/42/EC (Machinery Directive)
- Low Voltage Directive, 2006/95/EC
- EMC Directive 2004/108/EC
- and the harmonised standards that we have cited

and meets state-of-the-art technological standards in terms of its construction.

1.5 EC Declaration

An EC Declaration as specified by Directive 2006/42/EC (Machinery Directive) is included with each machine at delivery.

The text of this EC Declaration is as follows:

WEISS GmbH

Siemensstrasse 17

D-74722 Buchen, Germany

Declaration of incorporation of partly completed machinery
in accordance with EC Machinery Directive 2006/42/EC, Annex II B





Prohibition of commissioning

We hereby declare that the machine called Lifting-Rotating Unit SH0075 is intended for the installation into another machine or is to be assembled with other machines to a machine in terms of the directive 2006/42/EC.

Commissioning is prohibited until it has been established that the machine into which the aforementioned product should be installed satisfies the provisions of the EC Machinery Directive, and that a Declaration of Conformity in accordance with EC Machinery Directive 2006/42/EC, Annex II A has been issued.

1.6 Further applicable documents

In addition to these operating instructions, further documents are required for installation of the controller and safe operation of a machine with this controller. You must observe and comply with the information in these documents.

-  Instruction manual electrical system documentation
-  Instruction manual, WAS.handling Windows Program
-  Operating instructions, WAS.handling Interfaces (optional)
-  ACOPOS safety instructions

1.7 Operating manual

This operating manual is a translation of the original operating manual and is part of the scope of delivery.

We reserve the right to undertake modifications resulting from further technological development that diverge from the data and illustrations contained in this operating manual.

The operating manual and the associated valid documentation are not subject to an automatic revision service.

Information on the respective current edition can be obtained from the manufacturer.

Local regulations must be observed.

This operating manual describes handling of the machine and contains important instructions and information to assist you in using the machine as intended.

These operating instructions are intended for trained technical personnel or persons who have been instructed. The operating manual must always be stored at the site of installation, and must be read, understood and observed by all persons who work with or on the machine.

Safety instructions in individual chapters should be observed.





1.7.1 Explanation of safety instructions in this manual

This manual contains instructions that you should observe for your personal safety and to avoid material damage.

Safety instructions for your personal safety are highlighted by a sign containing a warning triangle and signal word. The associated text describes the hazard involved, avoidance options and the consequences which may result from failure to observe the safety instruction.

General instructions or instructions relating to possible material damage are highlighted by a sign without a warning triangle.

They are, depending on the degree of risk involved, illustrated as follows:

	<i>A warning triangle with the signal word DANGER indicates an immediate hazardous situation, which, if not avoided, will lead to fatalities or severe injuries.</i>
	<i>A warning triangle with the signal word WARNING indicates a potential hazardous situation, which, if not avoided, can lead to fatalities or severe injuries.</i>
	<i>A warning triangle with the signal word CAUTION indicates a potential hazardous situation, which, if not avoided, can lead to light or medium injuries.</i>
	<i>A sign with the signal word NOTICE indicates potential material damage or provides additional information, which should be observed when operating the machine.</i>

1 Introduction

1.8 Warranty and liability

1.7.2 Legend

Symbols and abbreviations with the following meaning are used in this manual to make its content more clear:

1. Indicates a numbered list.
 - a) Indicates the second level of a numbered list.
- Indicates a list.
 - ▶ Indicates the second level of a list.



The book symbol before a section of text indicates further applicable documents.



The information symbol before a section of text indicates an additional note or an important tip for use.

1.7.3 Figures

The figures shown are examples. There may be differences between the illustrations and the actual delivery.

1.7.4 Directory of valid pages

Pages of this operating manual including the title page: 36

1.8 Warranty and liability

The machine is covered by a guarantee of 24 months from the date of delivery without shift limitations.

2 Safety

2.1 Fundamental safety instructions

2.1.1 Operator's obligation to exercise diligence

This machine conforms to state-of-the-art technological standards and ensures a maximum level of safety.

However, this level of safety can only be attained under operating conditions if all measures necessary for this have been taken. The operator's obligation to exercise diligence includes planning of these measures and the inspection of their realisation.

The operator must ensure that

- the machine is only used as intended.
- the machine is only operated in faultless, functional condition and mechanical and electrical safety devices are present.
- required personal protective clothing is provided for and used by operating, maintenance and repair personnel.
- the operating manual and all other applicable documentation is maintained at all times in legible condition and is accessible at the implementation site of the machine. Ensure that all personnel who has to execute activities tasks on the machine can access the operating manual at all times.
- only adequately qualified and authorised personnel maintain and repair the machine.
- such personnel are instructed regularly in all questions concerning occupational safety and environmental protection, including the operating manual and safety instructions contained therein.
- all safety instructions and warnings affixed to the product are not removed and must remain legible.
- national accident prevention guidelines and company-internal guidelines are complied with.
- VDE regulations are complied with.
- the EMC legislation is complied with during installation.

2.1 Fundamental safety instructions

2.1.2 Requirements to be met by personnel

It is imperative that the following safety instructions be observed during all operations involving the machine. This ensures avoidance of life-threatening injuries, machine damage, other material damage and environmental damage.

The personnel must ensure that

- all personnel who maintain the machine read the operating manual and confirm with their signature that they have understood the operating manual.
- unauthorised persons are not in the vicinity of the machine when tasks are being performed.
- supplemental to the operating manual the operating instructions as specified in labour protection legislation and work equipment use legislation are complied with.
- the operator or supervisory personnel are informed in the event of malfunction.
- required personal protective clothing is used.
- alterations to the machine, which could impair the safety, must be relayed to the supervisor in charge without delay.

The following work described in this operating manual should only be realised by qualified personnel:

- Installation
- Commissioning
- Maintenance

2.2 Residual hazards

2.2.1 General residual hazards



Missing safety equipment

Operation without safety equipment is dangerous. The realisation of a suitable The operator is responsible for the safety concept. The operator must provide for sufficient safety measures such as protective grating, light grids, emergency stop button, covers, warning notices, etc. Operation without safety equipment is prohibited. Injuries caused by squeezing, impact, magnetism.

Risk of explosion during operation in a potentially-explosive environment.

Due to constraints governing the correct use of the machine, the machine is not designed for use in a potentially-explosive atmosphere. The operator must take all measures to ensure that the machine is only operated as intended.

Use of spare parts / Attachment of supplemental devices

If spare parts are used, or if supplemental devices are attached that are not approved by the manufacturer, consequential damages can occur. Only use spare parts that are cited in our spare parts list or spare parts that we have approved. You must consult with us prior to attaching supplemental devices. Failure to comply with these instructions means that the possibility of personal injury cannot be excluded.

Danger of crushing injuries due to impermissible changes

Injuries can occur as a result of impermissible changes. Do not make any changes to the machine. Failure to comply by these instructions can lead to personal injury.

Electric shock

Power and control connections may still conduct electricity after the machine has been deactivated and is stationary. Energised capacitors inside the servo drive may still be charged, despite the power supply being deactivated. Work on electrical equipment should only be realised by skilled electrical personnel and under observance of specifications in the electrical operating manual. Electrical connections for the machine should only be loosened or plugged in when the power supply is deactivated and secured against reactivation. The status of capacitor charging should be measured prior to working on machine electrical equipment. The procedure for measuring charges is described in the electrical operating manual. Touching energised components can lead to serious or even fatal injuries.

Squeezing or pulling in

The axles of the machine move very rapidly. Reaching into areas where parts are moving may result in the crushing of limbs. Hence, never reach into the working area of the axles. Injuries due to the moving axles are to be avoided by using appropriate safety devices.

3 Product description

3.1 Structure

3 Product description

3.1 Structure

On the freely programmable lifting-rotating unit, SH0075 the movements of a rotating axis and a linear axis are combined to perform a lifting-rotating movement.

The lifting-rotating movement is generated by two servo motors which operate independently of one another.

The rotating movement of one servo motor is transmitted to the output shaft by a gear train.

The rotating output shaft is referred to as the A-axis.

The stroke of the output shaft is generated by a ball screw driven by the second servo motor.

The lifting and lowering output shaft is referred to as the Z-axis.

The rotating movement of the A-axis results in - due to the ball screw - a stroke along the Z-axis. This stroke can be compensated by movement of the Z-axis in the opposite direction.

The output shaft is equipped with a through-hole to guide energy lines through.

A plate or other device can be mounted to the output shaft by the operator.

Absolute encoders are used as the measuring system.

The gear is equipped with maintenance-free permanent oil lubrication.

- | | | | |
|---|-------------------------|---|--------------------|
| 1 | Servo motor Z-axis | 2 | Servo motor A-Axis |
| 3 | Pinion housing | 4 | Gear housing |
| 5 | Output shaft | 6 | Through-hole |
| 7 | Clamping set (optional) | | |

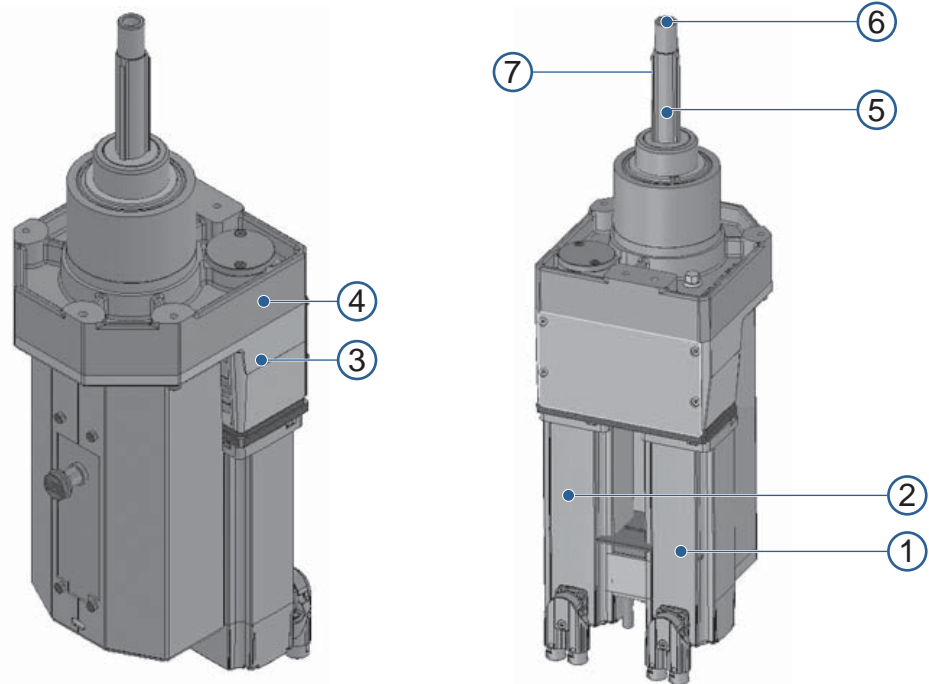


Fig. 1: Complete overview of the lifting-rotating unit

3.2 Technical data

The technical data of the machine depends on the order. The individual values can be taken from the order information or the order specifications.

3.2.1 Specific technical data

Ratio Z-axis	28 : 63
Stroke Z-axis*	75 mm
Ratio A-axis	14 : 98
Rotation A-axis	endless
Spindle pitch	20 mm
Maximum permissible motor torque	Z-axis: 1.75 Nm / A-axis: 2.0 Nm
Encoder type	SEL37 (Sick-Stegmann)
Data at the drive	
Maximum torque	14 Nm
Maximum thrust	1200 N
Accuracy A-axis	+/- 90"
Accuracy Z-axis	+/- 0.01 mm
Concentricity A-axis retracted	0.05 mm
Concentricity A-axis lifted	0.08 mm
Protection class	IP 20
Installation position	As desired
Ambient temperature	between +10 °C and +40 °C
Weight	19 kg
Oil	Avia Syntogear PE68
Oil quantity / litres	0.050
Dimensions (width, depth, height)	154 x 170 x 460 mm

* The actual mechanical stroke is approx. 84 mm.

- i** Because of bearing and the chamber bevels above software endpositions must be strictly adhered to as follows:
- Distance to the upper stop: 35 mm
(+ 0.5 mm between pin-release position and upper stop)
 - Distance to the lower stop: 5 mm

3 Product description

3.2 Technical data

3.2.2 Dimensions

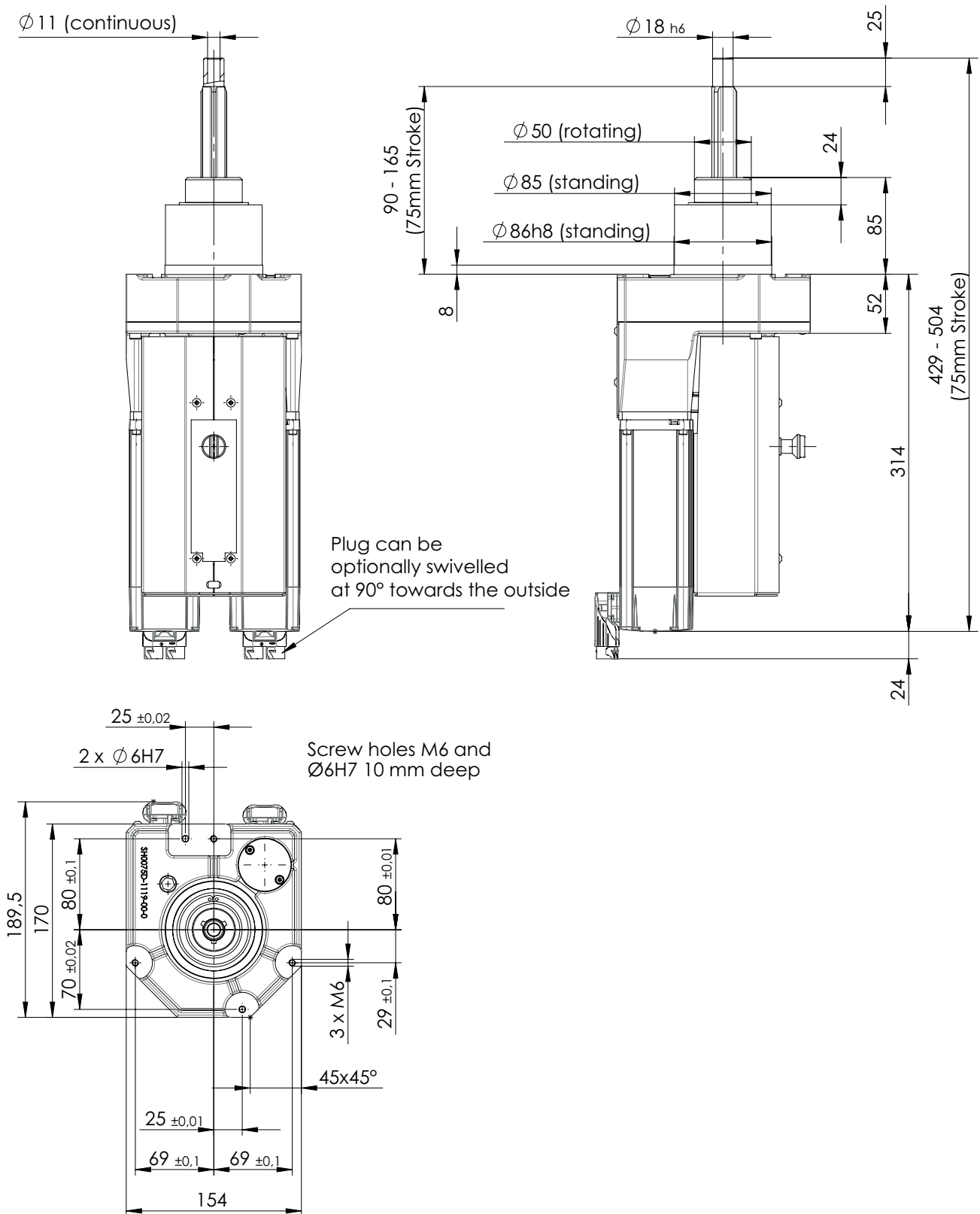


Fig. 2: Dimensions

3.3 Connections

When the electrical package is supplied, the servo drive and pre-assembled electrical lines are included in the scope of supply.

Motor cable 563-10000111x

Encoder cable 563-200001312

The connections for the Z axis are marked red.

The connections for the A-axis are marked yellow.

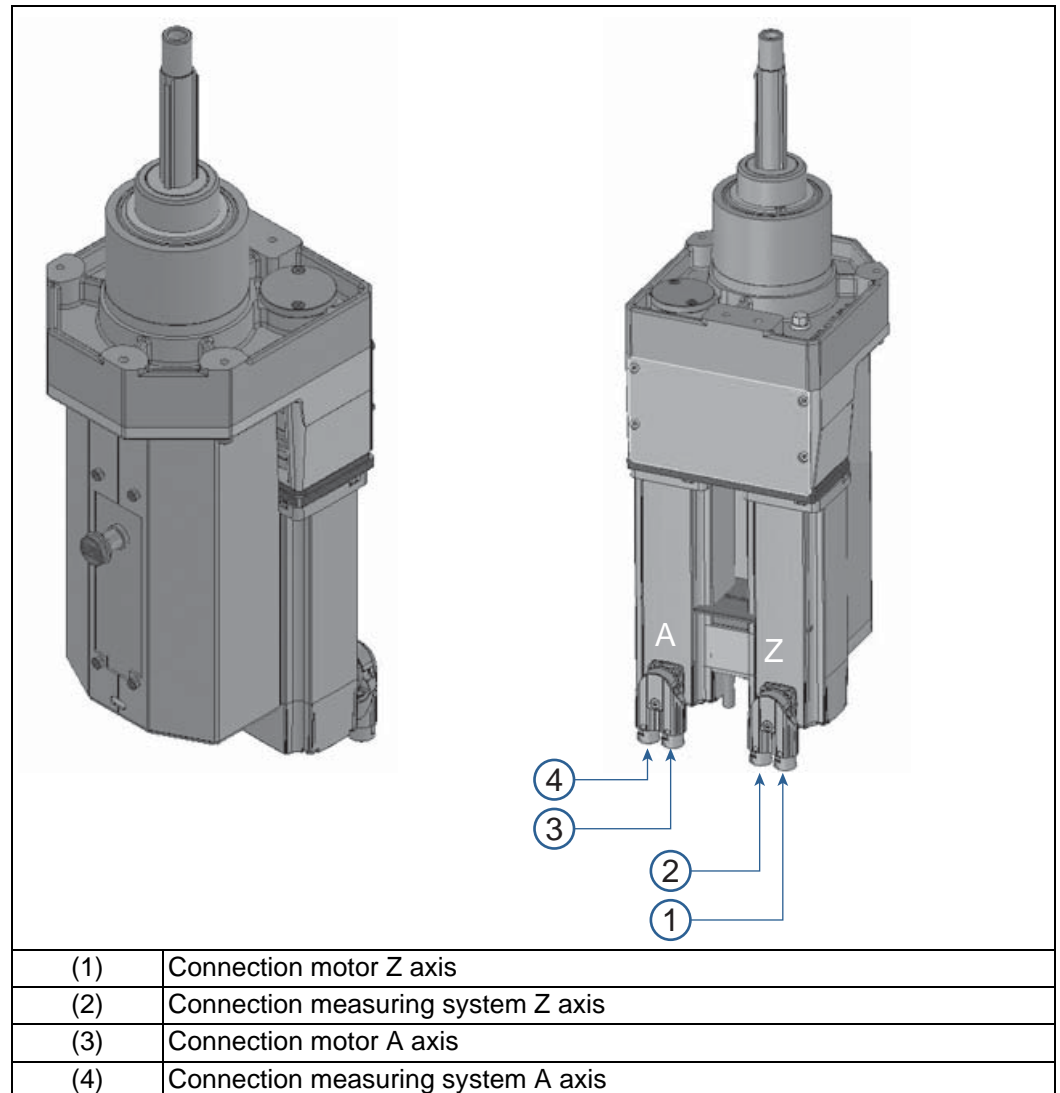


Fig. 3: Plug-in connections

3.3.1 Connector pin assignment

3.3.1.1 Motor connection

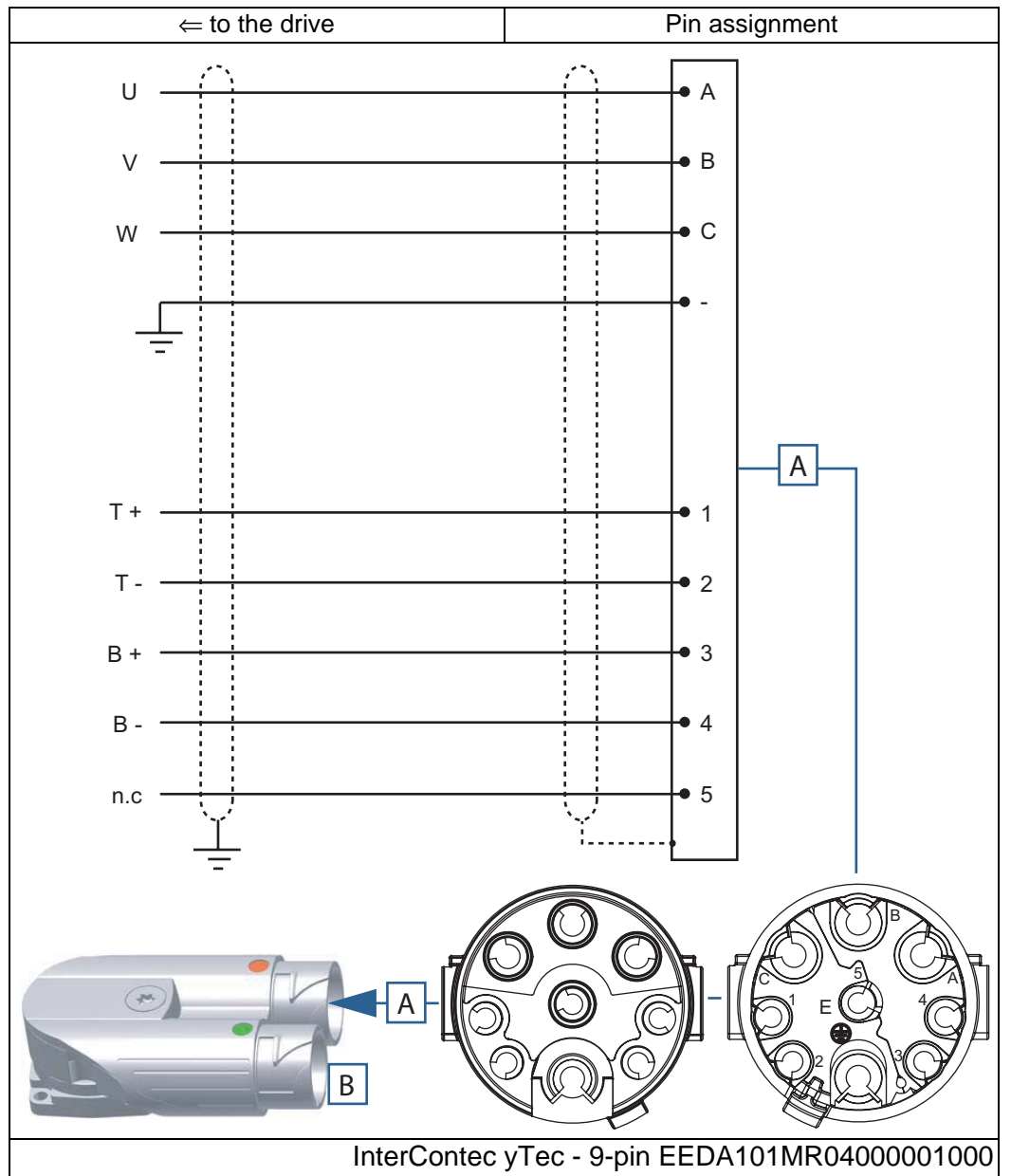


Fig. 4: Pin assignment, motor plug

3.3.1.2 Encoder connection

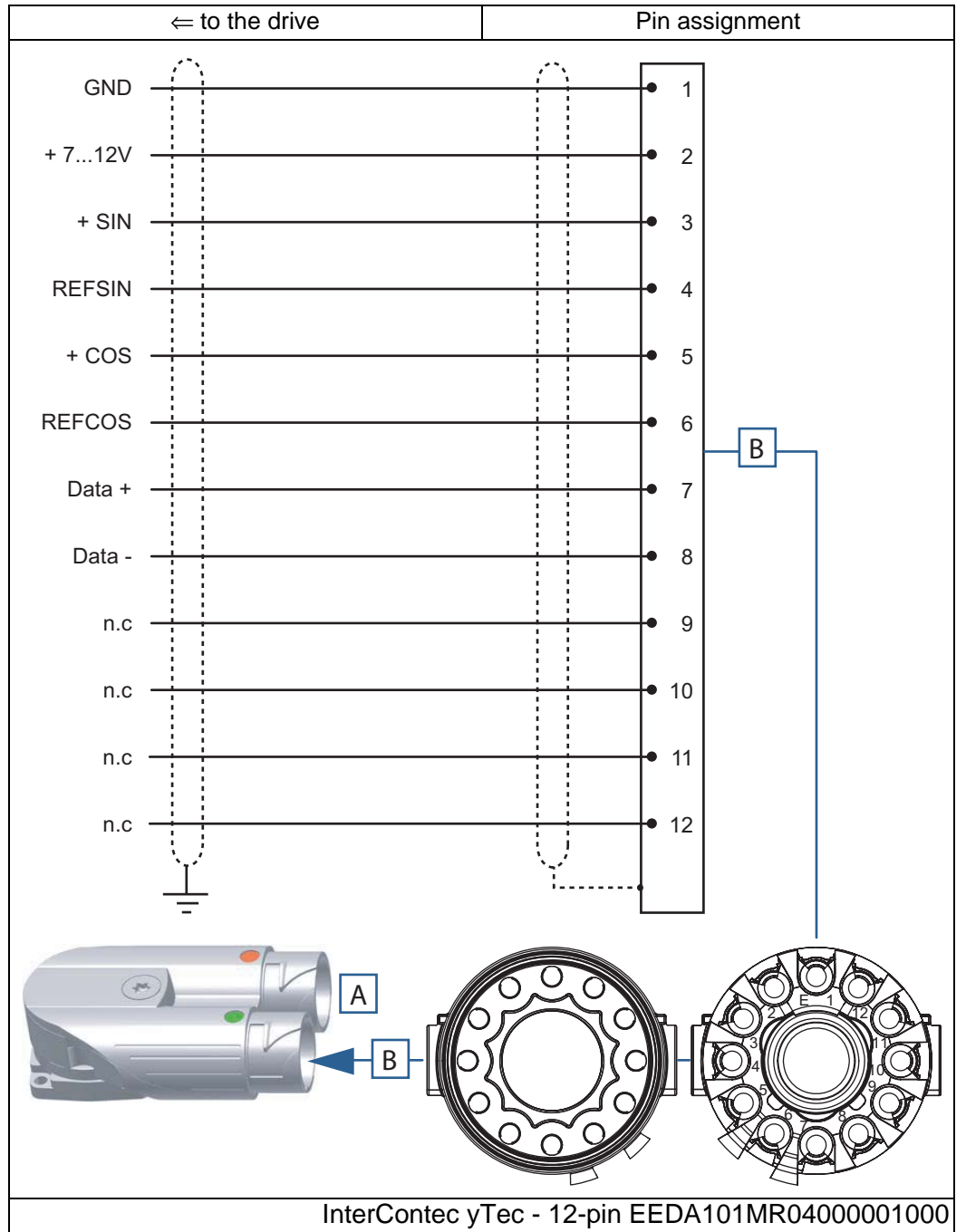


Fig. 5: Pin assignment, encoder plug

4 Transport

NOTICE

The assembly must be protected against impermissible strains (mechanical strain, temperature, humidity, aggressive atmospheres) during transport and when being stored.

4.1 Transport damage

The delivery should be inspected for damage immediately after it is received. The contents of the delivery should be checked for damage if damage to the packaging is detected which could indicate damage to the contents. Details of the scope of delivery are provided in Chapter 3.1.

Detected damage should be immediately reported to the transportation company and confirmed.

4.2 Intermediate storage

Observe the storage conditions listed in the following table, if intermediate storage is planned for a longer period of time.

Climatic zone	Packaging	Storage location	Storage duration
All	Packed in containers With moisture absorbers and humidity indicator sealed in film Protect against insect damage and mould formation by treating chemically	Roofed over Protected against rain Not exposed to vibrations	Max. 3 years with regular inspection of packaging
	Open	Roofed over and sealed at a constant temperature and air humidity (5 °C < T < 60 °C, 50% relative humidity) No sudden temperature fluctuation and controlled ventilation with filter (free of dirt and dust) No aggressive vapours and no vibrations Protected against insect damage	2 years and longer with regular inspection. Check for cleanliness and machine damage during inspection. Check that anticorrosion protection is unspoiled.

5 Installation

5.1 Safety during installation



Injuries caused by incorrect installation.

The dimensions of the supporting ground and fastening equipment must be sufficient, so that they can withstand the stresses produced during operation.

Auxiliary personnel may only perform work which is assigned to them by plant technicians.

Particularly ensure that:

- only authorised persons are in the work area and that no other persons are endangered by the assembly work.
- no components are damaged and are only installed in a clean, functional condition.
- all components are installed according to the described instructions.
- specified starting torques are adhered to.
- the key aspect of the structural components is taken into consideration.

5.2 Installation prerequisites

Check prior to installation whether the dimensions of the installation site and building conditions correspond to the necessary prerequisites and measurement specification in the drawing documents.

Particularly ensure that:

- The supporting floor is level and rigid.
- The dimensions of the supporting structure at the installation location must be sufficient to withstand the dynamic forces that occur. Forces of up to 2500 N resp. 44 Nm can occur.

5.3 Installing the machine

5.3.1 Operating media / Auxiliary media / Tools

The following are required for installation of the machine:

- Standard tools
- One set of spanners
- One torque wrench
- Screw securing agent (e.g. Loctite ® 243)
- Commercially-available solvents

5.3.2 Mechanical assembly

5.3.2.1 Adjusting the venting screw

NOTICE Venting screw

The installation position is arbitrary. For horizontal installation, the venting screw position must be chosen so that it is as close to the top as possible and no oil can leak. For installation with the output shaft downward, the venting screw must be moved to a different position.

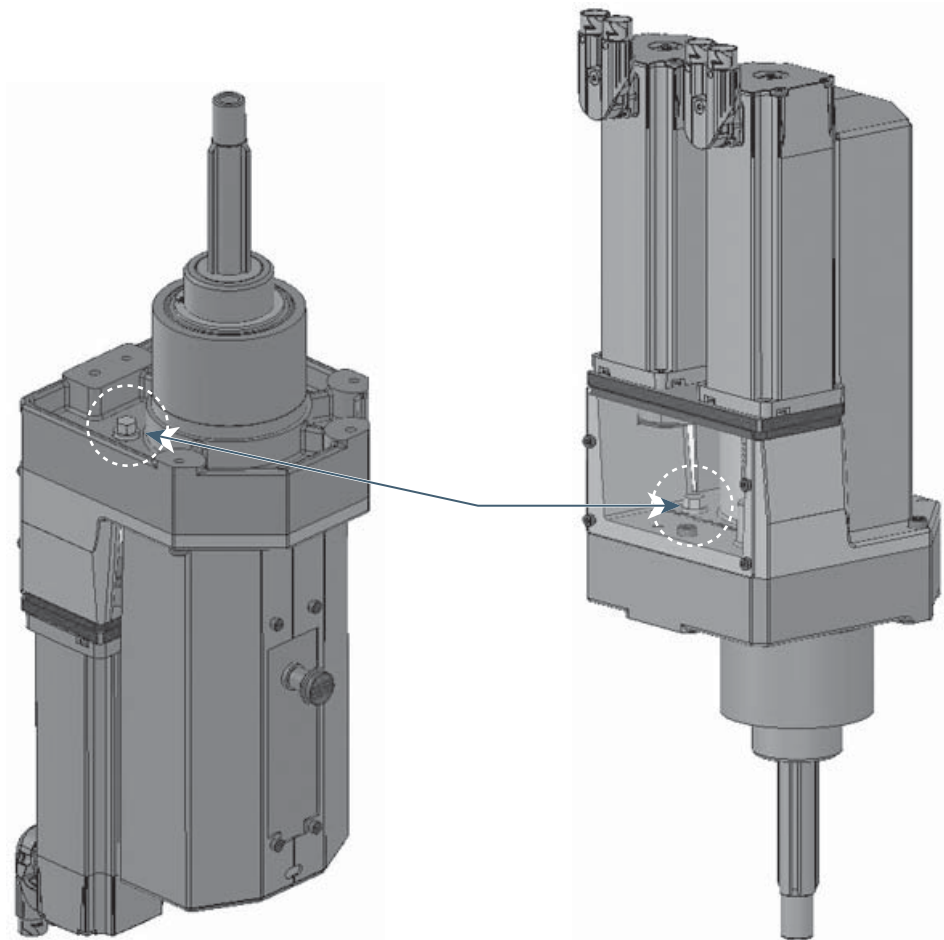


Fig. 6: Adjusting the venting screw

5.3 Installing the machine

5.3.2.2 Preparing installation

- ① The module has 3 holes for fastening screws and 2 holes for centring pins. The drill pattern with the exact dimensions is included in the supplied documentation of the module.
1. Drill the holes so that they match the holes at the installation site.

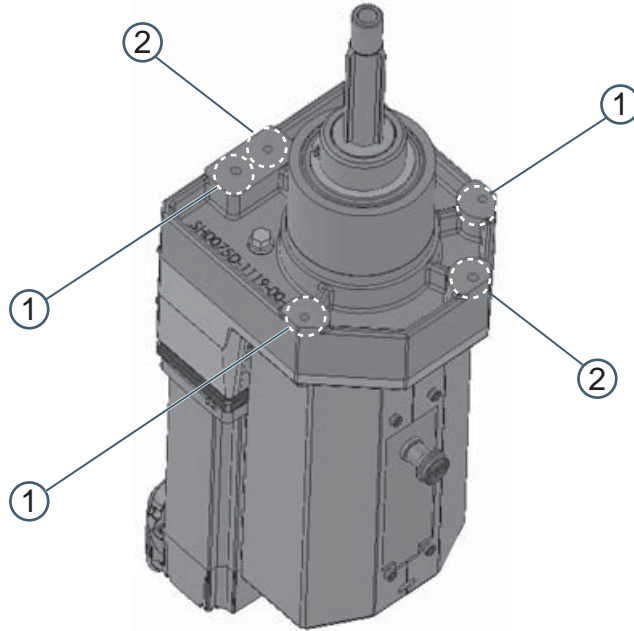


Fig. 7: Drilling holes

- (1) Holes for fastening screws
- (2) Holes for centring pins

5.3.2.3 Fastening the machine with screws

1. Place the machine at the installation site.
2. Screw in the fixing screws and tighten slightly.
3. Precentre both parallel pins and then drive in the first parallel pin 1/3 of its length.
4. Drive in the second parallel pin completely, followed by the first parallel pin.
5. Tighten the fixing screws firmly in a diagonal pattern with a torque wrench.
6. Make electrical connections in accordance with the circuit diagrams.

5.4 Instructions on disposal of packaging material

5.3.3 Electrical installation

NOTICE *Missing ground connection, improperly installed lines*
During installation of the electrical equipment, the marked earth point of the machine must be connected to the central earth point of the installation site.
Improperly installed wiring (e.g. bending radius too small) can cause smouldering and cable fires. Electrical components can be damaged by electrostatic operations.

The installation of the electrical equipment is the responsibility of the operating company. A suitable machine controller must be installed and programmed by the operating company.

5.3.4 Installation of additional components

NOTICE *Only use the provided holes.*
The provided holes must be used to install additional components. Never drill additional holes in the machine or weld parts to it.
A device of the customer's can be mounted on the output shaft with a clamping set.

5.3.5 Installing the safety equipment

The operator is responsible for installing safety equipment and emergency stop buttons. It is not prohibited to use the machine without safety equipment appropriate for the intended use.

5.4 Instructions on disposal of packaging material

Packaging materials should be reused or disposed of properly in compliance with national regulations.

6 Commissioning

6.1 Safety during commissioning



Risk of injuries emanating from unexpected start-up.

Connections which were not established correctly or external influences on the electrical equipment can cause the machine to start unexpectedly and uncontrolled movement. Activate and check all safety equipment and emergency-stop circuits prior to commissioning.

- Ensure that the machine is only commissioned by qualified personnel in compliance with the safety instructions.
- Ensure that only authorised personnel are in the work area, and that others cannot be injured due to the commissioning process.

The following prerequisites must be met prior to commissioning the machine:

- The machine is correctly mounted.
- The electrical equipment for the power supply is available and correctly fitted.
- All cables are laid properly and correctly connected in compliance with valid electrical circuit documents.
- The shielding of the motor wires is in place.
- The static discharge must be conducted properly.
 - ▶ The shunt resistance must be measured and have a value of < 10 MOhm.
 - ▶ The measurement must be recorded in a log.
- The required safety equipment and emergency-stop circuits are available and functioning correctly.

Prior to commissioning the machine, check whether

- the drive is undamaged and not blocked.
- all connections have been correctly established.
- all safety covers are correctly installed.
- no other hazard sources are present.
- no foreign materials, tools or other objects are lying in the operating area of the machine.


The following should be checked during commissioning

- the axles are running properly.
 - ▶ Irregular movement of the axes can be an indication that the motor lines or the connection wires have been mixed up.
 - ▶ Vibration or a buzzing noise from the axes can be an indication of incorrect controller parameters.
- no excessive noise development is detected.
 - ▶ A strong development of noise may indicate improper assembly or incorrect control parameters.

6.2 Initial commissioning

If the assembly Lifting-Rotating Unit SH0075 is delivered with inverter and software, the commissioning will be carried out via the Weiss Application Software (WAS).



 Further information on this can be found in the electrical and software documentation for the assembly Lifting-Rotating Unit SH0075.

6.2.1 Referencing

NOTICE *Referencing the axis system*

It is only necessary to reference the axis system once during the initial commissioning or after replacing drive or controller components.

1. Release the brake using the controller.
2. Insert pin.
3. Pull output shaft manually upward and turn it until the pin locks into place.
4. Perform referencing using the controller.
5. Pull pin out.

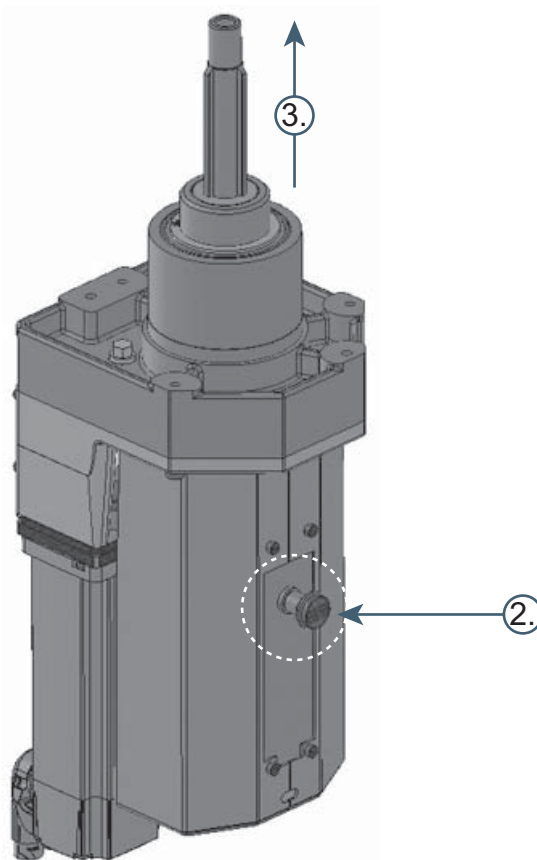


Fig. 8: Referencing the axis system

6.3 Recommissioning

⚠ WARNING *Risk of injury emanating from an operationally unsafe machine. An operationally unsafe machine can cause injuries and material damage. Recommissioning should only be realised after it has been ascertained that the machine is in a functionally reliable condition and no risk emanates from it during operation.*

A visual inspection of the machine should be conducted prior to re-commissioning. The following should be checked and ensured in this regard:

- No damage is present on the machine.
- No foreign materials, tools or other objects are lying in the operating area of the machine.
- All supply units are connected and operating.
- Safety equipment is ready for operation.

NOTICE *Referencing the axis system*

The axis system must be referenced again if necessary (Kapitel 6.2.1 „Referencing“ auf Seite 24).

7 Operation

7.1 Safety during operation

7 Operation

7.1 Safety during operation



Risk of injury due to incorrect alteration of operating parameters.

Improper changes of operating parameters can cause unforeseeable system behaviour. Operating parameters should only be changed by authorised personnel. Altered operating parameters should be checked in a test. Incorrect parameters can cause consequential damage and thus injuries.

7.2 Operating the machine

The machine is designed for integration into other machines, into other incomplete machines or equipment or for connection to them.

Safe operation and control are the responsibility of the operator.

7.3 Operating personnel workstations

The operating personnel workstations are determined by the operator of the plant or product in which the machine is integrated.

8 Malfunctions


8.1 Safety when remedying malfunctions



Injury of non-authorized personnel.

Malfunctions should only be remedied by instructed personnel provided by the operator who are trained and authorised to perform these tasks. The machine should be deactivated with the main switches and secured against unintentional reactivation prior to remedy. The radius of action of moving machine parts should be secured.

8.2 Errors / Cause / Remedy

 Please refer to the electrical and software documentation of the assembly Lifting-Rotating Unit SH0075 for information on faults and errors, and troubleshooting.

8.3 Customer Service

Please provide the following details if you require the assistance of our Customer Service:

- Serial number of the machine
- Description of the malfunction that has occurred
- Time and attendant circumstances of the malfunction that has occurred
- Assumed cause

You can contact our Customer Service from Monday to Friday between 08:00 and 17:00 at the

Service number +49 (0) 6281 - 5208-0

or at service@weiss-gmbh.de

An answering machine will provide you with information outside of the hours listed above.

9 Maintenance

9.1 Safety during maintenance

WARNING

Injuries caused by the power supply and residual energy.

All power sources should be deactivated prior to carrying out maintenance work, and secured against unintentional reactivation and marked with a sign indicating that maintenance work is in progress. All moving parts should be stationary. Loads should be secured against sagging or slipping. All components energized with electrical power should be de-energized (Extinguished LED's on the servo drive do not mean that all components have been completely de-energised). Check by measuring to ensure that all components are de-energised. Work on electrical equipment may only commence if the voltage is less than 42 VDC.

Injury of non-authorized personnel.

Maintenance work should only be realised by instructed personnel who have been authorised to perform these tasks. The operating instructions laid down by the operator must be rigidly adhered to.

Injuries resulting from maintenance work that has not been announced.

The working area should be secured over a wide area prior to realising maintenance work and marked with warning signs. Operating personnel must be informed that maintenance work is being carried out.

Injuries caused by the use of incorrect components or incorrect operating media.

Only spare parts that are specified in our spare parts lists should be used. Subsequent modifications to the machine are not permitted. Only specified operating media should be used. Self-securing screws and nuts should always be replaced. All specified screw tightening torques should be strictly adhered to.

Injuries caused by the absence of safety equipment.

No safety equipment or safety components should be removed. Where dismantling of individual safety equipment is unavoidable for maintenance purposes, the parts removed should be refitted immediately after maintenance work is completed and should be tested to ensure that the integrity of their safety functions is assured.

CAUTION

Risk of injuries due to burning.

The temperature of the housing and the axles can reach up to 80 °C during operation. Prior to carrying out any work on these components, the machine must first cool down sufficiently, to avoid any risk of burning through contact. Burn injuries will arise from contact with hot components.

- Ensure that only qualified electricians perform all tasks on the electrical equipment.
- Ensure that all work steps for maintenance are performed in the specified sequence.
- Ensure that specified tightening torques are observed.
- Ensure that all foreign objects are removed from the work area after the maintenance.

9.2 Maintenance work

Maintenance includes tasks for the purpose of:

- Inspection
- Maintenance
- Repair

9.3 Inspections

⚠️ WARNING *Danger from unexpected activation.*

There is a risk of unexpected start-up if the power supply has not been deactivated or is inadvertent reactivated. The power supply to the machine should be deactivated and secured against reactivation prior to commencing inspection. An unexpected start-up could injure persons who remain present in the working area of the machine.

9.3.1 Conducting a six-monthly visual inspection

9.3.1.1 Check mechanical components

1. Release the brake using the controller.
2. Move axis / axes by hand.
3. Check axis /axes for
 - ▶ ease of motion
 - ▶ running noise
4. Conduct visual inspection for
 - ▶ loose bolt or pin connections.
 - ▶ loose bolts or nuts.
 - ▶ damage to wires
 - ▶ damage at the tooth belt
 - ▶ Damage to the assembly Lifting-Rotating Unit SH0075

9.3.1.2 Check tooth belt

Check tooth belt for

- ▶ damage at the tooth belt
- ▶ belt tension (tension the belt if needed)

9.4 Maintenance

The module is maintenance-free.

9.5 Repair

The operator should not perform any maintenance or repair work on the assembly.

Should maintenance or repair work become necessary, the customer service of WEISS GmbH is to be contacted.

10 Decommissioning / Dismantling / Disposal

10.1 Safety during decommissioning and dismantling



Injury of unauthorised persons.

Ensure that decommissioning and dismantling is only realised by persons trained, instructed and authorised for this purpose. These persons should be familiar with the operating manual and act in accordance with it.

10.2 Decommissioning

10.2.1 Temporary decommissioning

The machine should be deactivated for decommissioning and secured against unintentional reactivation.

The machine should be fitted with a sign that clearly indicates that it is temporarily decommissioned.

NOTICE *For recommissioning, comply with the instructions in chapter 6.3.*

10.3 Dismantling and disposal

CAUTION *Injuries can occur during disassembly through falling components.*

The following points must be observed to avoid injuries and/or environmental damage during dismantling and disposal:

- Wear personal protective clothing and protective equipment.
- In order to avoid injury, ensure that suitable tools are used and that dismantled machine components are stable.
- Note that emerging lubricant, solvent, preserving agents, etc. can cause cauterizing and burns if they come into direct contact with skin.

10.3.1 Disposal of components

NOTICE *Subassemblies should be disposed of properly!*

Improper disposal of subassemblies can cause environmental damage and will be prosecuted!

Dispose of subassemblies in compliance with valid local regulations. Ensure that auxiliary operational media are disposed of in compliance with environmental protection regulations. Local regulations governing the correct recycling and disposal of waste should be observed.

The machine consists of:

- steel and aluminium (housing, axles)
- copper (motor, electric wires)
- plastic (electric wires, hoses)
- Electronic components (servo drives, boards)

11 Service and spare parts

11.1 Ordering spare parts

Please supply us with the following details when ordering spare parts:

- Serial number of the machine
- Order number of the spare part obtained from the spare parts list
- Number of spare parts required

Please send your spare parts order to

WEISS GmbH
Siemensstraße 17
D-74722 Buchen/Odw.

Tel: +49 (0) 6281 - 5208-0
Fax: +49 (0) 6281 - 5208-99
eMail: service@weiss-gmbh.de
Internet: <http://www.weiss-gmbh.de>

A complete list of the addresses of our sales representatives is available on our website..

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12.3 Personal notes

A series of 25 horizontal dashed lines for writing personal notes.



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