

# Not Binding Operating and Assembly Instruction Progressive Cavity Pump

This operating and assembly instruction is only  
for general information.

Type

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<b>1</b>	<b>Safety</b> .....	<b>1</b>
	1.1 Notes on these instructions	
	1.2 Safety-related Information	
	1.3 Designated use	
	1.4 Foreseeable misuse	
	1.5 Structure of warning notes	
	1.5.1 Warning levels	
	1.5.2 Warning symbols	
	1.6 Qualification of the personnel	
	1.7 Tasks, notes for the owners, operators and technicians	
	1.8 Personal protective equipment	
	1.9 Safety and protective devices	
<b>2</b>	<b>Description of the machine</b> .....	<b>9</b>
	2.1 General description	
	2.2 Mode of action and pumping principle of the machine	
	2.3 Constructive design	
<b>3</b>	<b>Technical Data</b> .....	<b>11</b>
<b>4</b>	<b>Transport, Intermediate storage, Disposal</b> .....	<b>13</b>
	4.1 Safety	
	4.2 Transport	
	4.2.1 Dimensions, weight and centre of gravity	
	4.2.2 Symbol	
	4.2.3 Lashing points (AP) for lifting devices	
	4.2.4 Unpacking the machine	
	4.3 Temporary storage/corrosion protection	
	4.4 Disposal	
<b>5</b>	<b>Assembly / Installation</b> .....	<b>15</b>
	5.1 Mounting tools / lifting gear	
	5.2 Space requirement	
	5.2.1 Dimension for stator replacement	
	5.3 Assembly of the complete mounted machine	
	5.4 Power supply of the machine	
	5.5 Pipelines	
	5.5.1 Suction and pressure connection	
	5.5.2 Pipeline dimensions	
	5.5.3 Residue-free pipelines	
	5.5.4 Tension-free assembly	
<b>6</b>	<b>Commissioning / De-Commissioning</b> .....	<b>17</b>
	6.1 Commissioning report.....	<b>17</b>

6.2	Measures before commissioning.....	18
6.2.1	Checking pipelines	
6.2.2	Protective devices on the pump	
6.2.3	Electrical / hydraulic connections	
6.2.4	Direction of rotation check	
6.2.5	Additional devices - optional	
6.3	Initial commissioning/repeated commissioning	
6.3.1	Avoiding dry running of the pump	
6.3.2	Pressure in the suction and pressure connection	
6.4	De-commissioning	
6.4.1	Switching off the pump	
6.4.2	Emptying the pump	
6.4.3	Dismantling the pump	
6.4.4	Preservation/storage of the pump	
<b>7</b>	<b>Maintenance.....</b>	<b>23</b>
7.1	Preventative measures	
7.1.1	Machine down-time	
7.2	Lubrication	
7.2.1	Joint grease	
7.3	Inspection	
<b>8</b>	<b>Malfunctions, causes, rectification.....</b>	<b>25</b>
<b>9</b>	<b>Dismantling / Reassembly.....</b>	<b>27</b>
	Dismantling / Reassembly of the machine	
9.1	Dismantling	
9.2	Reassembly	
9.4	Mechanical seal.....	57
9.4.1	Safety	
9.4.2	Application conditions and material version	
<b>10</b>	<b>Spare parts.....</b>	<b>59</b>
10.1	Order template for spare parts.....	61
<b>11</b>	<b>Special tools.....</b>	<b>63</b>
<b>12</b>	<b>Associated documents.....</b>	<b>65</b>
<b>13</b>	<b>Appendix.....</b>	<b>66</b>
13.1	Manufacturer's documents / suppliers	

**Subsidiaries**



## 1.1 Notes on these instructions

### 1.1.1 General notes

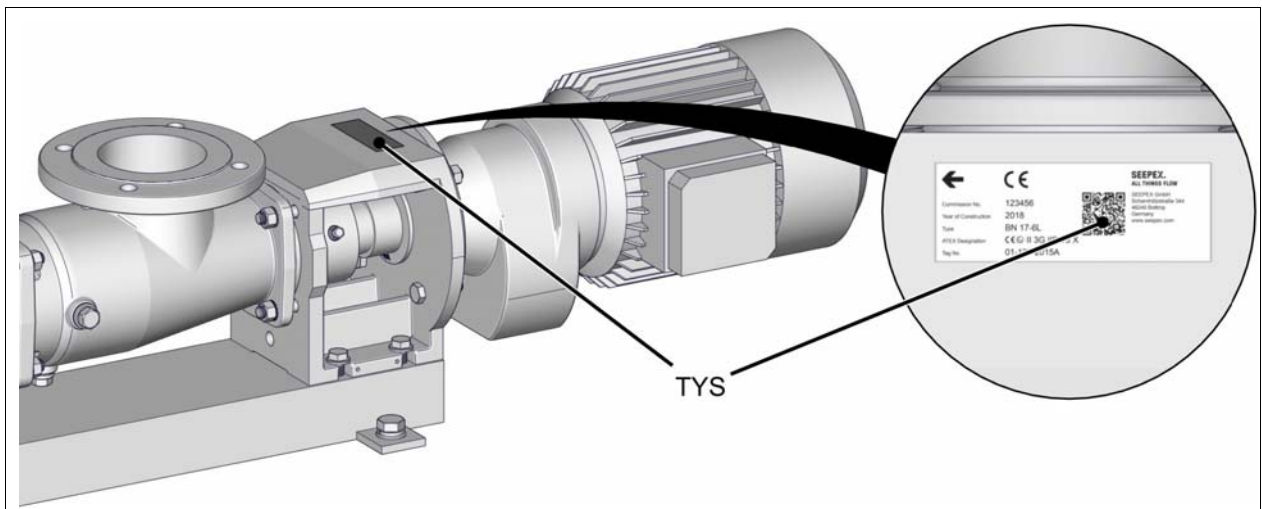
- Always keep the operating and maintenance instructions close by the machine.
- If problems cannot be solved with reference to the operating and maintenance instructions, please contact SEEPEX.

Observe the following points in addition to these operating and maintenance instructions:

- Prohibition, warning and mandatory signs, warning notes on the machine
- Relevant laws and ordinances
- Statutory provisions on accident prevention
- Corresponding harmonised standards and regulations

### 1.1.2 Validity of these instructions

- These operating and assembly instructions are valid exclusively for machines with the commission no. specified on the cover sheet.
- The operating and assembly instructions are correlated with the SEEPEX machine by means of the commission no. on the type plate (**TYS**).



*Figure similar*

# 1. Safety

## 1.1.3 Symbols, notes and abbreviations

### 1.1.3.1 Information symbols

Symbol	Application
➤	Instruction/measure
–	supplementary instruction/measure
•	List item
<b>i</b>	Information
→	Cross-reference

### 1.1.3.2 Abbreviations

Abbreviations facilitate readability in drawings.

Abbreviations are explained below:

Abbrevia- tion	Designation	Abbrevia- tion	Designation
ANT	Drive	K	Terminal
AP	Lashing points	KF	Kinetic ring grease
ATG	Drive casing	KUL	Crank
CBH	Feed hopper screw fitting	P	Dimension for stator replacement
CFL	Flanged connection	RTE	Rotating unit
CTH	Threaded connection	S	Support
DFL	Flange seal	SCH	Screw fitting
ELT	Feed hopper	SCL	Holding band loop
ERD	Earth connection	SEA	Shaft sealing
FCO	Flange cover	SH	Protective cover
FLS	Flange bearing surface	SHL	Cutting lever
GC	Anti-seize graphite petroleum	SSU	Flush connection
GF	Joint grease	TSE	Dry-running protection device
GM	Lubricant	TYS	Type plate
GS	Soft soap	ZA	Sealing -/ centering surface
HBD	Holding band	ZD	Centering surface
HS	Label		

## 1.2 Safety-related Information

SEEPEX machines are built in accordance with the state of the art. Nevertheless, there is a residual risk, because the machine works with:

- Mechanical movements that pose a danger
- Electrical voltages and currents

## 1.3 Designated use

SEEPEX machines are individually configured. The machine is allocated to the operating and assembly instructions based on the commission no. The commission no. is indicated on the type plate of the machine and on the cover sheet of the operating and assembly instructions.

Observe the following points to ensure compliance with the intended use:

- Use the machine only for conveying media in accordance with the technical data (→ chapter 3)
- Use the machine only within the performance data as specified in the technical data (→ chapter 3)
- Make alterations and modifications to the machine only after obtaining the approval of SEEPEX
- Use the machine only in commercial and industrial areas
- Do not use the machine in explosive areas

## 1.4 Foreseeable misuse

Any use other than the intended use or any different use of the machine will be considered as improper use and can cause serious physical injury and damage to property.

In particular, the following is not admissible:

- Conveyance of conveying products other than those specified in the technical data (→ chapter 3)
- Operating the machine outside of the performance data specified in the technical data (→ chapter 3)
- Operating the machine without safety and protection devices
- Mechanical or electrical bypassing of machines or machine parts
- Use of parts other than the original parts
- Alterations, modification and manipulation
- Non-compliance with instructions and prescribed operating, maintenance and servicing conditions
- Non-compliance with the rules and regulations in the country of use and the statutory provisions and accident prevention regulations when handling the machine
- Operating the machine in explosive areas

## 1.5 Structure of warning notes

- For the protection of personnel and for the safe and efficient use of the machine, observe warning notes.

### Preceding warning notes

Preceding warning notes are placed at the beginning of each chapter or sequence of actions, and relate to the instructions following directly after.



# 1. Safety

---

## DANGER

### Type and source of danger.

Possible consequences.

- Measures to avert the danger.
- 

### Preceding warning notes with warning or mandatory signs

Specific dangers are identified with additional warning or mandatory signs.

Example:

## DANGER



### Type and source of danger.

Possible consequences.

- Measures to avert the danger.
- 

### Embedded warning notes

Embedded warning notes describe immediately relevant dangers, and are shown within a sequence of actions. They are placed immediately before the danger.

Examples:

- **▲ WARNING** Type and source of danger. Possible consequences. Measures to avert the danger.

**▲ WARNING** Type and source of danger. Possible consequences.

- Measures to avert the danger.
- 

### 1.5.1 Warning levels

Warning notes are identified by coloured warning symbols and signal word fields.

The different warning levels are identified by additional signal words, and describe the extent of the danger.

#### Personal injury

## DANGER

DANGER indicates a dangerous situation which, if not avoided, will result in death or serious injury.

---

## WARNING

WARNING indicates a dangerous situation which, if not avoided, may result in death or serious injury.

---

## CAUTION

CAUTION indicates a dangerous situation which, if not avoided, may result in minor or moderate injury.

---

## Property damage





### NOTICE

NOTICE is used when the situation is not associated with personal injury.

#### 1.5.2 Warning symbols

In these operating and assembly instructions and on the machine, there are warning symbols.

- Ensure that these warning symbols are complied with.
- Warning symbols on the machine must be fully present and easily legible at all times.

Warning symbols	Hazard
	Suspended load warning
	Electric voltage warning
	Hot surface warning
	Warning for automatic start

# 1. Safety

## 1.6 Qualification of the personnel

**i**

Detailed technical knowledge is essential for performing any work on the machine, in order to be able to independently recognise and avoid potential dangers.





Activity	Person	proven knowledge
<ul style="list-style-type: none"> <li>➤ Instruction of personnel</li> <li>➤ Definition of responsibilities</li> <li>➤ Definition of responsibilities</li> <li>➤ Monitoring of adequate qualification of personnel</li> </ul>	Owner	<ul style="list-style-type: none"> <li>➤ Knowledge of safety regulations</li> <li>➤ Knowledge of these operating and assembly instructions</li> </ul>
<ul style="list-style-type: none"> <li>➤ Operation</li> <li>➤ Operational monitoring</li> <li>➤ Easy maintenance work and troubleshooting</li> </ul>	Operator	<ul style="list-style-type: none"> <li>➤ Instruction for the machine</li> <li>➤ Before starting any activity, the operating and assembly instructions must be read and understood</li> <li>➤ Knowledge of safety devices and regulations</li> </ul>
<ul style="list-style-type: none"> <li>➤ Electrical installation</li> <li>➤ Commissioning</li> <li>➤ Maintenance</li> <li>➤ Repair</li> <li>➤ Decommissioning</li> <li>➤ Assembly and dismantling</li> </ul>	Electrical technician	<ul style="list-style-type: none"> <li>➤ Technical training, knowledge and experience with the machine in relation to electrical components</li> <li>➤ Knowledge of the relevant standards and regulations</li> <li>➤ Safe handling of tools</li> <li>➤ Knowledge of these operating and assembly instructions</li> </ul>
<ul style="list-style-type: none"> <li>➤ Commissioning</li> <li>➤ Maintenance</li> <li>➤ Repair</li> <li>➤ Decommissioning</li> <li>➤ Assembly and dismantling</li> </ul>	Mechanical technician	<ul style="list-style-type: none"> <li>➤ Technical training, knowledge and experience with the machine in relation to mechanical components</li> <li>➤ Knowledge of the relevant standards and regulations</li> <li>➤ Safe handling of tools</li> <li>➤ Knowledge of these operating and assembly instructions</li> </ul>

## 1.7 Tasks, notes for the owners, operators and technicians



- Do not work on the machine or plant unless it is at a standstill and de-pressurised.
- Switch off the main switch and pull out the power plug before starting work on live components.
- Observe the procedure for shutting down the machine (→ chapter 6).
  - Follow decommissioning procedure.
  - Secure the machine against recommissioning.
- On completion of all work, attach all safety and protective devices and make sure they are functioning.
- Refer to chapter Commissioning before recommissioning the machine (→ chapter 6).

## 1.8 Personal protective equipment

- Wear personal protective equipment and/or additional equipment for your own safety.

Sign	Meaning	Scope of application
	Wear safety shoes	Work in the area of the machine
	Wear eye protection	Work on the machine during which parts may be ejected at speed and parts may be pressurised
	Wear protective gloves	Possible contact with aggressive media, hot surfaces or sharp edges
	Wear ear protection	Sustained sound pressure level > C 75 dB (A)

# 1. Safety

Sign	Meaning	Scope of application
	Wear safety helmet	Work with suspended loads and overhead work
	Wear protective clothing	Possible contact with aggressive media

## 1.9 Safety and protective devices

- Before commissioning, bolt SEEPEX machines to a suitable foundation to ensure stability.
- Start-stop equipment must be clearly recognisable. In order to avoid errors, the operator must arrange corresponding measures.



Protective devices protect those persons who are attempting to reach danger areas without additional help and under the conditions defined for various situations of reaching up, reaching under or reaching through.

- Equip pump with a protective device
  - In order to prevent contact with hot surfaces
  - In order to prevent contact with moving parts
  - Use finger probe to check protective device.

### 2.1 General description

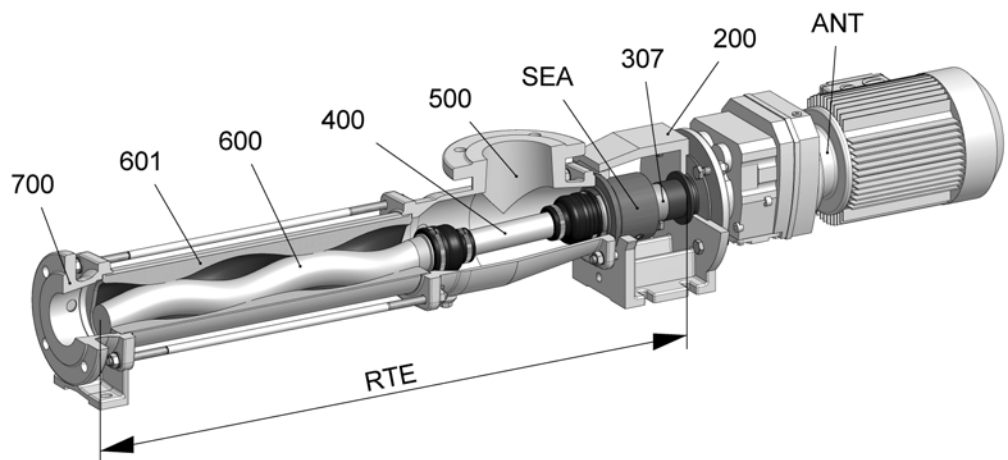
seepex pumps are members of the group of rotating displacement pumps.

- Characteristic features
  - Special configuration/arrangement of the rotor and stator pumping elements.
  - Motion sequence

### 2.2 Mode of action and pumping principle of the seepex pump

- Sealing bands are produced through geometric design/contact of both conveying elements.
- Sealing bands ensure a perfect fit between the suction and pressure side.  
Result:
  - Increased pump suction.
  - Higher pressure build-up independent of speed possible.

### 2.3 Constructive design



No.	Designation
ANT	Drive
200	Lantern
307	Plug-in shaft
400	Coupling rod
SEA	Shaft seal
500	Suction casing
600	Rotor
RTE	Rotating unit
601	Stator
700	Pressure branch



**3.1 Data sheet**

**3.2 Characteristic Curves**

**3.3 Declaration**

- Data sheet, characteristic curves and declarations are commission specific documents and not part of this not binding operating and assembly instruction.





#### 4.1 Safety

<b>CAUTION</b>
<p><b>Damage to property/injuries due to incorrect transport</b> Slight injury or damage to property can occur</p> <ul style="list-style-type: none"> <li>➤ Comply with the safety notes and transport notes on the packaging.</li> <li>➤ Use suitable means of transport, lifting devices and tools.</li> <li>➤ Use protective equipment.</li> </ul>

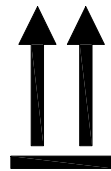
#### 4.2 Transport

##### 4.2.1 Dimensions, weights and center of gravity

- Note the dimensional drawing (→ chapter 5.6).

##### 4.2.2 Symbols

- Meaning of symbol



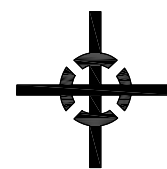
Top



Fragile  
item



Against moisture  
protect



Centre of gravity

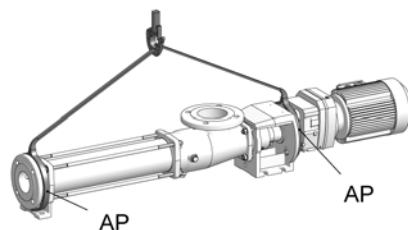


Lashing points

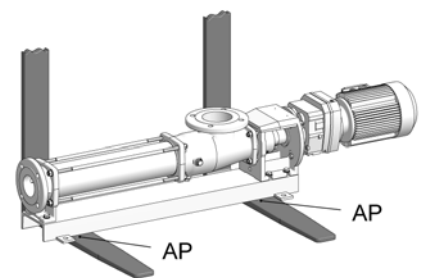
##### 4.2.3 Sling points (AP) for lifting devices

	<b>WARNING</b>
	<p><b>Warning of suspended load.</b> Death or serious injury can occur.</p> <ul style="list-style-type: none"> <li>➤ Use the lashing points <b>(AP)</b> for lifting devices.</li> <li>➤ Note the centre of gravity (→ dimensional drawing, chapter 5.6).</li> </ul>

Lifting machine



Industrial trucks



##### 4.2.4 Unpacking the machine


- Comply with the symbols and notices on the packaging.
- Remove the screwed connection between the machine and packaging.
- Remove the machine with a lifting machine/industrial truck.

#### 4.3 Temporary storage/Corrosion protection


- All seepex machines have corrosion protection applied as standard prior to transport.

<i>NOTICE</i>	
	<p><b>Damage to property if corrosion protection is missing</b> Property damage can occur due to corrosion.</p> <ul style="list-style-type: none"><li>➤ Temporary storage must be in a dry, enclosed, frost-free room in order to provide protection against ambient influences.</li><li>➤ Contact seepex regarding the necessary corrosion protection for temporary storage.</li></ul>

#### 4.4 Disposal

	<i>NOTICE</i>
	<p><b>Environmental protection</b> Material damage can occur.</p> <ul style="list-style-type: none"><li>➤ Drain the pumping medium and dispose of it in accordance with the regulations.</li><li>➤ Dispose of the machine with regard to its composition and existing regulations.</li></ul>

## 5.1 Mounting tools / lifting gear

 <b>CAUTION</b>	
<p><b>Pump falling over.</b> Slight injury or damage to property can occur.</p> <ul style="list-style-type: none"> <li>➤ Adhere to the lifting tool's starting point.</li> <li>➤ Pay attention to the dimensions, weight and centre of gravity of the pump.</li> <li>➤ Use suitable mounting tools/lifting gear.</li> </ul>	

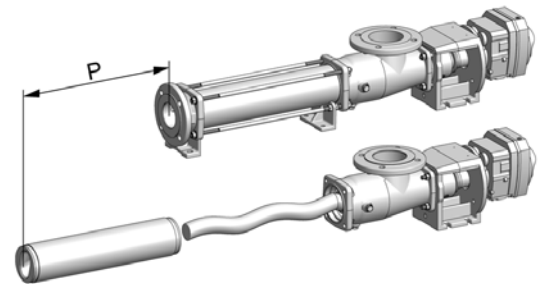
## 5.2 Space requirement

The required space should be determined by considering the following factors:

- Dimensions and weight.
- Requisite transport and lifting equipment.
- Pipe routing – dismantling (dimension for stator replacement).

## 5.2.1 Dimension for stator replacement (P)

- Refer to the dimensional drawing.



## 5.3 Assembly of the complete mounted pump


- Assemble according to technical data (→ chapter 3.).
- Note dimensional drawing.

**Tension-free mounting of the pump**



- Balance unevenness with suitable supports.
- Applies to mounting on foundations/load-bearing elements.
- Total areas of all pump bearing areas are resting on the surface.

**Correct position of the drives**

- All drives are set up ready for operation and mounted.
- Correct displacements of the drive during transport/installation of the pump by adjusting/fixing the drive.

 <b>CAUTION</b>	
<p><b>Safety protection equipment.</b> Slight injury or damage to property may result.</p> <ul style="list-style-type: none"> <li>➤ Connect safety protection equipment and activate.</li> </ul>	

## 5.4 Power supply of the seepex pump

	 <b>DANGER</b>
	<p><b>Supply voltage and power frequency.</b> Death or serious injury will result.</p> <ul style="list-style-type: none"> <li>➤ Heed type plate on the pump.</li> <li>➤ Pay attention to manufacturer's directions (→ chapter 13.).</li> <li>➤ Pay attention to safety regulations.</li> </ul>

## 5.5 Pipelines

## 5.5.1 Suction and pressure connection

- Refer to the dimensional drawing for the position, nominal width and standard.
- Note direction of rotation/flow direction.

## 5.5.2 Pipeline dimensions

- Adhere to specifications regarding pressure in the pressure respectively suction connection.
- Note technical data (→ chapter 3.).
- Nominal width of suction pipe = nominal width of suction connection of pumps.

## 5.5.3 Residue-free pipelines

<b>NOTICE</b>
<p><b>Damage to property through assembly residue.</b> No claims under guarantee if violated.</p> <ul style="list-style-type: none"> <li>➤ Keep all pipe work free of foreign objects.</li> <li>➤ Remove weld spatters, screws, steel chips etc.</li> </ul>

## 5.5.4 Tension-free assembly

- Assemble pipelines and other components in a tension-free manner on the pump.

**Master Copy**

**6.1 Commissioning report**

Send commissioning report online to  
[www.seepex.com](http://www.seepex.com)

**From:**

**Must be specified with every order!**

**Commission:**

**Model:**

\_\_\_\_\_

\_\_\_\_\_

Contact person: .....  
 Tel.: .....  
 Fax: .....  
 E-mail: .....

**Customer Service:**  
 seepex GmbH  
 Postfach 10 15 64  
 D-46215 Bottrop  
 service@seepex.com

**Germany**  
  
**Rest of Europe**  
  
**Outside Europe**

Phone:+49 2041.996-231  
 Fax: +49 2041.996-431  
 Phone:+49 2041.996-224  
 Fax: +49 2041.996-424  
 Phone:+49 2041.996-120  
 Fax: +49 2041.996-432

**Address of plant:**

.....  
 .....  
 .....  
 .....

Delivery date:

Date of installation:

Assembly check carried out on:

Please enter operational data:

Conveying liquid:

Temperature:

Fuse level/motor protection or power consumption

Frequency control

no

yes

If yes:

Supplied by seepex

Supplied by customer

Frequency:

Speed:

Power consumption:

Place, date

Signature / company stamp

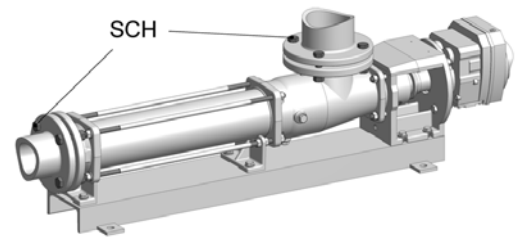


6.2 Measures before commissioning

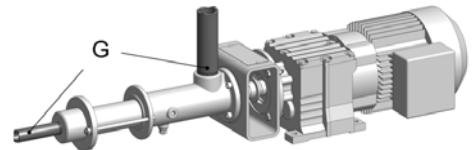
- Note the technical data (→ chapter 3.).

6.2.1 Checking pipelines

- Check flange screwed connections (**SCH**).




- Check threaded connections (**G**).





<b>NOTICE</b>
<p><b>Ensure the liquid can flow through without obstruction.</b> Malfunction and/or irreparable damage to the pump.</p> <ul style="list-style-type: none"> <li>➤ Open all shut-off elements before switching on the pump.</li> </ul>

6.2.2 Protective devices on the pump

 <b>DANGER</b>
<p><b>Missing protective device.</b> Danger of pulling in and crushing.</p> <ul style="list-style-type: none"> <li>➤ Equip the pump with a protective device. Protective devices provided for preventing contact with surfaces or moving parts must be regarded as suitable if contact is not possible in a test involving a test finger, with regard to the penetration possibility, strength and shock resistance.</li> <li>➤ Comply with national protection regulations.</li> <li>➤ In pumps with an open suction flange/feed hopper, attach touch protection. These safety clearances protect those persons who are attempting to reach danger areas without additional help and under the conditions defined for various situations of reaching up, reaching under or reaching through</li> </ul> <p>In shaft seals, touch protection is only necessary if there are components on the rotating shaft.</p>

6.2.3 Electrical/hydraulic connections

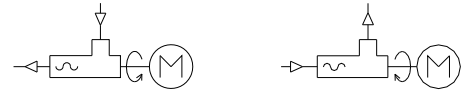
	 <b>DANGER</b>
	<p><b>Dangerous voltage.</b> Death or serious injury can occur.</p> <ul style="list-style-type: none"> <li>➤ Note safety regulations.</li> <li>➤ Disconnect motor from all sources of energy.</li> <li>➤ Secure electrical connections against restarting.</li> </ul>



### 6.2.4 Direction of rotation check

- The pump direction of rotation determines the flow direction of the pumping medium.
- Note the direction of rotation arrow on the type plate.

flow direction



counter clockwise

clockwise

### 6.2.5 Additional devices - optional

- Refer to additional devices (→ chapter 12.1).

### 6.3 Initial commissioning/repeated commissioning

- Start up the pump.

#### NOTICE

##### **Dry running of the pump.**

Malfunction and/or irreparable damage to the pump.

- Fill the suction casing with liquid in order to lubricate the pumping elements.

### 6.3.1 Avoid dry running of the pump

#### NOTICE

##### **High temperature between rotor and stator.**

Stator material burned.

Complete failure of the pump.

- Make sure that the suction-side conveying capacity does not cavitate.
- If this cannot be guaranteed on the machine side, assemble a seepex dry running protection (TSE).

### 6.3.2 Pressure in the suction and pressure connection



#### CAUTION

##### **High pressure.**

Malfunction and/or irreparable damage to the shaft seal or pump.

- Maintain pressure in the suction connection in accordance with the technical data (→ chapter 3.).

#### **Recommendation:**


- Assemble an oil-filled contact pressure gauge to monitor and deactivate the pump.

## 6.4 De-commissioning

Protect the pump and additional devices against the following:

- Frost
- Deposit of solids
- Sedimentation from the liquid
- Corrosion of parts that come into contact with the medium

### 6.4.1 Switching off the pump

	<b>!</b> <b>DANGER</b>
	<b>Dangerous voltage.</b> Death or serious injury can occur. <ul style="list-style-type: none"><li>➤ Note safety regulations.</li><li>➤ Disconnect motor from all sources of energy.</li><li>➤ Secure electrical connections against restarting.</li></ul>

### 6.4.2 Emptying the pump

<b>!</b> <b>CAUTION</b>
<b>Liquid draining out.</b> Minor injury or damage to property can occur. <ul style="list-style-type: none"><li>➤ Wear suitable protective clothing.</li><li>➤ Refer to the technical data (→ chapter 3.) for the corresponding configuration of the pump housing.</li></ul>

To drain the pump:

- If the pump housing has screwed plugs, remove the screwed plugs.
- Drain using a connection branch (suction casing, pressure branch) if the pump housing is coated or the housing does not have screwed plugs.
- Drain the residual liquid from the pump housing.
- Drain the pipelines on the suction and pressure sides, or shut off behind the pump connections.

## 6.4.3 Removing the pump

**WARNING****Risk of pump tipping or falling.**

Death or serious injury can occur.

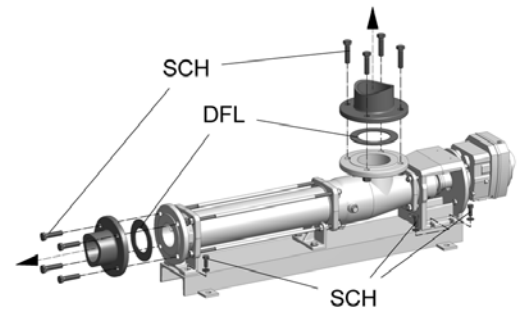
- Support the drive unit to guarantee stability.

**Pipeline dismantling**

- Remove flange bolts (**SCH**) and flange seals (**DFL**).

with/without base plate

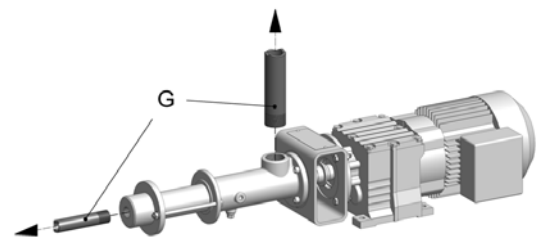
- Remove bolts (**SCH**) from the pump feet.

**Pipeline dismantling**

- Remove threaded connections (**G**).

with/without base plate

- Remove bolts (**SCH**) from the pump feet.



## 6.4.4 Preservation/storage of the pump

**NOTICE****Damage to property due to lack of corrosion protection.**

Property damage can occur due to corrosion.

- Contact seepex to discuss suitable preservation measures.
  - State the commission number of the pump.

7.1 Preventive measures



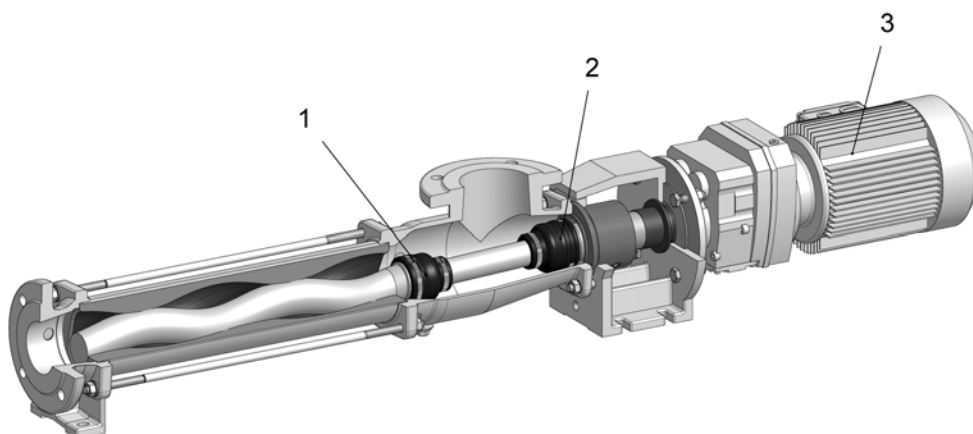
The maintenance personnel must have these operating instructions, follow them and also require corresponding qualifications.

	<b>DANGER</b>
	<p><b>Dangerous voltage.</b> Death or serious injury can occur.</p> <ul style="list-style-type: none"> <li>➤ Note safety regulations.</li> <li>➤ Disconnect pump from all sources of energy.</li> <li>➤ Secure electrical connections against restarting.</li> </ul>

7.1.1 Pump down-time

NOTICE
<p><b>Pump down-time.</b> Production failure due to wear.</p> <ul style="list-style-type: none"> <li>➤ Acquisition of a set of wearing parts and a set of gaskets.</li> </ul>

7.2 Lubrication



No.	Denomination	Lubricant	Lubricant change in operating hours	Fill volume
1	Pin joint	seepex special grease *	10000 h	*
2	Pin joint	seepex special grease *	10000 h	*
3	Drive	Refer to manufacturer's documentation (chapter 13._)		
	Rotor/stator	Conveying medium	---	---
	Shaft seal	Conveying medium	---	---

\* Type and filling quantities are commission specific information.

## 7.2.1 Joint grease

NOTICE
<p><b>Other grease types.</b> Malfunction and/or irreparable damage to the joints or the pump.</p> <p>➤ Exclusively use seepex special grease.</p>

## 7.3 Inspection

Component	Interval	Action
Joints	Every 10,000 operating hours	Renew joint grease
Stator	Every week	Visual check for leaks
Shaft seal	Every week	Visual check for leaks
Drive unit	Every 3000 operating hours, at least every 6 months	Comply with manufacturer's documentation

Refer to technical data (chapter 3.) for application range of the pump.

Malfunction								Causes	Rectification
Pump is not sucking	Pump pumping unevenly	Conveying capacity is not achieved	Pressure head is not reached	Pump does not start up	Pump seized / pump does not pump	Pump is loud when running	Motor gets too hot		
			X				X	Static friction between stator/rotor too great.	Apply lubricant (liquid soap) between stator and rotor.
X								Incorrect direction of rotation.	Check direction of rotation and swap over motor connections if necessary.
X	X	X			X	X		Suction pipe or shaft seal leaking.	Eliminate leaks.
X	X	X				X		Suction head too great.	Check the suction head, if necessary increase pipe cross section on suction pipe and use a larger filter, open suction-side valve fully.
X	X	X						Viscosity of conveying product too great.	Check/adapt (data sheet).
		X	X				X	Pump rotation speed incorrect.	Correct rotation speed (data sheet).
	X	X							Avoid air bubbles in the conveying product.
		X	X	X		X	X	Pressure head too great.	Check pressure head with pressure gauge, reduce pressure head by using larger pressure pipe crossed section or shortening the pressure pipe.
X	X	X			X		X	Pump running partially/ completely dry.	Check there is adequate conveying product available on the suction side. Dry running protection DRP.
						X	X	Check coupling.	If necessary, move pump in relation to drive, check wear on coupling gear, re-adjust coupling if necessary.
X		X						Rotation speed too low.	Increase rotation speed for low-viscosity media/large suction volume.

Malfunction									Causes	Rectification	
Pump is not sucking	Pump pumping unevenly	Conveying capacity is not achieved	Pressure head is not reached	Pump does not start up	Pump seized / pump does not pump	Pump is loud when running	Motor gets too hot	Premature stator wear			Shaft seal is leaky
X	X					X				Rotation speed too high.	Reduce rotation speed for high-viscosity media, risk of cavitation.
						X				Joint play too large.	Check mounting of coupling rod bushing.
X		X		X	X			X		Foreign objects in pump.	Dismantle pump, remove foreign bodies, replace defective parts.
X		X	X		X					Stator/rotor worn.	Dismantle pump and renew defective parts.
X		X			X	X				Joint parts worn.	Renew joint parts, use seepex pin joint grease.
X		X			X			X		Suction pipe blocked.	Clean the suction pipe.
X				X	X		X	X		Temperature of pumping liquid too high.	Check temperature, use an undersize rotor.
X		X		X			X		X	Gland packing too firm/worn.	Loosen packing gland or tighten. Renew unusable packing rings.
X				X	X			X		Solid content and/or grain size too great.	Reduce pump speed, install screen with permitted mesh width. Increase liquid proportion.
X				X				X	X	Sedimentation/gumming of solids when pump stationary.	Rinse through and clean the pump immediately.
X				X	X			X	X	Conveying product hardens when the temperature drops below a certain limit.	Heat the pump.
				X	X		X	X		Stator swollen and unable to withstand conveying product.	Select a suitable stator material, use an undersize rotor.
						X			X	Bearings in pump drive housing or drive unit defective.	Renew bearings.
									X	Mechanical seal defective.	Check sliprings and O-rings for wear/resistance, renew if necessary.

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## 9.1 Dismantling

All work steps and tools required for dismantling are specified in this chapter.

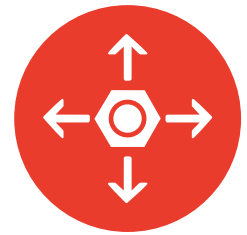
### 3-D ANIMATIONS

In addition to your SEEPEX operating and assembly instructions, 3-D animations of the individual dismantling steps are available.

#### Start animations



- For printed operating and assembly instructions, scan the adjacent QR code.
















# 9.1 Dismantling

## 9.1.1 Keep tools ready for the dismantling

### Recommended tools

Keep the listed tools ready (not part of the delivery scope):

Illustration	Denomination
	Hammer
	Set allen keys
	Set ring spanners size 10 - size 30
	Set fork spanners size 10 - size 30
	Metal saw ( <b>WH</b> )
	Screwdriver ( <b>WS</b> )
	Chisel ( <b>WM</b> )

### Recommended special tools

**i**

Special tools are not part of the delivery scope.

- Order special tools using the order form (→ chapter 11).






Illustration	Denomination
	Chain wrench ( <b>W2</b> )
	Assembly mandrel ( <b>W4</b> )
	Drift ( <b>W5</b> )



Illustration	Denomination
	Mounting lever <b>(W9)</b>
	Dismantling tool <b>(W10)</b>

### Recommended auxiliary materials

Keep the auxiliary materials listed available (not included in the scope of delivery):

- Lubricant **(GM)**

## NOTICE

### Damage to property due to inadequate lubricants **(GM)**.

Damage to components. Contamination of the conveying medium.

- Observe resistance to the materials used and the conveying medium.
- Use suitable lubricants **(GM)** only.

### 9.1.2 Prepare pump for dismantling

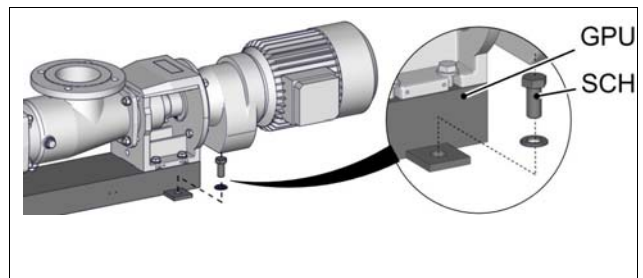
- Follow the instructions in the chapter Shut-down (→ chapter 6).

### 9.1.3 Dismantle pump

**⚠ WARNING** Risk of injury due to lack of stability of pump. Crushing of body parts due to the pump or pump parts tipping or falling down.

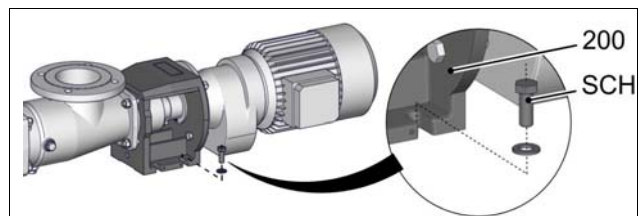
#### Design with base plate

- Fasten base plate **(GPU)** to secure pump.
  - Recommendation: Fasten to suitable base using a screw fitting **(SCH)**.



#### Design without base plate

- Fasten lantern **(200)** to secure the pump.
  - Recommendation: Fasten to suitable base using a screw fitting **(SCH)**.



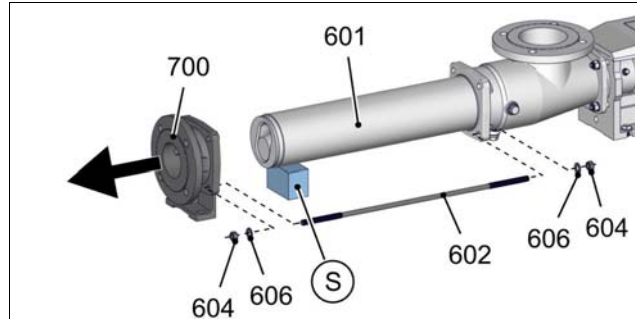
## 9.1 Dismantling



### 9.1.3.1 Dismantle pressure branch (700)

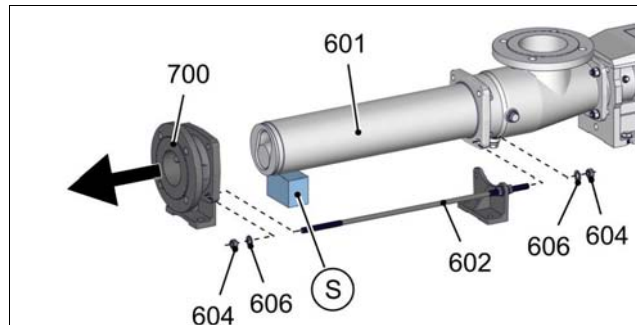
#### *Design without stator support*

- Prop up stator (601) with the support (S).
- Dismantle screw fitting (604, 606).
- Remove pressure branches (700) and tensioning screws (602).

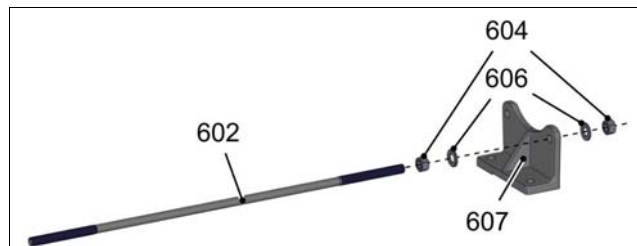


#### *Design with stator support*

- Prop up stator (601) with support (S).
- Dismantle screw fitting (604, 606).
- Remove pressure branch (700) and tie bolts (602) together with stator support (607).

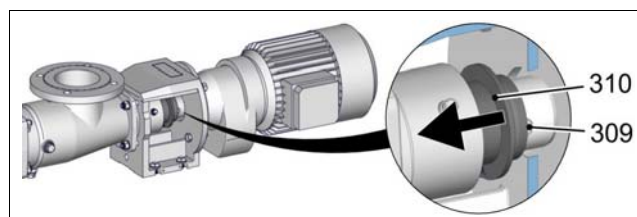


- Dismantle screw fittings (604, 606).
- Remove tie bolts (602) from stator support (607).

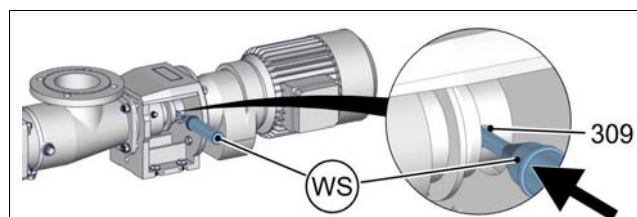


### 9.1.3.2 Dismantle stator (601)

- Raise/reposition splash ring (310) to remove plug-in shaft pin (309).

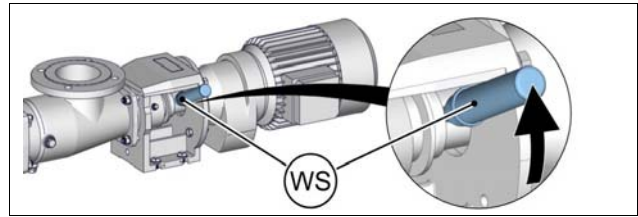


- Eject plug-in shaft pin (309).
  - Use a suitable tool (WS).






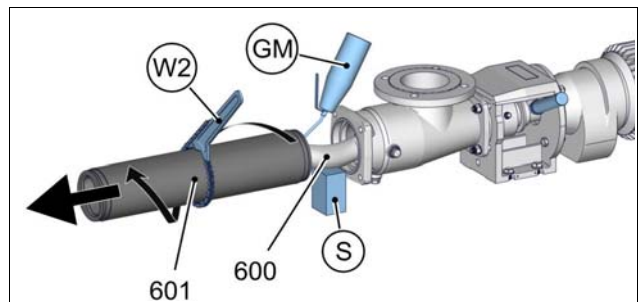
- Turn tool **(WS)** upwards as locking device for the stator removal.



### **Dismantle the dry-running protection device (TSE) (optional)**

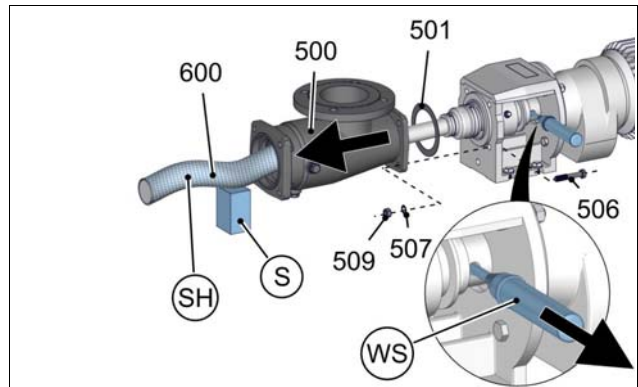
**NOTICE** Damage to the pump sided parts of the dry-running protection device (TSE) when dismantling stator.

- Dismantle pump sided parts of the dry-running protection device (TSE) before dismantling stator.
  - Refer to chapter Options and Additional accessories (→ chapter 12.1).
- Turn stator **(601)** to remove it.
  - Apply lubricant **(GM)** into the opening between rotor **(600)** and stator **(601)** for easier dismantling.
  -  Use tool **(W2)**.
- Support rotor **(600)** with support **(S)**.



### 9.1.3.3 Dismantle suction casing (500)

- Put a protective cover **(SH)** on the rotor **(600)**.
- Prop up rotor **(600)** with support **(S)**.
- Dismantle screw fitting **(506, 507, 509)**.
- Remove suction casing **(500)** and casing gasket **(501)**.
- Remove tool **(WS)**.



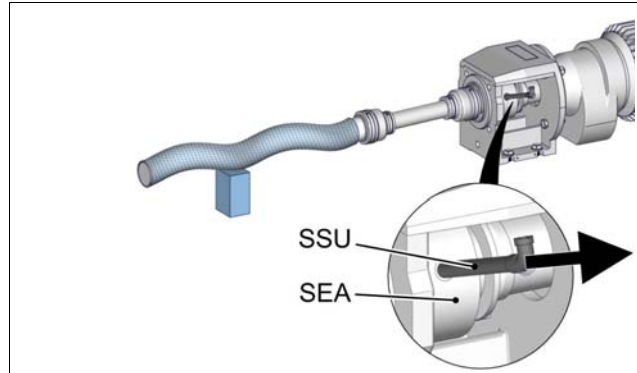
## 9.1 Dismantling




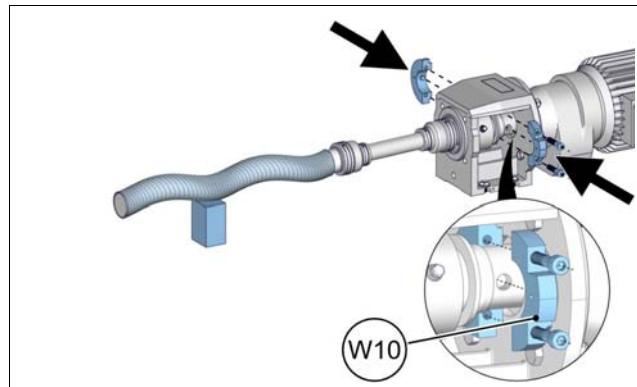
### 9.1.3.4 Dismantle rotating unit (RTE)

#### *Dismantle flush connection (SSU) (optional)*

- Remove flush connection (**SSU**) from the casing of the shaft sealing (**SEA**).

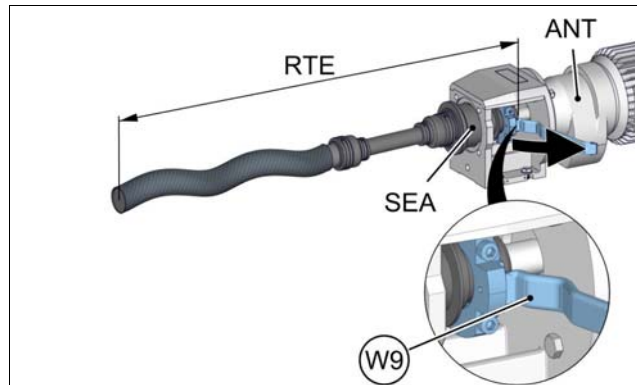


-  Assemble tool (**W10**) as contact surface for mounting lever (**W9**).

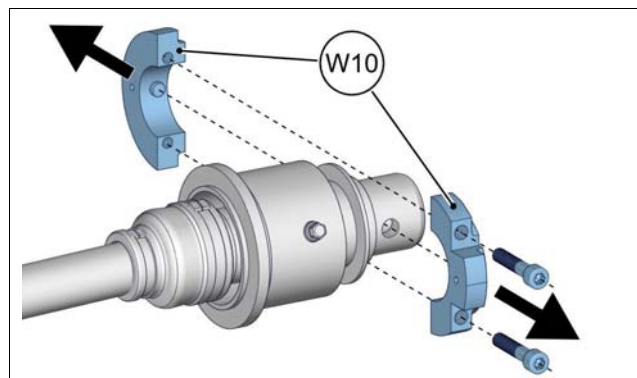


- Pull off rotating unit (**RTE**) with shaft seal (**SEA**) from output shaft of drive (**ANT**).

-  Use tool (**W9**).



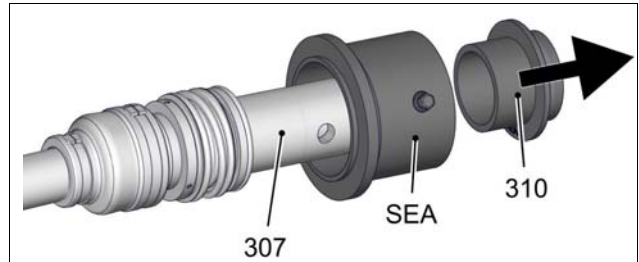
-  Dismantle tool (**W10**).





## 9.1 Dismantling

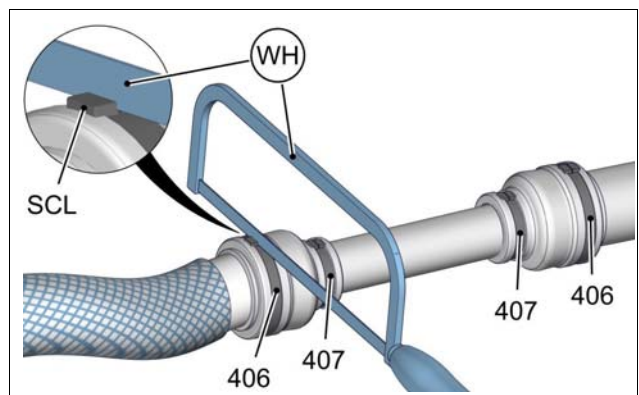
- Remove splash ring (310) and shaft seal casing (SEA) from plug-in shaft (307).
  - See dismantling of shaft seal (SEA) (→ chapter 9.4).



### 9.1.3.5 Dismantle rotor (600), coupling rod (400) and plug-in shaft (307)

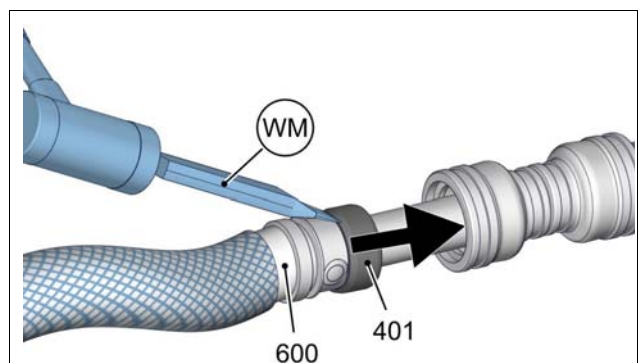
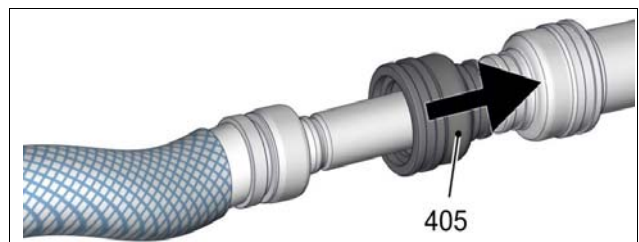
#### Dismantle holding band (406, 407)

- **⚠ CAUTION** Parts can be ejected at speed. Risk of injury to eyes. Wear safety goggles.
- Disconnect holding band loop (SCL).
  - Use suitable tools (WH).
- Press out parts of the holding band loop (SCL).
- Remove holding band (406, 407).



#### Separate joint - rotor side

- Pull back universal joint sleeve (405).
- Slide retaining sleeve (401) off rotor (600).
  - Use a suitable tool (WM).



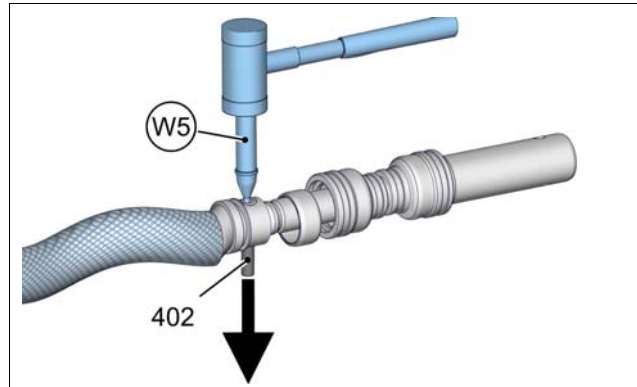


## 9.1 Dismantling



- Eject coupling rod pins (402).

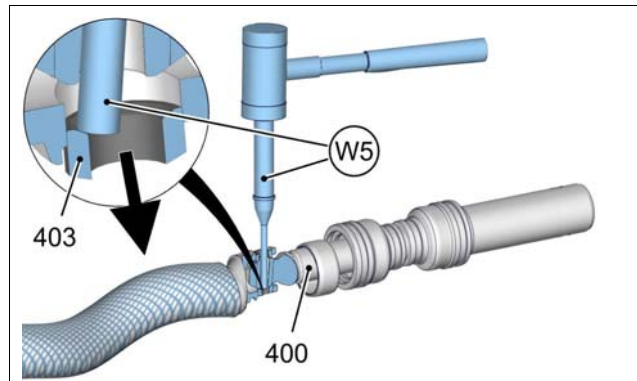
-  Use tool (W5).



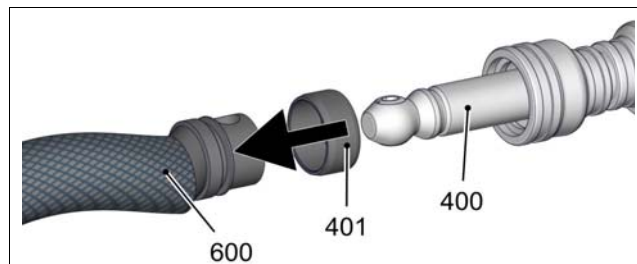
- Bend the coupling rod (400).

- Knock guide bushing (403).

-  Use tool (W5).

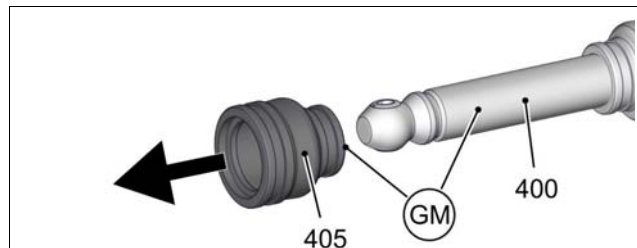


- Remove rotor (600) and retaining sleeve (401) from coupling rod (400).



- For easier dismantling, apply lubricant (GM) to the interior of the universal joint sleeve (405) and the outer surface of the coupling rod (400).

- Remove universal joint sleeve (405) from coupling rod (400).



### Separate joint - drive side

- For easier dismantling, apply lubricant (GM) to the interior of the universal joint sleeve (405) and the outer surface of the coupling rod (400).

- Remove universal joint sleeve (405) from coupling rod (400).

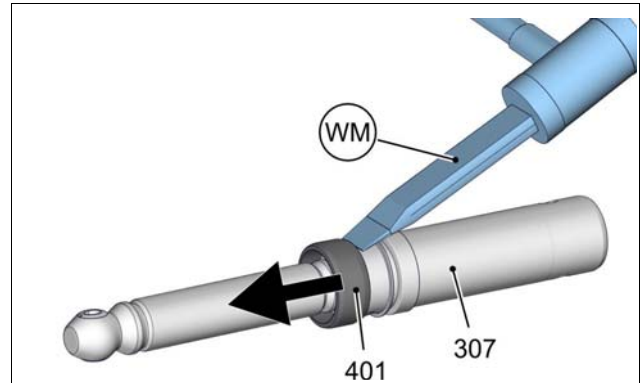




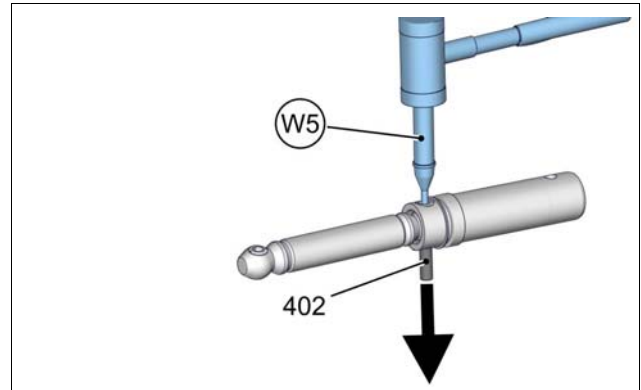



## 9.1 Dismantling

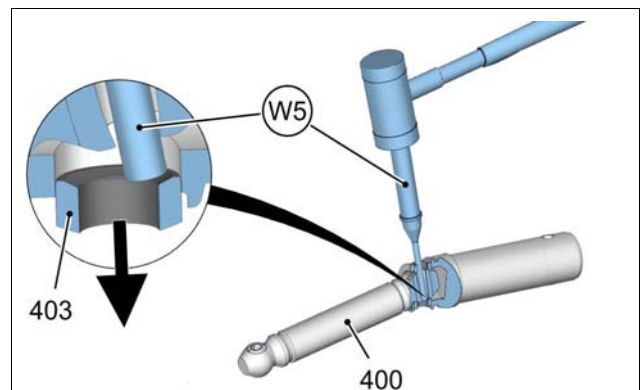
- Push retaining sleeve (401) off the plug-in shaft (307).
  - Use a suitable tool (WM).
- Remove retaining sleeve (401).



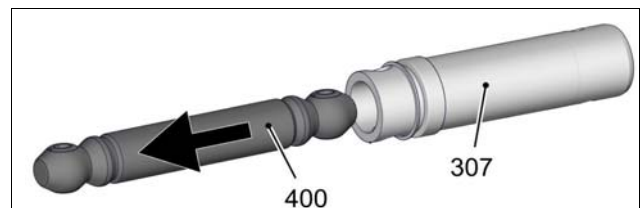
- Eject coupling rod pins (402).
  -  Use tool (W5).



- Bend the coupling rod (400).
- Knock guide bushing (403).
  -  Use tool (W5).



- Remove coupling rod (400) from plug-in shaft (307).

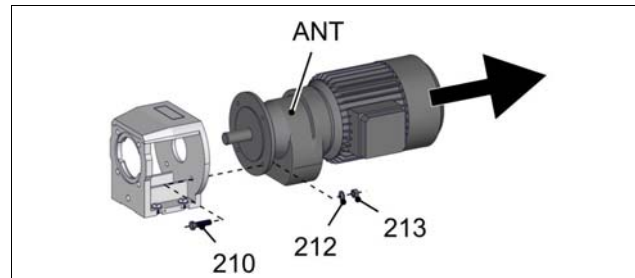


## 9.1 Dismantling



### 9.1.3.6 Dismantle drive (ANT)

- Dismantle screw fitting (210, 212, 213).
- Remove drive (ANT).



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## 9.2 Reassembly

All work steps and tools required for reassembly are specified in this chapter.

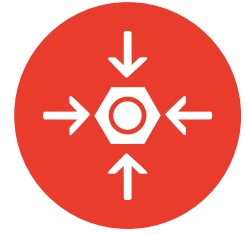
### 3-D ANIMATIONS

In addition to your SEEPEX operating and assembly instructions, 3-D animations of the individual assembly steps are available.

#### Start animations



➤ For printed operating and assembly instructions, scan the adjacent QR code.















# 9.2 Reassembly

## 9.2.1 Keep tools ready for assembly

### Recommended tools

Keep the listed tools ready (not part of the delivery scope):

Illustration	Denomination
	Hammer
	Set allen keys
	Set ring spanners size 10 - size 30
	Set fork spanners size 10 - size 30
	Screwdriver <b>(WS)</b>
	Pliers <b>(WFZ)</b>
	Centre punch <b>(WK)</b>
	Spirit level <b>(WW)</b>
	Cartridge gun <b>(WF)</b>
	Belt shears <b>(WBS)</b>





### Recommended special tools

**i**

Special tools are not part of the delivery scope.

- Order special tools using the order form (→ chapter 11).



Illustration	Denomination
	Chain wrench (W2)
	Mounting tool (W3)
	Assembly mandrel (W4)
	Drift (W5)

### Recommended auxiliary materials

Keep the auxiliary materials listed available (not included in the scope of delivery):

- Lubricant (GM)
- Anti-seize graphite petroleum (GC)
- SEEPEX joint grease (GF)

## NOTICE

### Damage to property due to inadequate lubricants (GM).

Damage to components. Contamination of the conveying medium.


- Observe resistance to the materials used and the conveying medium.
- Use suitable lubricants (GM) only.

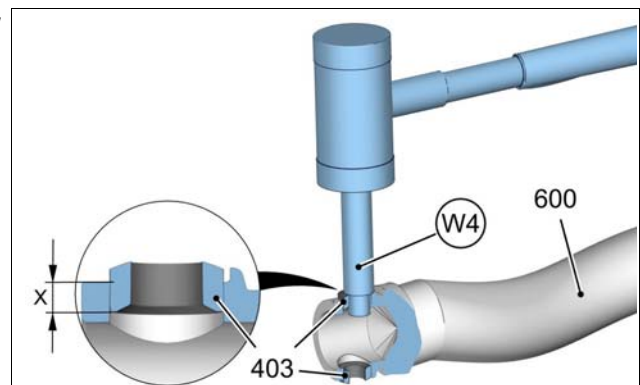
## 9.2.2 Prepare components parts for assembly

### 9.2.2.1 Prepare rotor (600) for assembly

- Remove any damage.
- Clean rotor (600).

**NOTICE** Malfunction of the joints. Malfunction and/or destruction of the joints. Renew coupling rod pin (402) and guide bushings (403) together.

- Drive in guide bushings (403)  
(Depth  $X = 2/3$ ).
  -  Use tool (W4).

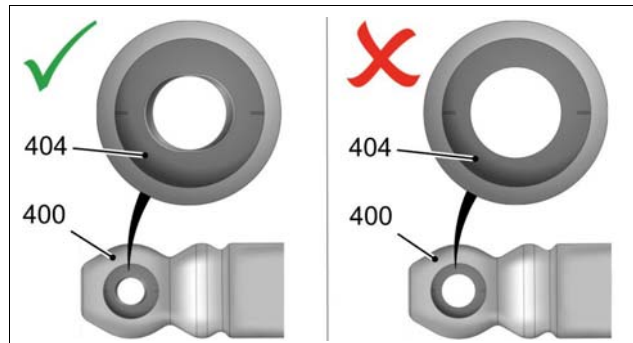


## 9.2 Reassembly



### 9.2.2.2 Prepare coupling rod (400) for assembly


- Clean coupling rod (400).
- NOTICE** Malfunction of the joints. Malfunction and/or destruction of the joints
- Check coupling rod bushings (404) for wear.
  - In the event of wear, replace coupling rod (400), including the coupling rod bushings (404).

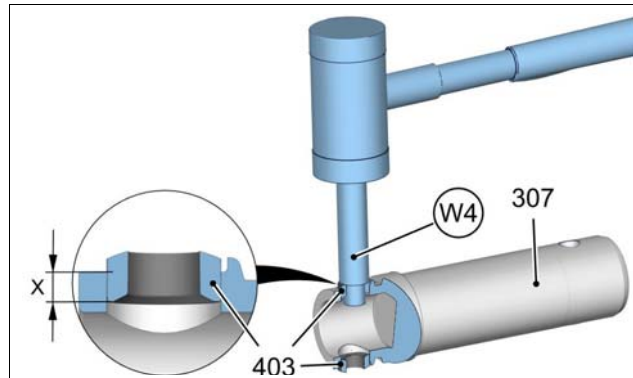


### 9.2.2.3 Prepare plug-in shaft (307) for assembly

- Remove any damage.
- Clean plug-in shaft (307).

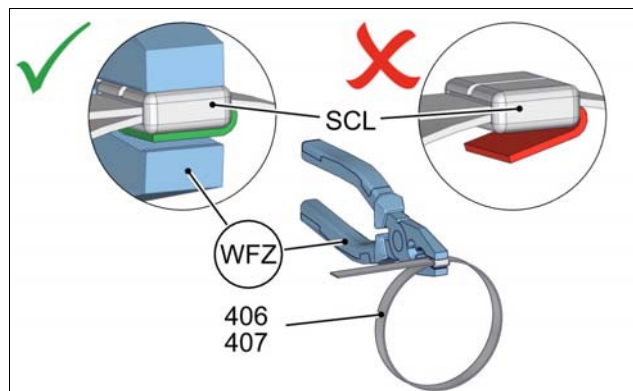
**NOTICE** Malfunction of the joints. Malfunction and/or destruction of the joints. Renew coupling rod pin (402) and guide bushings (403) together.

- Drive in guide bushings (403) (depth  $X = 2/3$ ).
  -  Use tool (W4).



### 9.2.2.4 Prepare holding band (406, 407)

- Use prefabricated double-band holding bands only.
- Check the holding band (406, 407)
  - Bent-over holding band (406, 407) is in contact with holding band loop (SCL) to avoid damaging universal joint sleeve (405).
  - Press on holding band (406, 407) using tool (WFZ) if necessary.



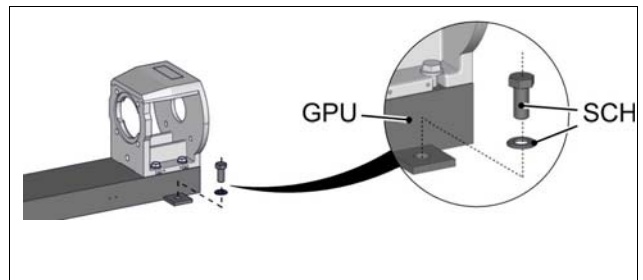


### 9.2.3 Assemble pump

**⚠ WARNING** Risk of injury due to lack of stability of pump. Crushing of body parts due to the pump or pump parts tipping or falling down.

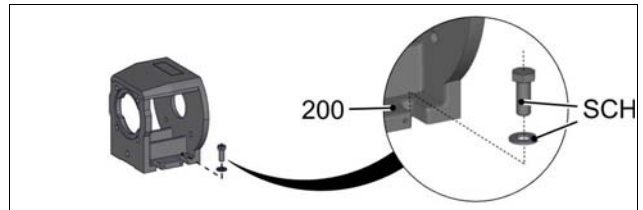
#### **Design with base plate**

- Fasten base plate (**GPU**) to secure pump.
  - Recommendation: Fasten to suitable base using a screw fitting (**SCH**).



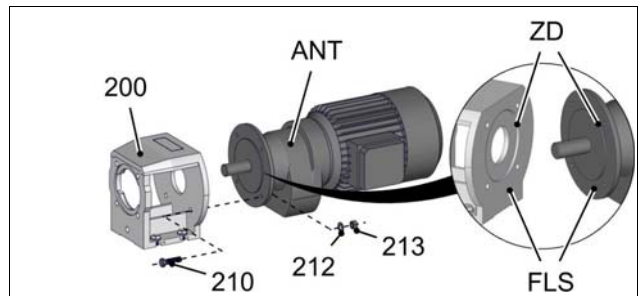
#### **Design without base plate**

- Fasten lantern (**200**) to secure the pump.
  - Recommendation: Fasten to suitable base using a screw fitting (**SCH**).



#### 9.2.3.1 Assemble drive (ANT)

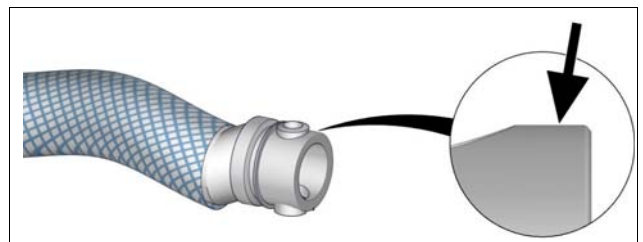
- Clean flange bearing surfaces (**FLS**), centering surface (**ZD**) and output shaft of the drive (**ANT**).
- Assemble drive (**ANT**) with screw fitting (**210**, **212**, **213**) on lantern (**200**).



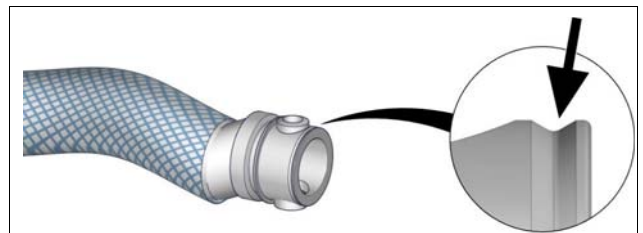
#### 9.2.3.2 Assemble rotor (600), coupling rod (400) and plug-in shaft (307)

- Determine rotor material for subsequent securing of the retaining sleeve:

- Rotor material unhardened *without* groove on rotor head.



- Rotor material hardened *with* groove on rotor head.

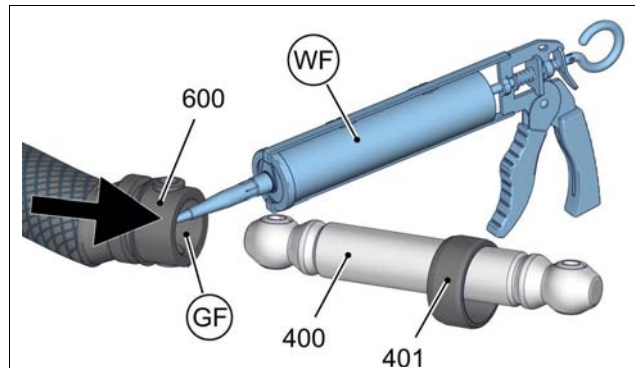


## 9.2 Reassembly

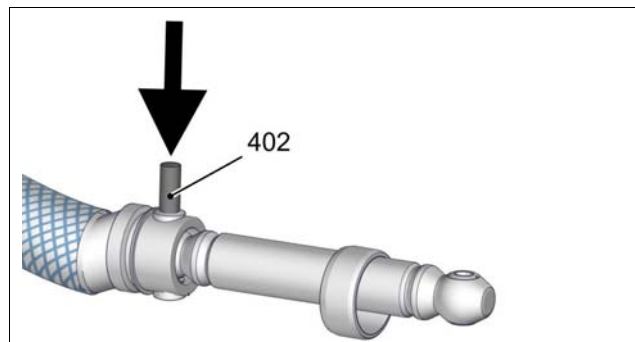



### Connect rotor (600) and coupling rod (400)

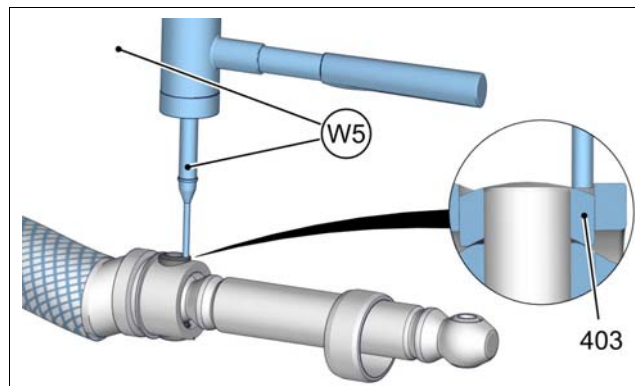
- Slide retaining sleeve (401) onto coupling rod (400).
- Fill interior of joint head with SEEPEX joint grease (GF).
  - Use tool (WF).
- Slide rotor (600) onto coupling rod (400).




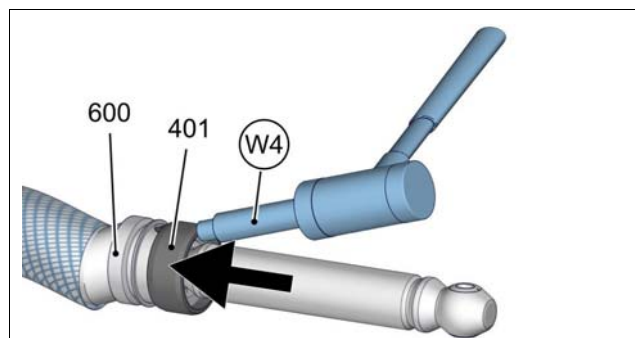
- Insert coupling rod pin (402).



- Knock the guide bushings (403) in.
  -  Use tool (W5).



- Slide retaining sleeve (401) onto rotor (600).
  -  Use tool (W4).



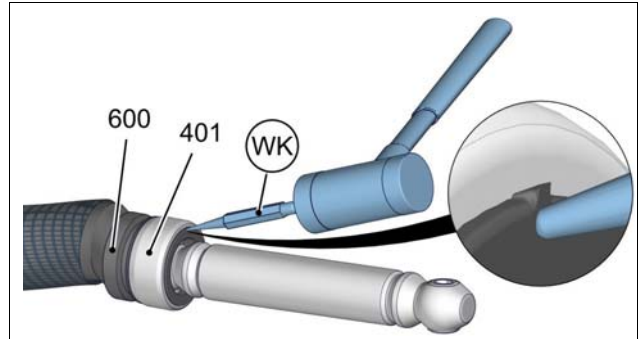




### Secure retaining sleeve (401) - rotor-side

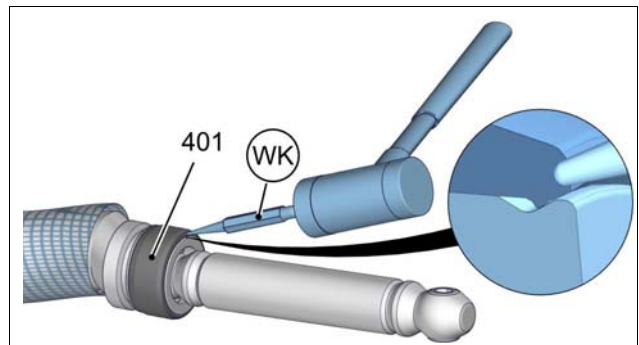
#### Design for rotor material unhardened

- Secure retaining sleeve (401) at a distance of 180° by means of material deformation at rotor (600).
  - Use a suitable tool (WK).



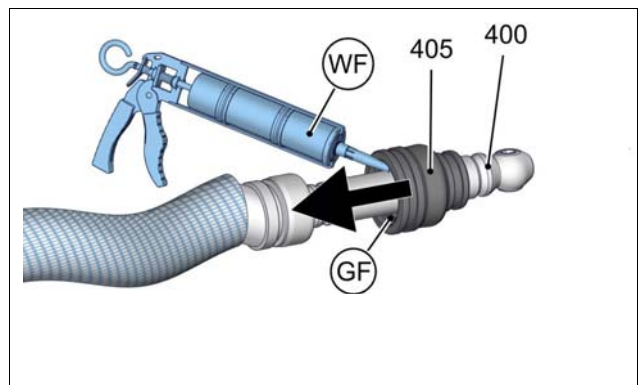
#### Design for rotor material hardened

- Secure retaining sleeve (401) at a distance of 180° by means of material deformation.
  - Use a suitable tool (WK).



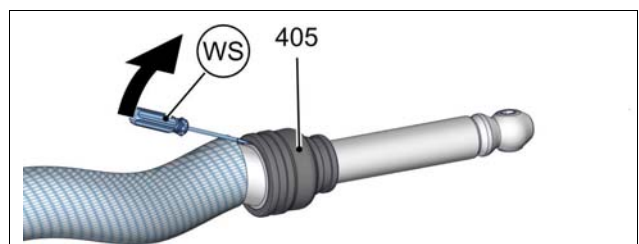
### Assemble universal joint sleeve (405) - rotor-side

- For simpler assembly of the universal joint sleeve (405), moisten the outer surface of coupling rod (400) with SEEPEX joint grease (GF).
- Fill interior of universal joint sleeve (405) with SEEPEX joint grease (GF).
  - Filling grade SEEPEX joint grease (GF) find in the document Maintenance (→ chapter 7).
  - Use tool (WF).
- Slide universal joint sleeve (405) onto joint.



**NOTICE** Damage of universal joint sleeve due to sharp tools. Leak in universal joint sleeve.

- Ventilate inner area of joint by lifting the universal joint sleeve (405).
  - Use a suitable tool (WS).

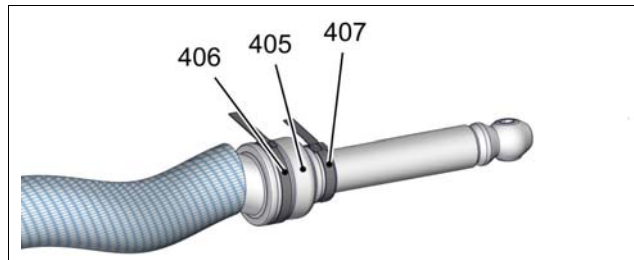


## 9.2 Reassembly

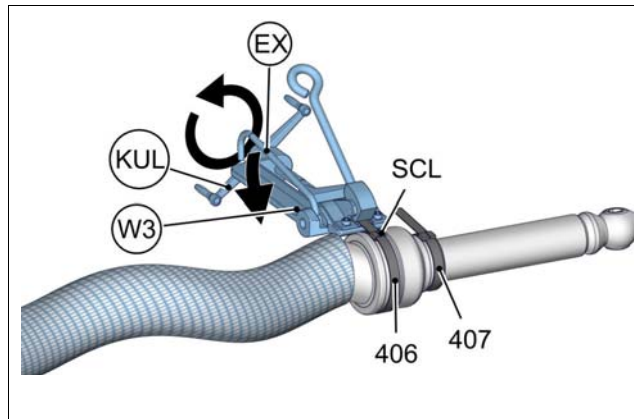


### Assemble holding band - rotor-side

- Slide holding bands (406, 407) loosely onto universal joint sleeve (405).

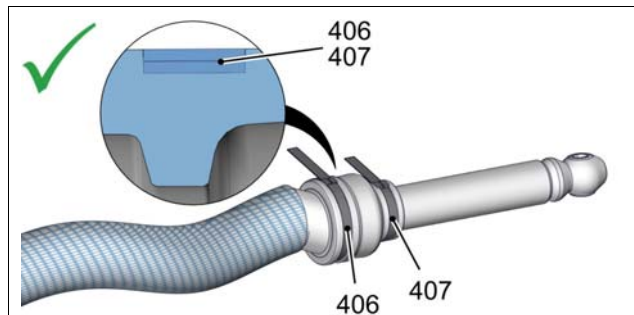


- Tighten holding band (406, 407) - rotor-side
  - Insert holding band (406, 407) into tool (W3).
  - Clamp holding band firmly using eccentric lever (EX).
  - Turn crank (KUL) until the holding band (406, 407) is tensioned and is in contact with holding band loop (SCL).
  - Carefully pull the holding band (406, 407) together until it is in contact with the universal joint sleeve around the circumference.



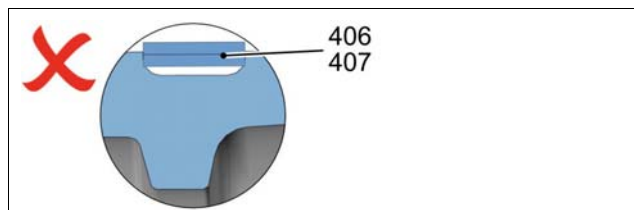
#### Correct

The holding band (406, 407) has drawn in the out shape of the universal joint sleeve and is firmly seated.



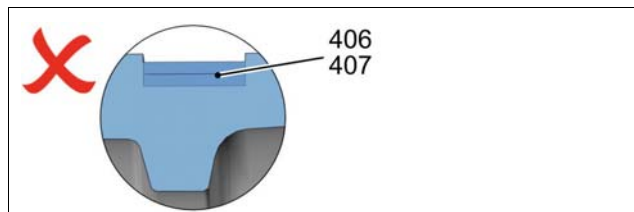
#### False

Holding band (406, 407) too loose, can slip off.




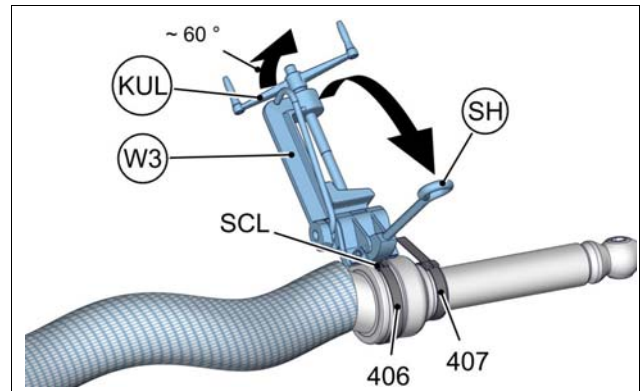
#### Incorrect

The holding band (406, 407) is too tight, universal joint sleeve will be damaged/sheared off.





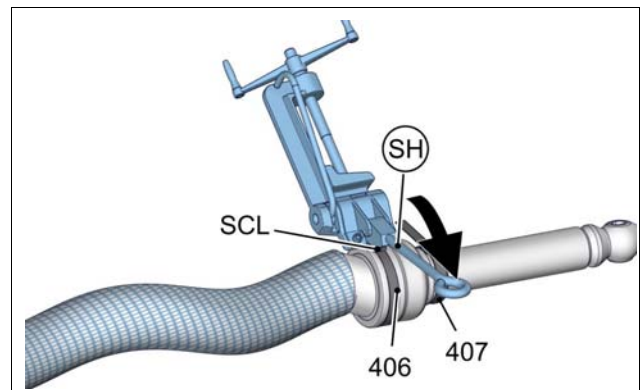
- Cant up the holding band (406, 407).
-  Swivel mounting tool (W3) approx. 60° upwards.
- Loosen crank (KUL) by a half turn.
- Swivel cutting lever (SH) forward until the pressure piece is lying behind the holding band loop (SCL).



**Shear off holding band (406, 407) for material design stainless steel, corrosion-resistant steel**

**NOTICE** Universal joint sleeve can be damaged by hammering and striking. Joint grease (GF) can leak out. Avoid hammering or striking the universal joint sleeve.

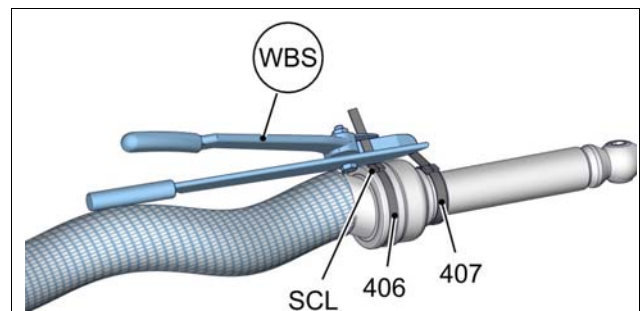
- Refer to the technical data (→ chapter 3) for the material design.
- Shear off holding band (406, 407) below holding band loop (SCL).
  - Strike cutting lever (SH) with the palm of your hand.
- Straighten the holding band (406, 407) carefully if it lifts up at the sheared-off end.



**Cut off holding band (406, 407) for material design stainless steel, heat-resistant steel**

**NOTICE** Universal joint sleeve can be damaged by hammering and striking. Joint grease (GF) can leak out. Avoid hammering or striking the universal joint sleeve.

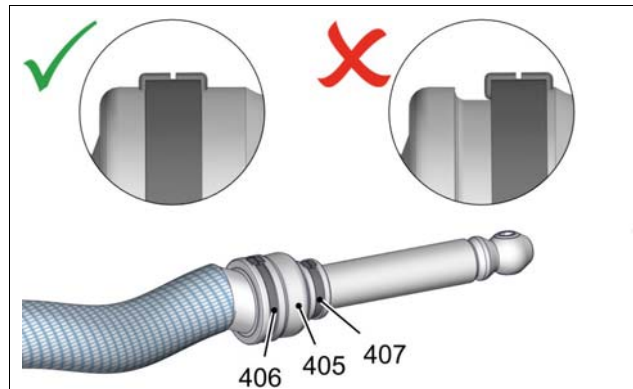
- Refer to the technical data (→ chapter 3) for the material design.
- Cut off holding band (406, 407) below holding band loop (SCL).
  - Use tool (WBS).
- File down and deburr any projecting edges.



## 9.2 Reassembly

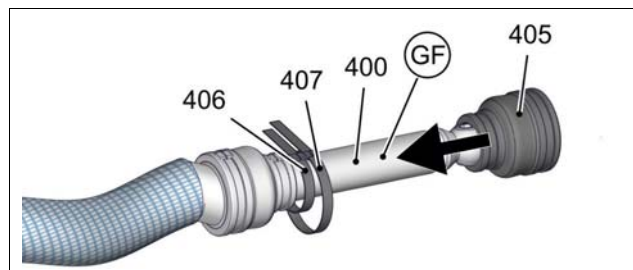


- The holding band (406, 407) must lie in the groove of the universal joint sleeve (405).
- Replace the holding band (406, 407) if the holding band (406, 407) slips back through the loop.

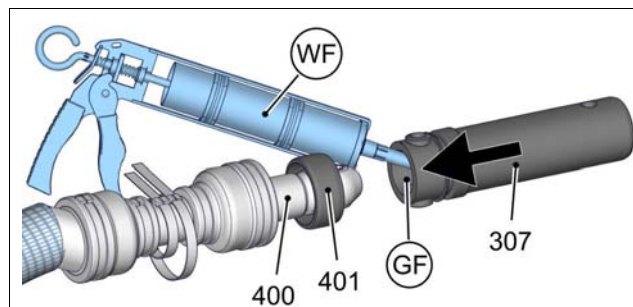


### Connect coupling rod (400) and plug-in shaft (307)

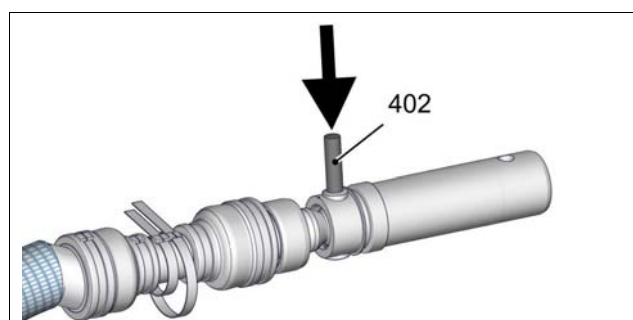
- For easier assembly of the universal joint sleeve (405), lubricate the outer surface of coupling rod (400) with SEEPEX joint grease (GF).
- Slide holding bands (406, 407) and universal joint sleeve (405) onto coupling rod (400).



- Fill interior of joint head with SEEPEX joint grease (GF).
  - Use tool (WF).
- Slide the retaining sleeve (401) and plug-in shaft (307) onto the coupling rod (400).



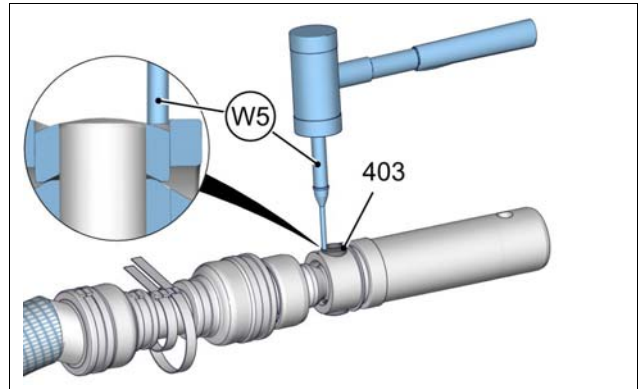
- Insert coupling rod pin (402).





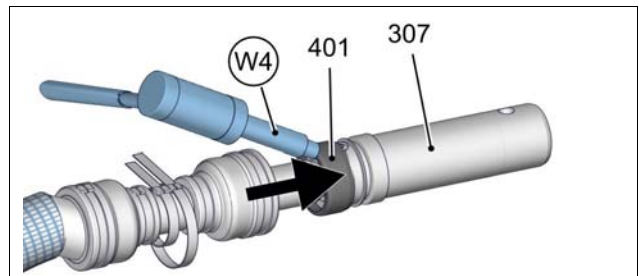
- Knock the guide bushings (403) in.

-  Use tool (W5).



- Slide retaining sleeve (401) onto plug-in shaft (307).

-  Use tool (W4).

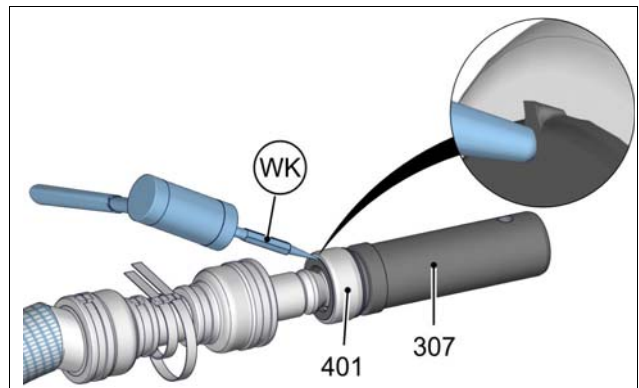


### Secure retaining sleeve (401) - drive side

#### *Design for rotor material unhardened*

- Secure retaining sleeve (401) at a distance of 180° by means of material deformation at plug-in shaft (307).

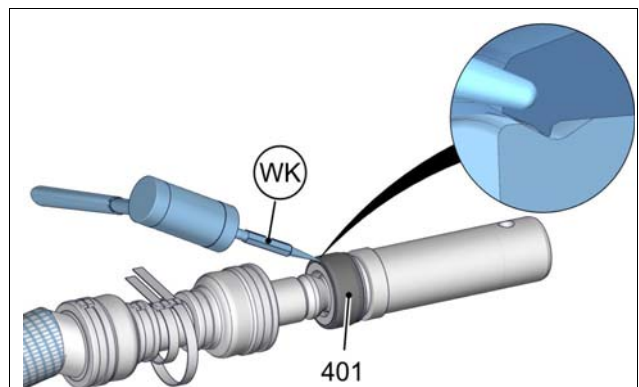
- Use a suitable tool (WK).



#### *Design for rotor material hardened*

- Secure retaining sleeve (401) at a distance of 180° by means of material deformation.

- Use a suitable tool (WK).



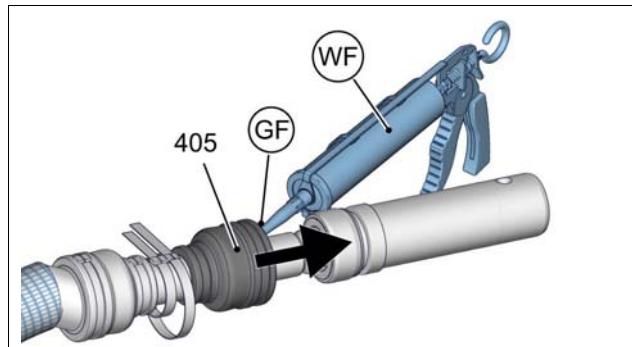


## 9.2 Reassembly



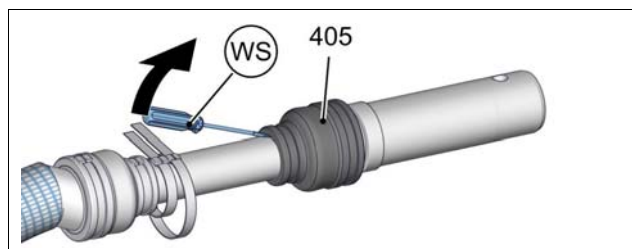
### Assemble universal joint sleeve (405) - drive side

- Fill the inside of universal joint sleeve (405) with SEEPEX joint grease (GF).
  - For filling grade of SEEPEX joint grease (GF), refer to the maintenance document (→ chapter 7).
  - Use tool (WF).
- Slide universal joint sleeve (405) onto joint.



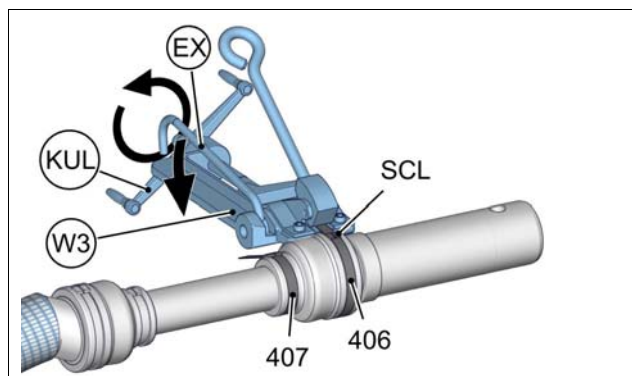
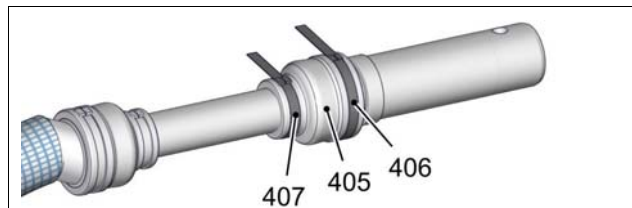
**NOTICE** Damage of universal joint sleeve due to sharp tools. Leak in universal joint sleeve.

- Ventilate inner area of joint by lifting the universal joint sleeve (405).
  - Use a suitable tool (WS).



### Assemble holding band - drive-side

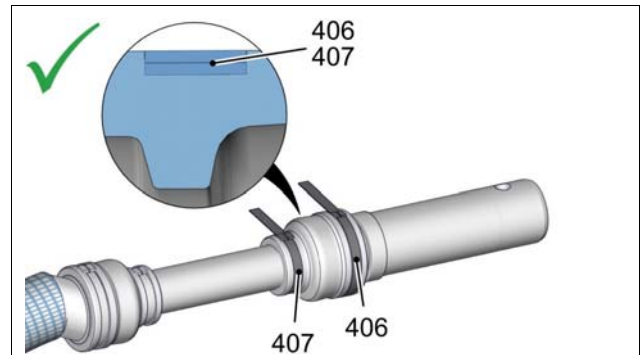
- Slide holding bands (406, 407) loosely onto universal joint sleeve (405).
- Tighten holding band (406, 407) - drive-side.
  - Insert holding band (406, 407) into tool (W3).
  - Clamp holding band firmly using eccentric lever (EX).
  - Turn crank (KUL) until the holding band (406, 407) is tensioned and is in contact with holding band loop (SCL).
  - Carefully pull the holding band (406, 407) together until it is in contact with the universal joint sleeve around the circumference.





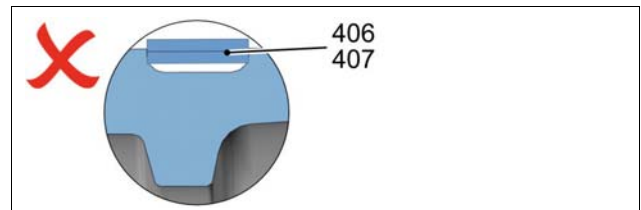
### Correct

The holding band (406, 407) has drawn in the out shape of the universal joint sleeve and is firmly seated.



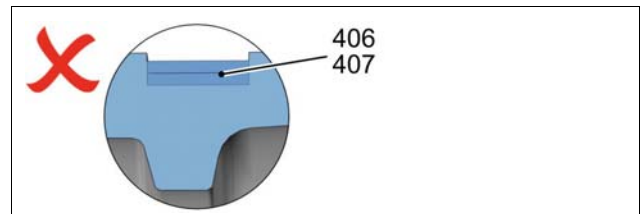
### False


Holding band (406, 407) too loose, can slip off.

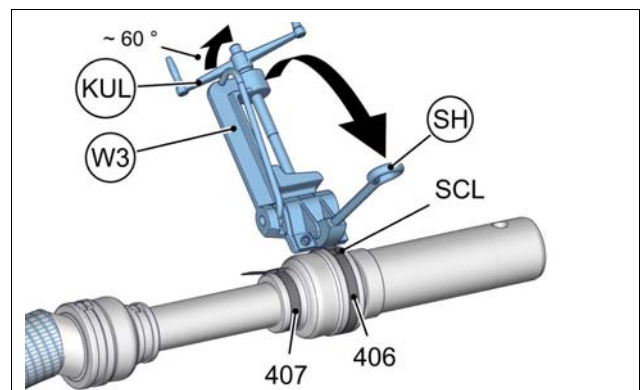


### Incorrect

The holding band (406, 407) is too tight, universal joint sleeve will be damaged/sheared off.



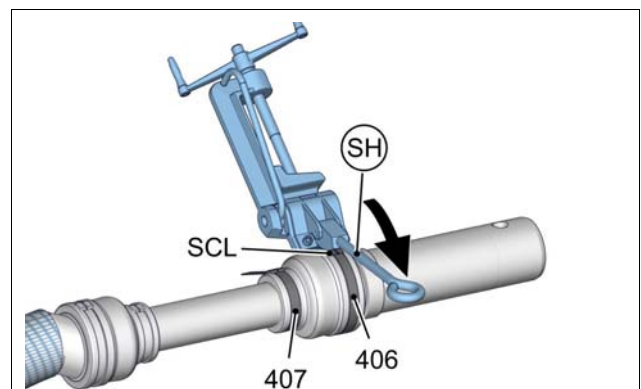
- Cant up the holding band (406, 407).
-  Swivel mounting tool (W3) approx. 60° upwards.
- Loosen crank (KUL) by a half turn.
- Swivel cutting lever (SH) forward until the pressure piece is lying behind the holding band loop (SCL).



### Shear off holding band (406, 407) for material design stainless steel, corrosion-resistant steel

**NOTICE** Universal joint sleeve can be damaged by hammering and striking. Joint grease (GF) can leak out. Avoid hammering or striking the universal joint sleeve.

- Refer to the technical data (→ chapter 3) for the material design.
- Shear off holding band (406, 407) below holding band loop (SCL).
  - Strike cutting lever (SH) with the palm of your hand.
- Straighten the holding band (406, 407) carefully if it lifts up at the sheared-off end.



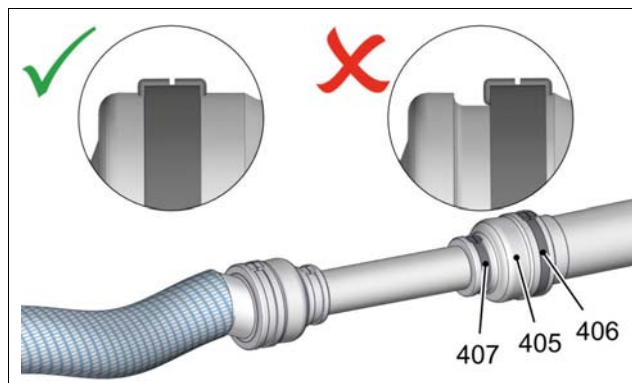
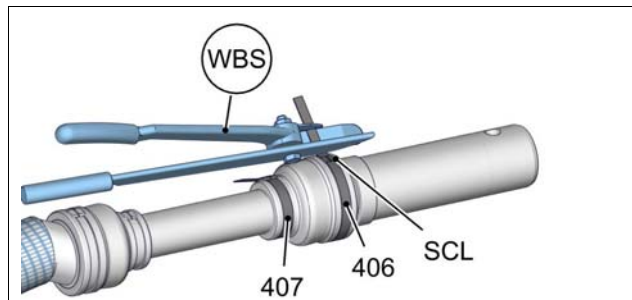
## 9.2 Reassembly



### **Cut off holding band (406, 407) for material design stainless steel, heat-resistant steel**

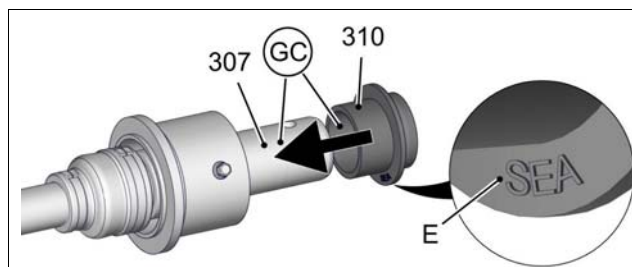
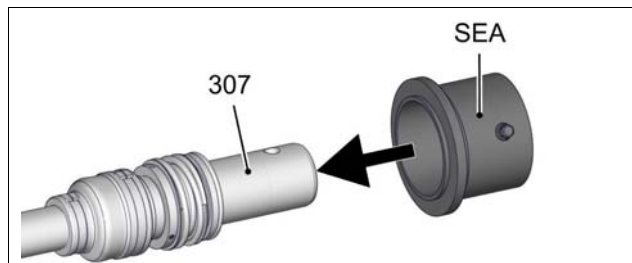
**NOTICE** Universal joint sleeve can be damaged by hammering and striking. Joint grease (GF) can leak out. Avoid hammering or striking the universal joint sleeve.

- Refer to the technical data (→ chapter 3) for the material design.
- Cut off holding band (406, 407) below holding band loop (SCL).
  - Use tool (WBS).
- File down and deburr any projecting edges.
- The holding band (406, 407) must lie in the groove of the universal joint sleeve (405).
- Replace the holding band (406, 407) if the holding band (406, 407) slips back through the loop.



### 9.2.3.3 Assemble rotating unit (RTE)

- Slide shaft seal casing (SEA) onto plug-in shaft (307).
  - See chapter Shaft seal reassembly (→ chapter 9.4).
- Moisten inner surface of splash ring (310) and outer surface of plug-in shaft (307) with anti-seize graphite petroleum (GC) for easier assembly of the splash ring (310).
- Slide splash ring (310) onto plug-in shaft (307).
  - Observe fitting position of splash ring (E) (lettering „SEA“).

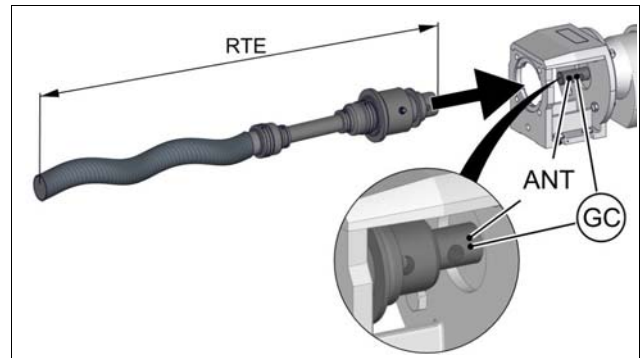






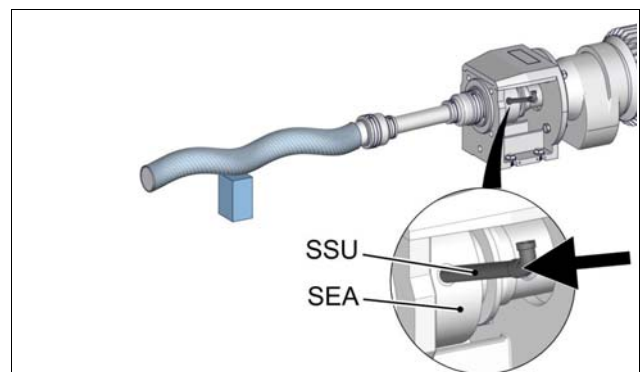
## 9.2 Reassembly

- Moisten output shaft of drive (**ANT**) with anti-seize graphite petroleum (**GC**) for easier assembly of the rotating unit (**RTE**).
- Push rotating unit (**RTE**) onto output shaft of the drive (**ANT**).



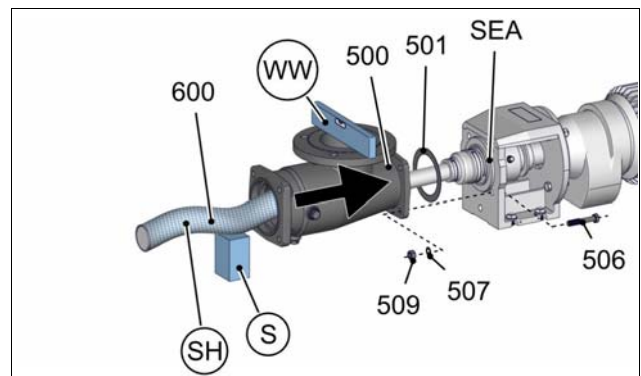
### Assemble the flush connection (SSU) (optional)

- Assemble flush connection (**SSU**).



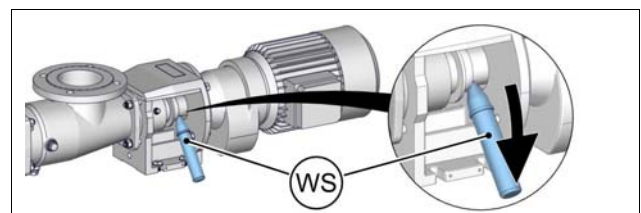
### 9.2.3.4 Assemble suction casing (500)

- Fit rotor (**600**) with protective cover (**SH**).
- Push casing gasket (**501**) onto the shaft seal casing (**SEA**).
- Assemble and align suction casing (**500**) with screw fitting (**506, 507, 509**).
  - Use spirit level (**WW**).
- Tighten screw fitting (**506, 507, 509**).
- Prop up rotor (**600**) with support (**S**).
- Remove protective cover (**SH**) from rotor (**600**).




### 9.2.3.5 Assemble stator (601)

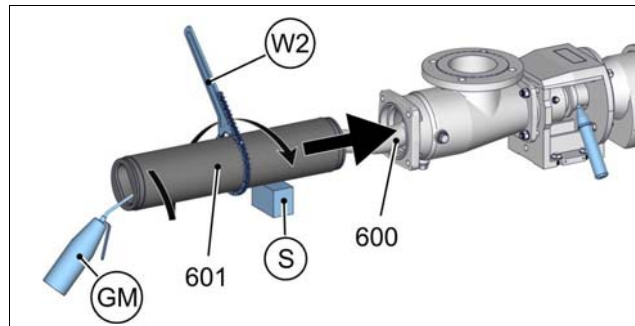
- Insert tool (**WS**) and turn downwards as locking device for stator assembly.



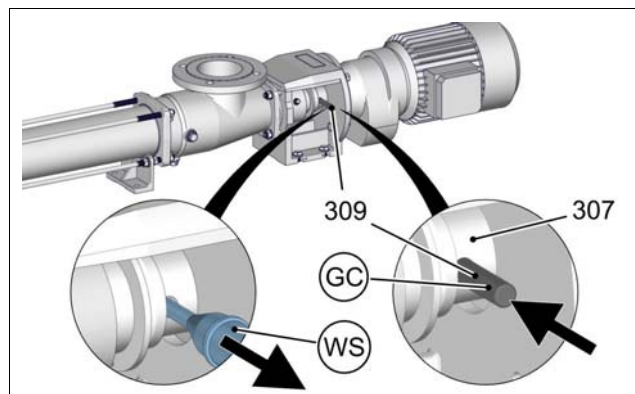
## 9.2 Reassembly



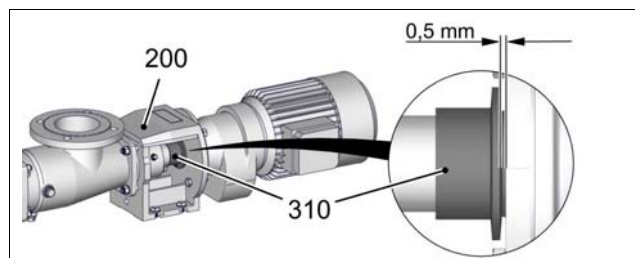
- Moisten outer surface of rotor (600) and inner surface of stator (601) with lubricant (GM) for easier assembly of the stator (601),
- Prop up stator (601) with support (S).
- Slide the stator (601) onto the rotor (600) by turning it.
  -  Use tool (W2).



- Remove tool (WS).
- Moisten the plug-in shaft pins (309) with anti-seize graphite petroleum (GC) and insert in plug-in shaft (307).



- Note position of splash ring (310).
- Insert splash ring collar at a distance of 0.5 mm from the lantern (200).



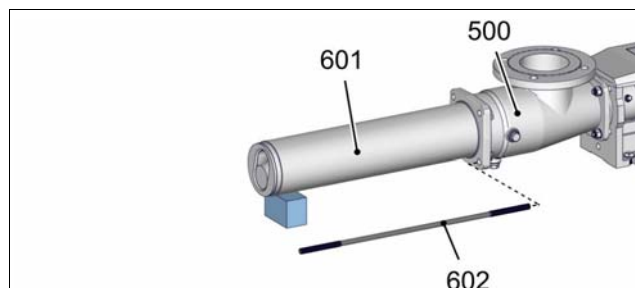
### Assemble dry-running protection device (TSE) (optional)

- Observe the chapter Options and additional accessories (→ chapter 12.1).

### 9.2.3.6 Assemble pressure branch (700)

#### Design without stator support

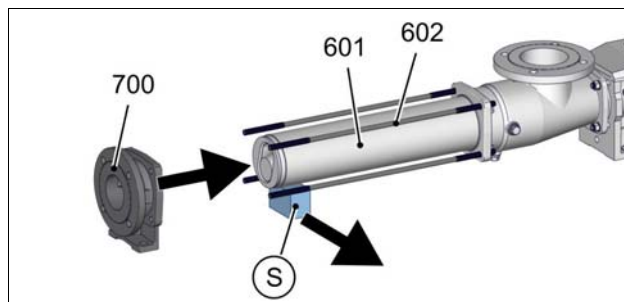
- Insert tie bolts (602) loosely into the suction casing (500).





## 9.2 Reassembly

- Push pressure branch (700) onto the stator (601).
- Insert tie bolts (602) loosely in the pressure branch (700).
- Remove the support (S).

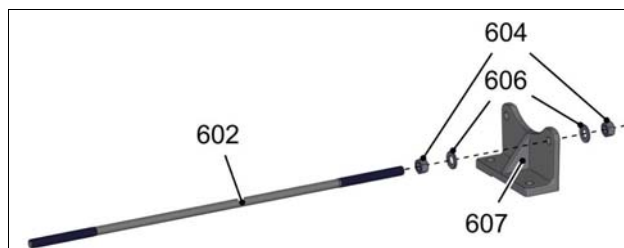


- Assemble screw fitting (604, 606).
- Tighten tie bolts (602) evenly.

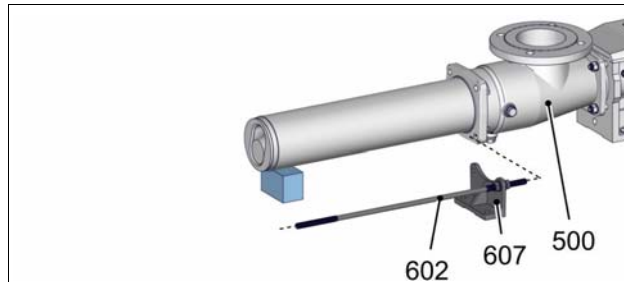


### *Design with stator support*

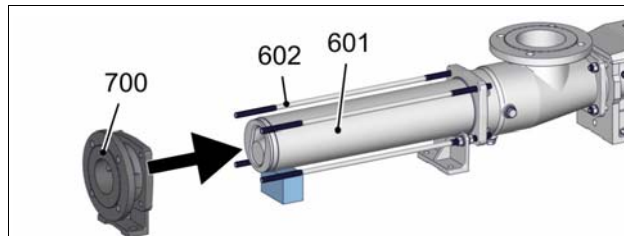
- Assemble tie bolts (602) using screw fittings (604, 606) on stator support (607).



- Insert tie bolts (602) together with stator support (607) loosely into suction casing (500).



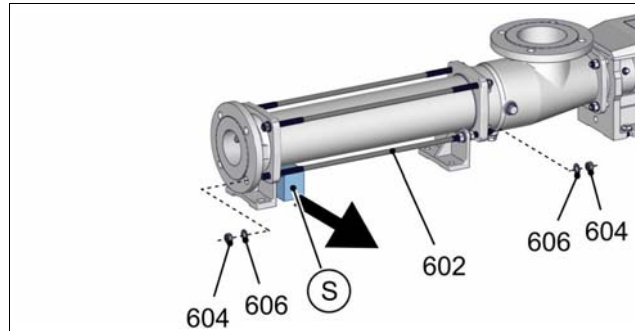
- Push pressure branch (700) on to the stator (601).
- Insert tie bolts (602) loosely in the pressure branch (700).



## 9.2 Reassembly




- Assemble screw fitting (**604**, **606**).
- Tighten tie bolts (**602**) evenly.
- Remove the support (**S**).





## 9.4 / 9.5 Shaft sealing

### 9.4.1 Safety

 <b>WARNING</b>	
<b>Shaft seal is leaky.</b> Leakage may escape into the atmosphere.	
<ul style="list-style-type: none"><li>➤ Take safety measures to protect persons and the environment.</li><li>➤ Wear suitable protective clothing.</li><li>➤ Dispose of leakage appropriately.</li><li>➤ Note applicable regulations when handling hazardous substances.</li></ul>	

### 9.4.2 Operating conditions and material combination

- Adjust to the relevant application
  - Design variants you will find at <http://www.seepex.com/en/service/downloads/>.



10.1 Spare parts list

10.2 Sectional drawing and parts list





**Version for copying**

**10.1 Spare parts list**

Spare parts can be ordered online or requested from  
[www.seepex.com](http://www.seepex.com)

**Type: BN 05-24 to 300-6L**

Request  Order

**Sender:**

**Must be included in every order or enquiry!**

**Commission:**

**Type:**

Contact: .....

Tel.: .....

Fax: .....

E-mail: .....

**Customer service:**  
seepex GmbH  
Postfach 10 15 64  
D-46215 Bottrop  
service@seepex.com

**Germany**

Tel +492041.996-231  
Fax +492041.996-431

**Rest of Europe**

Tel +492041.996-224  
Fax +492041.996-424

**Outside Europe**

Tel +492041.996-120  
Fax +492041.996-432

**Delivery address:**

.....  
.....  
.....  
.....

No.	Quantity	Component	Material	Comment
-----	----------	-----------	----------	---------

**Minor set of wearing parts**

301	1	Set of packing rings		according to data sheet (chapter 3.1)
311	1	Rinse ring		
330	1	Mechanical seal		according to data sheet (chapter 3.1)
601	1	Stator		

**Major set of wearing parts**

301	1	Set of packing rings		according to data sheet (chapter 3.1)
307	1	Plug-in shaft		
330	1	Mechanical seal		according to data sheet (chapter 3.1)
400	1	Coupling rod with coupling rod bushings		
402	2	Coupling rod pin		
403	4	Guide bushing		
405	2	Universal joint sleeve		
406	2	Holding band, large		
407	2	Holding band, small		
600	1	Rotor		
601	1	Stator		

Place, date

Signature / company stamp

## Version for copying

No.	Quantity	Component	Material	Comment
<b>Set of gaskets</b>			<input type="checkbox"/>	
301	1	Set of packing rings		according to data sheet (chapter 3.1)
310	1	Splash ring		according to data sheet (chapter 3.1)
330	1	Mechanical seal		
501	1	Casing gasket		
503	3	Sealing ring		
511	2	O-ring/cleaning cover		
517	2	Sealing ring		
706	1	Sealing ring		
<b>Plug-in shaft &amp; shaft seal</b>			<input type="checkbox"/>	
301		Set of packing rings		according to data sheet (chapter 3.1)
307		Plug-in shaft		
309		Plug-in shaft pin		
310		Splash ring		according to data sheet (chapter 3.1)
330		Mechanical seal		according to data sheet (chapter 3.1)
<b>Coupling rod &amp; joint parts</b>			<input type="checkbox"/>	
400		Coupling rod with coupling rod bushings		
401		Retaining sleeve		
402		Coupling rod pin		
403		Guide bushing		
405		Universal joint sleeve		
406		Holding band, large		
407		Holding band, small		
401-407		Complete set of joint parts		
<b>Conveying elements</b>			<input type="checkbox"/>	
600		Rotor		
601		Stator		
<b>Miscellaneous parts</b>			<input type="checkbox"/>	
501		Casing gasket		
098		Pin joint grease		1 cartridge = 300 g (approx. 315 cm <sup>3</sup> ) Grease quantity according to maintenance (chapter 7._)

Place, date

Signature / company stamp

**Version for copying**

Spare parts can be ordered online or requested from  
[www.seepex.com](http://www.seepex.com)

**Must be specified with every order!**

Commission:

\_\_\_\_\_

Mark tool!

Sender:

Contact: .....

Tel.: .....

Fax: .....

E-mail: .....

**Customer service:**

seepex GmbH  
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**Rest of Europe**

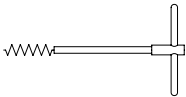

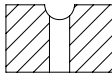
Tel +492041.996-224  
Fax +492041.996-424

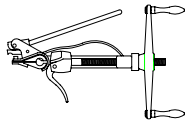
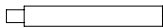

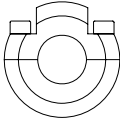
**Outside Europe**


Tel +492041.996-120  
Fax +492041.996-432

**Delivery address:**

.....  
.....  
.....  
.....  
.....

For installation of:	Packing gland	Stator	Coupling rod bushings	
Tool no.	W1 <input type="checkbox"/>	W2 <input type="checkbox"/>	W14 <input type="checkbox"/>	
Denomination:	Packing lever	Chain pipe wrench + replacment chain	Pressing tool	
Order no.	PKZ	KRZ	PWZ	
				

For installation of:	Rotating unit			
	Holding band	Joint	Joint	Plug-in shaft
Tool no.	W3 <input type="checkbox"/>	W4 <input type="checkbox"/>	W5 <input type="checkbox"/>	W10 <input type="checkbox"/>
Denomination:	Mounting tool	Assembly mandrel	Drift	Dismantling tool
Order no.	MHB	MTD	DHS	AZV
				

For installation of:	General			
Tool no.	W9 <input type="checkbox"/>			
Denomination:	Mounting lever			
Order no.	MHL			
				



### 12.1 Accessories/Technical information

- Accessories and technical information are commission specific documents not part of this not binding operating and assembly instruction.



### 13.1 Manufacturer's and supplier's documents

- Manufacturer's and supplier's documents are commission specific documents and not part of this not binding operating and assembly instruction.







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