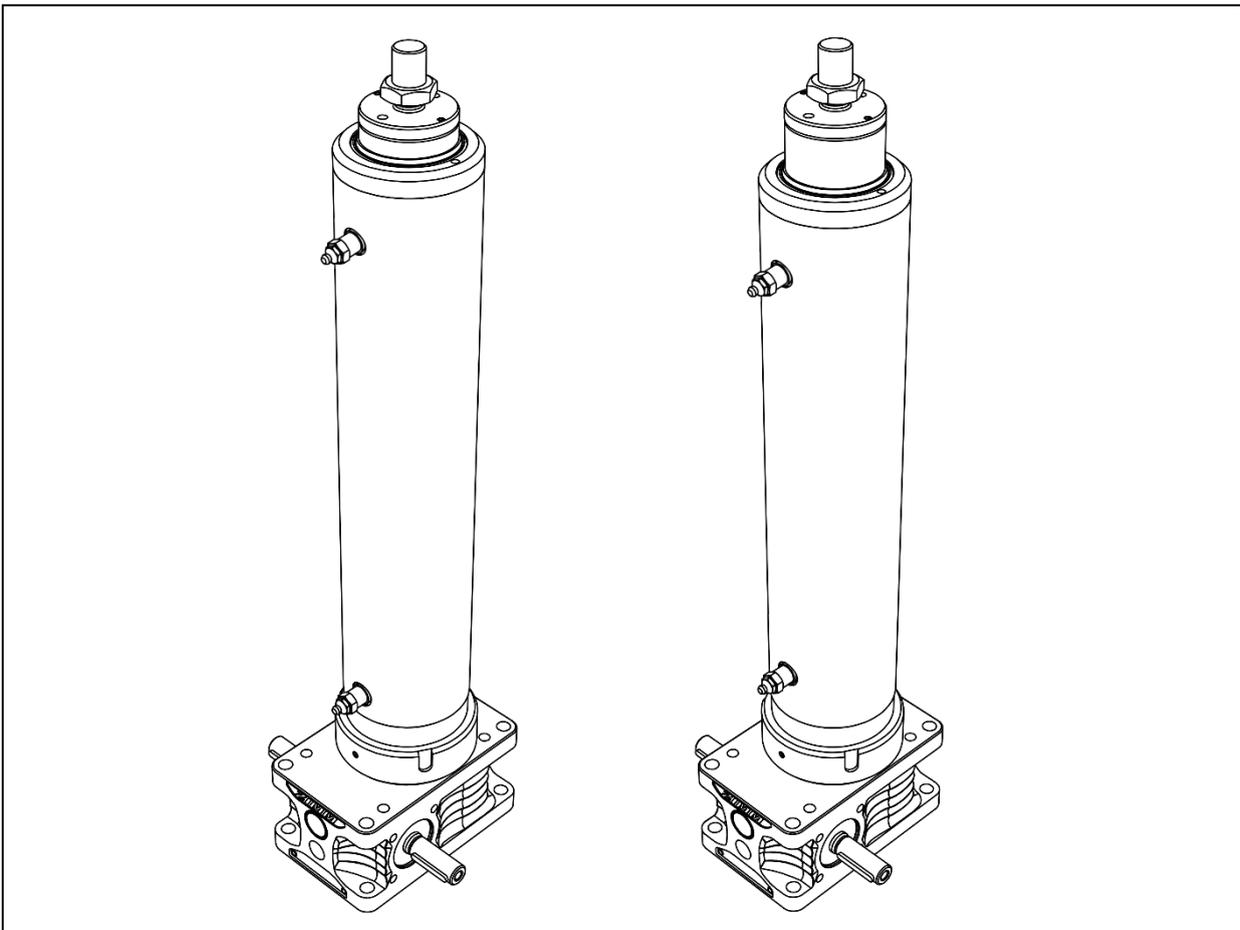


Instruction manual

Installation – Operation – Maintenance – Inspection

ZIMM Actuator

ZA-25 to ZA-200



Translation of the original instruction manual

Publisher

ZIMM GmbH
Millennium Park 3
6890 Lustenau/Austria
Tel.: 0043 (0) 5577 806-0
Fax: 0043 (0) 5577 806-8
e-mail: info@zimm.com
Internet: <https://www.zimm.com>

Author

ZIMM GmbH

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Further interesting information on lifting systems and suitable components and their design can be found in our "screw jacks" catalog.



1 About this document

1.1 Use of this instruction manual

This instruction manual forms part of the ZIMM Actuators.

- Before using the equipment read the instruction manual carefully.
- Keep the instruction manual safe throughout the working life of the equipment.
- Keep the instruction manual available to operating and maintenance personnel at all times.
- Pass the instruction manual to any subsequent owner or user of the equipment.
- Keep the instruction manual updated with any supplements issued by the manufacturer.

1.2 Symbols and identifying marks

Symbol	Meaning
 DANGER	Hazards to personnel Disregard will lead to death or serious injuries.
 WARNING	Hazards to personnel Disregard may lead to death or serious injuries.
 CAUTION	Hazards to personnel Disregard may lead to minor injuries.
CAUTION	Information for avoiding damage to property
 NOTE	Notes for understanding or optimising working procedures
✓	Precondition to an operation
→	Single step operation requirement
1. ... 2. ...	Multi-step operation requirement → Comply with the sequence

Tab. 1: Symbols and identifying marks

2 Safety

The ZIMM Actuator has been produced to modern standards and recognised safety regulations. Nevertheless hazards to life and limb of the users or third parties, or risks of damage to the ZIMM Actuator and other property may arise during use.

- The ZIMM Actuator may be used only when it is in technically good condition and in compliance with the instruction manual.
- Have any defects rectified without delay.
- Do not perform any unauthorised modifications to the ZIMM Actuator.
- Fit only original spare parts from ZIMM GmbH.

2.1 Use for the intended purpose

The ZIMM Actuator is suitable only for lifting, lowering, tilting and advancing movements within the specified lifting capacity ranges. Responsibility to ensure correct use lies with the user.

Screw jacks may be used only in the context and within the limits specified in our catalogues and brochures.

To ensure compliance with the statutory limits for electromagnetic compatibility, the ZIMM Actuator may be used only within industrial applications as defined in EN 50 081-2.

Use for any purpose other than these intended purposes constitutes improper use.

If in doubt regarding the application of the ZIMM Actuator, consult ZIMM GmbH before proceeding.

2.2 Duties of the operating company

- Ensure that the ZIMM Actuator is operated and maintained only in compliance with this instruction manual and the rules and regulations applicable in the country of use.
- Ensure that the personnel
 - responsible for operating the ZIMM Actuator are authorised,
 - are trained and qualified for the respective work,
 - have read and understood this instruction manual,
 - know the applicable safety rules and
 - wear personal safety equipment (safety gloves, safety helmet and safety shoes).

3 Scope of supply

The ZIMM Actuator is delivered in sufficiently secure packaging to prevent possible damage in transit.

The scope of supply of the ZIMM Actuators includes the following parts:

- ZIMM Actuator
- This instruction manual
- Further parts as listed on the delivery note

4 Description of the product

4.1 Overview

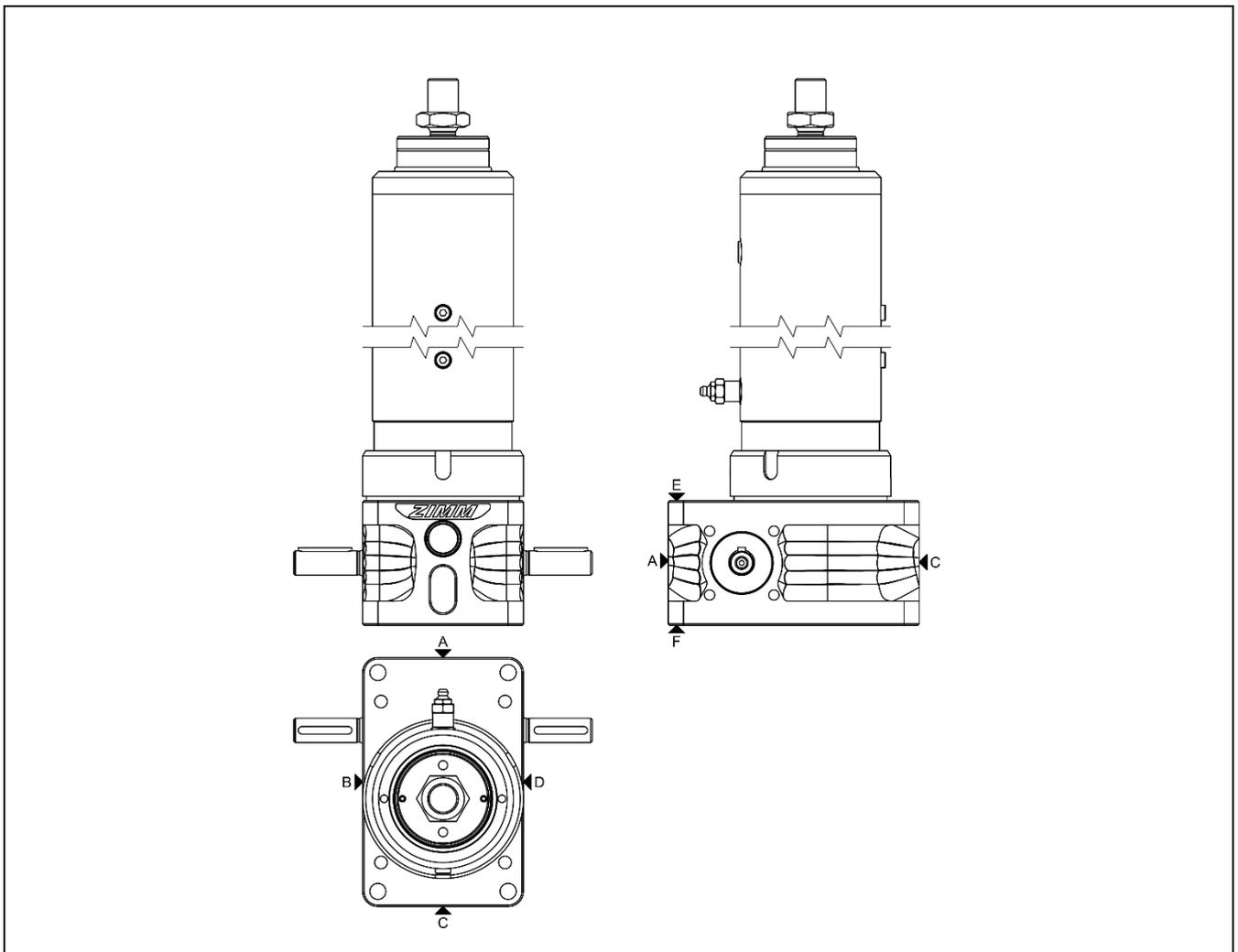


Fig. 1: Overview ZIMM Actuator

A to F: Faces of the ZIMM Actuators.

4.2 Rating plate

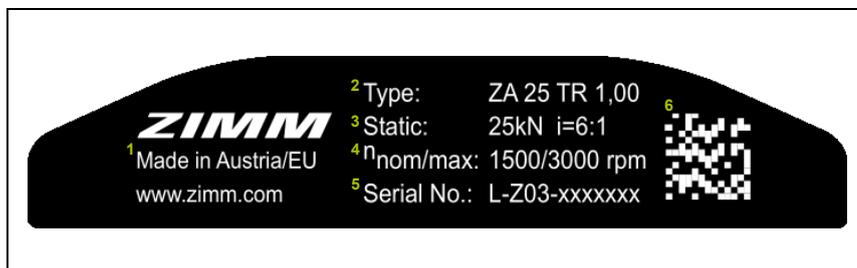
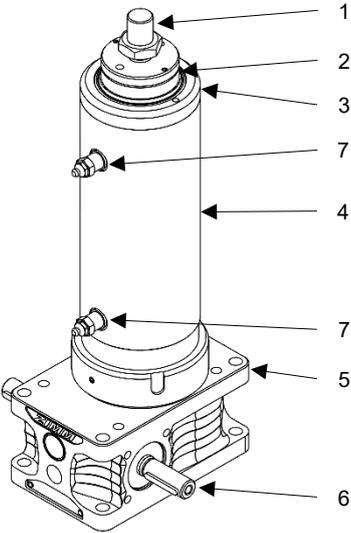


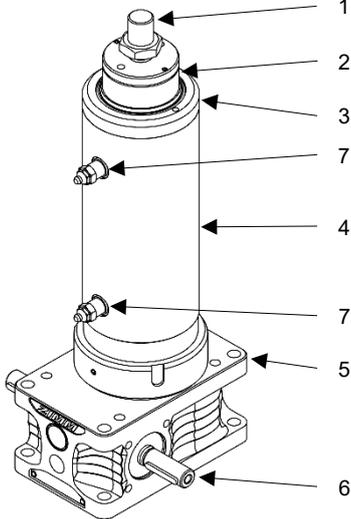
Fig. 2 Example of a rating plate

- | | | | |
|---|---|---|--------------------------------------|
| 1 | ZIMM contact data | 4 | Rated speed |
| 2 | Type designation | 5 | Serial number |
| 3 | Maximum static load actuator
(spindle etc. not considered) | 6 | Serial number as
Data Matrix Code |

4.3 Versions/variants

Variant	
ZA-series, (with Trapezoidal screw spindle TR)	

- | | |
|-----------------|---|
| 1 Mounting head | 5 Housing, ZE series |
| 2 Thrust tube | 6 Drive shaft |
| 3 Head nut | 7 Lubrication of spindle and anti-rotation lock |
| 4 Cylinder tube | |

ZA-series, (with Ball screw drive KGT)	
---	---

- | | |
|-----------------|---|
| 1 Mounting head | 5 Housing, ZE series |
| 2 Thrust tube | 6 Drive shaft |
| 3 Head nut | 7 Lubrication of spindle and anti-rotation lock |
| 4 Cylinder tube | |

4.4 Grease nipple

ZIMM Actuators have grease nipples that ensure easy and clean lubrication of the screw drives and the anti-rotation lock.

 HINWEIS
--

→ For optimal lubrication, use an automatic and controlled lubricator (PLC-capable).
--

5 Transport and storage

5.1 Transport

WARNING

Falling load!

Falling loads may lead to serious injuries.

- Make sure that the lifting slings that are used are securely attached and cannot slip.
- Do not remain under a suspended load.
- Wear personal safety equipment.

CAUTION

Heavy weight!

Injuries from parts weighing 25 kg and above.

- Transport the heavy ZIMM Actuators (max. 25 kg perperson).

CAUTION

Damage to the ZIMM Actuator!

- On receipt, check the packaging for signs of damage.
- Do not let the ZIMM Actuator drop, and do not subject it to impacts.
- Use appropriate lifting gear as necessary.

Bending of the thrust tube or spindle!

- Handle long and thin thrust tubes with particular care to avoid damage.

ZIMM Actuator

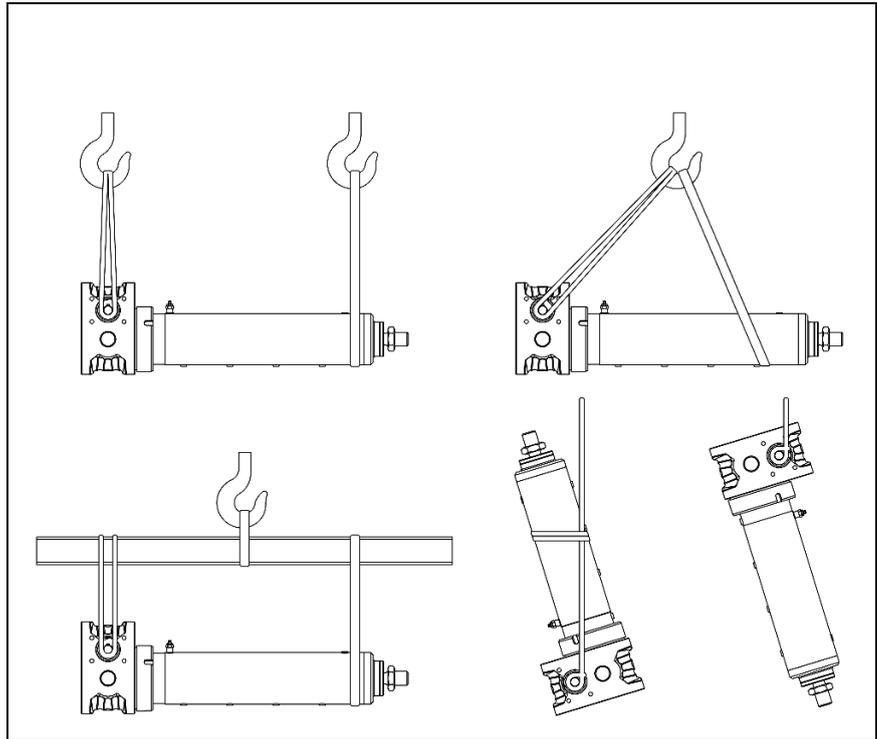


Fig. 3: Examples for transporting the ZIMM Actuator

- ➔ When lifting with a crane, attach the slings to the lifting points provided.
- ➔ When lifting the ZIMM Actuator for transport, spread the weight as evenly as possible across all the lifting points.

Securing for transport

For secure attachment, insert ring bolts or ring nuts to the gearbox.

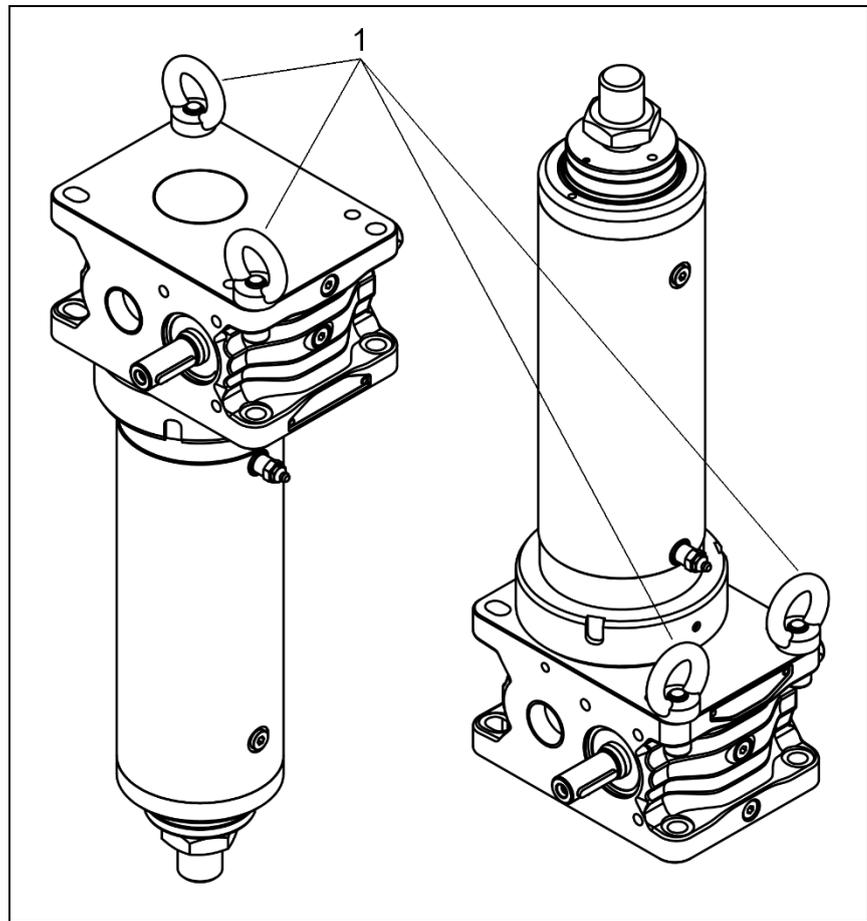


Fig. 4: Fit ring bolts (1) or ring nuts (not supplied)

5.2 Storage**CAUTION****Incorrect storage!**

Damage due to corrosion.

- ➔ Store only in enclosed and dry rooms.
- ➔ Protected against soil moisture.
- ➔ Do not store for more than a brief period in areas that although roofed still allow free circulation of air from outside.
- ➔ Perform commissioning not later than 1 year after delivery (the dispatch from ZIMM is the relevant date).

- ➔ For other storage conditions and storage times:
Consult ZIMM GmbH.

6 Installation

CAUTION

Laceration, trapping and crushing hazards!

- Switch off the entire system and secure it against switching on again.
- Allow only skilled and trained personnel to perform the work.
- Do not remove the covers that are fitted.
- Wear personal safety equipment.

Sharp edges!

Laceration hazard.

- Wear safety gloves.

CAUTION

High forces are generated!

Material damage to the entire system and the ZIMM Actuator.

- Ensure that the following installation conditions are satisfied:
 - Limit switches are not overrun.
 - For parallelism and angularity tolerances: see section 6.1, page 15.
 - Directions of rotation and movement are correct for all components.
 - Safety clearance between moving and fixed parts is maintained.

Lack of self-locking!

Material damage to the entire system and the ZIMM Actuator due to lack of self-locking for spindles with ball screw drive KGT.

- Spring pressure brake FDB or brake motor provided.
- Make sure that the thrust tube does not reach the hard stop during assembly.

CAUTION**The system will run on!**

Material damage to the entire system and the ZIMM Actuator due to running on.

- The run-on travel may increase after the running-in phase.
- If necessary provide a spring pressure brake FDB or brake motor.

NOTE

Additional hazards may arise during installation and operation of the overall system.

- Comply with regional regulations and take necessary measures (such as risk assessment).
- Document all additional hazards in the documentation for the overall system.

6.1 Installing ZIMM Actuator and bevel gear drives

- ✓ Pay attention to the maximum permissible lateral load on the mounting head of the ZIMM Actuator.
- ✓ Protect the thrust tube from damage and do not twist it with force.

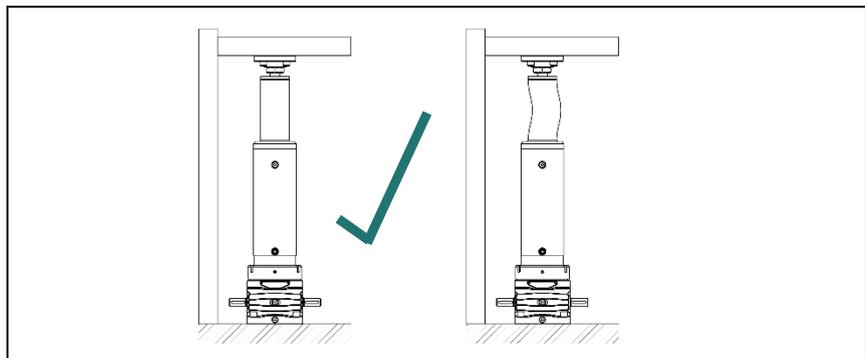


Fig. 5: Pay attention to the maximum lateral load on the mounting head.

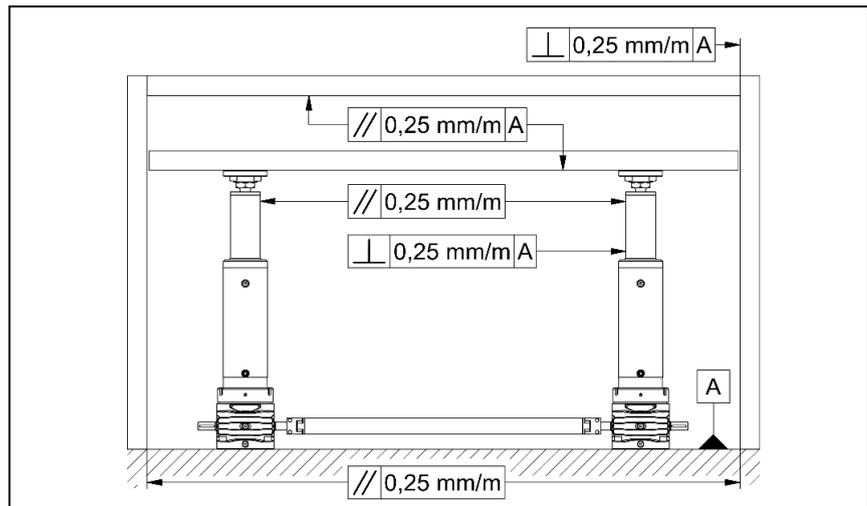


Fig. 6: Flatness, parallelism and angular accuracy

1. Set up the ZIMM Aktuator and ensure compliance with the installation accuracy, and ensure straight alignment of the spindle attachment (e.g. with precision machine spirit level).
2. Install the ZIMM Actuator with bolts, tighten the installation bolts.
3. Mount the screws for sizes 50 and 100 of the ZA series on the elongated holes with washers (e.g. according to DIN 1441). Mount the spindle head (see Fig. 9), fix the locking screws with screw locking (e.g. Loctite) and mount the lock nut (up to size 100).

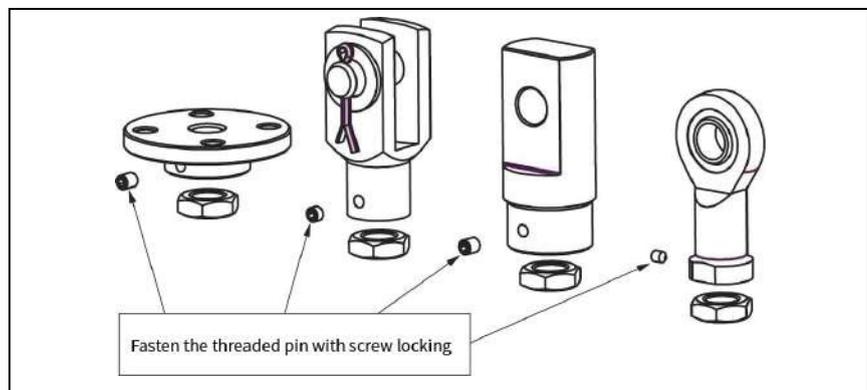


Fig. 7: Fix parts such as Fixing flange, Forked end, Pivot bearing end, Rod end, after setting the position.

Bevel gear drive

The T version can be turned round to change the direction of rotation.

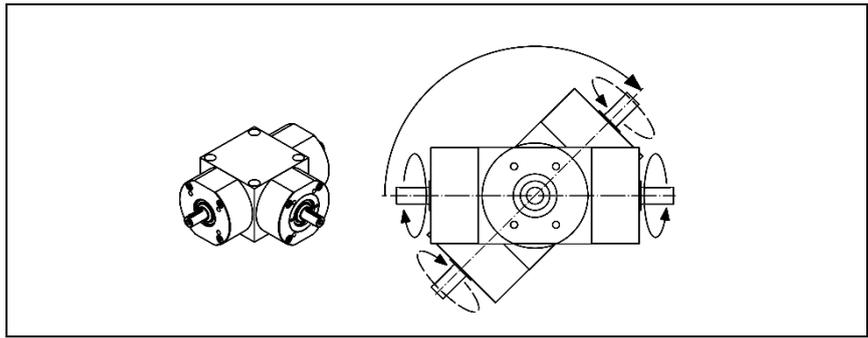


Fig. 8: T version (bevel gear drive)

➔ Check the direction of rotation at installation.

6.2 Fitting the couplings and connecting shafts

- ✓ The ZIMM Actuator to be connected must have been fully installed.
- ✓ The bevel gear drives must be installed where appropriate.

⚠ CAUTION

Moving parts!

Injuries due to rotating parts.

➔ Switch off the entire system and secure it against switching on again.

1. Place the connecting shaft on the shaft extensions (ZIMM Actuator or bevel gear drives). Check that the gearboxes are correctly levelled.
2. Secure the coupling half shells with attachment bolts tightened to the following torques:

Connecting shaft	Coupling	Torque
VWZ-30	KUZ-KK-16	4 Nm
VWZ-40	KUZ-KK-24	8 Nm
VWZ-60	KUZ-KK-32	15 Nm
VWZ-60V	KUZ-KK-35	35 Nm
VWZ-80	KUZ-KK-45	70 Nm
VWZ-100	KUZ-KK-60	120 Nm

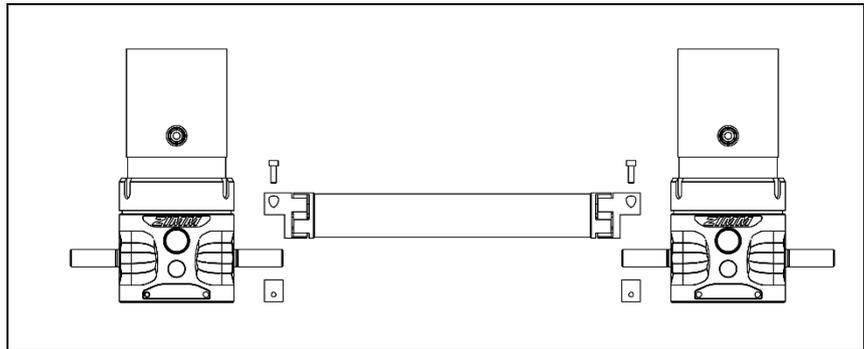


Fig. 9: Installation of connecting shafts

CAUTION

Axial joining force!

Damage to the roller bearings, circlips etc.

- Use a suitable fixture to draw the connecting parts together.
- Do not apply blows or impacts to the shaft extensions.

3. Pull the couplings KUZ (couplings without half shells) on to the shaft extensions. Tighten the set screw to the following torques:

Size KUZ-..	Set screw	Torque
09, (14)	M4	1.5 Nm
24, 28	M5	2.0 Nm
14, 19, 38	M6	4.8 Nm
45, 55, 60	M8	10 Nm
70, 75, 90	M10	17 Nm

For increased security the set screw can be secured using “medium strength” thread locking agent.

6.3 Fitting the motor

- ✓ The ZIMM Actuator must be installed.

⚠ CAUTION

Moving parts!

Injuries due to rotating parts.

➔ Switch off the entire system and secure it against switching on again.

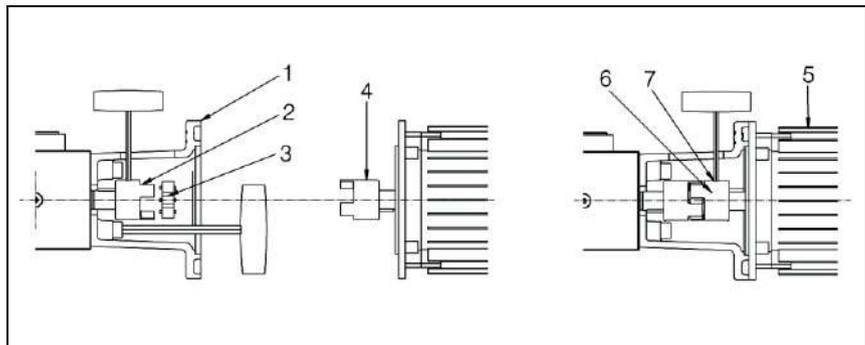


Fig. 13: Installing the motor

1. Fit the motor flange (1) to the ZIMM Actuator and bolt it into place.
2. Fit the coupling halves (2) to the gearbox shaft and bolt them into place.
3. Attach the coupling star (3).
4. Pull the motor-side coupling halves (4) on to the motor shaft.
5. Attach the motor (5) to the motor flange and bolt it into place.
6. Fit the motor-side coupling halves (6) as follows:
 - Slide them on to the gearbox-side coupling halves, leaving 1 mm axial play.
 - Tighten the securing bolt (7).
 - If the coupling halves cannot be slid on to the motor shaft: Adjust the position before step 5 and tighten them.
7. Seal the assembly opening in the motor flange with a suitable covering material.

6.4 Connecting the electrical components

WARNING

Electric shock!

Electric shock can lead to death or serious injuries.

- ➔ Allow only skilled electricians to work on the electrics.
- ➔ Comply with the basic rules:
 - Deenergise the system.
 - Secure it against switching on again.
 - Ensure all phases are electrically dead.
 - Earth and short-circuit the system.
 - Cover any adjacent parts that are still live.

6.4.1 Motor

- ✓ The motor (if supplied) must be installed.
1. Open the motor terminal box. The connection assignment is shown within the motor terminal box.
 2. Connect the motor in accordance with the circuit diagram.

6.5 Trial running

- ✓ The system must be installed and aligned.
- ✓ The spindle must be greased (for more information see section "7.2 Lubrication", page 27).

CAUTION

Lateral forces due to incorrect alignment!

Damage to the gearbox and spindle.

1. If the alignment is defective: Correcting the alignment, see section 6.6, page 22.
2. Repeat the trial run.

High forces are generated!

Damage to the ZIMM Actuator.

- ➔ Make sure that the limit switches or end positions are not exceeded.
- ➔ Make sure that attachments do not collide with other parts.

! HINWEIS

→ Make sure that the mechanism that is actuated can move along the entire stroke path.

- Run the screw jack over the complete travel in both directions. When doing this, comply with the following:
- Run the screw jack slowly and carefully.
 - As far as possible, run it with no load or with only a small load.
 - Current consumption should be within the normal range, and should be constant.
Major fluctuations indicate alignment errors and stresses.
 - Monitor the temperature and avoid overheating, especially where the travel is long and multiple runs are performed successively.
 - Avoid overrunning the limit switch (optional).

6.6 Correcting the alignment

If necessary, the alignment can be corrected without much trouble.

- ✓ Spindle and anti-rotation lock lubricated (for more information see section “7.2 Lubrication”, page 25)

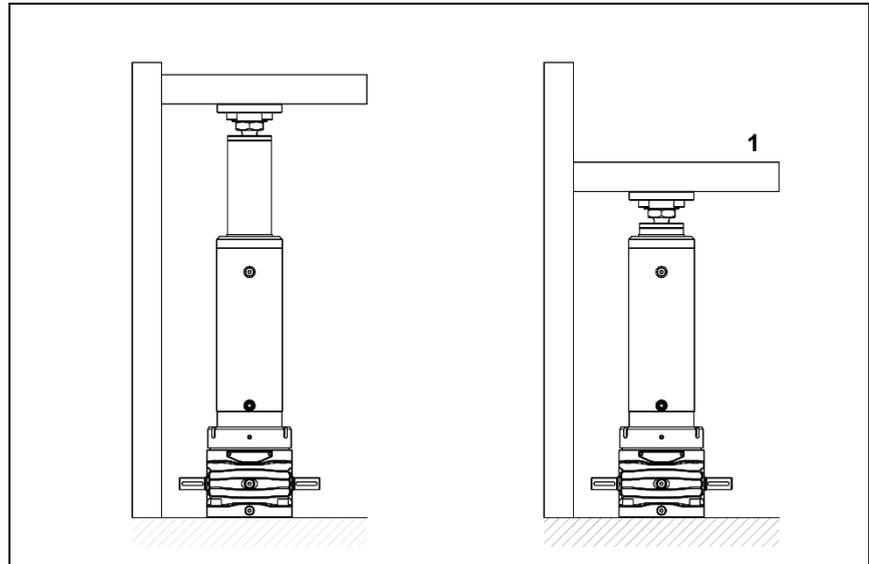


Fig. 18: Correctly aligned ZIMM Actuator

1. Loosen the fastening screws on the gearbox housing and on the head.
2. Fully retract the jack (1).
3. Tighten the securing bolts.
4. Repeat the trial run (see section 6.5, page 20).

6.7 Commissioning

- ✓ The ZIMM Actuator together with its attachments must be installed and connected.
- ✓ Spindle and anti-rotation lock lubricated (for more information see section "7.2 Lubrication", page 25).
- ✓ The trial run must have been completed successfully.

CAUTION

High forces are generated!

Damage to the ZIMM Actuator.

- ➔ Make sure that the limit switch (optional) and end bearings are not overrun.
- ➔ Make sure that attachments do not collide with other parts.

! HINWEIS

- ➔ Make sure that the mechanism that is actuated can move along the entire stroke path.

1. Check all screw fastenings once again.
2. Perform a trial run with operating load.
When doing this, comply with the following:
 - Torque must be constant.
 - Current consumption must be constant.
 - Operating temperature must be within the normal range.
 - The limit switch (if fitted) or the end bearings must not be overrun.
3. If a safety nut SIFA is available. Measure and note down dimension "A" (see fig. 20). This dimension in new condition serves as a comparative measure in the further course of operation in order to be able to evaluate the wear (see chapter 7.1.1.)

6.8 Running-in phase

The running-in phase of the ZIMM Actuator lasts as a rule between 20 and 50 operating hours. A higher torque and higher operating temperature must be expected during this period.

The torque may be up to 50% higher during the running-in phase than in subsequent operation.

7 Operation and maintenance

WARNING

Lifting movements within the hazard zone!

Serious injuries or death.

→ Leave the hazard zone and secure it.

7.1 Inspection

For problem-free operation, the ZIMM Screw Jack must be inspected regularly:

- The first inspection should be no later than after 1 month
 - Further inspections should be performed at least annually
1. Record the inspections, for a template see "Appendix: Inspection certificate", page 38.
 2. If necessary, perform Troubleshooting, see section 7.3, page 34.
- If problems cannot be localised and rectified:
Contact ZIMM GmbH.

7.1.1 Visual check

- ✓ Switch off the machine and secure it against switching on again.
1. Check the greasing of the spindle, if necessary regrease and revise the maintenance interval.
 2. Check the screws for the attachments and couplings/connecting shafts and if necessary retighten them.
 3. If a safety nut SIFA is fitted: Check wear in accordance with the Fig. 20 (right hand picture) .
 - Make a note of dimension "A" and compare it with the set value.
 - Maximum permissible wear: 25% of the screw pitch.
 - If electronic monitoring is fitted, this check is not required.

Screw jacks [TrØxP]	Pitch P [mm]	max. permissible wear/ thread play (25% von P) [mm]
Tr30x6	6	1,5
Tr40x7	7	1,75
Tr50x8	8	2,0
Tr55x9, Tr60x9	9	2,25

Tr70x12	12	3
Tr80x16	16	4,00

- If the maximum permissible wear is exceeded, replace the ZIMM Actuator.

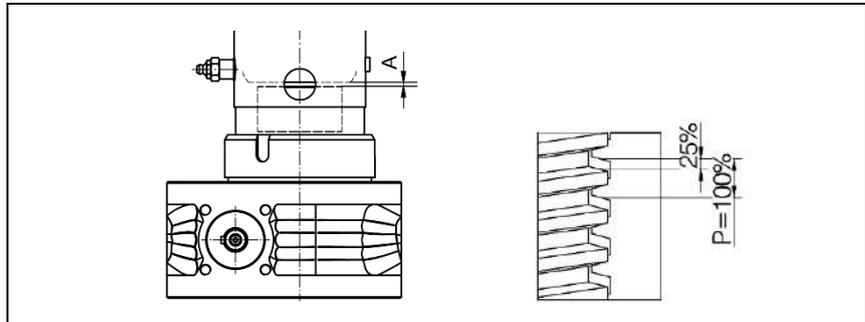


Fig. 12: Safety trap nut SIFA: Dimension "A" for comparison when checking wear

4. Visually check the coupling stars.
5. Allow the machine to run, checking for the following:
 - Running without jerking and vibration
 - No excessive noise
 - Constant current consumption
 - Temperature rise within the -permissible range

7.2 Lubrication

Good lubrication and use of the correct lubricants are critical for the correct operation and working life of the ZIMM Actuator.

Each ZIMM Actuator application has different requirements, therefore the values specified in the following section are only recommendations.

! NOTE

ZIMM standard greases are not hazardous substances.

➔ Contact ZIMM for the safety data sheets.

7.2.1 ZIMM Actuator Lubricate gearboxes

The gearboxes of ZIMM Actuators are sealed and filled with high-quality synthetic fluid grease.

Under normal operating conditions the gearbox is lubricated for life.

7.2.2 Lubricating bevel gear drives

Bevel gear drives are filled with synthetic oil and under normal operating conditions lubricated for life.

7.2.3 Lubricate the spindle with TR trapezoidal screw drive and anti-rotation lock

Quantities for lubricating new trapezoidal screw spindles TR:

TR Ø (mm)	ZA-25		ZA-50		ZA-100		ZA-200	
TR Ø (mm)	30	40	40	50	55	60	70	80
Quantity (ml/m)	23	30	30	38	41	45	53	60

! NOTE
The ZIMM Actuator is delivered ex works with initial lubrication

Intervals Lubrication quantity during 100 km working stroke, relubricate every 1 km working stroke

Size	ZA-25		ZA-50		ZA-100		ZA-200	
TR Ø (mm)	30	40	40	50	55	60	70	80
Grease quantity (ml)	900	1200	1200	1500	1650	1800	2100	2400

! NOTE
The lubrication interval depends on the application.
➔ Lubrication positions must be within ±2 mm.
➔ Lubrication should be adjusted in extreme situations (high load, long duty cycle or fast travel). ZIMM will be happy to advise you.

Lubricants



Standard grease for all sizes: Tugrease BS

CAUTION

Unsuitable grease!

Damage to the spindle.

- Do not use multi-purpose grease.
- Do not mix greases.
- When changing the grease: Clean the spindle then regrease it.
- If necessary use special grease.
- Use only greases that are approved by ZIMM GmbH.
- ZIMM will be pleased to give advice.

⚠ WARNING

Warning: Burn hazards!

Operating temperature too high.

- Let the ZIMM Actuator cool down.

1. Lubrication position SP1 or SP2 should approach ± 2 mm.
2. Remove the protective cap from the grease nipple.
3. Press the connection of the grease gun onto the grease nipple.
4. Fill the lubricant.

! NOTE

Simple greasing during operation.

- Use an automatically controlled lubricator (e.g. PLC capable) instead of grease gun.
- ZIMM will be pleased to give advice.

There are different greases for different applications.

- High temperature
- Low temperature
- Food processing industry
- Heavy-duty applications
- etc.

→ ZIMM will be pleased to give advice.

7.2.4 Lubricate the spindle with ball screw drive BSD and anti-rotation lock.

The values from the following table can be used as guide values for lubricating ungreased BSD nuts [ml]:

increase \ BSD-Ø	32	40	50	80
5	3	4	-	-
10	8	15	20	60
20	12	20	40	160

NOTE

The ZIMM Actuator is delivered ex works with initial lubrication

Intervals Lubrication quantity during 100 km working stroke, relubricate every 5 km working stroke.

Size	ZA-25			ZA-50			ZA-100		ZA-200	
BSD	32x5	32x10	32x20	40x5	40x10	40x20	50x10	50x20	80x10	80x20
Grease quantity (ml)	72	72	72	72	70	72	120	120	240	240

NOTE

The lubrication interval depends on the application.

- Lubrication positions must be approached to within ± 2 mm.
- In extreme situations (high load, long duty cycle or fast travel) lubrication should be adjusted. ZIMM will be happy to advise you.

Greases

Standard grease for Ball screw drive KGT
Part no.: Castrol Tribol GR 4747/220-2 HT,
400 ml cartridge

CAUTION**Unsuitable grease!**

Damage to the spindle.

- Do not use multi-purpose grease.
- Do not mix greases.
- When changing the grease: Clean the spindle then regrease it.
- If necessary use special grease.
- Use only greases that are approved by ZIMM GmbH.
- ZIMM will be pleased to give advice.

WARNING**Danger of burns!**

Operating temperature too high.

- Let the ZIMM Actuator cool down.

1. Approach lubrication position SP1 or SP2 to ± 2 mm.
2. Remove the protective cap from the grease nipple.
3. Press the connection of the grease gun onto the grease nipple.
4. Fill the lubricant.

! NOTE

Simple greasing during operation.

- ➔ Instead of a grease gun, use an automatically controlled lubricator (e.g. PLC capable)
- ➔ ZIMM will be pleased to give advice.

There are different greases for different applications.

- High temperature
 - Low temperature
 - Food processing industry
 - Heavy-duty applications
 - etc.
- ➔ ZIMM will be pleased to give advice.

7.2.5 Automatic lubrication

! NOTE

Controlled lubricator (e.g. PLC capable).

- ➔ Flow rate of the controlled lubricator from 0.2 ml to 0.5 ml per lubricant stroke.
- ➔ Approach lubrication position SP1 or SP2 to ± 2 mm.
- ➔ The opposite side of the lubrication position must be ventilated.
- ➔ The lubrication point to be ventilated is always at the top.
- ➔ ZIMM will be happy to advise you.

Ventilate the SML2 lubrication point in a vertical position.

When hanging vertically, ventilate at lubrication point SML1.

When installed horizontally, ventilate as desired (SML1 or SML2).

Sintered metal silencers from pneumatics can be used for ventilation. In this case, the ZIMM Aktuator loses its IP64 protection rating. For a higher degree of protection, a different form of ventilation must be used.

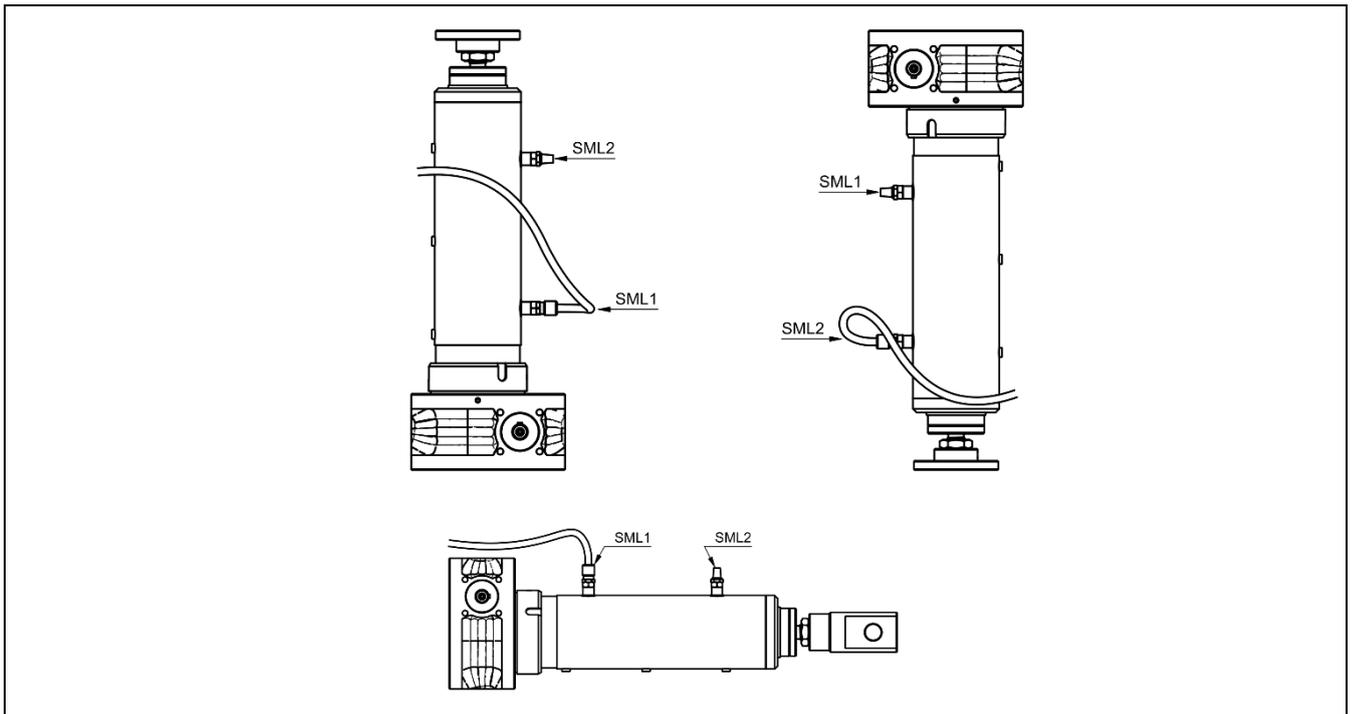


Fig. 13: Ventilation position with automatic lubrication

7.3 Troubleshooting

If faults are evident, these should be localised according to specific criteria, and rectified by application of appropriate actions. The following table offers start points as assistance for troubleshooting.

Fault	Possible cause	Action
Spindle is squeaking or vibrating	Wrong spindle grease, stick-slip	<ul style="list-style-type: none"> ➔ Use different grease: <ul style="list-style-type: none"> – with high viscosity base oil – with additives – possibly with solid lubricants ➔ ZIMM will be happy to advise you.
	Geometry error in the system	<ul style="list-style-type: none"> ➔ Check alignment: <ul style="list-style-type: none"> – Parallel positioning of the ZIMM Actuators (thrust tubes, cylinder tubes) to each other – Parallel positioning of the ZIMM Actuators to the guides – Angularity of the screw surfaces (gears, nuts, flanges, etc.)
	Unfavourable spindle frequency	<ul style="list-style-type: none"> ➔ Change speed: slower or faster (observe limit values)

Fault	Possible cause	Action
	Load too high	➔ Reduce load in the running-in phase.
High wear on the trapezoidal screw thread	Incorrect spindle grease	➔ Check spindle grease ZIMM will be happy to advise you (load, speed, etc.).
	Lack of lubricant	1. Relubricate the spindle. 2. Shorten lubrication intervals.
	Geometry error in the system	➔ Check alignment: <ul style="list-style-type: none"> – Parallel positioning of the ZIMM Actuators to each other – Parallel positioning of the ZIMM Actuators to Load the guides – ZA-25-TR30xP-V-H50 Angle of the screw surfaces (gears, nuts, flanges, etc.)
	Load too high	➔ Contact ZIMM (load, speed, duty cycle, etc.).
Operating temperature too high	Load or duty cycle too high	➔ Check operating parameters. ZIMM will be happy to advise you.
	Geometry error in the system	➔ Check alignment: <ul style="list-style-type: none"> – Parallel positioning of the ZIMM Actuators to each other – Parallel positioning of the ZIMM Actuators to the guides – Angularity of the screw surfaces (gears, nuts, flanges, etc.)
	Incorrect spindle grease	➔ Check spindle grease ZIMM will be happy to advise you (load, speed, etc.).
Noise from clutch or connecting shaft.	Friction at the coupling star	➔ Lubricate the coupling star with petroleum jelly or plastic-compatible grease.
	Permissible offset exceeded	➔ Check and correct alignment.
Slight leakage at the shaft seal	Slight leakage	Slight leakage is normal and not a technical problem. ➔ Wipe off the leak and continue to monitor.
Heavy leakage	Shaft seal defective or excess pressure in the gearbox.	➔ Contact ZIMM and send photos.

8 Decommissioning and recommissioning

Decommissioning

CAUTION

Corrosion!

Damage to the ZIMM Actuator after a long period out of use.

→ Oil shiny points.

Recommissioning

After the ZIMM Actuator has been out of use for a long period:

1. Drive through the full working stroke.
2. After initial lubrication, lubricate lubrication points according to the table.
See point 7.2.3 page 26 for trapezoidal screw drive.
See point 7.2.4 page 28 for ball screw drive.

9 Repair and replacement

! NOTE

The warranty becomes void if the ZIMM Actuator is dismantled.

→ Allow the ZIMM Actuator to be dismantled only by ZIMM or by personnel authorised by ZIMM.

→ Contact ZIMM GmbH.

10 Disposal

The ZIMM Actuator satisfies the current standards and regulations for disposal of end of life equipment. It contains no poisonous substances which demand the taking of special precautions.

→ During disposal, ensure:

- Compliance with regional laws and regulations for waste disposal
- Correct disposal and recycling should be entrusted to a professional disposal company

The following materials will require disposal:

- Lubricants (grease or oil in the gearbox, lubricating grease on the spindle)
- Steel parts (coated with environmentally-friendly paints or coatings)
- Anodised aluminium (parts)
- Bronze/copper (bevel gear, nuts or windings on the motor)
- Plastic parts (seals etc.)

11 Declaration of incorporation

ZIMM GmbH
Millennium Park 3 | 6890 Lustenau | Austria
T: +43 (0) 5577/806-0 | F: +43 (0) 5577/806-8
E-Mail: info@zimm.com | www.zimm.com



Declaration of incorporation for partly completed machinery (Described in EC Machinery Directive 2006/42/EC, Annex II B)

The manufacturer "ZIMM GmbH" declares herewith that all "screw jacks" delivered by ZIMM of the models ZA, SHZ, MSZ, Z, GSZ or ZE

Size (max. load)

02 (0,25 kN)
2 (2,5 kN)
5 (5 kN)
10 (10 kN)
25 (25 kN)
35 (35 kN)
50 (50 kN)
100 (100 kN)
150 (150 kN)
200 (200 kN)
250 (250 kN)
350 (350 kN)
500 (500 kN)
650 (650 kN)
750 (750 kN)
1000 (1000 kN)

including the attachments described in the ZIMM engineering catalogue valid at the time of delivery

conform with the following essential requirements of the **Machinery Directive 2006/42/EC**:
Annex I, Article 1.3.3, 1.1.5, 1.3.4 and 4.1.2.3

In addition we declare that the relevant technical documentation for this partly completed machinery was prepared in accordance with Annex VII, part B, and undertake to transmit these to the market oversight authorities upon request. Authorised representative for the compilation of the relevant technical documentation:
ZIMM GmbH, AT-6890 Lustenau, Millennium Park 3

Putting the partly completed machinery into service is prohibited until the partly completed machinery has been incorporated into final machinery which conforms to the provisions of the EC Machinery Directive and there is an EC Declaration of Conformity in accordance with Annex II A.

Enclosure: current assembly instructions

ZIMM GmbH
Millennium Park 3
AT-6890 Lustenau, 28th August 2019

Gunther Zimmermann, CEO

A: Raiffeisenlandesbank Bregenz
Kontonr. 11999 | BLZ 37000
IBAN: AT40 3700 0000 0001 1999
BIC: RVVGT2B

CH: BTV Staad
IBAN CHF: CH38 0852 5000 SA31 733A A
IBAN EUR: CH11 0852 5000 SA31 733A B
BIC: BTVACH22

FN 61869 i | Feldkirch
ATU 69063247
ARA-Lizenznr. 4334

ZIMM GmbH
Millennium Park 3
A-6890 Lustenau

info@zimm.com
+43(0)5577 806-0



ZIMM®

ZIMM GmbH
Millennium Park 3
6890 Lustenau / Austria

Phone: 0043 (0) 5577 806-0
Fax: 0043 (0) 5577 806-8

info@zimm.com
www.zimm.com