Assembly and Operating Manual
EGA-W
Parallel gripper

Translation of the original manual

Hand in hand for tomorrow

Imprint

Technical changes:
We reserve the right to make alterations for the purpose of technical improvement.

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Dear Customer,

Thank you for trusting our products and our family-owned company, the leading technology supplier of robots and production machines.

Our team is always available to answer any questions on this product and other solutions. Ask us questions and challenge us. We will find a solution!

Best regards,

Your SCHUNK team

Customer Management
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Please read the operating manual in full and keep it close to the product.

Table of Contents

1 General

1.1 About this manual

This manual contains important information for a safe and appropriate use of the product.

This manual is an integral part of the product and must be kept accessible for the personnel at all times.

Before starting work, the personnel must have read and understood this operating manual. Prerequisite for safe working is the observance of all safety instructions in this manual.

In addition to these instructions, the documents listed under ▸ 1.1.2 [🗋 6] are applicable.

NOTE: The illustrations in this manual are intended to provide a basic understanding and may deviate from the actual version.

1.1.1 Presentation of Warning Labels

To make risks clear, the following signal words and symbols are used for safety notes.

⚠ DANGER

Dangers for persons!

Non-observance will inevitably cause irreversible injury or death.

⚠ WARNING

Dangers for persons!

Non-observance can lead to irreversible injury and even death.

⚠ CAUTION

Dangers for persons!

Non-observance can cause minor injuries.

CAUTION

Material damage!

Information about avoiding material damage.

1.1.2 Applicable documents

- General terms of business *
- Catalog data sheet of the purchased product *
- Assembly and operating manuals of the accessories *

The documents labeled with an asterisk (*) can be downloaded from **schunk.com**.

1.1.3 Sizes

This operating manual applies to the following sizes:

- EGA-W 25
- EGA-W 40

1.1.4 Versions

This operating manual applies to the following variations:

- EGA-W with parallel motor attachment
- EGA-W with radial motor attachment
- EGA-W with and without motor

1.2 Warranty

If the product is used as intended, the warranty is valid for 24 months from the ex-works delivery date under the following conditions:

- Observe the maximum service life. ▶ 3 [🗋 18]
- Observe the ambient conditions and operating conditions, ▶ 2.5 [🗋 9]
- Observe the specified maintenance and lubrication intervals, ▶ 8 [🗋 48]

Parts touching the workpiece and wear parts are not included in the warranty.

1.3 Scope of delivery

The scope of delivery includes

- Parallel gripper EGA-W in the version ordered
- Assembly and Operating Manual
- Accessory pack

1.3.1 Accessory pack

Content of the accessory pack:

EGA-W	
25	40
4 x centering sleeve Ø6 x 5.35	4 x centering sleeve Ø8 x 5.35

EGA-W	
25	40
2 x centering sleeve Ø8 x 5.35	2 x centering sleeve Ø12 x 6.65

1.4 Accessories

The following accessories, which must be ordered separately, are required for the product:

- Motor add-on kit (included in scope of delivery for the version with a standard motor)
- Servo motor (included in scope of delivery for the version with a standard motor)
- Frequency converter (depending on motor)
- Cable set (depending on motor)

Optional accessories:

- Intermediate jaw for centric PGN-plus screw connection diagram
- Sensors

2 Basic safety notes

2.1 Intended use

The product is designed exclusively for gripping and temporarily holding workpieces or objects.

The product is exclusively designed for linear movement of useful loads into any position where the load does not react in a manner endangering persons, property or the environment as a result of this manipulation.

- The product may only be used within the scope of its technical data, ▸ 3 [🗋 18].
- The product is intended for installation in a machine/ automated system. The applicable guidelines for the machine/ automated system must be observed and complied with.
- The product is intended for industrial and industry-oriented use. Its use outside enclosed spaces is only permitted if suitable protective measures are taken against outdoor exposure. The product is not suitable for use in salty air.
- The product can be used within the permissible load limits and technical data for holding workpieces during simple machining operations, but is not a clamping device according to EN 1550:1997+A1:2008.
- Appropriate use of the product includes compliance with all instructions in this manual.
- Any utilization that exceeds or differs from the appropriate use is regarded as misuse.

2.2 Constructional changes

Implementation of structural changes

By conversions, changes, and reworking, e.g. additional threads, holes, or safety devices can impair the functioning or safety of the product or damage it.

- Structural changes should only be made with the written approval of SCHUNK.

2.3 Spare parts

Use of unauthorized spare parts

Using unauthorized spare parts can endanger personnel and damage the product or cause it to malfunction.

- Use only original spare parts or spares authorized by SCHUNK.

2.4 Gripper fingers

Requirements of the gripper finger

Stored energy can make the product unsafe and risk the danger of serious injuries and considerable material damage.

- Only replace gripper finger if no residual energy can be released.

2.5 Environmental and operating conditions

- Make sure that the product and the top jaws are a sufficient size for the application.
- Ensure that maintenance and lubrication intervals are observed, ▸ 8 [🗋 48].
- Make sure that the environment is free from splash water and vapors as well as from abrasion or processing dust. Exceptions are products that are designed especially for contaminated environments.
- Make sure that the product's range of application is outside the explosive area. Excepted are products which were designed for explosive areas.

2.6 Personnel qualification

Inadequate qualifications of the personnel

If the personnel working with the product is not sufficiently qualified, the result may be serious injuries and significant property damage.

- All work may only be performed by qualified personnel.
- Before working with the product, the personnel must have read and understood the complete assembly and operating manual.
- Observe the national safety regulations and rules and general safety instructions.

The following personal qualifications are necessary for the various activities related to the product:

Trained electrician

Due to their technical training, knowledge and experience, trained electricians are able to work on electrical systems, recognize and avoid possible dangers and know the relevant standards and regulations.

Qualified personnel Due to its technical training, knowledge and experience, qualified personnel is able to perform the delegated tasks, recognize and avoid possible dangers and knows the relevant standards and regulations.

Instructed person Instructed persons were instructed by the operator about the delegated tasks and possible dangers due to improper behaviour.

Service personnel of the manufacturer Due to its technical training, knowledge and experience, service personnel of the manufacturer is able to perform the delegated tasks and to recognize and avoid possible dangers.

2.7 Personal protective equipment

Use of personal protective equipment

Personal protective equipment serves to protect staff against danger which may interfere with their health or safety at work.

- When working on and with the product, observe the occupational health and safety regulations and wear the required personal protective equipment.
- Observe the valid safety and accident prevention regulations.
- Wear protective gloves to guard against sharp edges and corners or rough surfaces.
- Wear heat-resistant protective gloves when handling hot surfaces.
- Wear protective gloves and safety goggles when handling hazardous substances.
- Wear close-fitting protective clothing and also wear long hair in a hairnet when dealing with moving components.

2.8 Notes on safe operation

Incorrect handling of the personnel

Incorrect handling and assembly may impair the product's safety and cause serious injuries and considerable material damage.

- Avoid any manner of working that may interfere with the function and operational safety of the product.
- Use the product as intended.
- Observe the safety notes and assembly instructions.
- Do not expose the product to any corrosive media. This does not apply to products that are designed for special environments.
- Eliminate any malfunction immediately.
- Observe the care and maintenance instructions.

- Observe the current safety, accident prevention and environmental protection regulations regarding the product's application field.

2.9 Transport

Handling during transport

Incorrect handling during transport may impair the product's safety and cause serious injuries and considerable material damage.

- When handling heavy weights, use lifting equipment to lift the product and transport it by appropriate means.
- Secure the product against falling during transportation and handling.
- Stand clear of suspended loads.

2.10 Malfunctions

Behavior in case of malfunctions

- Immediately remove the product from operation and report the malfunction to the responsible departments/persons.
- Order appropriately trained personnel to rectify the malfunction.
- Do not recommission the product until the malfunction has been rectified.
- Test the product after a malfunction to establish whether it still functions properly and no increased risks have arisen.

2.11 Disposal

Handling of disposal

The incorrect handling of disposal may impair the product's safety and cause serious injuries as well as considerable material and environmental harm.

- Follow local regulations on dispatching product components for recycling or proper disposal.

2.12 Fundamental dangers

General

- Observe safety distances.
- Never deactivate safety devices.
- Before commissioning the product, take appropriate protective measures to secure the danger zone.

- Disconnect power sources before installation, modification, maintenance, or calibration. Ensure that no residual energy remains in the system.
- If the energy supply is connected, do not move any parts by hand.
- Do not reach into the open mechanism or movement area of the product during operation.

2.12.1 Protection during handling and assembly

Incorrect handling and assembly

Incorrect handling and assembly may impair the product's safety and cause serious injuries and considerable material damage.

- Have all work carried out by appropriately qualified personnel.
- For all work, secure the product against accidental operation.
- Observe the relevant accident prevention rules.
- Use suitable assembly and transport equipment and take precautions to prevent jamming and crushing.

Incorrect lifting of loads

Falling loads may cause serious injuries and even death.

- Stand clear of suspended loads and do not step into their swiveling range.
- Never move loads without supervision.
- Do not leave suspended loads unattended.

2.12.2 Protection during commissioning and operation

Falling or violently ejected components

Falling and violently ejected components can cause serious injuries and even death.

- Take appropriate protective measures to secure the danger zone.
- Never step into the danger zone during operation.

2.12.3 Protection against dangerous movements

Unexpected movements

Residual energy in the system may cause serious injuries while working with the product.

- Switch off the energy supply, ensure that no residual energy remains and secure against inadvertent reactivation.
- The faulty actuation of conected drives may cause dangerous movements.

- Operating mistakes, faulty parameterization during commissioning or software errors may trigger dangerous movements.
- Never rely solely on the response of the monitoring function to avert danger. Until the installed monitors become effective, it must be assumed that the drive movement is faulty, with its action being dependent on the control unit and the current operating condition of the drive. Perform maintenance work, modifications, and attachments outside the danger zone defined by the movement range.
- To avoid accidents and/or material damage, human access to the movement range of the machine must be restricted. Limit/prevent accidental access for people in this area due through technical safety measures. The protective cover and protective fence must be rigid enough to withstand the maximum possible movement energy. EMERGENCY STOP switches must be easily and quickly accessible. Before starting up the machine or automated system, check that the EMERGENCY STOP system is working. Prevent operation of the machine if this protective equipment does not function correctly.

2.12.4 Protection against electric shock

Work on electrical equipment

Touching live parts may result in death.

- Work on the electrical equipment may only be carried out by qualified electricians in accordance with the electrical engineering regulations.
- Lay electrical cables properly, e. g. in a cable duct or a cable bridge. Observe standards.
- Before connecting or disconnecting electrical cables, switch off the power supply and check that the cables are free of voltage. Secure the power supply against being switched on again.
- Before switching on the product, check that the protective earth conductor is correctly attached to all electrical components according to the wiring diagram.
- Check whether covers and protective devices are fitted to prevent contact with live components.
- Do not touch the product's terminals when the power supply is switched on.

Possible electrostatic energy

Components or assembly groups may become electrostatically charged. When the electrostatic charge is touched, the discharge may trigger a shock reaction leading to injuries.

- The operator must ensure that all components and assembly groups are included in the local potential equalisation in accordance with the applicable regulations.
- While paying attention to the actual conditions of the working environment, the potential equalisation must be implemented by a specialist electrician according to the applicable regulations.
- The effectiveness of the potential equalisation must be verified by executing regular safety measurements.

2.13 Notes on particular risks

- Disassembly as described in this operating manual may only be carried out by specialists.

⚠ WARNING

Risk of injury due to crushing or impact when moving the base jaws and top jaws

- Only qualified personnel may work on the machine.
- The danger zone must be surrounded by a protective barrier during operation.
- Please be particularly careful when restarting after a reference loss in the motor/frequency converter (e.g. after an emergency stop or power failure). Provide acknowledgment of the error message after a reference loss.
- Observe the position and direction of movement.

⚠ WARNING

Risk of injury from objects falling and being ejected

- Only qualified personnel may work on the machine
- The danger zone must be surrounded by a protective barrier during operation.
- Please be particularly careful when starting up (choice of speeds and input torques in accordance with the technical specifications, choice of traverse paths)
- Please be particularly careful when restarting after a reference loss in the motor/frequency converter (e.g. after an emergency stop or power failure). Provide acknowledgment of the error message after a reference loss.
- Observe the position and direction of movement
- Work in an EMC-safe environment.
- Avoid thermal overload in the motor
- Do not use the motor holding brake for maintaining the gripping force

⚠ WARNING

Risk of injury due to unexpected movements of the machine/ automated system

- Before conducting work on the gripper, disconnect it from the power supply (both from the load voltage and from the logic voltage) and make sure it cannot be accidentally switched back on again.
- Only qualified personnel may work on the machine
- The danger zone must be surrounded by a protective barrier during operation.
- Please be particularly careful when starting up (choice of speeds and input torques in accordance with the technical specifications, choice of traverse paths).
- Please be particularly careful when restarting after a reference loss in the motor/frequency converter (e.g. after an emergency stop or power failure). Provide acknowledgment of the error message after a reference loss.
- Observe the position and direction of movement.
- Work in an EMC-safe environment.
- Avoid thermal overload in the motor.

⚠ WARNING

Risk of injury from electric shock due to contact with live parts

- Observe the motor's operating manual.
- Before conducting work on the product, disconnect it from the power supply (both from the load voltage and from the logic voltage) and make sure it cannot be accidentally switched back on again.
- Wait until the frequency converter is discharged.

⚠ WARNING

Risk of injury from inhaling harmful vapors

- Leave the danger zone in the event of fire or smoldering in the electronic system.
- Ensure sufficient ventilation.

⚠ WARNING

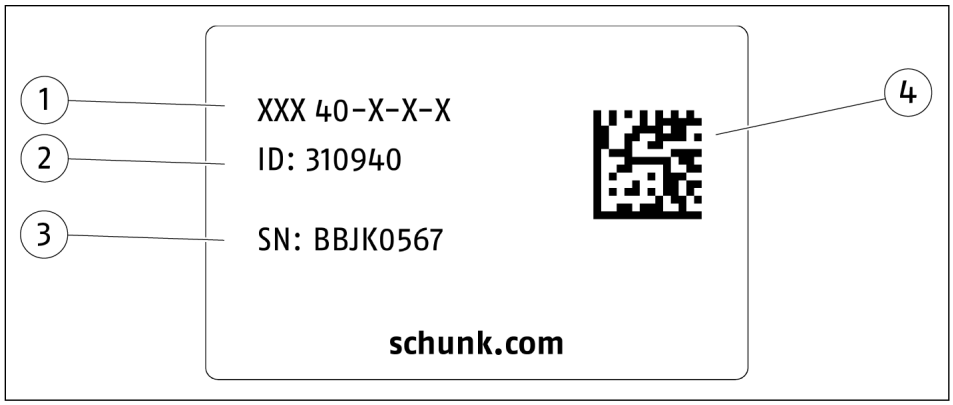
Risk of burns through contact with hot surfaces!

Surfaces of components can heat up severely during operation. Skin contact with hot surfaces causes severe burns to the skin.

- For all work in the vicinity of hot surfaces, wear safety gloves.
- Before carrying out any work, make sure that all surfaces have cooled down to the ambient temperature.

3 Technical data

3.1 Name plate



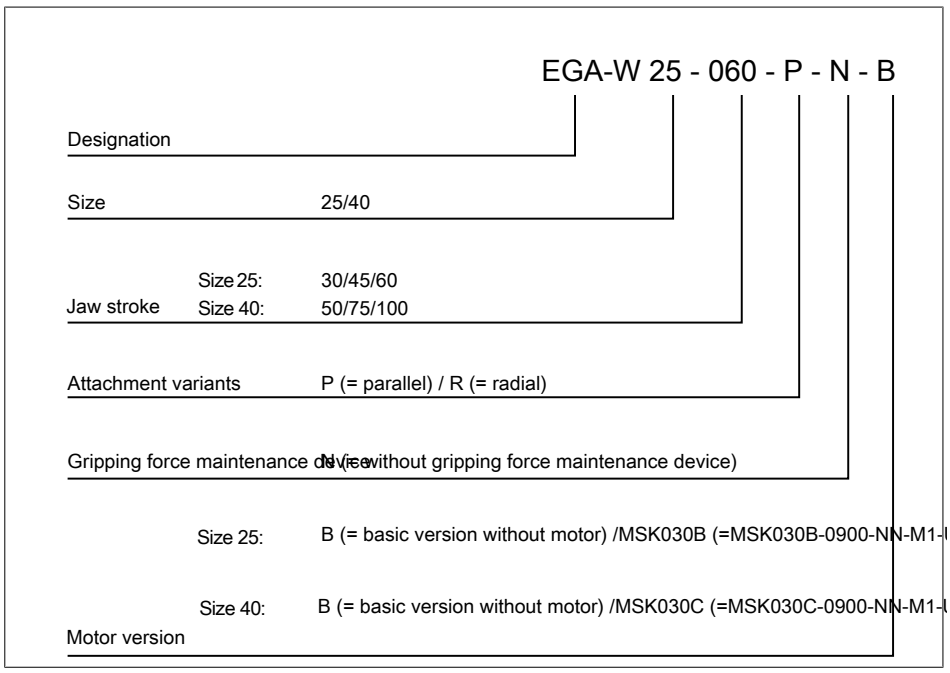
1	Product designation
2	ID
3	Serial number
4	Data matrix code

Scan code or enter serial number on the web and get all the product information: operating manuals, spare parts packages, software updates and much more.

For further information, visit **schunk.com/serialisierung**

A separate app may be required for scanning with a mobile phone.

3.2 Type key



3.3 Basic data

Designation	EGA-W	
	25	40
Power mode		
Max. permissible motor torque [Nm] (speed ≤ 5 mm/s)	0.28	0.8
Max. permissible motor torque [Nm] (speed ≤ 30 mm/s)	0.16	0.57
Max. permissible speed [mm/s]	30	30
Max. permissible motor speed [rpm]	825	740
Positioning mode		
Max. permissible motor torque [Nm]	0.28	0.8
Max. permissible speed [mm/s]	80	80
Max. permissible motor speed [rpm]	2200	1970
Acceleration [mm/s²]	2000	3000
Reference run		
Recommended motor torque [Nm]	0.10	0.20
Recommended speed [mm/s]	10	10
Idling torques		
Max. idling torque (speed 5mm/s) [Nm]	0.06	0.09
Max. idling torque (speed 30mm/s) [Nm]	0.10	0.14
Max. idling torque (speed 80mm/s) [Nm]	0.15	0.21
General operating data		
Overall transmission [mm/rev]	24/11	39/16
IP rating	40	40
Noise emission [dB(A)]	85	85
Motor used	MSK030B	MSK030C

Designation	EGA-W	
	25	40
Warranty duration [months]	24	24
or maximum cycles [piece]	10 million	6 million

Tab.: Warranty

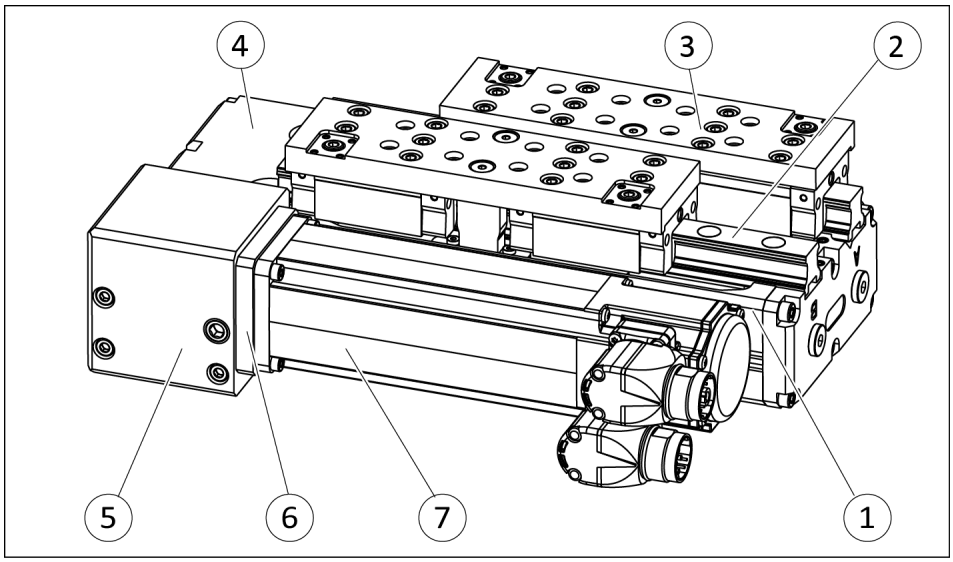
NOTE

The technical data were ascertained using the Bosch Rexroth IndraDyns S MSK motors and Indradrive C or Indradrive CS frequency converters named in the table.

* The input torques and idling torques for the technical data were ascertained using the converter's software (Indraworks). Therefore, they also include motor power and control losses.

Please refer to the Start-up chapter for more information on the correlation between input torques and gripping force.

4 Design and description



Design

1	Gripper housing
2	Guide rail
3	Base jaw
4	Cover flange
5	Transmission casing
6	Motor adapter
7	Servomotor

In the version with parallel motor attachment, the torque in the servo motor (7) is transmitted to the spindle located in the gripper housing (1) via the transmission (in the transmission casing (5) and cover flange (6)). The spindle moves the base jaws (3) (synchronized by a pinion) on the guide rails (2).

In the version with radial motor attachment (not shown), the motor adapter (5) is installed directly on the cover flange (4). The transmission ratio and the resultant direction of movement of the jaws is identical for both versions.

5 Assembly

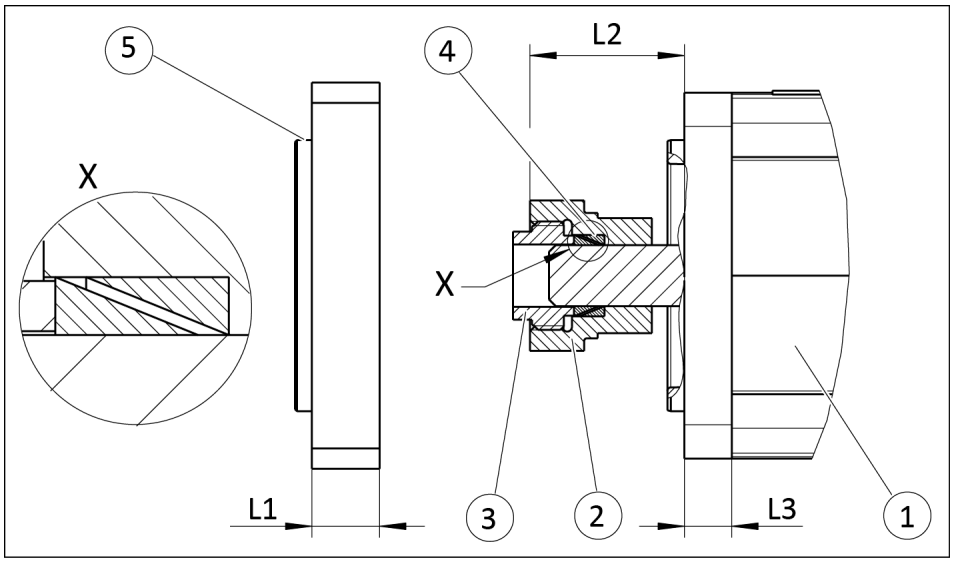
5.1 Mount servo motors

⚠ WARNING

Risk of injury due to unexpected movements of the machine/ automated system

Before conducting work on the gripper, disconnect it from the power supply (both from the load voltage and from the logic voltage) and make sure it cannot be accidentally switched back on again.

5.1.1 Attaching the pinion to the motor



Attaching the pinion to the motor

1. Slide the clamping set (4) into the pinion (2). Observe direction of installation.
2. Screw the threaded ring (3) into the pinion (2).
3. **IMPORTANT! If the size, motor version and flange height "L1" are not observed, the gripper could become damaged.** Push the pinion onto the shaft of the motor (1) and set installation dimension "L2", see "Installation dimension" table. The installation dimension "L2" is dependent on the size, the motor attachment variant (parallel or radial) and the flange height "L1" of the motor adapter (5).
4. Tighten the threaded ring (3) with the tightening torque according to the "Tightening torque" table and secure with Loctite no. 243.
5. Lubricate the pinion (2). For the lubricant, see ▶ 8 [🗋 48].

Tab.: Installation dimension "L2" and depth of engagement depending on the size and flange height "L1"

Size	EGA-W 25-P		EGA-W 25-R		EGA-W 40			
Flange height of motor adapter (L1) [mm]	8.4	12.4	8.4	12.4	10	12	14	16
Installation dimension L2 ±0.5 [mm]	20.7	24.7	17.4	21.4	22.8	24.8	26.8	28.8
Max. depth of engagement [mm]	7.9	11.9	7.9	11.9	9.5	11.5	13.5	15.5

Designation	EGA-W			
	25		40	
Shaft diameter [mm]	8	9	9	11
Tightening torque M+0.5 [Nm]	6	6	15	15

Tab.: Tightening torques for threaded ring

5.1.2 Attaching the motor adapter to the gripper

⚠ WARNING

Risk of injury and material damage if using unauthorized screws!

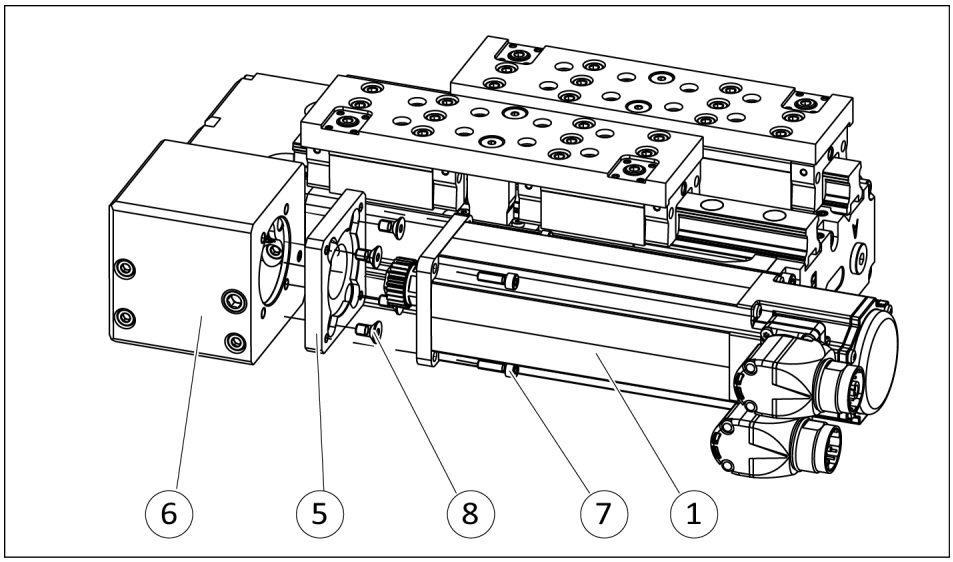
Using the incorrect screws may lead to the drive being blocked and failure in the screw connection. This could result in serious injury and damage to the gripper.

- Ensure that the screws provided are used for the motor adapter.
- Please observe the minimum depths of engagement for the motor mounting screws.
- Observe the marking on the bag for the accessory pack.

NOTE

The mounting screws (8) or (9) for attachment of the motor adapter each have a different length for the two motor attachment versions when size 40 is used. Using the incorrect screws may lead to the drive being blocked or to failure in the screw connection. When size 25 is used, screws (8) and (9) are identical for both attachment versions and are not marked separately.

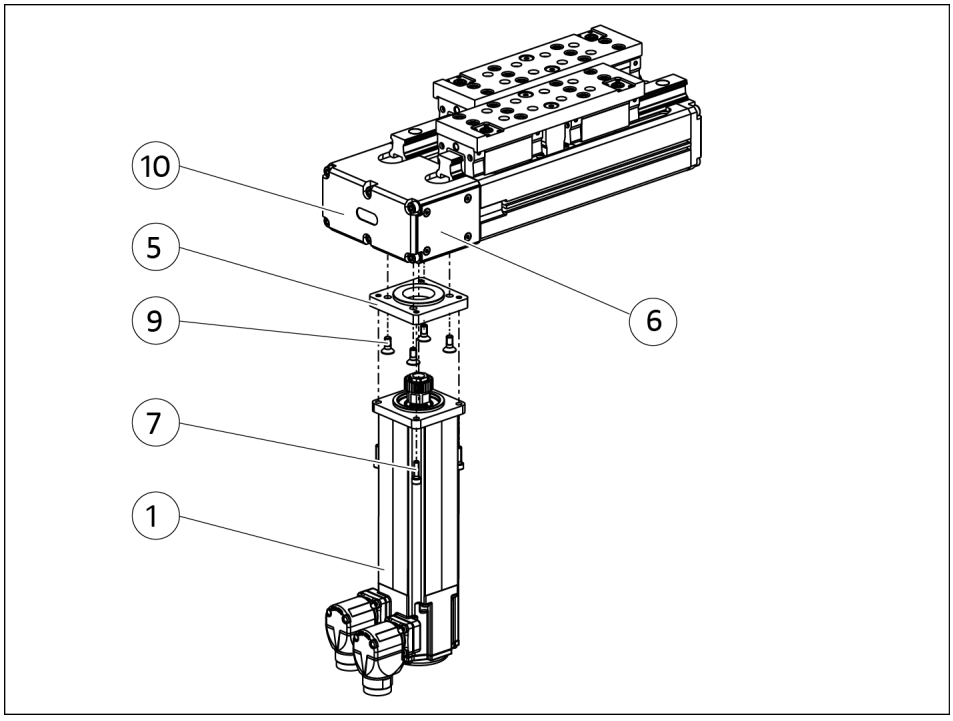
Gripper with parallel attachment



Attaching the motor adapter and the motor to the gripper

1. Remove the screws (8) from the relevant accessory pack. When size 40 is being used, please note the marking "BPA MAS-EGA 40 for parallel motor attachment".
2. Remove the covering for the transport protection.
3. Attach the motor adapter (5) to the gear housing (6) using screws (8). **For tightening torque, see table** ▸ 5.1.2 [🗋 25].

Gripper with radial attachment



Attaching the motor adapter and the motor to the gripper

1. Remove the screws (9) from the relevant accessory pack. When size 40 is being used, please note the marking "BPA MAS-EGA 40 for radial motor attachment".

2. Remove the covering for the transport protection.
3. Attach motor adapter (5) to the cover flange (10) using screws (9). **For tightening torque, see table** ▶ 5.1.2 [🗋 25].

Screw size	M3	M5
Max. tightening torque [Nm]	1.2	6.1

Tab.: Maximum tightening torque for the motor adapter screws

5.1.3 Attaching the motor to the motor adapter

1. Fit the motor (1) onto the motor adapter (5).
   Observe the orientation of the serration.
2. Attach motor to the motor adapter using mounting screws (7). **For tightening torque, see table** .

NOTE

The screws (7) are only included in the scope of delivery for those versions with a standard motor installed; the screws need to be provided by the customer for all other gripper versions.

- Observe the maximum depth of engagement of the mounting screws (7), which is equal to 1.2 times the thread diameter (motor adapter made of high-strength, hard-anodized aluminum).
- Observe the maximum depth of engagement of the mounting screws (7), ▶ 5.1.1 [🗋 22].
- Observe the flange height (L3) of the motors utilized in order to determine the screw length, ▶ 5.1.1 [🗋 22].

Screw size	M4	M5	M6
Max. tightening torque [Nm]	3.1	6.1	10

Tab.: Maximum tightening torque for the motor mounting screws (7) (provided by the customer)

5.2 Mechanical connection

⚠ WARNING

Risk of injury due to unexpected movements of the machine/ system!

- Before conducting work on the gripper, disconnect it from the power supply (both from the load voltage and from the logic voltage) and make sure it cannot be accidentally switched back on again.

⚠ WARNING

Risk of injury from objects falling and being ejected

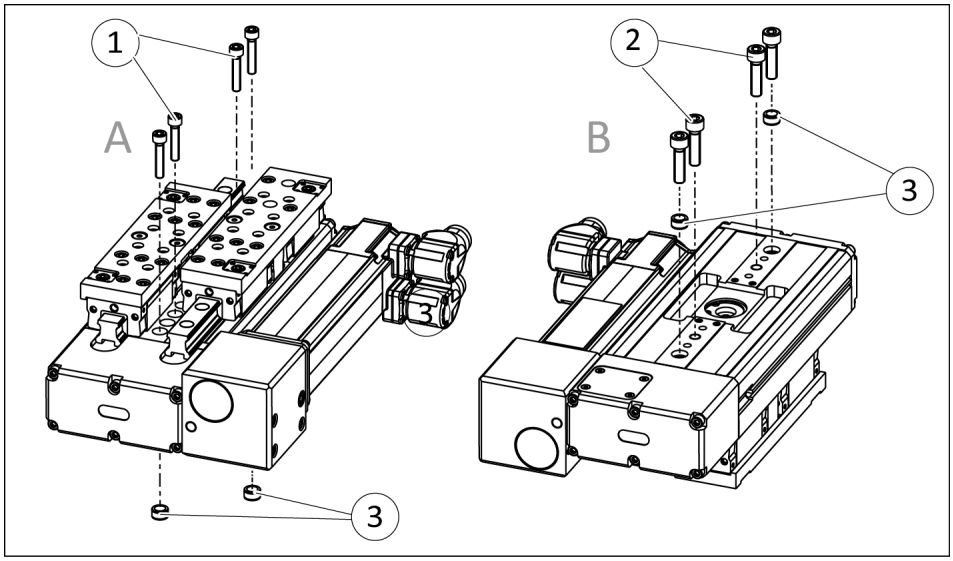
- Only qualified personnel may perform assembly work.
- Make sure the gripper and its components are attached with due care and attention. (Note max. tightening torques, minimum depths of engagement, number and strength class of the screws)
- Wear personal protective equipment.

Evenness of the mounting surface

The values apply to the whole mounting surface to which the product is mounted.

Edge length	Permissible unevenness
< 100	< 0.02
> 100	< 0.05

Tab.: Requirements for evenness of the mounting surface (Dimensions in mm)



Assembly options

Item	Designation	EGA-W	
		25	40
1	Thread diameter for mounting A	M4	M6
2	Thread diameter	M5	M8
	Max. tightening torque for mounting B [Nm]	6.1	25
	Length of thread in the housing [mm]	14	18

Tab.: Screws for mechanical fastening on the machine (to be provided by customer)

CAUTION

Observe the minimum depth of engagement during assembly!

- The minimum depth of engagement is equal to 1.5 times the thread diameter.

The module can be mounted from the top or the bottom:

- A: Screws (1) are screwed through the housing.
- B: Screws (2) are screwed into the thread.

The centering sleeves (3) are included in the accessory pack.

5.3 Mounting of the top jaws

CAUTION

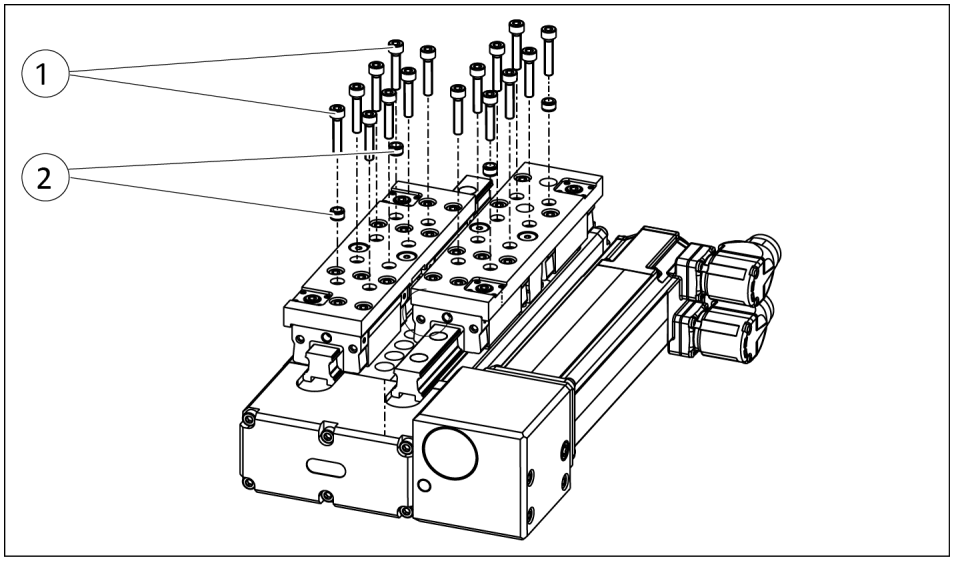
Observe the minimum depth of engagement during assembly!

- The minimum depth of engagement is equal to 1.5 times the thread diameter.

CAUTION

The gripper will be damaged if the maximum depth of engagement is exceeded in the base jaw.

- Observe the specified maximum depth of engagement ▶ 5.3 [🗋 28]



Assembly of the top jaws

The centering sleeves (2) are included in the scope of delivery.

The screws (1) for mounting the top jaws must be provided by the customer:

Designation	EGA-W	
	25	40
Thread diameter	M4	M5
Maximum depth of engagement (for mounting the top jaws) [mm]	8	10
Minimum number of mounting screws per jaw [piece]	6	6
Maximum tightening torque [Nm]	5.3	11

Tab.: Screws for mounting the top jaws (to be provided by customer)

5.4 Electrical connection

⚠ WARNING

Risk of injury due to unexpected movements of the machine/ automated system

Before conducting work on the gripper, disconnect it from the power supply (both from the load voltage and from the logic voltage) and make sure it cannot be accidentally switched back on again.

CAUTION

Overload in the gripper components due to the input torques, traveling speeds, and accelerations being too high.

Please note the maximum input torques, traveling speeds, and accelerations. ▶ 3.3 [🗋 19]

NOTE

Please observe the operating manual for the motor and for the frequency converter (controller) when connecting up the motor. Only connect up the motor to a frequency converter (controller) specified by the manufacturer for that purpose.

5.5 Mounting the sensor

NOTE
Observe the assembly and operating manual of the sensor for mounting and connecting.

The product is prepared for the use of sensors.

- For the exact type designations of suitable sensors, please see catalog datasheet and Link Übersicht Sensoren.
- For technical data for the suitable sensors, see assembly and operating manual and catalog datasheet.
  - The assembly and operating manual and catalog datasheet are included in the scope of delivery for the sensors and are available at schunk.com.
- Information on handling sensors is available at schunk.com or from SCHUNK contact persons.

5.5.1 Switch-off hysteresis for magnetic switches

Sensors MMS 22, MMS 22-PI1, MMS 22-PI2 and MMS-P 22

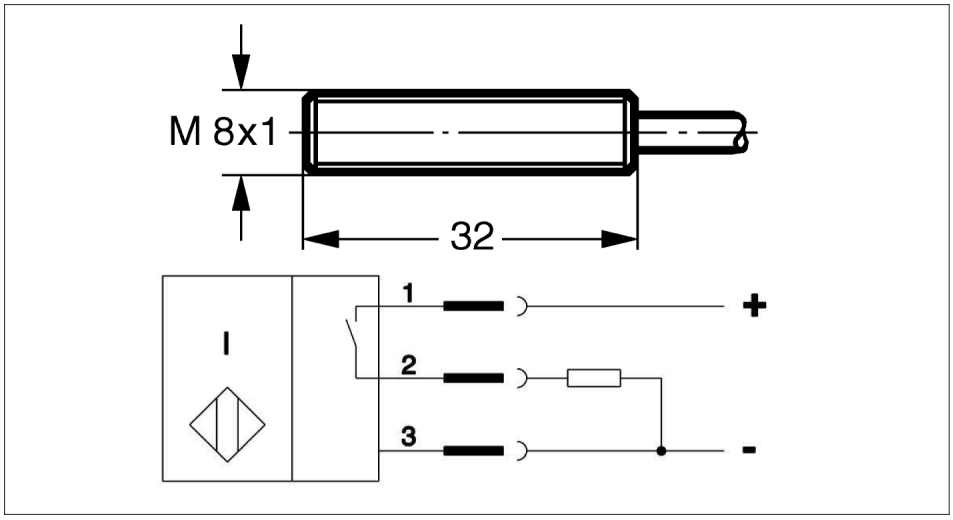
The smallest detectable difference in stroke is defined in the following table:

For products with X mm nominal stroke per jaw	Min. query range per jaw/ min. queried stroke difference per jaw
X ≤ 5 mm	30 % of the nominal stroke per jaw
X > 5 mm to X ≤ 10 mm	20 % of the nominal stroke per jaw
X > 10 mm	10 % of the nominal stroke per jaw

Tab.: The smallest detectable difference in stroke based on the nominal stroke

Example: Product with 7 mm nominal stroke per jaw
7 mm * 20% = 1.4 mm

5.5.2 Inductive proximity switch IN 80



Connection example for IN 80

1	brown	2	black	3	blue

Types that can be ordered (see catalog):

- IN 80-S-M8 (switching function: closer)
- IN 80-S-M12 (switching function: closer)

The inductive proximity switches used are equipped with reverse polarity protection and are short-circuit-proof.

Make sure that you handle the proximity switches properly:

- Do not pull on the cable.
- Do not allow the sensor to dangle from the cable.
- Do not overtighten the mounting screw or mounting clip.
- Please adhere to a permitted bend radius of the cable. (☞ catalog)
- Avoid contact of the proximity switches with hard objects and with chemicals, in particular nitric acid, chromic acid and sulphuric acid.

The inductive proximity switches are electronic components, which can react sensitively to high-frequency interference or electromagnetic fields.

- Check to make sure that the cable is fastened and installed correctly. Provide for sufficient clearance to sources of high-frequency interference and their supply cables.
- Parallel switching of several sensor outputs of the same type (npn, pnp) is permissible, but does not increase the permissible load current.
- Note that the leakage current of the individual sensors (ca. 2 mA) is cumulative.

In certain circumstances in the EGA, only proximity switches on the opposite side to the motor (depending on the size of the motor) can be used in the event of parallel motor attachment.

When radial motor attachment is used, proximity switches can be attached on both sides of the housing.

Mounting kit assembly

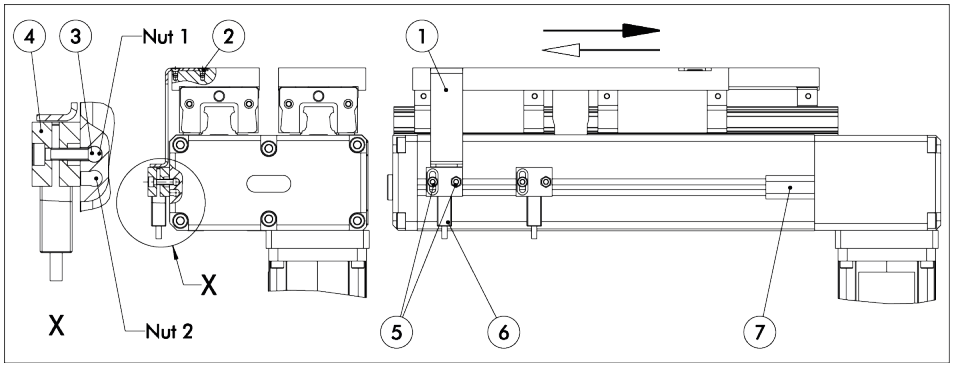
⚠ WARNING

Risk of injury due to moving control cam – risk of cuts!

Remove the energy supplies before installation, modification, maintenance, or adjustment work.

Perform maintenance, modifications, and additions outside the danger zone.

The danger zone must be surrounded by a protective barrier during operation.



Assembly of the mounting kit for IN 80

NOTE

Assembling the proximity switches using the pocket on the housing may result in a deviating sequence for the specified assembly steps when the required sensor positions are set.

Positioning and mounting the sensors

For the correct positioning of the sensors, the direction in which the jaws move prior to reaching the required position ("opened", "closed", or "part gripped") is important: in direction ► or ◄ direction.

Positioning the sensor in the event of jaw movement in the direction of the housing pocket (see arrow ► in figure)

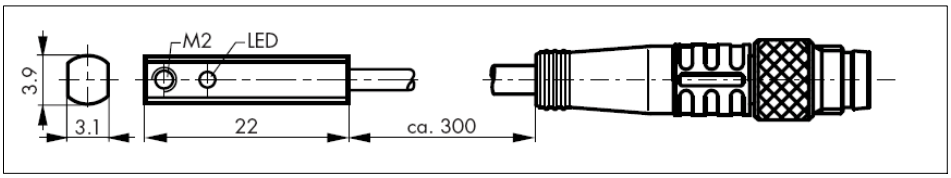
1. Move the gripper into the intended position ("opened", "closed", "part gripped").
2. Fasten the control cam (1) to the bridge using screws (2).
3. Screw T-nut (3) and bracket (4) together with the screws (5).

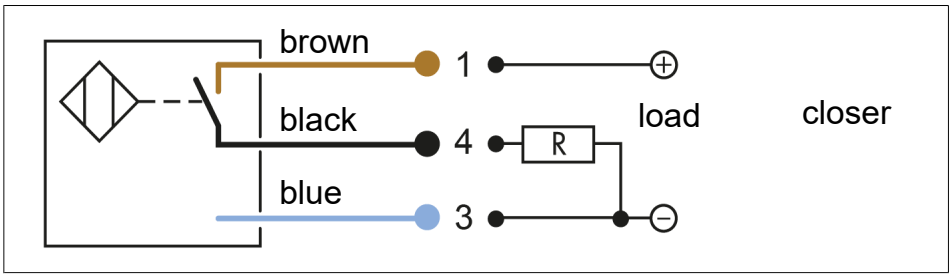
4. Slide the T-nut and bracket into groove 1 on the housing via the pocket (7).
5. Insert the proximity switch (6) into the bracket (4) as far as it will go.
6. Slide the proximity switch (incl. bracket and T-nut) slowly away from the pocket in direction ◁ until the proximity switch switches.
7. Clamp the proximity switch in this position by tightening the screws (5).
8. Switch the gripper alternately to test correct functioning.

Positioning the sensor when the direction of jaw movement is against the housing pocket (see arrow ◁ in figure)

1. Move the gripper into the intended position ("opened", "closed", "part gripped").
2. Fasten the control cam (1) to the bridge using screws (2).
3. Screw T-nut (3) and bracket (4) together with the screws (5).
4. Slide the T-nut and bracket into groove 1 on the housing via the pocket (7).
5. Insert the proximity switch (6) into the bracket (4) as far as it will go.
6. Slide the proximity switch (incl. bracket and T-nut) away from the pocket in direction ◁, fully outwards to the other side of the housing.
7. Slide the proximity switch (incl. bracket and T-nut) slowly back from the fully outward position towards the pocket in direction ▶ until the proximity switch switches.
8. Clamp the proximity switch in this position by tightening the screws (5).
9. Switch the gripper alternately to test correct functioning.

5.5.3 Magnetic switch MMS 22 / RMS 22





CAUTION

Material damage due to an incorrect tightening torque!

If the threaded pin is tightened with an incorrect tightening torque, the product may be damaged.

- Observe a maximum tightening torque of 10 Ncm for the set-screws.

NOTE

Ferromagnetic material changes the switching positions of the sensor. For example: Adapter plate made of ordinary steel.

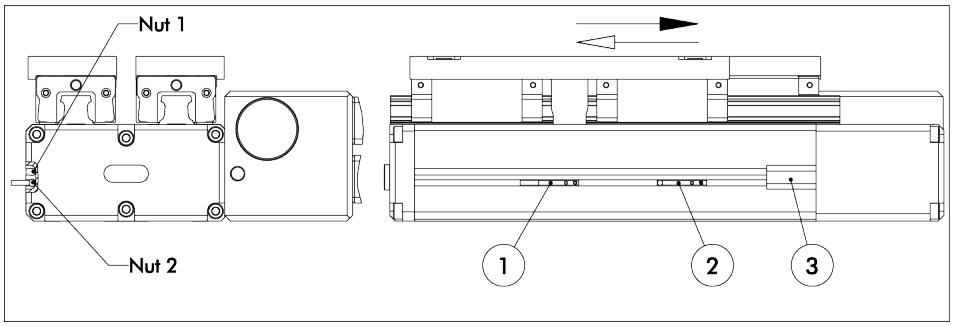
At ferromagnetic adapter plates:

- First mount the product on the adapter plate.
- Then set the position of the magnetic switch.

The RMS sensors have a larger hysteresis than the MMS sensors. This means that short gripper strokes may not be able to be monitored with the RMS sensors.

In both EGA motor attachment versions, magnetic switches can only be used on the side facing away from the motor (see figure).

Positioning the magnetic switch



Positioning the magnetic switch

NOTE

If the magnetic switches are installed via the pocket on the housing, this may result in a deviating sequence for the specified assembly steps when the required sensor positions are set.

For the correct positioning of the sensors, the direction in which the jaws move prior to reaching the required position ("opened", "closed", or "part gripped") is important: in direction ► or ◅ direction.

Positioning the sensor in the event of jaw movement in the direction of the housing pocket (see arrow ► in figure)

1. Move the gripper into the intended position ("opened", "closed", "part gripped").
2. Guide magnetic switch (1) or (2) into groove 1 or groove 2 via the pocket (3) on the housing.
3. Slide the magnetic switch slowly away from the pocket in direction ◅ until the proximity switch switches.
4. Clamp the magnetic switch in this position in the groove by tightening the set-screw.
5. Switch the gripper alternately to test correct functioning.

Positioning the sensor when the direction of jaw movement is against the housing pocket (see arrow ◅ in figure)

1. Move the gripper into the intended position ("opened", "closed", "part gripped").
2. Guide the magnetic switch with the square cable outlet (2) into groove 1 or groove 2 using the pocket (3) on the housing.
3. Slide the magnetic switch away from the pocket in direction ◅, fully outwards to the other side of the housing.
4. Alternatively, magnetic switches with a parallel cable outlet can also be screwed directly into the groove there.

5. Slide the magnetic switch slowly back from the fully outward position towards the pocket in direction → until the proximity switch switches.
6. Clamp the magnetic switch in this position in the groove by tightening the set-screw.
7. Switch the gripper alternately to test correct functioning.

6 Commissioning

⚠ WARNING

Risk of injury due to component failure and failure in component part connections as a result of overload

- Please bear in mind the maximum motor torque ▸ 3 [🗋 18]
- Please bear in mind the maximum traveling speed when gripping ▸ 3 [🗋 18]
- Please bear in mind the maximum workpiece loads.

⚠ WARNING

Risk of injury due to crushing or impact when moving the base jaws and top jaws

- Only qualified personnel may work on the machine.
- The danger zone must be surrounded by a protective barrier during operation.
- Please be particularly careful when restarting after a reference loss in the motor/frequency converter (e.g. after an emergency stop or power failure). Provide acknowledgment of the error message after a reference loss.
- Observe the position and direction of movement.

⚠ WARNING

Risk of injury from objects falling and being ejected

- Only qualified personnel may work on the machine
- The danger zone must be surrounded by a protective barrier during operation.
- Please be particularly careful when starting up (choice of speeds and input torques in accordance with the technical specifications, choice of traverse paths)
- Please be particularly careful when restarting after a reference loss in the motor/frequency converter (e.g. after an emergency stop or power failure). Provide acknowledgment of the error message after a reference loss.
- Observe the position and direction of movement
- Work in an EMC-safe environment.
- Avoid thermal overload in the motor
- Do not use the motor holding brake for maintaining the gripping force

⚠ WARNING

Risk of injury due to unexpected movements of the machine/ automated system

- Before conducting work on the gripper, disconnect it from the power supply (both from the load voltage and from the logic voltage) and make sure it cannot be accidentally switched back on again.
- Only qualified personnel may work on the machine
- The danger zone must be surrounded by a protective barrier during operation.
- Please be particularly careful when starting up (choice of speeds and input torques in accordance with the technical specifications, choice of traverse paths).
- Please be particularly careful when restarting after a reference loss in the motor/frequency converter (e.g. after an emergency stop or power failure). Provide acknowledgment of the error message after a reference loss.
- Observe the position and direction of movement.
- Work in an EMC-safe environment.
- Avoid thermal overload in the motor.

6.1 Gripping process

CAUTION

Overload in the gripper components due to impact caused by jaws striking the workpiece or when hitting the limit stop

- Please bear in mind the maximum motor torque ▶ 3 [🗋 18].
- Please bear in mind the maximum traveling speed when gripping ▶ 3 [🗋 18].
- Avoid moving to the limit stop during normal operation.

Position and size of the workpiece known – pre-positioning

If the precise position and size of the workpiece is known, the jaws can be moved towards the workpiece, whilst keeping a sufficient safety distance, at the max. permissible speed for positioning mode (=pre-positioning of the jaws). From this point onwards, the max. permissible speed can be used for power mode.

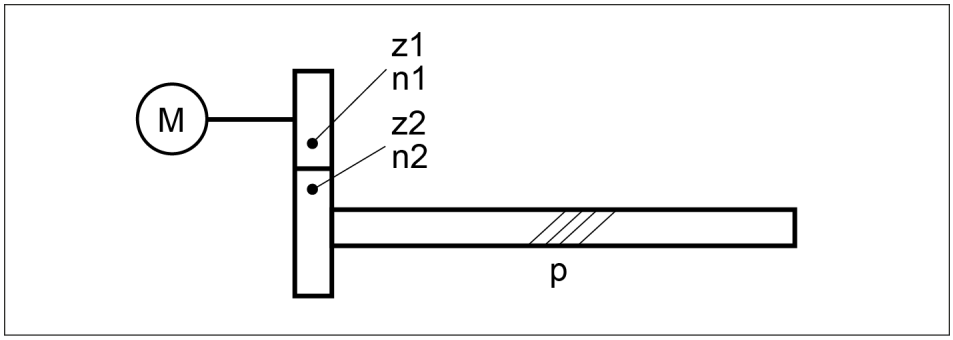
Position and size of the workpiece not known

If the exact position for the gripping position is not known, e.g. owing to large component tolerances or an inaccurate storage place in the predecessor process, then the complete stroke in the gripping direction has to be traveled at the max. permissible speed for power mode.

NOTE

- The gripping force is adjusted using the input torque of the gripper. Where applicable, the input torque is to be converted into an actuating current.
- The idling torques of the individual grippers and motors vary. The idling torques may also vary owing to the bearing used or owing to the mode used for the gripper. Accordingly, the gripping force may vary for otherwise identical parameters.
- Many factors have an impact on the gripping force. Among others, the most important are: Impact speed, flexibility, and mass of the top jaws.
- The nominal value for the end position when gripping (excess) can indirectly influence the impact speed and thus the gripping force. A sufficiently large excess is recommended.
- In the event of impact, greater forces may be produced for a short time. The impact speed, for instance, can be reduced in order to reduce this excessive increase in force.
- When the gripper is being started up, the use of a load cell is needed for an exact adjustment of the gripping force.
- In normal mode, the base jaws should not be moved as far as they can go in the end positions. It is recommended to determine the end positions with a reference run and to keep a distance of 0,5 mm from these end positions during operation.
- To use the whole stroke, particular movement parameters need to be observed. Please contact our technical sales regarding this issue.
- When referencing the end positions, please observe the recommended values for speed and the motor torque ▸ 3 [🗋 18].

6.2 Data for start-up



Sketch of replacement drive model

The overall transmission values as well as the values for the stroke, speed and acceleration in the ▶ Technical Data [🗋 18] chapter each correspond to the movement of a base jaw in accordance with the aforementioned replacement model. If the overall transmission and stroke are recorded differently, then the speed and acceleration may also need to be adjusted depending on the control software.

Designation		EGA-W	
		25	40
z_1	Number of teeth on motor	24	26
z_2	Number of teeth on spindle	22	32
n_1	Motor revolutions	11	16
n_2	Spindle revolutions	12	13
p	Spindle pitch [mm]	2	3
i_g	Overall transmission [mm/rev of motor]	24 / 11	39 / 16

7 Troubleshooting

7.1 Module does not move?

Possible cause	Corrective action
Motor and control unit are not connected up and switched on correctly.	Check the electrical connections for the motor and control unit.
Motor defective.	Check motor and replace if necessary.
Control unit (frequency converter) or energy supply defective.	Check the hardware, software, and parameters used in the control unit; check the energy supply.
Wrong motor left in the control unit or wrong motor connected up.	Check the values in the control unit and the connected up motor.
Position reference set incorrectly or lost.	Reference it again.
Direction of the closing / opening movement skewed or incorrect.	Check the nominal values and setting for the direction of movement.
Proximity switch defective or set incorrect.	Readjust or change sensor.
Minimum input torque not reached.	Check error message in the control and all electricity and moment limit values., ▶ 3 [🗋 18]
	Test mechanical ease of movement (when the motor is removed) by turning the drive.
	Self-locking when shifting via the base jaws may happen, and is normal.
Base jaws jammed on the rail, e.g. mounting surface is not sufficiently even.	Check the evenness of the mounting surface., ▶ 5.2 [🗋 26]
	Loosen the mounting screws of the product and top jaws and actuate the product again.
Motor pinion incorrectly installed (motor turns, no jaw movement).	Check that the motor add-on kit is installed correctly.
	Remove the cover plate and check the movement of the crownwheel., ▶ 8.8 [🗋 55]
Component failure or failure in a component part connection (e.g. due to overload), or missing component (Motor turns, no jaw movement).	Check the play in the base jaws when the holding brake is activated.
	In the event of increased play, send the product to SCHUNK with a repair order.
	Check the presence of all toothing parts.
	Make sure that the product was only used in the context of its defined application parameters.▶ 3 [🗋 18]

7.2 The module does not travel through the entire stroke?

Possible cause	Corrective action
Position reference set incorrectly or lost.	Reference it again.
Parameters for the gear ratio set incorrectly.	Check the parameters for the spindle pitch, number of teeth for the drive (motor) and output (crown wheel) (see data pertaining to start-up). Check whether the values were accidentally mixed up when entered.
Movement limit values in the control unit incorrect.	Check the movement limit values.
Minimum input torque not reached.	Check error message in the control and all electricity and moment limit values., ▶ 3 [🗋 18]
	Test mechanical ease of movement (when the motor is removed) by turning the drive.
	Self-locking when shifting via the base jaws may happen, and is normal.
Motor pinion is slipping.	Check that the motor add-on kit is installed correctly.
	Remove the cover plate and check the movement of the crownwheel., ▶ 8.8 [🗋 55].
Component failure or failure in a component part connection, e. g. due to overload, or component tilted.	Check the mechanical ease of movement without the motor.
	Check the play in the base jaws when the holding brake is activated.
	Send the product to SCHUNK with a repair order.
	Make sure that the product was only used in the context of its defined application parameters. ▶ 3 [🗋 18].

7.3 Closing time as specified in the catalog not reached during commissioning?

Possible cause	Corrective action
Incorrectly set transmission, speed, acceleration.	The values for overall transmission, stroke, speed and acceleration always correspond to the movement of a base jaw. If double transmission is recorded, displaying the distance of both base jaws to each other (=2x stroke), then the speed and acceleration may also need to be adjusted by a factor of 2, depending on the control software.
Minimum input torque not reached.	Check all current / torque limits in the control unit. Check the error message in the control unit. ▶ Technical data [🗋 18]

Possible cause	Corrective action
	Test mechanical ease of movement (when the motor is removed) by turning the drive. Self-locking when shifting via the base jaws may happen, and is normal.

7.4 Module opens or closes abruptly?

Possible cause	Corrective action
Too little grease in the mechanical guiding areas.	Service the product or have it serviced by SCHUNK Service.▸ 8 [🗋 48]
Minimum input torque not reached.	Check error message in the control and all electricity and moment limit values. ▸ 3 [🗋 18]
	Test mechanical ease of movement (when the motor is removed) by turning the drive.
	Self-locking when shifting via the base jaws may happen, and is normal.
Component failure or failure in a component part connection, e. g. due to overload, or component tilted.	Check the mechanical ease of movement without the motor.
	Check the play in the base jaws when the holding brake is activated.
	Replace component or send it to SCHUNK for repair.
	Make sure that the product was only used in the context of its defined application parameters. ▸ 3 [🗋 18]

7.5 Gripping force not reached during start-up?

Possible cause	Corrective action
Input torque set incorrectly; limit values provided in the control unit exceeded.	Check the input torques and all limit values.
	Check the physical units for the input torques; if necessary, the torques will need to be converted into current or percentages of the nominal value.
The required gripping force is above the allowed gripping force.	Compare the gripping force with the technical data., ▸ 3 [🗋 18]
Motor undersized.	Check the suitability of the motor with regard to stall torque or nominal torque.
Motor, control unit, or energy supply defective.	Check the motor, control unit, and energy supply.
Motor pinion is slipping.	Check that the motor add-on kit is installed correctly.
Component failure or failure in a component part connection (e.g. due to overload), or increased idling torque in the gripper.	Check the mechanical ease of movement without the motor.
	Send the product to SCHUNK with a repair order.

Possible cause	Corrective action
	Make sure that the product was only used in the context of its defined application parameters. ▶ 3 [🗋 18].

7.6 Gripping force changes during gripping?

Possible cause	Corrective action
Warming of the motor in operation changes driving torque.	Optimize the input torque for the operating temperature of the motor.
Motor, control unit, or energy supply defective.	Check the motor, control unit, and energy supply.
Motor undersized; motor has reached the critical winding temperature.	Check the winding temperature. Use a motor with a higher stall torque or nominal torque.
	Shorten the duty cycle.
Top jaws show signs of deformation.	Check the top jaws and optimize if needed.
Workpiece shows signs of deformation.	Reduce the gripping force via the input torque.
After a high gripping pulse lasting a short time, a lower, more constant gripping force is set.	Normal gripping process, no error.
	To reduce the gripping pulse, reduce the impact speed.

7.7 Gripper switches off during operation?

Possible cause	Corrective action
Excessive control deviation or other control error.	Set the parameter for traveling to fixed workpiece stop, e.g. for Bosch-Rexroth frequency converters.
Motor undersized; motor has reached the critical winding temperature.	Check the winding temperature. Use a motor with a higher stall torque or nominal torque.
	Reduce the input torque.
	Shorten the duty cycle.
Motor, control unit, or energy supply defective.	Check the motor, control unit, and energy supply.
Component failure or failure in a component part connection, e. g. due to overload, or component tilted..	Check the mechanical ease of movement without the motor. Check the play in the base jaws when the holding brake is activated. Send the product to SCHUNK with a repair order. Make sure that the product was only used in the context of its defined application parameters. ▶ 3 [🗋 18].

7.8 Gripping force decreases over life span?

Possible cause	Corrective action
Internal friction and idling torques increase as a result of contamination or wear.	Service the product, especially the roller rails.
	Adjust the input torque.
The parameters for the control unit were changed (input torque, gripping speed).	Use the original parameters.
The nominal value for the end position of the gripper (excess when gripping) is not enough or was changed (reduced in particular).	Increase the nominal value for the end position of the product.
Finger length or mass/flexibility of the top jaws changed. Flexibility in the workpiece changed. Point of application of force in regard of the top jaw has changed.	Adjust the input torque and/or the gripping speed.
	Use the original top jaws.

7.9 Gripping force increases over life span?

Possible cause	Corrective action
Internal friction and idling torques decrease.	Adjust the input torque.
The parameters for the control unit were changed (input torque, gripping speed).	Use the original parameters.
The nominal value for the end position of the gripper (excess when gripping) was changed (increased in particular).	Adjust the input torque. A reduction in the end position is not recommendable, as the gripping forces could fluctuate.
Finger length or mass/flexibility of the top jaws changed. Flexibility in the workpiece changed. Point of application of force in regard of the top jaw has changed.	Adjust the input torque and/or the gripping speed.
	Use the original top jaws.

7.10 Proximity switch does not switch or is incorrect?

Possible cause	Corrective action
Sensor is not connected up; connections are mixed up; connections defective.	Check connection.
Sensor or sensor holder installed incorrectly.	Mounting accordingly. ▶ Chapter on electrical connection of sensors. [🗋 29]
	Check that the mounting groove is correct.

Possible cause	Corrective action
	Check that the correct side of the housing was used for attachment.
Sensor position incorrectly set.	Setting the position. ▶ Electrical connection of sensors. [🗋 29]
	Observe the jaw movement direction.
"Gripped" position changed by size of workpiece.	Adjust the sensor position to the new workpiece size.
Proximity switch defective or set incorrect.	Change sensor.
Additions affect the magnetic flux.	Repeat the setting for the sensor position after all additions have been attached.
	Use optimized or non-magnetic additions in the vicinity of the sensors.
Parameters in the control unit are incorrect.	Check the settings in the control unit.
Motor encoder reference adjusted.	Reference it again.
Stroke is mechanically limited.	Check product on mechanical defect.

8 Maintenance

8.1 Original spare parts

Only use original SCHUNK spare parts when renewing parts (wearing parts / spare parts).

Exchanging the rail and base jaws

The carriages for the rail system are matched to each other and cannot be exchanged separately. Please order the complete rail system if a unit must be repaired.

8.2 Maintenance and lubrication intervals

CAUTION

The lubricants harden faster at ambient temperatures above 60°C.

- Reduce the interval accordingly.

CAUTION

Incorrect disassembly and maintenance could destroy the product or lead to premature failure.

- Disassemble and service the product only to the extent described in the operating manual.
- Do not unscrew the spindle (with the crown wheel attached on it).
- Use the recommended lubricants, otherwise carry out compatibility tests
- Never lubricate the spindle, spindle area, and bearing using lubricants that contain graphite or MoS additives.
- Prevent contamination caused by dirt during maintenance work

Designation	EGA-W	
	25	40
Lubrication interval for roller rails [million cycles]	0.5	1.5
Lubrication interval for gears (double spur gears, motor pinion, crown wheel). [million cycles]	1	
For maintenance interval through SCHUNK Service (lubrication of gear rack, synchronous pinion, piston, spindle(*)) [million cycles]	4	
If short gripping strokes (<50% of nominal stroke) are used to lubricate the spindle, run a complete stroke regularly.	daily	

Designation	EGA-W	
	25	40
Visual inspection	daily	

Tab.: Maintenance intervals

Shorten the lubrication intervals in the event of high mechanical or thermal loads. Especially the roller rails must then be lubricated more often.

It is recommended that the motor pinion be lubricated for the initial assembly and each time disassembly work is performed for maintenance or conversion work.

(*) The spindle may only be lubricated by SCHUNK Service; removal of the spindle will invalidate the warranty.

8.3 Lubricants/greasing areas (basic lubrication)

If other lubricants are used, a compatibility test will need to be carried out to make sure that the lubricant does not harden to resin.

For metallic sliding surfaces, apply a thin film of lubricant using a lint-free cloth. For toothing parts and bearings, apply a reasonably thick film of lubricant using a non-shedding brush.

SCHUNK recommends the lubricants listed.

Lubricant point	Lubricant
Metallic sliding surfaces and toothing	SCHUNK grease 3
Roller rail EGA 25	SCHUNK grease 10
Roller rail EGA 40	SCHUNK grease 10
Spindle, sliding surfaces in the spindle area (*), bearings (**)	SCHUNK grease 10

Details regarding SCHUNK lubricant designations are available at **schunk.com/lubricants**.

The product contains food-compliant lubricants as standard.
The requirements of standard EN 1672-2:2020 are not fully met.

(*) The spindle (ball-and-screw spindle drive) may only be lubricated by SCHUNK Service. Removing the spindle will invalidate the warranty.

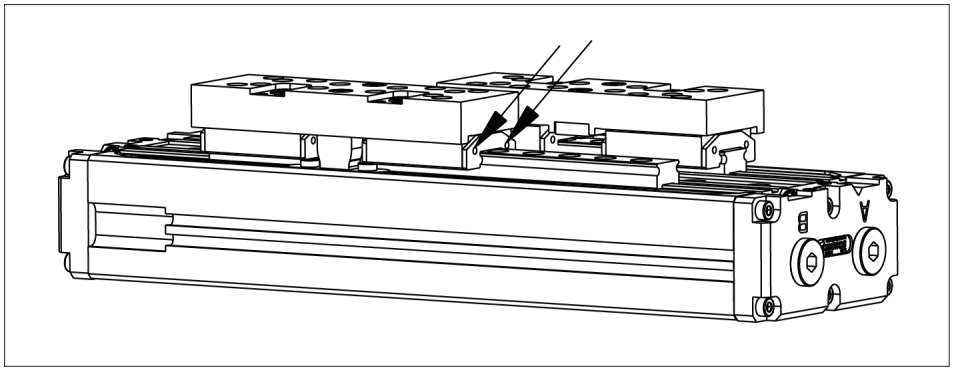
(**) The bearings are lubricated for life.

- The carriages for the roller system in size 25 can be relubricated using the openings at the front of the carriages (arrows in illustration).
- The carriages for the roller system in size 40 can be relubricated via a lubrication nipple. The lubrication nipples can be used instead of the set-screws (arrow in illustration).

Designation	EGA-W	
	25	40
Thread	Not present	M6
Depth [mm]	Not present	6

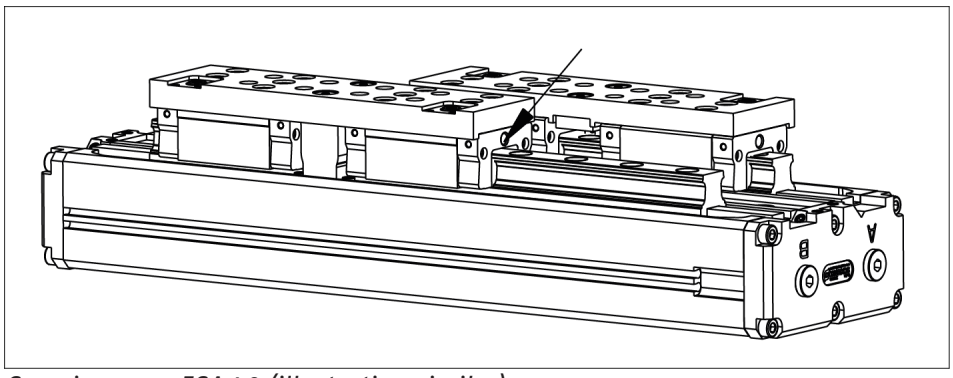
Tab.: Size of the lubrication nipples on the guide carriages

EGA 25



Greasing areas EGA 25 (illustration similar)

EGA 40



Greasing area EGA 40 (illustration similar)

8.4 Disassembling the gripper (for relubricating the gearbox)

⚠ WARNING

Risk of injury due to unexpected movement of the machine/ system!

- Switch off the energy supply.
- Ensure that no residual energy remains in the system.
- Please be particularly careful when restarting after a reference loss in the motor/frequency converter (e.g. after an emergency stop/power failure or maintenance work).
- Observe the position and direction of movement

⚠ WARNING

Risk of injury from electric shock due to contact with live parts

- Observe the motor's operating manual.
- Before conducting work on the product, disconnect it from the power supply (both from the load voltage and from the logic voltage) and make sure it cannot be accidentally switched back on again.
- Wait until the frequency converter is discharged.

⚠ WARNING

Risk of burns through contact with hot surfaces!

Surfaces of components can heat up severely during operation. Skin contact with hot surfaces causes severe burns to the skin.

- For all work in the vicinity of hot surfaces, wear safety gloves.
- Before carrying out any work, make sure that all surfaces have cooled down to the ambient temperature.

⚠ WARNING

Risk of injury from objects falling and being ejected

- Only qualified personnel may work on the machine
- Please be particularly careful when restarting after a reference loss in the motor/frequency converter (e.g. after an emergency stop/power failure or maintenance work).
- Observe the position and direction of movement.
- Do not use the motor holding brake for maintaining the gripping force.
- Make sure that the gripper and its components are attached with due care and attention (max. tightening torques, minimum depths of engagement, number and strength class of the screws).

CAUTION

Risk of damage to the ball-and-screw spindle drive if disassembled incorrectly

- Do not disassemble the ball-and-screw spindle drive (71).
- Do not unscrew the crown wheel (55)/spur wheel (56), as otherwise the spindle nut for the ball-and-screw spindle drive may be turned away from the spindle, thus allowing the balls to fall out.

CAUTION

Danger of damage to the gearbox!

- Handle the toothing components carefully.
- Protect the gearbox against contamination caused by liquids and solids.

Variant with radial attachment

For the position of the item numbers, see assembly drawing ▶ 8.8 [🗋 55]

1. Disconnect the motor (250) from the energy supply and remove the motor cable.
2. Remove the top jaws.
3. Loosen the countersunk screws (220) and remove the side cover plate (69).

Greasing areas:

Crown gear (55) and motor pinion (76) through the opening in the cover flange (60).

Variant with parallel attachment

For the position of the item numbers, see assembly drawing ▸ 8.8 [🗋 55]

1. Disconnect the motor (250) from the energy supply and remove the motor cable.
2. Remove the top jaws.
3. Loosen the motor mounting screws (251). While doing so, make sure they do not fall to the ground.
4. Carefully pull the motor (together with pinion (76)) out of the centering device.
5. Loosen the screws (240).
6. Remove the motor adapter (86).
7. Remove the set-screw (212).
8. Loosen the screws (210) and screw (211).
9. Remove the gearbox (20) from the cover flange (60).

Greasing areas:

1. Front gear (56) through the opening in the cover flange (60).
2. Both double spur gears in the gearbox (20).
3. Motor pinion (76)

8.5 Servicing the gripper

1. If possible, clean the parts and check for damage and wear.
2. Treat all specified greasing areas with lubricant.
3. Oil or grease bare outside steel parts.

8.6 Assembling the gripper

The item numbers specified for the corresponding individual components relate to the chapter Drawings, ▸ 8.8 [🗋 55].

Assembly is done in the reverse order of disassembly.

Observe the following:

1. Carefully install the toothed wheels and make sure the teeth are aligned correctly.
2. Please observe the chapter on assembling the servo motor ▸ 5.1 [🗋 22] and the chapter on mounting the top jaws ▸ 5.3 [🗋 28].
3. Unless otherwise specified, secure all screws and nuts with Loctite no. 243 and tighten using the tightening torque ▸ 8.7 [🗋 55].

8.7 Tightening torque for screws

The item numbers specified for the corresponding individual components relate to the chapter Drawings, ▸ 8.8 [🗋 55].

Size	ItemScrew	EGA-W	
		25	40
Gearbox casing	210, 211	1.2	6.1
Set-screw for gearbox casing	212	flush mounted	flush mounted
Cover plate	220	0.34	1.2
Cover and cover flange	122, 203	0.8	3.5

Tab.: Tightening torques for screws [Nm]

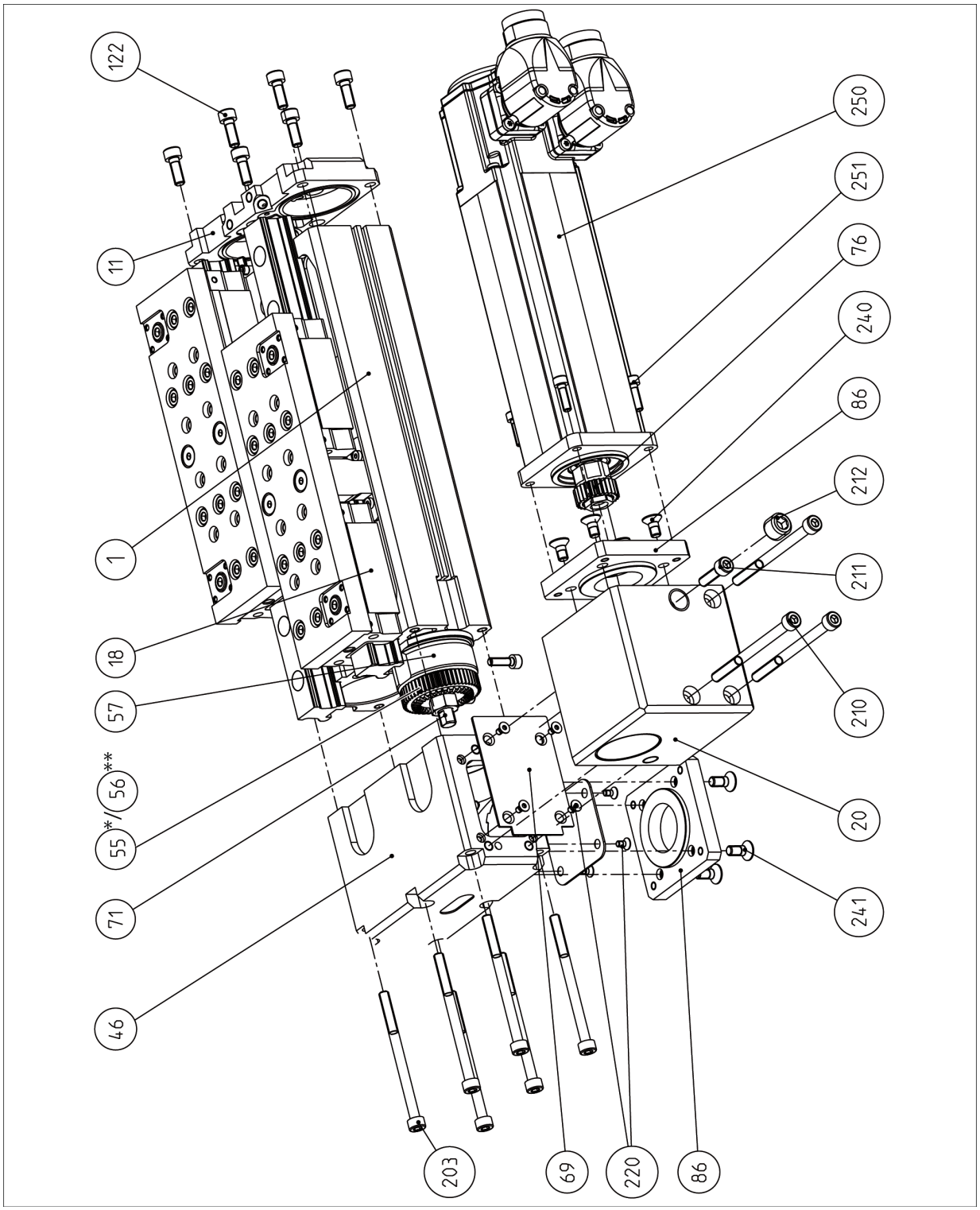
8.8 Assembly drawing

Shown below is an example of an assembly drawing for those components to be removed during maintenance work.

It is used as an illustration and for a classification of the individual components. Deviations are possible depending on size and version.

Removal of components going beyond the extent described in the Maintenance chapter may only be performed by SCHUNK Service. In particular, the ball-and-screw spindle drive (71) must not be unscrewed from the guide sleeve (57) by turning the crown wheel (55) / front wheel (56).

Failure to observe this will invalidate the warranty.



Maintenance

* Crown wheel for radial motor attachment

** Front wheel for parallel motor attachment

9 Translation of the original declaration of incorporation

in terms of the Directive 2006/42/EG, Annex II, Part 1 Section B.

Manufacturer/ Distributor	SCHUNK SE & Co. KG Toolholding and Workholding | Gripping Technology | Automation Technology Bahnhofstr. 106 – 134 D–74348 Lauffen/Neckar

We hereby declare that the partly completed machine described below

Product designation:	Parallel gripper / EGA-W /electric
ID number	0332000 ... 0332068

meets the following basic occupational health and safety of the Machinery Directive 2006/42/EC:

No. 1.1.1, No. 1.1.2, No. 1.1.3, No. 1.1.5, No. 1.3.2, No. 1.5.1, No. 1.5.2; No. 1.5.4, No. 1.5.6, No. 1.5.8, No. 1.5.10, No. 1.5.11, No. 1.5.13

The partly completed machinery may not be put into operation until it has been confirmed that the machine into which the partly completed machinery is to be installed complies with the provisions of the Machinery Directive (2006/42/EC). The declaration shall be rendered invalid if modifications are made to the product.

Applied harmonized standards, especially:

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

The special technical documentation according to Annex VII, Part B, belonging to the partly completed machine, has been created.

Person authorized to compile the technical documentation:
Stefanie Walter, Address: see manufacturer's address

Signature: see original declaration

Lauffen/Neckar, February 2024

Dr.-Ing. Manuel Baumeister,
Head of Systems Engineering,
Technology & Innovation

10 UKCA declaration of incorporation

in accordance with the Supply of Machinery (Safety) Regulations 2008.

Manufacturer/ Distributor	SCHUNK Intec Limited Clamping and gripping technology 3 Drakes Mews, Crownhill MK8 0ER Milton Keynes

We hereby declare that on the date of the declaration the following partly completed machine complied with all basic safety and health regulations found in the
"Supply of Machinery (Safety) Regulations 2008".
The declaration shall be rendered invalid if modifications are made to the product.

Product designation:	Parallel gripper / EGA-W / electric
ID number	0332000 ... 0332068

The partly completed machine may not be put into operation until it has been confirmed that the machine into which the partly completed machine is to be installed complies with the provisions of the "Supply of Machinery (Safety) Regulations 2008".

Applied harmonized standards, especially:

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

The special technical documentation according to Annex VII, Part B, belonging to the partly completed machine, has been created.

Person authorized to compile the technical documentation:
Marcel Machado, address: refer to manufacturer's address

Lauffen/Neckar, February 2024

Dr.-Ing. Manuel Baumeister,
Head of Systems Engineering,
Technology & Innovation

11 Information on the RoHS Directive, REACH Regulation and Substances of Very High Concern (SVHC)

RoHS Directive

SCHUNK products are classified as "large-scale stationary installations" or as "large-scale stationary industrial tools" within the meaning of Directive 2011/65/EU and its extension 2015/863/EU "on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)", or fulfill their intended function only as part of one. Therefore products from SCHUNK do not fall within the scope of the directive at this time.

REACH Regulation

Products from SCHUNK fully comply with the regulations of Regulation (EC) No. 1907/2006 "concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH)" and its amendment 2022/477. SCHUNK attaches great importance to completely avoiding chemicals of concern to humans and the environment wherever possible.

Only in rare exceptional cases do SCHUNK products contain SVHC substances on the candidate list with a mass content above 0.1%. In accordance with Article. 33 (1) of Regulation (EC) No. 1907/2006, SCHUNK complies with its duty to "communicate information on substances in articles" and lists the components concerned and the substances used in an overview that can be viewed at **schunk.com\SVHC**.

Signature: see original declaration

Lauffen/Neckar, February 2024

Dr.-Ing. Manuel Baumeister,
Head of Systems Engineering,
Technology & Innovation

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