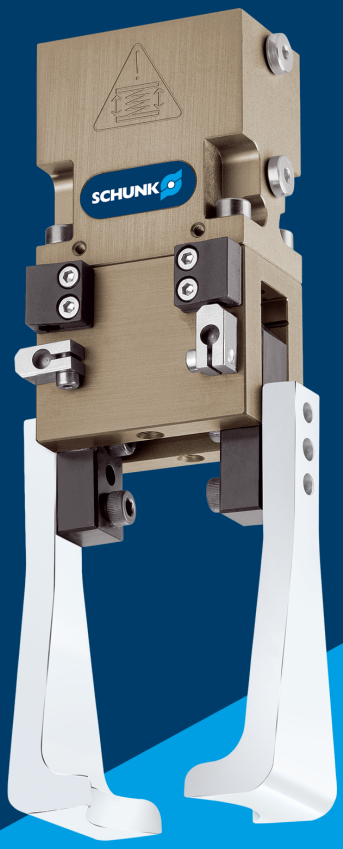


Assembly and Operating Manual GWB

2-finger angular 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.

Document number: 389122

Version: 04.00 | 05/06/2023 | en

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
Tel. +49-7133-103-2503
Fax +49-7133-103-2189
cmg@de.schunk.com

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:

- GWB 34
- GWB 44
- GWB 54
- GWB 64
- GWB 80
- GWB 100

1.1.4 Variants

This operating manual applies to the following variations:

- GWBwithout gripping force maintenance
- GWBwith gripping force maintenance"O.D. gripping" (AS)
- GWBwith gripping force maintenance"I.D. gripping" (IS)
- GWBhigh-temperature (V/HT)

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 specified maintenance and lubrication intervals
- Observe the ambient conditions and operating conditions

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

1.3 Scope of delivery

The scope of delivery includes

- 2-finger angular gripper GWB in the version ordered
- Assembly and Operating Manual
- Accessory pack

1.3.1 Accessory pack

Content of the accessories pack: ▶ 6.6 [🗋 35].

Accessory pack for	ID number
GWB 34	5509422
GWB 34 - High-temperature (HT)	395509422
GWB 44	5509423
GWB 44 - High-temperature (HT)	395509423
GWB 54	5509424
GWB 54 - High-temperature (HT)	395509424
GWB 64	5509425
GWB 64 - High-temperature (HT)	395509425
GWB 80	5509426
GWB 80 - High-temperature (HT)	395509426

1.4 Accessories

A wide range of accessories are available for this product

For information regarding which accessory articles can be used with the corresponding product variants, see catalog data sheet.

1.4.1 Sensors

Designation	Type
Inductive proximity switches	IN

- Exact type designation of the compatible sensors see catalog.
- Information on handling sensors is available at schunk.com or from SCHUNK contact persons.

1.4.2 Sealing kit

contents of the sealing kit, Assembly drawing.

Seal kit for	ID number
GWB 34	0370615
GWB 44	0370616
GWB 54	0370617
GWB 64	0370618
GWB 64 – High-temperature (HT)	0370853
GWB 80	0370619
GWB 80 – High-temperature (HT)	0370817
GWB 100	0370723

2 Basic safety notes

2.1 Intended use

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

- The product may only be used within the scope of its technical data, ▸ 3 [🗋 17].
- 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 Not intended use

It is not intended use if the product is used, for example, as a pressing tool, stamping tool, lifting gear, guide for tools, cutting tool, clamping device or a drilling tool.

- Any utilization that exceeds or differs from the appropriate use is regarded as misuse.

2.3 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.

2.4 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.

2.5 Gripper fingers

Requirements of gripper fingers

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

- Execute the gripper fingers in such a way that the product reaches either the "open" or "closed" position in a de-energized state.
- Only change gripper fingers if no residual energy can be released.
- Make sure that the product and the top jaws are a sufficient size for the application.

2.6 Ambient conditions and operating conditions

Required ambient conditions and operating conditions

Incorrect ambient and operating conditions can make the product unsafe, leading to the risk of serious injuries, considerable material damage and/or a significant reduction to the product's life span.

- Make sure that the product is used only in the context of its defined application parameters, ▸ 3 [🗋 17].
- Make sure that the product is a sufficient size for the application.
- 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.

2.7 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.

2.8 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.

2.9 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.

2.10 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.

2.11 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.

2.12 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.

2.13 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.

2.13.1 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.

2.13.2 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.

2.13.3 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.
- 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.

2.13.4 Protection against electric shock

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.

2.14 Notes on particular risks

⚠ DANGER

Risk of fatal injury from suspended loads!

Falling loads can cause serious injuries and even death.

- Stand clear of suspended loads and do not step within their swiveling range.
- Never move loads without supervision.
- Do not leave suspended loads unattended.
- Wear suitable protective equipment.

⚠ WARNING

Risk of injury from objects falling and being ejected!

Falling and ejected objects during operation can lead to serious injury or death.

- Take appropriate protective measures to secure the danger zone.

⚠ WARNING

Risk of injury from sharp edges and corners!

Sharp edges and corners can cause cuts.

- Use suitable protective equipment.

⚠ WARNING

Risk of injury due to unexpected movements!

If the power supply is switched on or residual energy remains in the system, components can move unexpectedly and cause serious injuries.

- Before starting any work on the product: Switch off the power supply and secure against restarting.
- Make sure, that no residual energy remains in the system.

⚠ WARNING

Risk of injury from crushing and impacts!

Serious injury could occur during movement of the base jaw, due to breakage or loosening of the gripper fingers or if the workpiece is lost.

- Wear suitable protective equipment.
- Do not reach into the open mechanism or the movement area of the product.

⚠ WARNING

Risk of injury due to spring forces!

Parts are under spring tension on products which clamp using spring force or which have gripping force maintenance. While disassembling components can move unexpectedly and cause serious injuries.

- Disassemble the product cautiously.
- Make sure that no residual energy remains in the system.

⚠ WARNING

Risk of injury from objects falling during energy supply failure

Products with a mechanical gripping force maintenance can, during energy supply failure, still move independently in the direction specified by the mechanical gripping force maintenance.

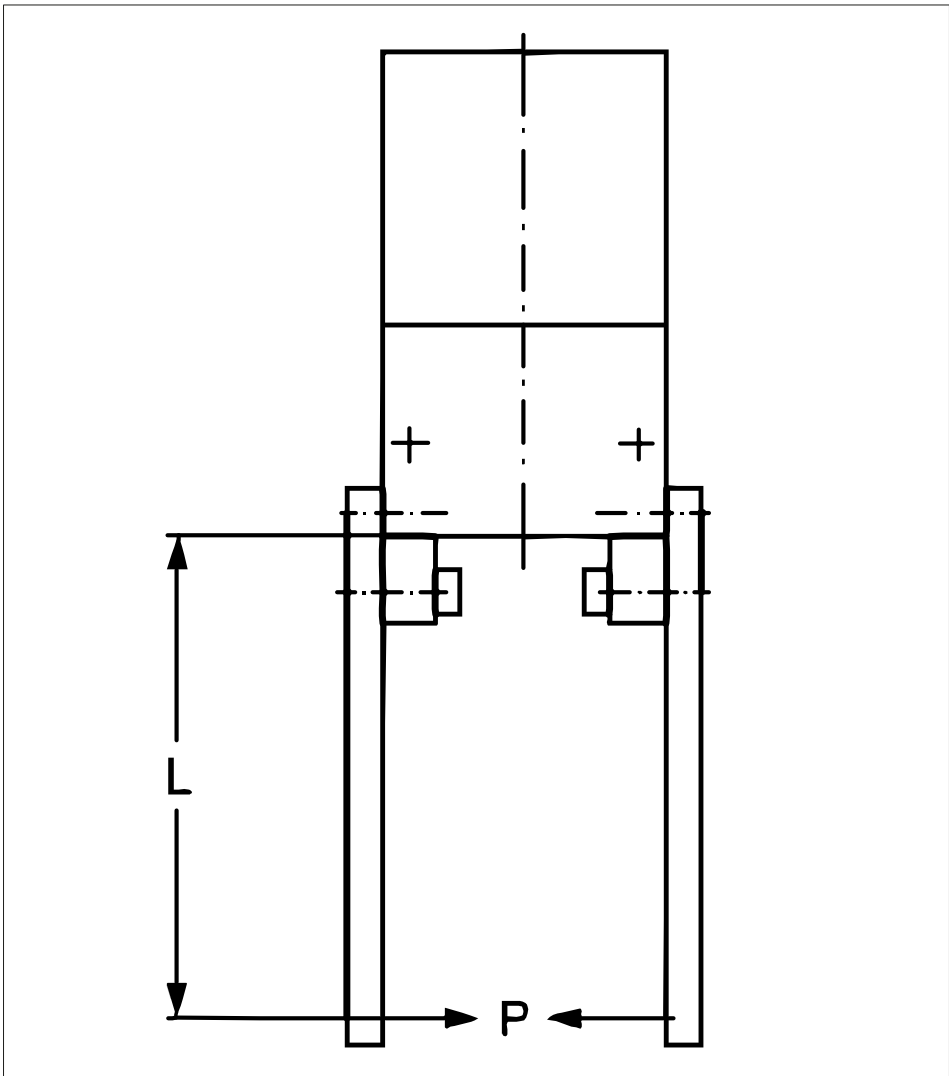
- Secure the end positions of the product with SCHUNK SDV-P pressure maintenance valves.

3 Technical Data

Designation	GWB 34	GWB 44	GWB 54	GWB 64	GWB 80	GWB 100
Opening angle per jaw [°]	90.0					
About rake angle per jaw up to [°]	2.0					
Closing torque [Nm]	2.112	8.19	15.08	27.45	50	127
Ensured by spring closing torque [Nm]	0.5	1.8	2.9	5.2	10.5	31.8
Weight [kg]	0.14	0.34	0.56	0.85	1.6	3.5
Recommended workpiece weight [kg]	0.3	0.9	1.4	2.2	2.7	6.0
Air consumption per double stroke [cm3]	4.5	16.0	36.0	57.0	110.0	217.0
Nominal working pressure [bar]	6.0					
Min. pressure [bar]	4.0					
Max. pressure [bar]	6.5					
Closing time [s]	0.3	0.4	0.6	0.6	0.7	0.55
Opening time [s]	0.4	0.5	0.7	0.7	0.8	0.7
Max. permissible finger length [mm]	40.0	50.0	60.0	80.0	100.0	125.0
Max. permitted weight per finger [kg]	0.07	0.12	0.2	0.32	0.6	1.2
IP rating	20					
Min. ambient temperature [°C]	–10					
Max. ambient temperature [°C]	90.0					
Repeatability [mm]	0.1					
Noise emission [dB(A)]	≤ 70					
Pressure medium	Compressed air, compressed air quality according to ISO 8573-1:2010 [7:4:4]					

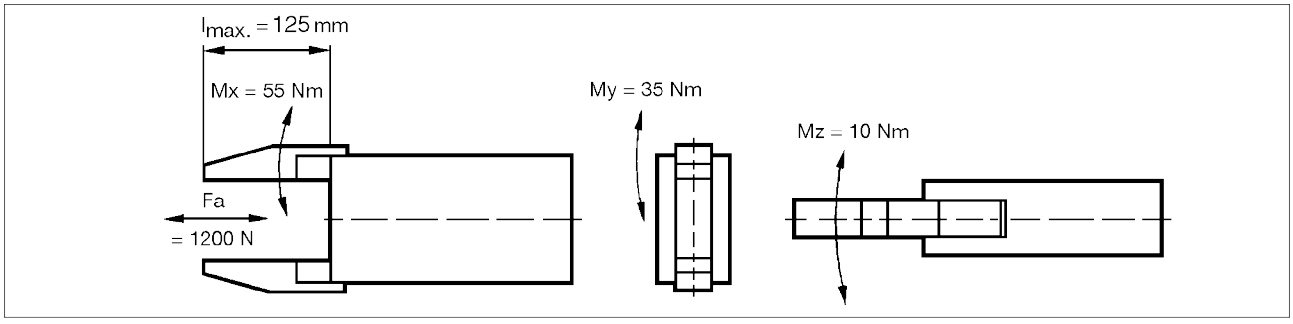
More technical data is included in the catalog data sheet. Whichever is the latest version.

3.1 GWB 100 gripping force diagram



GWB 100 gripping force diagram

3.2 Max. permissible forces and moments on the claw jaws / max. finger length of the GWB 100



GWB 100

4 Assembly

4.1 Connections

4.1.1 Mechanical connection

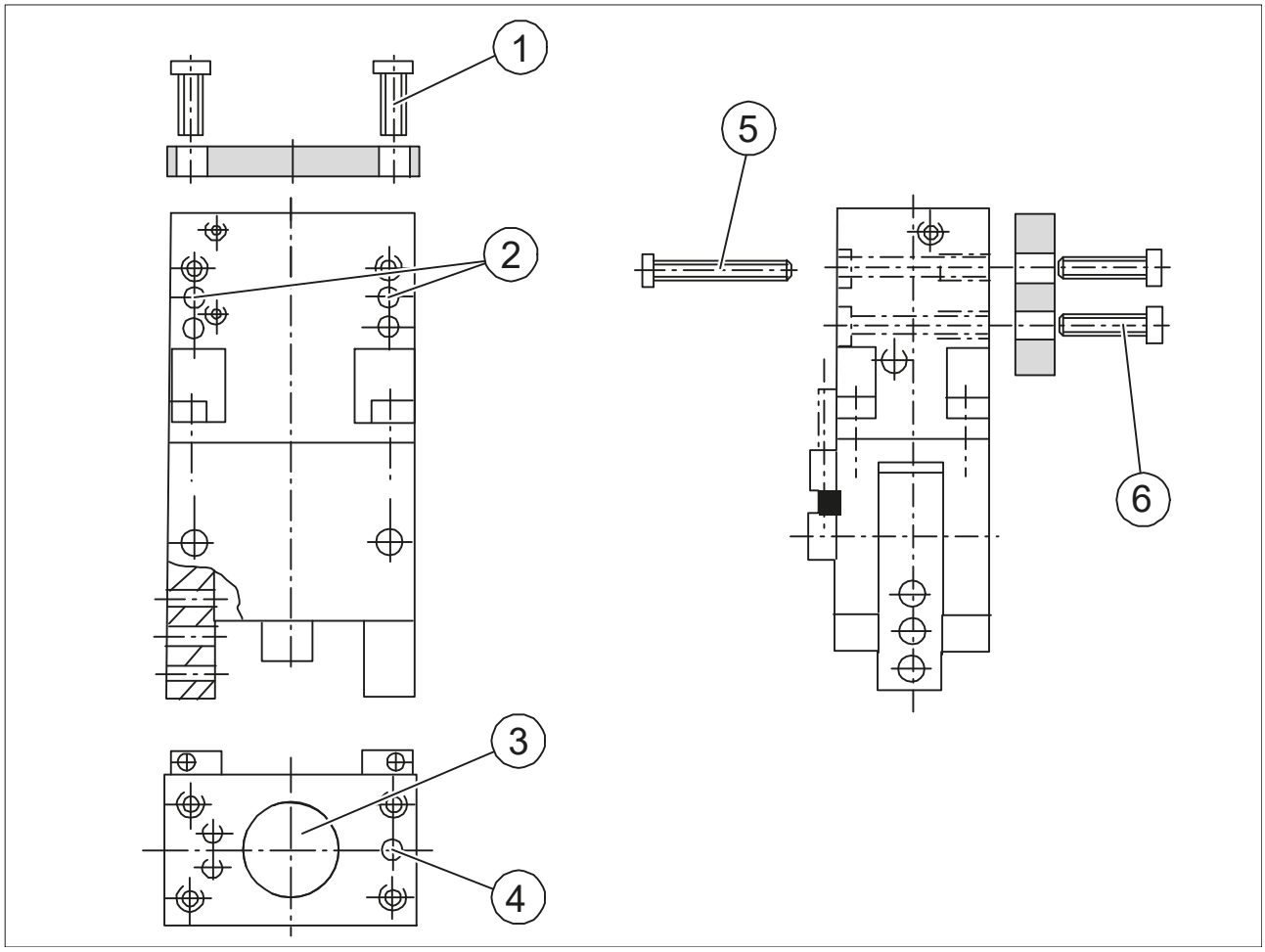
Evenness of the mounting surface

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)

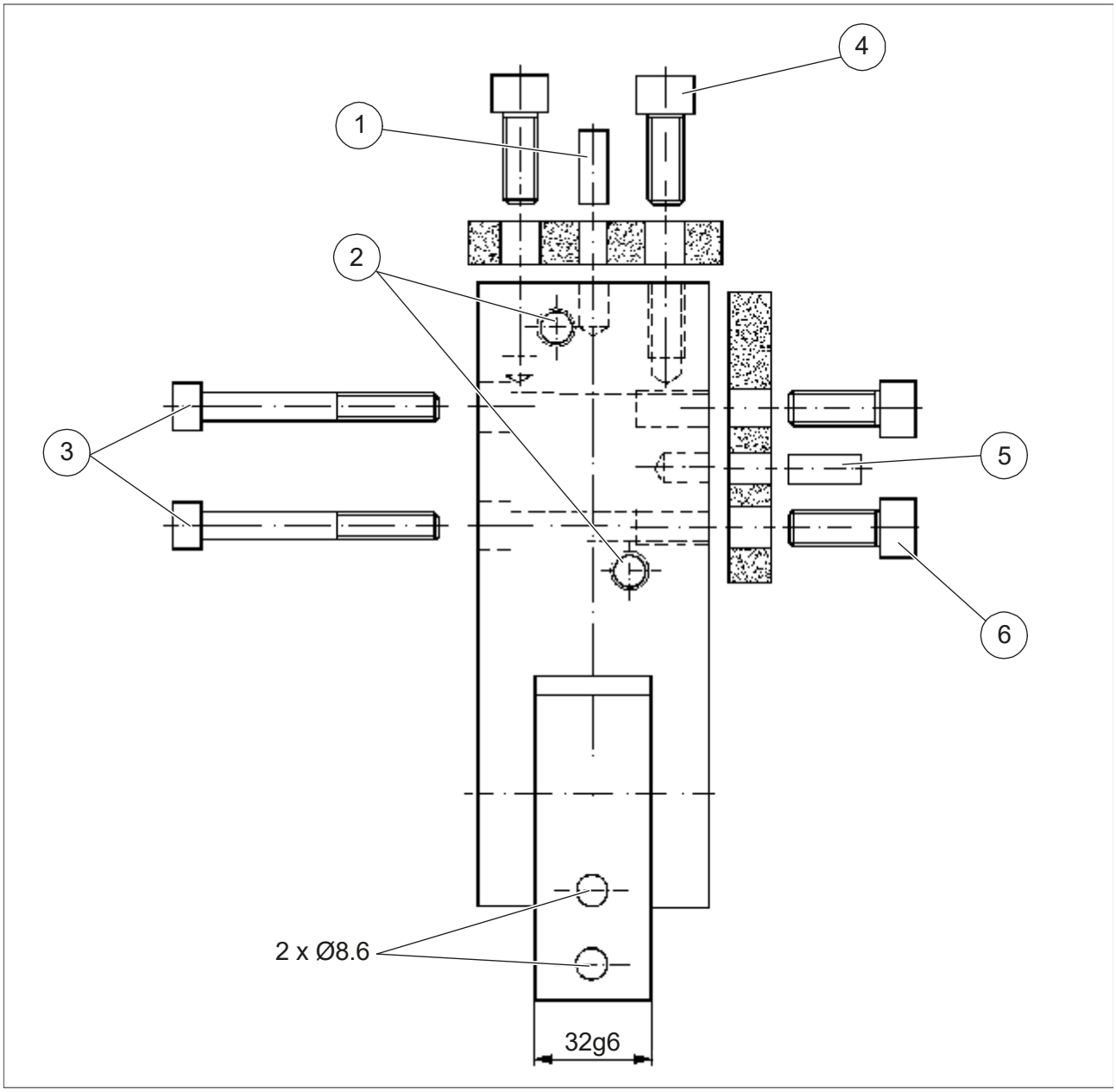
Mounting



Mounting and centering of the GWB 34 – 80

Item	Designation	GWB34	GWB44	GWB54	GWB64	GWB80
1	Screw	4x M4	4x M4	4x M5	4x M6	4x M6
2	Cylindrical pin	2 x DIN EN ISO 8734 (accessory pack)				
3	Centering diameter	Ø 10H7	Ø 20H7	Ø 20H7	Ø 25H7	Ø 30H7
4	Cylindrical pin	2 x DIN EN ISO 8734 (accessory pack)				

Item	Designation	GWB34	GWB44	GWB54	GWB64	GWB80
5	Screw	–	–	2x M4 x 40 DIN 6912	4x M5 x 45 DIN 6912	4x M6 x 55 DIN 6912
6	Screw	2x M4	2x M4	4x M5	4x M6	4x M8



Mounting and centering the GWB 100

Item	GWB100
1	4x DIN EN ISO 8734 – Ø 8m6 x 20
2	M5 for hose connection
3	4x DIN EN ISO 4762 – M8 x 65
4	4x M10 screw – 15 mm depth of engagement
5	2x DIN EN ISO 8734 – Ø 8m6 x 20
6	4x M10 screw – 15 mm depth of engagement

NOTE

- When mounting the module from the rear or side, use the fixing bores provided.
- Fasten the module using the fixing bores provided.
- Fasten the top jaws using the fixing bores provided.

⚠ WARNING

Risk of injury due to unexpected movements!

If the power supply is switched on or residual energy remains in the system, components can move unexpectedly and cause serious injuries.

- Before starting any work on the product: Switch off the power supply and secure against restarting.
- Make sure, that no residual energy remains in the system.

4.1.2 Pneumatic connection

CAUTION

Damage to the gripper is possible!

If the maximum permissible finger weight or the permissible mass moment of inertia of the fingers is exceeded, the gripper can be damaged.

- A jaw movement always has to be without jerks and bounce.
- You must therefore implement sufficient reduction and/or damping.
- Observe the information in the catalog data sheet.

NOTE

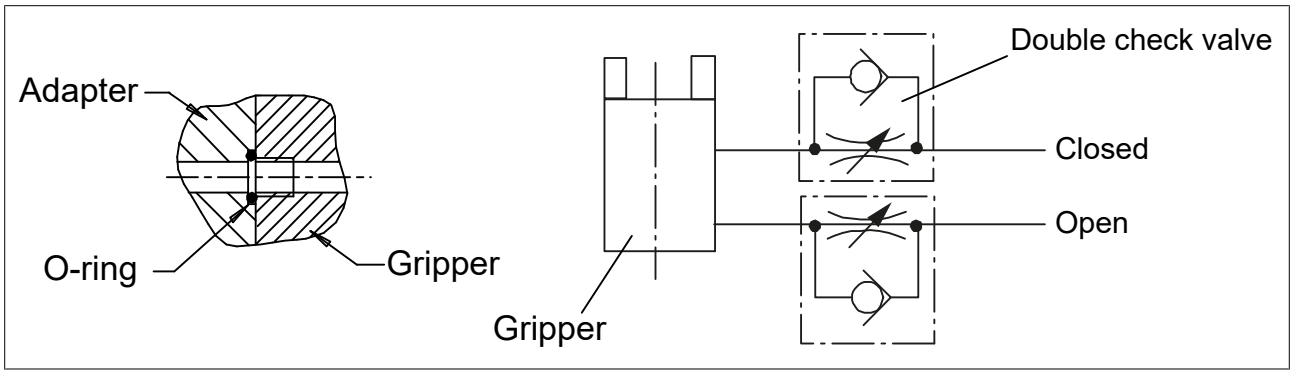
- Observe the requirements for the compressed air supply, ▶ 3 [🗋 17].
- In case of compressed air loss (cutting off the energy line), the components lose their dynamic effects and do not remain in a secure position. However, the use of a SDV-P pressure maintenance valve is recommended in this case in order to maintain the dynamic effect for some time. Product variants are also offered with mechanical gripping force via springs, which also ensure a minimum clamping force in the event of a pressure drop.

- **Hose-free direct connection:** Optionally to ground or to front.

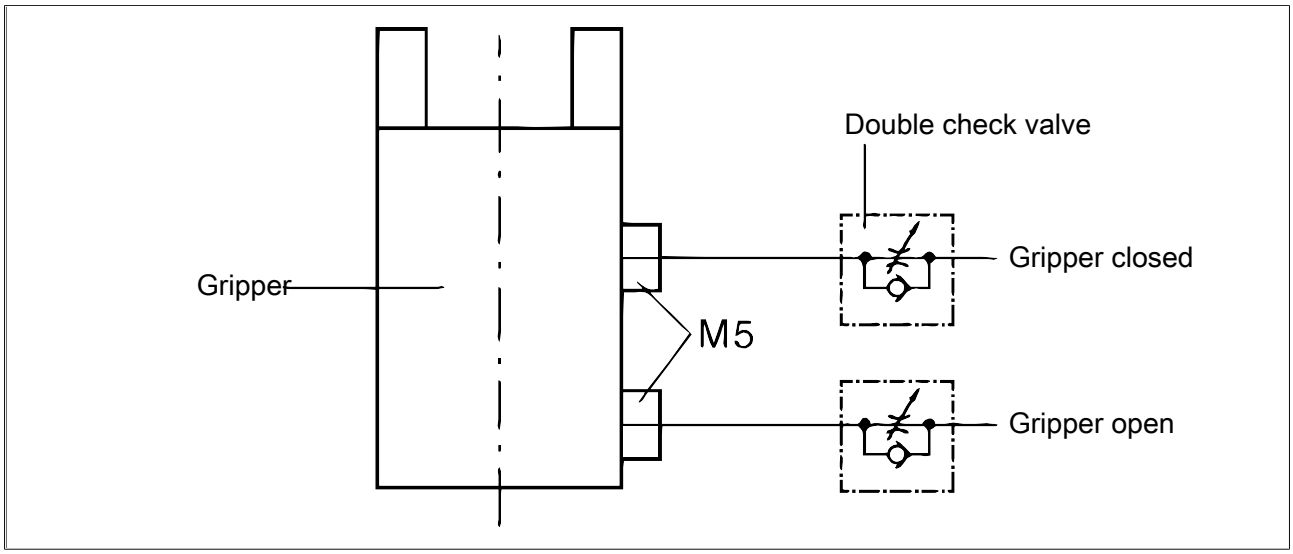
- Remove the M3 set-screws (21) from the selected direct connections and close the lateral hose connections with the M5 locking screws supplied.
- Use the O-rings Ø 3 x 1.5 supplied in the accessory kit.
- Integrate the one-way flow control valves at a suitable place in the gripper's pressure supply. Observe the circuit diagram in the process (exhaust throttling).

CAUTION

Adjust the speed of the gripper using the one-way flow control valves to allow the gripper to open and close smoothly without jerking.



Pneumatic connection GWB 34-80



Pneumatic connection GWB 100

- Open only the air connections that are needed.
- Close unused main air connections using the screw plugs from the enclosed pack.
- For a hose-free direction connection, use the O-rings from the enclosed pack.

Further information on the hose-free direct connection contains the catalog data sheet.

4.2 Opening angle limitation

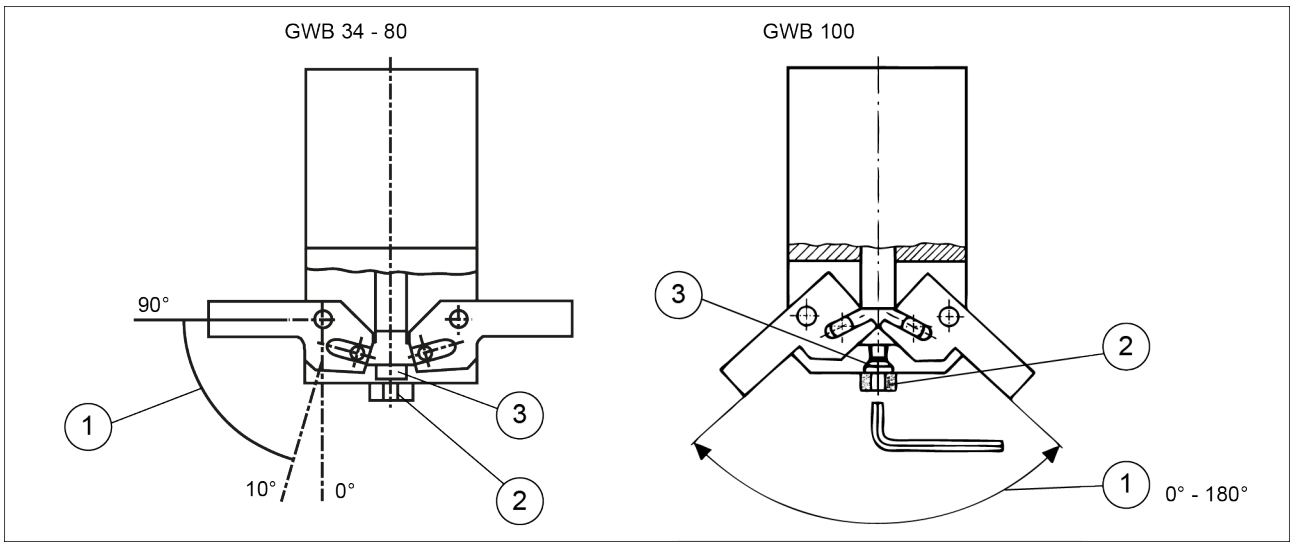
Set the desired opening angle using the adjustment screw (3).

GWB 34 – 80: Adjustment range: 10° – 90°. Secure the adjustmenrt screw with the lock nut after making the setting. To do so, remove the stop bar and bring the gripper into the open 90° position.

GWB 100: Adjustment range: 0° – 180°. Use a size-6 hexagon socket wrench.

CAUTION

There is a risk of functional impairment if the adjustment range is not observed.



GWB 34 – 100 opening angle limitation

1	Adjustment range
2	Stop bar
3	**GWB 34–80** adjustment screw with lock nut

4.3 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 ▶ 4.3.1 [🗋 24].
- 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.

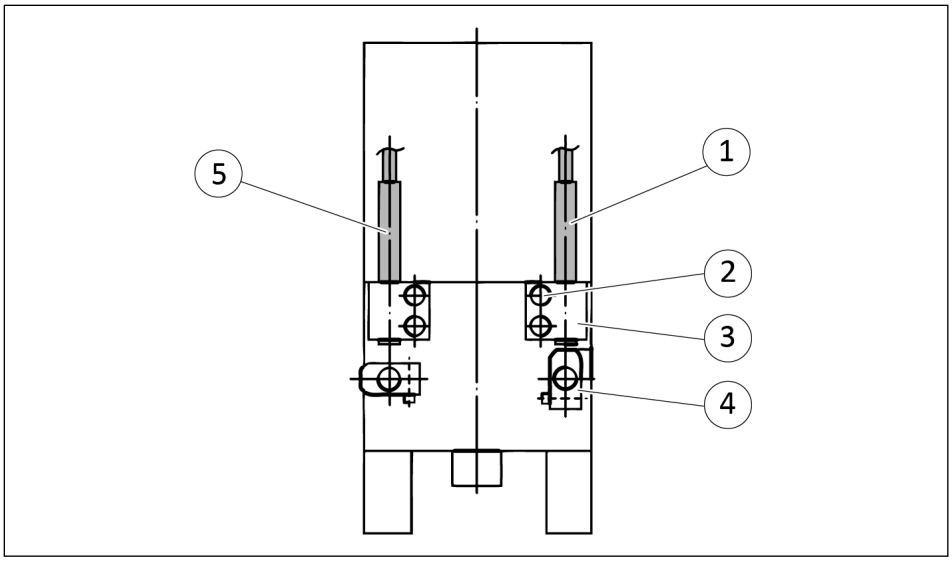
4.3.1 Overview of sensors

Designation	GWB					
	34	44	54	64	80	100
Inductive proximity switch IN 40	X	X	X	X	X	–
Inductive proximity switch IN 80	X	X	X	X	X	X

4.3.2 Mounting inductive proximity switch IN 40

Mounting kit

To use the inductive sensor, the gripper has to be retrofitted with a special mounting kit. This mounting kit is available from SCHUNK for the models below.



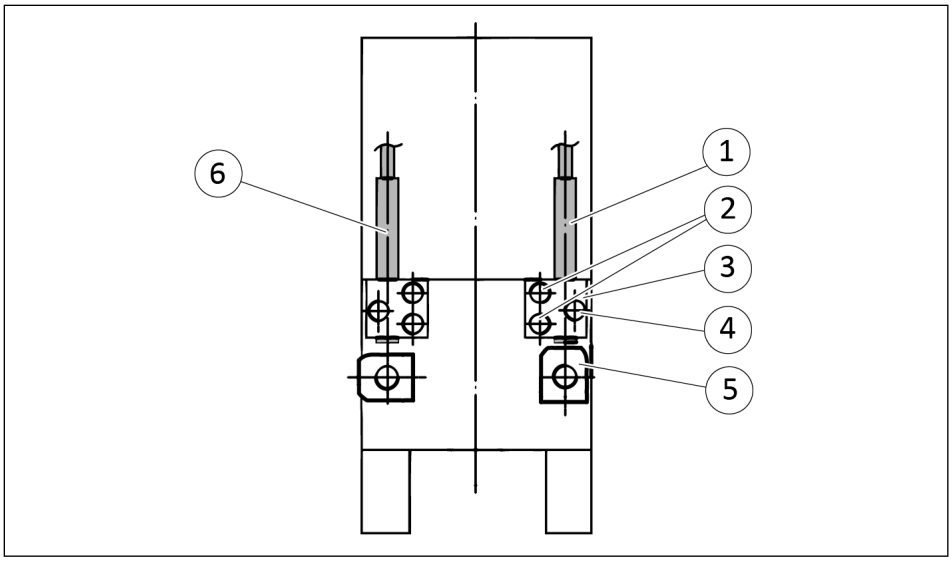
Position "Gripper open":

1. Move gripper to the "Gripper open" position.
2. Carefully push sensor 1 (1) into the bracket (3) until it touches the control cam (4).
3. Pull sensor 1 (1) back by approx. 0.5 mm.
4. Fix sensor 1 (1) using the attachment screws (2), Max. tightening torque: 10 Ncm.
5. Connect sensor 1 (1).
6. Open and close the gripper to test its function.

Position "Gripper closed":

1. Move gripper to the "Gripper closed" position.
2. Carefully push sensor 2 (5) into the bracket until it touches the control cam.
3. Pull sensor 2 (5) back by approx. 0.5 mm.
4. Affix sensor 2 (5) using the attachment screws. Max. tightening torque: 10 Ncm.
5. Connect sensor 2 (5).
6. Open and close the gripper to test its function.

4.3.3 Mounting inductive proximity switch IN 80



Position "Gripper open":

1. Move the product to the "Gripper open" position.
2. Secure bracket (3) to the product with screws (2).
3. Carefully push sensor 1 (1) into the bracket (3) until it touches the control cam (4).
4. Pull sensor 1 (1) back by approx. 0.5 mm.
5. Tighten screw (4). Tightening torque: 20 Ncm.

6. Connect sensor 1 (1).
7. Bring the product into position "Gripper open" to test for proper functioning.

Position "Gripper closed":

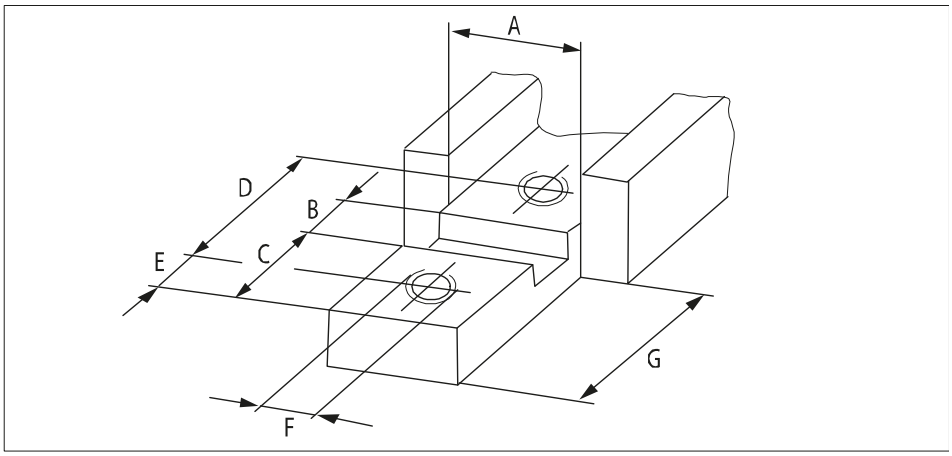
1. Move the product to the "Gripper closed" position.
2. Secure bracket (1) to the product with screws (2).
3. Carefully push sensor 2 (6) into the bracket (3) until it touches the control cam (4).
4. Pull sensor 2 (6) back by approx. 0.5 mm.
5. Tighten screw (4).
   Tightening torque: 20 Ncm.
6. Connect sensor 2 (6).
7. Bring the product into position "Gripper closed" to test for proper functioning.

4.4 Top jaws

Mounting of jaws:

The top jaws can be fastened to the gripper fingers optionally from the inside or outside.

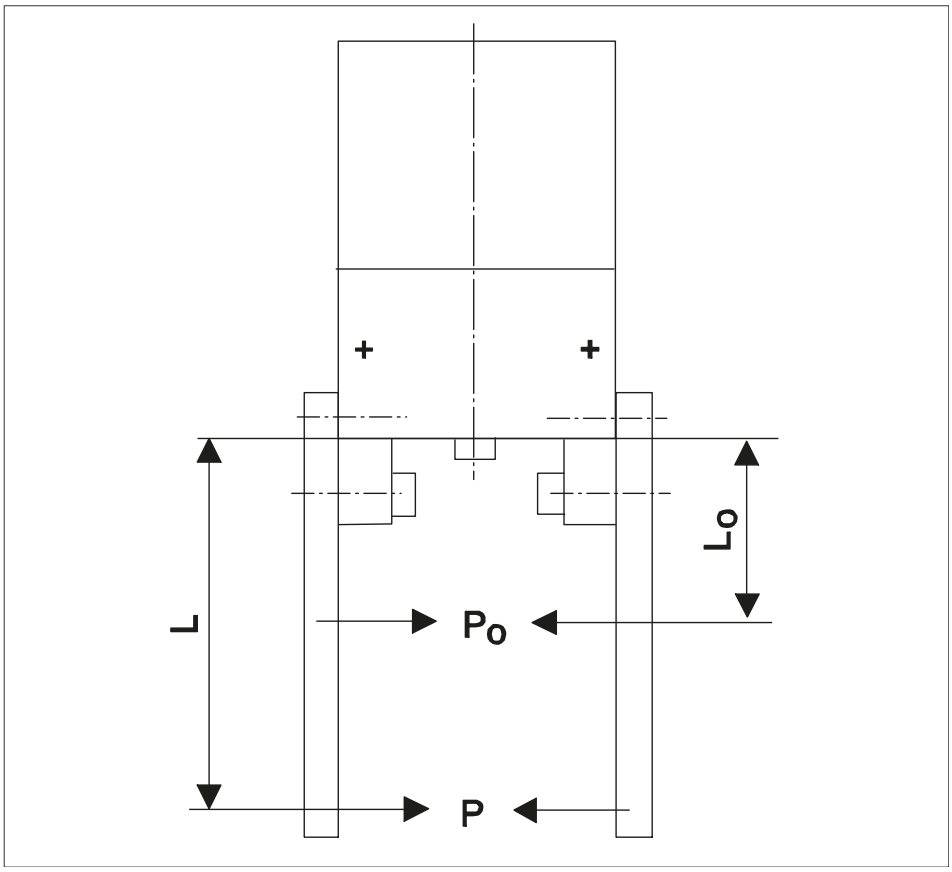
Example of how to design a top jaw



A	Centering for gripper finger
B	Groove for cylindrical pin
F	Thread for cylindrical screw

Tab.: Table of dimensions

Type	A	B	C	D	E	F	G
GWB 34	10	3	6	9	3	M3	10
GWB 44	12	4	9	14	4	M4	11
GWB 54	14	5	10.5	16	5	M5	17
GWB 64	16	6	12	18	6	M6	19
GWB 80	22	6	13	20	6	M6	20



Type	Max. finger length	Nominal gripping force	
	L in mm	Lo in mm	Po in mm
GWB 34	40	21	64
GWB 44	50	31	180
GWB 54	60	33	290
GWB 64	80	40	450
GWB 80	100	67	550

5 Troubleshooting

5.1 Module does not move?

Possible cause	Corrective action
Base jaws jam in housing, e.g. mounting surface is not sufficiently even.	Check the evenness of the mounting surface. ▸ 4.1.1 [🗋 19] Loosen the mounting screws of the product and actuate the product again.
Pressure drops below minimum.	Check air supply.▸ 4.1.2 [🗋 21]
Compressed air lines switched.	Check compressed air lines.
Proximity switch defective or set incorrect.	Readjust or change sensor.
Unused air connections open.	Close unused air connections.
Flow control valve closed.	Open the flow control valve.
Component part defective.	Replace component or send it to SCHUNK for repair.
The aperture angle is limited to 0°.	Check opening angle limitation.

5.2 Module opens or closes abruptly?

Possible cause	Corrective action
One-way flow control valve is missing or adjustet incorrectly.	Install and adjust one-way flow control valve.
Loading too large.	Check permissible weight and length of the gripper fingers. ▸ 4.1.1 [🗋 19]

5.3 Gripping force is dropping

Possible cause	Corrective action
Compressed air can escape.	Check seals, if necessary, disassemble the product and replace seals.
Too much grease in the mechanical movement space.	Clean and lubricate product.
Pressure drops below minimum.	Check air supply. ▸ 3 [🗋 17]
Component part defective.	Replace component or send it to SCHUNK for repair.

5.4 Opening angle not correct?

Possible cause	Corrective action
The aperture angle is limited to 0°.	Check opening angle limitation.
Pressure drops below minimum.	Check air supply. ▸ 4.1.2 [🗋 21]

5.5 Gripper opens or closes too slowly?

Possible cause	Corrective action
One-way flow control valve is missing or adjustet incorrectly.	Install and adjust one-way flow control valve. ▸ 4.1.2 [🗋 21]

6 Maintenance

6.1 Notes

Original spare parts

Use only original spare parts of SCHUNK when replacing spare and wear parts.

6.2 Maintenance and lubrication intervals

CAUTION

Material damage due to hardening lubricants!

Lubricants harden more quickly at temperatures above 60°C, leading to possible product damage.

- Reduce the lubricant intervals accordingly.

Size	GWB 34 – 100
Interval [Mio. cycles]	2

Tab.: Maintenance- and lubrication interval

6.3 Lubricants/Lubrication points (basic lubrication)

During maintenance, treat all greased areas with lubricant. Thinly apply lubricant with a lint-free cloth.

SCHUNK recommends the lubricants listed.

Greasing area	Lubricant
Metallic sliding surfaces	Rivolta F.L.G. GT-2
All seals	Rivolta F.L.G. GT-2
Bore hole at the piston	Rivolta F.L.G. GT-2

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

NOTE

- Change contaminated food-compliant lubricant.
- Observe information in the safety data sheet from the lubricant manufacturer.

6.4 Disassembly and assembly

6.4.1 Disassembling the GWB 34 – 80 module

Position of the item numbers ▶ 6.6 [🗋 35]

⚠ WARNING

Risk of injury due to unexpected movements!

If the power supply is switched on or residual energy remains in the system, components can move unexpectedly and cause serious injuries.

- Before starting any work on the product: Switch off the power supply and secure against restarting.
- Make sure, that no residual energy remains in the system.

1. Remove the compressed air line.
2. Screw the upper part (2) and lower part (1) apart with the four screws (16).

⚠ WARNING

In the event of a defect, the parts may be under spring tension. Clamp the gripper between "a" and "b" before screwing it apart. Then unclamp it carefully.

3. Carefully remove the screw (18) and the underlying sealing disk (24).

⚠ WARNING

The parts are under spring tension. Clamp the parts between "b" and "c" before taking them apart. Then unclamp them carefully!

4. Remove the cylinder piston (6) and the springs (31).
5. Pull out the guide bushing (4).
6. Unscrew the set-screws (20) from the gripper fingers (3). To do so, insert an Allen key through the assembly bores in the cover housing (2). The gripper fingers must be in "closed" position for this purpose.
7. Mark the installation position of the gripper fingers (3), slide blocks (7) and piston rod (5).
8. Push the axes (13) out of the cover housing (2).
9. Take the entire lever mechanism (gripper fingers and piston rod with slide blocks) out of the cover housing.

6.4.2 Disassembling the GWB 100 module

Position of the item numbers ▶ 6.6 [🗋 35]

⚠ WARNING

Risk of injury due to unexpected movements!

If the power supply is switched on or residual energy remains in the system, components can move unexpectedly and cause serious injuries.

- Before starting any work on the product: Switch off the power supply and secure against restarting.
- Make sure, that no residual energy remains in the system.

⚠ WARNING

Risk of injury due to spring forces!

The cover may be ejected due to the high spring forces.

- Dismantle the product carefully.

1. Remove the bar (9) with the screws (29).
2. Place a workpiece with a length of 64 mm between the fingers (3).
3. Remove the compressed air lines.

⚠ WARNING

In the event of a defect, the safety ring (25) and the cover (2) may be under spring tension (F = 500 N). Clamp the gripper between position "a" and "b" in a vice in such a manner that the cover (2) is also clamped prior to the disassembly. Loosen the safety ring (25) and then unclamp it carefully.

4. Carefully remove the safety ring (25) with suitable pliers for safety rings.
5. Remove the cover (2).

⚠ WARNING

The parts are under spring tension!

(F = 500 N).

6. Carefully loosen the screw (28) 35 mm. Clamp the gripper between the cylinder piston (6) and top edge of the housing. Loosen the screw (28) completely and then carefully unclamp the gripper.
7. Remove the cylinder piston (6), springs (31) and ring (14).

8. Unscrew the set-screws (32) from the gripper fingers (3).
9. Push the axes (8) out of the housing (1) and mark the installation position.
10. Remove the entire lever mechanism and mark the installation position of the gripper fingers (3), bolts (7) and piston rod (5).

6.5 Servicing and assembling the module

Position of the item numbers ▸ 6.6 [🗋 35]

⚠ WARNING

Risk of injury due to spring forces!

The cover may be ejected due to the high spring forces.

- Dismantle the product carefully.

Maintenance

- Clean all parts thoroughly and check for damage and wear.
- Treat all greased areas with lubricant. ▸ 6.3 [🗋 31]
- Oil or grease bare external steel parts.
- Replace all wear parts / seals.
  - Position of the wearing parts ▸ 6.6 [🗋 35]
  - Seal kit ▸ 1.4.2 [🗋 8]

Assembly

Assembly takes place in the opposite order to disassembly. Observe the following:

GWB 34- 80: The flat place on the axis (13) must point in the direction of the set-screw (20).

GWB 100: The flat place on the axis (8) must point in the direction of the set-screw (32).

- Unless otherwise specified, secure all screws and nuts with Loctite no. 243 and tighten with the appropriate tightening torque. ▸ 6.5.1 [🗋 34]

6.5.1 Screw tightening torques

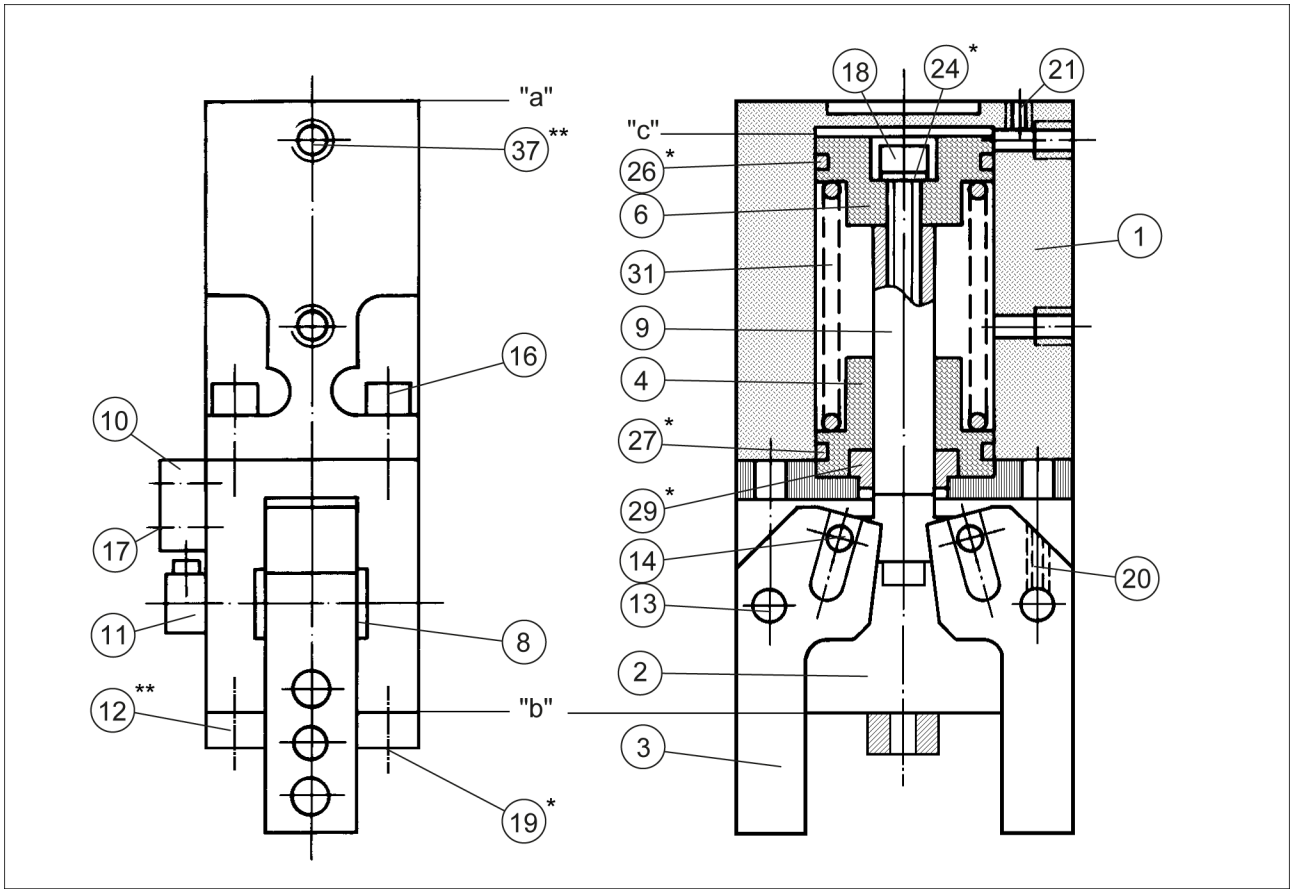
Position of the item numbers ▸ 6.6 [🗋 35]

Item	GWB 34	GWB 44	GWB 54	GWB 64	GWB 80	GWB 100
18	2.7	5.8	5.8	12	21	-

6.6 Assembly drawing

The following figures are example images.
They serve for illustration and assignment of the spare parts.
Variations are possible depending on size and variant.

6.6.1 GWB 34 – 80 assembly

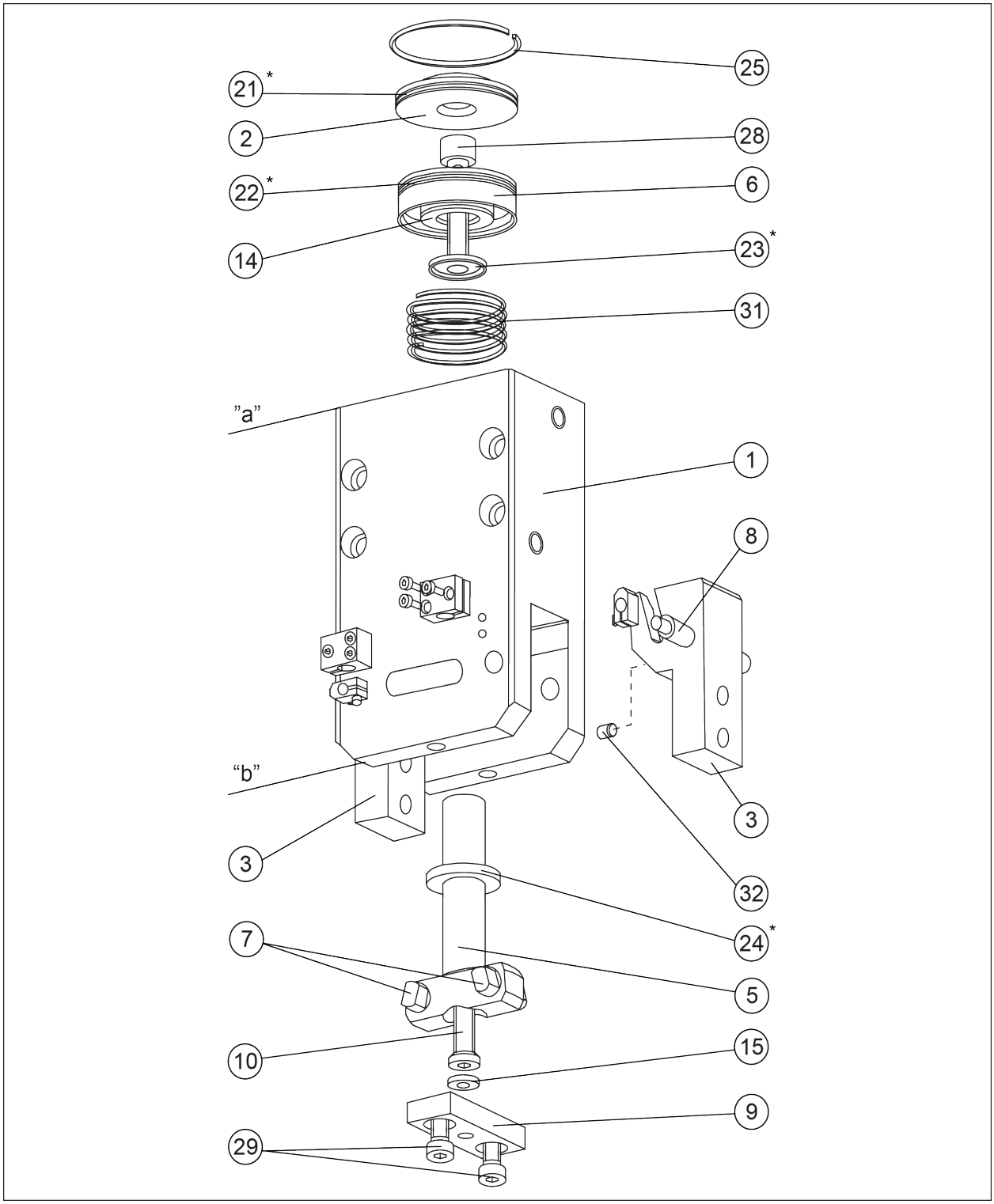


GWB 34 – 80 assembly

* Wearing part, replace during maintenance.
Included in the seal kit. Seal kit can only be ordered completely.

** Contained in accessory pack.

6.6.2 GWB 100 assembly



GWB 100 assembly

* Wearing part, replace during maintenance.
Included in the seal kit. Seal kit can only be ordered completely.

7 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:	2–finger angular gripper / GWB /pneumatic
ID number	0307125 ... 0307140

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. 1.5.3, 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, June 2023

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

8 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:	2-finger angular gripper / GWB / pneumatic
ID number	0307125 ... 0307140

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, June 2023

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

9 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 extension 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.

Signature: see original declaration

Lauffen/Neckar, June 2023

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

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