

## Light. Fast. Flexible.

# SGW Small Components Gripper

Small, simple pressurised plastic angular gripper with spring return

## Field of Application

Universal application in clean and slightly dirty environments, with special requirements on corrosion resistance and anti-static properties of the gripping unit

## Advantages – Your benefit






**Housing of plastic** making the gripper extremely light and free from corrosion

**One-way acting 3-fold piston with lever gear** for high power transmission and synchronized gripping

**Spring-loaded pressure piece** for optional pressing and separating of workpieces

**favorable in price** especially suitable for low-budget applications

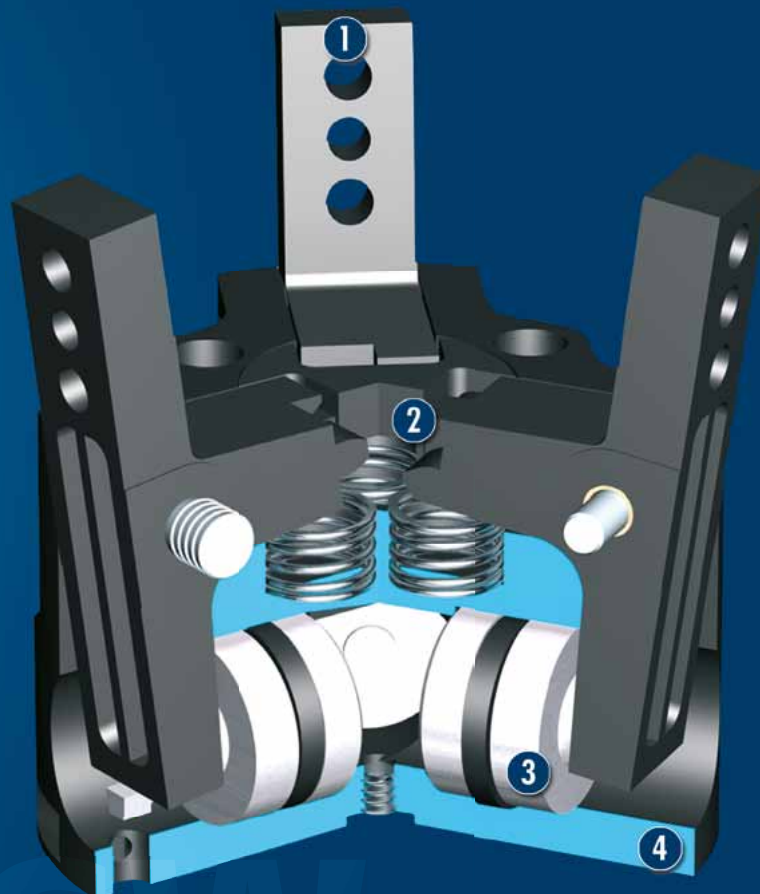


 <p><b>Sizes</b> Quantity: 3</p>	 <p><b>Weight</b> 0.05 .. 0.17 kg</p>	 <p><b>Gripping moment</b> 1.35 .. 7.45 Nm</p>	 <p><b>Angle per jaw</b> 8°</p>	 <p><b>Workpiece weight</b> 0.3 .. 1.3 kg</p>
---	--	---	--	--

## Functional Description

The horizontally arranged pistons are pressed away from each other by compressed air. The base jaws are opened at an angle and in a synchro-

nized fashion by the bearing-mounted lever mechanism. Reset is done by compression spring.



① **Base jaw**  
for the connection of workpiece-specific gripper fingers

② **Lever mechanism**  
for precise and synchronized gripping

③ **Drive**  
Single-acting double piston system with spring return

④ **Housing**  
Weight-reduced due to the use of plastics

CAD data, operating manuals and other current product documents are available at [www.schunk.com](http://www.schunk.com)

## General Notes about the Series

**Operating principle:** one-way acting 3-fold piston with lever gear and spring reset

**Housing material:** Plastic with metal functional components

**Base jaw material:** Plastic

**Actuation:** pneumatic, with filtered compressed air as per DIN ISO 8573-1: 7 4 4

**Warranty:** 24 months (details, general terms and conditions and operating manuals can be downloaded at [www.schunk.com](http://www.schunk.com))

**Scope of delivery:** Centering pins, O-rings for direct connection, assembly and operating manual with manufacturer's declaration

**Gripping force maintenance device:** possible with SDV-P pressure maintenance valve

**Gripping moment:** gripping moment is the arithmetic total of gripping moments for each claw jaw.

**Finger length:** is measured from the upper edge of the gripper housing in direction to the main axis. If the max. admissible finger length is exceeded, the speed of jaw motions have to be reduced and / or the opening angle has to be diminished, as it is done with heavy fingers. The service life of the gripper can shorten.

**Repeat accuracy:** is defined as the spread of the limit position after 100 consecutive strokes.

**Workpiece weight:** is calculated for a force-fit connection with a coefficient of friction of 0.1 and a safety factor of 2 against slippage of the workpiece on acceleration due to gravity  $g$ . Considerably heavier workpiece weights are permitted with form-fit gripping.

**Closing and opening times:** are purely the times that the base jaws or fingers are in motion. Valve switching times, hose filling times or PLC reaction times are not included in the above times and must be taken into consideration when determining cycle times.



## Application example

Linear unit with 6x gripper, e.g. for simultaneous transport of 6 small packages

❶ SGW 3-Finger Angular Gripper

❷ HSB Beta Linear Axis with Toothed-belt Drive

## SCHUNK offers more ...

The following components make the product SGW even more productive – the suitable addition for the highest functionality, flexibility, reliability, and controlled production.



SDV-P Pressure Maintenance Valve



Fittings



Inductive Proximity Switches



Sensor Cables



Gripper Pads



Sensor Distributor



Plastic Inserts

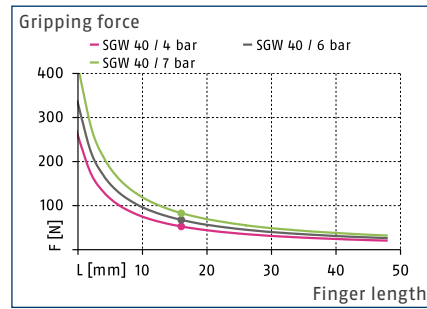
① Further information regarding the products can be found on the following product pages or at [www.schunk.com](http://www.schunk.com). Please contact us for further information: SCHUNK technical hotline +49-7133-103-2696

## Options and special Information

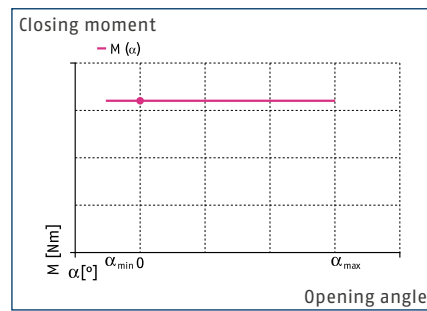
This gripper is characterised by a low weight with the use of plastics.



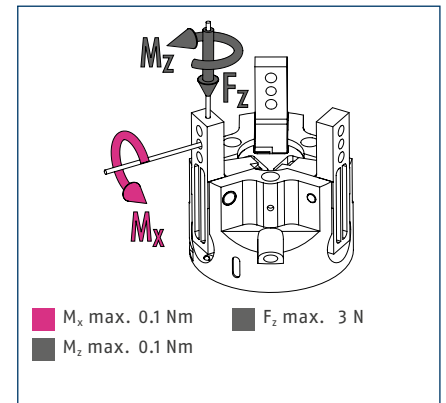
### Gripping force, O.D. gripping



### Closing torque curve\*\*



### Finger load



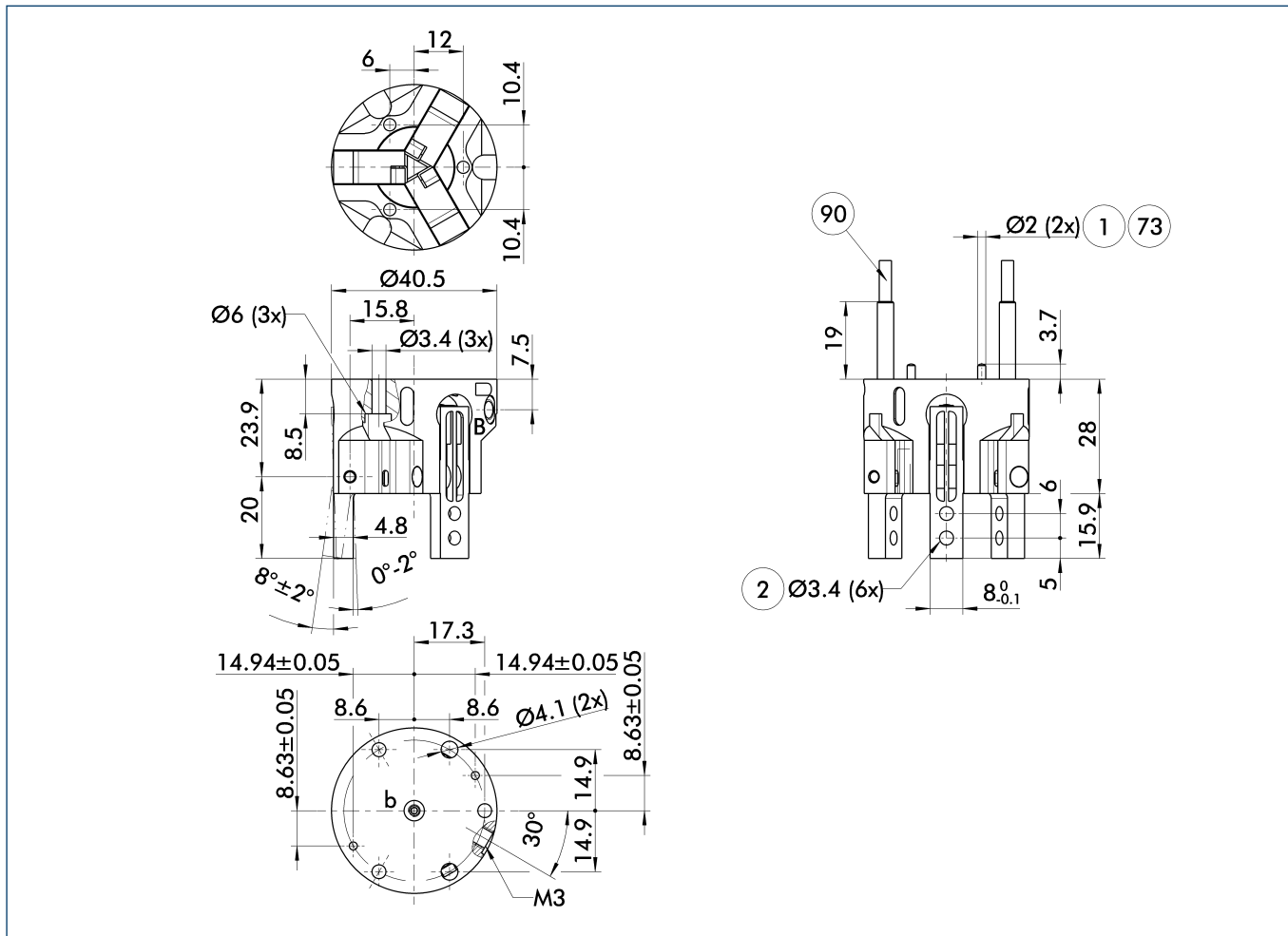
① The indicated moments and forces are static values, apply for each base jaw and should not appear simultaneously. If the max. permitted finger weight is exceeded, it is imperative to throttle the air supply so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

### Technical data

Description		SGW 40
ID		0305204
Opening angle per jaw	[°]	8
Closed angle per jaw up to	[°]	2
Closing moment	[Nm]	1.35
Weight	[kg]	0.05
Recommended workpiece weight	[kg]	0.3
Fluid consumption per double stroke	[cm <sup>3</sup> ]	0.5
min. / max. operating pressure	[bar]	4/7
Nominal operating pressure	[bar]	6
Closing- / opening time	[s]	0.02/0.03
max. permitted finger length	[mm]	32
max. permitted weight per finger	[kg]	0.03
IP class		20
min. / max. ambient temperature	[°C]	5/90
Repeat accuracy	[mm]	0.1

\*\*The diagram is valid for all opening angle variants.

Main view



The drawing shows the gripper in the basic version with closed jaws, without dimensional consideration of the options described below.

① The SDV-P pressure maintenance valve can be used as a gripping force maintenance device (see catalog section on "Accessories").

B, b Main / direct connection, gripper closing

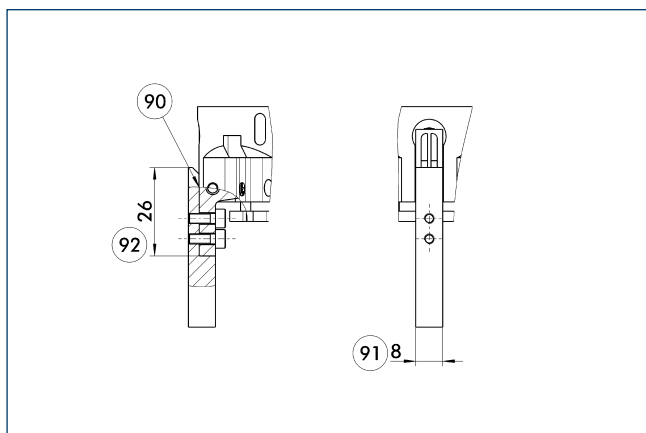
① Gripper connection

② Finger connection

⑦③ Fit for centering pins

⑨① IN ... sensor

Jaw design O.D. gripping



⑨① Support top jaws at the base jaw

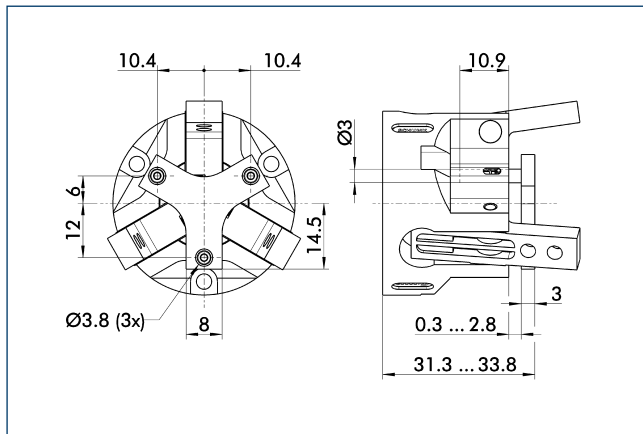
⑨① Maximum finger width

⑨② Maximum supporting length

# SGW 40

SCHUNK Grippers pneumatic | 3-Finger Angular Grippers | Small Components Gripper

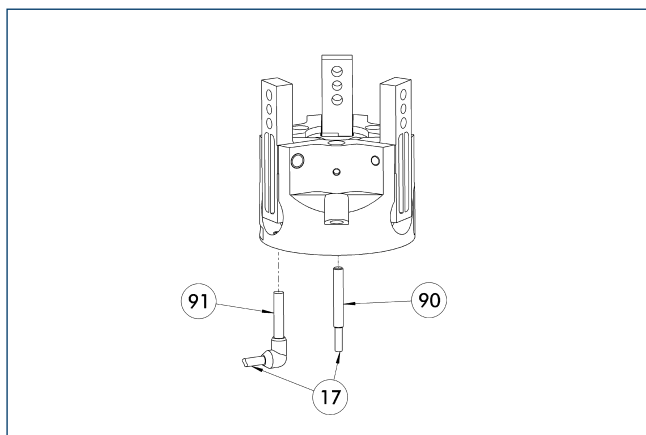
## Spring-loaded pressure piece



For spring-supported positioning of the workpiece against a stop after the gripper has opened. Especially developed for loading machines.

Description	ID	Stroke [mm]	Min. force [N]
Spring-loaded pressure piece			
A-SGW 40	0305207	2.5	5

Inductive proximity switches



- 17 Cable outlet
- 90 IN ... sensor
- 91 IN ...-SA sensor

Directly mounted limit position monitor.

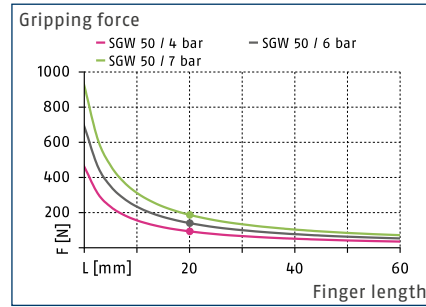
Description	ID	Often combined
<b>Inductive proximity switches</b>		
IN 40-S-M12	0301574	
IN 40-S-M8	0301474	●
INK 40-S	0301555	
<b>Inductive proximity switches with lateral outlet</b>		
IN 40-S-M12-SA	0301577	
IN 40-S-M8-SA	0301473	●
INK 40-S-SA	0301565	
<b>Cable extensions</b>		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	
<b>Clip for plug / socket</b>		
CLI-M12	0301464	
CLI-M8	0301463	
<b>Connection cables</b>		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
<b>Sensor distributor</b>		
V2-M8	0301775	●
V2-M12	0301776	●
V4-M12	0301747	
V4-M8	0301746	

- ① Two sensors (closer/S) are required for each unit, plus extension cables as an option. Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

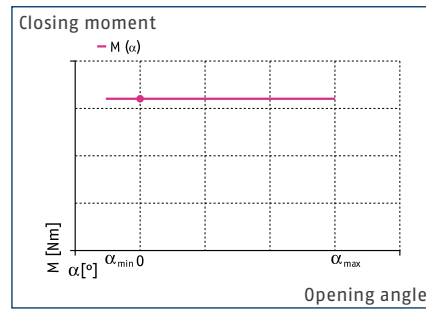




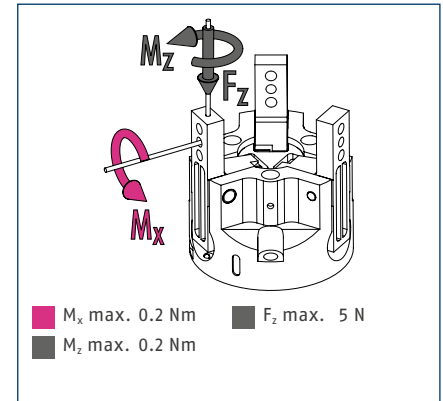
### Gripping force, O.D. gripping



### Closing torque curve\*\*



### Finger load



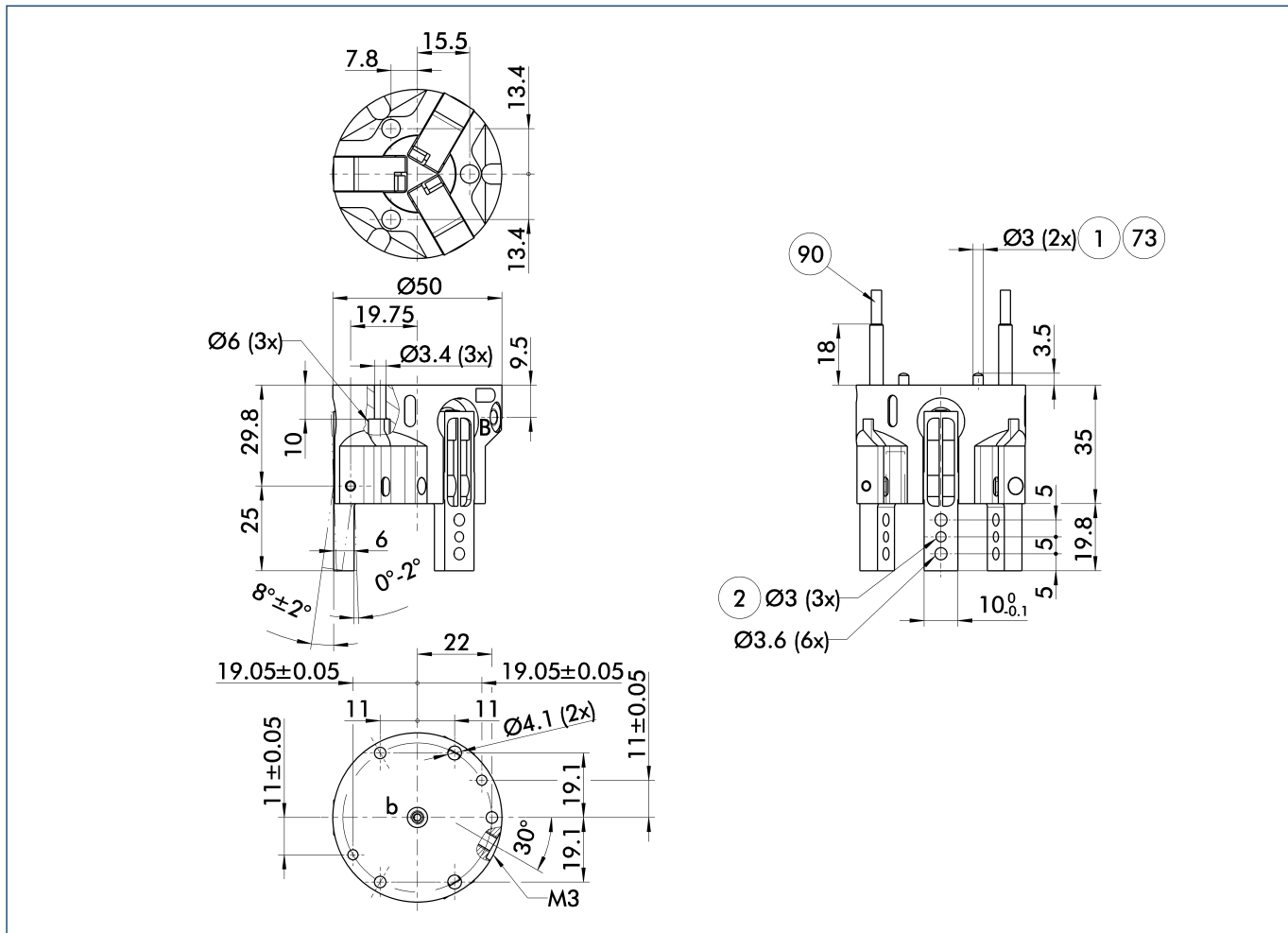
① The indicated moments and forces are static values, apply for each base jaw and should not appear simultaneously. If the max. permitted finger weight is exceeded, it is imperative to throttle the air supply so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

### Technical data

Description		SGW 50
ID		0305205
Opening angle per jaw	[°]	8
Closed angle per jaw up to	[°]	2
Closing moment	[Nm]	3.55
Weight	[kg]	0.09
Recommended workpiece weight	[kg]	0.6
Fluid consumption per double stroke	[cm³]	1
min. / max. operating pressure	[bar]	4/7
Nominal operating pressure	[bar]	6
Closing- / opening time	[s]	0.02/0.03
max. permitted finger length	[mm]	40
max. permitted weight per finger	[kg]	0.05
IP class		20
min. / max. ambient temperature	[°C]	5/90
Repeat accuracy	[mm]	0.1

\*\*The diagram is valid for all opening angle variants.

Main view



The drawing shows the gripper in the basic version with closed jaws, without dimensional consideration of the options described below.

① The SDV-P pressure maintenance valve can be used as a gripping force maintenance device (see catalog section on "Accessories").

B, b Main / direct connection, gripper closing

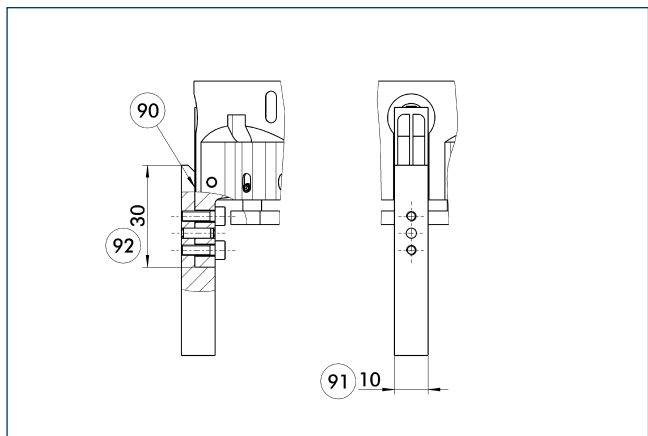
① Gripper connection

② Finger connection

73 Fit for centering pins

90 IN ... sensor

Jaw design O.D. gripping



90 Support top jaws at the base jaw

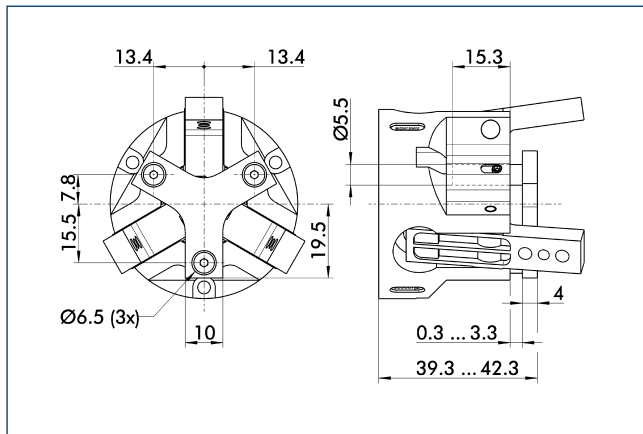
91 Maximum finger width

92 Maximum supporting length

# SGW 50

SCHUNK Grippers pneumatic | 3-Finger Angular Grippers | Small Components Gripper

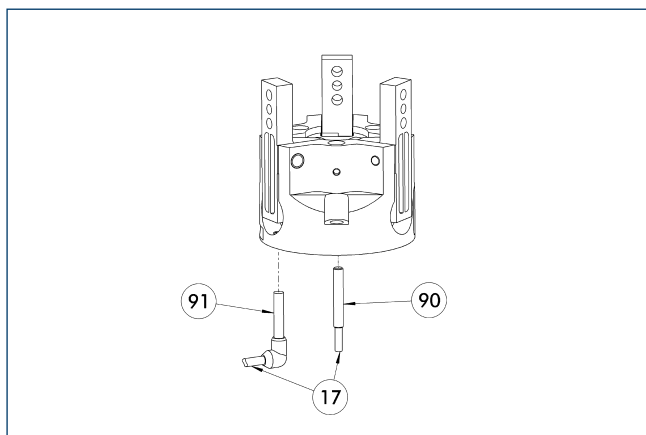
## Spring-loaded pressure piece



For spring-supported positioning of the workpiece against a stop after the gripper has opened. Especially developed for loading machines.

Description	ID	Stroke [mm]	Min. force [N]
Spring-loaded pressure piece			
A-SGW 50	0305208	3	12

Inductive proximity switches



- 17 Cable outlet
- 90 IN ... sensor
- 91 IN ...-SA sensor

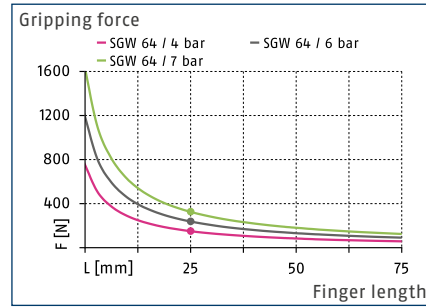
Directly mounted limit position monitor.

Description	ID	Often combined
<b>Inductive proximity switches</b>		
IN 40-S-M12	0301574	
IN 40-S-M8	0301474	●
INK 40-S	0301555	
<b>Inductive proximity switches with lateral outlet</b>		
IN 40-S-M12-SA	0301577	
IN 40-S-M8-SA	0301473	●
INK 40-S-SA	0301565	
<b>Cable extensions</b>		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	
<b>Clip for plug / socket</b>		
CLI-M12	0301464	
CLI-M8	0301463	
<b>Connection cables</b>		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
<b>Sensor distributor</b>		
V2-M8	0301775	●
V2-M12	0301776	●
V4-M12	0301747	
V4-M8	0301746	

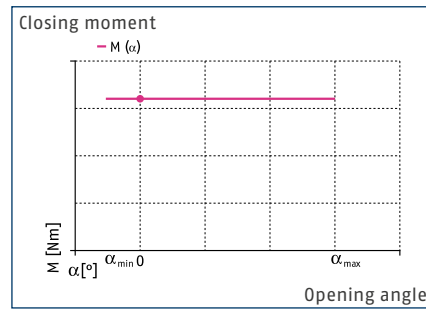
- ① Two sensors (closer/S) are required for each unit, plus extension cables as an option. Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.



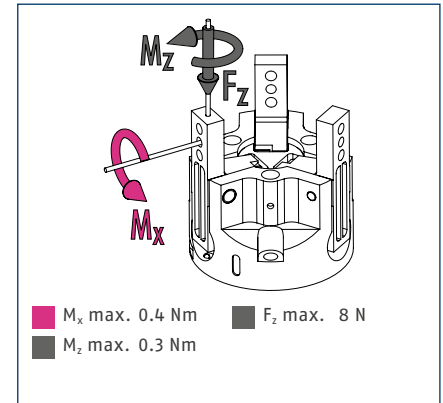
### Gripping force, O.D. gripping



### Closing torque curve\*\*



### Finger load



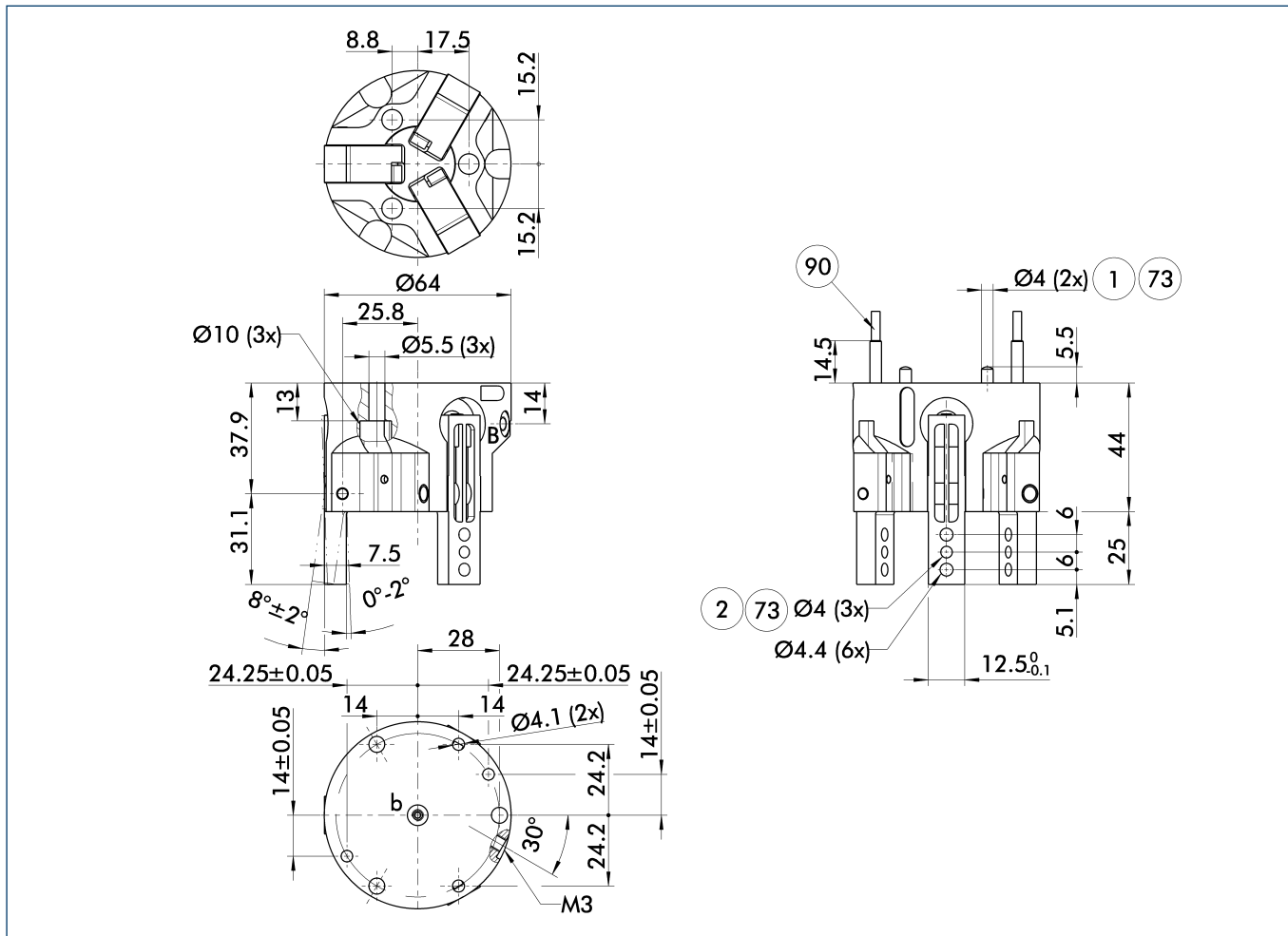
① The indicated moments and forces are static values, apply for each base jaw and should not appear simultaneously. If the max. permitted finger weight is exceeded, it is imperative to throttle the air supply so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

### Technical data

Description		SGW 64
ID		0305206
Opening angle per jaw	[°]	8
Closed angle per jaw up to	[°]	2
Closing moment	[Nm]	7.45
Weight	[kg]	0.17
Recommended workpiece weight	[kg]	1.3
Fluid consumption per double stroke	[cm³]	1.8
min. / max. operating pressure	[bar]	4/7
Nominal operating pressure	[bar]	6
Closing- / opening time	[s]	0.02/0.03
max. permitted finger length	[mm]	50
max. permitted weight per finger	[kg]	0.07
IP class		20
min. / max. ambient temperature	[°C]	5/90
Repeat accuracy	[mm]	0.1

\*\*The diagram is valid for all opening angle variants.

Main view



The drawing shows the gripper in the basic version with closed jaws, without dimensional consideration of the options described below.

① The SDV-P pressure maintenance valve can be used as a gripping force maintenance device (see catalog section on "Accessories").

B, b Main / direct connection, gripper closing

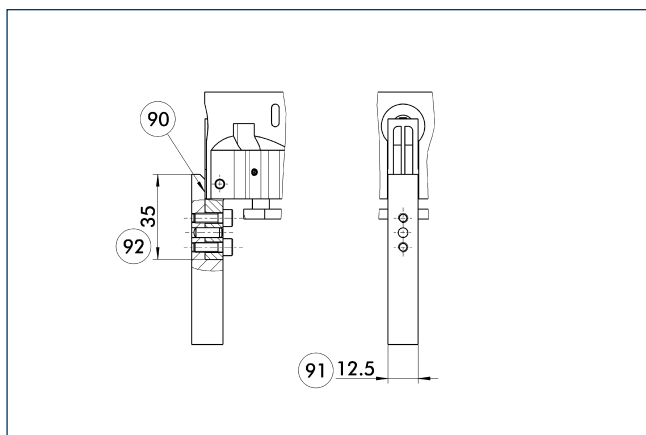
① Gripper connection

② Finger connection

73 Fit for centering pins

90 IN ... sensor

Jaw design O.D. gripping

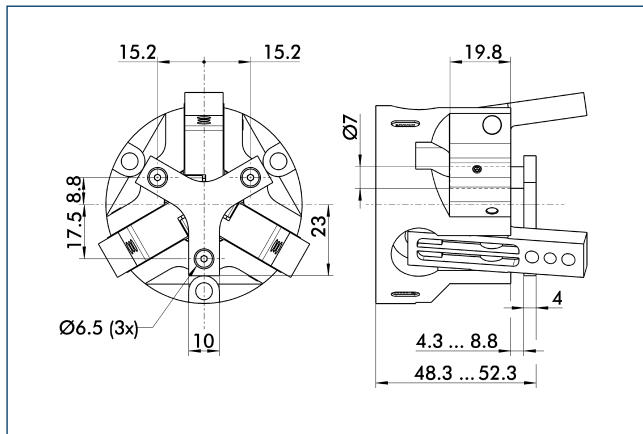


90 Support top jaws at the base jaw

91 Maximum finger width

92 Maximum supporting length

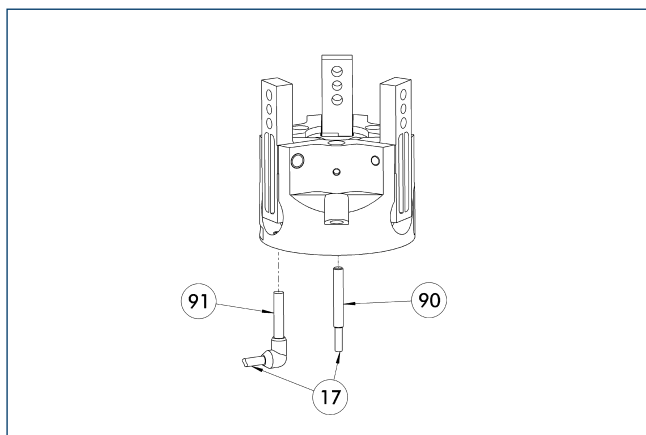
## Spring-loaded pressure piece



For spring-supported positioning of the workpiece against a stop after the gripper has opened. Especially developed for loading machines.

Description	ID	Stroke [mm]	Min. force [N]
Spring-loaded pressure piece			
A-SGW 64	0305209	4	11

Inductive proximity switches



- 17 Cable outlet
- 90 IN ... sensor
- 91 IN ...-SA sensor

Directly mounted limit position monitor.

Description	ID	Often combined
<b>Inductive proximity switches</b>		
IN 40-S-M12	0301574	
IN 40-S-M8	0301474	●
INK 40-S	0301555	
<b>Inductive proximity switches with lateral outlet</b>		
IN 40-S-M12-SA	0301577	
IN 40-S-M8-SA	0301473	●
INK 40-S-SA	0301565	
<b>Cable extensions</b>		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	
<b>Clip for plug / socket</b>		
CLI-M12	0301464	
CLI-M8	0301463	
<b>Connection cables</b>		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
<b>Sensor distributor</b>		
V2-M8	0301775	●
V2-M12	0301776	●
V4-M12	0301747	
V4-M8	0301746	

- ① Two sensors (closer/S) are required for each unit, plus extension cables as an option. Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.