



Superior Clamping and Gripping



Product Information

Angular gripper SGW 50

Light. Fast. Flexible.

Gripper for small components SGW

Small, simple pressurized 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

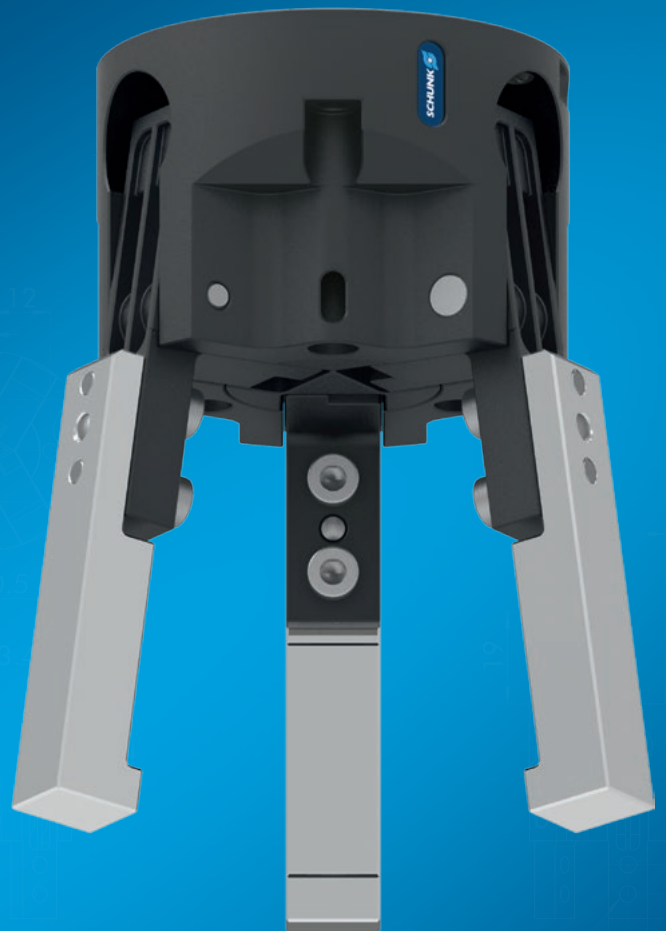
Advantages – Your benefits

Housing made 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



Sizes
Quantity: 3



Weight
0.05 .. 0.17 kg



Gripping moment
1.35 .. 7.45 Nm



Angle per jaw
8°



Workpiece weight
0.3 .. 1.3 kg

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 synchronized 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-optimized due to the use of plastics

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 ISO 8573-1:2010 [7:4:4].

Warranty: 24 months

Scope of delivery: Centering pins, O-rings for direct connection, assembly instructions (operating manual with declaration of incorporation is available online)

Gripping force maintenance: not possible

Closing moment: is the arithmetic sum of the individual moment applied to each jaw.

Finger length: is measured from the reference surface as the distance P in direction to the main axis.

Repeat accuracy: is defined as a distribution of the end Position for 100 consecutive strokes.

Workpiece weight: is calculated for force-fit gripping with a coefficient of static friction of 0.1 and a safety factor of 2 against workpiece slippage at acceleration due to gravity g. For form-fit or capture gripping, there are significantly higher permissible workpiece weights.

Closing and opening times: are purely the times that the base jaws or fingers are in motion. Valve switching times, hose fill times, or PLC reaction times are not included, and are to be considered when cycle times are calculated.

Application example

Robot handling with gripper unit for loading and unloading of round plastic sleeves, are weight-optimized due to the use of plastic components.

❶ 3-finger angular gripper SGW



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.



Pressure maintenance valve



Inductive proximity switches

① For more information on these products can be found on the following product pages or at [schunk.com](https://www.schunk.com). Please contact us: SCHUNK technical hotline +49-7133-103-2696

Options and special information

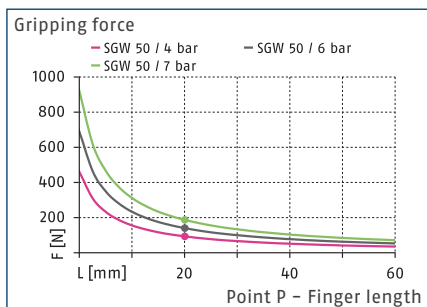
Due to the use of plastics, this gripper is characterized by a low weight.

SGW 50

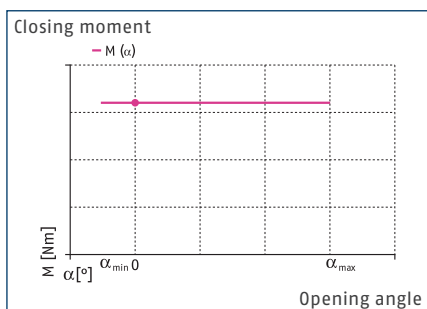
Angular gripper



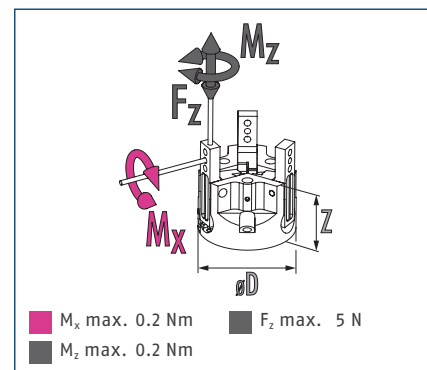
Gripping force O.D. gripping



Closing moment curve



Dimensions and maximum loads



① The indicated torques and forces are static values, apply for each base jaw, and may occur simultaneously.

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 double stroke	[cm ³]	1
Min./nom./max. operating pressure	[bar]	4/6/7
Closing/opening time	[s]	0.02/0.03
Max. permissible finger length	[mm]	40
Max. permissible mass per finger	[kg]	0.05
Protection class IP		20
Min./max. ambient temperature	[°C]	5/90
Repeat accuracy	[mm]	0.1
Dimensions Ø D x Z	[mm]	50 x 35

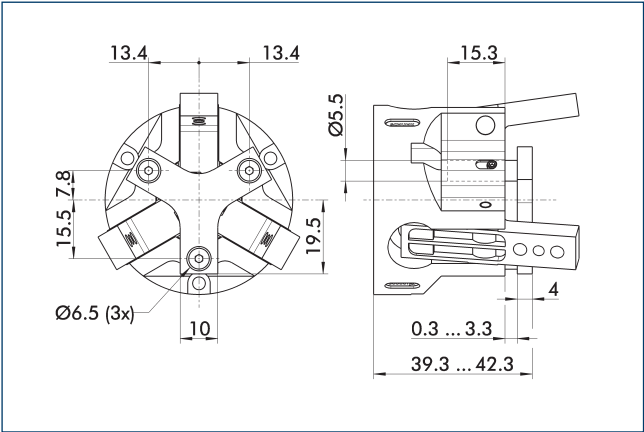
Technical drawing of a mechanical part, showing three views: a top view, a front view, and a side view. The top view is a circle with a diameter of 50 mm, featuring a central hole of diameter 6 mm and three smaller holes of diameter 3.4 mm. The front view shows a profile with a total width of 50 mm and a height of 35 mm. The side view shows a profile with a total width of 50 mm and a height of 35 mm. Dimensions are given in millimeters.

90 Sensor IN ...

Technical drawing of a metal rod. The side view shows a rod with a diameter of 92 mm and a threaded section of length 30 mm. The top view shows a flange with a width of 10 mm.

- ⑨1 Maximum finger width
- ⑨2 Maximum supporting length

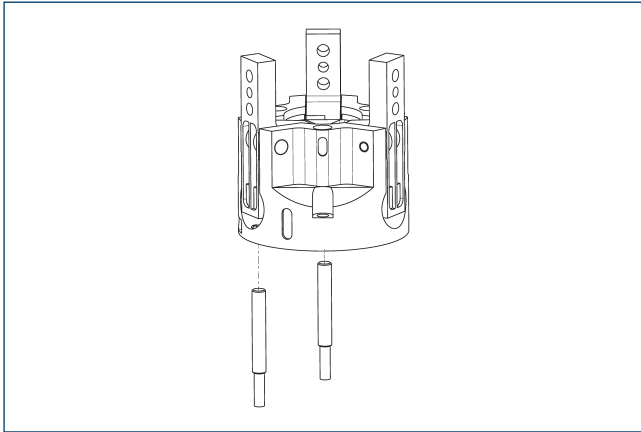
Spring-loaded pressure piece



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

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

Inductive Proximity Switches



①⑦ Cable outlet

⑨① Sensor IN..-SA

⑨⑨ Sensor IN ...

Directly mounted end position monitoring.

Description	ID	Often combined
Inductive proximity switches		
IN 40-S-M12	0301574	
IN 40-S-M8	0301474	●
INK 40-S	0301555	
Inductive proximity switch with lateral cable outlet		
IN 40-S-M12-SA	0301577	
IN 40-S-M8-SA	0301473	●
INK 40-S-SA	0301565	
Cable extension		
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	
clip for plug/socket		
CLI-M12	0301464	
CLI-M8	0301463	
Connection cables		
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	
Sensor distributor		
V2-M12	0301776	●
V2-M8	0301775	●
V4-M12	0301747	
V4-M8	0301746	
V8-M12	0301752	
V8-M8	0301751	

- ① Two sensors are required per unit for monitoring two positions. On option, extension cables and sensor distributors are available. Additional product variants of the sensor, and further information and technical data can be found in the catalog chapter sensor system.

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Jens Lehmann, German goalkeeper legend, SCHUNK brand ambassador since 2012 for
safe, precise gripping and holding.
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