



Hand in hand for tomorrow



Product data sheet

Gripper for small components KTG

KTG

Gripper for small components

Compact. Cost-effective. Flexible.

Gripper for small components KTG

2-finger parallel gripper with center bore

Field of application

Gripping and moving of small to medium-sized workpieces in low contaminated environments, equipped with end-to-end center bore for workpiece feeding, sensor systems or actuators

Advantages – Your benefits

Low weight for weight-optimized handling solutions

Long stroke in proportion to the size

Base jaws guided on roller bearings for precise gripping

Center through-hole for workpiece feeding, sensor systems or actuators

Air supply via hose-free direct connection or screw connections for flexible pressure supply in all automated systems



Sizes
Quantity: 1



Weight
0.08 kg



Gripping force
13 N



Stroke per jaw
4.5 mm



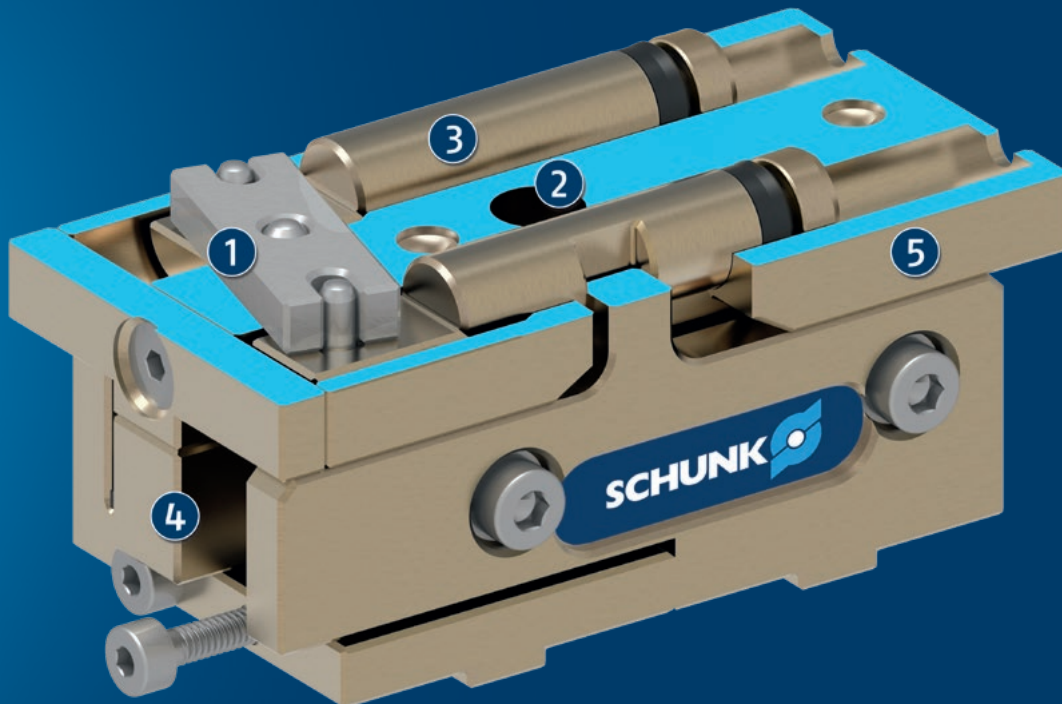
Workpiece weight
0.07 kg

Functional description

By pressurizing the first or second piston, the base jaws which are individually guided by a carrier on the piston, are moved.

The movement is synchronized by means of lever

kinematics.



- ① **Kinematics**
synchronization using lever principle for centric clamping
- ② **Center bore**
for workpiece feeding, for sensor systems, actuators (ejectors) or optical workpiece recognition
- ③ **Drive**
through pneumatic double piston system
- ④ **Profiled rail guide**
precise gripping due to backlash-free base jaw guidance
- ⑤ **Housing**
is weight-optimized due to the use of high-strength aluminum alloy

General notes about the series

Operating principle: synchronized double piston

Housing material: Aluminum alloy, anodized

Base jaw material: Aluminum alloy, anodized

Actuation: pneumatic, with filtered compressed air as per ISO 8573-1:2010 [7:4:4].

Warranty: 24 months

Service life characteristics: on request

Scope of delivery: Brackets for proximity switches, centering sleeves, O-rings for direct connection, assembly instructions (operating manual with declaration of incorporation is available online)

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

Gripping force: is the arithmetic sum of the individual force applied to each jaw at distance P (see illustration).

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

The maximum permissible finger length applies until the nominal operating pressure is achieved. With higher pressures, the finger length must be reduced proportionally to the nominal operating pressure.

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 movement times of the base jaws only, without application-specific gripper fingers. 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

Rotary gripper module for small components

- ❶ 2-finger parallel gripper KTG with workpiece-specific fingers
- ❷ Miniature swivel unit SRU-mini
- ❸ Linear module LM



SCHUNK offers more ...

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



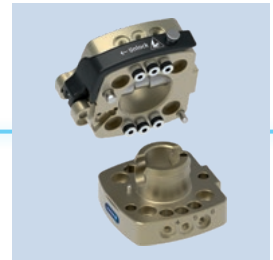
Miniature swivel unit



Linear module



Pick & Place Unit



Manual change system



Inductive proximity switch



Finger blank



Pressure maintenance valve

① For more information on these products can be found on the following product pages or at [schunk.com](https://www.schunk.com).

Options and special information

Available with reinforced jaw guidances on request. Gripping force can be maintained by the SDV-P pressure maintenance valve.

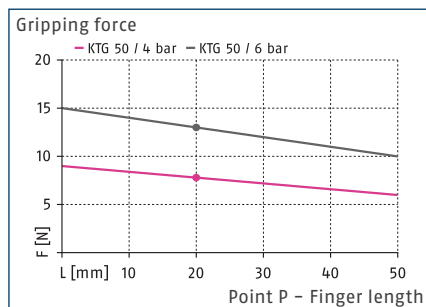
Food-grade lubrication: The product contains food-compliant lubricants as standard. The requirements of EN 1672-2:2020 are not fully met. The relevant NSF certificates are available at <https://info.nsf.org/USDA/Listings.asp> using the lubricant information in the operating manual.

KTG 50

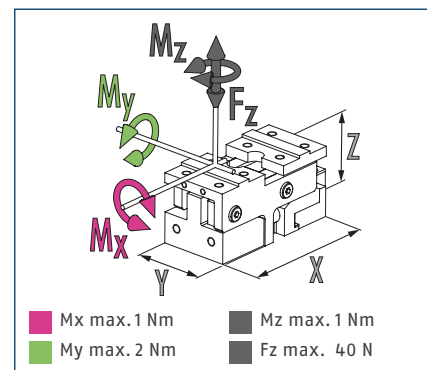
Gripper for small components



Gripping force



Dimensions and maximum loads

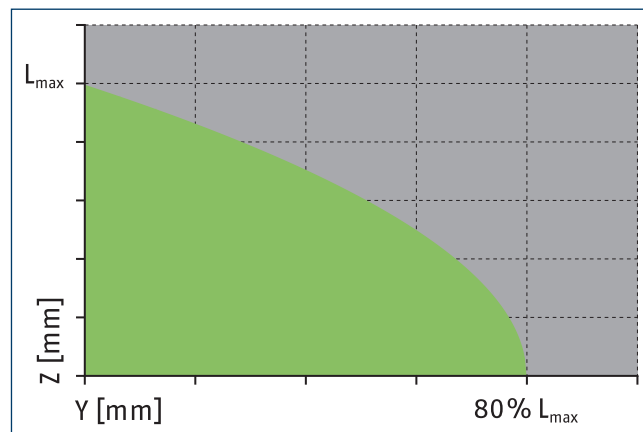


① The indicated moments and forces are static values, apply for each base jaw and may appear simultaneously. Loads may additionally occur to the moment produced by the gripping force itself.

Technical data

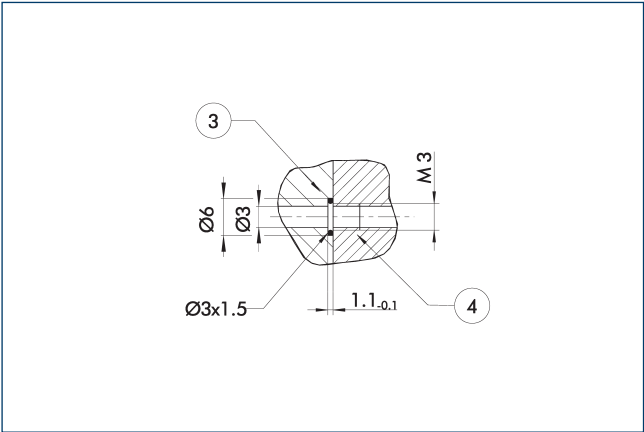
Description		KTG 50
ID		0300275
Stroke per jaw	[mm]	4.5
Closing/opening force	[N]	13/13
Weight	[kg]	0.08
Recommended workpiece weight	[kg]	0.07
Cylinder volume per double stroke	[cm ³]	0.23
Min./nom./max. operating pressure	[bar]	1/6/7
Closing/opening time	[s]	0.05/0.05
Max. permissible finger length	[mm]	50
Max. permissible weight per finger	[kg]	0.04
IP protection class		20
Min./max. ambient temperature	[°C]	5/90
Repeat accuracy	[mm]	0.02
Diameter of center bore	[mm]	5
Dimensions X x Y x Z	[mm]	50 x 25 x 25

90 Sensor IN ...

[illegible]

$L^{\max}$ is equivalent to the maximum permitted finger length, see the technical data table.

Hose-free direct connection M3

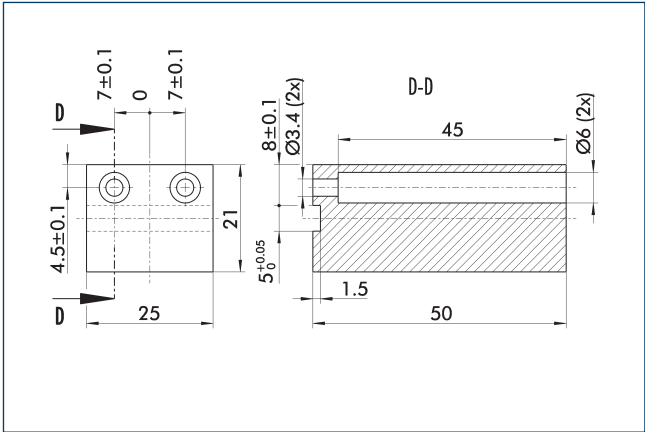


③ Adapter

④ Grippers

The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

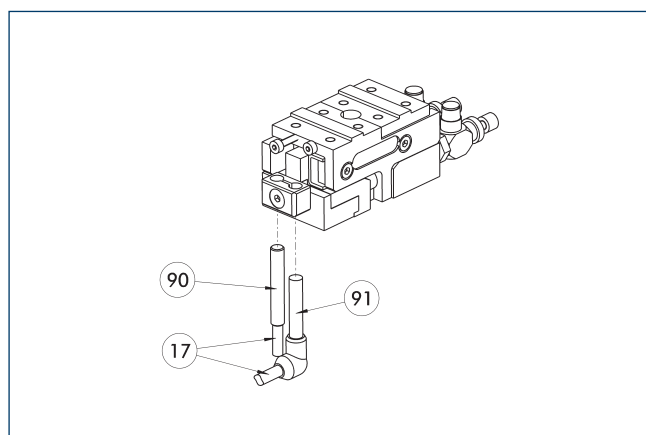
Finger blanks RB 50



The drawing shows the finger blank which can be reworked by the customer.

Description	ID	Material	Scope of delivery
Finger blank			
RB 50	0300280	Aluminum (3.4365)	2

Inductive proximity switches



17 Cable outlet

91 Sensor IN..-SA

90 Sensor IN ...

Directly mounted end position monitoring.

Description	ID	Often combined
Inductive proximity switch		
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	
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	
Clip for connector/socket		
CLI-M12	0301464	
CLI-M8	0301463	
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	
Sensor distributor		
V2-M12	0301776	•
V2-M8	0301775	•
V4-M8	0301746	
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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