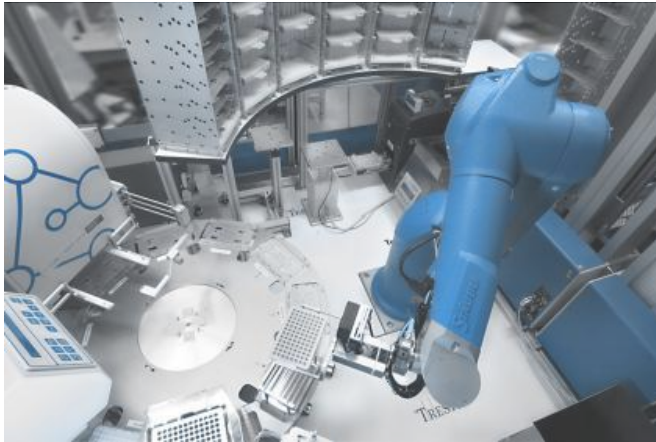




Handling with sensitivity

Servo-electric grippers with individually attuned gripping forces for your goods



Flexible electrical gripping systems for complex gripping tasks

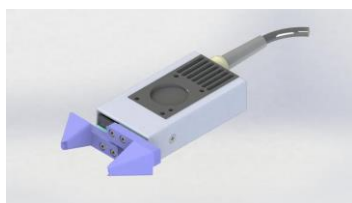
- control of position, power and speed
- waterproof
- certified for clean rooms
- programmable directly through robot control
- electrical gripper and gripping finger changers

SG30 SG50 SG150

Excellent positioning accuracy and high clamping force even with small size

Our servo-electric gripper contains an internal memory to save gripping force, opening width, closing width and closing speed. This enables you to record the parameters of each single work step in your working programme individually. As for our incomparably small-sized and lightweight electric

gripper you neither need special software nor controller it is easily and quickly integrated in every process and laboratory automation. Our grippers have already proved themselves worldwide at robots of Stäubli, Yaskawa Motoman, UR Universal Robots, Kuka, bionic robotics and Epson SCARA.

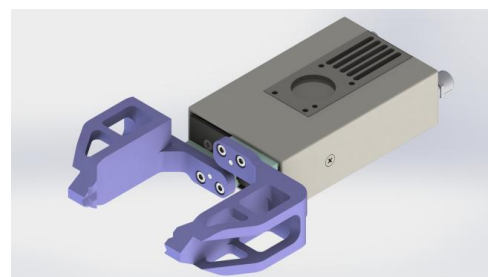


SG30 our lightweight

With a net weight of 140g, this gripper was especially developed for lightweight robots.

SG50 our all-rounder

With a clamping force of 50N, this gripper is the strongest one of its construction size.



SG150 our biggest one

With a stroke of 100mm, this gripper is the most compact of its construction size.

SG30 SG50 SG150

Data and facts

Interfaces

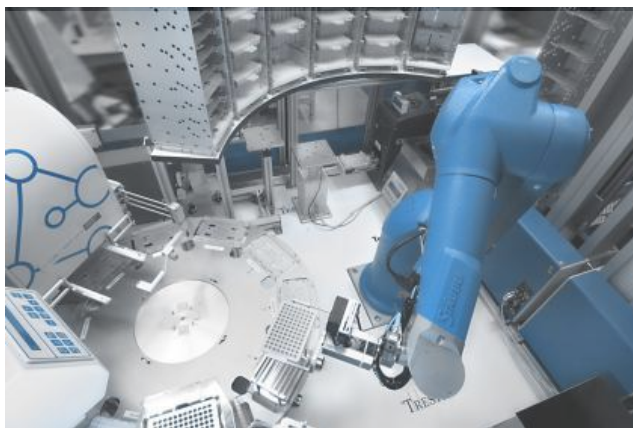
RS232 and RS485 is our standard. On request we offer other interfaces like Ethernet, PROFibus und CANbus.

Added value

We gladly offer you our installation know-how as well as:

- tool changers
- collision protection
- programming
- special gripper fingers

Gripper	Max. gripping force	Min. gripping force	Stroke	Positioning accuracy	Weight	Speed
SG30	30 N	1,5 N	30 mm	0,1 mm	140 g	175 mm/s
SG50	50 N	1,5 N	50 mm	0,1 mm	390 g	175 mm/s
SG150	50 N	1,5 N	100 mm	0,1 mm	430 g	175 mm/s



SG30-CR SG50-CR SG150-CR

Our CR-series for clean room

Our CR-series was especially developed for the application in clean rooms. They have been certified according to VDI 2083 and ISO 14644 as cleanroom-compatible by an external institute. Their precise, fine-tuned construction ensures a nearly particle-free performance of all movements. They are used in all conceivable clean rooms: e.g. the production of implants, the production of sterile components or the dust-free assembly of sensors.

Application in laboratory automation

Due to its large stroke, the servo-driven gripper manages to clamp microplates at the long and short side without finger exchange as well as:

- pipettes
- cuvettes
- test tubes
- microplates
- microplate lids
- pipette holder



SG50-WP SG150-WP

Our waterproof WP-series

Our WP-series was especially developed for the application underwater. By means of a special process, all interfaces and electronics are protected safely against the ingress of water. Therefore, our grippers are usable

underwater according to protection class IP68. In hygienically critical applications, e.g. in the pharmaceutical industry or in laboratory environments, they are easy to clean; without edges or contours that are difficult to access.



Human - Machine hand in hand

Functionally safe grippers for collaborative robots

Our collaborative grippers cooperate safely and reliably with your collaborative robot where human and machine need to work together. For the first time, the gripping system does not longer constitute the safety gap between human and machine but fills it

seamlessly. In the first step, we analyse your gripping task together. Via our flexible modular system and with our technical expertise, we subsequently develop your customized and functionally safe gripping solution.



- MRK-bumper with rounded and soft outline
- gripping fingers with rounded gripping tips
- passive and active break
- redundant force sensors
- ultrasonic sensors
- capacitive recognition



Safetygrip-Technology

Even in case of power failure in safe hands

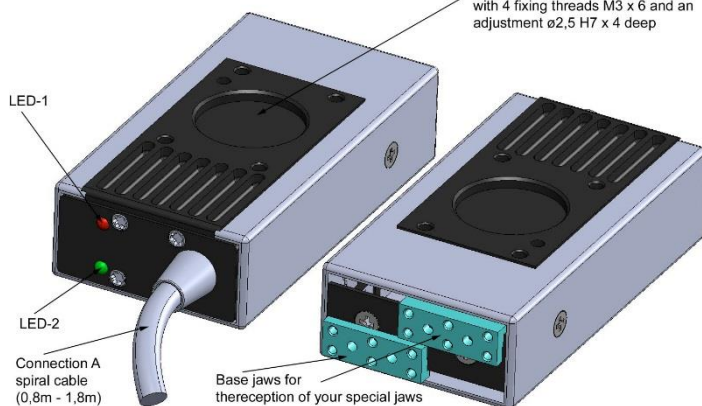
In case of power failure the clamping force is maintained automatically by our Safetygrip Technology. Your goods are always safe. For our servoelectric grippers, the Safetygrip Technology is applied by a magnetic brake.

In case of interruptions it already closes at a voltage decrease of 10% and provides a constant tension through a magnetic break. Additionally, capacitors support the break by balancing the voltage fluctuations redundantly.

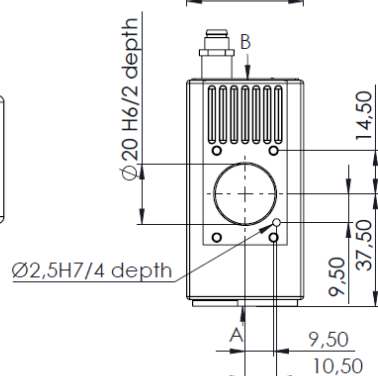
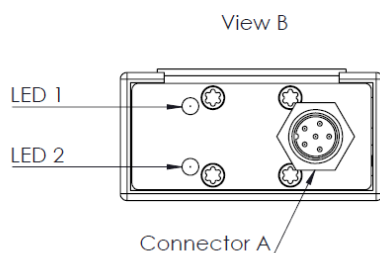
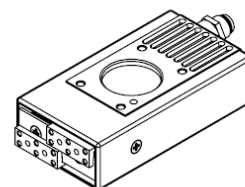
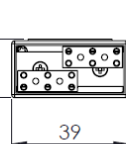
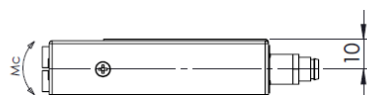
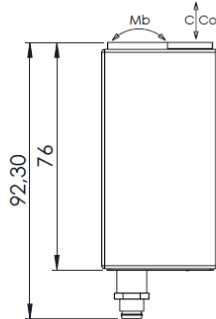
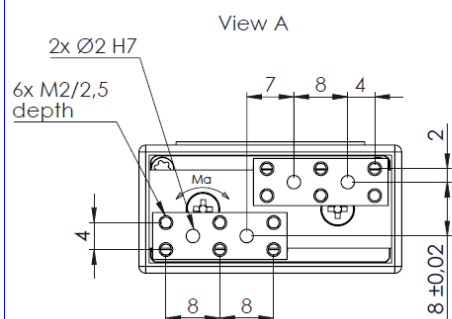
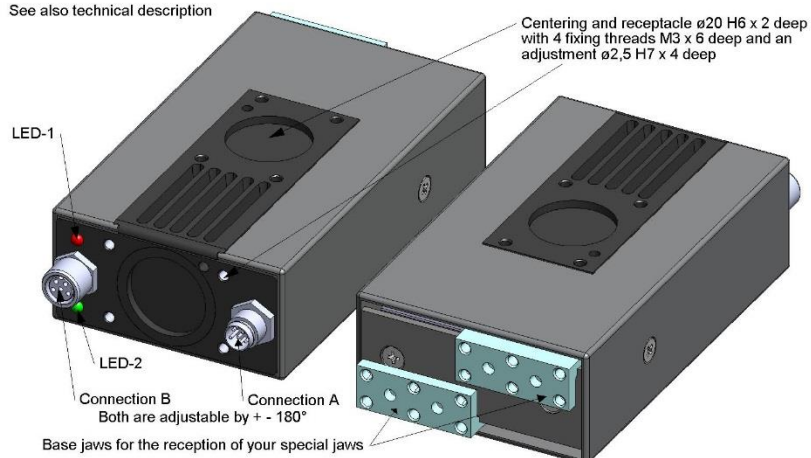


The active magnetic break is integrated in the robot flange

Centering and receptacle $\varnothing 20$ H6 x 2 deep
with 4 fixing threads M3 x 6 and an
adjustment $\varnothing 2,5$ H7 x 4 deep



See also technical description



Technical Date:

Max. grip force:	30 N = {60N/2}
Min. grip force:	1,5 N = {3N/2}
Max. stroke {2x15}:	30 mm = {2x15}
Max. velocity:	150 mm/sec
Max. current:	0,700 A
Min. cycle rate:	17,5 M
Min. cycle time:	100 ms
Operating voltage:	12 Volt DC
Voltage range:	11-13 Volt DC
Position accuracy:	+ - 0,05 mm
Repeatability:	0,01 mm
Operating temperature:	-20°C - +40°C
Inverse polarity protection:	ja
Thermo protection:	ja
Force compensation:	ja
Weight:	0,140 kg

finger length: max. grip force *

10 mm	30 N
20 mm	30 N
30 mm	20 N
40 mm	15 N
50 mm	12 N
60 mm	10 N
70 mm	9 N
80 mm	8 N
90 mm	7 N
100 mm	6 N

C = 0,55 kN
Co = 0,96 kN
Ma = 1,28 Nm
Mb = 1,28 Nm
Mc = 1,74 Nm

Model Code

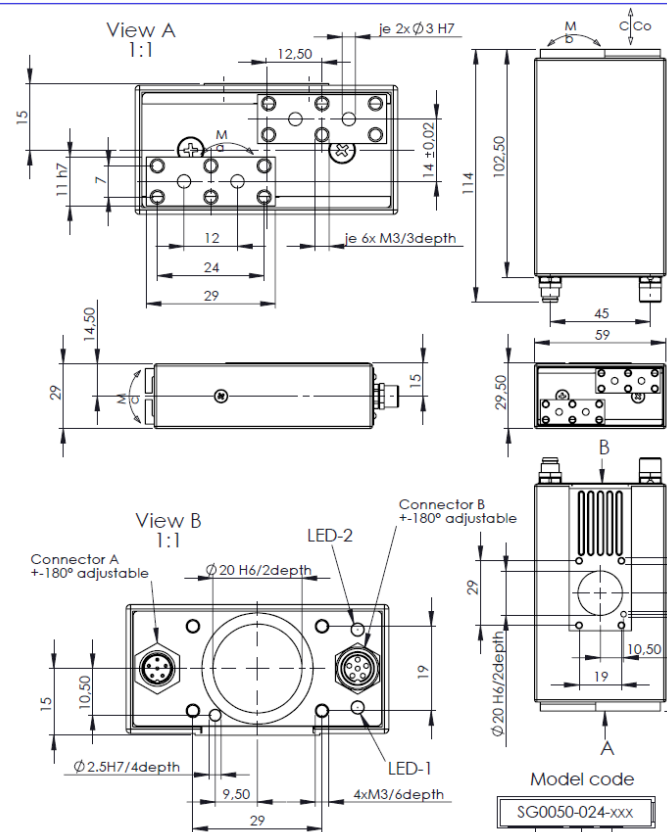
SG0030-012-xxx

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graph TD
    A[Product Type] --> B[Operating Voltage]
    A --> C[Interface Type]
    B --> D[12V]
    B --> E[24V]
    C --> F[RS-485]
    C --> G[RS-232C]
  
```

* Force data valid for the gripping fingers centrally located on the gripper jaws

				Weight: 140gr	
	Datum	Name			
Bearb.	27.07.16	Malsch			
Gepr.					
Norm					
Vertrauliche Information / Alle Rechte vorbehalten / Schutzvermerk nach ON 2002					
PTM mechatronics GmbH		SG0030		Blatt#	
PUCHHEIM				von	
Ursprung:		Fersatz für:		Fersatz durch:	

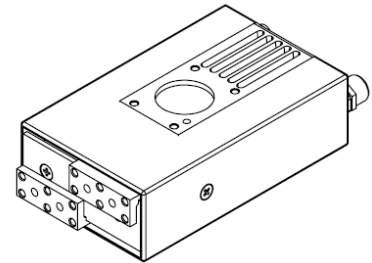


TECHNICAL DATE:

Max. grip force: 50N (100N/2)
Min. grip force: 1.5N (3N/2)
Max. stroke (2x25): 50 mm (2x25)
Max. velocity: 175 mm/sec
Max. current: 0.500 A
Min. cycle rate: 17.5 Hz
Min. cycle time: 140 ms
Operating voltage: 24 Volt DC
Voltage range: 22-25 Volt DC
Position accuracy: ± 0.05 mm
Repeatability: 0.01 mm
Operating temperature: -20°C - +60°C
Inverse polarity protection: ja
Thermo protection: ja
Force compensation: ja
Weight: ca. 0.390 kg

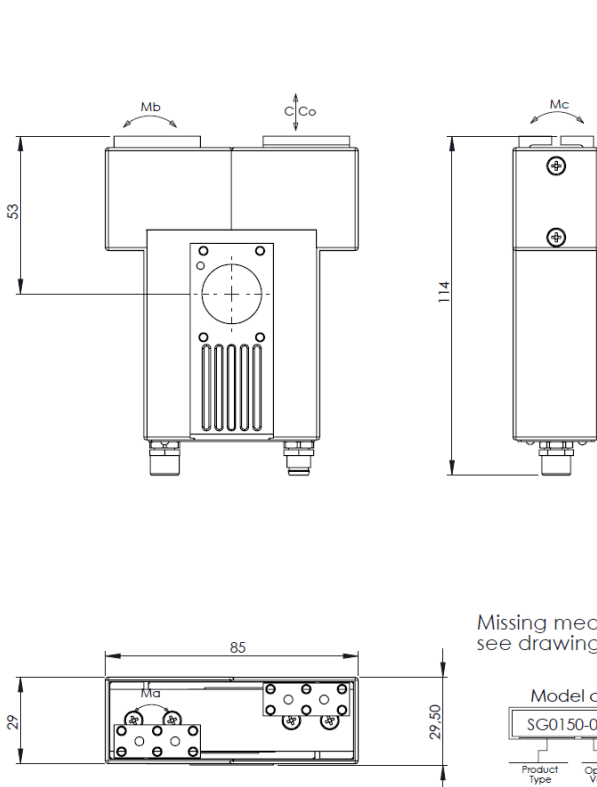
finger length	max. grip force *
10 mm	50 N
20 mm	50 N
30 mm	50 N
40 mm	50 N
50 mm	40 N
60 mm	33 N
70 mm	29 N
80 mm	25 N
90 mm	22 N
100 mm	20 N

C = 1.04 kN
Co = 1.16 kN
Ma = 3.91 Nm
Mb = 4.52 Nm
Mc = 5.30 Nm



* Force data valid for the gripping fingers centrally located on the gripper jaws

Free mea	Scale: 1:2 (1:1)	Weight: 390gr
Tolerance	xxxx	
f (fine)	xxxx	
ISO2768-1	xxxx	
Datum	Name	
Bearb.	27.07.16	Maisch
Gepr.		
Norm		
Confidential information / All rights reserved / Protection remark after ON 202		
PTM mechatronics GmbH	SG0050	Blatt 1
PUCHHEIM		von
Ursprung:	Ersatz für:	Ersatz durch:



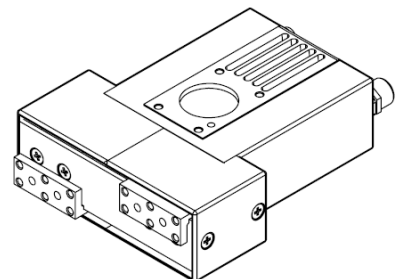
Missing measure definition
see drawing SG0050

TECHNICAL DATE:

Max. grip force (100N/2): 50N
Min. grip force (3N/2): 1.5N
Max. stroke (2x25): 50 mm
Max. velocity: 175 mm/sec
Max. current: 0.500 A
Min. cycle rate: 17.5 Hz
Min. cycle time: 140 ms
Operating voltage: 24 Volt DC
Voltage range: 22-25 Volt DC
Position accuracy: ± 0.05 mm
Repeatability: 0.02 mm
Operating temperature: -20°C - +60°C
Inverse polarity protection: ja
Thermo protection: ja
Force compensation: ja
Weight: 0.450 kg

finger length	max. grip force *
10 mm	50 N
20 mm	50 N
30 mm	50 N
40 mm	50 N
50 mm	40 N
60 mm	33 N
70 mm	29 N
80 mm	25 N
90 mm	22 N
100 mm	20 N

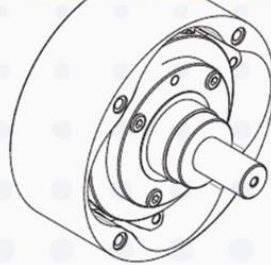
C = 1.04 kN
Co = 1.16 kN
Ma = 3.91 Nm
Mb = 4.52 Nm
Mc = 5.30 Nm



* Force data valid for the gripping fingers centrally located on the gripper jaws

PTM	(Oberfl.)	Scale: 1:1	Weight: 0.450kg
Tolerance	xxxx		
f (fine)	xxxx		
ISO2768-1	xxxx		
Datum	Name		
Bearb.	27.07.16	Maisch	
Gepr.			
Norm			
Confidential information / All rights reserved / Protection remark after ON 202			
P.T.M. PRODUKTION	SG0150	Blatt 1	
techn.-mech. Geräte GmbH		von	
PUCHHEIM			
Ursprung:	Ersatz für:	Ersatz durch:	

leistungsstarke
Druckluftmotoren



powerful
air motors



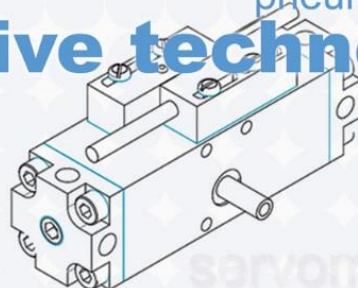
präzise
Greifsysteme

precise
gripping systems



pneumatische
Antriebstechnik

pneumatic
drive technology



PSZ - Our all-rounder

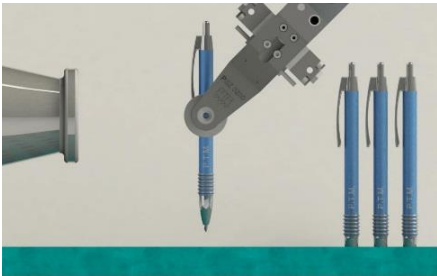
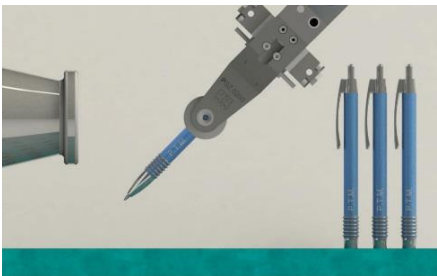
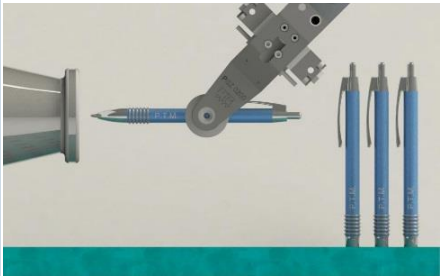
Pneumatic grippers with integrated rotary motion save time-consuming change of grip

Our pneumatic grippers are able to rotate your goods up to 180° in tensioned state. Our integrated Swing Technology allows quick changes between vertical and horizontal positioning for further processing or transport.

- absolutely centric
- maintenance-free
- standard jaws in two different lengths
- defined grip forces by means of optional spring tension
- safety in case of pressure loss by means of optional spring tension
- two additional opening positions by means of optional intermediate position

	Max. gripping force	Stroke	Weight	Torque
PSZ 200 filigree	125 N 250 N	13,5 mm und 27 mm 26 mm und 52 mm 52,5 mm und 105 mm	900 g 1100 g 1600 g	40 Ncm
PSZ 600 filigree	250 N 500 N	15 mm und 30 mm 30 mm und 60 mm	1900 g 2200 g	100 Ncm
PSZ 201 robust	125 N 250 N	613,5 mm und 27 mm 26 mm und 52 mm 52,5 mm und 105 mm	1300 g 1500 g 1900 g	40 Ncm
PSZ 601 robust	250 N 500 N	15 mm und 30 mm 30 mm und 60 mm	2900 g 3500 g	100 Ncm
PSZ 1201 robust	600 N 1200 N	40 mm 80 mm	8800 g	400 Ncm
PSZ 3001 robust	1500 N 3000 N	40 mm 80 mm	13300 g	1000 Ncm

Optional	Digital end position control
Accessories	Spring tension for defined grip forces and safety in case of pressure loss (<i>Safetygrip-Technology</i>)
	Intermediate position for two additional opening positions (<i>Quickstep-Technology</i>)
	Limit switch with LED display



A well-rounded solution

Absolutely concentric pneumatic three jaw grippers for big round parts

Our three finger grippers with their precise planetary gears are our experts for the handling of round parts. They are able to grip circular objects at the outer diameter as well as the inner diameter with precise clamping force. Equipped with appropriately long grip jaws they manage extremely wide gripping strokes and clamp geometrically similar parts of different size without the necessity of conversion.

- absolutely concentric
- high repeat accuracy
- easy limiting of gripping stroke
- high clamping forces
- ATEX Certification



Standard	IP 66
Optional	ATEX certification
	Transmission 3:1 9:1 1:2
	IP 68 resistant to seawater
	IP 68 stainless steal
	Speed control
	Silicone-free
	Viton FPM FKM
	Acetone-resistant EPDM PTFE
Accessories	Mounting bracket
	Mounting flange
	Adapter for air connection 45° and 90°

	Gripping torque	Weight
DSG 450	6,5 Nm	2,1 kg
	19,5 Nm	3,0 kg
	58,5 Nm	3,8 kg
DSG 900	13 Nm	2,3 kg
	39 Nm	3,2 kg
	117 Nm	4,0 kg
DSG 1800	32 Nm	5,9 kg
	96 Nm	8,6 kg
	288 Nm	10,4 kg
DSG 3600	65 Nm	6,5 kg
	195 Nm	9,2 kg
	585 Nm	11,0 kg

Accessories

Our all-round carefree package

Via our wide-ranging modular system and numerous options we can adjust our range to every application.

Do you wish to receive an offer, CAD data or a customised solution? We will be happy to advise you. Please contact us:

Phone: +49-8134-25797-0

Email: info@ptm-mechatronics.com



