

Low-cost angular grippers

SGW14 / SGW25 / SGW35



Things worth knowing

Advantages and uses

... Fewer parts = low cost design ... compatible with competitive models ...

- ▶ self-locking in closed position (NC - model)
 - ▶ compact design and lightweight
 - ▶ centrally opening and closing
 - ▶ multiple mounting positions
 - ▶ built-in mount for position sensor (Hall effect sensor optional)

Characteristics

Function

Drive: double-acting Pneumatic cylinder
 (depending upon model) double-acting Pneumatic cylinder with built-in spring for grip force safety device

Energy transfer: piston-lever linkage with nearly linear force curve

Material

Housing: hard-anodized aluminum
 Functional parts: nitrided coated steel

Maintenance

Recommended at: 1.5 million cycles
 Actuation: filtered high-pressure air (10 µm), dry or oiled
 Maintenance of the mechanics: – see owners' manual –

- Sommer-automatic
- Grippers**
- Separators
- Swivel units
- Rotating jaws
- Axial compensators
- Tool changers
- Linear cylinders
- Shock absorbers
- Rotary cylinders
- Air vane motors
- Vacuum components
- Accessories
- Quick finder

Basic explanations

Terms and illustrations

Grip force safety device: required during pressure loss for maintaining position of workpiece

- pneumatic: through pressure retention (one-way valve required DSV 1/8)
- mechanical: through spring pre-tension
- spring power: specifications based on minimum spring pre-tension

Total power: arithmetic sum of the individual elements on the gripper jaws

Closing and opening times: required time for the gripper jaws to cover the maximum stroke length

Schematic: displays static forces and momenta that can additionally affect grip force

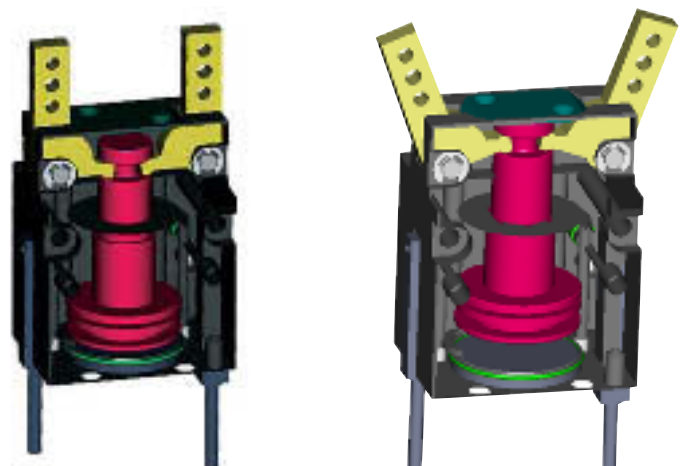
Models

SGW...	Drive	Internal grip	External grip	Built-in grip force safety device
...N	pneumatic	•	•	
...NC	pneumatic		•	•

Accessories

Accessory recommendations:

- ▶ Hall effect sensors by request
- ▶ Pneumatic fittings Page 442
- ▶ Tubing Page 444
- ▶ Control valves Page 445
- ▶ Pressure safety valves Page 447



Parallel gripper

Three-jaw gripper

Angle gripper

Internal-hole gripper

Other grippers

Electric gripper

SGW14

SGW25

SGW35



Sommer-automatische

Grippers

Separators

Swivel units

Rotating jaws

Axial compensators

Tool changers

Linear cylinders

Shock absorbers

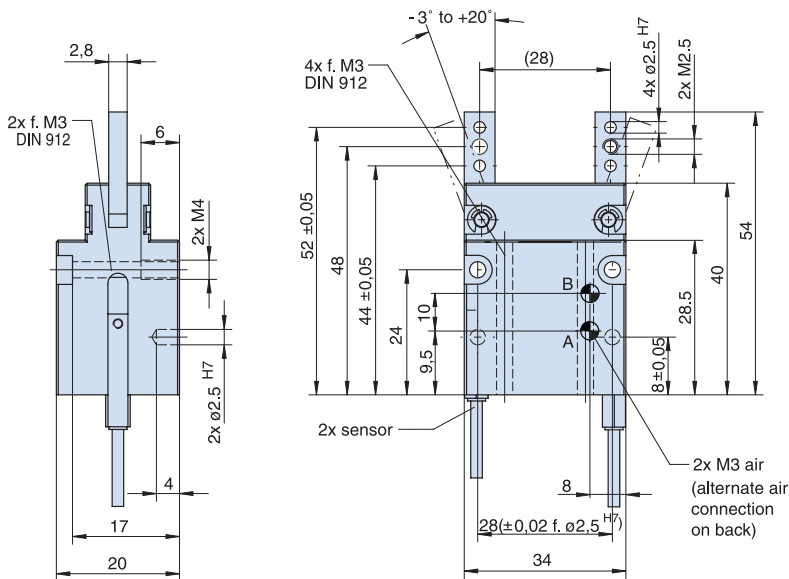
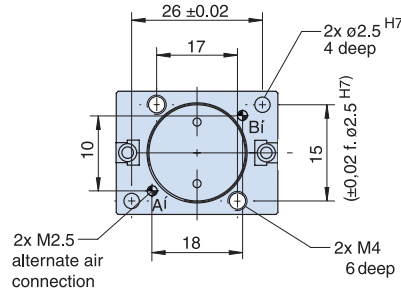
Rotary cylinders

Air vane motors

Vacuum components

Accessories

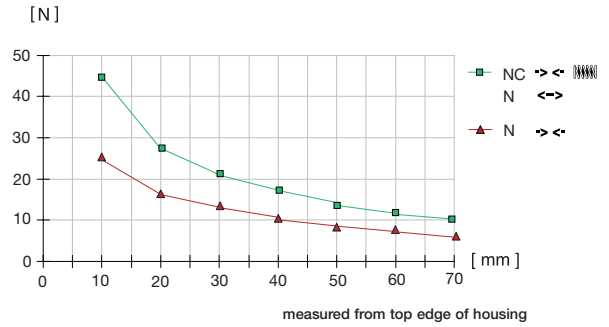
Quick finder



Low-cost angular gripper

Advantages, benefits, comparisons and tips!
Stacks of information all about this product are on page 154.1

Gripping force as a function of opening angle



Order no.:					
SGW14 N	SGW14 NC				
Drive:					
pneum.	pneum.				
Stroke per jaw [°]:					
-3/+20	-3/+20				
Gripping torque in closing [Nm]:					
0,5	0,8				
Gripping torque in opening [Nm]:					
0,8	-				
Self-locking via:					
DSV1/8	Spring				
Closing time/opening time [s]:					
0,01	0,02				
Repeatability ± [mm]:					
0,1	0,1				
Min./max. operating pressure [bar]:					
3/8	5/8				
Air volume per cycle [cm³]:					
1,8	1,8				
Min./max. operating temperature. [°C]:					
5/80	5/80				
Temp. resistant version up to 150°C [add to part number]:					
T	T				
Piston diameter [mm]:					
14	14				
Weight [kg]:					
0,07	0,08				

All data measured at 6 bar.

See Page 154.1 for Accessory list.

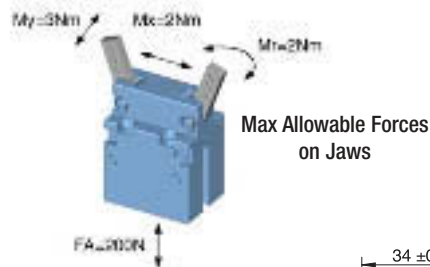
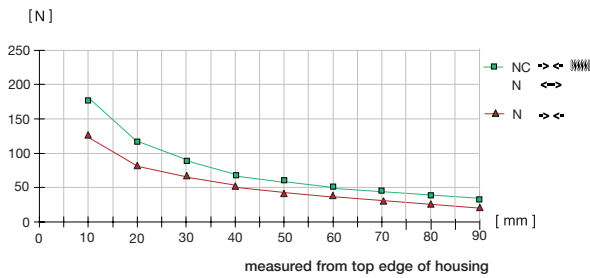
Parallel gripper	Three-jaw gripper	Angle gripper	Internal-hole gripper	Other grippers	Electric gripper
SGW14	SGW25	SGW35			



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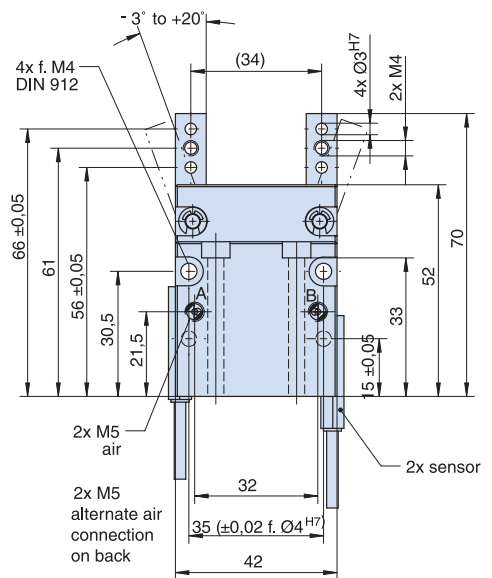
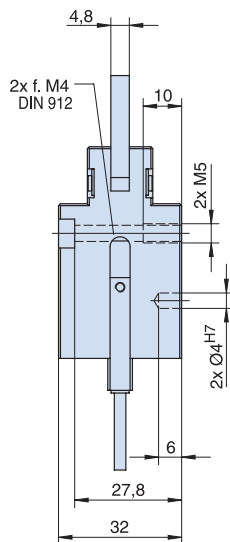
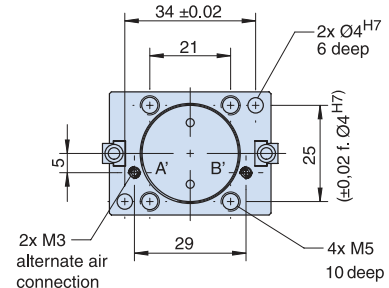
Gripping force as a function of opening angle



Order no.:	
SGW25 N	SGW25 NC
Drive:	
pneum.	pneum.
Stroke per jaw [°]:	
-3 /+20	-3 /+20
Gripping torque in closing [Nm]:	
2,5	3,5
Gripping torque in opening [Nm]:	
3,5	-
Self-locking via:	
DSV1/8	Spring
Closing time/opening time [s]:	
0,02	0,03
Repeatability ± [mm]:	
0,1	0,1
Min./max. operating pressure [bar]:	
3/8	5/8
Air volume per cycle [cm³]:	
5	5
Min./max. operating temperature. [°C]:	
5/80	5/80
Temp. resistant version up to 150°C [add to part number]:	
T	T
Piston diameter [mm]:	
25	25
Weight [kg]:	
0,17	0,19

All data measured at 6 bar.

Sommer-automatic
Grippers
Separators
Swivel units
Rotating jaws
Axial compensators
Tool changers
Linear cylinders
Shock absorbers
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Vacuum components
Accessories
Quick finder

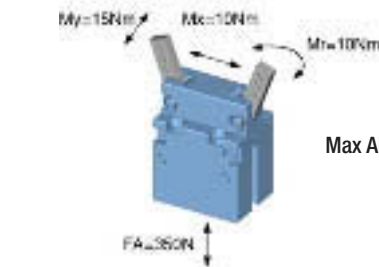


Parallel gripper Three-jaw gripper **Angle gripper** Internal-hole gripper Other grippers Electric gripper

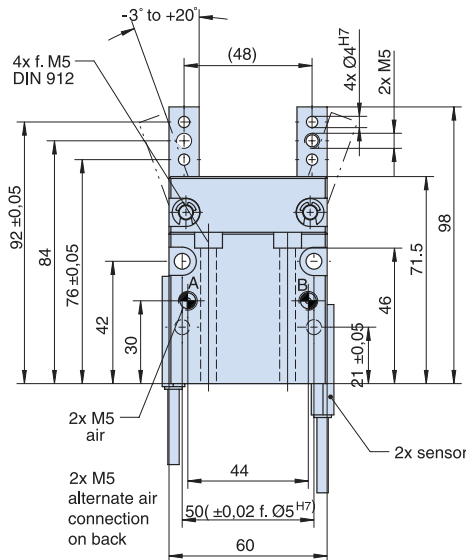
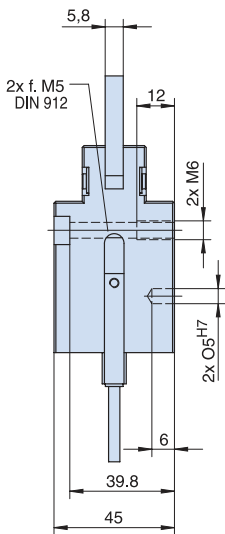
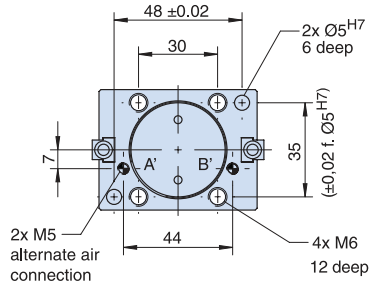
SGW14 SGW25 **SGW35**



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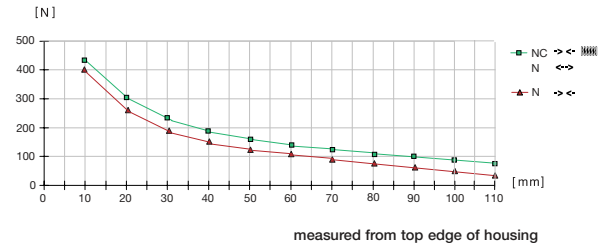
Max Allowable Forces on Jaws



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Gripping force as a function of opening angle



Order no.:		SGW35 N	SGW35 NC			
Drive:		pneum.	pneum.			
Stroke per jaw [°]:		-3/+20	-3/+20			
Gripping torque in closing [Nm]:		8	10			
Gripping torque in opening [Nm]:		10	-			
Self-locking via:		DSV1/8	Feder			
Closing time/opening time [s]:		0,05	0,06			
Repeatability ± [mm]:		0,1	0,1			
Min./max. operating pressure [bar]:		3/8	5/8			
Air volume per cycle [cm³]:		18	18			
Min./max. operating temperature. [°C]:		5/80	5/80			
Temp. resistant version up to 150°C [add to part number]:		T	T			
Piston diameter [mm]:		35	35			
Weight [kg]:		0,54	0,57			

All data measured at 6 bar.

See Page 154.1 for Accessory list.