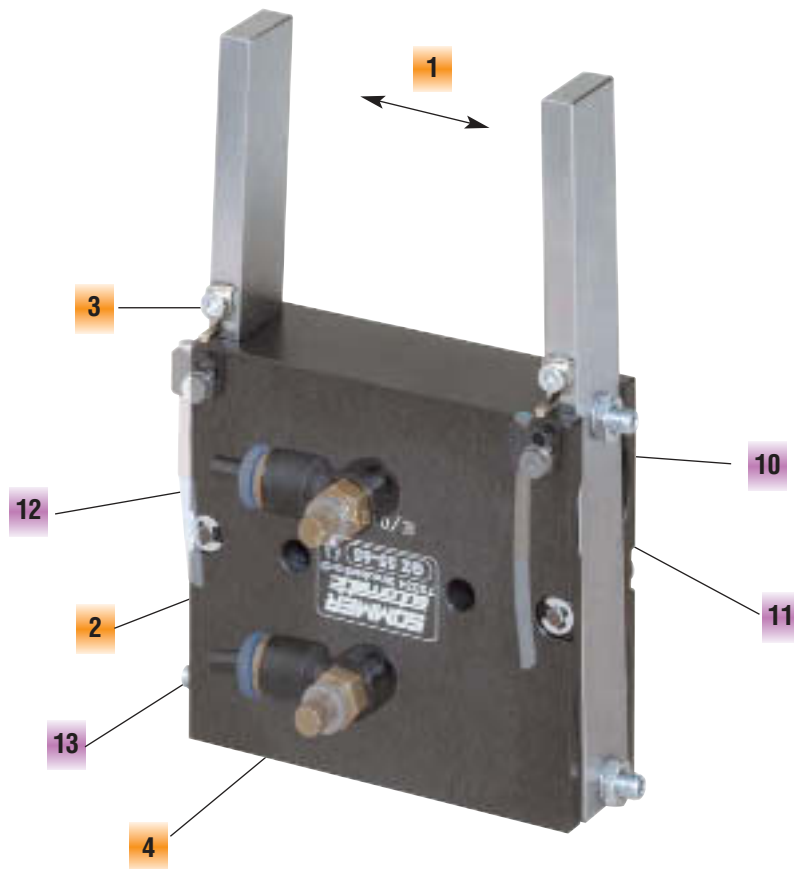


# Compliant finger gripper



## Features

- 1 Stroke
- 2 Drilled hole
- 3 Trip dog
- 4 Air connection at the front

## Accessories

- 10 Sensor mount
- 11 Proximity switch
- 12 Flow control valve
- 13 PU-hose

## A compliant gripper

Bladder operations allows the jaws to be more forgiving. Simple design and reliable operation. And it is one of our most economical series!

### Single-acting finger grippers:

These have air connections at the front. On the GZ8-16E the connections are also on the back. This port is closed with a grub screw installed flush with the surface. One arm is dominant because it has a stronger spring. Exception: On the GZ8-16E, a larger diaphragm takes care of this. On both jaws, the stroke can be adjusted continuously between the fully open and fully closed position with a setscrew. The gripper types GZ11-18E and GZ25-35E can be rotated 150° to reverse their operation. The jaws are then opened with compressed air and closed with a spring. Just switch the diaphragm and spring... and ready for operation. Adjustable trip dogs monitor the jaw positions. Threaded M3 holes underneath the jaws are provided for mounting "KB3M" miniature sensor mounts. The appropriate switch is the "NJ3-E2". See Accessories.

On the mini-finger grippers (GZ8-...), one position can be monitored, on the larger models, both positions. The gripper housing is made of hard-anodized aluminum and the jaws of steel - refer to the material specifications.

### Double-acting finger grippers:

These differ from the single-acting grippers in that diaphragms are installed for both opening and closing. A second air connection is installed for this purpose. Of course, this allows fast work cycles.

The closing stroke is supported by a spring so that the clamping force is higher.

Self-locking is also ensured in the event of a failure of the compressed air. One arm is dominant due to its stronger spring. With the adjusting screws on the jaws, it is possible to reduce their stroke or even lock them in place. With this type, it is also possible to change the self-locking from closing to opening by changing the springs.

### Split finger grippers:

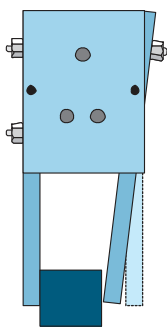
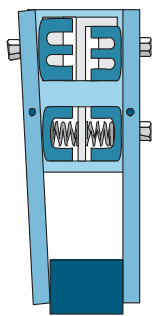
These are double-acting units each consisting of two gripper halves. The split finger gripper is particularly well-suited for flexible applications with different component sizes.

### Note:

The strong points of the finger grippers are their compact size, simple design and, of course, their low cost.

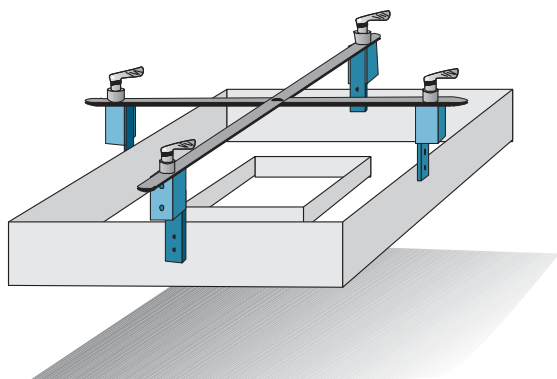


## Application Ideas

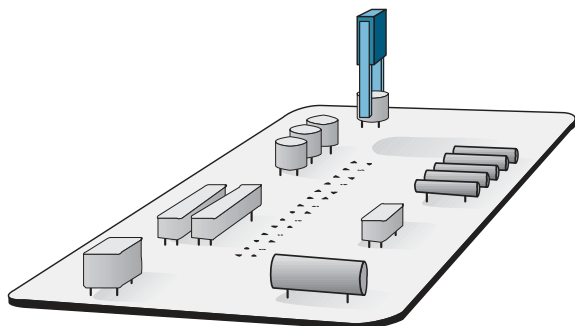


Due to the larger dominant diaphragm (or stronger spring) on one arm, the part is always pulled to one side, ensuring that the part is always in a defined position.

One arm can be locked so that only one jaw moves.



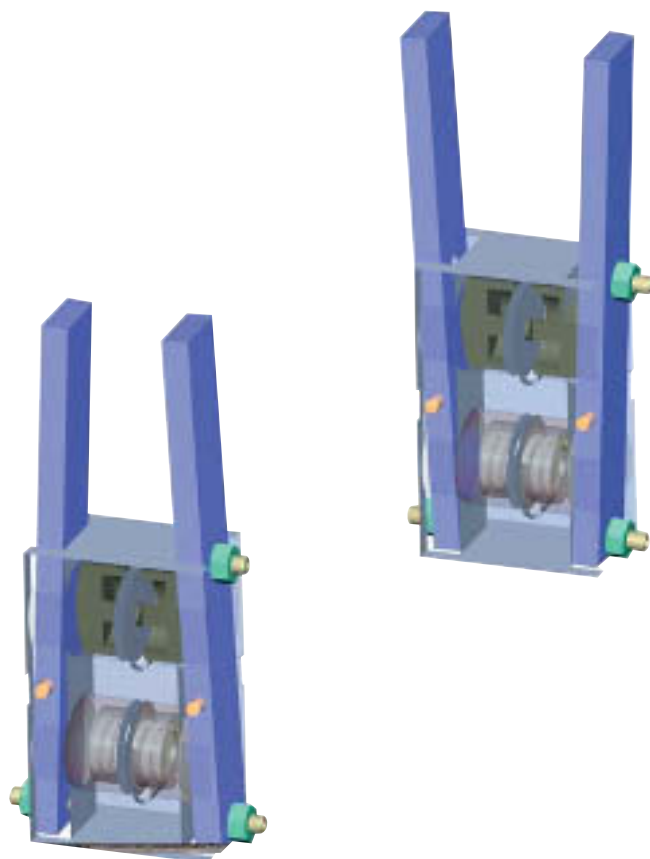
With a split finger gripper, it is possible to cover a wide range of part sizes.



The smaller finger grippers are the best solution for mounting parts on printed circuit boards.

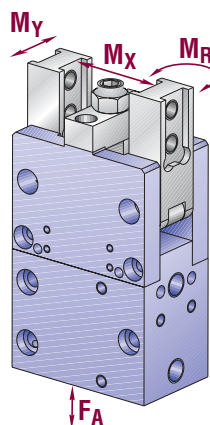
### Schematic...

On every product page, you will find the following schematic which helps describe the max allowable forces and movements for that particular model.



## Operation

These grippers are driven with the diaphragms, which push directly on the fingers. Movement is radial around a fulcrum. The single-acting "E" version has two springs installed for the return stroke. On the double-acting "D" version, diaphragms are installed above and below the fulcrum. The built-in spring is used for self-locking and increases the force.



# Compliant finger gripper

## GZ8 up to GZ65



### things worth knowing

#### Advantages and uses

... high-grip force ... also available with grip force safety device ...

- ▶ continuously adjustable stroke
  - ▶ compact design and minimal weight
  - ▶ any desired installation position
  - ▶ position sensing possible through inductive proximity switch
  - ▶ high reliability and long service life
- ... simple construction,  
The best functionality, with a great price! ...

- 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

#### Characteristics

##### Function

Drive: two unsynchronized, single-action cylinders with direct drive  
(depending upon model) single-action cylinder with integrated spring for grip force safety devices

Transfer: lever principle  
Piece-positioning: via dominant gripper jaw with adjustment screw

##### Material

Housing: hard-anodized aluminum  
Functional parts: hard nickered 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 –

### 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

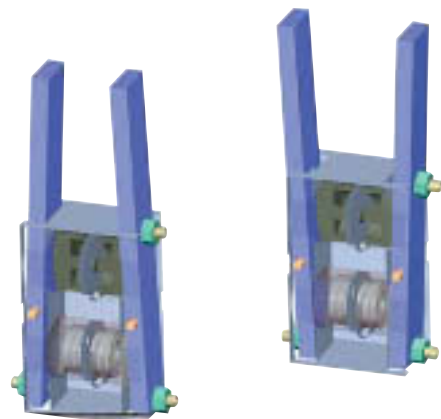
#### Models

GZ...	Cylinder	Spring recoil	Integrated grip force safety device
...E	1x effective	•	
...D	2x effective		•

### Accessories

#### Accessory recommendations:

- ▶ Inductive proximity switch Page 428
- ▶ Bracket for inductive proximity switch Page 432
- ▶ Pneumatic fittings Page 442
- ▶ Tubing Page 444
- ▶ Control valves Page 445
- ▶ Pressure safety valves Page 447

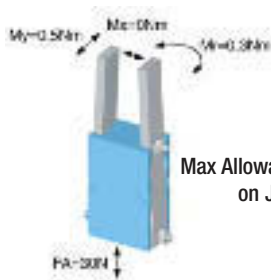


Parallel gripper    Three-jaw gripper    **Angle gripper**    Internal-hole gripper    Other grippers    Electric gripper

**GZ8-16E**    **GZ8-16D**    GZ11-18E    GZ18-23D    GZ25-35E    GZ25-35G    GZ25-35D    GZ55-65D

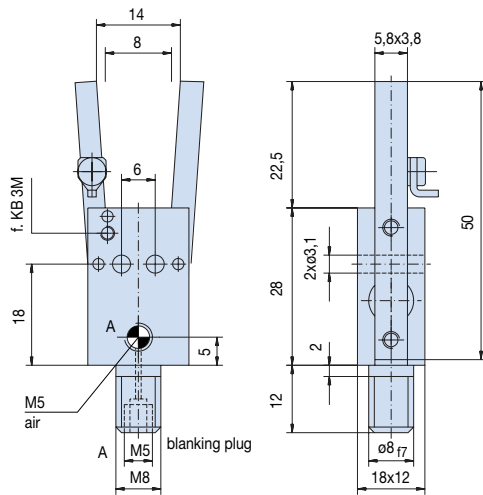


- Sommer-automatic
- Grippers**
- Separators
- Swivel units
- Rotating jaws
- Axial compensators
- Tool changers
- Linear cylinders
- Shock absorbers
- Rotary cylinders
- Air vane motors
- Vacuum components
- Accessories
- Quick finder

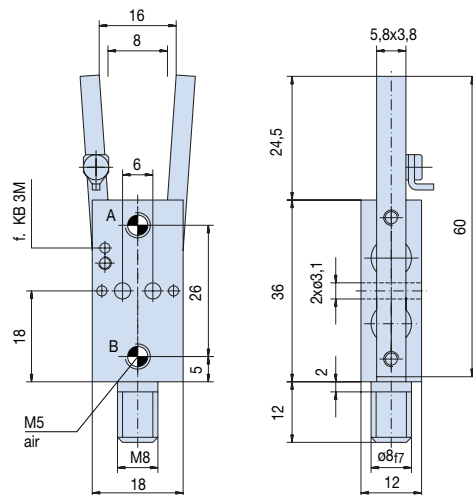


Max Allowable Forces on Jaws

GZ8-16E



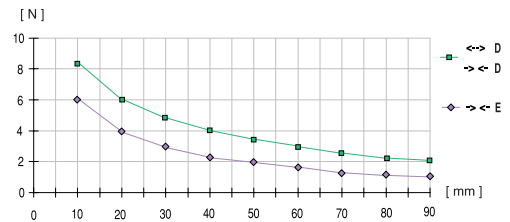
GZ8-16D



## Compliant finger gripper

Advantages, benefits, comparisons and tips! Stacks of information all about this product are on page 155.

Gripping force as a function of jaw length



measured from top edge of housing

Order no.:		GZ8-16 E	GZ8-16 D				
Drive:		pneum.	pneum.				
Stroke per jaw adjustable [mm]:		3	4				
Stroke per jaw adjustable [°]:		5	5				
Gripping torque in closing [Nm]:		0,12	0,15				
Gripping torque in opening [Nm]:		-	0,23				
Self-locking via:		DSV1/8	DSV1/8				
Closing time/opening time [s]:		0,05	0,05				
Repeatability ± [mm]:		0,1	0,1				
Min./max. operating pressure [bar]:		5/8	5/8				
Air volume per cycle [cm³]:		0,23	0,5				
Min./max. operating temperature [°C]:		5/80	5/80				
Temp. resistant version up to 150° C [add to part number]:		TS	TS				
Weight [kg]:		0,05	0,047				

All data measured at 6 bar.

\* Measured at 10 mm from top edge of housing.

See Page 155 for Accessory list.

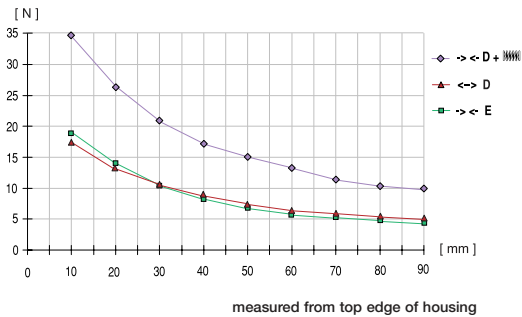
Parallel gripper		Three-jaw gripper		<b>Angle gripper</b>		Internal-hole gripper		Other grippers		Electric gripper	
GZ8-16E	GZ8-16D	<b>GZ11-18E</b>	<b>GZ18-23D</b>	GZ25-35E	GZ25-35G	GZ25-35D	GZ55-65D				



# Compliant finger gripper

Advantages, benefits, comparisons and tips!  
Stacks of information all about this product are on page 155.

Gripping force as a function of jaw length



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

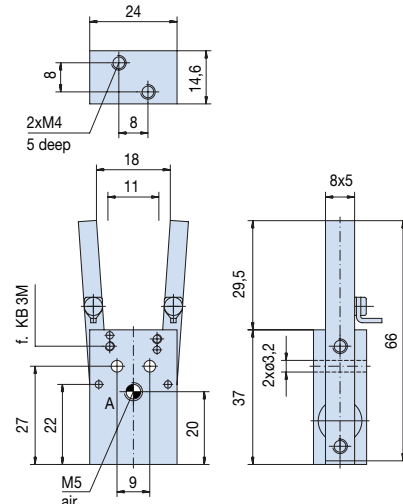
Order no.:	
<b>GZ11-18 E</b>	<b>GZ18-23 D</b>
Drive:	
pneum.	pneum.
Stroke per jaw adjustable [mm]:	
3,5	2,5
Stroke per jaw adjustable [°]:	
4,5	3,5
Gripping torque in closing [Nm]:	
0,48	1,10
Gripping torque in opening [Nm]:	
-	0,56
Self-locking via:	
DSV1/8	Spring
Closing time/opening time [s]:	
0,2/0,04	0,2/0,03
Repeatability ± [mm]:	
0,1	0,1
Min./max. operating pressure [bar]:	
5/8	5/8
Air volume per cycle [cm³]:	
1	0,5
Min./max. operating temperature [°C]:	
5/80	5/80
Temp. resistant version up to 150° C [add to part number]:	
TS	TS
Weight [kg]:	
0,065	0,08

All data measured at 6 bar.  
\* Measured at 10 mm from top edge of housing.

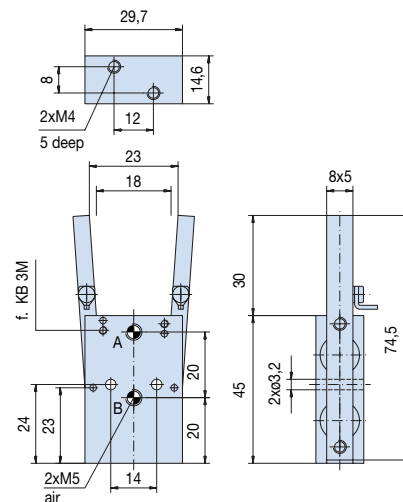
See Page 155 for Accessory list.



Max Allowable Forces on Jaws



GZ11-18E



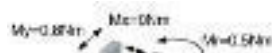
GZ18-23D

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

GZ8-16E    GZ8-16D    GZ11-18E    GZ18-23D    **GZ25-35E**    **GZ25-35G**    GZ25-35D    GZ55-65D



- 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



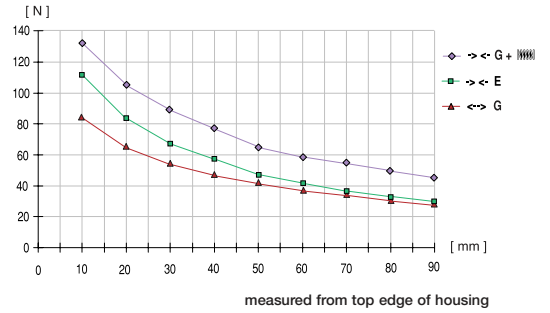
Max Allowable Forces on Jaws

FA=50N

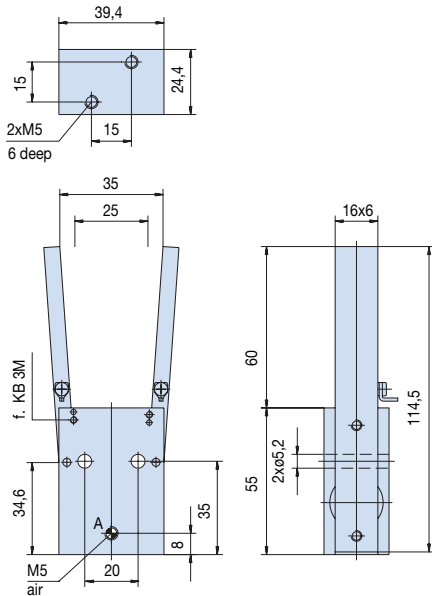
## Compliant finger gripper

Advantages, benefits, comparisons and tips! Stacks of information all about this product are on page 155.

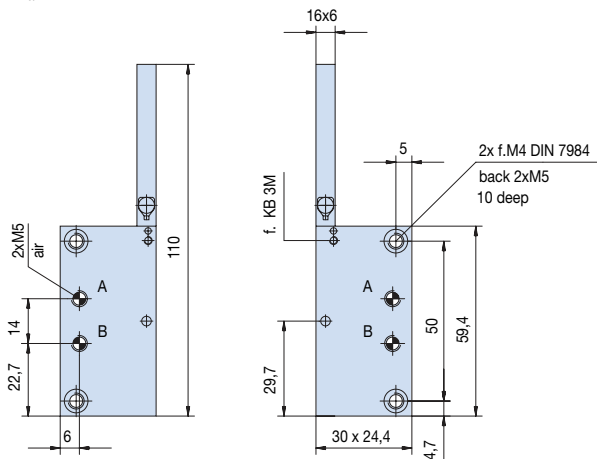
### Gripping force as a function of jaw length



GZ25-35E



GZ25-35G



Order no.:	
GZ25-35E	GZ25-35G
Drive:	
pneum.	pneum.
Stroke per jaw [mm]:	
5	5
Stroke per jaw [°]:	
4	4
Gripping torque in closing [Nm]:	
4	5,4
Gripping torque in opening [Nm]:	
-	3,4
Self-locking via:	
Spring	Spring
Closing time/opening time [s]:	
0,2/0,3	0,2/0,2
Repeatability ± [mm]:	
0,1	0,1
Min./max. operating pressure [bar]:	
5/8	4/8
Air volume per cycle [cm³]:	
6	6
Min./max. operating temperature [°C]:	
5/80	5/80
Temp. resistant version up to 150° C [add to part number]:	
TS	TS
Weight [kg]:	
0,253	0,313

All data measured at 6 bar.

\* Measured at 10 mm from top edge of housing.

See Page 155 for Accessory list.

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

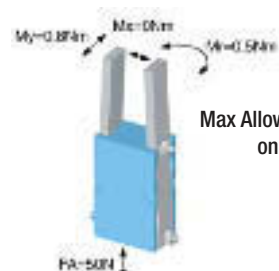
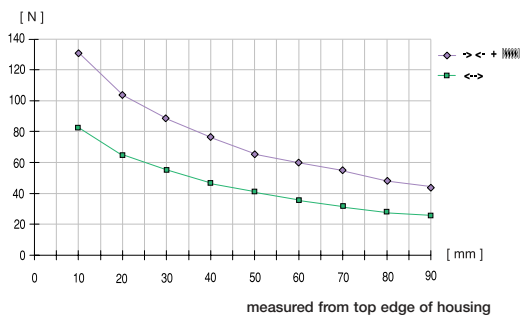
GZ8-16E    GZ8-16D    GZ11-18E    GZ18-23D    GZ25-35E    GZ25-35G    **GZ25-35D**    **GZ55-65D**



# Compliant finger gripper

Advantages, benefits, comparisons and tips!  
Stacks of information all about this product are on page 155.

Gripping force as a function of jaw length



Max Allowable Forces on Jaws

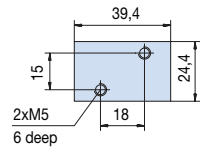
- Sommer-automatic
- Grippers**
- Separators
- Swivel units
- Rotating jaws
- Axial compensators
- Tool changers
- Linear cylinders
- Shock absorbers
- Rotary cylinders
- Air vane motors
- Vacuum components
- Accessories
- Quick finder

Order no.:	
<b>GZ25-35</b>	<b>GZ55-65</b>
D	D
Drive:	
pneum.	pneum.
Stroke per jaw [mm]:	
5	5
Stroke per jaw [°]:	
4	4
Gripping torque in closing [Nm]:	
5,4	5,4
Gripping torque in opening [Nm]:	
3,4	3,4
Self-locking via:	
Spring	Spring
Closing time/opening time [s]:	
0,2/0,2	0,2/0,3
Repeatability ± [mm]:	
0,1	0,1
Min./max. operating pressure [bar]:	
4/8	4/8
Air volume per cycle [cm³]:	
12	13
Min./max. operating temperature [°C]:	
5/80	5/80
Temp. resistant version up to 150° C [add to part number]:	
TS	TS
Weight [kg]:	
0,265	0,38

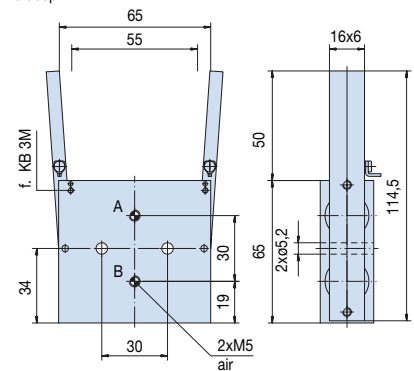
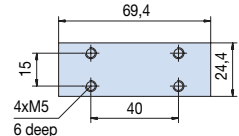
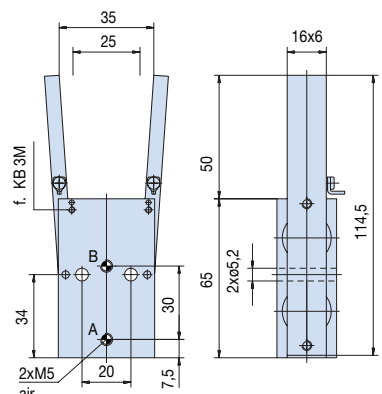
All data measured at 6 bar.

\* Measured at 10 mm from top edge of housing.

See Page 155 for Accessory list.



GZ25-35D



GZ55-65D