



**Size**  
47



**Weight**  
0.41 kg



**Gripping moment**  
0.95 Nm

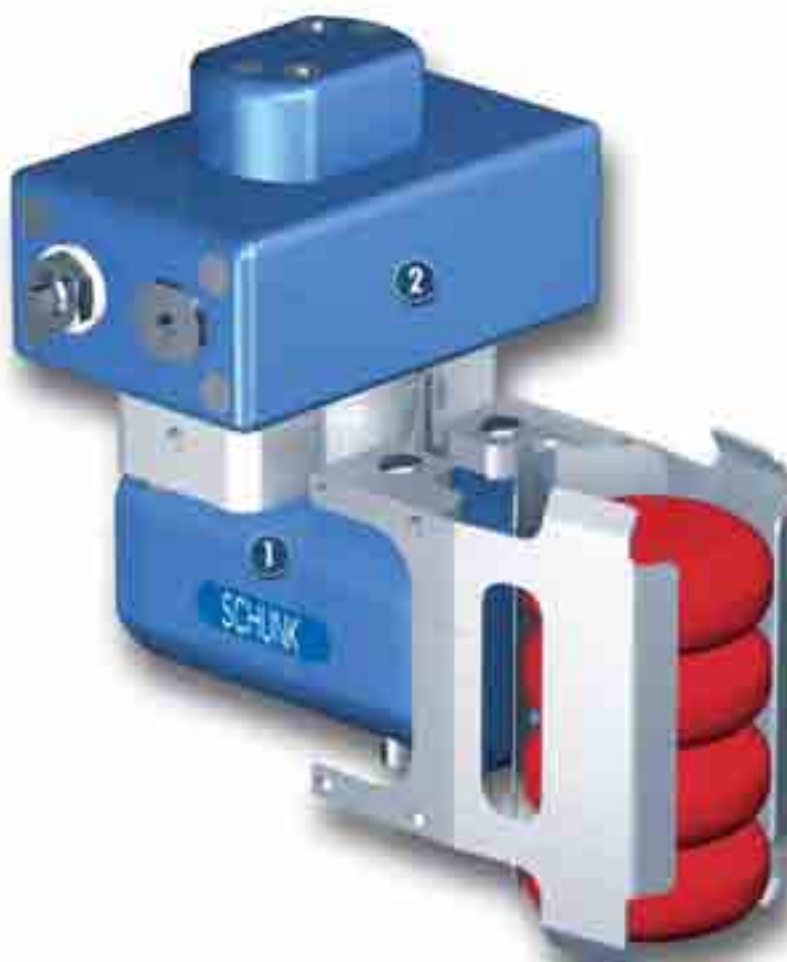


**Opening angle per finger**  
6° and 17.5°



**Workpiece weight**  
0.03 kg

### Application example



Rotary gripper module for handling pieces  
of cheese stacked together

**1** SG 47 Stack Gripper

**2** FSU-16-2 90° Rotary Actuator

## Food Gripper

The SG gripper is a flexible, tough gripper module suitable for a diverse range of handling tasks in the food and packaging industry.

### Area of application

The double angular gripping technique enables parts to be removed easily and with precision from disorderly situations. These gripper modules are used as an interface for the removal of food products from conveyor belts to packaging machines, for example.

### Your advantages and benefits

#### Short closing and opening times

enabling the rapid changeover of workpieces

#### Use of food-compliant plastics and lubricants

guaranteeing absolute compatibility for handling food

#### Compact design and low weight

making them economical in use, without unnecessary interfering contours

#### Gripper jaws can be arranged differently for various products

making the gripper suitable for a varied range of applications

#### Kinematics

Lever mechanism for precise, centric gripping



### General information on the series

#### Working principle

Lever mechanism

#### Actuation

Pneumatic, dry or lubricated compressed air (10 µm): Required quality class of compressed air according to DIN ISO 8573-1: Quality class 4

#### Opening angle

12° and 35°

#### Base jaw material

Polished stainless steel

#### Housing material

PPS HPV polyphenylene sulfide approved by the FDA (Food and Drug Administration)

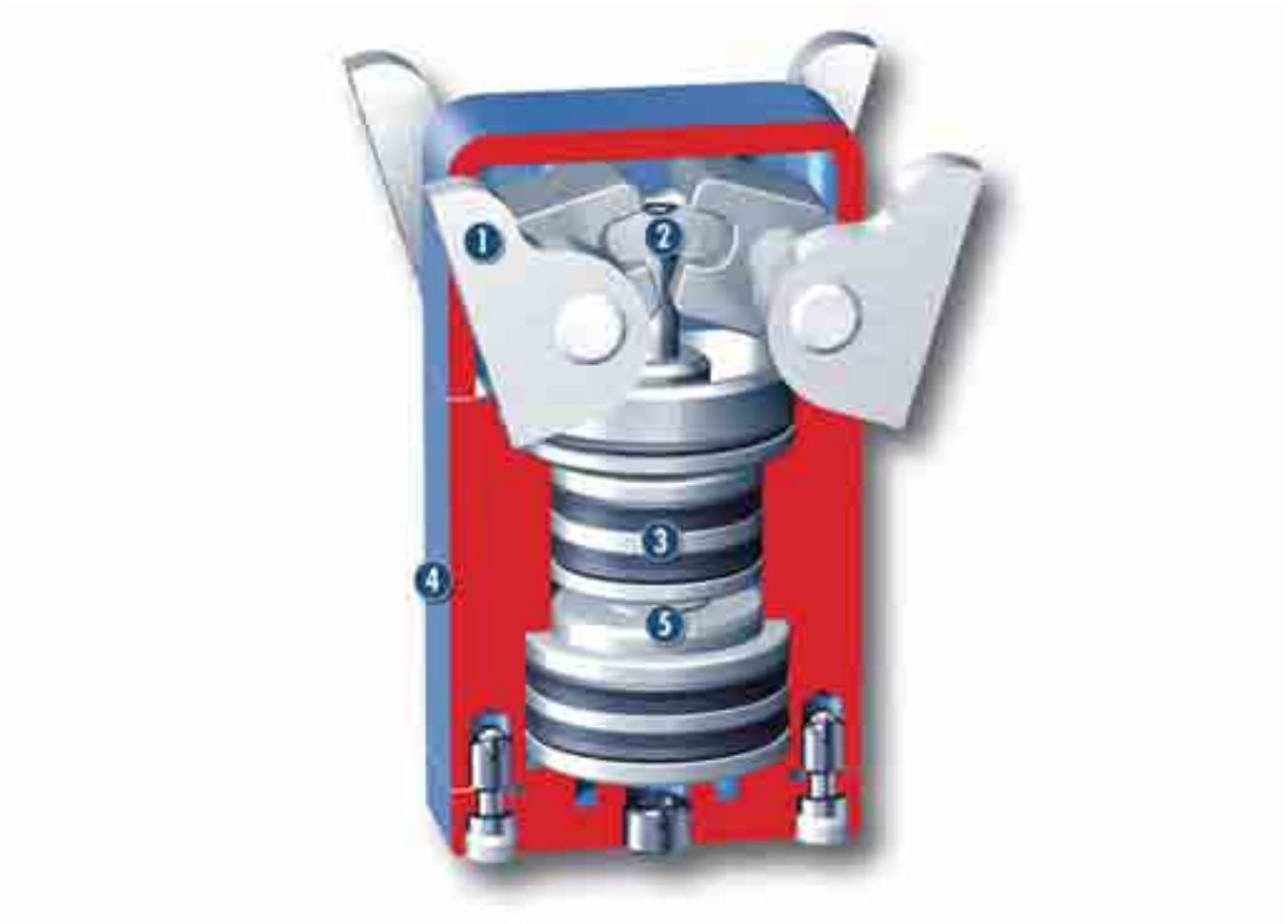
#### Warranty

24 months

#### Scope of delivery

assembly and operating manual with manufacturer's declaration

## Sectional diagram



- 1 Polished stainless base fingers**  
for the hygienic connection of  
workpiece-specific gripper fingers
- 2 Kinematics**  
lever mechanism for synchronized gripping
- 3 Drive**  
double piston design providing two end  
positions and an intermediate position
- 4 Food-compliant plastic housing**  
for easy cleaning and a lightweight  
construction
- 5 Spring (optional)**  
installation of a spring for the purpose of  
piston return or maintenance of gripping force

## Function description

The two pistons move the piston rod into a different position, depending on the application of pressure at connections A, B and C. The lever mechanism then transforms this movement into the "Closed" finger position or one of the two "Open" positions.

## Options and special information

Individual products can be removed from and placed in stacks

## Accessories

Accessories from SCHUNK – the suitable complement for the highest level of functionality, reliability and controlled production of all automation components.

### Fittings



### SDV-P pressure maintenance valves



① For the exact size of the required accessories, availability of this size and the designation and ID, please refer to the additional views at the end of the size in question. You can find more detailed information on our accessory range in the “Accessories” catalog section.

## General information on the series

### Gripping force

is the arithmetic total of the gripping force applied to each base jaw at distance P (see illustration), measured from the upper edge of the gripper.

### Finger length

is measured from the upper edge of the gripper housing in the direction of the main axis.

### Repeat accuracy

is defined as the spread of the limit position after 100 consecutive strokes.

### Workpiece weight

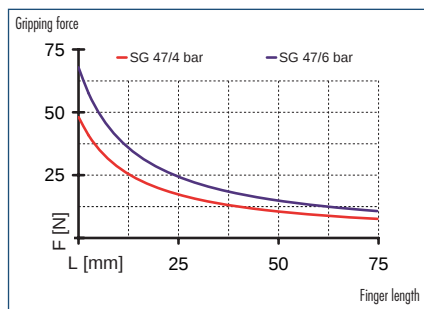
The recommended workpiece weight is calculated for a force-type connection with a friction coefficient of 0.1 and a safety of 2 against slippage of the workpiece on acceleration due to gravity g. Considerably heavier workpiece weights are permitted with form-fit clamping.

### Closing and opening times

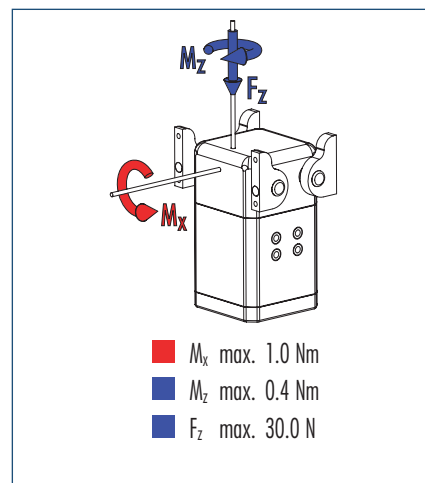
Closing and opening times are purely the times that the base jaws or fingers are in motion. Valve switching times, hose filling times or PLC reaction times are not included in the above times and must be taken into consideration when determining cycle times.



### Gripping force, O.D. gripping



### Finger load



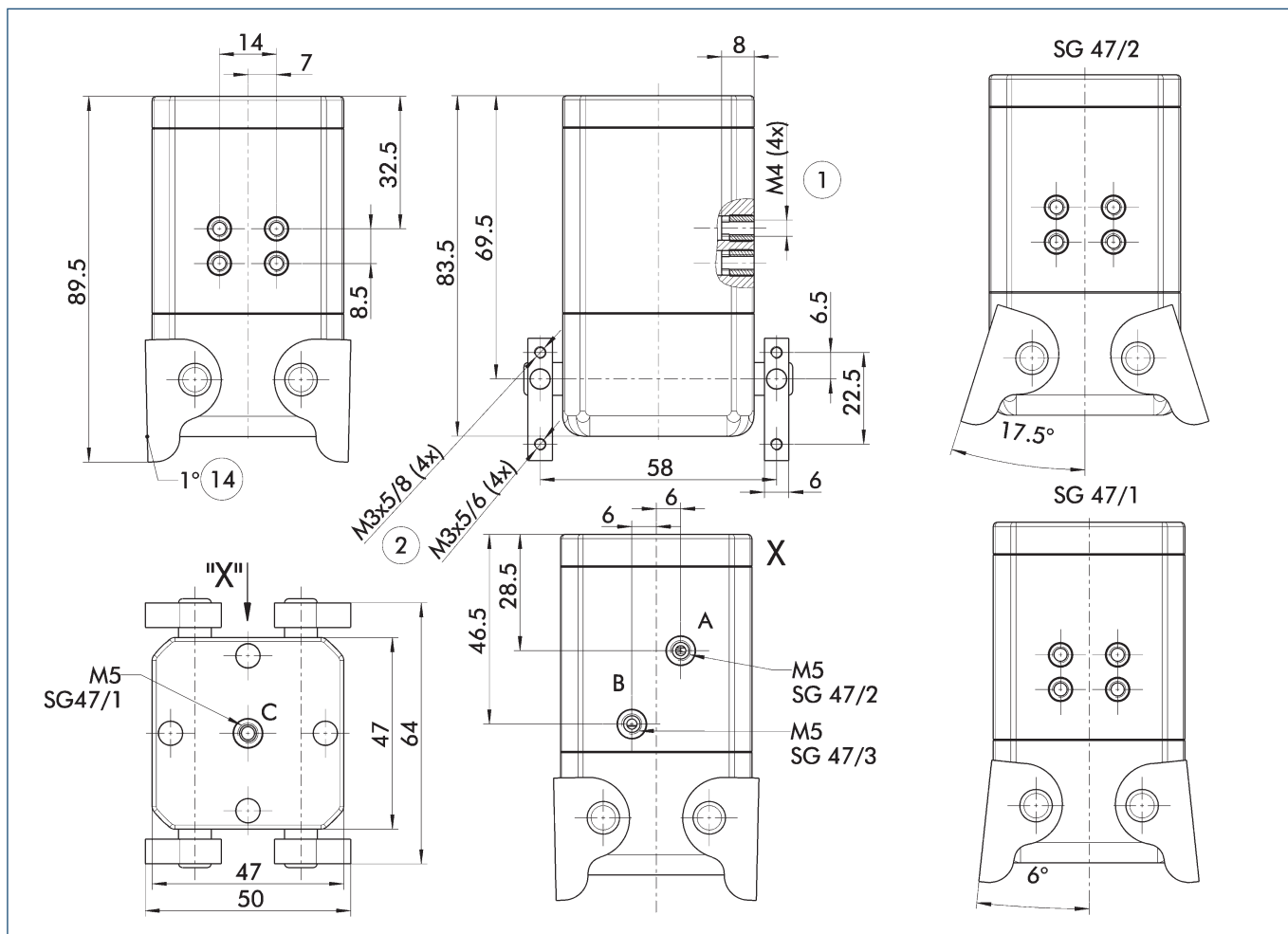
① Moments and forces apply per base jaw and may occur simultaneously. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

### Technical data

| Description                       | ID    | SG 47   |
|-----------------------------------|-------|---------|
|                                   |       | 0372030 |
| Opening angle per jaw             | [°]   | 17.5    |
| Spanning angle per jaw up to      | [°]   | 1.0     |
| Closing moment                    | [Nm]  | 0.95    |
| Closing moment ensured by spring  | [Nm]  |         |
| Weight                            | [kg]  | 0.41    |
| Recommended workpiece weight      | [kg]  | 0.11    |
| Air consumption per double stroke | [cm³] | 2.8     |
| Nominal pressure                  | [bar] | 6.0     |
| Minimum pressure                  | [bar] | 4.0     |
| Maximum pressure                  | [bar] | 6.5     |
| Closing time                      | [s]   | 0.02    |
| Opening time                      | [s]   | 0.02    |
| Max. permitted finger length      | [mm]  | 50.0    |
| Max. permitted weight per finger  | [kg]  | 0.07    |
| IP rating                         |       | 69K     |
| Min. ambient temperature          | [°C]  | -10.0   |
| Max. ambient temperature          | [°C]  | 90.0    |
| Repeat accuracy                   | [mm]  | 0.1     |

① When the gripper opens to the intermediate position of 6° per jaw, the opening and closing times are halved.

### Main views



The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

- A,a Main/direct connection, gripper opening
- B,b Main/direct connection, gripper closing
- C,c Main/direct connection, center position
- ① Gripper connection
- ② Finger connection