Size
47

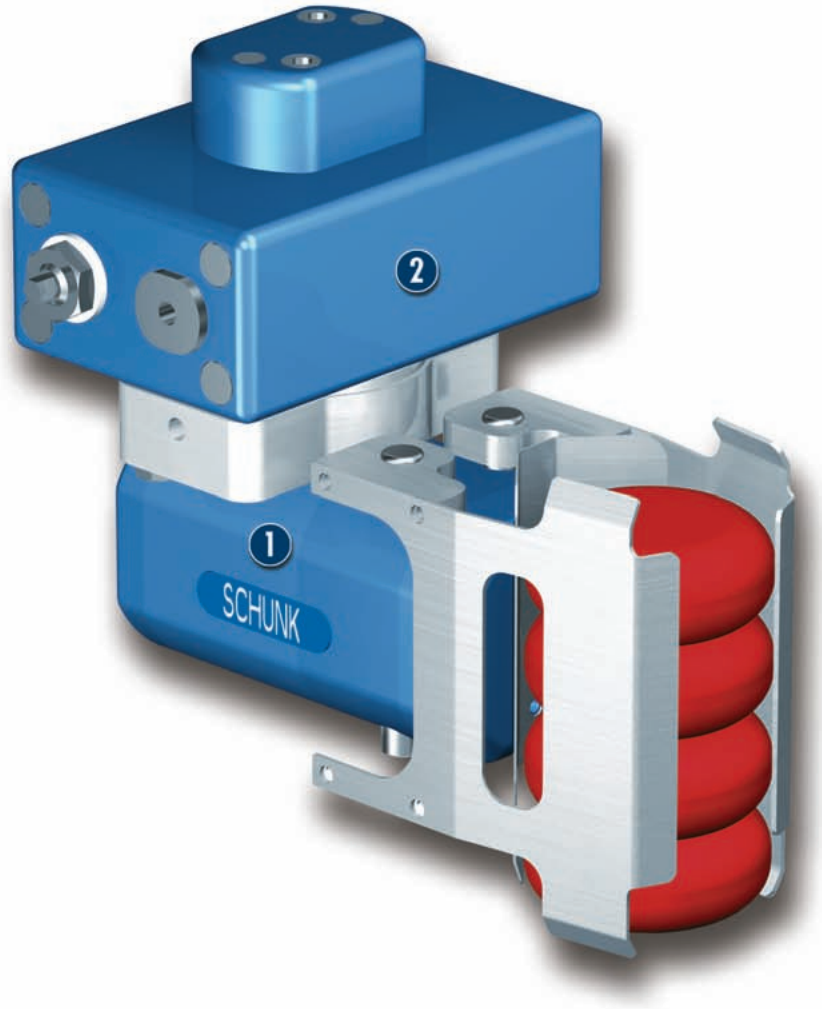
Weight
0.41 kg
14.46 oz

Gripping moment
0.95 Nm
0.701 lbf ft

Opening angle per finger
6° and 17.5°

Workpiece weight
0.03 kg
1.06 oz

Application example



Rotary gripper module for handling pieces of cheese stacked together

1 SG 47 Stack Gripper

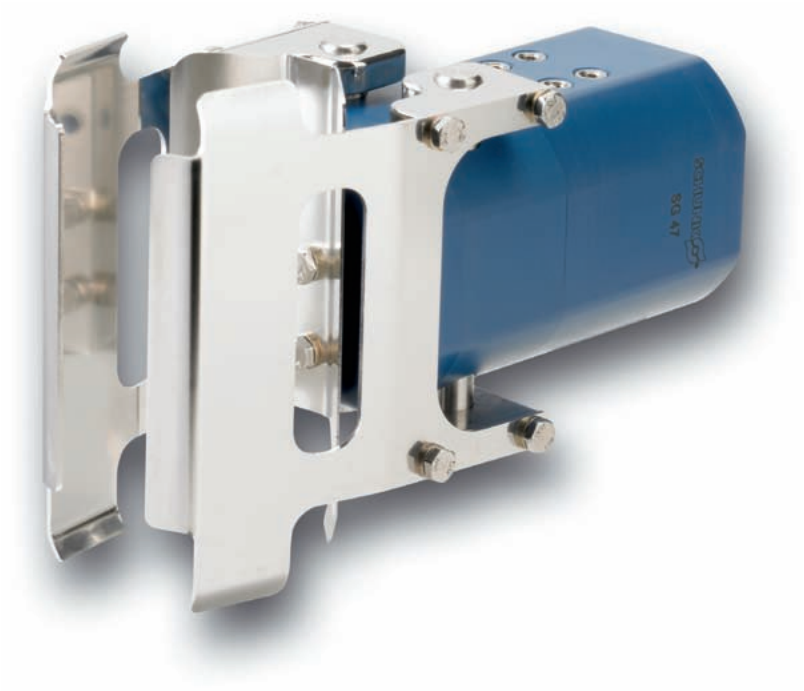
2 FSU-16-2 90° Rotary Actuator

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°

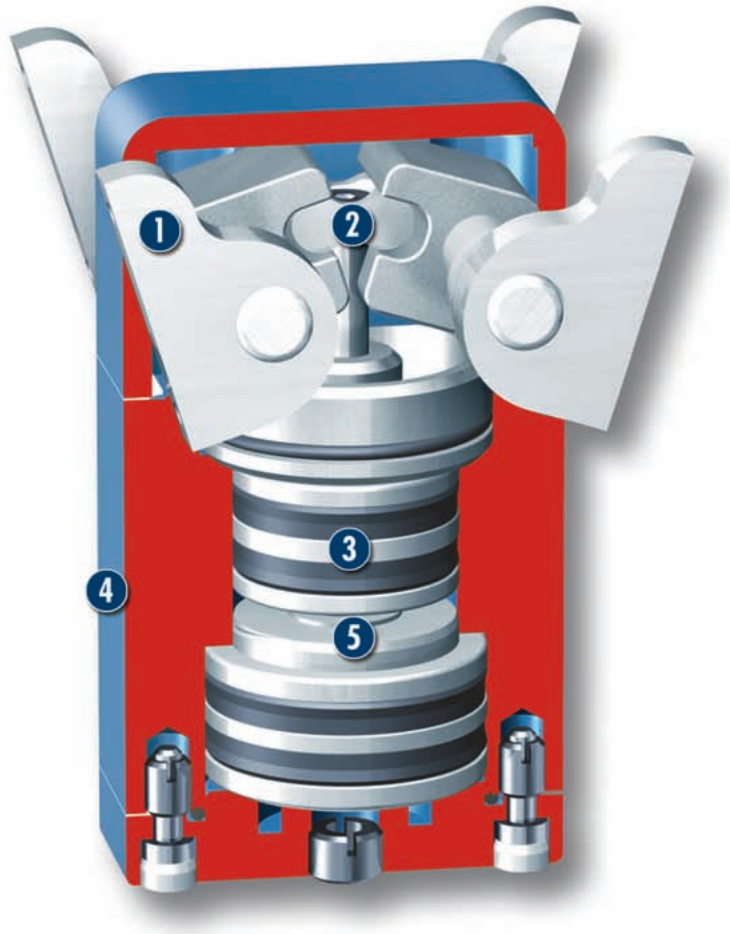
Base jaw material
Polished stainless steel

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

ⓘ 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.

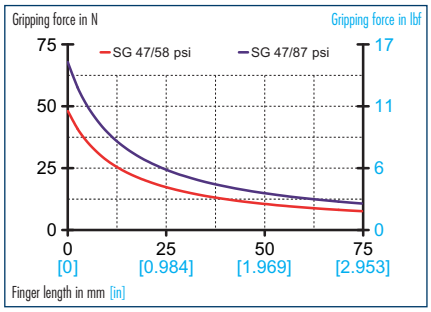
Finger length
is measured from the upper edge of the gripper housing in the direction of the main axis.

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

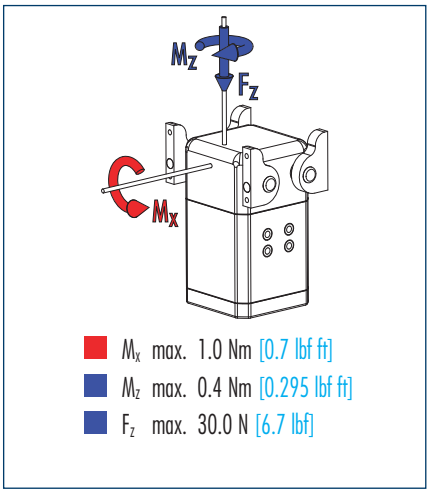
Workpiece weight
The recommended workpiece weight is calculated for a force-type connection with a friction coefficient of 0.1 and a safety of 2 against slippage of the workpiece on acceleration due to gravity g. Considerably heavier workpiece weights are permitted with form-fit clamping.

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



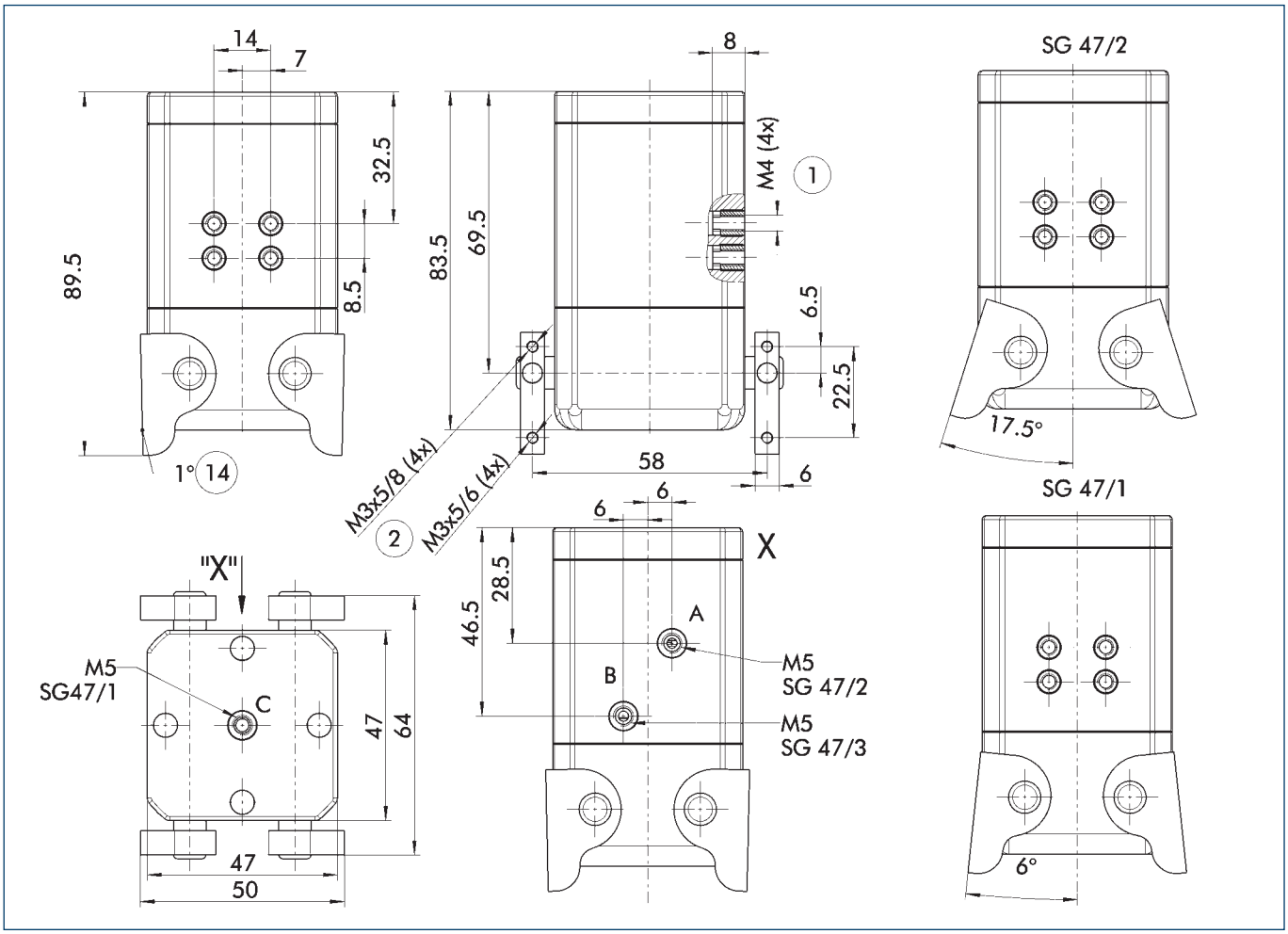
ⓘ Moments and forces apply per base jaw and may occur simultaneously. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		SG 47
	ID	0372030
Opening angle per jaw	°	17.5
Spanning angle per jaw up to	°	1.0
Closing moment	Nm [lbf ft]	0.95 [0.701]
Closing moment ensured by spring	Nm [lbf ft]	
Weight	kg [oz]	0.41 [14.46]
Recommended workpiece weight	kg [oz]	0.11 [3.88]
Air consumption per double stroke	cm^3 [in^3]	2.8 [0.17]
Nominal pressure	bar [psi]	6.0 [87]
Minimum pressure	bar [psi]	4.0 [58]
Maximum pressure	bar [psi]	6.5 [94]
Closing time	s	0.02
Opening time	s	0.02
Max. permitted finger length	mm [in]	50.0 [1.969]
Max. permitted weight per finger	kg [oz]	0.07 [2.47]
IP rating		69K
Min. ambient temperature	°C [°F]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]
Repeat accuracy	mm [in]	0.1 [0.0039]

ⓘ 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