

Superior Clamping and Gripping

Product Information

5-finger servo-electric gripping hand SVH

Flexible. Rich in detail. Intelligent.

Servo-electric 5-finger gripping hand SVH

The ready for series production version of the anthropomorphic SCHUNK 5-finger hand grips nearly as perfectly as the human hand. Due to the moving parts with a total of nine drives, various gripping operations can be executed with high sensitivity. Elastic gripping surfaces ensure a reliable grip on objects. The electronics are completely integrated in the wrist.

Field of application

In addition to new dimensions in gripping and manipulation tasks, SCHUNK is defining the possibility of human / robot communication by gestures with the 5-finger hand.



Advantages – Your benefits

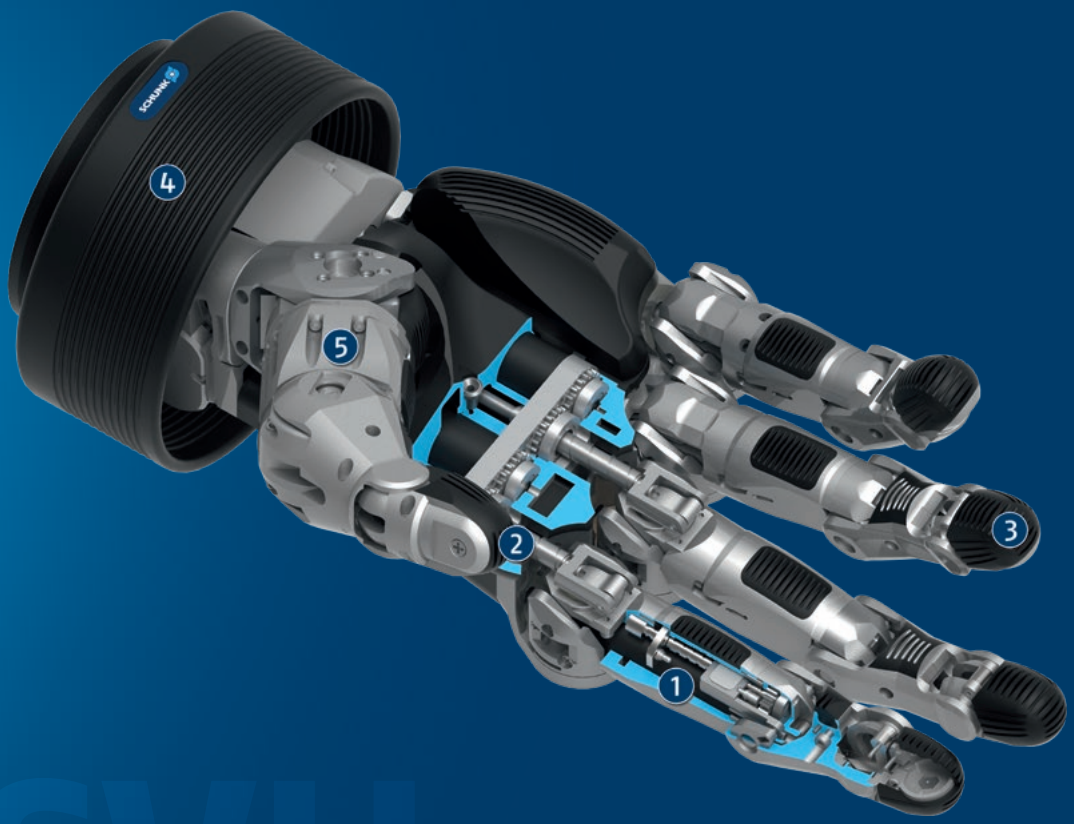
Suited for mobile application fields by low energy consumption at 24 V DC

Extremely compact design due to integration of the complete control, regulator and power electronics in wrist

Defined interfaces for easy connection with market-standard industrial and lightweight robots

Functional description

The ready for series production version of the anthropomorphic SCHUNK 5-finger hand grips nearly as perfectly as the human hand. Due to the moving parts with a total of nine drives, various gripping operations can be executed with high sensitivity. Elastic gripping surfaces ensure a reliable grip on objects. The electronics are completely integrated in the wrist.



① **Drive index finger Distal**
for controlling two axes

② **Drive index finger proximal**
Servomotor with spindle drive

③ **Slip-resistant elastic gripping surface**
for firmer holding due to higher friction

④ **Integrated electronics**
for positional control, amplification and interface

⑤ **Thumbs with two degrees of freedom**
for bending and swiveling the thumb

General notes about the series

Operating principle: Spindle guides

Housing material: Aluminum alloy, coated

Warranty: 12 months

Scope of delivery: SVH hand in an aluminum box

Finger material: Aluminum alloy

Workpiece weight: is a maximum of 0.85 kg for applications with human-robot collaboration. For other applications and form-fit clamping, permissible workpiece weights are significantly higher.

Closing and opening times: Minimum closing and opening times are merely the movement times of the fingers at max. speed, max. acceleration, without current limitation (maximum current), and observance of the maximum permissible masses per finger.

Actuation: electric, via servomotor

Nominal currents: can be permanently actuated. The notes of the individual operating manual must be observed with regard to all currents above the nominal current up to the maximum current.



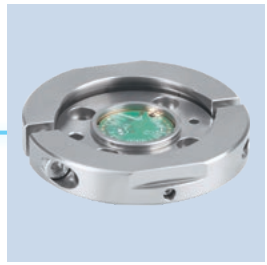
Application example

A robot arm with adapter and attached 5-finger gripping hand SVH, for picking up and transporting different workpieces or objects with a complex structure. Variants created from a modular system were examined by an image processing program to calculate the optimal position for the finger and arm joints in each case. The device is used for validation in product development and for sample part analysis.

SCHUNK offers more ...

The following components make the product even more productive – the suitable addition for the highest functionality, flexibility, reliability, and controlled production.





Flat manual change System
FWS

ⓘ For more information on these products can be found on the following product pages or at schunk.com.

Options and special information

Left and right versions: According to its model, the human hand, the SVH is available in a left and right version. This allows activities that a human performs with both hands to be replicated within technical limits.
Connection of the hand: The hand has a bottom-sided connection to the change system FWK. An FWK is essential for operation. Communication and voltage supply are transmitted via spring-loaded pins.
Control via ROS driver: For the SVH, drivers are available online for ROS1 and ROS2. This includes a short manual for controlling the SVH via Raspberry Pi.

SVH

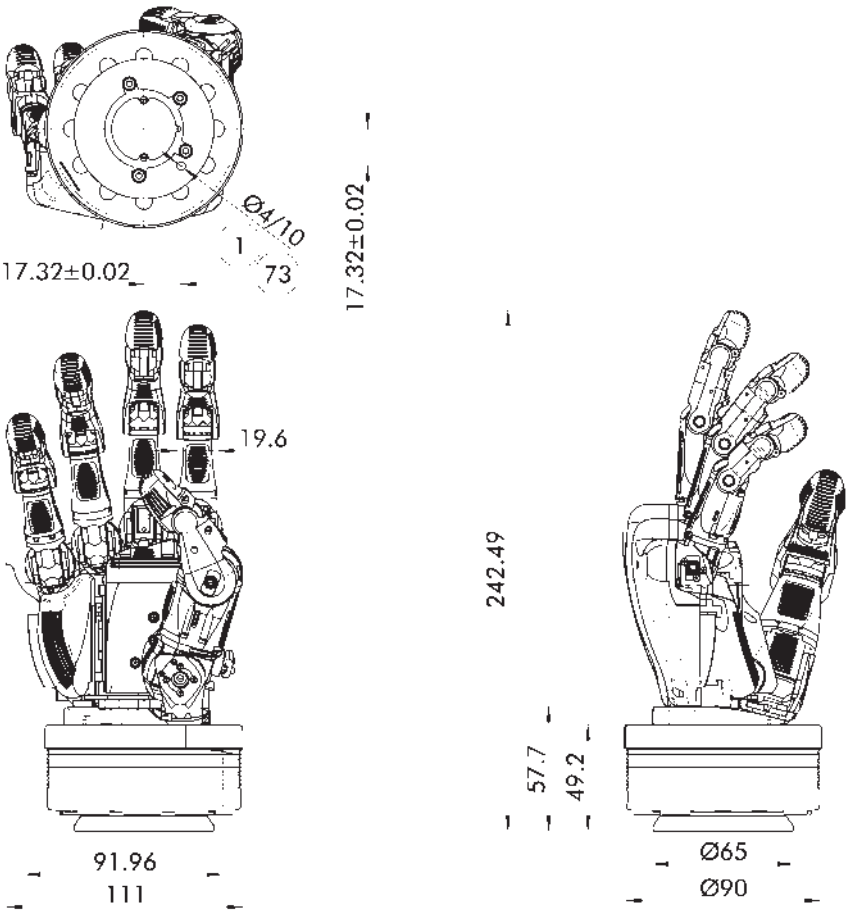
5-finger servo-electric gripping hand



Technical data

Description		SVH left hand	SVH right hand
ID		1545589	1545592
General operating data			
Overall length	[mm]	242.5	242.5
Hand width	[mm]	92	92
Number of fingers		5	5
Number of axes		20	20
Max. finger width	[mm]	92	92
Ratio to human hand		1:1	1:1
Degrees of freedom		20	20
Degrees of freedom thumb		2	2
Degrees of freedom forefinger		2	2
Degrees of freedom middle finger		2	2
Degrees of freedom ring finger		1	1
Degrees of freedom little finger		1	1
Degrees of freedom to spread hand		1	1
Weight	[kg]	1.3	1.3
IP protection class		20	20
Electrical operating data			
Nominal voltage	[V]	24	24
Communication interface		RS 485	RS 485

Main view



(1) Robot-side connection

(73) Fit for centering pins

SCHUNK GmbH & Co. KG
Spann- und Greiftechnik

Bahnhofstr. 106 - 134
D-74348 Lauffen/Neckar
Tel. +49-7133-103-0
Fax +49-7133-103-2399
info@de.schunk.com
schunk.com

Folgen Sie uns | *Follow us*

2023-05-08 © 2023 SCHUNK GmbH & Co. KG