



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

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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

① For more information on these products can be found on the following product pages or at [schunk.com](https://www.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.

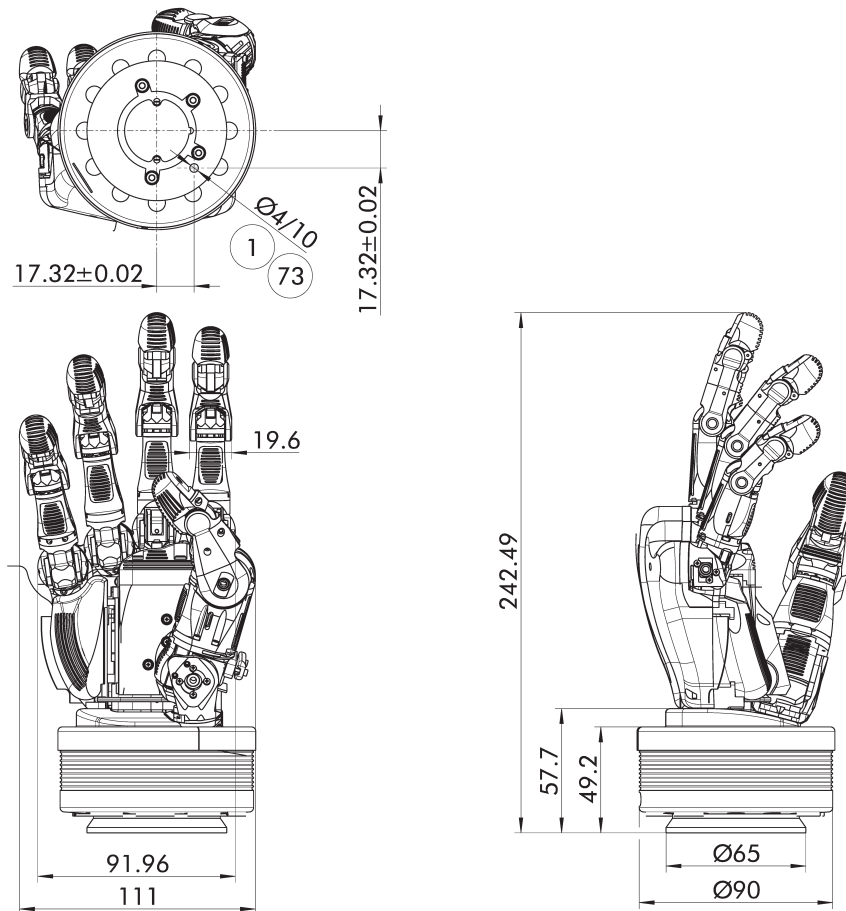


### Technical data

Description		SVH left hand	SVH right hand
ID		1545589	1545592
<b>General operating data</b>			
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
<b>Electrical operating data</b>			
Nominal voltage	[V]	24	24
Communication interface		RS 485	RS 485



## Main view



① Robot-side connection

⑦③ Fit for centering pins



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