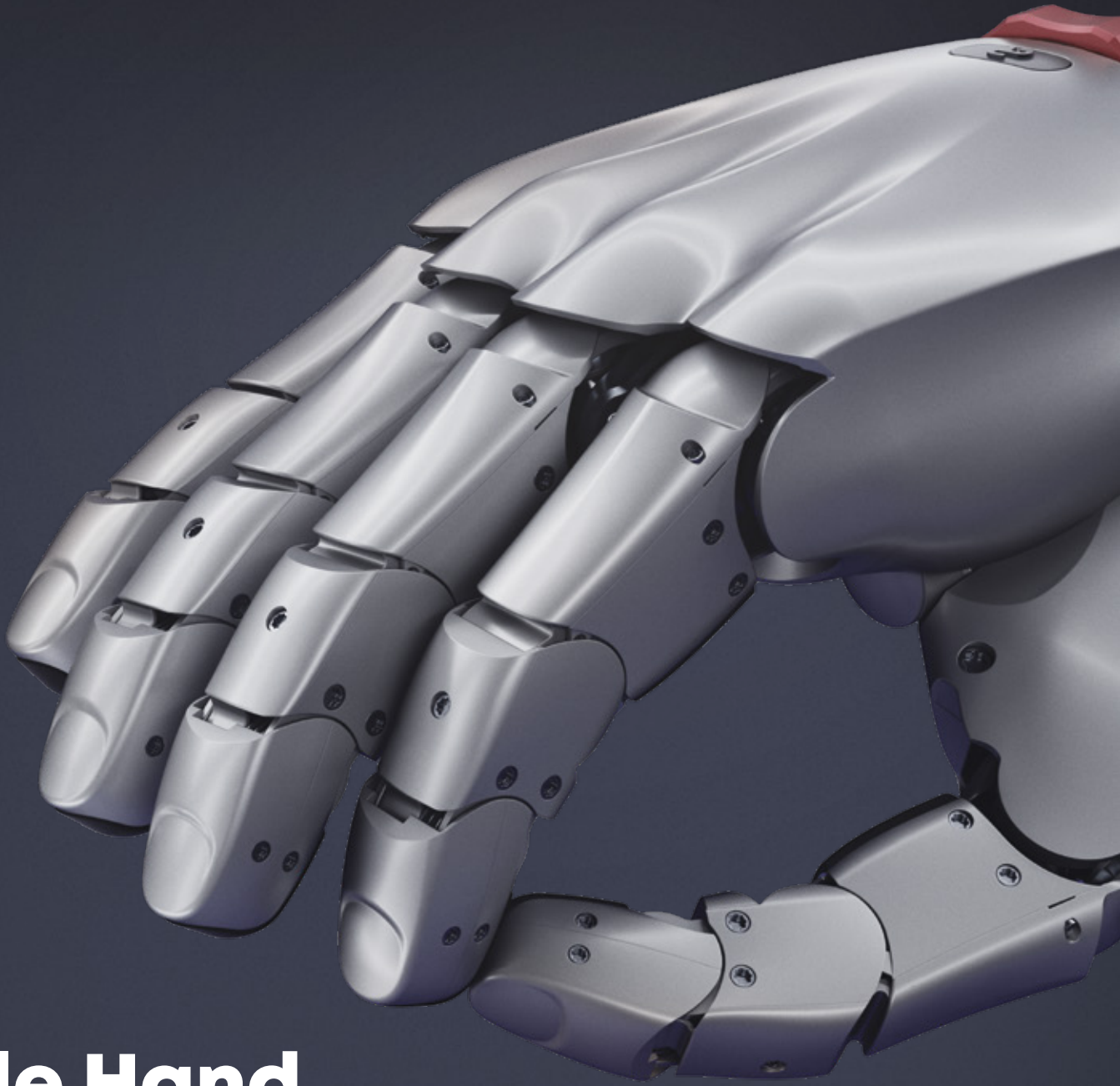




AGILE ROBOTS



Agile Hand

Say hello
to human-like
dexterity

Introducing **Agile Hand**

The anthropomorphic robotic hand

The multi-sensory Agile Hand is composed of five identical, modularly designed robotic fingers. Joints, size, shape and degrees of freedom are designed to closely match the human hand. Optionally, Agile Hand can be upgraded with an opposing thumb actuator, providing the hand with a total of 16 degrees of freedom.

Modular finger design

The identical and modular design integrates actuators, electronics, multi-sensory and mechanical transmission systems in each finger. This simplifies manufacturing and maintenance while allowing for easy reconfiguration.

Multi-sensory system

Joint torque and position sensors are integrated in every actuated joint. Reliable real-time feedback is provided via a compact communication system inside the fingers and palm. An optional tactile sensor upgrade allows an even wider spectrum of possible applications.

Active compliant control

To permit a close human-robot collaboration, Agile Hand's mechatronic system and active compliant control strategy, based on multi-sensory feedback on joint torque and position, were designed to be particularly human-friendly.

Five fingers, **countless tasks**

Offering a hand, when us humans can't

Manufacturing

Thanks to its anthropomorphic dexterity and robust material composition, Agile Hand can grasp small or potentially dangerous objects. That qualifies it to handle industrial tasks, such as material handling.

Research

Since Agile Hand offers human-like kinematics, it is ideally suited for research and development. It has been used to study and develop new technologies, such as grasping strategies or manipulation algorithms.

Astronautics

Scientists have used the space qualified version of Agile Hand for different space and ground tests. Among a variety of applications, Agile Hand can be utilized to handle equipment and perform tasks outside of the spacecraft.

And more

Similar to the human hand, countless tasks are possible. If it is tangible, it is likely doable: 15 or 16 degrees of freedom, 10N active fingertip force and 360°/s joint velocity equip the user with a variety of options.



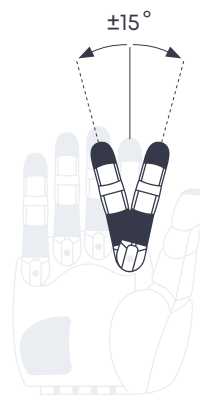
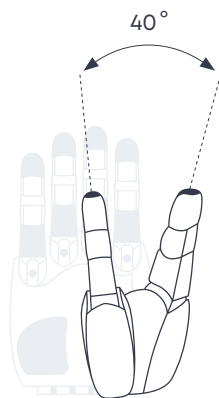
Specifications

Weight	1.5 kg
Joints	20
Degrees of Freedom	15
	16 (optional opposing thumb actuator)
Payload	10 N active fingertip force
Speed	360°/s joint velocity
API	C++, Python and ROS interconnectivity

Mobility: Five fingers with four joints (one coupled joint) and an aluminum open skeleton structure with injection molded plastic shells.

Communication: Proprietary communication protocol connecting finger, hand and external computer at 1kHz control rate.

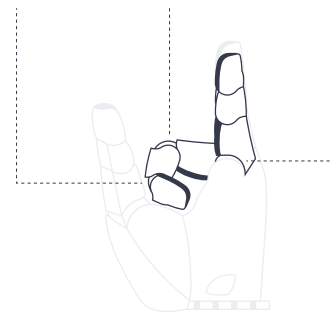
Connectivity: Fast changer adapter for the robot flange according to ISO 9409-1-50-4-M6.



Distal
0° to 90°

Proximal
-4° to 90°

Metacarpo
-4° to 80°



Do you need a hand with your use-case?

Contact our experts today!

© Agile Robots SE
Staffelseestr. 8
81477 Munich

+49 89 277 814-101
welcome@agile-robots.com

Technical data may be subject to change
without previous notice.

Please request detailed drawings here:
sales@agile-robots.com

www.agile-robots.com