



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. The opposing thumb actuator increases the total degrees of freedom to 16.

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



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. A space-qualified version has also been employed in various space and ground tests, enabling scientists to handle equipment and perform tasks outside of spacecraft.

Manufacturing

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

And more

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

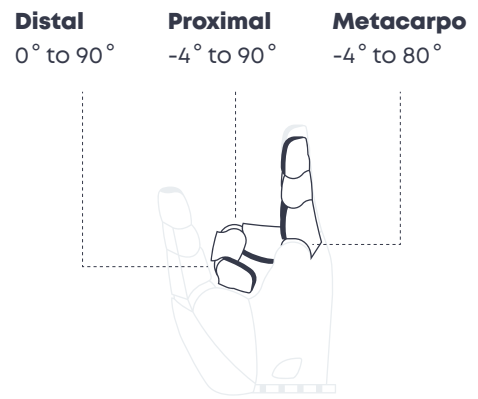
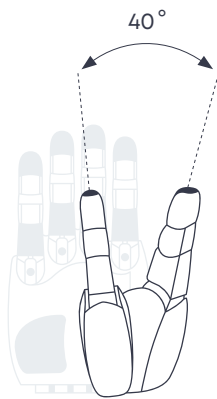
Specifications

Weight	1.5 kg
Joints	21
Degrees of Freedom	16
Payload	10 N active fingertip force
Speed	360°/s joint velocity
API	C++, Python, ROS support

Mobility: Five fingers with four joints (one coupled joint) and an aluminum open skeleton structure with injection molded plastic shells allow for a wide range of movements.

Communication: EtherCAT-based real time communication providing 1kHz control rate.

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



Find out more about our customized solutions.
Book a consultation or demo.
Contact our experts today.

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