



qbHand : an anthropomorphic hand that is versatile and easy to program

Grasping objects, communicating and conveying sensations are just some of the functions of the human hand, a complex limb subject of several studies in the robotic field. [QB Robotics](#), a [Piaggio](#) and [IIT's Center](#) spin-off located in [Navacchio Techno Park](#), has created an innovative product: [qbHand](#).

Conventional robots move stiffly while qbrobotics implements the natural principles of animal muscles in soft robotics systems that present advantages in terms of naturalness of motion, energy efficiency, speed, robustness, and adaptability. The qbhand is a derivative of the Pisa/IIT SoftHand, used under CC By Int. 4.0 license. The original open-source design of the Pisa/IIT SoftHand can be retrieved online on the [Natural Machine Motion Initiative](#).

The qbhand is simple, robust and effective in grasping, making it ideal for humanoid robotics.

- Flexible, Adaptive & Robust
- 19 anthropomorphic DOFs, one synergy, one motor
- Dislocatable, self-healing finger joints
- Grasp force 50N
- Holding force 100N
- From wide open to clenched fist in 1.1 s
- USB & RS485 interfaces

qbHand is able to distinguish between a stone and an apple, grasping vigorously the former and slightly the latter. It can discern the type of movement as a real human hand making it extremely useful not only in industry but also in the support/service field.

Since 2012, QB Robotics is involved in Research and Development activities within International Projects funded by the European Union, such as [SAPHARI](#) (development of soft actuation systems), [SOMA](#) (supply of robotic hands) and [SoftPro](#), in which the company has an active part in the realization of new technological solutions for rehabilitation.