

| Highly Simulate the Structure of
a Real Human Hand



INTELLIGENT DEXTEROUS HAND



Free and Flexible,
Stable in Grasping



Adapt to Changes,
Intelligent Grasping



Hand-eye Servo,
Collaborative Operation



The intelligent dexterous hand is designed on a 1:1 scale of a real human hand, featuring 16 degrees of freedom and 16 hand joints. It highly simulates the structure of a real human hand and can complete various complex grasping actions and gesture demonstrations. The control system adopts a current feedback control method and can intelligently adjust the grasping force according to the material and weight of the item. The fingertip pressure of a single finger can reach 12N. After the integration of the intelligent dexterous hand and Vizum's 3D stereo vision intelligent system, the vision system can locate and track the spatial position and movement path of the palm in real time through the 2 Mark points assembled on the hand, thereby enabling the intelligent dexterous hand to perform the actions of picking, placing, and moving items in various complex environments.

Features

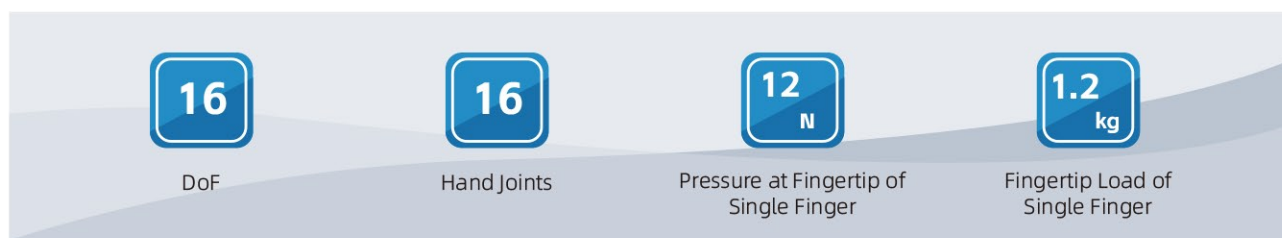
Humanoid Design, Futuristic Aesthetics

Crafted to the exact proportions and contours of a human hand, the intelligent dexterous hand blends human-like familiarity with a sleek, futuristic look. Driven by high-precision motors and linkage transmissions, its joints move in seamless synchronization, delivering smooth, accurate motions. It effortlessly performs a wide range of gestures—greetings, photo poses, or task-specific actions—adapting to any scenario and creating an engaging, delightful user experience.

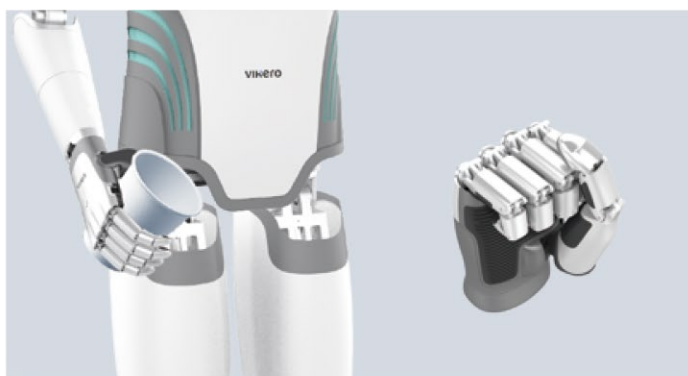


Free and Flexible, Stable in Grasping

The mechanical structure of the intelligent dexterous hand is driven by a linkage mechanism and has 16 hand joints. It is designed to simulate the structure of the five-finger joints of a real human hand and can achieve postures such as finger flexion, abduction, adduction, and extension, enhancing the movement ability of the finger joints. In addition, the fingertip pressure of a single finger of the dexterous hand can reach 12N, and the fingertip load capacity of a single finger can reach 1.2kg. These features greatly improve the degrees of freedom, bearing capacity, and flexibility of the dexterous hand and enable stable grasping.



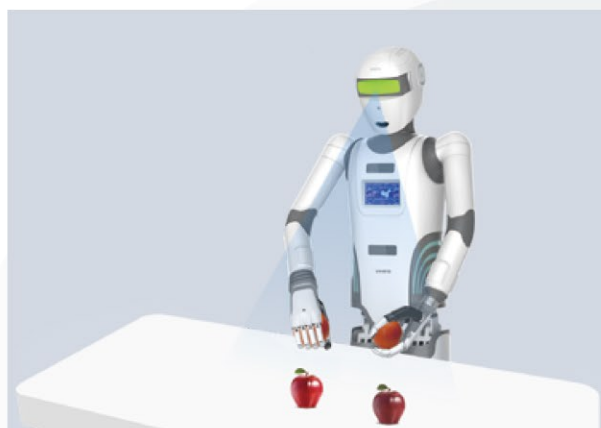
Adapt to Changes, Intelligent Grasping



The control system adopts the current feedback control method. The intelligent dexterous hand can adaptively adjust the grasping force for items of different materials and weights, enrich the types of grasped items, broaden the actual application scenarios, and make grasping more intelligent.

Hand-eye Servo, Collaborative Operation

The intelligent dexterous hand is equipped with 2 unique Mark points of Vizum on the side and back of the palm. After being integrated with Vizum's stereo vision intelligent system, the vision system can real-time locate and track the spatial position and movement path of the palm through the Mark points. With the assistance of the vision system, the control system can precisely control the position and posture of the palm, thereby achieving the picking, placing, and moving of items in various complex environments, achieving hand-eye servo and collaborative operation.



Specifications

Specifications	Value
Size (L×W×H)	233 × 89 × 45mm
Number of Fingers	5
Degree of Freedom	16
Number of Joints	16
Pressure at Fingertip of Single Finger	12N
Load of Single Finger	1.2kg
Drive Mode	Motor
Transmission mode	Linkage
Repeat Positioning Accuracy	± 0.1mm
Working Voltage	24V
Communication Interface	CAN FD

Applications

Industrial Manufacturing

In the industrial field, intelligent dexterous hands can perform highly repetitive and high-precision tasks like grasping, handling, and assembling on automated production lines, such as logistics picking and automotive assembly, improving production operation efficiency.

Agricultural Harvesting

In the agricultural field, intelligent dexterous hands, as the end effector of picking robots, can replace manual labor to conduct fruit and vegetable harvesting more efficiently and continuously, such as Vizum's agricultural humanoid harvesting robot equipped with dexterous hands to automatically pick apples, tomatoes, etc.

Medical Assistance

In the medical field, intelligent dexterous hands can assist doctors in performing delicate surgical operations and can also serve as prosthetic hands to help amputee patients in rehabilitation training and daily assistance, improving the quality of life.

Commercial Service

In the commercial field, intelligent dexterous hands can be applied in industries such as catering and hotels, providing personalized services such as serving dishes and pouring water, bartending and cooking, cleaning, and social interaction, etc.

Family Entertainment

Intelligent dexterous hands also play an entertainment value in the family environment. Functions such as playing the piano, dancing, performing, and other social interactions which can bring rich entertainment experiences to family life.

Scientific Research and Education

In the field of scientific research and education, intelligent dexterous hands can be used to help students learn and understand professional knowledge and assist scientific researchers in conducting dangerous or precise exploration, research, and collection work.



**Give Every Robot The Intelligent Eye
So That They Can Live Like Human**