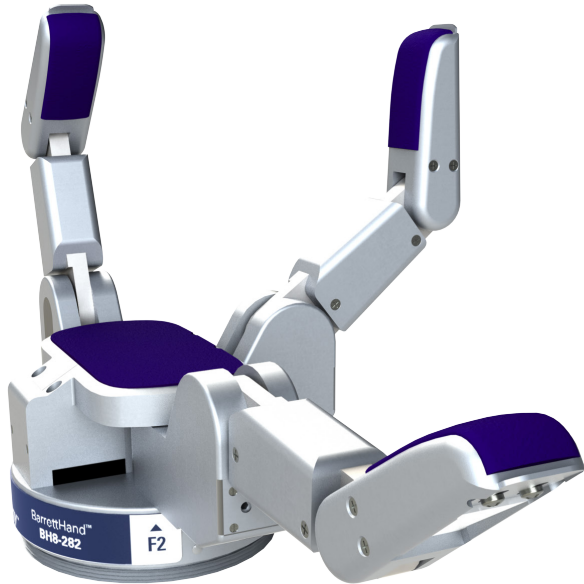




Barrett's versatile BH8-Series robotic hands give you the flexibility you need to reduce costs and increase production.



BarrettHand™

Shown with Tactile Array Option

Big Functionality, Compact Form

The BH8-series BarrettHand™ is a multi-fingered programmable grasper with the dexterity to secure target objects of different sizes, shapes, and orientations. Even with its low weight and super-compact base, it is totally self-contained.

Communicating by industry-standard serial communications or high-speed CANbus (USB adapters included), integration with any arm is fast and simple. The BarrettHand™ immediately multiplies the value of any arm requiring flexible automation.

The BarrettHand neatly houses its own communications electronics, servo-controllers, and all four brushless motors. Of its three multi-jointed fingers, two have an extra degree of freedom with 180 degrees of lateral mobility supporting a large variety of grasp types. All joints have high-precision position encoders.

Combined with its versatile software routines, a single BarrettHand™ matches the functionality of an endless set of custom grippers—yet switches part/tool shapes electronically within half a second.

The BarrettHand™ integrates with your application by consolidating many custom gripper tools into a single smart grasper.

BH8-282

Intelligent Underactuation

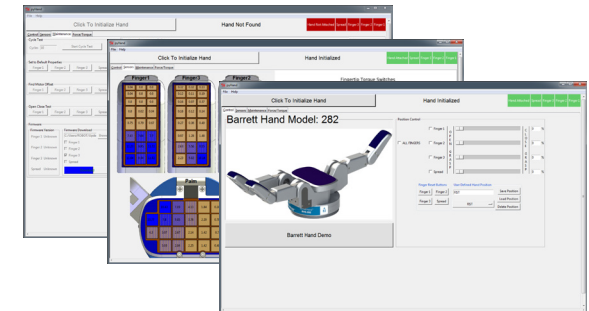
Light: 980 grams

High Payload: 6+ kg

Simple Control

Barrett Technology's full-source code and examples are included with every purchase and provide comprehensive ways of controlling the BarrettHand™.

The pyHand application works under both Linux and Windows and presents an easy-to-use graphical user interface (GUI) for control of the BarrettHand™. It exposes all of the functionality provided by the BarrettHand™ C++ and Python libraries in a graphical environment, without writing any code.

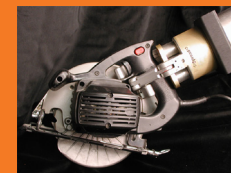


ADDITIONAL APPLICATIONS

- Component assembly
- Food handling
- Assembly-line part orientation
- Quality-control measurements for continuous process control
- Realtime environment interaction
- Handling castings, glass, and ceramics
- Remote manipulation
- Biohazard material handling
- Nuclear-waste management
- Search and Rescue
- Bomb disposal

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Hand Tool Automation



Material Handling



Packaging/Palletizing

Features and Benefits

Lightweight

- Maximizes host arm's payload capacity
- Reduces accelerated inertia
- Enhances Safety

Compact fist

- Reaches tight spots

Self-contained

- Minimizes space, wires, and signal noise

All electric

- Clean and quiet, no pneumatics or hydraulics
- No pumps, no hoses, no seals, no filters, no leaks

Human-scale

- Immediately adaptable to hand-held tools
- Intuitive application development

Failsafe, non-backdrivable fingers

- Object remains secure without power
- Payload capacity not limited by active force

Brushless rare-earth motors

- Rare-earth magnets for high torque, low mass
- Explosion proof (no brushes, no sparks)
- No brush replacements or brush debris
- Vacuum compatibility

Proprietary clutch mechanism and spreading fingers

- Grasps a wide variety of objects
- Eliminates tool changer's cost and wait time

Supervisory control mode

- Easily issue high-level commands

RealTime control mode

- Enables user to close control loops externally

Flexible Communications

- Controllable from any host PC
- Easy integration with PLCs

BH8-282 Specifications

Payload
6+ kg

Weight
980 grams

Motor Encoder Resolution
4096 counts

Motor Type
Brushless Electric

Communication
CAN, RS-232

Finger Speed
Finger full open to close: 1.0 sec
Full 180 degree spread: 0.5 sec

DC Operation
Voltage: 20-60 VDC
Idle/typ/peak: 7/15/250 W

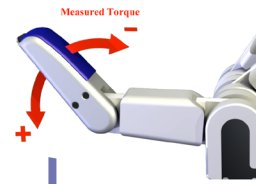
AC Operation
Single phase: 100-240 VAC, 50/60 Hz
Idle/typ/peak: 10/20/300 W

AC Power Supply
Dimensions (mm): 204L x 90W x 54H
Weight: 0.7 kg

Kinematics
Total fingers: 3 (1 fixed, 2 rotatable)
Total hand axes: 8
Total hand motors: 4

Range of Motion
Finger base joint: 140°
Fingertip joint: 45°
Finger spread: 180°

Technical specifications subject to change without notice
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Fingertip Torque Sensors

Function — Senses torques about last joint in each finger

Quantity — 3 (1 per finger)

Element Type — Metal foil strain gage

Range — +/- 1 N-m

Resolution — 0.04 N-m



Tactile Sensors

Function — Localizes pressure across palm and fingers

Quantity — 96 active cells

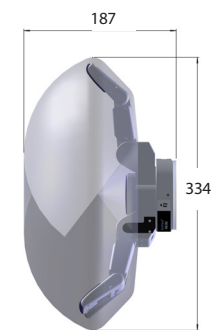
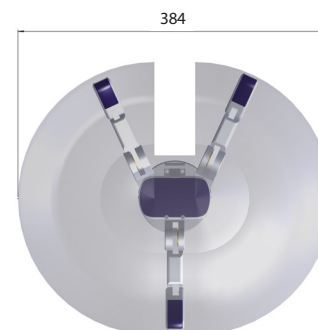
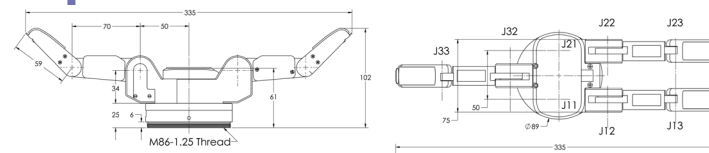
Element Type — 24 capacitive cells per sensor pad

Range — 10 N/cm²

Resolution — Palm: 0.02 N/cell; cell area 1.0 cm²
Finger: 0.01 N/cell; cell area 0.3 cm²
Finger: 0.01 N/cell; cell area 0.15 cm²

Dimensions

All dimensions are in millimeters and for reference only.



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ADVANCED ROBOTICS

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