



# BH8-280

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



Intelligent Underactuation  
Light: 1.2 kg  
High Payload: 6 kg

### 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 compact form, 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.

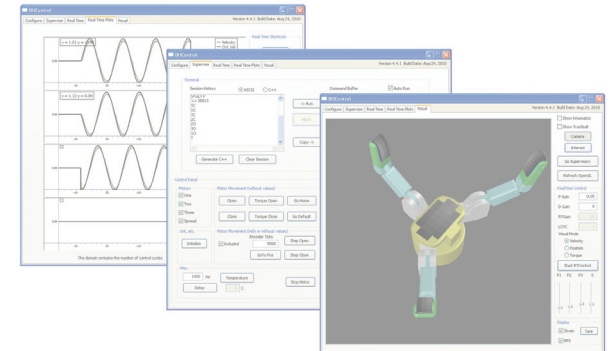
Combined with its versatile software routines, a single BarrettHand matches the functionality of an endless set of custom grippers – yet switches part/tool shapes electronically within half a second.

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

### Simple Control

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

The BHControl 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/C++ library and the powerful yet easy-to-learn Grasper Control Language (GCL) in a graphical environment, without writing any code.



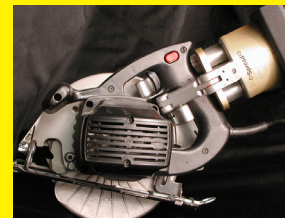
BarrettHand shown with Tactile Array Option

### 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



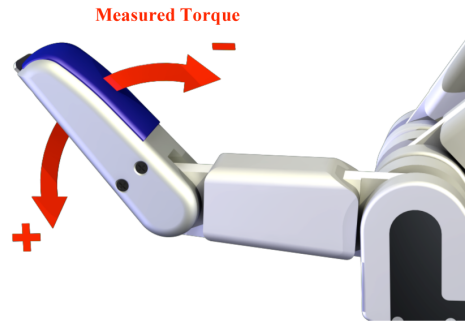
Material Handling



Packaging/Palletizing

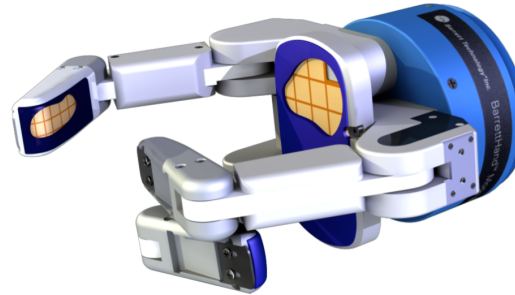
### Fingertip Torque Sensors P/N: B0106

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

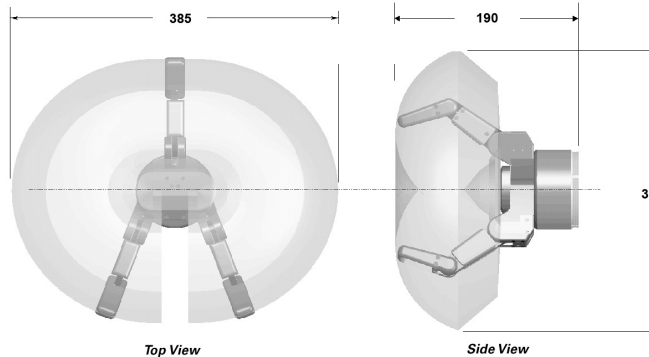
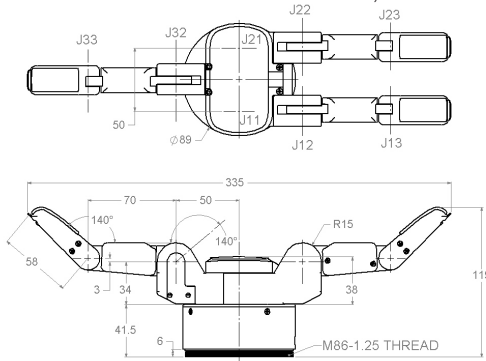


### 96-Cell Tactile Array P/N: B4067

Function	Senses pressure on finger pads and palm pad
Quantity	4 (1 per finger, 1 palm)
Element Type	24 capacitive cells per sensor pad
Range	10 N/cm <sup>2</sup>
Resolution	Palm: 0.02 N/cell; cell area 1.0 cm <sup>2</sup>
	Finger: 0.01 N/cell; cell area 0.3 cm <sup>2</sup>
	Fingertip: 0.01 N/cell; cell area 0.15 cm <sup>2</sup>



All dimensions are in millimeters and for reference only.



### FEATURES & BENEFITS

<b>Light weight</b>	Maximizes host arm's payload capacity. Reduces accelerated inertia. Enhances Safety.
<b>Compact fist</b>	Reaches tight spots.
<b>Self-contained</b>	Minimizes space, wires, and signal noise.
<b>All electric</b>	Clean and quiet, no pneumatics or hydraulics. No pumps, no hoses, no seals, no filters, no leaks.
<b>Human-scale</b>	Immediately adaptable to hand-held tools. Intuitive application development.
<b>Fail-safe, non-backdrivable fingers</b>	Object remains secure without power. Payload capacity not limited by active force.
<b>Brushless rare-earth motors</b>	Rare-earth magnets for high torque, low mass. Explosion proof (no brushes, no sparks). No brush replacements or brush debris. Vacuum compatible.
<b>Patented clutch mechanism and spreading fingers</b>	Grasps a wide variety of objects. Eliminates tool changer's cost and wait time.
<b>Supervisory control mode</b>	Easily issue high-level commands.
<b>RealTime control mode</b>	Enables user to close control loops externally. Controllable from any host PC.
<b>Flexible Communications</b>	Easy integration with PLCs.

### BH8-280 SPECIFICATIONS

<b>Payload</b>	6.0 kg	
<b>Weight</b>	1.2 kg	
<b>Motor Encoder Resolution</b>	4096	
<b>Motor Type</b>	Brushless Electric	
<b>Communication</b>	CAN, RS-232 (USB adapters provided)	
<b>Power Requirements</b>	Input voltage*	48 VDC
	Power	7 W quiescent 15 W typical 250 W peak
<b>Finger Speed</b>	Finger full-open to full-close	1.0 sec
	Full 180° spread	0.5 sec
<b>Power Supply</b>	Dimensions, L x W x H	204 x 90 x 54 mm
	Weight	0.7 kg
<b>Kinematics</b>	Input	Single Phase, 110/220 VAC at 50-60 Hz.
	Output	48 VDC, 300 W Peak
<b>Range of Motion</b>	Total fingers	3 (1 fixed, 2 rotatable)
	Total hand axes	8
	Total hand motors	4
<b>Range of Motion</b>	Finger base joint	140°
	Fingertip joint	45°
	Finger Spread	180°

TECHNICAL SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.  
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\*Inquire regarding other input voltages.



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