

Features and Benefits of BarrettHand

BARRETHAND FEATURES	KEY BENEFITS
Lightweight 980 grams	<ul style="list-style-type: none">- Conserves robot-arm payload capacity- Minimizes geometric interference- Reduces accelerated inertia- Enhances safety
Self-contained	Minimizes space, wires, and signal noise
Human-scaled	<ul style="list-style-type: none">- Adaptable to objects scaled for human grasping, such hand-held tools- Intuitive application development
Low Profile	Minimizes torque on robot's wrist and kinematic cross - coupling
Proprietary reconfigurable spreading fingers	<ul style="list-style-type: none">- Can grasp a wide variety of objects, with a variety of grasp styles- Allows flexible automation without the increased cost and decreased throughput of tool changers
Patented TorqueSwitch™ mechanism distributes grasp forces	Firm grasp, even on delicate and precision surfaces
Two control modes: Supervisory Mode, RealTime Mode	Allows robot programmers to issue either high-level commands or close low-level loops outside of the hand
High speed capability	<ul style="list-style-type: none">- Improved throughput in pick-and-place applications- Dynamic capture capability
Brushless Rare-Earth servo motors	<ul style="list-style-type: none">- Lower rotor inertia/fast response- No brush wear/replacements- High torque, low mass- Explosion proof- Carbon brush particles

	<p>eliminated</p> <ul style="list-style-type: none"> - Vacuum compatibility
All electric - no pneumatics, no hydraulics	Clean and quiet — no pumps, no hoses, no seals, no filters, no leaks
Mechanical and electronic intelligence	<ul style="list-style-type: none"> - Low-level hand behaviors automatically ensure secure grasps - Enables supervisory - style control
Backdrivable palm - spread transmission	Fingers readjust to most stable spread configuration
Non-backdrivable finger transmission	<ul style="list-style-type: none"> - Object remains secure without power - Payload capacity not limited by active squeezing force
Driver specifications provided	Enables robot programmers to incorporate hand commands into any C-language program
Manual-override grasp release	Target can be freed manually in case of prolonged power loss
Quick mechanical/electric disconnect	Quick/simple arm attachment
High-level CPU command interpreter inside hand	Simplifies any programming and minimizes I/O traffic
Fast, low-level access to actuator commands and sensor signals	Superior programming flexibility
Support for industry standards: <ul style="list-style-type: none"> • CANbus • USB • serial RS-232 	<ul style="list-style-type: none"> - Standard interface allows easy integration with any host computer - Open architecture enables software development with any platform or language
All necessary software, cables, DC power supply, maintenance kit, manuals included in base price	<ul style="list-style-type: none"> - System can be checked and used immediately - Hassle-free installation
Bench-top stand, included with base system	Provides convenient platform for testing

Optional low-profile, mounting adapters available for any robot arm	Simplifies integration
C-Language command library for PCs masks tedious I/O details	Workcell controller can access hand commands immediately
High-speed communications	<ul style="list-style-type: none"> - Enables flexibility to communicate with a wide variety of devices and computers - Enables realtime control from user's PC
Optional Fingertip torque sensors	<ul style="list-style-type: none"> - Enables direct fingertip torque sensing - Enables finger self-preservation
Optional 96-cell tactile sensing across fingers and palm.	Enables mapping of pressure distribution with precise localization
Warranty	Twelve-month standard warranty covers materials, labor and software upgrades (extendable up to 4 years)