

HEAD[®] ROBOTIC



HEAD PRO
Human Exoskeleton

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ROBOTIC

HEAD PRO
WEARABLE MOVEMENT



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WEARABLE MOVEMENT

HEAD PRO Human Exoskeleton.

The HEAD PRO - bilateral hip-lifting assistance exoskeleton, is an intelligent wearable device designed to compensate and enhance lower limbs motor function.

It is specifically designed to improve the wearer's efficiency in daily activities such as walking, climbing stairs, outdoor sports, and hiking.

Through an advanced power system and precise sensor modules, the device can instantly detect the user's walking intention, providing efficient and adjustable assistance output. This reduces the burden on the lower limbs during walking, improving gait stability and exercise comfort.

It truly integrates technology into daily life, assisting every step forward.



— Sports enthusiasts.

It provides intelligent assistance to help improve performances and break through limits.

— Physical fitness assistance.

It helps peoples with limited activity due to cardiopulmonary insufficiency or injuries, to enhance their self-care abilities and abilities range.

— Peoples with insufficient muscle strenght support.

It provides daily activity support to people with decreased lower limbs muscle strength and endurance due to aging or injuries.

— Post-rehabilitation consolidation.

It supports individuals with reduced mobility resulting from cardiopulmonary insufficiency or injuries, improving their self-care capacity and functional range of motion.



Adjustable structure ***30 seconds wearability***

Comfortable fit for different body shapes, wearable in 30 seconds and perfect for frequent daily use.

High-efficiency power output ***6 levels - max 32Nm power***

Precision-calibrated drive unit delivers steady, natural motion experience.

Safety monitoring functions ***AI system***

The posture-warning and automatic start/stop system ensures reliable operation and user safety during sitting and standing transition.

Intention detection system ***AI system***

Multi-modal sensors and smart algorithms interpret motion intentions from complex body dynamics.



All-terrain AI

It doesn't depend on terrain or movements, naturally follows, and adapts seamlessly without any discomfort. Each step becomes easier, more effortless, and safer.

The all-terrain AI recognition capability of this exoskeleton is strongly supported by two core technologies:

- 1. **Multi-dimensional environment and motion perception.**
Equipped with high-precision sensor array, it collects human motion and terrain data in real time, enabling more accurate recognition and more responsive feedback.
- 2. **The new generation of self-developed intelligent human-machine interaction algorithms.**
Adopting the company's latest generation of human-machine interaction algorithm, featuring advanced technology, stable operation, and rapid response.



This is our all-terrain AI recognition powered exoskeleton.

The two core technologies are deeply integrated to build smooth and natural, ultra-strong human-machine collaboration capability that can accurately identify various terrain changes and provide stable, seamless power assistance in real time.

Whether walking on flat ground, running and jumping, going up and down stairs, climbing outdoors, or traversing complex terrain, it achieves millisecond-level response and full-scenario adaptation, making it truly intelligent assistive equipment capable of handling complex environments.



CYCLING



HIKING



RUNNING



WALKING



DOWN / UP
STAIRS





- 1. Belt support:**
Lightweight, adjustable and breathable.
- 2. Built-in assistance system:**
Smooth operation for joints strain reduction.
- 3. Ergonomic design and battery integrated:**
Body support ensuring comfort and flexibility.
- 4. Dual electric motors:**
Dual-side assistance for balanced movements
- 5. Flexible strap system:**
Adjustable design for a comfortable fit.

EVERYDAY EXPLORATION

HEAD PRO PERFORMANCE PARAMETERS

Model	HE-EX20
Product weight	about 2.2 kg (without straps and batteries is around 1.87kg)
Battery	5000 mAh 14.4V
Working time	3-6 hours
Motor	32 Nm (16 Nm x2)
Output	More than 1000W
Gear adjustment	6-speed
Operating temperature	-10~45°C
Charging time	1.5 to 2 hours
Waterproof and dustproof	IP54
Max Speed Assistance	More than 16 km/h
Materials	Carbon fiber, aluminum alloy, ABS
Size	Universal size, support height of 160cm-190cm



WEIGHT
2.2 kg



BATTERY
5000 mAh



MOTOR
16 Nm x2



**MAX
POWER**
1000W

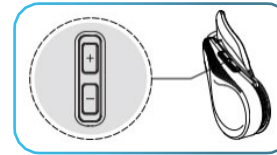


GEAR
6 Speed



MATERIALS
Carbon fiber,
aluminum alloy, ABS





6-level assistance:

Assistance effect:

Customized adjustments for users to choose from, according to their needs.

Gears adjustment:

Once the device is turned on, Gear 3 will be setted by default. Power assistance can be adjusted by pressing the “+/-” gear button on the right side of the device. There are a total of 6 levels to choose from. The device’s AI algorithm will automatically adjust the gear level based on the scenario like walking or racing, and ground conditions like uphill and downhill or flat ground.

- Double-sided motor drive (maximum 16Nm each side, 16Nm x 2 both sides).
- intelligent algorithm for real-time motion intention perception.
- Fully adaptive model, no additional mode adjustments required.
- Various activities to choose from walking to jogging.



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Distributor by
Moby Group Limited

www.mobygroupltd.com - info@mobygroupltd.com