# KENQING®
EXOSKELETON EXPERT

Kenqing




SHENZHEN KENQING TECHNOLOGY CO.,LTD

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PRO-LIFT SOLUTIONS

## Company Profile

Shenzhen Kenqing Technology Co., Ltd., was founded in 2015 with mission to make smart and lightweight exoskeletons to improve peoples' ability to walk, to carry or to lift. For 9 years, Kenqing has deeply handled technologies combine ergonomics, kinematics with power, machine perception, and AI, owns 60+ patent applications including 6 PCTs, and leading ultra-light walking and lifting assist exoskeleton Ant series are in mass production and widely used in outdoor sports, elderly care, industrial, and firefighting fields.

## Product Category

- Walking Assist
- Waist Assist
- Upper Limbs Assist
- Carrying & Walking Assist
- Medical
- Education

# Walking Assist Product Series

| | | | | |
|---|---|---|---|---|
| Pictures |  |  |  | |
| Model | Ant-C1 Pro | Ant-H1 Pro | π | π Plus |
| Weight | 3.1kg* | 2.4kg* | 1.9kg* | 2.1kg* |
| Walking Assistance | 18Nm | 12Nm | 10Nm | 15Nm |
| Endurance | 15K~20K** steps | 8K~12K** steps | 12K** steps | 24K** steps |
| Features | Powerful | Lightweight & Multi-Mode | Ultra Light-Weight | |

**PS:** * There are slight differences in weight due to different configurations and fabric materials
** The endurance data is tested under laboratory conditions, and there may be significant differences in actual use due to different conditions
(The same applies to the following content)

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# π Sports Assist Robot

- Ultra light weight
- Powerful
- Flexible Waist Belt
- Module design, quickly folding
- Battery fast-lock/unlock







| Parameters | π | π Plus |
|---|---|---|
| Weight | 1.9kg* | 2.1kg* |
| Rated Torque | 10Nm | 15Nm |
| Max Speed | 10Km/h | 15Km/h |
| Endurance | 12K** steps | 24K** steps |
| Charging Time | 1.5H | 1.5H |
| Main frame folding size | 36*14*12CM | 36*14*12CM |
| Applicable Height | 1.50~1.95M | 1.50~1.95M |

## Applications

- Outdoor Sports:
  Mountaineering, walking, cycling
  Exercise dispersedly
  Sports Protection
- Home Fitness

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# ANT-H1 PRO Walking Assist Robot

## Go Outdoor Enjoy Mountain Scenery

- Powerful And Adjustable
- AI Intention Recognition
- Battery Replaceable Quickly
- Multiple Protections
- Lightweight & Close-Fitting
- APP Support Four Modes





## Applications

Outdoor Sports:

Save energy, exercise dispersedly

Physical Training:

Efficiently train the muscles

## Parameters

| | |
|---|---|
| Weight | 2.4kg*(Including Battery) |
| Rated Torque | 12Nm |
| Max Speed | 11Km/h |
| Endurance | 8K~12K** steps |
| Charging Time | 1.5H |
| Battery | UN38.3/MSDS Cetification |
| Applicable Height | 155-185cm |

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# Waist Assist Product Series

| | | | | | |
|---|---|---|---|---|---|
| Pictures |  |  |  |  |  |
| Model | Ant-WA1 | Ant-W1 | Y20 | Y10 | Q20 |
| Weight | 8.5kg* | 6.4kg* | 4.1kg* | 3.2kg* | 2.7kg* |
| Assistance Site | Waist & Arm | Waist & Arm | Waist & Walk | Waist & Walk | Waist |
| Waist Assistance | 40kg | 40kg | 20kg | 10kg | 20kg |
| Walking Assistance | Possess | Possess | Possess | Possess | —— |
| **Features** | Load can be lifted to Shoulder | Load can be lifted to Abdomen | Close-Fitting & Flexible | Lightweight Breathable & Ventilated | Ultralight |

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# Q20 Ultralight Lumbar Support Robot

A coat-like lumbar support workwear

- Ultra Lightweight
- 20kg Assistance
- Assist In All Bending Posture
- Close-Fitting & Flexible
- Affordable Prices



## Applications

Logistics, Port, Airport

Factory & Agricultural Operation




## Parameters

| | |
|---|---|
| Weight | 2.7kg* |
| Waist Assistance | 20kg |
| Endurance | 8H**/2000 Times |
| Charging Time | 1.5h |
| Applicable Height | 150~190cm |

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# Y20 Lumbar Support Robot

Initial model：Ant-Y1

## Keep Your Lumbar Relaxed All Day

- 20 KG Assistance
- Automatic Switching Of Bending/Walking Modes
- Close-Fitting & Flexible
- Large Capacity Battery Replaceable
- Easy To Wear & Use
- Pads Can Be Quickly Replaced





## Applications

Industrial: Cargo Handling, Long Time Bending Work

Agriculture: Grain Handling, Crop Harvest

Patient Caring & Transfer

## Parameters

| | |
|---|---|
| Weight | 4.1kg*(Including Battery) |
| Max Waist Assistance | 20kg |
| Walking Assistance | Possess |
| Max Speed | 12Km/h |
| Endurance | 6~8H**/2000 Times |
| Charging Time | 1.5H |
| Applicatble Height | 155~185CM |

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# ANT-WA1 Handling Assist Robot

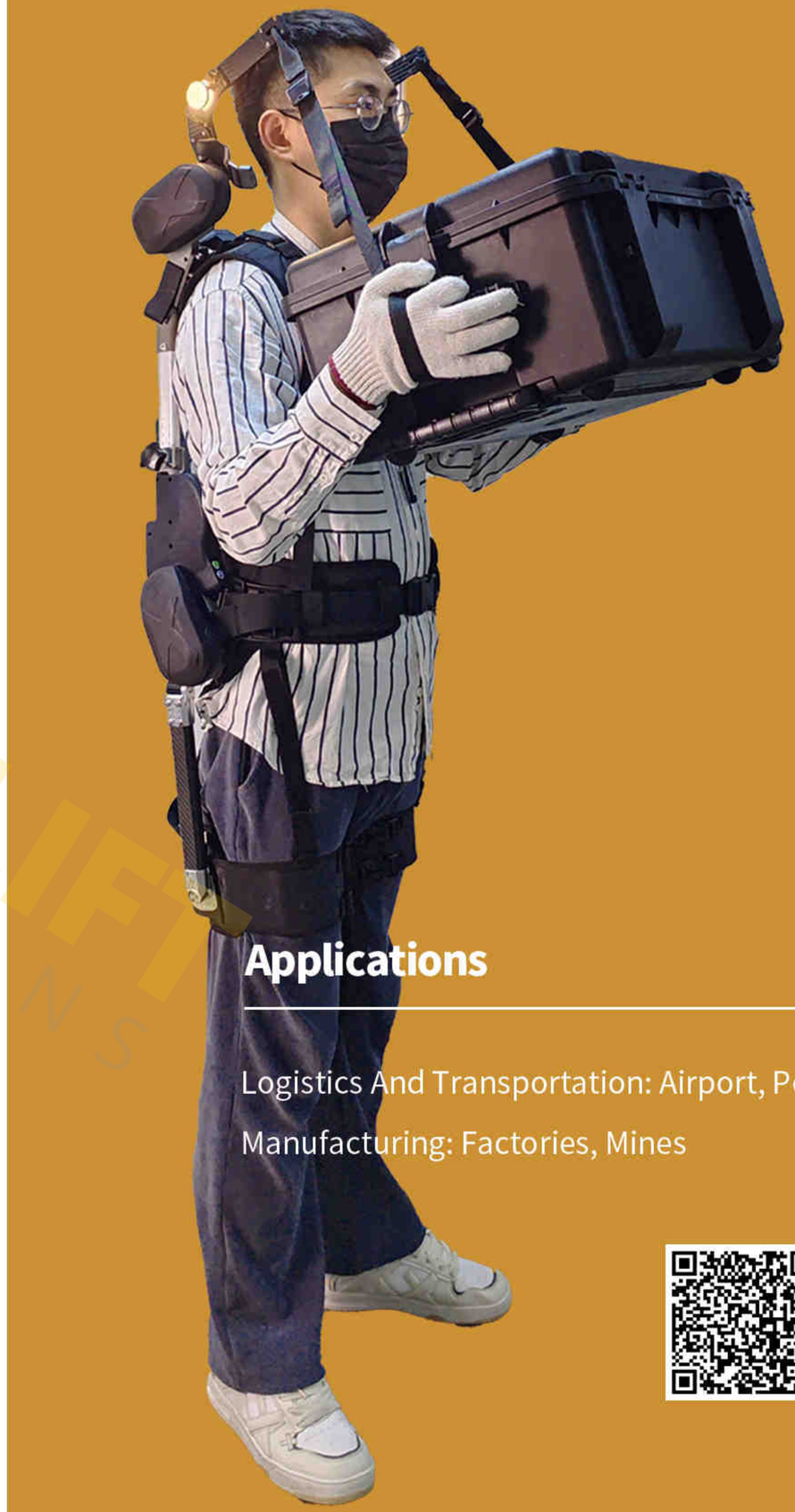
## Lift High & Hold Stable

- Powerful Four Engines
- Load Lift To Shoulder
- Smart Intention Recognition
- Load Weight Adaptive



## Parameters

| | |
|---|---|
| Weight | 8.5kg*(Including Battery) |
| Rated Torques | 40kg |
| Endurance | 6-8H**/800 Times |
| Charging Time | 1.5H |
| Lift Height | Shoulder |
| Applicable Size | Height 1.55-1.85M, waist adjustable |



## Applications

Logistics And Transportation: Airport, Port

Manufacturing: Factories, Mines

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# Upper Limbs Assist Product Series

| | | |
|---|---|---|
| Pictures |  |  |
| Model | Ant-A1 | A10 |
| Weight | 5.4kg* | 3.4kg* |
| Arm Assistance | Single arm 10kg, double 20kg | Single arm 8kg, double 16kg |
| Endurance | 6-8H** | 4H**/2H** |
| **Features** | Assist Up To Hand | Flexible and Lightweight |

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# A10 Arm Assist Robot

Shoulder joint keep relaxed when working!

- 8kg*2 Assistance
- Large Range Smart Assistance
- Support Flexible Movements
- Lightweight & Close-Fitting
- 2-Hour Steady Lifting



## Parameters

| | |
|---|---|
| Weight | 3.4kg* (Including Battery) |
| Max Shoulder Joint Assistance | Single arm 8kg, double 16kg |
| Endurance | 4H**/1000 Times |
| | 2H**/Long-time lifting operations |
| Charging Time | 1.5H |
| Arm Lift Range | -60~80° (with horizontal as 0°) |
| Applicable Size | Height 1.5~1.9M, shoulder width adjustable |



## Applications

Automobile, Aviation manufacturing
Logistics, Factory operations

Agricultural, Construction
Surgeon, Photographer

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# Carrying & Walking Assist Product Series

| | | |
|---|---|---|
| Pictures |  |  |
| Model | Ant-P1 | Beetle-L1 |
| Weight | 3.7*kg (mainframe weight) | ⩽5.4*kg(including back frame) |
| Rated Load | 30kg | 35kg |
| Max Load | ⩾50kg | ⩾70kg |
| Walking Assistance | 28Nm | 5Nm |
| Endurance | 20K~25K** steps | Infinity |
| **Features** | Oxygen Consumption Decreased By 30% | Shoulder Pressure Reduced By 50% |

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# ANT-P1 Sports Enhanced Robot

30%
Oxygen Consumption Decreased By

50%
Shoulder Pressure Reduced By

- Saving Physical Consumption
- Resistance Training Efficient
- AI Learning, Terrain Adaptation
- Powerful & Lightweight
- Flexible & High Speed
- Battery Replaceable
- Durable, Easy To Use



## Applications

Emergency Rescue
Fire Fighting
Weight-bearing Patrol



## Parameters

| | |
|---|---|
| Weight | 3.7kg*(mainframe weight not including back frame) |
| Rated Load | 30kg |
| Max Load | ⩾50kg |
| Rated Torque | 28Nm |
| Max Speed | 15Km/h |
| Endurance | 20K~25K** Steps |
| Charging Time | 1.5H |
| Materials | Aluminum Alloy + Carbon Fiber |
| Applicable Height | 155-185cm |

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# Education Product Serious

| Model | Picture | Parameters | Features |
| --- | --- | --- | --- |
| Ant-C1-E |  | Rated Torque：15Nm<br>Weight：3.3kg*<br>Development platform：Raspberry Pi | Support for custom development<br>Support for sensor expansion |

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# ANT-C1-E Education Exoskeleton Robot

## Reliable Hardware Platform Supports User Redevelopment

- Intelligent Perception & Autonomous Decision
- Supporting Position, Speed & Torque Control
- Supporting Serial Port & Bluetooth
- Collect Human Motion Information Including Posture, Stride Frequency, Stride Length
- Data Analysis And Processing Of Acceleration Angle,And Angle Velocity



## Applications

Support Research And Development From
Heginner To Advanced To Expert Level Developers
Applicable To Universities, Research Institutes,
And Development Enthusiasts

## Parameters

Weight: 3.3kg*(not including additional accessories)
Joint Angle Resolution:0.002°
Acceleration Range: 16g
Angular Velocity Range: 2000°/s
Maximum Joint Angular Velocity: 700°/s
Max Torque: 15Nm
Max Control Frequency: 100Hz
Battery Capacity: 72Wh
Endurance Per Charge:
2.5H** for Walking
10H** For Data Acquisition
Output Power: 5V1.6A

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