FREE Walk

Powered exoskeleton

Spinal cord injury

Lower limb weakness

Neurological injury

FREE Bionics

WEBSITE

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CE679022 ISO 13485, GMP certified.

FREE Bionics

FREE Bionics is a start-up company which spun off from ITRI (Industrial Technology Research Institute, the national leading institute developing robotic technology in Taiwan). We are a team composed of professional engineers and physiotherapists which enables us to develop user-friendly exoskeleton products. By supporting or enhancing human strength and mobility, we aimed to increase global working population and human potential. We provide various powered exoskeleton products and solutions in the field of physical therapy, sports, and industries to make people's life easier and better.

Users' safety is our priority. FREE Bionics is equipped with ISO13485 and Taiwan GMP certified manufacturing plant. We produce high quality exoskeleton not only to conform to all regulatory compliance laws of the country in which they are sold, more importantly, to ensure users' safety and well-being.

AWARDS

2016	R&D 100 Awards
2019	Taipei city High Technology Assistive Devices Selection
2020	Taipei Biotech Awards / Innovation Special Mention Award
2020	Certificate of the 17th National Innovation Award
2021	Global Innovation Challenge- Living Assistance Robot Award
2022	Certification of Physical Therapy Quality
2022	SNQ Symbol of national Quality / Certificate of Biomedical Application

FREE Walk

Introduction

Robot Control Technology

Your safety is our first priority

FREE Walk is an innovative product which won the honor of R&D100 awards in 2016 and had been recognized in the 17th National Innovation Award 2020. The main function of FREE Walk is to assist individuals with lower-limb dysfunction or weakness to stand, walk, and perform physical training. FREE Walk has obtained CE and TFDA approvals and has been distributed to Asia and many other European countries.

Variable assist

Trainers can customize different gait parameters based on individual needs and training purposes.

Battery

Detachable lithium battery is for easy carry and daily activities.

Control box

Current / Trunk angle / Over time IMU detection.

Strap design

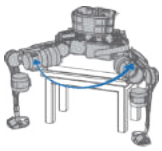
Straps are custom-fit to the users, which can greatly reduce the risk of pressure sores.

Crutch control

The remote controller is embedded in bilateral crutches for easy control.

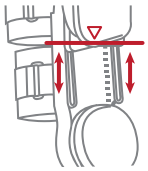
Waist assembly

Robot's legs can be opened over 90 degrees. Users can don and doff the device easily.



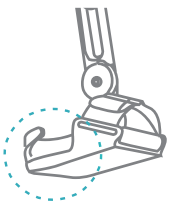
Thigh component

The thigh components are adjustable to fit users' legs.



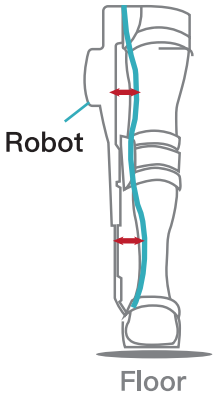
Ankle design

Protect users from ankle injuries. Users can put on the robot directly with their own shoes.



User Friendly Design

Tailored for the users and trainers



We listen, we care

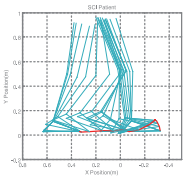
FREE Walk is the product designed with the integration of attitude sensor, human factor engineering, trained algorithm, and wireless control techniques so as to help users practice and walk with a natural gait pattern.

We listen to users' needs and we care about every user’s well-being. FREE Walk can provide different training modes for different users, ensuring the training is effective.

Features

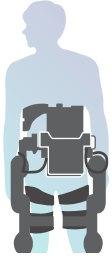
1 Variable assist

FREE Walk provides adjustable assistance in each leg which allows the individual to contribute their own power (i.e., active/passive training) during different phases of recovery. The trainers can therefore set up the parameters tailored to users' needs and training purposes.



2 Effective and precise training

FREE Walk can fully support users' weight and prevent users from falling with posture detected sensors embedded. In this case, trainers can focus on users’ action quality. The precise repetition of the robot can further ensure training effectiveness.

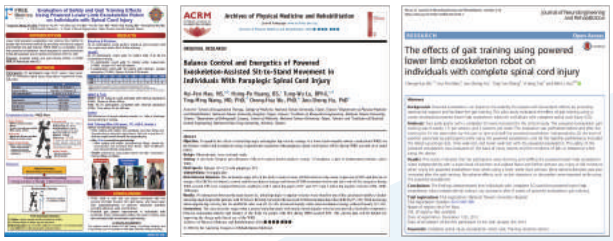


3 Aerospace aluminium alloy, strong support

FREE Walk is built with 7075 aerospace aluminium alloy. The material is strong and the weight bearing range is high, which enables patients with limited functional abilities can start their training as soon as possible.

Training Benefits

Rehabilitation with Robot is a trend



Walking training benefits in researches

- Assist to perform functional movements such as standing, walking, and sitting down for whom has suffered from spinal cord injury.
- Improve stroke patients' walking ability and lower limb coordination.
- Decrease compensation gait patterns, such as circumduction or hip-hiking. Improve mobility of lower limb joints.
- Improve patients' trunk stability and body control ability.

Professional Perspectives

Head
I-Hui Lee
Stroke and Neurovascular Center,
Taipei Veterans General Hospital

Accurate and intensive training

When patients have severe limb paralysis, poor muscle strength, and learning ability, exoskeleton robots can support them to receive rehabilitation in the very early stage. Patients can practice getting up, standing up, and walking sooner during the so-called “golden rehabilitation period”. Robots can repeat accurate movement patterns effortlessly and this intensive and accurate training is needed in the early period.

Professor
Ta-Sen Wei
Dept. of Physical Medicine and Rehabilitation,
ChangHua Christian Hospital

Positive effect comes along with active motions

With the assistance of exoskeleton robots, it is easier to induce correct movements for stroke patients, guiding patients to do active and repetitive exercise. Robotic training can also reduce the working load on therapists and family members. In this case, symptoms such as constipation, muscle atrophy, and lower extremity venous thrombosis caused by lack of exercise could be avoided. Patients’ confidence and quality of life thus improved.

Doctor
Yun-An Tsai
Dept. of Neurosurgery,
Taipei Veterans General Hospital

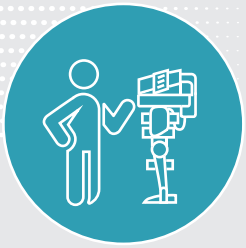
Facilitate neuroplasticity and neural recovery

"The average age of stroke patients is relatively older. Since stroke affects the brain directly, the motor learning ability is influenced. Stroke patients usually have more challenges in neurological rehabilitation." Patients in the golden rehabilitation period need intensive and repetitive training with accurate movement to facilitate neuroplasticity and neural recovery.

Our Services

Free consultation

We have physiotherapist team for free consultation. Contact us and make appointment today!



Demonstration

Our agent will demonstrate the products for you and help you try them in person.

Training Program

We provide professional training courses for both users and trainers.

After-sales service

Feel free to contact us anytime. It is our pleasure to help you!

Loading capacity

Weight of user	100 kg max.
Thigh length of user	32 - 47 cm
Shank length of user	43 - 59 cm
Hip width of user	28 - 43 cm
Height of user	150 - 190 cm

Battery system

Type	Lithium ion Battery
Voltage	DC36V
Capacity	11.6AH
Duration	8 hours
Charging time	4 hours maximum

Performence

Walking speed	2 km/hr. max.
Hip angle range	50 degrees extension; 115 degrees flexion
Knee angle range	0 degree extension; 120 degrees flextion
Ankle angle range	2 degrees dorsi flextion; 10 degrees plantar flexion

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