

# Physiotherapy & Rehabilitation



ArmMotus™ M2 Gen

 FOURIER

## ArmMotus™ M2 - Gen Upper Limb Rehabilitation Robotic



### Core Technical Specification

- Implementing force feedback into upper limb functional training, supporting passive, assistive, active and resistive, isometric and cognition training. The force feedback sensor acquires a precision level of 0.1 kg which range between 0-20 kg. Real-time force feedback report immediately shows the participation of the active force during training and integrate with adjustable training intensity parameters at the same time.
- Diversified training that combines multiple 2D and 3D scenario, such as the interaction between visual and audio feedback. The technology simulates reality as if immersing the user with the training scenario which not only fun but intuitive.

### Other Technical Specification

- The training trajectory is adjustable, and the robotics arm acquires the feature to record and playback the motion throughout the training. This helps to tailor a user-specific therapy.
- Multiple safety protection, equipped with emergency stop button, force protection, position limitation protection.

- Multiple gripping handles: the machine is equipped with a single-hand handle, both-hand handle, spherical handle, distal phalanx handle in order to meet different training requirements.
- Adjustable moving speed of 0 - 35 cm/s, control precision of 1mm.
- Adjustable machine height that ranged between 825mm and 1225mm.
- Dimension: 768mm X1136mm.
- Multiple training objectives of the upper limb, including muscle strength, ROM, muscle control ability, and cognition.
- Control Method: combine full servomotor control and computer control, training duration, range of motion and moving speed can be manipulated.
- Floating-point arithmetic processors to support high-speed and complex motion control algorithms.
- Powerful database management, which able to record every user data created under each therapist. All data can be checked, created, deleted and modified.
- The report will record the user's training performance and related kinematics parameters. Besides, the report can be accessed and printed at any time after training.
- Internal signal transmitting: It is quick reacting, far transmitting and highly resistant to magnetic disturbance. Able to work under an environment with loud noise.
- Adjustable passive training speed (mm/s): 0mm to 100mm/s.
- Mechanical structure, using synchronised and belt guiding design, super-thin training workspace.
- Support multiple languages (English/Simplified Chinese/ Polish/ Traditional Chinese).
- Operating environment: a) Temperature 5°C to 40°C b) Humidity: 30%RH – 75%RH c) Atmospheric pressure: 700hPa- 1060hPA

## **ArmMotus™ M2 Gen Upper Limb Rehabilitation Robotic**

- Assist upper limb rehabilitation training, including shoulder and elbow movement.
- Multiple training modes, including passive, assistive, active, resistive, isometric cognition and attention training.
- Data-based training process: ROM assessment, real-time training performance display, training reports analysis.
- Core technology: force feedback.
- Cover every stage of the rehabilitation process.
- International certification: CE, FDA, TGA, CFDA



## Technical Specifications:

<b>Width</b>	113.6 cm
<b>Depth</b>	76.8 cm
<b>Height</b>	Adjustable from 82.5 cm to 122.5 cm
<b>Power Supply</b>	Medical-grade, 24 V DC at 6.5 A

Power is distributed internally to components such as:

Motor controllers

Force/position sensors

Microcontroller (STM32)

Load cell (Galoce GPB160)

Workspace Range (from the GARD model — similar to M2 Gen):  
approximately 65 × 55 cm in a planar (2D) workspace

Control System:

Brushless DC motors with optical encoders (1000 CPR) for precise positional feedback.

Two-axis linear actuation using ball screws.

Limit switches for homing.

Load cell-based force sensing at the end-effector.

Microcontroller-based real-time control (STM32) and higher-level virtual dynamics modeling

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