Medup™

Active Passive Trainer for Upper and Lower Limbs

USER MANUAL
123-200



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Foreword

*Thank you for purchasing the **Medup V3** from our company.*

*This manual is intended for users of the **Medup V3**. It contains general information on the instructions for safety, intended use, working principle, operation, maintenance, troubleshooting, and warranty. In order to maximize the use, efficiency, and working life of your unit, please read this manual thoroughly and become familiar with the controls, as well as the accessories, before operating the unit.*

Specifications put forward in this manual were in effect at the time of publication. However, owing to the continually improving policy of Atlas Medic inc., any changes to these specifications may be made at any time without obligation on the part of Atlas Medic inc..

Before administering any treatment to a patient, the user of this device should read, understand, and follow the information contained in this manual, including the indications for use, contraindications, warnings, and precautions.

Operator Qualifications

*The **Medup V3** is intended exclusively for medical specialists and is only allowed to be used by qualified and instructed medical persons in a clinical environment. Specialists must have the essential physical and cognitive prerequisites such as vision, hearing, and literacy. Also, the primary function of the upper extremities is expected.*

Operator Training

*Operators of the **Medup V3** must have been adequately trained in using this system safely and efficiently before they operate the unit. A documented, cross-functional review must be performed, as many times as necessary, in order to ensure that users can understand the instructions. The operator must be instructed on the following points:*

Instruction in operation and designated use of the instrument with practical exercises;
Mode of effect and function of the unit;
Settings of all components;

Indications for the use of the unit;
Contraindications and side effects of the device;
Explanation of the warning notes in all operating statuses;
Instructions on how to maintain the unit.

Further training requirements vary from country to country. The operator's responsibility is to ensure that the training meets the requirements of all applicable local laws and regulations. Other information about training in the operation of this system can be obtained from Atlas Medic inc..

Product Description

*The **Medup V3** is a rehabilitative training device suitable for the active and passive movement of a person's lower and upper extremities. Its features are as follows:*

- *Five training modes, Active-Passive Training, Assistive Training, Symmetry Training, Isokinetic Training and Fine Motor Training.*
- *The device can connect the heart rate sensor via Bluetooth to display real-time heart rate during training.*
- *Multiple protection functions: spasm control, emergency stop, heart protection, max. speed control and speed setting prompt.*

Environment
Clinic purpose: Therapeutic and rehabilitation
Suitable places: Clinic and hospital

Indications for Use

Before training with the Active Passive Trainer for Upper and Lower Limbs, a correct examination and diagnosis should be performed.
Please stay current with the latest developments and medical publications on Active Passive Training for details on contraindications and side effects not known at the time of manufacturing.

Intended use:
The Active Passive Trainer for Upper and Lower Limbs is a rehabilitative training device suitable for the active and passive movement of an adult's lower and upper extremities while seated.

Indications:
Rehabilitation after stroke

Contraindications

Patients with the following disease are forbidden to use the ***Medup V3****:*

1) *Unstable vital signs;*
2) *Fracture or failure to heal;*
3) *Severe hypertension and diabetes;*
4) *Fever and severe general condition;*
5) *Decompensation period of organ function;*
6) *Treatment site complicated with open wound;*
7) *Severe osteoporosis;*
8) *Skin infection;*
9) *Bone and joint tumors;*
10) *Pregnant women;*
11) *Acute thrombosis;*
12) *Other reasons that rehabilitation doctors and therapists consider inappropriate for training.*

Adverse Effects

You should stop using the device and consult your doctor if you experience adverse reactions from the device. Possible adverse reactions may include the followings:

- *partially increased pain;*
- *partially too strong muscle tone reduction;*
- *skin injuries.*

These adverse effects are rare, and they can be avoided when you use the device properly according to the user manual or under the guidance of the doctor.

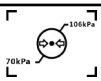
Safety Instructions

Symbols

1. Medical Device Symbols

Symbols	Explanation
	*Manufacturer*
	*Date of Manufacture*
	*Proper waste disposal for electrical and electronic equipment (See Disposal for instructions.)*
	*Type B Applied Part(s)*
	*This device emits non-ionizing radiation.*
MD	*Indicates the item is a medical device.*
	*Refer to the instruction manual/ booklet.*
	*Emergency Stop*
	Power ON
	*Power OFF*
	*Alternating current*

2. Package Symbols

Symbols	*Explanation*
	*This Way Up*
	*Fragile, Handle with Care*
	*Keep Dry*
	*Temperature Limitation: between -20°C and +55°C*
	*Humidity Limitation: less than 93%*
	*Atmospheric Pressure Limitation: between 70 kPa and 106 kPa*

Precautionary Definitions

Specific symbols indicate the precautionary instructions in this section and throughout this manual. Understand these symbols and their definitions before operating this device. The definitions of these symbols are as follows:



Text with a "CAUTION" indicator will explain possible safety infractions that could have the potential to cause minor to moderate injury or damage to the device.



Text with a "WARNING" indicator will explain possible safety infractions that will potentially cause serious injury and device damage.



Refer to the Instruction Manual/Booklet

NOTE: *Throughout this manual, "NOTE" may be found. These Notes are helpful information to aid in the particular area or function being described.*



Type B Applied Part(s)

The pedal and calf support combination, the sponge of the training handle, and the handlebar are considered as one type B applied part.

Warnings and Cautions

*Please carefully read and understand the following warnings and cautions to ensure the safe and correct use of the **Medup V3** and prevent injury.*



- *Read, understand and practice the precautionary operating instructions. Know the limitations and hazards associated with using the **Medup V3**. Take care of the position and meaning of the labels on the **Medup V3**.*
- *Improper installation, operation, or maintenance of the **Medup V3** may cause device failure or personal injury.*
- *DO NOT use the **Medup V3** in the presence of a flammable anesthetic mixture with air or with oxygen or nitrous oxide.*
- *To avoid the risk of electric shock, the **Medup V3** must only be connected to supply mains with protective earth.*
- *The power plug is used as the means to disconnect and isolate from supply mains. DO NOT place the device in a position where the plug is not easily accessible.*
- *To avoid overloading, do not connect other electric appliances with the **Medup V3** in the same multi-plug.*
- *Take care not to allow water to enter the device. Keep cables and electric components away from water and high humidity. Liquid penetration could damage the device.*
- *DO NOT connect or disconnect the device from the plug with wet hands.*
- *DO NOT press, bend, or damage the electric cable.*
- *Use the device only for its intended purpose as described in this manual.*
- *If you experience any pain, nausea, or circulatory weakness, stop the training immediately, and consult a doctor.*
- *During training, if the motor is out of control, please immediately press the EMERGENCY STOP BUTTON to stop training and notify the medical staff in time.*
- *Stop the device if there is an abnormal circumstance during the training process. If the device smokes, press the power switch to the OFF position, disconnect the power cord and contact the distributor as soon as possible.*
- *No modification of this device is allowed.*

- *Prior to replacing the fuse of the device, make sure that the device is turned off, and the power cord has been disconnected.*
- *DO NOT remove the covers. This may cause device damage, malfunction, electrical shock, fire, or personal injury. If a malfunction occurs, discontinue use immediately, disconnect the power cord from the outlet, and contact tech support.*
- *NEVER perform unauthorized service work. All service work must be performed only by service technicians who have been authorized by the manufacturer.*
- *DO NOT perform maintenance while the patient is using the device.*
- *Only use this device with the power cord, training handle, anti-tipper, and other accessories recommended by the manufacturer.*



CAUTION

- *During operation, constantly watch patients and the device to ensure no abnormal conditions occur.*
- *Please be sure to unplug the device before moving and avoid vibrations during movement.*
- *If the device has not been in use for two weeks or longer, please ensure the device and accessories are in good condition before use.*
- *Keep the **Medup V3** out of the reach of children.*
- *The **Medup V3** is designed for the patient with a body weight of up to 135 kg.*
- *DO NOT use this device on infants or people not capable of expressing their intentions, as this may cause an accident or ill health.*
- *DO NOT use this device in places with a high-intensity magnetic field, electromagnetic wave, and impulse voltage.*
- *DO NOT use this device in places with corrosive gas and sunlight.*
- *DO NOT use this device in places with chemicals.*
- *Please make sure all the electrical cables are connected correctly before use.*
- *DO NOT attach the belt of the Anti-Tipper to the spokes, wheels, or movable components of the wheelchair.*
- *It shall be used in a complete set when using the Two Point Anti-Tipper. That is, the two pieces of equipment shall be used together to generate two fastening points, to secure the wheelchair safely and prevent it from tilting.*

- *Every time before training, ensure the Anti-Tipper has secured the wheelchair safely, and the wheelchair brakes have been applied.*
- *Pay attention that the patient's feet have enough space while adjusting the arm trainer in height. When using the leg trainer, the legs must not collide with the arm trainer.*
- *Before training, make sure that the supporting module of the handlebar or the arm trainer is tightened and that the patient's legs or arms are secured properly.*
- *Ensure before each training session that the screws of all adjustable parts of the device (handlebar, supporting module, calf supports) are tightened and intact. Should they become loose during training, stop the training immediately and tighten the screws.*
- *Suitable clothing must always be worn. Wide-leg trousers, long towels, and scarves that could get caught or tangled in pedal crank must not be worn (especially during leg training). Shoes with laces should not be worn during leg training.*
- *Before starting leg training, the arm trainer should be swiveled so that the handlebars, not the training handles, are in front of the patient to hold for stability.*
- *Before each leg training, ensure the patient's feet are in the correct position on the pedals and have been secured with straps.*
- *Only put the patient's feet into the pedals while seated. DO NOT put the patient's feet into the pedals while standing. Hands are not allowed on the pedals.*
- *DO NOT make any mechanical adjustments to the device while either the training handles or pedals are in operation. NEVER try to grab hold of any moving parts.*
- *Only use the **Medup V3** after it has been powered on and the self-check has been completed.*
- *The device performs a self-check when it is turned on. DO NOT approach the movement area of the ARM and LEG trainer of the device.*
- *Please avoid the excessive vibration of the device.*
- *Please operate the touch screen with gentle presses.*
- *Please use the specified heart rate sensor, Heart Rate Monitor Polar H10, Manufactured by Polar Electro Oy.*
- *The heart rate monitoring value is for reference only and does not apply for diagnostic purposes.*
- *The training parameters should be set by the clinician or under the clinician's professional guidance.*
- *DO NOT exceed 20 minutes in the first training.*

- *DO NOT clean the main unit with organic solvents such as gasoline or diluents; otherwise, damage will happen to the main unit, such as deformation and peeling of the paint.*
- *DO NOT use bleach to clean the straps. DO NOT put the straps under high temperature or high pressure to sterilize.*
- *Please dispose of the device and other accessories according to local regulations.*
- ***Security:***
  a) *The USB flash drive must be virus-checked before it is connected to the device to ensure it is virus-free.*
  b) *Training data export is password-protected. Protect the password to avoid unauthorized use.*

Bluetooth®

Bluetooth SIG, Inc. owns the Bluetooth® word mark and logos, and any use of such marks by Atlas Medic is under license.
Communication between the device and the heart rate sensor is via Bluetooth.

Bluetooth Specifications
Bluetooth Version: 4.0
Frequency Range: 2.402 GHz - 2.48 0GHz
Modulation Type: GFSK
Effective Radiated Power: 0 dBm
Quality of Service (QoS)
Throughput: > 6.4Kb/s
Latency: < 500ms
Packet Error Rate: <10%

EMC Guidance

*The **Medup V3** needs special precautions regarding EMC and needs to be installed and put into service according to the EMC information provided. This device has been thoroughly tested and inspected to ensure proper performance and operation.*



WARNING

- *Do not use the **Medup V3** simultaneously with other therapeutic devices (such as a microwave) to avoid mis-operation.*
- *Do not place or use the **Medup V3** nearby radio, television, copy machine and fax machine.*
- *Keep the **Medup V3** away from active HF surgical equipment and the RF shielded room of a medical device for magnetic resonance imaging, where the intensity of EM disturbances is high.*
- *Use of the **Medup V3** adjacent to or stacked with other equipment should be avoided because it could result in improper operation. If such use is necessary, this equipment and the other equipment should be observed to verify that they are operating normally.*
- *Portable RF communications equipment (including peripherals such as antenna cables and external antennas) should be used no closer than 30 cm (12 inches) to any part of the **Medup V3**, including cables specified by the manufacturer. Otherwise, degradation of the performance of this equipment could result.*
- *Use of accessories, transducers and cables other than those specified or provided by the manufacturer of the **Medup V3** could result in increased electromagnetic emissions or decreased electromagnetic immunity of this equipment and result in improper operation.*

Cable Information:

Item	Cable Length	Manufacturer
Power cord	2.5 m	Ching Cheng Wire Material Co., Ltd.

Guidance and manufacturer's declaration – electromagnetic emission		
The Medup V3 is intended for use in the electromagnetic environment specified below. The customer of the user of the Medup V3 should ensure that it is used in such an environment.		
Emission test	**Compliance**	**Electromagnetic environment – guidance**
RF emissions CISPR 11	Group 1	The Medup V3 uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF emissions CISPR 11	Class A	The Medup V3 is suitable for use in all establishments, other than domestic and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.
Harmonic emissions IEC 61000-3-2	Class A	
Voltage fluctuations/ flicker emissions IEC 61000-3-3	Complies	

Guidance and manufacturer's declaration – electromagnetic immunity			
The Medup V3 is intended for use in the electromagnetic environment specified below. The customer or the user of Medup V3 should ensure that it is used in such an environment.			
Immunity test	**IEC 60601 test level**	**Compliance level**	**Electromagnetic environment - guidance**
Electrostatic discharge (ESD) IEC 61000-4-2	±8 kV contact ±2,4,8,15 kV air	±8 kV contact ±2,4,8,15 kV air	Floors should be wood, concrete or ceramic tile. If the floor is covered with synthetic material, the relative humidity should be at least 30%.
Electrical fast transient/ burst IEC 61000-4-4	±2 kV for power supply lines ±1 kV for input/output lines	±2 kV for power supply lines	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	± 1 kV line(s) to line(s) ± 2 kV line(s) to earth	± 1 kV line(s) to line(s) ± 2 kV line(s) to earth	Mains power quality should be that of a typical commercial or hospital environment.
Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	0% U_T; 0.5 cycle (0°,45°, 90°,135°,180°, 225°,270° and 315°) 0% U_T; 1 cycle and 70% U_T; 25/30 cycles Single phase: at 0° 0% U_T; 250/300 cycles	0% U_T; 0.5 cycle (0°,45°, 90°,135°,180°, 225°,270° and 315°) 0% U_T; 1 cycle and 70% U_T; 25/30 cycles Single phase: at 0° 0% U_T; 250/300 cycles	Mains power quality should be that of a typical commercial or hospital environment. If the user of the Medup V3 requires continued operation during power mains interruptions, it is recommended that the Medup V3 be powered from an uninterruptible power supply or a battery.
Power frequency (50/60Hz) magnetic	30 A/m	30 A/m	Power frequency magnetic fields should be at levels characteristic of a typical

field IEC 61000-4-8			location in a typical commercial or hospital environment.
NOTE U_T is the a.c. mains voltage prior to application of the test level.			

Guidance and manufacturer's declaration – electromagnetic immunity (Continued)			
The Medup V3 is intended for use in the electromagnetic environment specified below. The customer or the user of Medup V3 should ensure that it is used in such an environment.			
Immunity test	**IEC 60601 test level**	**Compliance level**	**Electromagnetic environment - guidance**
Conducted RF IEC 61000-4-6	3 Vrms 150 kHz - 80 MHz 6 V rms in ISM bands between 150 kHz and 80 MHz 80 % AM at 1 kHz	3 Vrms 150 kHz - 80 MHz 6 V rms in ISM bands between 150 kHz and 80 MHz 80 % AM at 1 kHz	N/A
Radiated RF IEC 61000-4-3	3 V/m 80 MHz - 2.7 GHz 80 % AM at 1 kHz	3 V/m 80 MHz - 2.7 GHz 80 % AM at 1 kHz	N/A
Proximity fields from RF wireless communica -tions equipment IEC 61000-4-3	See table: Test specifications for ENCLOSURE PORT IMMUNITY to RF wireless communications equipment.		N/A

Table: Test specifications for ENCLOSURE PORT IMMUNITY to RF wireless communications equipment						
Test frequency (MHz)	Band (MHz) [a]	Service [a]	Modulation [b]	Maximum power (W)	Distance (m)	Immunity TEST LEVEL (V/m)
385	380 to 390	TETRA 400	Pulse Modulation [b]: 18Hz	1.8	0.3	27
450	430 to 470	GMRS 460, FRS 460	FM [c] ± 5 Hz deviation 1 kHz sine	2	0.3	28
710 745 780	704 to 787	LTE Band 13, 17	Pulse Modulation [b]: 217 Hz	0.2	0.3	9
810 870 930	800 to 960	GSM 800/900, TETRA 800, iDEN 820, CDMA 850, LTE Band 5	Pulse Modulation [b]: 18 Hz	2	0.3	28
1720 1845 1970	1700 to 1990	GSM 1800; CDMA 1900; GSM 1900; DECT; LTE Band 1, 3, 4, 25; UMTS	Pulse Modulation [b]: 217 Hz	2	0.3	28
2450	2400 to 2570	Bluetooth, WLAN, 802.11 b/g/n, RFID 2450, LTE Band 7	Pulse Modulation [b]: 217 Hz	2	0.3	28
5240 5500 5785	5100 to 5800	WLAN 802.11 a/n	Pulse Modulation [b]: 217 Hz	0.2	0.3	9

NOTE:

a) For some services, only the uplink frequencies are included.

b) The carrier shall be modulated using a 50 % duty cycle square wave signal.

c) As an alternative to FM modulation, 50 % pulse modulation at 18 Hz may be used because while it does not represent actual modulation, it would be the worst case.

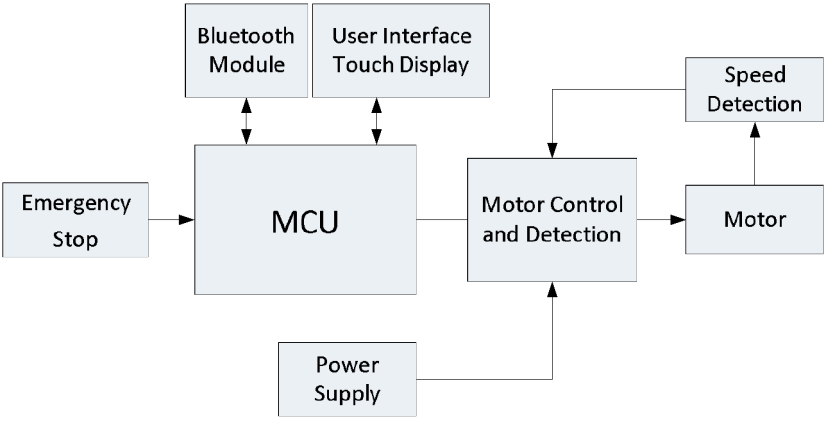
Technical Specifications

General	
Product Name	Active Passive Trainer for Upper and Lower Limbs
Product Model	Medup V3
Product Identifier	123-200
Dimensions (W×L×H)	700×760×1065 mm
Standard Weight	45.5 kg
Interface	8" touch screen
Software Release Version	C
Safe Working Load	
Training handle (total)	5 kg (11 lbs)
Pedal (total)	10 kg (22 lbs)
Handlebar	20 kg (44 lbs)
Adjustable Range	
Supporting module (Height Adjustable)	0-150 mm (0-120 mm)
Handlebar	180°
Display (max.)	270°- 360°
Rotation Radius	
Training handle	100 mm
Pedal	58-126mm (continuous adjustment)

Rotate Speed (Passive mode)	Adjustable, 5-60 r/min, in steps of 1 r/min
Resistance Level	0-24, in steps of 1 level
Spasm Level	1-10, in steps of 1 level; or OFF
Spasm Relief Rate	1-5, in steps of 1 level
Timer (duration time)	1-120 min, in steps of 1 min or 10 min
Electrical	
Power Supply	AC100-240V, 50/60Hz
Rated Power	200 VA
Mode of Operation	Continuous
System of Protection	Class I, Type B Applied Part
Ingress Protection	IPX0
Fuse (Mains part)	T2AL250V (Φ5×20mm) CSA
Operation and Storage Condition	
Environmental Conditions of Operation:	● Temperature: 5 to 40°C ● Rel. humidity: ≤80% ● Atmosphere Pressure: 70 to 106kPa
Environmental Conditions of Transport and Storage:	● Temperature: -20 to 55°C ● Rel. humidity: ≤93% ● Atmosphere Pressure: 70 to 106 kPa

Working Principle

The Active Passive Trainer for Upper and Lower Limbs, model Medup V3, is mainly composed of LCD display, Bluetooth module, motor control module, motor, power supply and other parts. The LCD display screen, with a touch function, is capable of displaying real-time training data, game images and more, while also enabling setting operations, thereby realizing human-computer interaction. Based on training mode, training intensity, motor speed, motor real-time power and other data, the motor control module achieves steady control of the motor speed through dual closed-loop calculation and control of the current and voltage loops, and by adjusting the output PWM duty cycle. The Bluetooth module receives the heart rate data from the heart rate sensor and sends it to the display control board through the serial port to monitor the patient's heart rate value during training in real time.



Inspection of the Goods

Unpacking the Unit

The unit is generally delivered with the packaging material supplied by the manufacturer. Proceed as follows:

- *Position the transport packaging so that the arrows are pointing upward.*
- *Remove the transport packaging upward.*
- *Remove the remaining foam material.*

Inspections

Immediately upon unpacking the unit, perform the following steps:

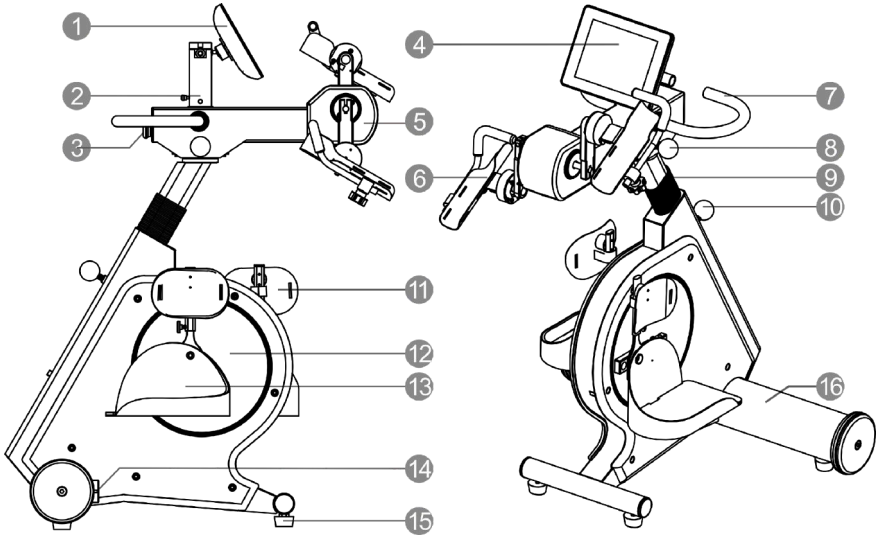
1. *Verify the delivery documents to ensure that the delivery is complete.*
2. *Check the LCD touch screen of the unit when unpacking the package and ensure it is in good condition. Any scratch on the surface during use will not be covered in the warranty.*
3. *Check the external components and accessories for possible damage due to transport.*
4. *Verify that the packaging contains the following:*

No.	Item Name	Quantity	Unit
1	The **Medup V3** main unit	1	set
2	Power cord	1	piece
3	Training handle grips	1	pair
4	Two point anti-tipper	2	pieces
5	Certificate of quality	1	piece
6	Warranty card	1	piece
7	User manual	1	piece

*Other parts of the **Medup V3** are available as accessories on demand. Visit the website **atlasmedic.com** to obtain more information.*

Overview of the Unit

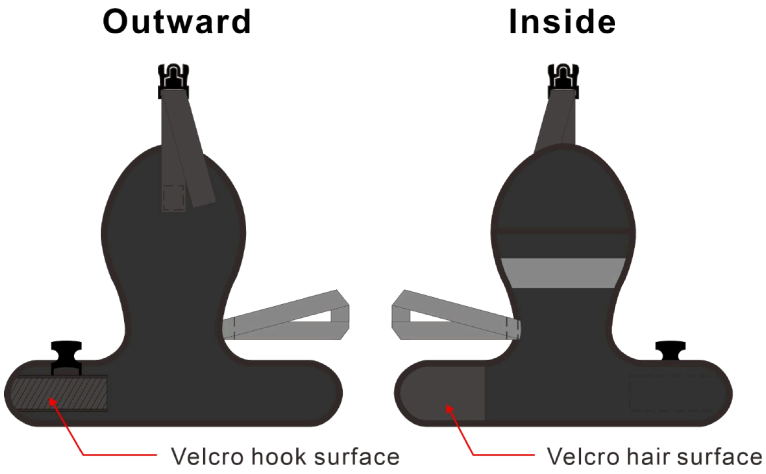
Nomenclature



A Host	1. Control System
	2. Display Direction Adjustment Knob
	3. Emergency Stop Button
	4. LCD Touch Screen Display
B Main structure	7. Handlebar
	8. Locking Screw Knob: for adjusting arm trainer direction
	9. Supporting Module
	10. Locking Screw Knob: for adjusting arm trainer height
	15. Fixed Foot
	14. Power Switch, Power Socket and Fuse
	16. Pedestal: transport wheels
C Arm trainer	5. Upper Limb Turntable
	6. Training Handle Grip
D Leg trainer	11. Calf Support
	12. Lower Limb Turntable
	13. Pedal

Accessories

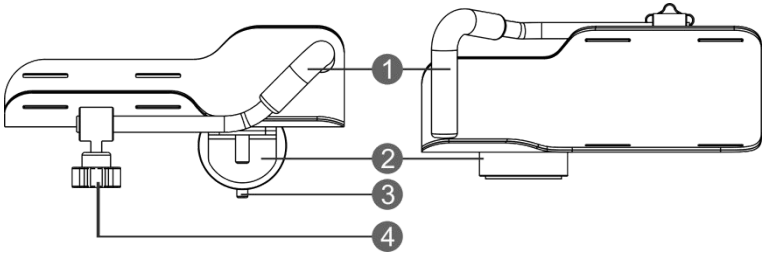
1. Wrist Cuff (Use with standard training handles)



Wrist Cuff (optional)

NOTE: *The wrist cuffs are divided into left and right types. The picture shows the left type.*

2. Training Handle Grip



Training Handle Grip (standard)

NOTE: *The Training Handle Grip is divided into left and right types. The picture shows the left type.*

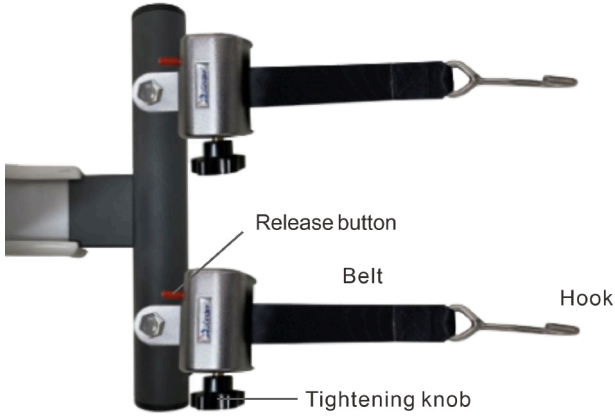
1	Hand Grip
2	Connection part with Arm trainer
3	Snap: fix the training handle grip to the Arm trainer
4	Adjustment Knob: adjust the position of the grip

3. Training Handle

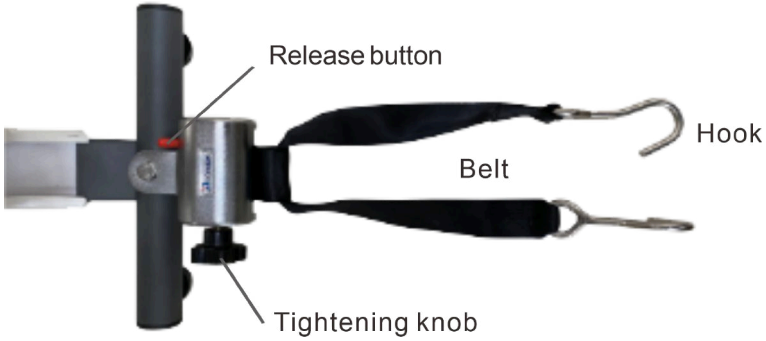


Training Handle (optional)

4. Anti-Tipper



Two Point Anti-Tipper (standard)



Type Y Anti-Tipper (optional)

*Other parts of the **Medup V3** are available as accessories on demand. Visit the website **atlasmedic.com** to obtain more information.*

Interface Introduction

Self-inspection

Insert the power supply; turn on the switch button on the pedestal of the device, and the system will enter into a self-inspection interface.



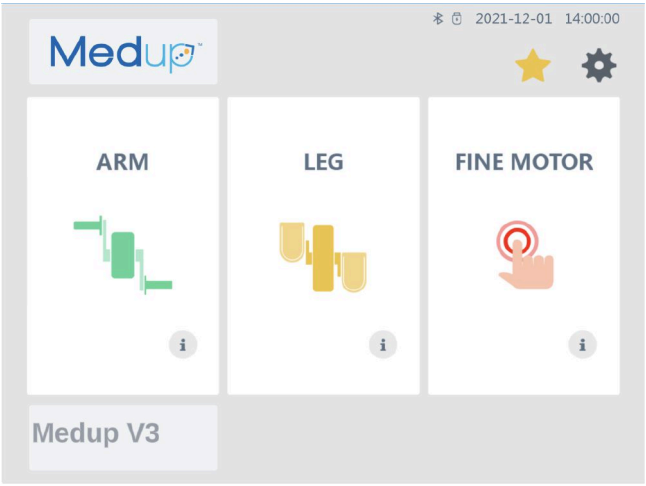
Self-inspection

CAUTION

- ***The device performs a self-check when it is turned on. DO NOT approach the movement area of the ARM and LEG trainer of the device.***

Main Menu

After Self-checking is complete, it will automatically display the Main Menu as shown below. The Main Menu provides access to all training modes available within the device.



Main Menu

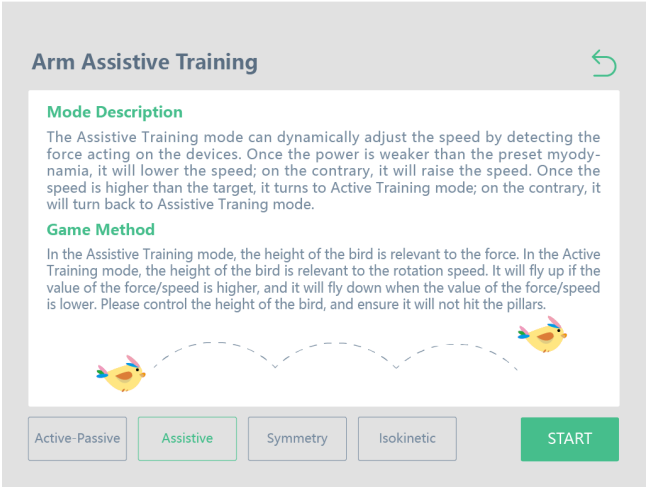
Symbol

Symbol	Item Name	Description
Arm	ARM	Press to select the training program of ARM.
Leg	LEG	Press to select the training program of LEG.
FINE MOTOR	FINE MOTOR	Press to enter the FINE MOTOR training.
	Information Button	Shows the relevant application information of the training programs.
	Setting Button	Press to enter the System Settings.
	Favourites	Press to enter the Favourites.
	Bluetooth Symbol	Indicates that the device has connected to the Heart Rate Sensor.
	USB Symbol	Indicates that the USB flash drive has been inserted into the device and recognized.
2021-12-01 14:00:00	Date and Time	Displays the date and time of the

Symbol	Item Name	Description
		system.
Medup	LOGO of Medup	Press to enter the Company Information.
Medup V3	Device Model	Displays the device model.

Training Mode Description Interface

Press the information button  *in the main menu to enter the training mode introduction interface. This interface describes each training mode and introduces the game methods of each mode. Press the START button*  *to enter the selected training interface. Press the return button*  *to return to the main menu.*



Training Mode Description Interface

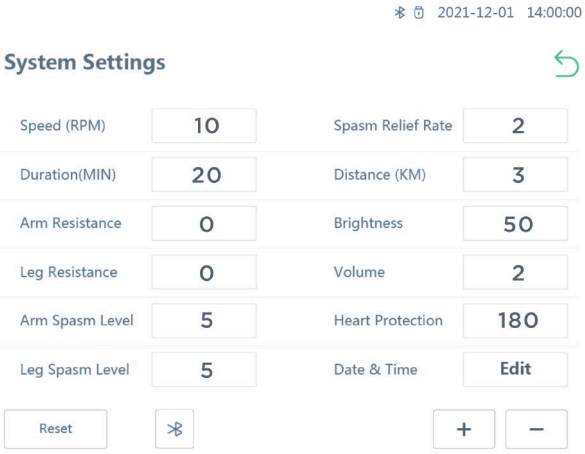
System Settings

Before entering any training modes, check the default settings first and set the Default Time.

Press the Setting button  *in the main menu to enter the system settings, as shown below. Check the default training parameters and*

adjust them according to the clinic's preference. System settings defaults are maintained even when the device is turned off. To reset the device to the default setting, at any time, press the Reset button on the screen.

NOTE: *The Date and Time setup is necessary for the device to export training data properly. If the date and time are not set correctly, this could cause records to be lost or stored inaccurately.*



System Setting Interface

Symbol

Symbol	Item Name	Description
	Back Button	Press to return to the main menu.
Reset	Reset	Press to reset to the default setting; the default value is shown in figure.
Date & Time	Date & Time	Press the "Edit" button to set the system's Date and Time, then press the OK button. Set the value according to the local time before first using the device. When finished, press the OK and then Main Menu to display the training programs.
	Bluetooth Off	It indicates that the device's Bluetooth is turned off. Press to turn on the Bluetooth, and the symbol changes to green background color to indicate that the

Symbol	Item Name	Description
		Bluetooth is on.
	Bluetooth On	It indicates that the device's Bluetooth is on. Press to turn off the device's Bluetooth.
	Increase Button	Select the setting item, then press the button to increase a parameter value.
	Decrease Button	Select the setting item, then press the button to decrease a parameter value.

System Setting Parameters

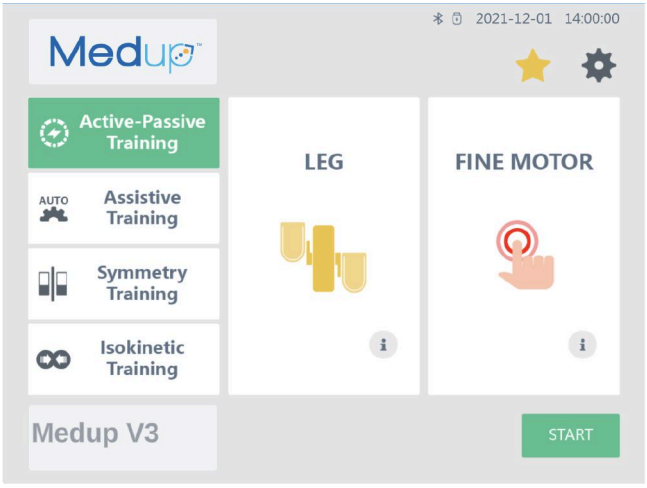
Select the setting option; the color of the option changes to green when it is selected, and then adjust the parameter value through the "+/-" button.

Parameters	Range	Step	Description
Speed (RPM)	5-60 r/min	1 r/min	Set the default speed value for the passive mode.
Duration (MIN)	1-120 min	1 min	Set the default training time.
Arm/Leg Resistance	0-24	1	Set the default Arm/Leg Resistance level.
Arm/Leg Spasm Level	OFF, 1-10	1	Set the default Arm/Leg spasm level. To close the Spasm Function, select the box of Spasm Level and then click the down button until it appears "OFF". **NOTE:** Spasm Level can only be turned off during a single training session. After a single training session, it will be switched back to the default setting.
Spasm Relief Rate	1-5	1	Set the rate of spasm relief.
Distance (KM)	1-99	1	Set the training distance. The device will automatically end the training when it reaches the distance.
Brightness	10-100	10	Set the screen brightness.

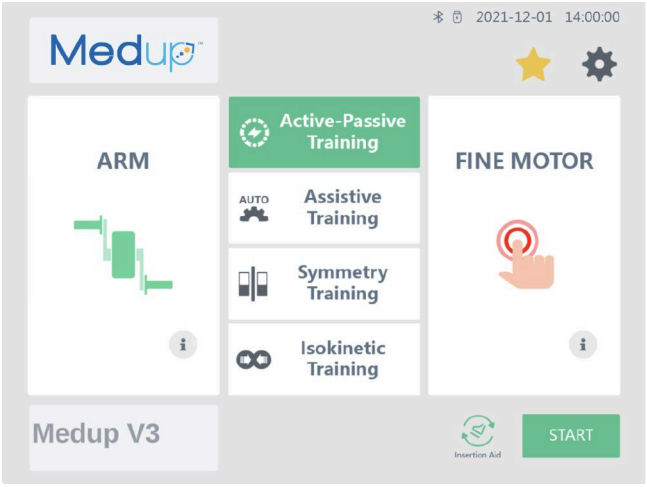
Parameters	Range	Step	Description
Volume	OFF,1-5	1	Set the volume of buttons and prompts.
Heart Protection	100-200 bpm	1	Sets the preset value of heart protection. When the heart rate exceeds this value, the device will automatically stop training and prompt.

Training Programs Display

Press the ARM or LEG area in the main menu to enter the Training Programs Display interface. When the training mode is selected, the background color of the checkbox changes to green, indicating that it is selected. Press the START button to enter the selected training mode interface.



Training Programs Display of ARM



Training Programs Display of LEG

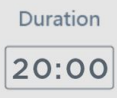
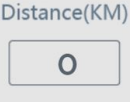
The Insertion Aid button 

helps you move each pedal to a low position to easily get the feet in. Press this button to adjust the pedal to an appropriate position, and then press the button again, and the pedal stops running.

Training Mode

The device has five training modes, Active-Passive Training, Assistive Training, Symmetry Training, Isokinetic Training and Fine Motor Training. Each training mode is described below.

General Symbol Description:

Symbol	Item Name	Description
	Duration	Set the training time (range 1-120 min, step 1 min). It cannot be adjusted after startup. Duration and Distance cannot be selected simultaneously. Select the duration mode. The [Duration] box displays the time countdown after startup. [Distance] displays the accumulated distance.
	Distance	Set the training distance (range 1-99 km, step 1 km). It cannot be adjusted after startup. Duration and Distance cannot be selected

Symbol	Item Name	Description
		simultaneously. Select the distance mode, and the [Distance] box displays the distance countdown after startup. [Duration] displays the accumulated time. When the training reaches this distance, the device automatically ends the training.
	Focus Mode	In the upper left corner of the game interface, press to enter “Focus Mode” to close the game interface (the game interface remains static and the brightness is reduced). Tap again to turn off Focus Mode.
	Score	Real-time display of the game scores after startup.
	Heart Rate	Displays real-time heart rate NOTE: The heart rate monitoring value is for reference only. If the heart rate sensor is not connected, the heart rate value displays 0.
	Forward	It indicates that the movement direction of the device is forward rotation. Press to change the rotation direction.
	Backward	It indicates that the movement direction of the device is backward rotation. Press to change the rotation direction.
	START Button	Press to start training.
	Pause Button	Press to pause training.
	STOP Button	Press to stop training and display the training summary.
	Back Button	Press to return to the main menu.

Active-Passive Training

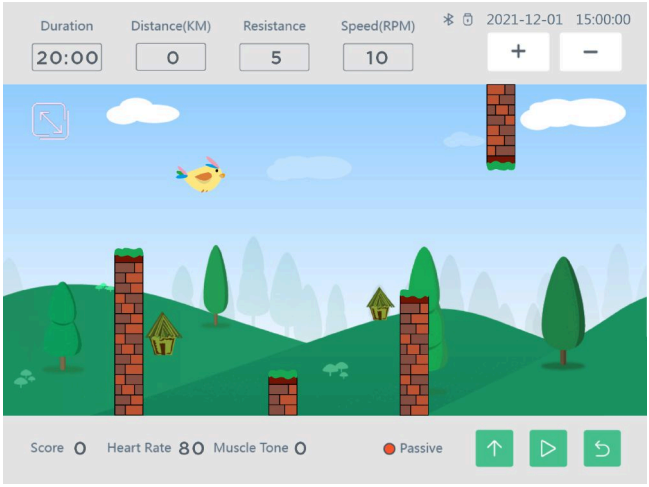
Mode Description: *Active-Passive Training mode combines the active mode and the passive mode. The device turns to the passive mode when it is slower than the preset speed;*

on the contrary, it turns to the active mode. There is a voice prompt when the mode is switched.

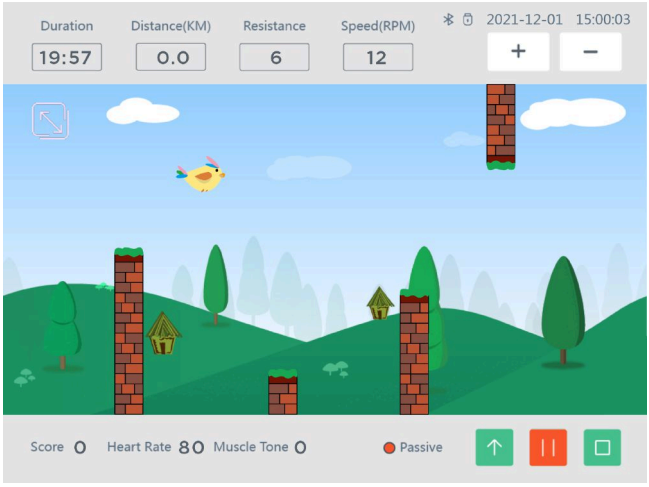
Game Method: *In this mode, the height of the bird is relevant to the Rotation Speed. It will fly up when the speed is fast, and it will fly down when it is low. Please control the height of the bird to ensure it will not hit the pillars.*

Symbol Description:

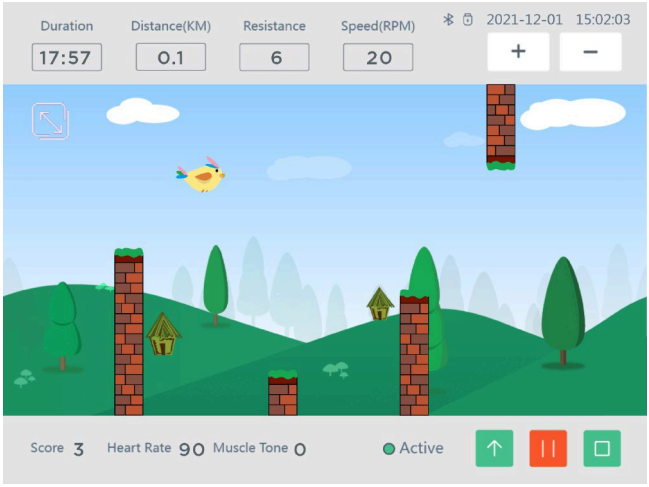
Symbol	Item Name	Description
Passive	Passive Mode	Display that the program is in a passive state. The device outputs power to drive the human body to move at a constant speed. The power comes from the device.
Active	Active Mode	Display that the program is in an active state. The device outputs a set constant reverse force (i.e., resistance) to hinder human movement. The human body overcomes the device resistance and drives the device to move. The power comes from the patient's own muscle strength.
Resistance 5	Resistance	Set the resistance level (range 0-24, step 1). It can be adjusted before and after startup.
Speed(RPM) 10	Speed	Set the speed in passive mode (range 5-60 r/min, step 1 r/min). It can be adjusted after startup. It will real time display the actual speed when in active mode.
Muscle Tone	Muscle Tone	Display real time muscle tone after startup. It's a relative value.



Pre startup Interface of Active-Passive Training



Passive Mode Interface



Active Mode Interface

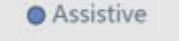
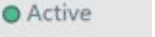
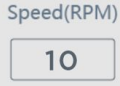
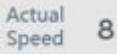
Assistive Training

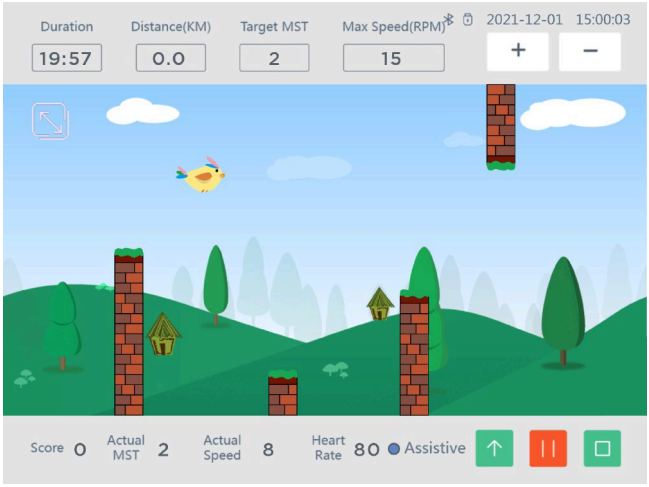
Mode Description: *The Assistive Training mode combines the assistive mode and active mode.*

The device rotates at the initial rate of 5 RPM. This program can dynamically adjust the speed by detecting the force acting on the devices. Once the power is weaker than the Target MST (Target Muscle Strength), it will lower the speed; on the contrary, it will raise the speed. Once the speed is higher than the target (upper limit speed), it turns to Active mode; on the contrary, it will turn back to Assistive mode. There is a voice prompt when the mode is switched.

Game Method: *In the Assistive mode, the height of the bird is relevant to the force. In the Active mode, the height of the bird is relevant to the rotation speed. It will fly up if the value of the force/speed is higher, and it will fly down when the value of the force/speed is lower. Please control the height of the bird, and ensure it will not hit the pillars.*

Symbol Description:

Symbol	Item Name	Description
	Assistive Mode	Display the program is in an assistive state.
	Active Mode	Display the program is in an active state.
	Target MST	Set the target muscle strength (range 0-24, default 5, step 1). It can be adjusted before and after startup. It will display as [resistance] after switching to active mode.
	Resistance	Display in active mode. It can be adjusted (range 0-24, step size 1).
	Max Speed (RPM)	Set the target speed (range 10-60 r/min, default 15 r/min, step 1 r/min). It can be adjusted before and after starting in assistive mode. It will display as [speed] after switching to active mode.
	Speed	Display real-time speed in active mode.
	Actual MST	Display real-time muscle strength in assistive mode.
	Actual Speed	Display real-time speed in assistive mode, unit r/min.
	Muscle Tone	Display real-time muscle tone in active mode.



Assistive Training

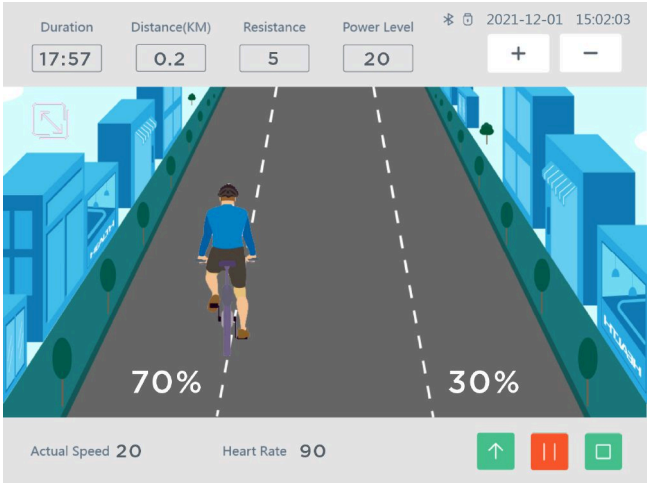
Symmetry Training

Mode Description: *In the Symmetry Training mode, the device rotates at the initial rate of 5 RPM. It turns to Active mode once it rotates faster than 5 RPM. Please keep limbs as balanced as possible. It is suitable for strength training and symmetry training.*

Game Method: *In this mode, the lateral movement of the bike is relevant to the symmetry of the force. Please keep the bike in the middle as far as possible.*

Symbol Description:

Symbol	Item Name	Description
Resistance 5	Resistance	Set the Resistance (range 0-24, step 1). It can be adjusted before and after startup. Resistance and Power Level cannot be selected simultaneously. In the constant resistance mode, the power level will increase with the speed increase.
Power Level 20	Power Level	Set the Power Level (range 0-99, default 5, step 1). It can be adjusted before and after startup. Resistance and Power Level cannot be selected simultaneously. In the constant power mode, the faster the speed, the smaller the resistance.
Actual Speed 20	Actual Speed	Real-time display of the actual speed value after startup.
70% 30%	Symmetry Value (%)	Real-time display of the left and right muscle strength ratio.



Symmetry Training Interface after Startup

Isokinetic Training

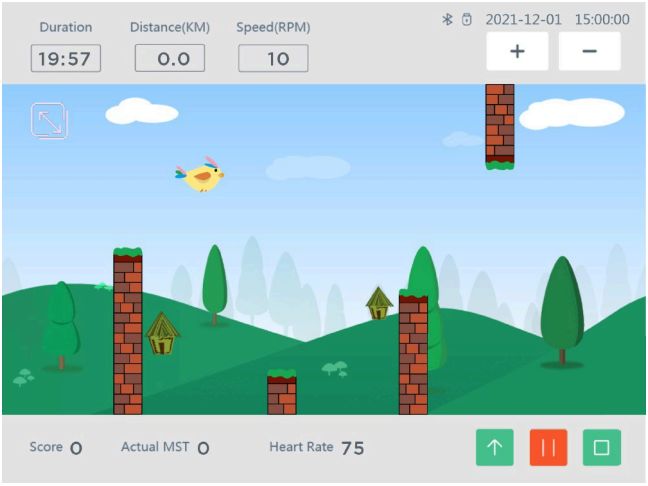
Mode *In the Isokinetic Training mode, the device runs at the*

Description: *set speed. It can detect MST (Muscle Strength), which is suitable for strength training.*

Game Method: *In this mode, the height of the bird is relevant to MST. It will fly up when the MST increases, and it will fly down when the MST decreases. Please control the height of the bird to ensure it will not hit the pillars.*

Symbol Description:

Symbol	Item Name	Description
Speed(RPM) 10	Speed	Set the speed (range 5-60 r/min, step 1 r/min). It can be adjusted before and after startup.
Actual MST 0	Actual MST	Real-time display of the actual Muscle strength after startup. It's a relative value.



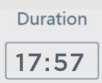
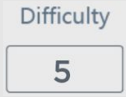
Isokinetic Training after Startup

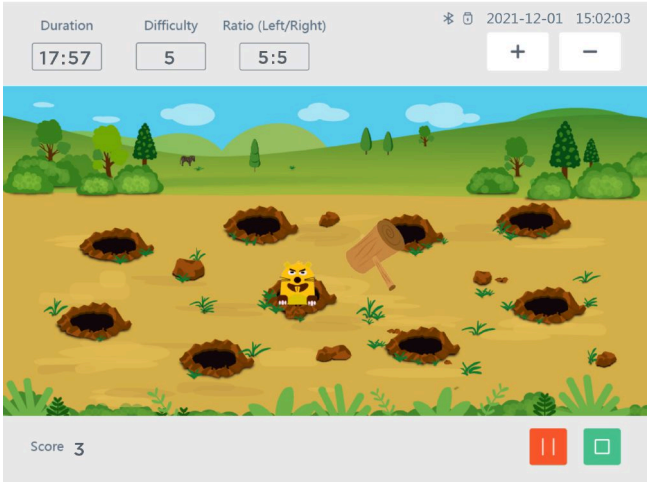
Fine Motor Training

Mode Description: *Fine Motor Training mode is designed for finger function to train hand-eye coordination. You can adjust the ratio of gophers on both sides and how long the gophers appear in the system setting interface.*

Game Method: *After the game starts, the gophers appear randomly. Drive the gophers into the holes by clicking the screen. They will go back down and run away if you miss the hit.*

Symbol Description:

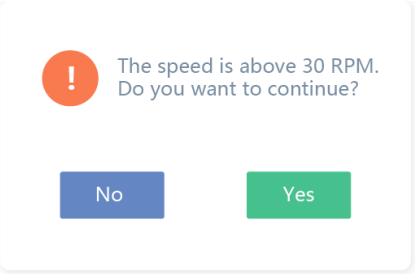
Symbol	Item Name	Description
	Duration	Set the training time (range 1-120 min, step 1 min). It cannot be adjusted after startup.
	Difficulty	Set the game difficulty (adjustable from 1 to 10, default 5). It cannot be adjusted after startup.
	Ratio (Left/Right)	Set the ratio of the number of gophers that appear on the left and right of the screen (adjustable 3:7/5:5/7:3, default 5:5). It cannot be adjusted after startup.
	Score	Real-time display of the game scores after startup.
	START button	Press to start training.
	Pause Button	Press to pause training.
	STOP Button	Press to stop training and display the training summary.
	Back Button	Press to return to the main menu.



Fine Motor Training after Startup

Speed Setting Prompt

In the ARM and LEG training mode, if the speed is set above 30 r/min before starting, after pressing the start button, the interface will pop up a prompt, as shown below.



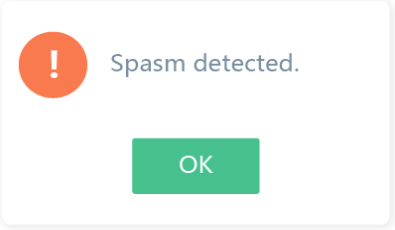
Speed Setting Prompt

Max. Speed Control

In active mode, when the device speed is greater than 100 r/min, the system will automatically increase the resistance to limit the maximum speed.

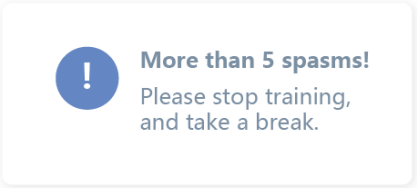
Spasm Control

During training (only ARM and LEG training), if spasticity occurs, the system will activate the spasm protection (The screen will show "Spasm in relief") within 1s.
When the spasm protection function is activated, along with an audible warning sound, the motor speed slows down to stop. It returns to the original speed from slow to move in the opposite direction so that the patient's spasm is relieved, and the training automatically changes to the passive mode.
When the spasm control ends, a prompt box will pop up in the upper right corner of the game display (as shown below), and the warning sound can only be turned off after pressing the OK button.



Spasm Detected

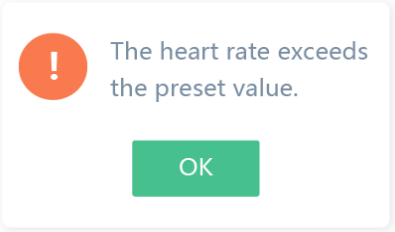
When the spasm protection function is activated more than 5 times (including the 5th time), the device will prompt "more than 5 spasms" (as shown below), and the device will automatically stop the current training. The device will automatically jump to the Training Data Summary interface, and the beep continues until the interface is closed. Please stop training and take a break.



More Than 5 Spasms

Heart Protection

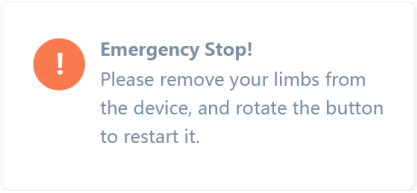
The Bluetooth heart rate sensor has been connected. During the training, if the device detects that the patient's heart rate exceeds the preset value of the Heart protection, the device will automatically stop training and pop up, as shown below, along with a beep. At this time, the patient is not suitable to continue training and should notify the doctor in time.



Tips for Heart Protection

Emergency Stop

The Medup V3 is equipped with an Emergency Stop function.
During training, if the motor is out of control, please press the emergency stop button immediately to stop training. Press the emergency stop button near the handlebar to break the motor circuit. The trainer motor will stop immediately. A prompt appears on the screen.



Emergency Stop

Release Emergency Stop

After the dangerous situation is relieved (at this time, the patient should move out of the device movement area), reset the emergency stop button by pulling out the red button, and the device will automatically enter the self-check interface.

CAUTION

- ***The device performs a self-check when releasing the emergency stop. DO NOT approach the movement area of the ARM and LEG trainer of the device.***

Training Summary

Once training ends, the system will automatically display the training result, as shown in the example below.



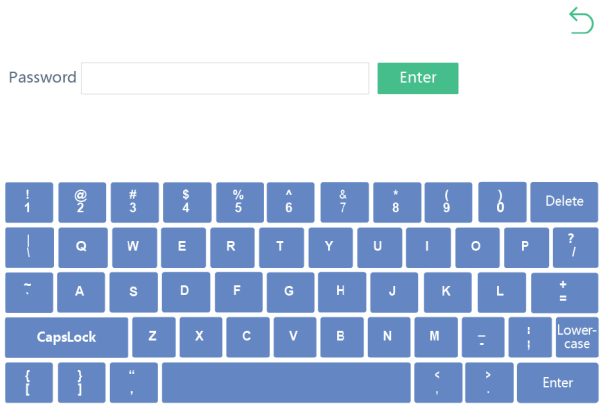
Arm Active-Passive Training Result

Symbol	Item Name	Description
	Export	Press to export the training result.
	Favourites	Press to save the training parameters.
	Home	Press to return to the main menu.

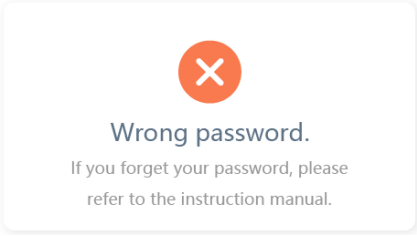
Training Summary Data Export

Before exiting the Training summary or starting each training, insert a USB flash drive (Format: file system FAT32, allocation unit size 4096 bytes) to the device USB port. The symbol will appear in the upper right corner of the screen. Press the export button in the training result interface, and the system will jump to the following interface. Press the input box in this interface to enter the password "ATLAS" (area size), and press ENTER button to export the data. If the password is wrong, a wrong password tip will pop up. If the export is successful, a prompt "Data transfer succeeded." Will pop up on the interface; If the export fails, a prompt "Data transfer failed." will pop up. The exported data will be stored in the file "SUMMARY.TXT".

***NOTE**: Please use the USB flash drive that meets the above requirements.*



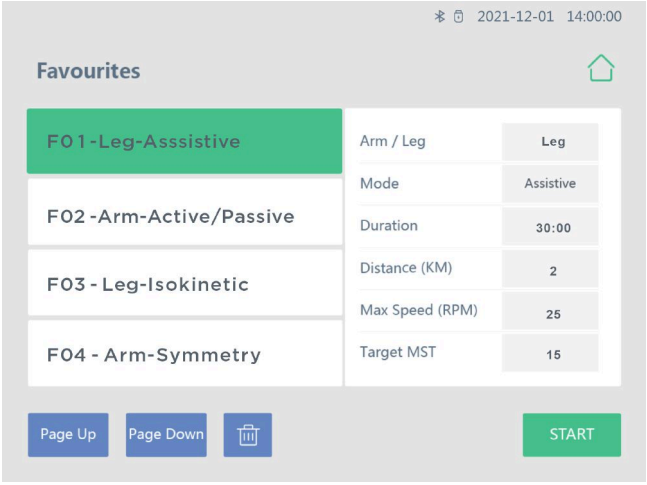
Enter Password



Wrong Password Tip

Favourites

Press the Favourites button  *in the Main Menu to enter the Favourites Menu, as shown in the figure below.*



Favourites Menu

Storing Favourites

To store a training program as a favorite to use for future training or on other patients, press the FAVOURITES button ☆ from the Training Result interface, then type in the name of the favorite program.
On the training data statistics interface (as shown below), click the favorite icon in the upper right corner to save the training parameters to favourites. Fill in the favorite name and save.

***NOTE**: After inputting the favorite name, please press the ENTER button first and then press the save button 💾.*



Save as Favourites

CAUTION

- ***DO NOT save favourites using patient names to protect patient privacy and security.***

Deleting Favourites

In the Favourites Menu, choose the favorite you want to delete, press the DELETE button 🗑, a confirmation prompt will appear, and press the YES button to delete.

Recalling Favourites for Training

Select the desired FAVOURITES in the Favourites Menu, press the START button to start training, and the system jumps to the selected training mode.

Manufacturer Information

Press the button Medup *in the main menu, and it will show the manufacturer information. In the lower-left corner of the screen, it will display the software version.*



Manufacturer Information

Operation Steps

Preparation before Training

1) *Ensure the trainer is in a stable place.*
2) *Connect the power cord: connect the male end of the power supply cord to an appropriate electrical outlet, and connect the female end of the power supply cord to the socket on the unit.*
3) *Press the Power switch to start the unit.*



- ***To avoid the risk of electric shock, the Medup V3 must only be connected to supply mains with protective earth.***

Using the Heart Rate Sensor

1) *Wear the Heart Rate Sensor according to its user manual.*
2) *Connect with the device*
   Press the setting button in the main menu to enter the system setting. Press the Bluetooth icon in the setting interface to turn the Bluetooth on. The Bluetooth icon appears in the upper right corner of the main menu, indicating that the heart rate sensor has been paired and connected with the device.

CAUTION

- ***Please use the specified heart rate sensor, Heart Rate Monitor Polar H10, Manufactured by Polar Electro Oy.***
- ***The heart rate monitoring value is for reference only and does not apply for diagnostic purposes.***

Secure Patient Position and Adjust Trainer

1. Secure patient position

The patient should sit in the center of the wheelchair, at a proper distance from the device.
If the patient is training from a wheelchair, the wheelchair should be secured using the Anti-Tipper and not tilt backwards.
NOTE:

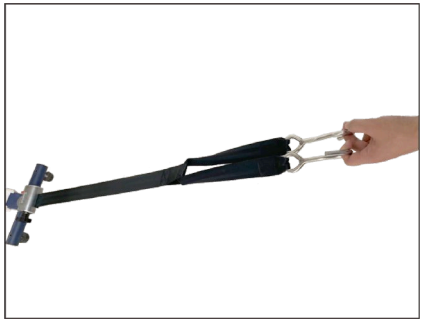
- *Wheelchair Requirements: the wheelchair footrests shall be foldable, and the folded distance shall be ≥ 46 cm, without interfering with the circular movement of the lower limb trainer.*
- *The wheelchair footrests shall be folded during the ARM training.*

Securing the wheelchair with the Anti-Tipper

STEP 1: *Move the wheelchair to the training position, keep a certain distance from the trainer, and apply the wheelchair brakes.*

STEP 2*: Press and hold the red release button of the Anti-Tipper, and at the same time, pull the belt out with the hook, as shown in the figures below.*





STEP 3: Attach the hooks. *Attach the hooks to the front securement points on the wheelchair (if marked symbols) or the suitable*

position of the solid wheelchair frame. The two hooks should be separated as far as possible to the sides of the wheelchair and approximately symmetrical, creating belt angles between 40° and 60° from the horizontal within the front view zone, as shown in the figures below. The belt will then tighten itself automatically.

NOTE: *Ensure that each extended belt is approximately the same length when using Two Point Anti-Tipper.*





CAUTION

- ***Do not attach the belt to the spokes, wheels or movable components of the wheelchair.***
- ***It shall be used in a complete set when using the Two Point Anti-Tipper; that is, the two pieces of equipment shall be used together to generate two fastening points to secure the wheelchair safely and prevent it from tilting.***

STEP 4: Adjust patient position*. Release the wheelchair brakes, and adjust the distance to a comfortable training posture. The patient's legs should be slightly bent and not extended. Improper posture will cause discomfort to the knees or hips. Apply the wheelchair brakes after finishing the adjustment. During lower limb training, the wheelchair footrest shall be folded.*

CAUTION

- ***Every time before training, ensure the Anti-Tipper has secured***

the wheelchair safely, and the wheelchair brakes have been applied.

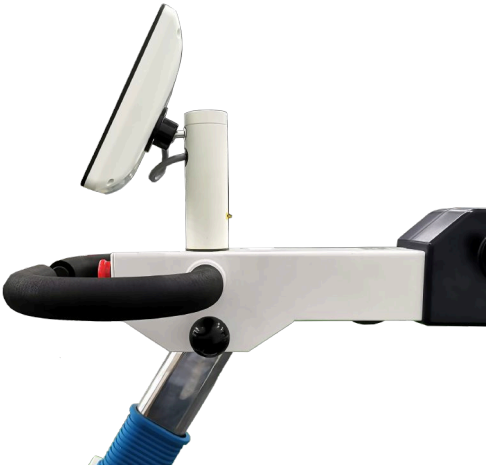
2. Adjust the arm trainer in height

To adjust the height of the trainer, first loosen the knob on the center post, as seen below. Position the arm trainer to the desired height, and then tighten the knob to secure it in place.
The arms must not be stretched, and the knees should not collide with the handholds during movement. Improper positioning can cause discomfort in the knee, elbow, or shoulder.



3. Adjust the direction of the arm trainer

Before arm training, the arm trainer can be adjusted to 180° using the knobs next to the handlebar as seen below.



4. Adjust the pedal radius (Leg training)

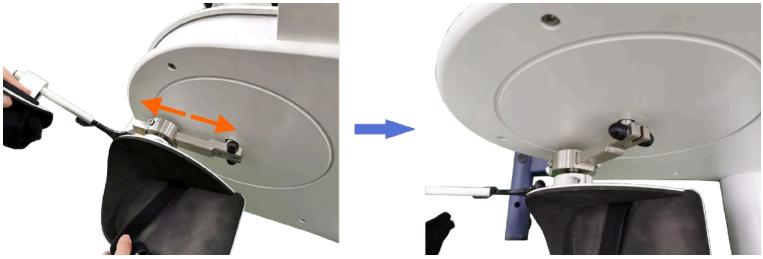
The pedal radius can be adjusted on both sides from 58mm to 126mm. Please follow these steps:

a) *Please turn the device off before adjusting the pedal radius;*

b) *Use an Allen wrench to loosen the two nuts shown below;*



c) *Use both hands to move the pedal to the desired position and then tighten the nuts;*



d) *Repeat this process on the pedal crank of the other side, and ensure set the same pedal radius on both sides.*

CAUTION

- ***The device must be switched off, and the feet must not be inserted when adjusting the pedal radius.***

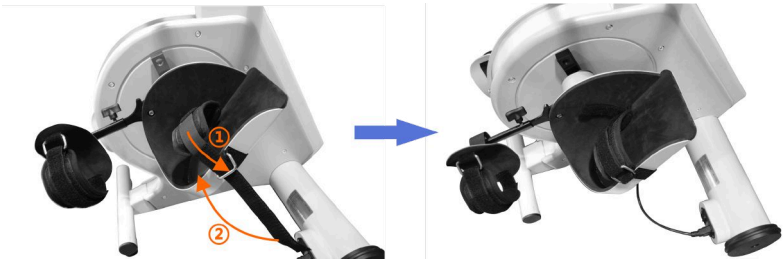
5. Adjust the calf support (Leg training)

The calf support helps the patient to protect his legs. Use the knob to adjust the height of the calf support to fit the calf.



6. Fix feet and calves (Leg training)

1) *Place feet in: press the Insertion Aid button in the Leg training interface to adjust the pedal to an appropriate position, press the button again, and the pedal stops running, then put the patient's feet in the pedal.*
2) *Secure the feet: use the foot strap to fix the feet (follow the operation steps shown in the below figure), and adjust the foot strap length so that the strap can securely hold the foot and not be too tight.*



3) *Secure the calves: Calf fixation: use the calf strap to fix the calf (follow the operation steps below).*



CAUTION

- ***Before each leg training, check the patient's feet to ensure they are secure and in the correct position.***

CAUTION

- ***Only put the patient's feet into the pedals while seated. DO NOT put the patient's feet into the pedals while standing. Hands are not allowed into the pedals.***

7. Fix hands (Arm training)

- ***Using the Training Handle Grip***

Place your hand into the training handle grip, adjust the position of the grip, and fix it with straps, as shown in the following figure.



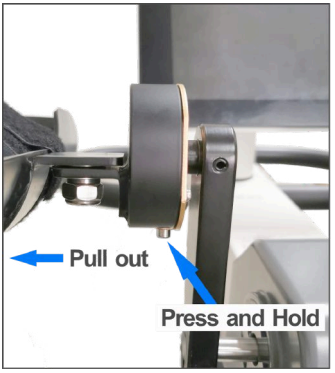


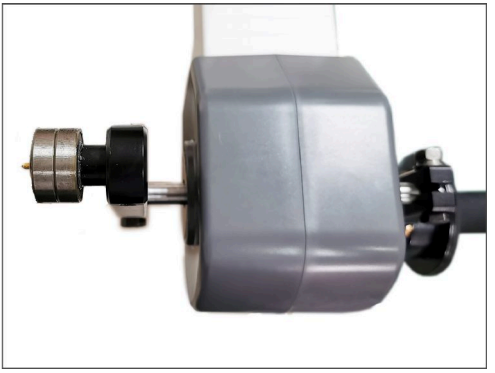
- ***Using the Wrist Cuff***

<u>Install the standard training handle</u>

To use the wrist cuffs to fix the patient's hands, you should first replace the training handle grips with the standard training handles and follow these steps:

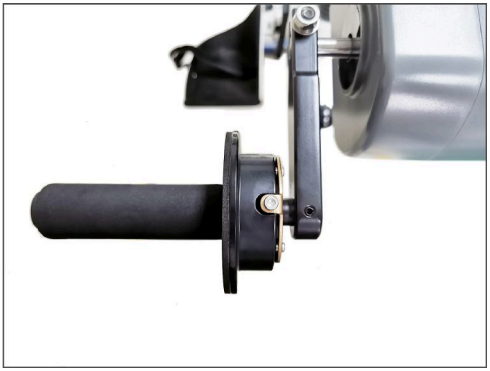
1) *Remove the training handle grips;*





2) *Install standard training handles.*





Install the standard training handle

Put the hand into the wrist cuff, stick the velcro on the wrist, grasp the training handle with the hand, and finally, fasten the buckle. After the operation is completed, ensure that it is locked firmly.



Interface Operation and Parameter Settings

See the Chapter "Interface Introduction" for details. The general operation is as follows. If you start the training from the favorites, enter the favorites interface, select the favorites and press the START button.

STEP 1: Set default parameters

Before entering any training modes, check the default settings first and set the Default Date & time. Press the Settings button in the main menu to set the default training parameters. When all parameters have been set, click the return button to return to the main menu.

STEP 2: Select the training part and mode

Select the training part and training mode according to your needs.

STEP 3: Set training parameters

Training Mode	Training Parameters
Active-Passive Training	1. Duration or Distance Duration: Range 1-120 min, step 1min Distance: Range 1-99 km, step 1 km
	2. Resistance: Range 0-24, step 1
	3. Speed: Range 5-60 r/min, step 1 r/min
Assistive Training	1. Duration or Distance Duration: Range 1-120 min, step 1min Distance: Range 1-99 km, step 1 km
	2. Target MST: Range 0-24, default 5, step 1
	3. Max Speed: 10-60 r/min, default 15 r/min, step 1 r/min
Symmetry Training	1. Duration or Distance Duration: Range 1-120 min, step 1min Distance: Range 1-99 km, step 1 km
	2. Resistance or Power Level Resistance: Range 0-24, step 1 Power Level: Range 0-99, default 5, step 1
Isokinetic Training	1. Duration or Distance Duration: Range 1-120 min, step 1min Distance: Range 1-99 km, step 1 km

Training Mode	Training Parameters
	2. Speed: Range 5-60 r/min, step 1 r/min
Fine Motor Training	1. Duration: Range 1-120 min, step 1min
	2. Difficulty: Adjust 1-10 level, default 5 level
	3. Ratio (Left/Right): Adjust 3:7/5:5/7:3, default 5:5

Start Training

1) *After setting the training parameters, press the START button to start training.*
2) *Adjusting the training parameters. During the training process, the training parameters can be adjusted according to the actual situation, and the adjustable parameters after startup are shown in the following table.*

Training Mode	Training Parameters
Active-Passive Training	1. Resistance: Range 0-24, step 1
	2. Speed: Range 5-60 r/min, step 1 r/min
Assistive Training	1. Target MST; Range 0-24, default 5, step 1
	2. Resistance: Range 0-24, step 1
	3. Max Speed: Range 10-60 r/min, default 15 r/min, step 1 r/min
Symmetry Training	Resistance or Power Level Resistance: Range 0-24, step 1 Power Level: Range 0-99, default 5, step 1
Isokinetic Training	Speed: Range 5-60 r/min, step 1 r/min



- ***During training, if the motor is out of control, please immediately press the emergency stop button to stop training and notify the medical staff in time.***

End of Training

1. *At the end of the training, the device will automatically stop training and display the training result. To export the data, insert the USB*

flash drive (FAT32 format) into the USB port, and press the export button to export the training data to see the Training Summary Data Export section of this manual.

2. *Release the hand/foot straps and remove both hands/feet from the training handles or pedals.*
3. *Removing the Anti-Tipper*
   a) *Press and hold the red release button to release the tension and extend the belt to allow the hook to be removed from the wheelchair frame, then release the button;*
   b) *Pull the hook and slowly release it to retract the belt.*
4. *Remove the patient from the training position.*
5. *Turn off the power and unplug the power cord.*

Care and Maintenance

Cleaning

1. *Please turn off and unplug the device's power plug before the cleaning and disinfecting.*
2. *Main unit cleaning: clean the surface of the main unit with a clean, soft, and damp cloth. You can disinfect the handlebar by wiping it down with 75% alcohol.*
3. *Straps cleaning: Hand wash with a mild detergent and do not iron. Cleaning and drying temperatures should not exceed 80°C.*
4. *Belt of the Anti-Tipper cleaning: Clean the belt periodically with mild detergent and water. After cleaning, fully extend the belt (and position them to prevent water from entering retractors) until completely dry.*



CAUTION

- ***DO NOT clean the main unit with organic solvents such as gasoline or diluents; otherwise, damage will happen to the main unit, such as deformation and peeling of the paint.***
- ***DO NOT use bleach to clean the straps and belts.***
- ***DO NOT put the straps and belts under high temperature or high pressure to sterilize.***

Routine Maintenance

Read this maintenance instruction thoroughly before performing any maintenance. If the device is used in accordance with the instructions in this user manual, it does not require particular regular maintenance.

The manufacturer will provide circuit diagrams, component lists, descriptions, and calibration instructions to assist service personnel in parts repair.

We recommend using only original spare parts to preserve the product warranty, functionality, and safety.

The device and accessories must be checked at regular intervals.

Interval	Routine Maintenance	
Weekly	Obvious Damage	Visually inspect the components for any damage that could cause problems. Check the power cord to ensure there is no damage. If any problems are identified, please contact us for maintenance or replacement.
Semi-annual	Operation	Check all functions.
	Construction	All fasteners must be present and tightened securely.



WARNING

- ***NEVER perform unauthorized service work. All service work must be performed only by service technicians authorized by the manufacturer.***
- ***DO NOT perform maintenance while the patient is using the device.***

Fuse Replacement

1) Fuse specification: T2AL250V (Ø5 × 20mm) CSA

2) When replacing the fuse, please follow the steps:

a) *Turn off the power switch;*
b) *Unplug the power plug;*
c) *Use a screwdriver to pry open the fuse holder;*
d) *Remove the bad fuse, and replace the new fuse (see figure below);*

e) *Return the fuse holder to its original position;*
f) *Plug in the power cord.*



WARNING

- ***Prior to replacing the fuse of the device, make sure that the device is turned off and the power cord has been disconnected.***

Expected Useful Lifetime

The expected useful lifetime of this device is 10 years when subject to correct use and preventative maintenance as specified in this manual.

Disposal



Do not be disposed of as unsorted municipal waste and must be collected separately. Dispose of this product according to local regulations. Contact your local authorities for information regarding the disposal of the unit and accessories.

Troubleshooting

NOTE: *If the following measures fail to alleviate the problem, please call the distributors.*

Problems	Possible Causes	Solutions
1. No response after starting the device.	*1. Lack of power;* *2. Fuse might be burned out.*	*1. Check whether the power plug and socket of the instrument are plugged or not;* *2. Replace the burned fuse with a new one (Specifications: T2AL250V)*
2. The training handles are unable to rotate.	*1. The START button is not pressed;* *2. You have selected the Leg trainer.*	*1. Press the START button;* *2. Select the Arm trainer.*
3. The pedals are unable to rotate.	*1. The START button is not pressed;* *2. You have selected the Arm trainer.*	*1. Press the START button;* *2. Select the Leg trainer.*
4. Excessive noise during operation.	*1. The position of the trainer is not stable;* *2. The big screw knob is not tightened.*	*1. Place the trainer in a smooth position for training;* *2. Tighten the big screw knob.*
5. The heart rate displays 0 during training.	*1. The heart rate sensor is not connected to the device.* *2. The heart rate sensor was not connected properly.*	*1. Check the position of the chest strap on the heart rate sensor;* *2. Check whether the electrode area of the heart rate sensor is moist;* *3. After checking the two above, look to see if the Bluetooth icon appears on the top right-hand corner of the screen.*

Problems	Possible Causes	Solutions
6. The interface displays the fault code "5010", "5011", or "5012".	*The "5010" indicates that the arm trainer self-inspection fails; The "5011" indicates that the leg trainer self-inspection fails. The "5012" indicates that both arm and leg trainer self-inspection fails. Maybe the motor or program control is abnormal.*	*If it still appears after a restart, please contact ATLAS MEDIC after-sales service department for maintenance.*
7. The interface displays the fault code "5014", or "5015".	*The "5014" indicates that the arm trainer's encoder cable is abnormal; The "5015" indicates that the leg trainer's encoder cable is abnormal; The encoder may be disconnected or in poor contact.*	*If it still appears after a restart, please contact ATLAS MEDIC after-sales service department for maintenance.*
8. The interface displays the fault code "5016", or "5017".	*The "5016" indicates the arm trainer's current feedback is abnormal. The "5017" indicates the leg trainer's current feedback is abnormal. The motor current may be too large.*	*If it still appears after a restart, please contact ATLAS MEDIC after-sales service department for maintenance.*
9. The interface displays the fault code "5018".	*Indicates that the communication between the MCU and the motor control is abnormal.*	*If it still appears after a restart, please contact ATLAS MEDIC after-sales service department for maintenance.*

Assistance

Any intervention on the device must be performed by the manufacturer. For any assistance intervention and original spare parts, please contact the manufacturer at the following address:

Atlas Medic inc.
80, rue de Sydney
St-Augustin-de-Desmaures, Quebec, Canada, G3A 0P3

To preserve product warranty, functionality and product safety, we recommend using only original spare parts.

Warranty

Any unauthorized modification or repair will void this warranty. All repairs to the equipment must be performed by an authorized service center or manufacturer.

1) ***Warranty for the main unit***

- *This warranty shall remain in effect for two years (24 months) from the product's delivery date to the end customer. If the equipment fails to function during the warranty period due to a defect in material or workmanship, the manufacturer will repair it without charge. The warranty does not extend to worm parts.*
- *To validate the warranty, please complete the Warranty Card and send it with a copy of the original invoice to the email address* ***info@atlasmedic.com*** *within 7 working days of purchase.*

2) ***Warranty for other parts***

- *Consult a local Medup V3 distributor or Atlas Medic inc. for more information.*

3) ***This Warranty does not cover:***

- *Replacement parts or labor furnished by anyone other than the manufacturer, the authorized dealer or a certified company service technician.*
- *Defects or damage caused by labor furnished by someone other than the manufacturer, the authorized dealer or a certified company service technician.*
- *Any malfunction or failure in the product caused by product misuse, including, but not limited to, the failure to provide reasonable and necessary maintenance or any use inconsistent with the User Manual.*



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