



Y & Z[®]
CPM-B

User Manual

For
Continuous Passive Motion Machine

Manufactured by:
Y & Z[®]
SwZhengda Medical
District Hangzhou
China

Distributed by:
CPM Knee Hire
Stockport
England

Please read the manual before using



OWNER'S MANUAL

Continuous Passive Motion

Type **CPM-B**



2292

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Instruction manual for Lower limb CPM



Name: Good Medica sp. z o.o.

Add: ul. Ziemniaczana 15,

52-127 Wrocław, Poland

1. Product name: Continuous Passive Motion

2. Type: CPM-B

3. Product Overview

The lower limb joint rehabilitation device is used for rehabilitation and auxiliary treatment for patients with lower limb joint function. ordinary equipment that does not prevent liquid injection, non-AP or APG equipment, continuous operation equipment. CPM-B type lower limb joint rehabilitation device is displayed in liquid crystal LCD .

4. Scope of application

Lower extremity joint rehabilitation device CPM-B for the rehabilitation of the lower extremity joint function patients. Hospital for patients (Except for overweight patients, Petite patients or children) after surgery for hip, knee, ankle function continuous passive rehabilitation exercise.

5. The main structure

The lower limb joint rehabilitation device CPM-B consists of a main body, a limb support and a leather pad.

6. Principles of Products

The motor drives the gear movement, drives the screw to rotate, causes the nut to produce the reciprocating motion, then outputs the power to cause the human body thigh, the leg bracket to produce the passive motion.

7. Precautions

- 1) The rated working voltage of this instrument is ~100-240V, When not using the unit, unplug it from the power outlet. When removing it, hold the power plug head part and do not pull the power cord itself.
- 2) This instrument uses two T1A, 250V fuses, installed in the power socket position (in the lower dedicated slot), see the machine related position indication. You need to use a word and pull out the special pull groove to replace it.
- 3) There are no parts inside the instrument that can be replaced, repaired or maintained at will. Maintenance, replacement, and repair of internal parts of the instrument must be handled by the manufacturer or handled by a service technician designated by the manufacturer.
- 4) All external components or components of the instrument must be used for normal use. In case of damage or doubtful failure, it should be suspended and contact the manufacturer or the repairer designated by the manufacturer. We are not responsible for any problems with the use of parts not licensed by the manufacturer or manufactured by the manufacturer.
- 5) According to the use of similar foreign products, for safety reasons, it is recommended to use the

machine when the patient's joints are not stiff. At this time, it is recommended not to use a fixed strap to fix the affected limb, so as to avoid damage to the affected limb if the machine is improperly set or the machine malfunctions. From the data query, in addition to China's domestic CPM machines, the CPM machines produced abroad have basically not used fixed straps. Therefore, although the machine is safe to use, it is not recommended to use a fixed strap to fix the affected limb. For fixed limbs to be fixed with a fixed strap, professional medical staff must be used for care.

6) Do not modify this equipment without authorization of the manufacturer

8. Intended use:

Provide external passive motive force, so that patients' lower limbs produce low-speed passive motion, in order to maintain and promote the motion function of articular capsule. Usually used in patients after surgery to maintain joint function, or used in patients with their own joint dysfunction.



9. Safety instructions during the CPM therapy

Patients are required to consult a doctor before starting the CPM therapy and proceed according to their prescribed usage instructions. the unit should be operated by a trained personnel or by a patient under supervision and according to doctors and physiotherapists prescribed usage instructions. The treatment must not cause any pain or harm, the unit must be individually and every moment able to stop the unit in case of pain.



DANGER!

A risk of explosion -CPM must not be used in therapy rooms with a risk of explosion, which may occur after exposure to flammable substances, such as anaesthetic or skin disinfection products.



THREAT!

A threat to patient' s safety:

- 1) Use the CPM device only for its intended purpose of passive motion of the hip and knee joints. CPM must only be operated by a trained personnel familiar with the operating procedures, as well as the indications, contraindications, warnings and precautions.
- 2) Always check CPM before using it in terms of safety, especially the cords and plugs for any damage. In case of any damage contact the technical service department.
- 3) Always run a test cycle before positioning the patient , s leg in the unit. Check if all the knobs are securely tightened.
- 4) If you notice any indications of the unit not operating properly or have any doubts regarding its correct position or settings stop the therapy immediately.
- 5) Make sure that the unit is correctly adjusted to the patient , s leg. To do so check if the knee axis of the patient is aligned with the pivot axis of the CPM and whether the length of femur and tibia are correctly set in the unit.
- 6) The CPM therapy must not cause any pain or harm. It is recommended that a patient wears comfortable clothes not restricting movement but preventing the skin from direct contact with the unit elements,

such as sportswear, leggings, socks, etc. A patient must not wear clothes that may cause skin abrasion during the therapy.

- 7) During the CPM cycle a patient must be fully conscious.
- 8) CPM treatment must be prescribed by a physician or physiotherapist.
- 9) Usage and settings instructions must be specified by a physician or physiotherapist.
- 10) Patients are not allowed to wear orthosis during therapy unless a physician prescribes otherwise.
- 11) Every patient undergoing CPM treatment must be able to stop the device at every moment.
- 12) Patient must have access to the hand control at all times.
- 13) Every patient must be informed on the position of the emergency stop switch and how to stop the unit.
- 14) Watch out for the movable parts to prevent them from getting in between body parts, such as fingers or items, such as blanket, cables, etc.
- 15) CPM must not be used in rooms without proper ventilation or light.
- 16) CPM must not be used on water beds.

A threat to others:

CPM must not be used around children or animals.

Risks of electrical shocks:

Practice the precautionary instructions found in this manual to prevent the risk of electrical shock. Failure to follow these instructions may threaten the life and health of the patient and/or the unit operator.

- 1) Use care when transporting the unit in temperatures below 0°C. before starting the unit warm it up to room temperature. CPM must not be used for at least 2 hours to ensure removal of the possible condensation.
- 2) CPM must only be used in dry rooms at room temperature.
- 3) CPM must only be used in dry rooms at room temperature.
- 4) To unplug the unit from the power supply, first unplug from the wall outlet and then the power cord from the device inlet.
- 5) Power extension cords or multiple socket outlets must not be used to supply power.
- 6) CPM must be plugged only to correctly installed outlet.
- 7) Before plugging the unit straighten out the power cord completely to prevent it from getting in between any movable unit parts.
- 8) Unplug the device before cleaning, disinfecting or servicing.
- 9) The unit, hand control and power cord must not get wet, if they do contact the technical servicing department. Unit can be restarted only after having it checked by the technical servicing department.
- 10) Do not leave the unit plugged in unattended. If the device is not being used, unplug it. Do not pull the cord while unplugging the unit.

Interference with the unit:

Electrical and magnetic field may influence the unit operation.

- 1) When using CPM make sure that other devices operating in proximity comply with the electromagnetic

tolerance.

- 2) Electrical equipment that are sources of electromagnetic radiation, such as X-ray, MRI, radio transmitters and mobile phones may disrupt operation of CPM unit. Maintain distance from such devices and before starting CPM therapy check its operation.
- 3) Do not use CPM around open fire or fire source.
- 4) CPM unit must be checked at least once a year in terms of possible damage or loose parts or connections.
- 5) Repairs and servicing should be carried out by authorized service providers.

WARNING!

Personal injuries and abrasion prevention:

It is recommended that a patient wears clothes covering the skin, such as sportswear, leggings, socks, etc. Pay close attention to make sure that the movable elements do not cause skin abrasion among overweight patients, petite patients or children.

The patient's legs may be positioned slightly apart if necessary.

Damage to the unit:

Check the electrical and frequency compatibility parameters on the product identification label.

A CPM load capacity of maximum 20kg must not be exceeded.

Watch out for the movable parts to prevent them from getting in between items, Such as blankets, cables, etc.

Do not expose the unit to sunlight and extremely low or high temperatures.

Use care when carrying or transporting the unit.

In case of damaging the unit stop using it and contact manufacturer for repair.

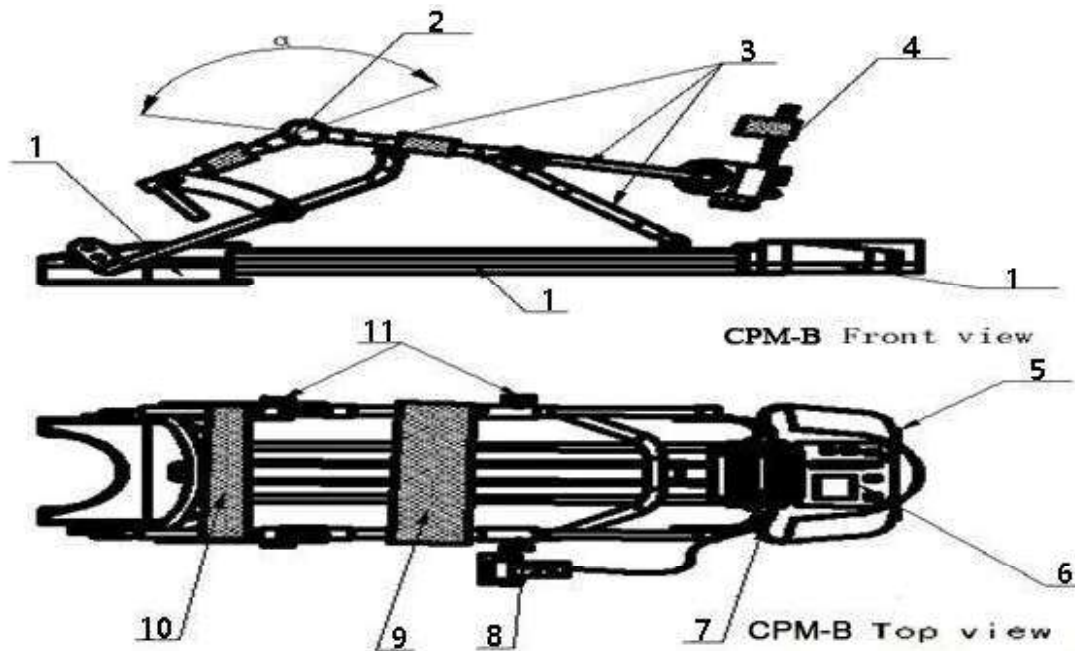
10. Main technical indicators

Device Parameters

Knee joint motion angle range	-5°to 120°
Hip joint motion angle range	25°to 100°
Femur alignment range	32 to 49 cm
Tibia alignment range	25 to 57 cm
The length of thigh pad can be adjusted	Min. 90 mm
The length of leg pad	Min. 100 mm
Main voltage	~100-240V,50/60Hz
Working noise	≤60dB

Dimensions

Length	95 cm
Width	32 CM
Height	36 cm-45 cm



1. Host body 2. Angle sensor 3. Limb stent 4. Foot plate (shoe cover / strap) 5. Power socket (fuse) 6. control panel 7. Hand control seat 8. Hand controller 9. Calf leather pad / strap 10. Thigh leather pad / strap 11. Fixed knob

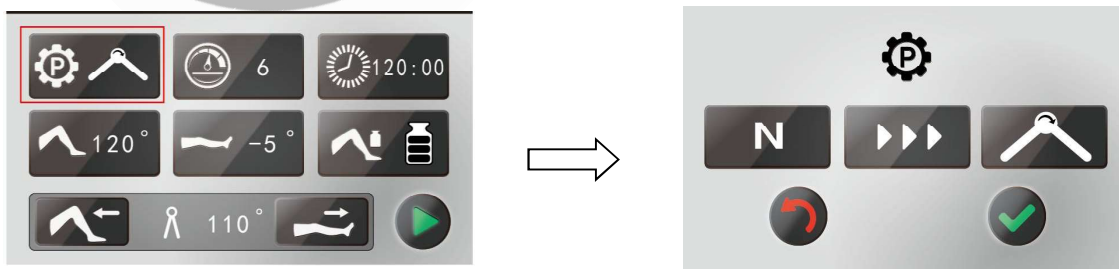
Schematic diagram of the shape and size of the lower limb joint rehabilitation device

11. operation method

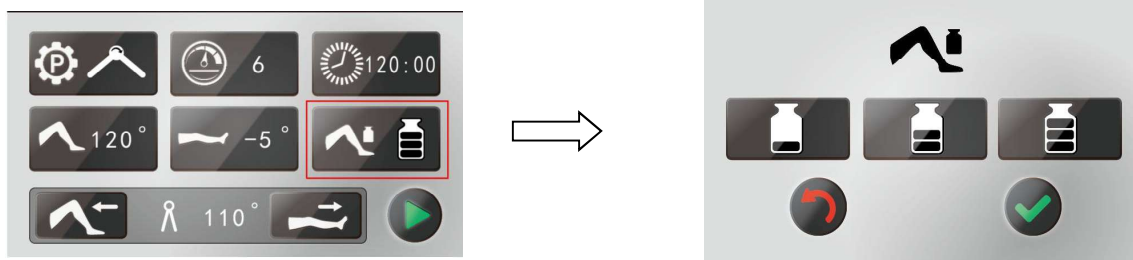
11.1 Plug in the power, turn on the power switch, the display shows the data when the power was turned off last time, and the machine is in the parameterizable state. If it is not adjusted, the machine will move according to the setting data when it was last turned off. Press the start/pause button to start the machine. After running at least 2 round trips, observe whether the machine is running properly and the machine is running or not, and then pause the machine.

11.2 After suspending the machine, loosen the relevant fixing knob and pull the adjustable limb bracket so that the large and small leg support members of the limb support conform to the length of the upper and lower limbs of the patient, and the middle joint of the member is at the 0° position (ie $\alpha=180^\circ$). , tighten each fixed knob.

11.3 Set the angle of extension, buckling angle, running speed and running time according to the actual situation of the patient. As shown in the figure, the mode and moment settings are determined. After setting, press " $\checkmark$ " to return to the main interface.



Mode Settings



Moment settings

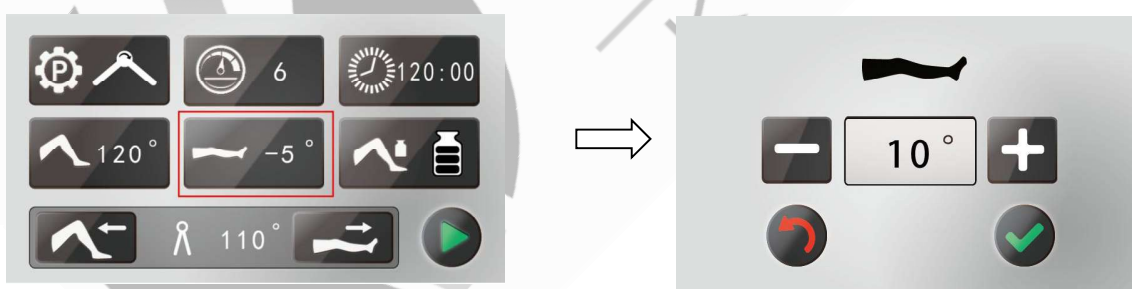
11.4 Setting the stretching angle and buckling angle data:

11.4.1 In clinical medicine, the knee joint activity is generally 90° , which is the standard for rehabilitation of patients. Therefore, setting the buckling angle is generally below 100° . Setting excessive or unreasonable values will result in higher requirements for adjustment of the machine components and will pose a safety hazard. At the same time, because many domestic patients are not used within 24 hours after surgery (joint joint state), the patient's tolerance should also be considered when setting the data, and should be set and operated by experienced professional physicians.

11.4.2 The setting of the stretching angle is generally set at 0° or the patient's tolerable angle according to the conventional patient condition. The operation schematic is as follows:



Stretching Settings

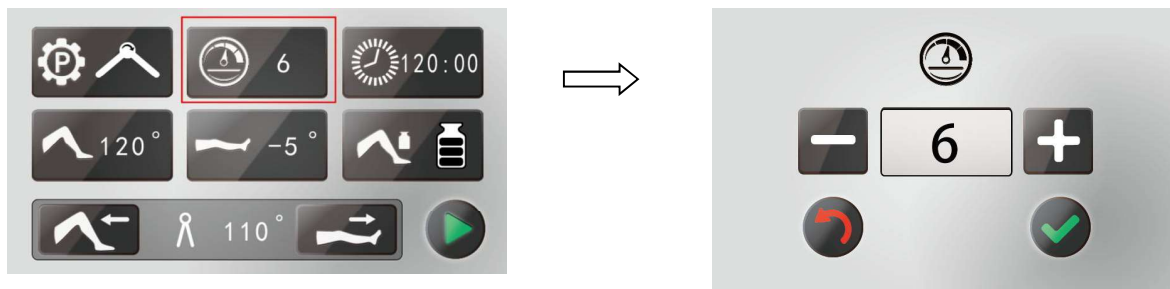


Buckling settings

The angle can be adjusted by "+" and "-". After confirming the settings, press "" to return to the main interface.

11.5 Operating speed setting considerations:

The data setting needs to be set by a professional physician according to the actual situation of the patient. It is also recommended to consider patient tolerance.

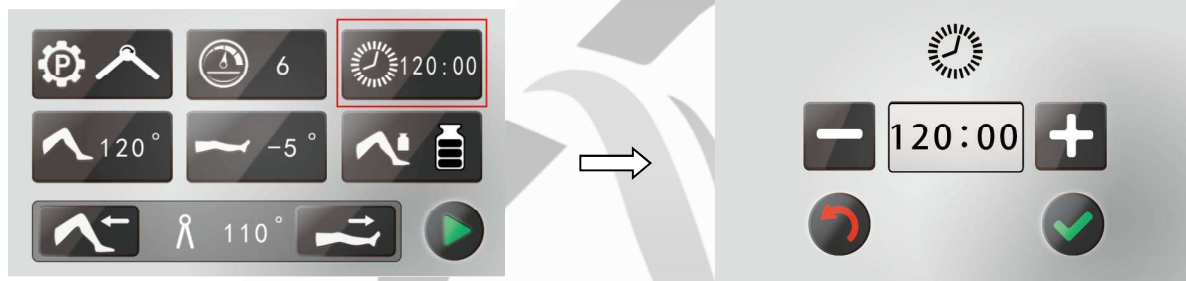


Speed setting

The speed can be adjusted by "+" and "-". After confirming the settings, press "  " to return to the main interface.

11.6 Runtime setting considerations:

The data setting needs to be set by a professional physician according to the actual situation of the patient. For reference to domestic and international use, the recommended time is about 30 minutes.



Runtime setting

Runtime can be adjusted by "+" and "-". After confirming the settings, press "  " to return to the main interface.

11.7 There are three kinds of "control mode": normal, angle and speed mode; "normal mode" means the machine runs according to the set data; "angle mode" means that the machine automatically runs by about 3° after every 15 minutes after running according to the set data. The buckling angle is automatically increased by 3°; "Speed mode" means that the machine will automatically increase the running speed by 1 gear every 15 minutes after running the set data until the 9th gear.

11.8 This machine is designed with an analog "control torque" function. The torque "large" means that the machine is controlled by the motor's 100% rated output power; the torque "medium" means that the machine is controlled by the motor's 65% rated output power; the torque "small" means that the machine is 30% rated output power of the motor. Control work. If the set control torque (ie the motor output power) is exceeded, the machine will automatically reverse the operation to make it possible to protect the machine.

It should be noted that because of the different mechanical properties of the motor and each machine, and because of the use environment and patient factors, the control torque will be greatly deviated. Therefore, the torque setting function data is for reference only and cannot be used as actual usage control or safety protection.

11.9 Make sure that the parameters on the display are set correctly. Press the "  /  " button to start

the machine. The machine displays the actual running value (immediate running angle, etc.). After observing the machine running two back and forth, it is felt that the parameters are set properly and the machine is normal. Place the patient's upper and lower limbs on the leather pad. After running two round trips, there is no abnormality, the operator can leave, and pay attention to handing the hand controller to the patient and making related problems. Otherwise press the “  /  ” button to pause and reset the parameters.

From a safety point of view, it is not possible to fix the upper and lower limbs of the patient with a leather pad, even if there is a caregiver and an operator operating the machine.

11.10 The main functions of the hand control (mouse) are return and pause/start. Among them, CPM-B can choose the hand controller (optional) with display and panel according to customers' needs.

11.11 The machine sets the “stretch” and “buckle” function keys, and press the corresponding button to run the machine in the direction of stretching or flexing.

11.12 The main functions of the hand control (mouse) are return and pause/start. Among them, CPM-B can choose the hand controller (optional) with display and panel according to customers' needs.

11.13 Equipment are equipped with emergency stop switch. In case of physical discomfort, the equipment will stop immediately. (As shown in the figure, the red button is the emergency stop switch.)



12. Transportation, storage and maintenance

WARNING!

12.1 Damage to the unit:

For long-distance transportation, this product must be sturdy and reliable, and lined with a foam cushion of 4 mm or more.

12.2 This product should be stored in a clean room with a relative humidity of no more than 90%, no

corrosive gas and good ventilation.

12.3 This instrument should pay attention to the cleaning of the outer casing. It can be used as a general household neutral detergent. Wipe gently with a soft cloth. Metal parts or plated parts are recommended to be waxed and maintained once a month with neutral furniture wax. Clean the shell with soft cloth dipped in water, once a month.

12.4 Do not use gasoline or benzene-containing volatile solvents on the surface of the instrument, especially the surface of the leather pad to prevent abnormal aging or damage.

12.5 Transport and storage conditions

- a) ambient temperature range: $-40^{\circ}\text{C} \sim 55^{\circ}\text{C}$;
- b) Relative humidity range: $\leq 90\%$;
- c) Atmospheric pressure range: 860hPa to 1060hPa.

12.6 Normal working conditions

- a) ambient temperature: $5^{\circ}\text{C} \sim 40^{\circ}\text{C}$;
- b) Relative humidity range: $15\% \sim 90\%$;
- a) atmospheric pressure range: 700hPa $\sim$ 1060hPa;

13. Cleaning and disinfection of parts in contact with patients

THREAT!

Risks of electrical shocks and damage to the unit-unplug the unit before cleaning. The unit and hand control must not get wet.

Use non-alcohol based disinfecting cleaning wipes.

First remove the auxiliary straps and a foot strap.

With a single swipe thoroughly clean the control box with control panel, then the metal rods and foot cradle. LCDs may also be cleaned with cloth Active wipes.

Use more than one wipe if necessary.

The material thigh and shin pads as well as foot straps should be cleaned and disinfected after each patient use. Wash them (use automatic, semi-automatic washing machine or hand wash) using washing products to all kinds of materials.

If necessary use a soft cotton towel to dry the unit out.

Once disinfection is completed install the clean material pads as well as foot strap.

WARNING!

Damage to the unit:

In order to prevent damage to the unit do not use other than mentioned in this manual disinfection products, especially must not use gasoline or solvent.

Do not clean the motor or motor components of the unit.

Do not clean switches and plugs or sockets.

In order to prevent discoloration, use only colourless disinfection products.

Additional information:

Electromagnetic compatibility:

The unit is devised to ensure immunity from outside electromagnetic factors.

While operating, however, it creates electromagnetic waves, while can disrupt or have impact on other devices and their operation.

End-of-life unit may be fully utilized (electrical, metal and plastic components)

14. Troubleshooting

Before use	I.If the unit does not function check the following: 1. POWER CORD Unplug the unit from power outlet. Check the power cord for mechanical damage. If the power cord is not damaged, try using a different power socket. Check the unit after plugging it in. If the power cord is damaged contact the authorized service supplier. 2. EMERGENCY SWITCH If the unit still does not function check whether the emergency switch is not depressed. If they are depressed-turn them off. If the power cord is not damaged and emergency switches are not pressed but the unit still does not respond-contact the authorized service supplier. II.If the hand control does not work correctly: 1.HAND CONTROL INLET-check whether the hand control is correctly plugged 2.KNOBS SECURING THE INLET-check if
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	the securing knobs are tightened. If the hand control still does not work correctly-contact the authorized service supplier. Contact the authorized service supplier in the following cases: 1. the unit gets wet. 2. mechanical damage occurs, such as dropping, hitting the unit and other. 3. louder motor operation or uneven operation(clicking) 4. incorrect display of settings on LCD 5. doubts regarding the unit operation.
in use	1. Sudden power failure, can continue to start work after access to external power supply, generally do not need to take any measures. 2. In operation, the following measures should be taken to find out the malfunction of machinery operation: 2.1 Abnormal noise should be discontinued and sent for maintenance and inspection. 2.2 Abnormal runout should be discontinued and submitted for maintenance inspection. 2.3 Abnormal speed fluctuations should be discontinued and submitted for maintenance inspection. 3. The fixed failure of the support rods of the thigh and crus should be discontinued and submitted for maintenance and inspection.

After use	This product generally has no troubleshooting problems after use. The rest refer to "troubleshooting before use".
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15. Contraindications:

- 1) Injury of articular capsule and use of patients with severe pain (grade III or above).
- 2) After repositioning and stabilizing the fracture, the operator, attending physician or expert consultation device of Orthopaedics and traumatology should be used. If there is unstable bone synthesis, it should be observed before use.
- 3) If the pain is grade III or above, or the patient can not afford it, it is generally advisable to consult the attending physician or an orthopaedic and traumatological expert before deciding whether to continue the operation of the device.
- 4) Failure to adjust equipment to limbs is a contraindication of using equipment:
 - a) Patients with normal height above 195cm or height below 110 cm, and patients with possible lower limb length not adapted to the adjustable length of large and crus stents.
 - b) Due to various deformations of the lower limbs (such as severe genu varus or genu valgus), severe pain or discomfort may occur during use.

16. Conditions for family use:

- 1) The product should be evaluated by professionals who have clinical knowledge and are familiar with the use of the product. Confirm that it is suitable for home use, and guide and operate the use.
- 2) When the product is first used in the family, it must be directed and operated by professionals familiar with the use of the product, and the first full-time use must be completed. And make necessary safety assessment. Only through safety assessment can patients operate and use it by themselves.

17. Fuse replacement:

The product is equipped with fuses of specific specifications, specifications for T1AL250V. When the fuse needs to be replaced, the external power cord must be disconnected first, and after disconnecting the external power cord for 3 seconds (in order to prevent the shock generated by the residual capacity of the internal capacitor), the fuse mounting seat can be dismantled to replace the fuse of the corresponding specifications.

It should be noted that fuses of different specifications are strictly prohibited.

It is strongly recommended to contact the manufacturer or designated maintainer for safety guidance when fuse failure is found again. After two consecutive replacements of the fuse, the fuse failures still occur. Please stop replacing the fuse immediately and return to the manufacturer or designated repairman.

18. Interpretation of the graphics, symbols, abbreviations, etc. used in medical device labels:

	AC		BF type application part		Manufacturer
	Class-II equipment		Caution		Recycle after sorting
	Please read user manual before use		European authorized representative		Serial number

19. Service commitment

The product can be free of charge if there is an inherent quality problem within one year from the date of sale. If there is a problem within one month, the new machine can be replaced, and the product maintenance service is provided for a long time. If there is any problem with the equipment, you can call us or send us an email at any time. We will deal with it in time.

20. Environmental protection

At the end of the service life, the scrapped parts should be disposed of in accordance with local environmental protection laws and regulations.

21. Electromagnetic compatibility specification

For this device, special precautions regarding electromagnetic compatibility (EMC) are required and must be installed and used in accordance with the electromagnetic compatibility information specified in this manual.

Portable and mobile RF communications equipment may have an impact on this equipment.

1)The following cables must be used to meet electromagnetic emissions and immunity requirements:

Cable name	length
Power cord (16A)	<3 meters
Hand control line	<3 meters
other	...

In addition to cables (transducers) sold as spare parts for internal components, the use of accessories and cables (transducers) outside of the regulations may result in increased emissions or immunity to emissions from equipment or systems.

Equipment or systems should not be used in close proximity or stacked with other equipment. If they must be used close to or stacked, they should be observed to operate properly in the configuration in which they are used.

Basic performance:

name	specific description
Running function	Normal operation

2)Electromagnetic emission

Guide and manufacturer's statement - electromagnetic emissions		
The equipment is intended to be used in the electromagnetic environment specified below, and the purchaser or user should ensure that it is used in this electromagnetic environment:		
Emission test	Compliance	Electromagnetic environment - guide
Radio frequency emission GB 4824 (CISPR 11)	Group 1	The device uses RF energy only for its internal functions, so its RF emissions are low and there is little chance of interference with nearby electronic devices.
Radio frequency emission GB 4824 (CISPR 11)	Class B	The equipment is suitable for use in all facilities, including households and direct connection to residential public low-voltage power supply networks for domestic use.
Harmonic radiation GB 17625.1	Class A	
Voltage fluctuation / flicker emission GB 17625.2 (IEC 61000-3-3)	conform	

3)Electromagnetic immunity

Guide and manufacturer's statement - electromagnetic immunity			
The equipment is intended to be used in the electromagnetic environment specified below, and the purchaser or user should ensure that it is used in this electromagnetic environment:			
Immunity test	IEC60601 Test level	Compliance level	Electromagnetic environment - guide
Electrostatic discharge (ESD) GB/T 17626.2 (IEC61000-4-2)	±6kV contact discharge ±8kV air discharge	±6kV contact ±8kV air	The ground should be wood, concrete or ceramic. If the floor is covered with synthetic material, the relative

			humidity should be at least 30%.
Electrical fast transient burst GB/T 17626.4 (IEC61000-4-4)	±2kV pair power cord ±1kV to input/output line	±2kV pair power cord ±1kV to input/output line	The network power supply should have the quality used in a typical commercial or hospital environment.
surge GB/T 17626.5 (IEC61000-4-5)	±1kV line to line ±2kV line to ground	±1kV line to line ±2kV line to ground	The network power supply should have the quality used in a typical commercial or hospital environment.
Voltage dip, short interruption and voltage change on the power input line GB/T 17626.11 (IEC61000-4-11)	< 5% UT for 0.5 cycles (> 95% sag on UT) 40% UT for 5 cycles (60% sag on UT) 70% UT for 25 cycles (30% sag on UT) < 5% UT for 5s (On the UT, > 95% sag)	< 5% UT for 0.5 cycles (> 95% sag on UT) 40% UT for 5 cycles (60% sag on UT) 70% UT for 25 cycles (30% sag on UT) < 5% UT for 5s (On the UT, > 95% sag)	The network power supply should have the quality used in a typical commercial or hospital environment. If the user of the device needs to run continuously during a power outage, it is recommended that the device be powered by an uninterruptible power supply or battery.
Power frequency magnetic field (50/60Hz) GB/T 17626.8 (IEC 61000-4-8)	3 A/m	3 A/m	The power frequency magnetic field should have the characteristics of the power frequency magnetic field in a typical place in a typical commercial or hospital environment.
Note: UT refers to the AC network voltage before the test voltage is applied.			

Guide and manufacturer's statement - electromagnetic immunity

The equipment is intended to be used in the electromagnetic environment specified below, and the purchaser or

user should ensure that it is used in this electromagnetic environment:			
Immunity test	IEC60601 Test level	Compliance level	Electromagnetic environment - guide
Radio frequency conduction GB/T 17262.6 (IEC61000-4-6) Radio frequency radiation GB/T 17262.3 (IEC61000-4-3)	3 V (effective value) 150kHz - 80MHz 3 V/m 80MHZ - 2.5GHZ	3 V (effective value) 3 V/m	Portable and mobile RF communications equipment should not be used closer to any part of the equipment, including cables, than the recommended isolation distance. This distance is calculated by the formula corresponding to the transmitter frequency Recommended isolation distance $d = 1.2 \sqrt{150\text{kHz}-80\text{MHz}}$ $d = 1.2 \sqrt{80\text{MHz}-800\text{MHz}}$ $d = 2.3 \sqrt{800\text{MHz}-2.5\text{GHz}}$ In the formula: P—in watts (W), based on the transmitter's maximum rated output power provided by the transmitter manufacturer; d - is the recommended isolation distance in meters (m). The field strength of a fixed RF transmitter is determined by surveying the electromagnetic field a, which should be lower than the compliance level b in each frequency range. Interference may occur

			near devices marked with  wing symbols.
Note 1: At 80MHz and 800MHz frequencies, the formula for the higher frequency band is used. Note 2: These guidelines may not be suitable for all situations. Electromagnetic propagation is affected by the absorption and reflection of buildings, objects and human bodies.			
^a fixed transmitter, such as base stations for wireless (cellular/cordless) telephones and terrestrial mobile radios, amateur radio, AM and FM radio broadcasts, and television broadcasts, whose field strength is not theoretically predictable. In order to assess the electromagnetic environment of a fixed RF transmitter, the survey of the electromagnetic field should be considered. If the field strength of the location where the equipment is located is higher than the applicable RF compliance level above, the equipment should be observed to verify that it is functioning properly. Additional measures may be necessary if abnormal performance is observed, such as reorienting the device's orientation or position. ^B The field strength should be less than 3V/M over the entire frequency range of 150kHz-80MHz.			

4)Recommended isolation distance

Recommended isolation distance between portable and mobile RF communications equipment and equipment The device is expected to be used in an electromagnetic environment where radio frequency disturbances are controlled. Depending on the maximum rated output power of the communication device, the purchaser or user can prevent electromagnetic interference by maintaining the minimum distance between the portable and mobile RF communication device (transmitter) and the device as recommended below.			
Transmitter maximum rated output power W	Corresponding distance /m corresponding to different frequencies of the transmitter		
	150kHz - 80MHz d = 1.2	80MHz - 800MHz d = 1.2	800MHz - 2.5GHz d = 2.3
0.01	0.12	0.12	0.23
0.1	0.38	0.38	0.73
1	1.2	1.2	2.3
10	3.8	3.8	7.3
100	12	12	23
For the maximum rated output power of the transmitter not listed in the above table, the recommended isolation distance d, in meters (m), can be determined by the formula in the corresponding transmitter frequency column, where P is the transmission provided by the transmitter manufacturer. The maximum rated output power of the machine. In watts (W). Note 1: At the 80MHz and 800MHz frequency points, the formula for the higher frequency band is adopted. Note 2: These guidelines may not be suitable for all situations. Electromagnetic propagation is affected by the			

absorption and reflection of buildings, objects and human bodies.

22. Date of preparation (revised) of the manual: September 19, 2020

23. Date of manufacture / product number: see label (nameplate)

24. Product expiration date: 5 years

25. Parts List:

Serial number	Name	Quantity	Remarks
1	Host	1 set	
2	Hand controller	1 piece	
3	power cable	1 piece	
4	Tugboat (standard C/E type)	1 pair	
5	Foot pad / strap	1 piece	
6	Leather pad/tie	1 pair	
7	Instruction manual	1 piece	
8	Certificate of Warranty	1 piece	

Registrant: Hangzhou zhengda Medical Co., Ltd.

Registration/Production/After Sale Address: 501, No. 22, Xinyan Road, Linping District, Hangzhou China.

After-sales service telephone: 0571-85361682, 85094131

Mailbox: yan@zd1991.com

Hangzhou Zhengda Medical Co.,Ltd

Product warranty

Type: _____

Serial No: _____

Date of purchase: _____

Invoice No: _____

Name _____

Address _____

Mobile _____

Maintenance records

Date	Reason	Content	Costs	Maintenance signature	User signature	Remarks

Precautions

- 1.The free warranty period of the products you purchased is one year from the date of purchase.
- 2.If you have any puzzles about the use of the product, please contact us asap, and we will offer timely guidance and service.
- 3.After the warranty expires, we will only charges material fees.
- 4.This card must be sent back together when returned for maintenance , so please keep it well.