

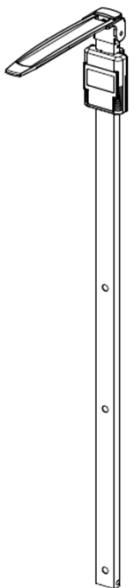


## Height Measurement

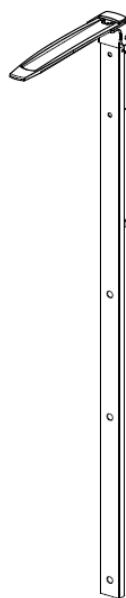
### **USER MANUAL** **HM200D/ HM201D/210D**

Digital Stadiometer

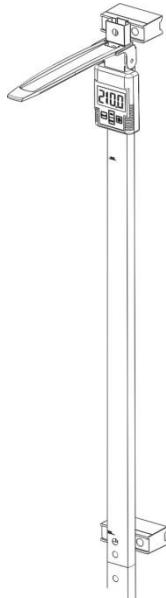
Digital Wall-mounted Stadiometer



HM200D



HM201D



HM210D

Please keep the instruction manual at hand and follow instruction for use.



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## I. Explanation of Graphic Symbols on Label/Packaging

Text/Symbol	Meaning
	Caution, consult accompanying documents before use
	Separate collection for waste of electrical and electronic equipment, in accordance with Directive 2002/96/EC. Do not dispose of device with everyday waste
	Name and address of device manufacturer, and year/country of manufacture
	Carefully read user manual before installation and usage, and follow instructions for use.
	Medical electrical device, Type B applied part
	Medical electrical device, Type BF applied part
<b>REF</b>	Device catalogue number / model number
<b>EC REP</b>	Name and address of authorized representative in the European Union
<b>MD</b>	Device is a medical device. Text indicates device category type
<b>LOT</b>	Manufacturer's batch or lot number for device
<b>SN</b>	Device's serial number
<b>UDI</b>	Device's Unique Device Identifier
<b>e</b>	Verification Scale Interval. Value expressed in units of mass. Used to classification and verification of an instrument.
<b>CE</b> 2460	Device conforms to (EU) 2017/745 Regulation on Medical Devices. Four digit number is identifier for medical device Notified Body

---

Device complies with EC directives  
(verified models only)

**CE** **M20**0122

**M:** Conformity label in compliance with Directive 2014/31/EU for non-automatic weighing instruments  
**20:** Year in which conformity verification was performed and the CE label was applied.  
(ex: 16=2016)  
**0122:** Identifier for metrology Notified Body

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Device is a Class III scale in compliance with Directive 2014/31/EU (verified models only)

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Name and address of entity importing device  
(if applicable)

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Name and address of entity responsible for translating Information For Use (if applicable)

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**CON.**

Event counter confirming how many times device has been calibrated (if applicable)

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Device conforms to Taiwan National Communications Commission(NCC) approval

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Device conforms to U.S. Federal Communications Commission regulations

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**UK** **CA** **M 20**8506

Device complies with UK non-automatic weighing instruments regulations 2016 (verified models only)  
**M:** Conformity label in compliance with Non-automatic Weighing instruments Regulations 2016  
**20:** Year in which conformity verification was performed and the UKCA label was applied. (ex: 20=2020)  
**8506:**Identifier for metrology approved body

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Device complies with all UK applicable product legislation

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Device's polarity of power.

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**"In case of differences, icon on device itself takes precedence"**

## **II. Copyright Notice**

### **Copyright Notice**

#### **Charder Electronic Co., Ltd.**

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This user manual is protected by international copyright law.  
All content is licensed, and usage is subject to written  
authorization from Charder Electronic Co., Ltd. (hereinafter  
Charder) Charder is not liable for any damage caused by a  
failure to adhere to requirements stated in this manual.  
Charder reserves the right to correct misprints in the manual  
without prior notice, and modify the exterior of the device for  
quality purposes without customer consent.



Charder Electronic Co., Ltd.  
No. 103, Guozhong Rd., Dali Dist.,  
Taichung City, 41262 Taiwan

## **III. Safety Notes**

### **A. General Information**

Thank you for choosing this Charder Medical device. It is designed to be easy and straightforward to operate, but if you encounter any problems not addressed in this manual, please contact your local Charder service partner. Before beginning operation of the device, please read this user manual carefully, and keep it in a safe place for reference. It contains important instructions regarding installation, proper usage, and maintenance.

### **Intended Purpose**

This medical device is designed to be used in accordance with national regulations, to measure height within specifications, for height-related usage by professionals.

### **Clinical Benefit**

Measurement results can be used by professionals to diagnose (and monitor) height-related issues.

### **Intended medical indications/contraindications**

Measurement: subject's body height.

### **Intended patient profile**

- (a) Age: no restrictions
- (b) Weight: no restrictions
- (c) Patient Conditions: require measurement of body height.  
Can physically fit within device capacity limits and be able to stand straight (non-infant versions only).

## **Intended user profile**

- (a) At least 20 years old
- (b) Minimum knowledge:
  - To be able to read at a high-school level and understand Arabic numerals (e.g. 1, 2, 3, 4...)
  - Basic hygiene knowledge
  - Trained in device's operation
  - Read the instruction manual
- (c) Language
  - Able to read the language of instruction manual and on-screen instructions
- (d) Qualifications
  - No special certifications or qualifications required

## **Residual Risk Evaluation**

- (a) All foreseeable risks have been evaluated and considered acceptable. Generally speaking, the most likely risk caused by incorrect usage of the device is less accurate measurement (or inability to use device to acquire measurement), which does not pose imminent physical risk to patient or user.
- (b) Benefit-risk ratio is considered acceptable. Height measurement meters are an important option for measuring patients. Usage of device is unlikely to result in harm to user or patient.

## **General Handling**

- Ensure all parts are properly locked and tightened before operating the device.
- CAUTION: Do not use next to equipment that may cause electromagnetic or other types of interference.

## **Safety Instructions**

- The device has an expected service life of 5 years when correctly handled, serviced, and periodically inspected in accordance with manufacturer's instructions.

## **Cleaning**

Device surface should be cleaned using alcohol-based wipes. Corrosive cleansing liquids should not be used.

## **Maintenance**

Please contact your local Charder distributor for regular maintenance and calibration, regular checking of accuracy is recommended; frequency to be determined by level of use and state of device.

## **Warranty/Liability**

- The period of warranty shall be eighteen (18) months, beginning on the date of purchase. Please retain your receipt as proof of purchase.
- No responsibility shall be accepted for damage caused through any of the following reasons: unsuitable or improper storage or use, incorrect installation or commissioning by the owner or third parties, natural wear and tear, changes or modifications, incorrect or negligent handling.

## **Disposal**

- This product is not to be treated as regular household waste, but should be taken to a designated collection points for electronics. Further information should be provided by local waste disposal authorities.

## **Incident Reporting**

- Any serious incident that has occurred in relation to the device should be reported to the manufacturer, EU representative (if device is used in EU member state), and competent authority of user/subject's member state.

## B. EMC Guidance and Manufacturer's Declaration

<b>Guidance and manufacturer's declaration- electromagnetic emissions</b>		
The product is intended for use in the electromagnetic environment specified below.		
<b>Emission test</b>	<b>Compliance</b>	<b>Electromagnetic Environment guidance</b>
RF emissions CISPR 11	Group 1	The product 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 product is suitable for use in all establishments other than domestic and those directly connected to a low voltage power supply network which supplies buildings used for domestic purposes.
Harmonic emissions IEC 61000-3-2 (Only applicable to HM201D)	Class A	
Voltage fluctuations/ flicker emissions IEC 61000-3-3 (Only applicable to HM201D)	Compliance	

**Guidance and manufacturer's declaration-  
electromagnetic immunity**

The product is intended for use in the electromagnetic environment specified below.

The customer or the user of the product should assure 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	<u>± 8 kV contact</u> <u>± 2 kV, ± 4 kV,</u> <u>± 8 kV, ± 15 kV</u> air	<u>± 8 kV contact</u> <u>± 2 kV, ± 4 kV,</u> <u>± 8 kV, ± 15 kV</u> air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30%
Electrical fast transient/burst IEC 61000-4-4 (Only applicable to HM201D)	± 2kV for power supply lines	± 2kV for power supply lines	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5 (Only applicable to HM201D)	<u>± 1kV line(s) to line(s)</u> <u>± 2kV line(s) to earth</u>	<u>± 1kV line(s) to line(s)</u> <u>± 2kV line(s) to earth</u>	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 (Only applicable to HM201D)	<u>0% UT for 0,5 cycle</u> <u>0% UT for 1 cycle</u>  <u>70% UT(30% dip in UT) for 25 cycles</u>  <u>0% UT for 5 s</u>	<u>0% UT for 0,5 cycle</u> <u>0% UT for 1 cycle</u>  <u>70% UT(30% dip in UT) for 25 cycles</u>  <u>0% UT for 5 s</u>	Mains power quality should be that of a typical commercial or hospital environment. If the user of the product requires continued operation during power mains interruptions, it is recommended that the product be powered from an uninterruptible power supply or a battery.
Power frequency (50, 60 Hz) magnetic field IEC 61000-4-8	<u>30 A/m</u>	<u>30 A/m</u>	The product power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.

NOTE      UT is the a.c. mains voltage prior to application of the test level.

## Guidance and manufacturer's declaration- electromagnetic immunity

The product is intended for use in the electromagnetic environment specified below.

The customer or the user of the product should assure that is used in such and environment.

Immunity test	IEC 60601 test level	Compliance level	Electromagnetic Environment-guidance
Conducted RF IEC 61000-4-6 (Only applicable to HM201D)	<p>3 Vrms 150 KHz to 80 MHz</p> <p><u>6 V in ISM bands between 0,15 MHz and 80 MHz</u></p> <p><u>80 % AM at 1 kHz</u></p>	<p>3 Vrms 150 KHz to 80 MHz</p> <p><u>6 V in ISM bands between 0,15 MHz and 80 MHz</u></p> <p><u>80 % AM at 1 kHz</u></p>	<p>Portable and mobile RF communications equipment should be used no closer to any part of the product including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter.</p> <p><b>Recommended separation distance:</b>  <math>d = 1,2 \sqrt{P}</math>  <math>d = 1,2 \sqrt{P} \text{ 80MHz to 800 MHz d}</math>  <math>= 2,3 \sqrt{P} \text{ 800MHz to 2,7 GHz}</math>  Where <math>P</math> is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and <math>d</math> is the recommended separation distance in metres (m).</p> <p>Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey,<sup>a</sup> should be less than the compliance level in each frequency range.<sup>b</sup></p> <p>Interference may occur in the vicinity of equipment marked with the following symbol:</p> 
Radiated RF IEC 61000-4-3	<p>3 V/m 80MHz to 2,7 GHz</p>	<p>3 V/m 80MHz to 2,7 GHz</p>	

NOTE1 At 80 MHz and 800 MHz, the higher frequency range applies.

NOTE2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

- a Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the product is used exceeds the applicable RF compliance level above, the product should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as re-orienting or relocating the product.
- b Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3 V/m.

**Recommended separation distance between  
portable and mobile RF communications equipment and the product**

The product is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the product can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the product as recommended below, according to the maximum output power of the communications equipment.

Rated maximum output power of transmitter W	Separation distance according to frequency of transmitter m		
	150 kHz to 80 MHz $d = 1,2\sqrt{P}$	80 MHz to 800 MHz $d = 1,2\sqrt{P}$	800 MHz to 2,7 GHz $d = 2,3\sqrt{P}$
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 transmitters rated at a maximum output power not listed above, the recommended separation distance d in metres (m) can be estimated using the equation applicable to the frequency of the transmitter, where p is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.

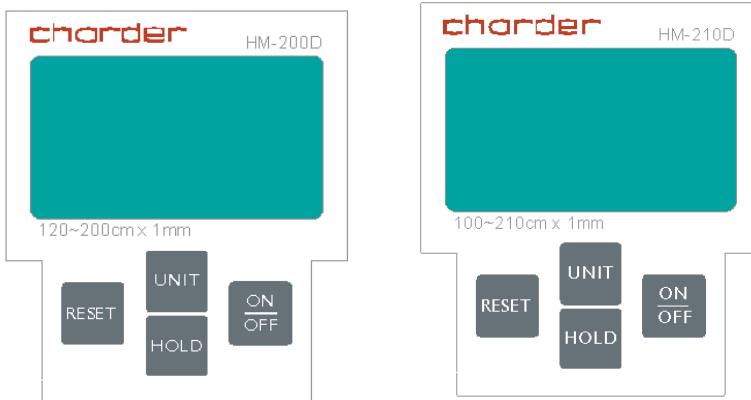
NOTE1 At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.

NOTE2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

## IV. SPECIFICATION

Model	HM200D	HM201D	HM210D
Type	Scale mounted digital height rod	Wall mounted digital height rod	
Keys	Hold,Reset,Unit	Reset Button	Hold,Reset,Unit
Measurement range	120~200cm (Digital measuring range) 60~120cm (Mechanical measuring range) Side bracket 80~120cm (Mechanical measuring range)	120~200cm (Digital measuring range) 60~120cm (Mechanical measuring range)	100-210cm
Graduations	1 mm		
Accuracy	±2 mm		
Dimensions	40 X 70 x 1780 mm	40 x 30 x 1780 mm	80 x 70 x 2100 mm
Weight	0.85 kg	0.7 kg	1.25 kg
Power Supply	2 * AAA-size batteries	From Indicator	2 * AAA-size batteries
Operation Environment	+5°C up to +35°C 700 hPa ~1060 hPa		

## V. KEY FUNCTIONS



KEYS	DESCRIPTION
ON/OFF	Press to switch on and off.
UNIT	To select the measurement unit between cm, ft/inch and inch.
HOLD	To enable value store function during measuring. Current height value of user will be stored and displayed. Press again to disable the function.
RESET	To calibrate the measurement.

## VI. PRODUCT INTRODUCTION

### HM200D

HM200D is a digital height rod to be mounted on the Charder Scale with measuring range from (120~200cm). HM 200D have LCD display for convenient, accurate and quick height measurement. It can be connected with the scale indicator to transfer the height measurements directly, therefore while calculating BMI the users don't need to enter the height. Simply step on the weighing platform and as the weight stabilizes adjust the head piece to measure the height, the scale will display the height and BMI results.



### HM201D

HM201D is a digital height rod to be mounted on the Charder Scale with measuring range of (120~200cm), HM 201D don't have LCD display, instead it automatically transfers the height measurement to weighing scale, therefore while calculating BMI the user don't need to enter the height. Simply step on the weighing platform and as the weight stabilizes adjust the head piece to measure the height, the scale will display the height and BMI results.

It can also be used as mechanical height measurement rod. For mechanical measurement range starts from (60~200cm) or side bracket (80~200cm) making it an ideal measurement rod for measuring height of children and adults as well.



## **HM210D**

HM210D is a digital height rod to be mounted on the wall with measuring range from 100~210cm. HM 210D have LCD display for convenient, accurate and quick height measurement. Its hold function makes it possible for female nursing staff to measure a taller person. Simply adjust the head piece and make it touch the head of the person and then press the hold key. After this ask the person to move away from the measurement rod and pull the head piece down. The height result will remain on the display.



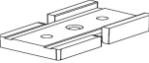
**For Detailed BMI procedure, please refer to any of 'Charder's' weighing scale user manual.**

## VII. INSTALLATION INSTRUCTIONS

### A · HM200D / HM201D standard accessories

No.	Accessories	Item	Spec.	Qty.
1		Supported black Block	WH-8026	2
2		Flat head screw	M5*0.8*10	2
3		Cross head screw	M5*30	4

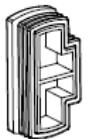
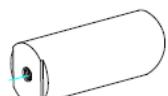
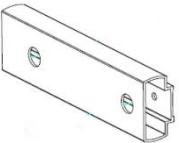
### B · HM200D / HM201D/ HM201M standard accessories for scale with castors

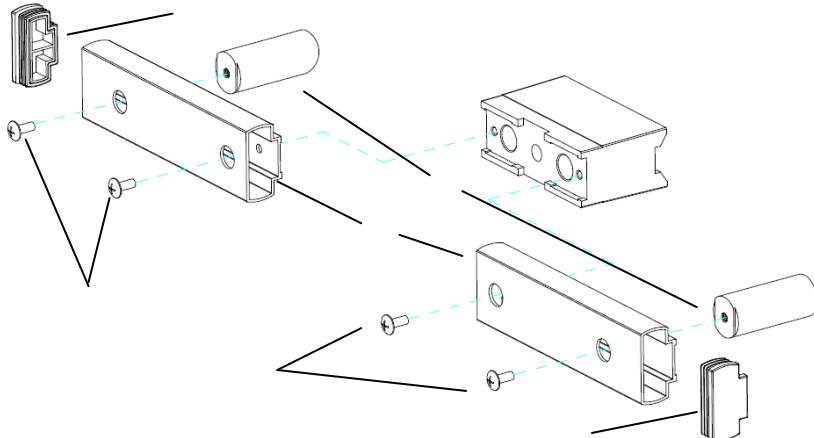
No.	Accessories	Item	Spec.	Qty.
1		Side Bracket for height rod	SS-5721	2
2		Fixing block for height rod	ST-3331	2
3		Screw	M5*11	8
4		Relief Bushing	M5*30	2
5		Flat head screw	M5*10	2

## C · HM210D standard accessories (wall mount parts)

No.	Accessories	Item	Spec.	Qty.
1		Supported Block	WH-8026	3
2		Washer head screw	M5*0.8*1 1	3
3		Self tapping screw	M4*30	6
4		Plastic anchor	1"(white)	6

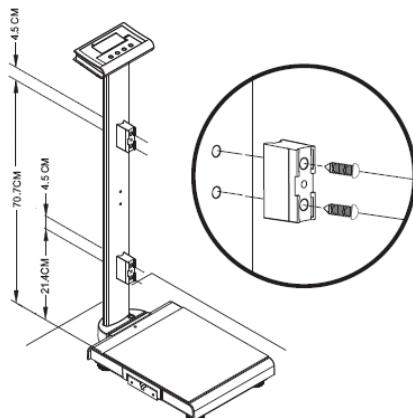
## D · HM210D standard accessories (Heel plate parts)

No.	Accessories	Item	Spec.	Qty.
1		Plastic plug	SW-8069	3
2		Rubber tub	SS-8152	2
3		Heel plate	SS-8149	2
4		Self tapping screw	4*12	4

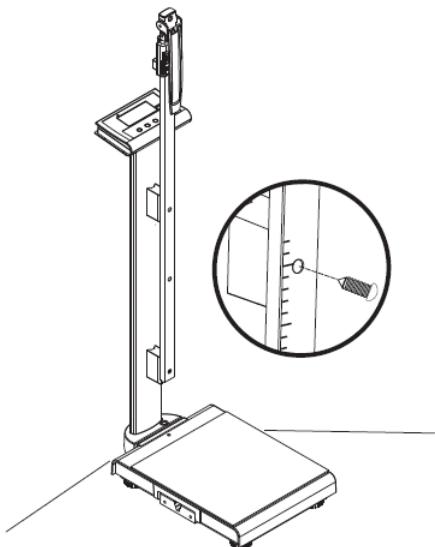


## E · ASSEMBLY OF HM200D & HM201D

**Fixing the bracket on the column of the scale using the screws provided with the height rod.**



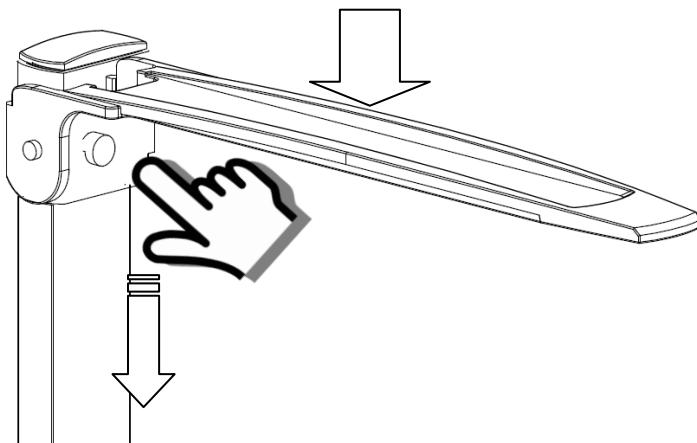
\*Fix the bracket installation by step



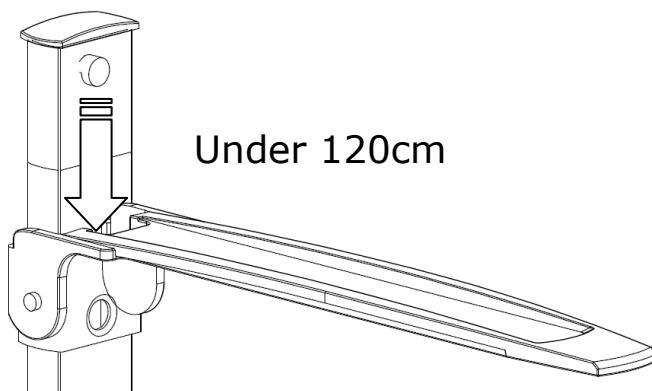
\*Screw the height rod on the bracket.

## F · For measure height lower than 120 cm

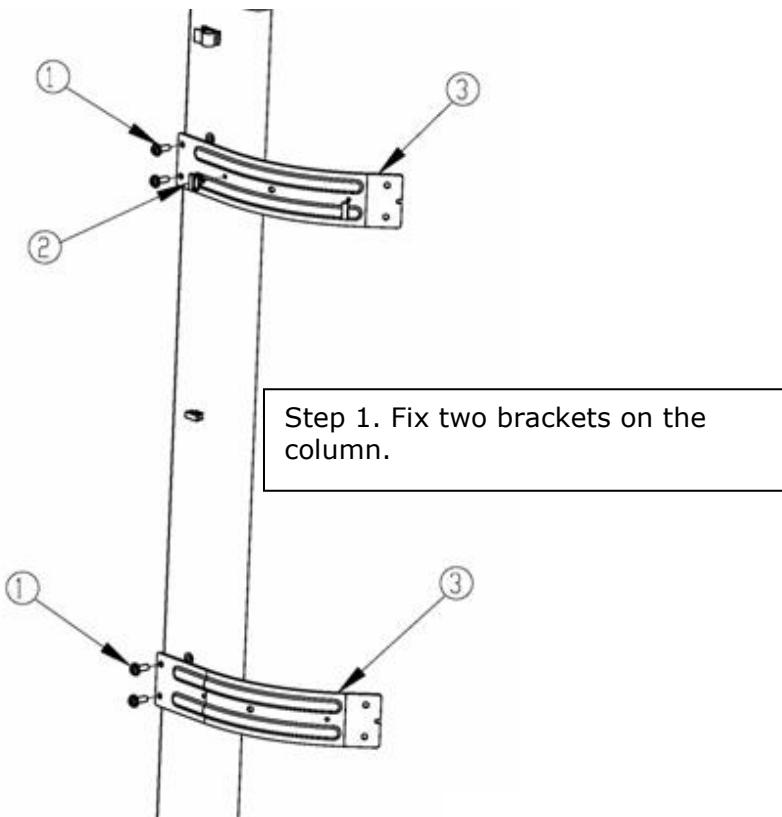
Please use HM 201D as a mechanical scale and press buckle as shown in the picture below and slide the head piece down.



Under 120cm



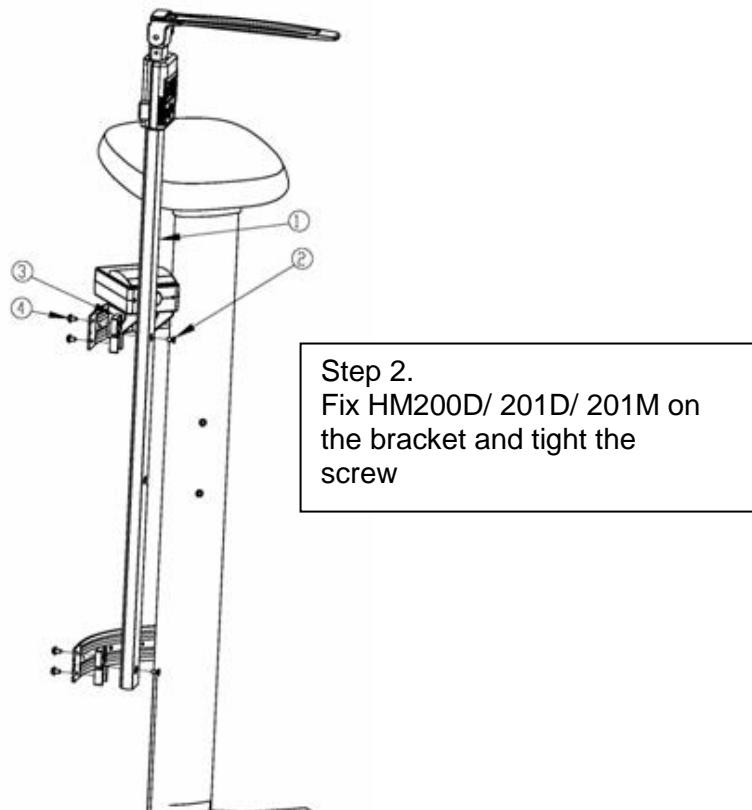
## G · Assemble HM200D/201D/201M on the scale with wheel castors.



Item	Name	Quantity
1	M5x11L screw	4
2	Relief Bushing	2
3	Bracket for height rod	2

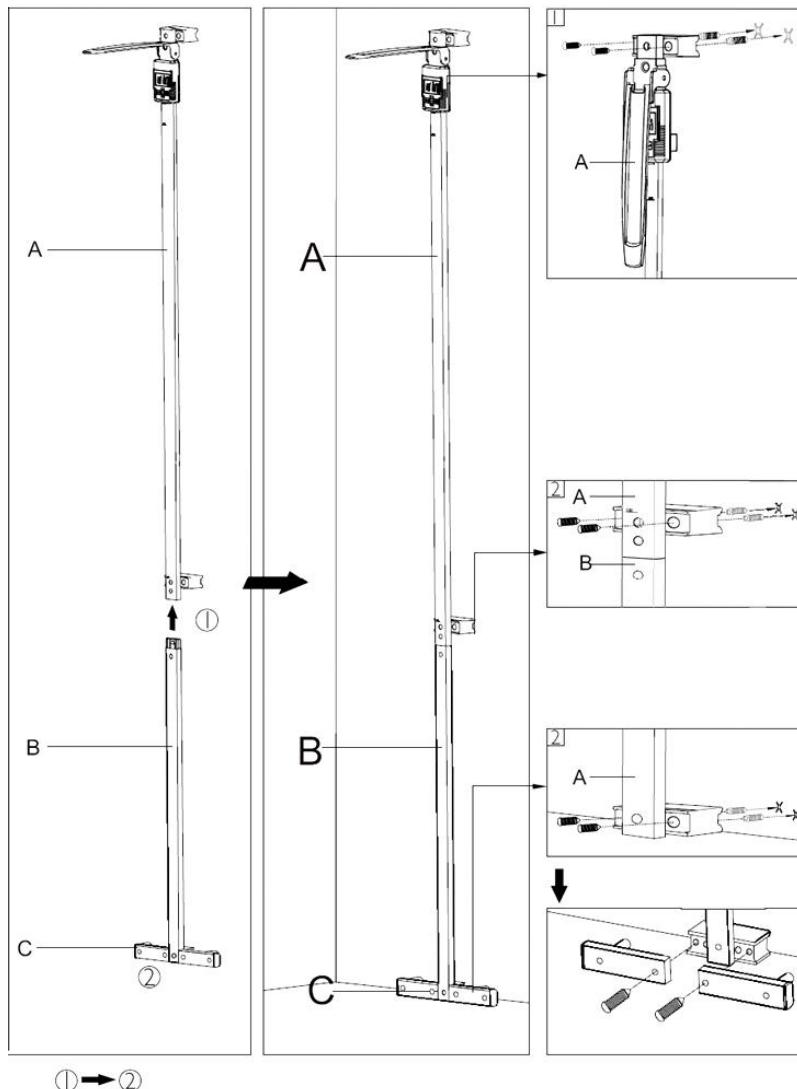
\*Photo of display for reference only.  
Please refer to the actual product.

**H · HM201M is mechanical height rod which has same assembly procedure with HM200D/201D.**

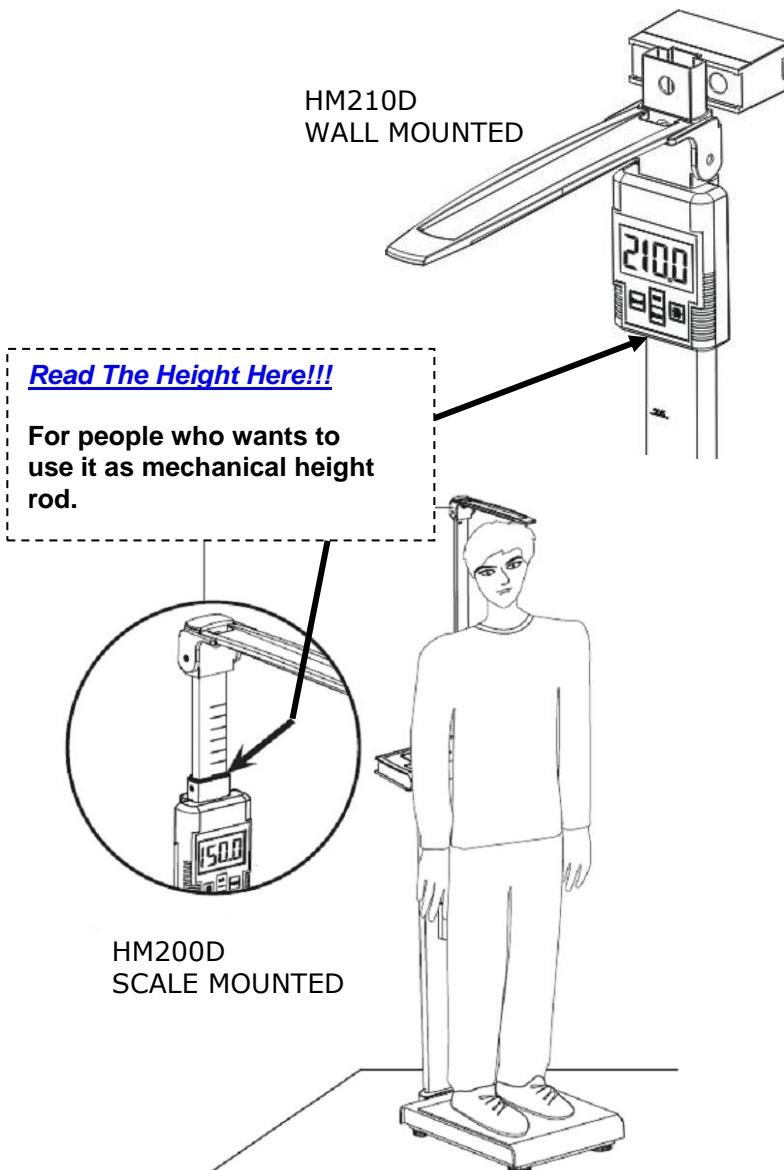


Item	Name	Quantity
1	HM200D/ 201D/ 201M	1
2	M5x10L Flat head screw	2
3	Fixing block for height rod	2
4	M5x11L screw	4

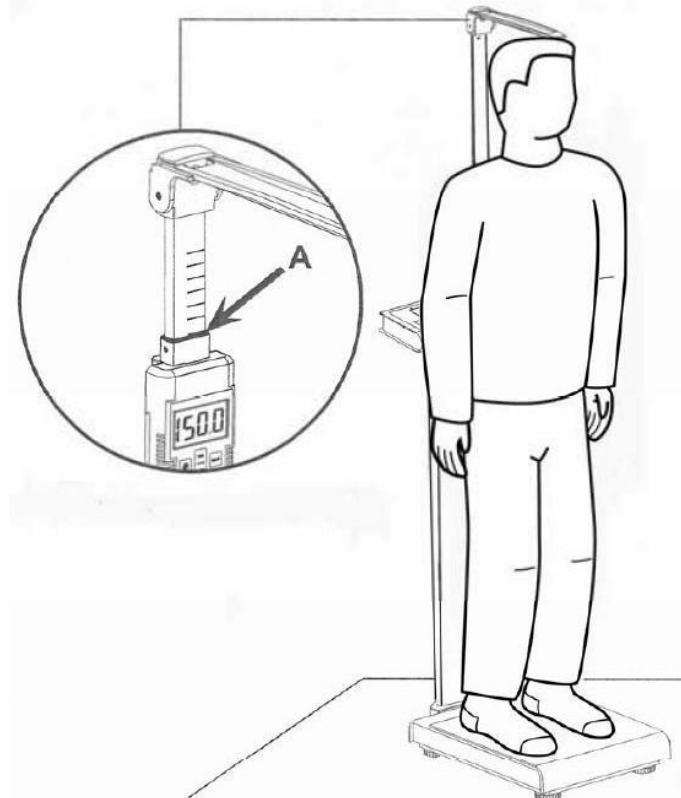
# I. ASSEMBLY OF HM 210D



## VIII. USING HM200/201/210D



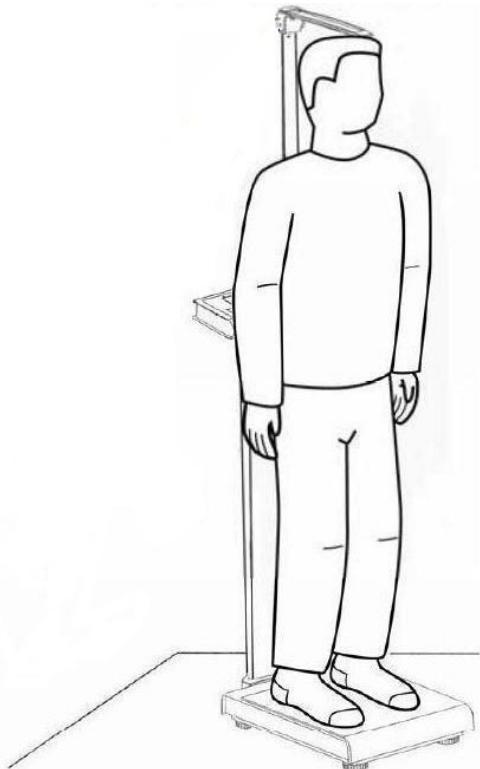
## 1. HM 200D



- Sliding up the measuring rod upward.
- Sliding down the head piece until slightly touches head.
- When the head piece touches the head of the person, display will show the exact height of the person.
- To lock the height on the display, press HOLD key.
- Press HOLD key again to disable the Hold function.

\*\*\*Connecting USB wire to the scale will enable height transfer function. You can calculate BMI with height and weight taken by height rod and scale.

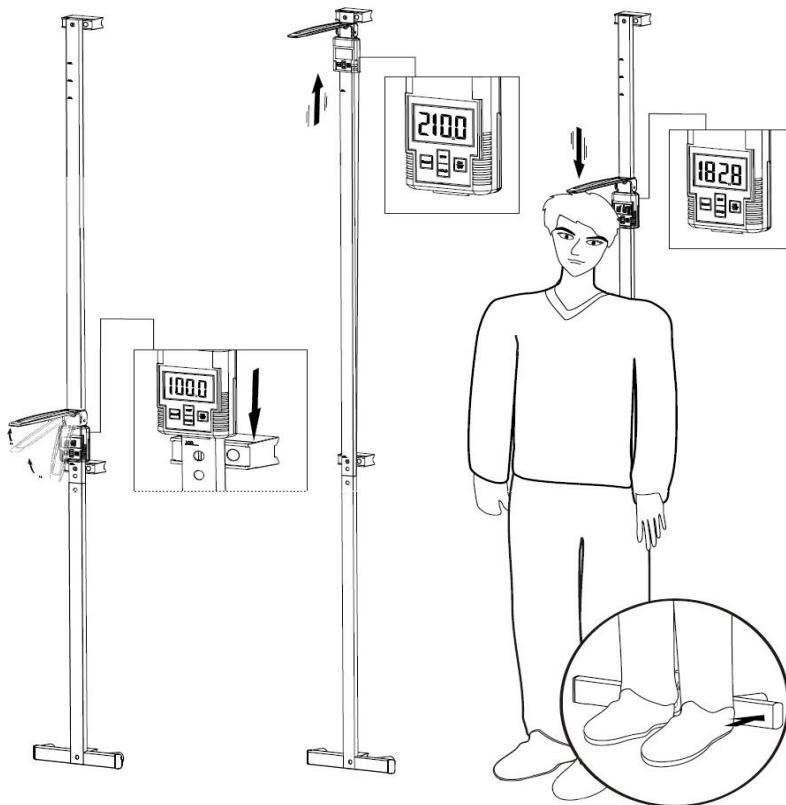
2. HM 201D



- Sliding the measuring rod upward.
- Sliding down the head piece until slightly touches head.
- When the head piece touches the head of the person, display will transfer height data to the scale.
- You can use BMI functions of scale to recall and calculate BMI , weight and height.

\*\*\*Connecting USB wire to the scale will enable height transfer function. You can calculate BMI with height and weight taken by height rod and scale.

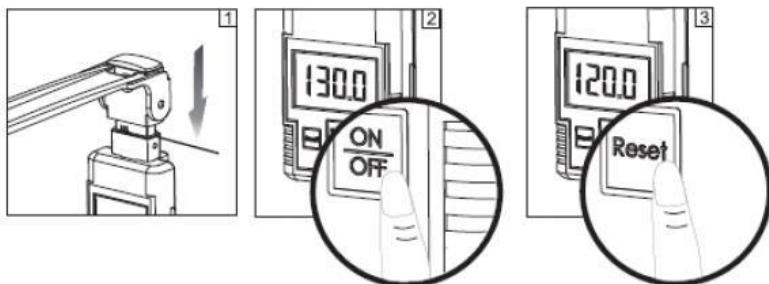
### 3. HM 210D



- Sliding up the measuring rod upward.
- Sliding down the head piece until slightly touches head.
- When the head piece touches the head of the person, display will show the exact height of the person.
- To lock the height on the display by pressing HOLD key.
- Press HOLD key again to disable the HOLD function.

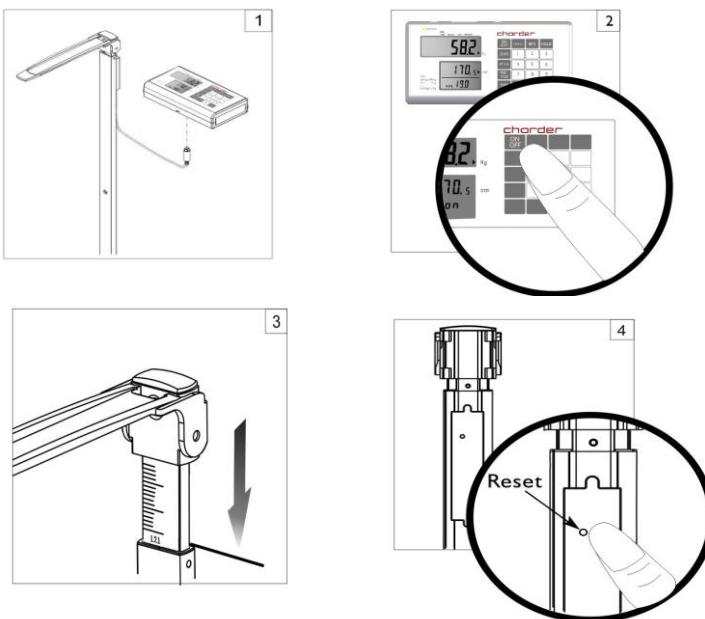
## A、LIBRATING HEIGHT ROD

### 1、HM200D



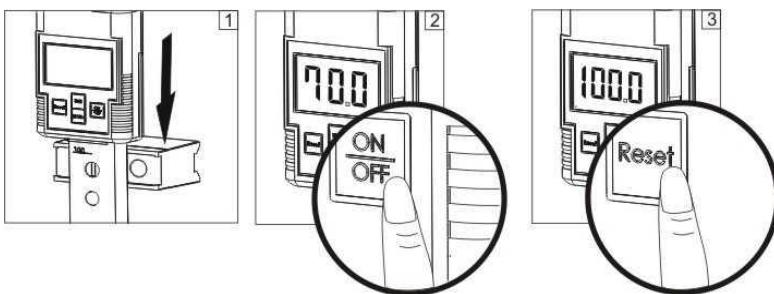
- Sliding the measuring rod downward completely (Picture-1)
- Turn ON HM 200D using ON/OFF key (Picture-2).
- If the height display is not on '120cm', press Reset button to calibrate the height. It will be '120cm'(Picture-3).

### 2、HM201D



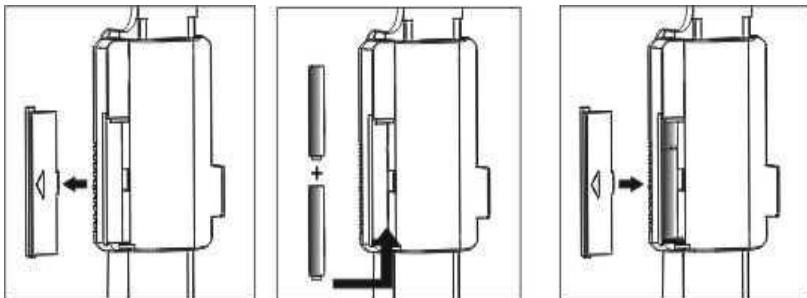
- Connect HM 201D with indicator (Picture-1)
- Turn ON the scale by pressing ON/OFF key(Picture-2).
- Press BMI key to check current height.
- Sliding the measuring rod downward completely (Picture-3).
- If the height display is not '120cm', press Reset button to calibrate the height. It will be '120cm'(Picture-3).

### 3、HM210D



- Sliding height indicator downward to the end of measuring rod (Picture- 1).
- Turn ON HM 210D by pressing ON/OFF key (Picture-2).
- If the height display is not '100cm', press Reset button to calibrate the height. It will be '100cm'(Picture-3).

## B BATTERY INSTALLATION



- a. Remove the battery cover at the rear of indicator.
- b. Install 2-AAA size batteries.
- c. Put the batter cover back.

**Note:** HM 201D don't need batteries to operate; it starts working as it is connected with DP3400 or DP37xx indicator. DP 2701 indicator doesn't support HM 201D.

**Warning:** If the height rod is not in use for long time, take out the batteries and store them separately, incase of any leakage from battery would damage the measuring rod.

**Note:** When the new batteries have been installed, it is recommended to reset the height rod using reset key.

## **IX. Manufacturer's Declaration of Conformity**

This product has been manufactured in accordance with the harmonized European standards, following the provisions of the below stated directives:

 2460	(EU) 2017/745 Regulation on Medical Devices
 M year	2014/31/EU Non-automatic Weighing Instruments Directive (OIML models only)

**RoHS Directive 2011/65/EU and Delegated Directive (EU) 2015/863**

**Radio Equipment Directive 2014/53/EU**  
(applicable if wireless module is used)

**Part 15 of the Federal Communications Statement Rules**

This device may not cause harmful interference.

This device must accept any interference received, including interference that may cause undesired operation.

*Please see separate document showing on sticker of device for above markings.*

Authorized EU Representative:



**Obelis s.a.**

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## Notes





**Manufactured by:**

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